International
Studies
Quarterly

International Studies Quarterly (2010) **54**, 989–1012

Civil War Contagion and Neighboring Interventions[1]

Jacob D. Kathman

University of Mississippi

Extant models of civil war intervention have difficulty accounting for the intervention decisions of third-party states that share a border with an ongoing civil war. This is troubling, as contiguous third parties account for a large proportion of interventions. I demonstrate that the tendency of civil wars to spread geographically pose neighbor states with threats to their well-being that are faced by no other type of intervener in the international system. Destruction, regime stability, even state survival are threatened by the prospect of civil war infection. I argue that neighboring third parties are thus motivated to intervene in an attempt to thwart war diffusion across their own borders. Through an analysis of civil war prevalence, I generate a measure of each state's yearly likelihood of being infected by a proximate civil war's hostilities. I then use this measure to explain neighboring interventions in civil wars of the post-WWII period. The results support my theorized expectations.

What explains third-party intervention in civil war? Existing research provides several answers to this question that improve our understanding of intervention processes. This work has made various assumptions with regard to the motivations of third parties, including preferences for ceasing the hostilities (Balch-Lindsay and Enterline 2000; Regan 2000) and affecting conflict outcomes (Mason, Weingarten, and Fett 1999; Gent 2008). More generally, this research views intervention as a tool used by states to *influence* civil war dynamics (Lemke and Regan 2004). In fact, the commonly used definition of third-party intervention in the literature is one of intervention as influence: ''Intervention is defined as convention–breaking military and/or economic activities in the internal affairs of a foreign country targeted at the authority structures of the government with the aim of affecting the balance of power between the government and opposition forces'' (Regan 1998:756). In other words, third parties become involved in the hostilities using the military and economic tools at their disposal in an effort to affect the conflict's dynamics in line with their preferred outcome. In doing so, third parties may attempt to augment the civil war state's authority structure around the sitting regime's status quo or it may attempt to restructure political authority through support for the rebel organization.

[1] I am grateful to Patrick Regan and the Uppsala Conflict Data Program/Peace Research Institute, Oslo, for the use of their data. Also, thanks go to Timothy Nordstrom, Megan Shannon, Heather Krull, Patrick Regan, Stephen Gent, Scott Gates, Timothy McKeown, three anonymous reviewers, and especially Mark Crescenzi for their helpful comments and suggestions. Data assembly was conducted with the help of EUGene 3.03 (Bennett and Stam 2000). Stata 10 (StataCorp 2008) was used to generate the statistical results presented in this paper. Data are available from the author upon request.

doi: 10.1111/j.1468-2478.2010.00623.x

Intervening in such contests between government and rebel factions is costly. Third parties must thus have strong motivations for their involvement. Extrapolating from the above definition, a third party's desire to influence a civil war is usefully delineated as (i) opportunism or (ii) threat response. Third parties intervene in those wars that either offer an opportunistic occasion to improve their lot or that pose a substantial threat to their well-being. These categories of intervention motivations manifest themselves as a variety of specific inducements for third-party involvement. Opportunistic influence, for example, may be exhibited in a third party's interest in affecting regime change, looting resources, or achieving improved geopolitical stature through intervention. Third-party intervention motivated by interests in threat reduction, on the other hand, may include aiding an ally, ceasing costly hostilities, or stabilizing a region.

Both influence motivations can be thought of as continuums. Different civil wars will vary in their prospects for opportunism. Similarly, the threats posed by civil wars will vary by the characteristics of the conflicts and the interested third parties. Theoretical and empirical models of intervention attempt to account for the opportunistic and threat reduction motivations of third parties. Yet, in explaining why third parties intervene, most studies assume a level of homogeneity among potential interveners and effectively predict intervention using independent variables to reflect various motivations. Therefore, when we consider the universe of *potential* interveners as the pool from which *actual* interveners select themselves into conflict, we assume that the decision to intervene can be represented with a universal model so long as the necessary independent variables are included to reflect the diversity of intervener motives.

However, the intervention interests of third parties are not uniformly distributed across the influence motivation continuums mentioned earlier. This is especially true for the threats posed by civil wars to third-party states. If the threat level faced by each potential intervener can be thought of as ranging from no threat at one extreme to severe threat at the other, then the case could be made that an entire category of third-party states find themselves near the upper extreme. Civil wars have a tendency to be geographically contagious. Neighboring third parties thus face the threat of being infected by a civil war's hostilities, the consequences of which can include substantial death and destruction, regime change, or an end to the third-party state's very survival. Noncontiguous third parties face no such threat. Thus, those states that share a border with the civil war state are motivated by a qualitatively different incentive for intervention indicating a disparity in the decision calculus across the contiguous–noncontiguous third-party divide. If this is the case, previous analyses of intervention may have mistakenly attributed meaning to relationships that do not apply equally across these intervener types.

In the following pages, I argue that potential interveners that share a border with a civil war state do indeed face qualitatively different threats that result from their proximity to the hostilities. Therefore, I expect the intervention decisions of contiguous third parties to be motivated by different factors relative to noncontiguous states. I highlight research in the civil war diffusion literature to theorize about the motivations of neighbor states and their interest in thwarting contagion across their borders. A brief empirical exposition indicates that while the theoretical approach of the intervention literature is most certainly applicable to neighbor states and offers insights into their decision calculi, extant predictors of intervention do not apply as meaningfully to neighbor states. I then generate a measure representing each neighboring third party's yearly risk of being infected by a civil war. This measure is included in a comprehensive data set of all civil war years and the associated interventions by neighbor states in the post-World War II period. The results strongly support the hypothesized relationship.

Understanding Neighbor State Intervention

Third parties that share a border with a state experiencing domestic conflict have a number of reasons to be attracted to intervention. Borrowing a conceptual framework from Most and Starr (1989), neighboring states often have both the opportunity and willingness to intervene. Their proximity to the conflict opens the window of intervention opportunity. While opportunity is a necessary condition for intervention, it alone is not sufficient. Given the costs associated with involvement in civil wars, potential interveners must have a sincere attraction to intervention to justify exploiting this opportunity. In other words, a third party's interests in a neighboring conflict must be substantial enough to produce a willingness to intervene. Much of the work addressing intervention has focused on the dyadic links, what I call connection theories, between third-party and civil war states. The argument that is made by these explanations is that a third party is more likely to intervene when a powerful connection exists between it and the country experiencing the civil war. Much has been learned from these connection theories about the correlates of intervention and the decision calculi of third parties. From a threat reduction perspective, connection theories argue that when the civil war violence jeopardizes the stability of the war state, endangering a valuable relationship between the potential intervener and the conflict country, intervention becomes increasingly likely in an effort to mitigate that threat. In this sense, it is the valued relational connection and the threat posed to it that drives the decision to intervene. This approach argues that a third party's willingness to intervene can be represented by emphasizing (i) the attributes of the conflict state, (ii) the characteristics of the third party, or (iii) the affective dyadic links between the intervener and the war participants.[2] Logically, as the salience of these relationships increases, so too does the likelihood of intervention in an effort to preserve or augment these relational connections.

The literature's focus on interstate connections has produced several important contributions. However, a powerful motivator of intervention has been overlooked. If the violence of civil wars is unconstrained by state borders, tending to spread geographically, then the threats posed to proximate third parties may not simply be driven by their motivation to preserve their connections to the civil war state. Rather, those third parties that are proximate to the violence are put directly at risk by the hostilities. Their threat reduction interests may thus be focused more fully on their own domestic stability rather than other foreign policy concerns for the civil war state. As an addition to the literature's focus on relational connections, a third party's direct geographic connection to the civil war state and its resultant exposure to spreading violence may be a powerful component of the intervention calculus. Civil war contagion should therefore be a strong explanation for intervention by contiguous third parties. For this expectation to be valid, (i) civil wars must have geographically contagious properties and (ii) intervention must be a viable tool for use in containing the violence.

Civil War and Hostility Contagion

Because the relational connections between states are often determined in large measure by proximity, a number of factors should increase a third party's willingness to intervene in a civil war on its border. Ethnic affinities, security ties, and political relationships are all commonly related to geographic proximity. Civil wars tend to disrupt these regional relations. Security ties are tested (Rosh

[2] Examples include ethno-linguistic and ideological ties between the potential intervener and the conflict factions (Carment, James, and Rowlands 1997), the nature of the conflict being waged (Balch-Lindsay and Enterline 2000; Regan 2002), and the characteristics of the conflict, including the civil war's intensity (Regan 1998) or the presence of humanitarian crises (Dowty and Loescher 1996).

1988), economic activity is interrupted (Murdoch and Sandler 2002), and regional instability increases (Maoz 1996; Enterline 1998). From a connection theory perspective, given the many salient links between neighboring states, it is no wonder that third parties have shown a tremendous willingness to intervene in civil wars along their borders. Indeed, a consistently robust predictor of intervention is a third party's contiguity to a war state, leading to the interpretation that neighbor states, like all third parties, intervene to reduce the threat posed to their interests in the civil war state. Unsurprisingly, then, a disproportionately large percentage of interventions, about one-third, are undertaken by contiguous states. Yet, another robust finding in the study of conflict processes is that violence tends to diffuse geographically. Research on the diffusion of interstate war is well established. War is not randomly distributed across space. Rather, conflict tends to infect those states with links to the original belligerents. These links may include shared borders (Most and Starr 1980), a military alliance (Kadera 1998), or an adversarial relationship (Houweling and Siccama 1985), leading wars to attract more participants. Recent work on civil war has come to similar conclusions. Civil wars exhibit a distinct interstate dimension, as the ramifications of civil conflicts are rarely confined to the original war state. It is the countries in a civil war's immediate region that are most vulnerable to the violence. The strategic, military, and foreign policy decisions made by states, especially in the third world, are determined by their relationships with their neighbors, what Rosh (1988) terms their ''security webs.'' These security webs are destabilized by the presence of civil conflict. As Maoz (1996) shows, domestic unrest in one state leads to increased levels of conflict in its international environment. Domestic conflict is thus closely associated with increased instability in the civil war state's region.

More recent work has uncovered a number of causal factors for the geographic diffusion of civil conflicts. Unrest tends to follow the flow of refugees (Salehyan and Gleditsch 2006). Refugees put a great strain on their host countries, often hampering the economy, spreading diseases, and reducing living standards. Cross-border ethnic ties also create opportunities for wars to spread (Gleditsch 2007; Buhaug and Gleditsch 2008), especially if an ethnic group in a neighbor state shares kinship with a warring party (Forsberg 2008). The territorial aspirations of rebel groups are also relevant, as secession breeds similar violence in contiguous territories (Buhaug and Gleditsch 2008). Furthermore, civil war creates demonstration effects for potential rebel groups in proximate countries (Kuran 1998). Dissident groups may learn lessons from these signals for more effectively challenging their own government. In addition, civil wars cause regional economic recessions (Murdoch and Sandler 2002). Declining regional economies make rebel ideologies more attractive to recruits in neighboring states. It is no wonder then that civil wars tend to cluster in time and space.[3] The prospect of contagion is a dire one, as neighboring civil wars pose a variety of hazards that threaten regime instability for neighbor states infected by the hostilities. Unsurprisingly, proximate violence has a tendency to focus the attention of regimes intent on maintaining authority in their own countries. As such, relative to the threat reduction interests of third parties, the prospect of being infected by civil war violence can be conceptualized as located toward the high extreme of the threat reduction continuum. As a consequence, contiguous potential interveners are attracted to intervention in an effort to decrease their own probability of being infected by the violence.

[3] Of course, this clustering effect of civil conflicts may simply be the result of spatially defined domestic attributes of states that are associated with unrest. Analyses of contagion often control for these attributes.

Intervention as a Containment Tool

Intervention is a viable civil war containment tool, often touted as a means of preventing a conflict from enveloping its surrounding region. Such aims are especially motivating for neighbor states that face the threat of diffusion directly. In a number of ways, a neighbor's intervention can serve to decrease the opportunities for contagion across its own border. For one, the intervener can attempt to cease the hostilities. Doing so removes the primary source of spillover. Similarly, interveners may project a level of force to dwarf that of the combatants in an effort to impose a level of stability along one's border. Recent Ethiopian intervention into Somalia and past Syrian interventions into Lebanon are examples. An intervention may be as cold and calculating as supporting the stronger of the factions in an effort to promptly squash resistance from the weaker side. On the other hand, a neighbor may prefer to intercede between the combatants to promote negotiations, punishing those who sabotage peace efforts. Furthermore, a neighboring third party may simply become involved in an effort to dispel violence along its border without regard to broader concerns for resolving the conflict, similar to Rwandan and Ugandan interventions into the Democratic Republic of Congo in the 1990s and 2000s. Pushing belligerent forces away from one's border removes the threat of factions perpetuating hostilities without respect to state boundaries. Doing so also reduces the likelihood that refugees will seek asylum on the neighbor's territory, thus sparing it of the instability inherent in hosting refugee populations. Additionally, intervention may serve as a signal to the neighbor state's own potential domestic agitators, indicating a willingness to pay costs in pursuit of stability, as Turkish incursions into Kurdish territories in Iraq likely signaled to their own Kurdish minority. In each case, intervention offers a valuable tool for neighboring third parties to defend against the breaching of their borders by civil war violence. Intervention is not the only foreign policy tool available to third parties. Still, intervention is often the most dramatic and effective option for containing civil wars. Border patrols offer another major option. Yet such missions are often fraught with difficulties including the need for large troop deployments across long, underdeveloped, permeable, and not easily monitored border regions.[4] Thus, while intervention is not the only option, I contend that it offers the most dramatic form of affecting a civil war congruent with a third party's containment interests. Given that (i) civil wars are indeed geographically contagious and (ii) intervention is a viable tool for containing civil wars, I expect that an increasing threat of civil war contagion affects the intervention decisions of neighboring third-party states, leading to the following hypothesis:

Hypothesis 1: *As a potential intervener's likelihood of being infected by a contiguous civil war increases, the potential intervener's likelihood of intervening in the conflict also increases.*

Extant Predictors and Contiguous Third Parties

While the above-mentioned hypothesis points to an interesting determinant of intervention, the value of investigating the intervention motivations of neighboring

[4] For instance, the UN feared the spread of Kosovo's war to neighboring areas. Initially, preventive forces were deployed along the borders to contain the violence. However, this effort was quickly discarded given the extraordinary costs. Patrolling substantially larger states than Kosovo quickly becomes intractable. This is evident in Darfur. Chad shares a long border with Sudan, making it impossible to contain the conflict via border patrols. Chad's intervention is a partial consequence of its inability to seal its border. Chadian Army General Mahamat Itno hints at this when commenting on the threat of spillover, acknowledging the difficulty of containment patrols: ''It is a long border. We cannot be everywhere at once: (Polgreen 2006:A1).''

states as distinct from other third-party types may be somewhat less worthwhile if our existing models of intervener behavior perform equally in predicting neighbor state intervention. As I argue earlier, civil wars pose neighbor states with a unique threat, extreme in its potential for costly consequences, and thus qualitatively different from other threat reduction motivations for intervention. Whereas distant potential interveners have the luxury of making intervention decisions based on less fundamental concerns, the domestic security of a proximate state is directly threatened by the civil war's potential for catastrophic consequences. As such, I expect that this qualitative difference will yield a disparity between contiguous and noncontiguous third-party motivations.

A brief empirical exposition can address whether extant models of intervention accurately depict the different decision calculi across various third-party types. Many models of intervention include a dichotomous independent variable measuring whether a third party is contiguous to the civil war state. While contiguity is a strongly positive predictor of intervention, most neighbor states do not intervene. It is thus unclear whether existing models capably explain the variation *among* potential interveners that neighbor the conflict. A replication of a previous statistical study provides insight into this issue. Model 1 in Table 1 replicates the first stage of Lemke and Regan's (2004) censored probit model of intervention onset and success. Replicating this analysis is constructive as it represents one of the more comprehensive empirical investigations of intervener motivations over a substantial time period (1944–1994).[5]

Each model includes variables found to be significant in prior research. Given their illustrative nature, I will avoid a lengthy explanation of the variables. However, they can be ascribed to the connection theory approach of the literature in that they account for the characteristics of the conflict and the conflict state (*Intensity*, *Casualties*, *Refugees*, *Ethnic Conflict*, *Ideological Conflict*, *Cold War*, *Democratic Government*), characteristics of the third-party state (*Major Power Intervener*, *Democratic Intervener*, *African Intervener*, *Neighbor*), and the connections between each potential intervener and war state (*Allied*, *Colonial History*, *Joint Democracy*). The dependent variable is dichotomous and codes whether each third party intervened (militarily or economically) at any point in each civil war using data from (Regan 2000).[6] Model 1 is the baseline to which the subsequent

[5] Using a dyadic potential intervener–war state unit of analysis, these data discriminate between states that chose to intervene as opposed to those that avoided intervention in each war. A ''potential intervener'' represents any independent state that existed at any point in the duration of a given civil war according to the Correlates of War State System Data (2005). Ideally, these data would be structured to the third-party–war state dyad year unit of analysis for three reasons. First, international system membership changes over time, causing the population of potential interveners to change with the duration of each war. Second, observations on many of the independent variables change temporally. Lastly, intervention is coded as occurring in some war years and not in others, as third parties can intervene more than once in each war. Changing the data from one observation per potential intervener for each war to one observation per potential intervener for each war year resolves these issues. This is the format that I employ in the analyses that appear later in the manuscript. However, for the replication in Table 1, the format provided by Lemke and Regan is suitable.

[6] A brief description of these data followed by their sources: *Intensity* measures the number of yearly fatalities and *Casualties* measures the total war fatalities. *Refugees* is dichotomous, indicating whether a war produced an exodus of 50,000 or more refugees. *Ethnic Conflict* and *Ideological Conflict* are dichotomous, representing the type of war being waged. Each of the aforementioned variables is taken from Regan (2000). *Major Power Intervener* (COW State System Membership 2005), *Democratic Intervener* (Marshall and Jaggers 2007), and *African Intervener* (Bennett and Stam 2000) are each dichotomous indicating whether each third party is a global power, a democracy, or located in Africa, respectively. *Cold War* is dichotomous, indicating the final year of the Cold War in 1989. *Democratic Government* is a dummy variable for the civil war state's regime type. *Allied* (Gibler and Sarkees 2004) is a dummy indicator of an alliance between the potential intervener and the civil war country. *Colonial History* (Hensel 2007) is a dichotomous indicator of a prior colonial relationship between the third party and civil war state. *Joint Democracy* is also a dummy variable indicating whether both the third party and the war state are democracies. Finally, a brief example of variable interpretation: the positive and significant effect of *Refugees* in model 1 indicates that when civil wars produce a humanitarian crisis resulting in 50,000 or more refugees, the likelihood of intervention by a third party increases.

Table 1. Comparison of Intervention Onset 1944–1994, Varying Potential Intervener Type

Variable	*Model 1 All potential interveners*	*Model 2 Contiguous potential interveners*	*Model 3 Major power potential interveners*	*Model 4 All other potential interveners*
Intensity	−5.20e−06 (2.73e−06)*	−1.37e−05 (8.72e−06)	−5.36e−06 (5.39e−06)	−6.34e−06 (4.34e−06)*
Refugees	0.30 (0.09)***	0.18 (0.19)	0.26 (0.16)	0.42 (0.13)***
Cold War	0.46 (0.12)***	0.74 (0.22)***	0.49 (0.20)**	0.32 (0.14)**
Casualties	9.53e−07 (3.25e−07)***	5.46e−07 (8.32e−07)	1.82e−06 (7.06e−07)**	1.07e−06 (4.29e−07)***
Allied	0.47 (0.11)***	−0.41 (0.18)**	1.06 (0.26)***	0.76 (0.11)***
Colonial History	0.87 (0.18)***	0.43 (0.72)	0.62 (0.22)***	1.51 (0.25)***
Major Power Intervener	1.36 (.10)***	−0.20 (0.45)	–	–
African Intervener	−0.14 (0.09)	−0.11 (0.20)	–	−0.23 (0.12)
Democratic Intervener	0.05 (0.09)	−0.06 (0.27)	0.22 (0.19)	−0.10 (0.15)
Democratic Government	0.25 (0.13)*	−0.72 (0.40)*	0.01 (0.39)	0.55 (0.16)***
Joint Democracy	−0.11 (0.20)	0.37 (0.60)	−0.04 (0.46)	−0.11 (0.26)
Ethnic Conflict	0.31 (0.17)*	−0.07 (0.31)	0.57 (0.37)*	0.38 (0.23)*
Ideological Conflict	0.34 (0.17)**	0.11 (0.34)	0.86 (0.35)**	0.14 (0.25)
Neighbor	1.37 (0.13)***	–	−0.49 (0.46)	–
Constant	−3.70 (.21)***	−1.36 (0.41)***	−2.77 (0.40)***	−3.75 (0.27)***
Observations	15,931	404	531	15,012
Wald χ^2	599.40***	40.43***	57.75***	114.33***
Log pseudolikelihood	−607.91	−138.84	−164.99	−264.85

(*Notes*. Significant at the ***.01, **.05, *.1 level.
Robust standard errors in parentheses.)

models are compared, and many of its variables are significantly related to intervention. While the results in model 1 are similar to those produced in previous work (Regan 1998, 2000), the dissimilarity from model 1 to 2 is striking. With the exception of *Cold War*, none of the significant results in model 1 are reproduced by model 2. Standard accounts of intervention are apparently less capable of capturing the motivations of contiguous third parties as few of the predictors can explain variation *within* the subgroup of contiguous states. In fact, many of the coefficients reported in model 1 have contradictory signs in model 2. This is troublesome because states contiguous to the war country account for such a large proportion of interventions. Yet, many states choose never to intervene in contiguous conflicts. Existing predictors thus seem to do a poor job of explaining this variation.[7]

I ran two additional models to represent the remaining categories of potential interveners. As stated earlier, about one-third of all interventions are undertaken by contiguous states. A slightly larger proportion is accounted for by global powers. The remaining interventions are undertaken by all other states in the system. The number of third-party interventions is thus disproportionately reflective of decisions made by neighbors and global powers. However, judging from Table 1, the results in the first model appear to be driven by the sub-sample of states analyzed in models 3 and 4. Every variable in model 3 is consistent in coefficient sign with model 1, and nearly every variable is consistent in significance. Only *Neighbor* produces a contradictory result in model 3, but this is not surprising because the sub-sample only includes major powers, most of whom are geographically distant from civil war hot spots. The sub-sample in model 4 includes all third parties that are neither contiguous to the civil war nor are major powers. Again the results mirror those in model 1, as only *Democratic Intervener* deviates from model 1 in coefficient sign and *Ideological Conflict* in significance. The remaining variables produce nearly identical results.[8] From this short empirical exposition, it appears that extant predictors of intervention help us to understand quite a bit about the decisions of those states outside the third party's neighborhood yet less so about the decisions made by states neighboring the violence. This is not to say that the literature on intervention is not useful for understanding neighbor state decisions. Rather, the connection theory approach of the literature is surely applicable to neighbor states, as I will note in subsequent pages. However, it does appear that predictors generated by connection theories are less robust to neighbor states.

Improving our understanding of neighboring third parties is important. Not only do contiguous third parties account for a disproportionately large number of the interventions, but neighboring third parties are also likely to have the most at stake in the consequences of the violence. Yet we know little about their motivations. Given the potential transborder ramifications, I suspect that the contagious properties of civil wars affect neighbor state intervention decision making, helping to explain why so few existing predictors of intervention apply to contiguous third parties. In the following pages, I operationalize the risk of hostility infection faced by states neighboring ongoing civil wars. I then use this measure to explain the intervention decisions of those neighbor states.

[7] One might argue that the findings of models 1 and 2 differ because the number of observations drops drastically when only considering contiguous third parties. However, model 3 shows a similar drop in observations, yet its findings are still very similar to model 1.

[8] Two brief comments about these models: First, a few variables are dropped in models 2 through 4 because of collinearity. *Neighbor* in 2 and 4 and *Major Power Intervener* in 3 and 4 are dropped because of sample restrictions. *African Intervener* is dropped in model 3 because no major power has been located in Africa. Second, the number of observations does not match up perfectly across models (a difference of 16 observations from model 1 to the three subsequent models). This results from the rare occasions in which a global power shares a border with a civil war state.

Measuring the Risk of Infection

To test the hypothesis, I need to operationalize a state's likelihood of being infected by a neighboring civil war. In the following pages, I conduct an analysis that predicts the occurrence of civil conflict. This analysis serves to generate my likelihood of war infection variable. Thus, the analysis reported in Table 2 is the first in a two-step process. The initial analysis is conducted to derive a measure that reflects each state's yearly likelihood of being infected by a neighboring civil war. This variable is then used in the subsequent intervention analysis to address the primary hypothesis.

Representing the likelihood of civil war infection is difficult. Depending on their characteristics, different civil wars will have a differential effect on the likelihood of spreading their hostilities. For instance, a civil war that produces many fatalities should be more likely to infect its neighbors than a low-intensity conflict. Also, domestic characteristics of countries surrounding the civil war state affect which nations are the most vulnerable to experiencing unrest. For example, a regional state governed by contradictory political institutions may be more likely to experience violence than a regional state governed by an institutionally consistent regime. In representing the risk of infection, care must be taken to avoid confusing the effect of domestic predictors of civil war with the cross-border diffusion effect of contagious neighboring hostilities. Ideally, each state should be assigned a value that reflects its risk of infection from neighboring conflict. Such values can be determined empirically through an analysis explaining civil war prevalence which incorporates both domestic and contagion factors that are commonly associated with unrest. In nearly all studies of civil war occurrence, the unit of analysis is the state year. Normally, the dependent variable is measured dichotomously, where 1 represents the occurrence of conflict in each state year, and 0 reflects its absence. Various statistical methods are then used to determine the presence of a statistically significant relationship between the independent variables and the likelihood of civil war. Below, I conduct an analysis of this type to determine the likelihood that states will be infected by a neighboring civil war. The likelihood of infection that is derived from this analysis will serve as my primary independent variable (*Infection Risk*) which will subsequently be used to explain third-party intervention. To do this, I employ a logistic model to predict a civil war prevalence

TABLE 2. Logit Analysis of Civil War Prevalence 1950–1999

Variable	*Model 1*	*Model 2*
Neighbor Civil War Intensity[†,‡]		0.07 (.02)**
GDP/Capita[†]	−0.18 (.07)**	−0.13 (.07)*
Ethnic Heterogeneity	0.02 (.003)**	0.01 (.003)**
Regime Type[†]	0.01 (.01)	0.01 (.01)
Regime Type^{2}[†]	−0.005 (.002)**	−0.004 (.002)**
Population[†,‡]	0.26 (.04)**	0.23 (.04)**
Peace Years	−1.99 (.08)**	−1.95 (.08)**
Spline 1	−0.06 (.003)**	−0.06 (.003)**
Spline 2	0.01 (.001)**	0.01 (.001)**
Spline 3	−0.001 (.0002)**	−0.001 (.0002)**
Constant	0.07 (.68)	−0.37 (.69)
Observations	6,727	6,727
Log Likelihood	−1230.21	−1220.41
χ^2 (9,10)	3298.88**	3318.49**

(*Notes.* Significant at the **.01, *.05 level one-tailed test.
Standard errors in parentheses.
[†]Lagged 1 year.
[‡]Natural log.)

dependent variable for every state in the international system in every year between 1950 and 1999. In doing so, I control for several common domestic predictors of unrest. I then include a final variable that measures whether each state (for simplicity, State *A*) is bordered by another country (State *B*) that is experiencing an ongoing civil war. The expectation here is that *A*'s likelihood of experiencing its own civil war is determined in part by the presence of civil war in its neighbor, *B*. The increased yearly likelihood of civil war in *A* that results from the presence of *B*'s hostilities is representative of *A*'s likelihood of being infected by *B*'s war. I determine this increased likelihood of civil war in all states *A* by calculating the marginal effect of the added contagion variable. By controlling for common domestic explanations of civil war in *A*, I am able to distill the singular effect of contagion without conflating it with *A*'s domestic likelihood of violence. This provides a useful measure of the *risk* that a civil war will spread from one country to the next. In describing this exercise, I first introduce several controls for common domestic explanations of civil war.

Domestic Sources of Civil War

In the logistic analysis that follows, I draw on five domestic predictors that are commonly accounted for in statistical models of civil war. In other words, the following predictors account for *A*'s domestic situation and are thus used to determine its own domestic likelihood of experiencing civil conflict. First, I include a measure of each state's economic well-being. This is proxied by GDP per capita for which data are provided by Gleditsch (2002). When a state's populace is increasingly wealthy, the opportunity costs of rebellion are high, yielding a negative effect on civil war (Elbadawi and Sambanis 2002; Fearon and Laitin 2003; Collier and Hoeffler 2004). Second, I include two measures for the domestic political system. One measure controls for the democratic civil peace explanation that notes the relative lack of civil war in democracies (Elbadawi and Sambanis 2002), using Polity IV data (Marshall and Jaggers 2007). Other studies argue for a nonmonotonic effect in which anocracies are the most likely to produce conflict (Hegre, Ellingsen, Gates, and Gleditsch 2001). I thus include a squared term for regime type. Third, the ethnic constitution of each state is represented using data provided by Vanhanen (1999). Although results have been mixed, it is generally accepted that ethnic constitution is important to understanding domestic conflict (Reynal-Querrol 2002; Fearon and Laitin 2003). Fourth, increasing population size increases the likelihood of conflict, as the pool of potential rebel recruits also increases (Elbadawi and Sambanis 2002). Accordingly, I include a logged measure of population using data from the disaggregated Composite Index of National Capability (CINC) scores in the National Material Capabilities Dataset (Singer, Bremer, and Stuckey 1972). Lastly, following on research noting the potential for time dependence as civil wars are more likely to recur soon after a prior conflict while long periods of peace decrease the likelihood of future violence, I include a measure of peace years and a cubic smoothing spline with three equally spaced interior knots (Beck, Katz, and Tucker 1998).[9] Taken together, these variables represent commonly employed domestic predictors of civil war in state *A*.

[9] Space considerations restrict thorough interpretation of each independent variable, including an analysis of their time-dependent effects. However, to be sure that the potential for time dependence was properly accounted for using splined time, as is common in the civil war literature, several robustness checks were conducted including (i) removing the splines from the analysis, (ii) replacing peace years and splines with a decay function as suggested by Raknerud and Hegre (1997) using a five year half-life ($2^{-y/5}$) where y is the number of years without conflict, and (iii) using the cubic polynomial method suggested by Carter and Signorino (2009). However, the pseudo R-square and model fit indicated that the spline model was the most appropriate. Also, across each of these robustness checks, the results for each of the other independent variables did not change substantively.

Diffusion as a Source of Civil War

To these domestic predictors, I add a single variable representing the contagious properties of a neighboring civil conflict. Most studies addressing civil war contagion simply include a dummy variable for the presence of a neighboring war in state *B*. However, I improve upon these dichotomous predictors by measuring the intensity of *B*'s conflict. The intensity of a conflict, proxied by the number of yearly battle deaths produced, is a suitable representation of the level of instability caused by the violence. Intense fighting is likely to be more regionally destabilizing than low levels of violence. Low-intensity civil wars may persist without causing the widespread destruction that breeds regional insecurity. Highly intense conflicts, on the other hand, are more likely to interrupt trade relationships, test alliance ties, and destabilize regions. In this sense, it is not simply the presence of a neighboring conflict in *B* that determines the risk of diffusion to *A*. Rather, a war's intensity is important to understanding whether it will spread, whereas this objective level of instability is lost in dichotomous measures that do not speak to destructive capacity and the resultant threats to regional security. Including the intensity of civil wars in empirical models of contagion is thus an improvement over simpler measures. The contagion variable, *Neighbor Civil War Intensity*, thus reflects the yearly number of deaths, if any, produced by war in neighbor state *B*. The variable varies from zero (that is, no civil war in *B*) to the observed number of fatalities produced by a civil war in *B*. The expectation is that *Neighbor Civil War Intensity* will have a positive effect on the likelihood that *A* will experience the occurrence of its own civil war.

The Primary Independent Variable: Infection Risk

To operationalize the *risk* that country *A* will be infected by war in its neighbor *B*, I include the domestic and contagion predictors in a logistic model of civil war prevalence. Table 2 reports the findings. The dependent variable equals 0 for every year in which state *A* does not experience its own civil war and 1 in each ongoing conflict year using data from the Uppsala Conflict Data Program/Peace Research Institute, Oslo (UCDP/PRIO) Armed Conflict Dataset (Gleditsch, Wallensteen, Eriksson, Sollenberg, and Strand 2002). *Neighbor Civil War Intensity* codes the approximated number of battle deaths in each year produced by state *B* using data from Regan (2000).[10] Model 1 reports findings for domestic predictors that are common in the literature.[11] Model 2 adds to these domestic predictors by accounting for the number of yearly fatalities caused by *B*'s war. The positive and significant coefficient indicates that rising violence in *B* increases the likelihood of contagion to *A*. To determine *A*'s risk of infection, I calculate the marginal effect of *Neighbor Civil War Intensity* on the likelihood of contagion to *A* for every state-year observation in the data. The *base domestic likelihood* of *A* experiencing civil war in each year is calculated using the observed values on each of *A*'s domestic predictors. By then varying the value of *B*'s war intensity from zero to the observed casualty value for each ongoing year of conflict in *B*, a percentage increase effect of *B*'s civil war on *A*'s base likelihood of conflict is determined. This increase in probability reflects each *A* state's *probability of infection*, which varies by state-year as

[10] Separate data sets were used to code civil war on the dependent variable (the ''infectee'': state *A*) and existing civil war intensities on the independent variable (the ''infector'': state *B*) for two reasons. First, Regan's data on intervention are the most comprehensive and widely used. Because I employ these to test my intervention hypothesis in the subsequent analysis (that is, testing *A*'s likelihood of intervening in *B*'s war), it makes sense to use his sample of civil wars in constructing my contagion risk variable. Second, using data on the presence of conflict for each potential ''infectee'' from UCDP/PRIO allowed me to capture the effect of civil war diffusion at a fine-grained level, given UCDP/PRIO's low death threshold.

[11] In addition, these models were run on data using the UCDP/PRIO's more restrictive 1,000 battle deaths threshold for state *A*, and the results were practically identical.

a result of the changing values for their domestic *and* contagion predictors. This calculation is conducted for every state in the international system in every year covered by the data resulting in a new variable, *Infection Risk*. Thus, *Infection Risk* effectively reflects each state's yearly likelihood of infection without conflating it with the state's own domestic probability of civil war.[12]

To provide a visual reference, Figure 1 displays the effect of *B*'s civil war intensity on each *A* state's likelihood of being infected, while holding all of *A*'s domestic predictors at observed values. The graph demonstrates that as *B*'s war hostility level increases, so too does the likelihood that its neighbor *A* will be infected. While the curve clearly slopes upward, note that many of the observations cluster along the *x*-axis, flattening the curve's slope. This effect is the product of those *A* states whose stable domestic situations shield them from contracting the civil war virus. *Infection Risk* thus becomes the primary independent variable for testing my hypothesis. The measure produced by this exercise is a useful reflection of each state's yearly likelihood of hostility infection.[13] Recognizing that different civil war data sets have shown a tendency to produce different results, and given the centrality of creating the *Infection Risk* variable to the analyses that follow, two robustness checks of the findings in Table 2 were conducted. First, *Neighbor Civil War Intensity* was added to the data set provided by Fearon and Laitin (2003). Replicating an analysis of their civil war prevalence dependent variable produced a positive and significant outcome for *Neighbor Civil War Intensity* similar to that reported here. Second, rather than using

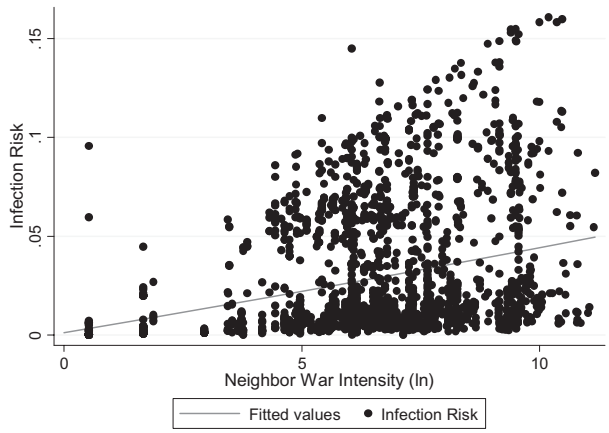

Fig 1. Effect of Civil War Intensity on Neighbor State Infection Risk

[12] For a fuller descriptioin of this process, see Kathman (2010). Also, see Kathman (forthcoming) for a subsequent application of *Infection Risk*.

[13] A criticism of this approach may be that I do not explicitly account for other contagion mechanisms. However, it is not possible to use multiple predictors of contagion in this analysis for three reasons. First, because many of the contagious effects of civil wars (including refugee flows, negative regional externalities, and demonstration effects) occur *during* wartime, other contagion measures will be highly correlated, obscuring their effect. Second, I am attempting to determine the risk of infection for individual neighbors of each war. However, this direct effect is difficult to attribute to war contagion with other variables. For example, regional economic downturns may result from causes other than civil war, and sufficient data are not available on these issues. Accounting for demonstration effects are also difficult to estimate accurately. Still, my measure of war intensity is the principal predictor. A war's intensity is likely to drive the values observed on other contagion measures, as increasing hostilities produce larger refugee flows, harsher externalities, and more visible demonstration effects. Finally, in those instances in which state *A* is bordered by more than one war, determining the marginal effect of contagion from multiple wars in *B* becomes analytically impossible with multiple contagion variables. Using a single measure, I can assign a proportion of the marginal effect to each *B* war by using the proportion of battle deaths produced by each conflict. Proportions derived from other measures could be similarly employed. The difficulty is in determining how to weight the differences *between measures* rather than between wars.

Regan's civil war data to determine the contagiousness of each conflict, UCDP/PRIO data were used to determine the effect of an ongoing civil war in *B* on the likelihood of diffusion to *A*. The civil war's intensity was measured using UCDP/PRIO-compatible yearly casualty data provided by Lacina and Gleditsch (2005). Again, the results were practically identical to those reported.

Further Explanations of Neighbor Intervention

While I expect that the prospect of transborder hostility transmission is a positive and significant predictor of neighbor state intervention, this certainly does not exclude other possible motivations. In addition to *Infection Risk*, I account for several factors that are hypothesized to affect the intervention decisions of third parties neighboring the civil war state. While Table 1 indicated that common predictors of intervention produce different results across the separate third-party samples, the connection theory approach to the literature is still quite useful in generating expectations about neighbor state behavior. Indeed, the explanations noted below are congruent with the connection theory approach in that they fall into three general categories: the characteristics of the conflict, the features of the potential intervener, and the dyadic connections between them. However, I pull theoretical expectations from the existing literature that are more closely associated with the concerns of *neighbor* states.

First, I include several variables that represent the type of conflict being waged. *Ethnic Conflict* measures whether ethnicity is the primary issue in dispute. Ethnic kin groups often span national boundaries. This is especially the case in the less-developed world where many colonial borders were drawn irrespective of ethnic demography. Given that most civil wars occur in undeveloped areas, one might expect neighboring states to be more likely to intervene in ethnically defined civil wars in support of their kin (Carment and James 2000). I also include a dummy variable to distinguish the Cold War from the post-Cold War period. Given the global competition between the United States and the USSR, states proximate to ongoing conflicts were sometimes used as proxy interveners. With the end of the Cold War, bloc competition ceased, reducing the incentives for third parties to intervene in conflicts along their borders. I thus expect *Cold War* to have a positive effect on intervention as it has in previous research (Regan 1998, 2000). The Cold War is coded as ending in 1989. Next, *Ideological Conflict* is a dichotomous variable that measures whether the primary issue at stake in the conflict is an ideologically driven dispute. Given the vast social restructuring that often accompanies ideological revolutions, ideological conflicts have the potential to be extremely destabilizing (Valentino 2004), which may thus attract neighboring interveners (Regan 1998, 2000). Data for both *Ethnic Conflict* and *Ideological Conflict* are taken from Regan (2000). I also include a variable that combines *Cold War* and *Ideological Conflict*, taking a value of 1 when an ideological conflict is being waged during the Cold War and 0 otherwise. The combination of an ideological conflict during the Cold War superpower competition should have an increased effect on the use of client interventions. Finally, *War Duration* accounts for the number of years that a civil war has been ongoing. Studies have shown that the timing of intervention (early or late in the time span of an ongoing conflict) has been shown to be relevant for explaining the subsequent duration of hostilities (Regan and Stam 2000; Regan 2002). Third parties may be more attracted to intervene early in an effort to affect a civil war when it is most malleable, yielding a negative effect on intervention as a war endures. Methodologically, this variable helps to account for temporal variation by dyad, and as such it may capture otherwise unobserved factors. Next, I include two variables to represent important features of the potential intervener. The first represents the power capability of each potential intervener. The major power

status of potential interveners has been a consistent predictor of intervention (Findley and Teo 2006). However, major powers do not commonly share a border with civil war countries. Still, neighbors will have various capacities for intervention given their differences in capabilities. A more accurate measure of intervention capacity among neighbor states should employ their CINC scores. *Neighbor Capability* is thus used to represent each third party's ability to conduct an intervention effort (Singer et al. 1972). As a state's capability rises, its opportunities for positively affecting the war through intervention should also increase, thus increasing the likelihood of intervention. Additionally, *Previous Interventions* counts the number of times that each third party intervened in a contiguous civil war along its borders in the previous year. This variable is not specific to one particular civil war. Instead, it considers each third party's proclivity for intervention more generally and thus its overall tendency to become involved in neighboring conflicts. I expect a positive relationship for this variable.

In line with the connection theories of intervention, I also include several variables to represent the dyadic connections between the third party and civil war states, indicating that strong relationships should increase third-party attraction to intervention. *Alliance* is a dichotomous variable coding the presence or absence of an alliance between each neighboring potential intervener and the civil war state, using the COW Alliance Dataset (Gibler and Sarkees 2004). An alliance should increase the likelihood that a neighboring third party intervenes in an effort to maintain its security relationship (Findley and Teo 2006). Lemke and Regan (2004) find such an effect in analyzing the pool of all potential interveners. However, my replication of their work looking only at neighboring third parties produced the opposite result. Thus, while I expect a positive result for this variable, my expectation is tentative. Next, I include a proxy measure for the political distance between each neighbor state and the civil war country. Each third party shares a border with the civil war state. Therefore, each is likely to be quite concerned with events in the conflict country. Still, the political relevance of each potential intervener–civil war state (PI–CWS) dyad varies. One means of accounting for political relevance is to assess differences between regime types in the PI–CWS dyad. As the dissimilarities between regimes increase, the third party and the civil war state are less likely to have shared values and interests and are thus less likely to have incentives to invest in an effort to manage the conflict. Using Polity IV data, I proxy the ''political distance'' in the PI–CWS dyad with a measure calculating the absolute value of the difference between third party and civil war state regime scores. Following on work connecting regime type to intervention processes (Tures 2001), I expect that third parties with increasingly dissimilar forms of government relative to the civil war state will be less likely to intervene. Further, two geographic opportunity variables are included in the analyses. Because all neighbors within COW's five-point contiguity scale are included in the following analyses, *Land Border* is added to account for the presence of a land border between the third party and the civil war state. Land borders offer greater opportunity for intervention by neighboring third parties and should thus increase the likelihood of intervention. Second, *Boundary Length* measures the length in kilometers of the border between the potential intervener and the civil war state using data from Furlong and Gleditsch (2003). This variable is then log transformed. Similar to *Land Border*, a longer boundary should offer greater opportunities for intervention. In addition, longer boundaries may serve as a rough proxy of the importance of the civil war state to the third party's foreign policy interests and related vulnerability of the third party's interests to the ongoing hostilities. As such, the longer the boundary, the more likely it should be that a third party intervenes. *Refugees* is the final connection theory variable. Refugee flows to neighboring host states are destabilizing. Hosting large refugee populations is often economically expensive, can lead to the spread of disease, and can foment radical

ideologies in the host state (Salehyan and Gleditsch 2006). These costly consequences can be strong incentives for intervention that are unique to neighbor states. *Refugees* thus codes the number of refugees, if any, being hosted by the potential intervener in each year as a consequence of the violence in the civil war state. These data are provided by Salehyan (2009), and the variable is log transformed. The expectation is that as the number of refugees hosted increases, the greater will be the willingness of the third party to intervene in an effort to stem the costly flow of refugees across its border.[14]

Lastly, to account for potential differences across continental regions, I include dichotomous variables for the continent on which each civil war took place using data from COW, yielding five variables: *Americas*, *Europe*, *Africa*, *Asia*, and the *Middle East*. Because these five variables are mutually exclusive, the *Middle East* acts as the reference category.[15] These control variables thus situate my empirical analyses within the broader literature on intervention, focusing more fully on the intervention motivations of contiguous third-party states. Therefore, supportive results for my *Infection Risk* variable should be a strong indication that the threat posed by civil war contagion is indeed an important predictor of neighbor state intervention.

The Dependent Variable: Intervention Onset

The dependent variable is dichotomous, measuring whether each neighboring third party intervened in each civil war year. The data are formatted to the PI–CWS dyad year, where each neighboring state is a potential intervener. The data used to generate the dependent variable are taken from Regan (2002), which, as noted previously, define intervention as ''convention–breaking military and/or economic activities in the internal affairs of a foreign country targeted at the authority structures of the government with the aim of affecting the balance of power between the government and opposition forces'' (Regan 2000:10; see also Regan 2000:6–14, 20–27 for a full description of the data). One of the benefits of using Regan's definition is that the coding of intervention assumes the presence of an ongoing civil war in which the third party's involvement is determined to be a conflict management tool that is directly associated with affecting conflict dynamics. Therefore, instances of intervention coded by the data do not include acts of third parties that are not directly aimed at affecting the ongoing hostilities. Each of the coded interventions attempts to influence the capabilities

[14] Additionally, this variable was replaced with a variable reflecting changes in refugee stocks being hosted by the neighbor state, but the results did not change substantially.

[15] Given the large number of variables accounted for in the analyses, I include these continent variables as additions to the base models. Also, a description is necessary for why some variables in the replication analysis in Table 1 were used in the following analysis while others were not. First, I included those variables that were significant at the .05 level or better in the Lemke and Regan replication: *Cold War* and *Allied*. Next, I excluded two variables because they did not make theoretical sense for inclusion in an analysis of contiguous third parties: *Colonial History* and *Major Power*. The vast majority of civil wars take place in the less-developed world, and most major powers and former colonial metropoles are located in the advanced world, making these variables rather impractical. Also, *Intensity* and *Casualties* were removed because they are essentially captured in a more theoretical way by *Infection Risk*. Still, including them in Table 3 does not affect the results, and neither variable was significant. *African Intervener* is dropped because it is captured by the continental controls. Lemke and Regan's *Refugees* variable was removed because the Lemke and Regan version was not very useful for a neighbor state analysis, as it simply records whether a refugee crisis occurred. However, it does not indicate the locations to which these refugees fled and the states that bore the costs of hosting them. The refugee data used in Table 3 captured the actual number of refugees hosted by each neighbor state. Lastly, the regime type variables were dropped from the Table 3 analysis, as I control for a more theoretically satisfying *Political Distance* variable and include robustness analyses of shared regime types. Still, none of the Lemke and Regan regime type variables were significant when included in the Table 3 analyses. Lastly, given the expanding literature on types of civil war and their unique dynamics, I re-used the *Ethnic Conflict* and *Ideological Conflict* variables from the Lemke and Regan analysis. Upon including them in models more appropriately specified for neighbor states, their effects become more apparent. This was not the case with any of the other Lemke and Regan variables.

of the supported faction relative to its opponent. A third-party state can engage in a pro-government (or anti-rebel) intervention in which an attempt is made to preserve the authority structure of the government. Alternatively, the third party can embark on a pro-rebel (or anti-government) intervention, thus attempting to weaken the government's authority relative to the rebel's challenge.[16] Military interventions include such actions as the use of ground troops, naval forces, air support, and military materiel. Similarly, economic interventions include economic sanctions, supplying aid, or economic embargoes. In all, there are 353 neighbor state interventions in the data.

Results and Analysis

Given the dichotomous nature of the dependent variable, I use a logit model to analyze the effects of my independent variables. The models in Table 3 report findings for each of the hypothesized relationships. Model 1 simply includes my variable of interest, *Infection Risk*, to test its singular effect on the likelihood of intervention. This model provides initial evidence of *Infection Risk's* strongly positive and significant relationship with intervention, indicating that neighbors of ongoing civil wars are driven to intervene by their expectation of being infected by the hostilities. However, this model is not fully specified. To get a fuller understanding of the effect of *Infection Risk*, I first turn to an interpretation of the results produced by the control variables across each model before returning to the consistently positive and significant effect of *Infection Risk* in models 2 through 5.

Models 2 and 3 are the primary models, addressing both economic and military forms of intervention. Model 3 is a reanalysis of model 2, simply adding the continental control variables. Many of the control variables produce their expected results. The four conflict type variables yield interesting findings. In model 2, judging from the coefficient signs and their significance levels, neighboring third parties were not significantly more likely to intervene during the Cold War. This does not fit the hypothesized expectation. However, this variable is consistently positive in its coefficient sign across models and does become significant when controlling for the continent on which the civil war occurs in model 3, lending credence to the positive effect of the Cold War time period. In conflicts being waged over ideology and in ideological conflicts that occurred during the Cold War, neighbor states were more likely to intervene. These findings indicate that neighboring states were active in the ideological competition between the blocs, even serving as client interveners for the opposing superpowers. Additionally, third parties are more likely to become involved in conflicts along their borders being fought over ethnicity. Given that civil wars occur predominantly in the less-developed world, and because many of these borders were drawn irrespective of ethnic demographics, ethnically driven civil wars are more likely to attract interventions from neighbors, presumably in support of their kin groups.[17] Lastly, the

[16] By this definition, the explicit invitation of the third party by the civil war state government is not a requirement. For instance, an intervention that attacks the rebel's forces is considered pro-government in that it enhances the regime's authority even if the regime does not expressly ask for this support. However, in the majority of cases, pro-regime interventions have at least the tacit approval of the government.

[17] I recognize that a more accurate measure would indicate whether the government of the third party shared an ethnic kinship with one of the neighboring combatant groups. However, information on ethnic faction identities is not readily available for a broad spatial and temporal domain. Admirable data gathering projects are underway (Fearon 2003; Cederman, Ketil Rød, and Weidmann 2006). The best option is currently available from Forsberg (2008). In Forsberg's work, a variable is coded to represent whether one of the warring factions in the civil war state has a kin group in each neighbor country. Given transborder ethnic connections, one might expect this variable to positively and significantly affect the likelihood of intervention. However, upon including it in my models, it was insignificant. Still, *Infection Risk* remained significant and positively signed. Because the inclusion of Forsberg's variable reduces the number of observations by over 60% given temporal restrictions (1989–2004), I rely on the simpler *Ethnic Conflict* variable provided by Regan.

Table 3. Logit Analysis of Neighbor Interventions, 1950–1999

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*
Variable	*All interventions*	*All interventions*	*All interventions*	*Military interventions*	*Military interventions*
Infection Risk[†]	6.96 (1.86)***	9.17 (2.25)***	10.01 (2.26)***	9.62 (2.25)***	10.66 (2.27)***
Alliance[†]		−0.21 (.18)	0.09 (.21)	−0.19 (.18)	0.11 (.22)
Neighbor Capability[†]		−0.31 (2.66)	0.51 (2.72)	−0.86 (2.87)	−0.01 (2.93)
Cold War		0.34 (.22)	0.44 (.22)*	0.41 (.22)	0.54 (.23)*
Ideological Conflict		1.41 (.71)*	2.05 (.74)**	1.32 (.72)	1.96 (.75)**
Cold War–Ideologlical Conflict		1.39 (.47)**	1.45 (.49)**	1.45 (.48)**	1.50 (.51)**
Ethnic Conflict		2.06 (.59)***	2.26 (.60)***	2.03 (.60)***	2.22 (.60)***
War Duration		−0.06 (.01)***	−0.05 (.01)**	−0.06 (.01)***	−0.05 (.02)**
Boundary Length		0.18 (.09)*	0.24 (.10)*	0.18 (.09)	0.24 (.11)*
Land Border[‡]		1.44 (.71)*	.96 (.74)	1.65 (.75)*	1.13 (.78)
Political Distance[†]		−0.02 (.02)	−0.02 (.02)	−0.02 (.02)	−0.02 (.02)
Previous Interventions		0.63 (.05)***	0.60 (.05)***	0.62 (.05)***	0.60 (.05)***
Refugees[†,‡]		0.07 (.04)*	0.05 (.04)	0.06 (.04)	0.04 (.04)
Americas			−2.25 (.50)***		−2.24 (.50)***
Europe			0.39 (.34)		0.48 (.35)
Africa			−0.14 (.27)		−0.13 (.28)
Asia			−0.76 (.30)*		−0.77 (.31)*
Constant	−10.10 (1.90)***	−17.02 (2.44)***	−18.07 (2.44)***	−17.70 (2.45)***	−18.88 (2.46)***
Observations	7,754	6,237	6,237	6,237	6,237
Log Likelihood	−1429.66	−689.36	−688.78	−671.49	−650.23
χ^2	13.95***	278.05***	322.22***	291.30***	339.72***

(*Notes.* Significant at the ***.001, **.01, *.05 level.
Robust standard errors in parentheses.
[†]Lagged 1 year.
[‡]Natural log.)

coefficient for *War Duration* is negative and significant, indicating that neighbor states are prone to avoid intervention the longer a civil war persists. This thus may indicate the preference of states to improve their likelihood of intervention success by intervening early in the conflict process, similar to the effect of intervention in interstate disputes (Regan and Stam 2000). Additionally, a civil war of extended duration may simply be an indicator of its intractability and resistance to outside manipulation, thus dissuading potential interveners.

Next, several predictors accounting for the features of each third party yield notable results. Surprisingly, *Neighbor Capability* is insignificant in each model. This is peculiar, as it would stand to reason that stronger states would have more opportunity to intervene and would thus do so more often than weaker states. However, the present analysis indicates that this is not necessarily the case. This is in part a consequence of the inclusion of *Previous Interventions*. This variable shows that as the number of interventions undertaken by a third party in all civil wars in the previous year increases, so too does the third party's likelihood of intervening in each particular civil war in the current year. *Previous Interventions* is thus representative of a third party's proclivity for involving itself in its neighbors' unrest. A state's capability and its propensity to intervene are likely related to one another in that high levels of capability are likely associated with higher levels of previous intervention. It follows, then, that removing *Previous Interventions* from the model results in a positive and significant effect of *Neighbor Capability* on the likelihood of intervention, supporting previous research indicating that the strength of the intervener is important to understanding civil war and intervention processes (Gleditsch and Beardsley 2004; Lemke and Regan 2004).

Moving to the five predictors addressing the direct PI–CWS connections, there are several significant effects to report. The two geographic opportunity variables yield positive coefficients, indicating that the greater the land access to the civil war state the greater the likelihood of intervention. *Boundary Length* is consistently significant across models 2 and 3. However, *Land Border* becomes insignificant upon controlling for each civil war's continental location. Still, it is notable that both of these variables achieve statistical significance in model 2 given that they are related to one another. Next, while its coefficient sign is in the expected direction, the *Political Distance* variable appears to have no systematic effect, as an increasing difference between regime types in the PI–CWS dyad has no noticeable effect on the likelihood of intervention.[18] Therefore, in contrast to related research (Hermann and Kegley 1996; Tures 2001), I find no systematic evidence of a role for regime type in intervention onset. Unlike my replication of Lemke and Regan's original analysis, *Alliance* does not produce a significant result. One possibility for the insignificant finding is that there may be counteracting forces at work in the relationship between PI–CWS alliance relations and the likelihood of third-party intervention. One would expect that a third party would wish to intervene to support its alliance partner in its time of domestic crisis, thus maintaining the intervener's own security. However, while *Alliance* is meant to reflect a third party's security interests in the civil war state, it may be that alliance agreements are more suitably used for analyzing threats from external actors, as most agreements do not obligate partners to act in response to domestic

[18] Three other variables were used to alternatively test the effect of regime (dis)similarity. In one model, two variables were included to test the effect of jointly democratic and jointly autocratic regime types in the PI–CWS dyad. However, neither was significant. In a second model, the distance between capital cities was used. Spatial distance thus serves as a proxy for political distance, as the more proximate the political authority centers, the more relevant the PI–CWS relationship should be which should also increase the likelihood of intervention. The data on the distance between capitals is provided by Ward and Gleditsch (2001), and the consistently significant and negative effect of this variable supports this argument. However, given that the absolute difference in regime types more accurately reflects ''political'' rather than ''spatial'' distance, I report the original *Political Distance* variable in Table 3.

concerns. In this sense, neighboring third parties would allow their alliance partners to exercise their sovereignty in addressing domestic instability free from outside influence. Future research on such issues should generate more nuanced variables to account specifically for treaty provisions. *Refugees* is the last dyadic connection control variable. One expects the neighbor state to be increasingly likely to intervene in an attempt to stem the flow of refugees across its border as they flee the violence. The positive and significant effect of *Refugees* in model 2 supports this supposition. However, while this variable remains positive, it loses significance in model 3.

Lastly, in accounting for variation across a broader geographical scope, four continental region dummy variables are included in model 3 in addition to those in model 2. Accounting for each war's continental locations should improve our understanding of more general geographic trends in neighbor state intervention processes. Four of the continental dummies are reported. The fifth, *Middle East*, is used as the reference category. The results indicate that civil wars located in Europe and Africa are not significantly different from those in the Middle East in terms of attracting interventions from their neighbors. The coefficient direction for *Africa* supports previous research by Lemke (2002) arguing that African states are less likely to interfere in one another's affairs. However, its insignificance is similar to the Lemke and Regan replication in Table 1. Both *Americas* and *Asia* produce significant and negative findings. Thus, those civil wars that occur in the western hemisphere and in Asia are less likely to experience intervention from neighboring countries. While these findings may be the consequence of many factors, two practical issues are relevant. In the case of the Americas, the majority of interventions during the time period analyzed were conducted by the United States. Given the United States' hegemonic role in the western hemisphere, the negative effect for this continental dummy may be a consequence of neighbor state deference to American intervention and the United States' lack of contiguity to most occurrences of civil wars on the continent. The negative effect of *Asia* may be a consequence of fewer opportunities, as the average civil war in Asia has fewer neighboring third parties relative to those occurring in the Middle East. This is especially the case when excluding China, as Asian civil wars have 3.9 neighbors relative to 5.1 neighboring potential interveners in the Middle East.

In addressing the primary theorized relationship between the likelihood of infection and intervention, I show in Table 3 that *Infection Risk* produces a strongly positive and significant effect on a third party's willingness to intervene in a neighboring civil war. Even when controlling for a number of plausible explanations of neighbor state intervention, a third party is attracted to intervene in an effort to thwart spillover across its border. States that neighbor an ongoing civil war face the threat of geographic hostility diffusion. Intervention is a tool available to third parties for containing a conflict's violence. Yet, the majority of neighbor states choose not to intervene. Unlike common models explaining intervention, I argue, and *Infection Risk* exemplifies, that different neighbor states have differential likelihoods of being infected by proximate hostilities. Yet this differential likelihood of infection is not captured in dummy variables of potential intervener contiguity which are so commonly used in models of intervention. The varying likelihood of infection is not simply determined by the presence of a civil war. The same war may produce distinctly different threats to different neighbor states. The threat reduction motivations of third parties will thus vary from one neighbor to the next depending on the different likelihoods that each state will be infected. Those neighbors that have achieved stable economic and political systems, for example, are able to inoculate themselves from exposure to the civil war virus. *Infection Risk* accounts for these factors and is thus a reflection of the distilled contagious threat posed by the conflict, reflecting the diffusion

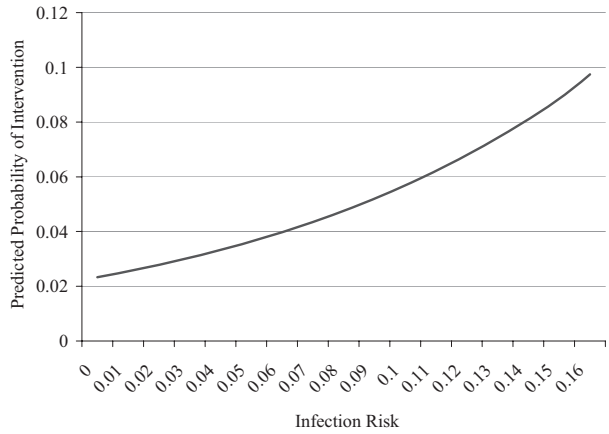

FIG 2. Effect of Infection Risk on the Predicted Likelihood of Neighbor State Intervention (Model 2)

risks that neighbor states face. Models 2 and 3 provide an understanding of how these third parties react to such threats.

Models 4 and 5 act as a check of the results reported in models 2 and 3, respectively, by addressing only military forms of intervention. Most of the control variables behave similarly to the analyses of all interventions.[19] With regard to *Infection Risk*, one might argue that the most reasonable way for third parties to contain civil war violence is through military forms of intervention rather than with economic means. As such, ground troops, aerial shelling, and naval blockades should be more commonly employed to counter contagion than should economic sanctions or aid packages. Models 4 and 5 change the dependent variable from all forms of intervention to military interventions only. As the results show, there is a great deal of consistency across models. The effect of *Infection Risk* remains positive and significant across each model, indicating that an increasing risk of infection increases the likelihood that a contiguous third party will intervene using military means. Substantively, the effect of *Infection Risk* is quite large. Contagious civil war hostilities have a way of focusing the attention of neighbor states. Using the results produced by model 2, holding all dichotomous control variables at their modal values and continuous variables at their means, the likelihood that a contiguous third party will intervene when it faces no threat of contagion (that is, *Infection Risk* = 0%) is 2.3%. Increasing *Infection Risk* to its maximum threat of contagion (that is, 16.1%) yields a 10.7% likelihood of intervention, a near fivefold increase in the likelihood that a third party will become involved in the violence. Figure 2 displays this relationship graphically. Noting the positive slope of the curve, as a neighbor state's expectation of being infected by the hostilities increases so too does its likelihood of intervention. *Infection Risk* produces a very similar increase on the likelihood of using military forms of intervention. In other words, the fear of violence diffusion is particularly influential in determining whether a third party chooses to intervene in a neighboring civil war.

In addition, several robustness checks of these results were conducted. Three of these checks re-ran the analyses of model 2 in Table 3 with robust standard errors alternately clustered on third-party country, civil war state, and the intervener-conflict dyad to account for the possible nonindependence of cases. Also, because the dependent variable only takes a value of 1 in 4.6% of cases, I also

[19] The only exceptions are that *Ideological Conflict*, *Boundary Length*, and *Refugees* miss achieving standard levels of significance in model 4.

conducted a rare events logit. In each of these checks, the sign and significance of *Infection Risk* were substantively identical to those reported. Next, given that the pool of potential interveners is determined by all those states that fall within the COW five-point contiguity scale, and recognizing that those third parties that share a land border with the civil war are the most likely to be infected by the hostilities, a check of the results was conducted in which only those with a land border were included as potential interveners. However, this did not affect the direction or the significance of *Infection Risk*. Lastly, given the sensitivity of some findings in the civil war literature to data set selection, *Infection Risk* was regenerated using only data on civil wars from the UCDP/PRIO Armed Conflict Dataset v.4 (Gleditsch et al. 2002) and the compatible data on the yearly number of civil war fatalities provided by Lacina and Gleditsch (2005). Data on third-party intervention from UCDP/PRIO were then used to analyze whether a civil war's likelihood of contagion affected neighbor state decisions to intervene. The UCDP/PRIO *Infection Risk* variable produced a positive and significant effect on the likelihood of intervention, mirroring the result reported here.

Conclusion

Third-party states intervene in foreign civil wars for a variety of reasons, many of which have been identified in previous research. However, as Table 1 makes evident, the motivations of interveners vary across third-party type. Third parties that share a border with a civil war state face threats to their security that are faced by no other third-party type. Therefore, the threat reduction motivations of neighboring third parties are qualitatively different from those of other third-party types in the international system. This may help us to understand the different results obtained across the models in Table 1, as common predictors of intervention do a substandard job of explaining the intervention decisions of neighbor states. The practice of including dichotomous contiguity control variables in models of intervention, while powerful in their ability to predict intervention from the population of all potential interveners, can say little about the variation *within* the sub-sample of neighboring third parties. As such, one-third of all interventions undertaken have been something of a mystery.

The results reported help to illuminate a phenomenon for which explanations were unappreciated and unaccounted for in prior research. Among these explanations is the potential for hostility infection as a threat reduction motivation for neighboring third parties. Proximate violence has a way of focusing a state's attention, as the prospect of geographic diffusion carries the potential for such dreadful consequences. While these findings have a number implications for the study of civil war intervention, three are addressed here. First, an obvious conclusion to be drawn for the scholarly community is that future research should be wary of assuming a level of homogeneity across all potential interveners. I argue that civil wars pose neighbor states with qualitatively different threats relative to the hazards faced by noncontiguous states. A universal model of intervention decision making may thus assign meaning to interventions generally while overlooking the various motivations for separate classes of third parties. This is not to say that third party decision making should only be studied within each of an endless multitude of class distinctions. However, where the divisions between classes are clear, more nuanced explanations should be explored.

Second, given distinct motivations for intervention, it seems reasonable to expect that the effect of intervention may vary across these classes of third parties. Few studies have attempted to determine whether different intervener types vary in their ability to influence civil war dynamics. If the motivations for interveners differ across types, does motivation play a role in determining

effectiveness? More fundamentally, if motivations differ, can we universally conceptualize intervention effectiveness across all types? Or should intervener motivation determine the definition of success and failure? Interesting work on this issue is underway (Cunningham 2009). Similarly, care must be taken in extrapolating policy recommendations from research that attempts to explain the decisions and effectiveness of all third party types in their analyses. While it is as yet uncertain whether the different third party types addressed here have a differential effect on the success or failure of intervention policies, further research on these issues would benefit those in the policy-making community.

Lastly, the promising findings of this work indicate the potential usefulness of future research in this same vein. For one, much of the research on intervention has focused on the effect of involvement on the duration of civil war hostilities. Neighbor state motivations may produce differences in duration outcomes. Theorizing about the possible duration consequences of neighbor state intervention may be a fruitful endeavor. Also, defining intervener effectiveness as the ability to thwart infection is an interesting issue worth addressing. Furthermore, knowing that civil wars tend to be geographically contagious, future research would be well served to consider whether third parties *outside* the civil war state's contiguous region observe the contagious potential of civil conflicts and make intervention decisions based upon their interests in defending their regional investments against the prospect of violent spillovers. Anecdotal evidence of this phenomenon exists, yet to date no study has addressed this issue systematically. Confronting these topics in future research holds the promise of further insights into civil war and intervention processes.

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