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# Refugees and Intrastate Armed Conflict: A Contagion Process Approach\*

Erika Forsberg

Department of Peace and Conflict Research

Uppsala University

[Erika.Forsberg@pcr.uu.se](mailto:Erika.Forsberg@pcr.uu.se)

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**Abstract** A common assertion is that refugees may cause civil war to spread from one state to another. Although often suggested, this claim has received little scrutiny. Hence, this study intends to statistically evaluate refugee flows as a cause of the *contagion of conflict* using a contagion process approach. This approach includes both the sending and receiving state by starting with a state with armed conflict – this conflict may generate refugee flows – and examining whether a neighboring state that receives these refugees are more prone to end up in armed conflict than a neighboring state that does not receive refugee flows. Adapting this approach enables an empirical distinction between some of the explanations proposed in previous literature. These explanations are very diverse; even so, they have not been separated systematically in previous empirical analyses. First, it is hypothesized that refugee flows from conflict areas are associated with spill-over effects that make receiving states more likely to experience conflict. Second, it is suggested that neighboring states with latent conflicts are more sensitive to the inflow of refugee flows and, consequently, more likely to escalate into militarized conflict. Third, it is argued that a significant change in the ethnic geography of the host state due to refugee flows makes ethnic conflict in the host state more likely. Such disruptions of the ethnic geography are more likely to generate conflict when the state is characterized by a precarious ethnic balance. The findings suggest that refugee flows are indeed associated with an increased risk of both internal conflict in general and ethnic conflict in particular. The conditional hypotheses, suggesting that the effect of refugees should be enhanced in the presence of latent conflict and a sensitive ethnic balance in the host state, are not supported. Indeed, evidence suggests the opposite, indicating that these factors, that normally are associated with an increased likelihood of conflict, dampen the risk of conflict in the presence of refugee flows.

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# Introduction

A common assertion in research papers as well as in policy documents and statements is that refugee flows may cause civil war to spread from one state to another. Although often suggested, this claim has so far received little empirical scrutiny. Case evidence substantiate that refugees from a state in civil war may contribute to the spread of hostilities to one or several of the hosting states, as illustrated by events in e.g. the Great Lakes region and in West Africa; yet other large-scale refugee flows do not appear to spread instability to the hosting state. There are several theoretically informed comparative studies which examine the conditions that associate large-scale flows of refugees with an increased likelihood of conflict in the host country and trigger of the spread of civil war (Lischer, 1999, 2002, 2005; Whitaker, 2003). In a global large- $N$  study, Salehyan & Gleditsch (2006) find that countries that harbor refugees from neighboring states (while controlling for civil war in the neighborhood) are subjected to an increased likelihood of internal conflict. Their result is thus an indication that refugees may be linked to the spread of civil conflict.

As indicated by these studies as well as by recent empirical events, there appears to be some association between refugee flows and the spread of civil war. However, as the phenomenon is rare and examples of large-scale refugee flows *not* being associated with conflict spreading across borders are also common, it is essential to attempt to identify the specific circumstances making the event more likely. The purpose of this study is to examine refugee flows as a cause of the contagion of civil conflict from one state to another. Since the aim is to evaluate refugee flows as a cause of the *contagion of civil conflict*, the point of departure is a country with internal conflict – this conflict may or may not generate refugee flows – and examine whether a neighboring state that receives refugees from the conflict area are more prone to end up in armed conflict than a neighboring state that does not receive refugee flows. With this contagion process approach, the analysis includes both states

that generate refugee flows (sending states) and states that harbor refugees (receiving states). In other words, I attempt to answer the following question: given an armed conflict in one state, do refugees fleeing from that conflict and arriving in a neighboring state make that state more prone to also experience conflict than a neighboring state which does not (to the same extent) receive refugees from the conflict state? I do not attempt to answer whether the arrival of refugees in a state, from *any* location fleeing for *any* type of reason, make that host state more prone to conflict. Most studies, including the one conducted by Salehyan & Gleditsch (2006), focus on the state that receives/harbors refugees and make no distinction between refugees coming from civil war countries and refugees fleeing for other reasons. This study argues that in order to fully evaluate the impact of refugees in contagion processes – which differs from refugees as a cause of civil conflict in a host state in general – one has to incorporate the whole chain including both the sending and receiving state.

With the contagion process approach adapted in this paper, it is possible to isolate some of the explanations proposed in previous literature; it also makes it possible to evaluate them separately in the empirical analysis. Previous studies have identified a number of conditions that arguable make refugee-related spread of civil war more likely. The explanations are very diverse when it comes to the actors involved, their motivations, etc; even so, they have not been separated systematically in empirical analyses. For instance, Salehyan and Gleditsch (2006) discusses various types of routes by which refugee flows may cause violence to spread, for example by facilitating the spread of rebel networks and weaponry, by upsetting the ethnic power balance of the host state, or by deteriorating competition over scarce resources in the host environment. However, in the empirical analysis they

use only one measure (the number of refugees from neighboring states<sup>1</sup> hosted by a given state) to capture all these diverse types of mechanisms that underlie the disparate theoretical claims.

In the present study, a number of conditions argued to make refugee-related spread of civil war more likely are identified. First, it is hypothesized that refugee flows from conflict areas on average are associated with spill-over effects that make receiving states more likely to also experience conflict, compared to neighboring states that do not experience influx of refugees from the conflict area. Second, it is hypothesized that neighboring states with latent (non-militarized) conflicts are more sensitive to the inflow of refugee flows and, consequently, more likely to escalate into militarized conflict. Third, it is argued that there are certain features of refugee flows and their hosting states that make certain types of conflict, i.e. ethnically mobilized conflict, in the host state more likely. Although previous studies have suggested that the inflow of refugees can lead to a significant change in the ethnic geography of the hosting state and hence trigger ethnic conflict, a distinction between ethnic conflict and internal conflict in general has not been made in the empirical analyses. Lastly, this paper suggests that such disruptions of the ethnic geography due to refugee movements are more likely to generate armed ethnic conflict when the host state is characterized by a precarious ethnic power balance.

The dataset used in the empirical analysis is global and covers the period from 1960 to 2006. It is constructed in a way suitable to capture this study's conceptualization of contagion: it consists of dyads of states in which the first state has an ongoing armed conflict and the second state is a neighboring state and considered at risk of contagion effects from the conflict state. The dataset allows for disaggregated measurement of the variables, which is crucial given the aim of distinguishing different types of explanations. In statistical analyses, the first hypothesis is strongly supported. Refugees from conflict areas generally make receiving neighboring states more prone to conflict than

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<sup>1</sup> They analyze different specifications of this variable, including a ratio of refugees to the host population and different definitions of neighboring states.

neighboring states not receiving refugees, and this is the case both regarding the sudden arrival and the long-term hosting of refugee flows. The findings also suggest that when a refugee flow arrives to a state with latent conflict or with a sensitive power balance, it adds to that state's risk of conflict. However, the relationships are conditional in a manner not anticipated by the hypotheses. It turns out that the effect of refugees is *decreased* in the context of a latent conflict (represented by state repression) and there is some evidence that this is also the case for sensitive ethnic power relationships. Lastly, the results demonstrate that refugee flows are significantly associated with the onset of ethnically motivated armed strife in hosting neighboring states, and this effect is more pronounced than regarding conflict onset in general.

## The Refugee – Conflict Nexus

Contemporary analyses of the relationship between violent conflict and flows of refugees are still dominated by those viewing refugee flows as a consequence, rather than a cause, of conflict. A number of systematic studies examine the question of what factors explain the existence, magnitude, and timing of refugee flows caused by armed conflict (Davenport, Moore and Poe, 2003; Melander and Öberg, 2006, 2007; Moore and Shellman, 2004; Schmeidl, 1997, 2001). However, an emerging literature puts new emphasis on the opposite direction of the relationship, examining refugee flows as a security threat and a cause of domestic conflict and the spread of such conflict; see, for instance, Goldstone (2001; 2002), Loescher (1992), Krebs and Levy (2001), Weiner (1992; 1992/1993; 1993; 1996), Weiner and Teitelbaum (2001), and Dowty and Loescher (1996).<sup>2</sup> These studies argue that refugee flows, in particular if large-scale, increase the likelihood of conflict and may work as a catalyst for the cross-border contagion of civil war.

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<sup>2</sup> In addition, but of less relevance to this study, are examples of refugees that may be linked to international conflict (see, e.g., Taras and Ganguly, 2002:84) and how the repatriation of refugees may prompt or exacerbate instability in the home state (Adelman, 2002: 282).

Although still a new research area, there are a few systematic comparative studies pinpointing specific circumstances linked to an increased likelihood of refugee-induced spread of civil conflict. Lischer approaches both the phenomenon of refugees becoming militarized and involved in political violence (Lischer, 2000, 2001) and how such refugee militarization under some conditions works as a catalyst of conflict spread (Lischer, 1999, 2002, 2005). By comparing violent and non-violent outcomes in the crises involving Afghan, Bosnian, and Rwandan refugees, she finds that the characteristics of the refugee flow, the willingness and capability of the receiving state, and the actions taken by external actors are central components when it comes to explaining and predicting the spread of civil war in a refugee crisis. Whitaker (2003) suggests that domestic conditions in the host state determine whether or not it is susceptible to conflict spread. However, both Whitaker's and Lischer's studies are based on an examination of a small number of cases within a limited temporal and spatial domain.

In a global statistical study, Salehyan & Gleditsch (2006) also focus on refugee flows as an explanation for the spread of armed conflict across borders. They discuss several routes by which refugee flows can be linked to the spread of civil conflict. First, refugees may bring with them rebels in disguise, weapons, and conflict ideologies from the state in conflict to the host state, thereby exporting conflict to new locations. Second, refugees can provide support to groups in the host state to which they are somehow linked, e.g. by ethnic kinship or ideological background. This may embolden local groups to challenge their regime. Third, refugees can alter the ethnic power balance and create tension. Lastly, refugees may put a heavy economic burden on the host state and be perceived as a negative externality. Analyzing global data in the 1951-2001 period, Salehyan & Gleditsch find that if a state hosts refugees from neighboring countries, it is increasingly likely to experience civil conflict. When introducing this refugee measure in the statistical model, the coefficient representing a spatial lag for civil war among neighboring states is somewhat decreased. This is interpreted as ref-

ugees being responsible for part of the explanation of the geographical clustering of internal conflict. However, considering the empirical measure used by Salehyan & Gleditsch, while their positive finding show that hosting refugees from neighboring states make a country more conflict-prone, it cannot identify which of the above mechanisms that were more, or less, salient. In addition, it cannot separate refugee flows as a cause of civil conflict in the host state from refugee flows as a cause of the spread of such conflict across borders.

In conclusion, theory on the link between refugees and the spread of civil war is generally supported by evidence that is too anecdotal to provide firm conclusions about the suggested explanatory factors. In addition, as mentioned previously and elaborated further in the following section, previous research is too crude in its conceptualization of contagion processes.

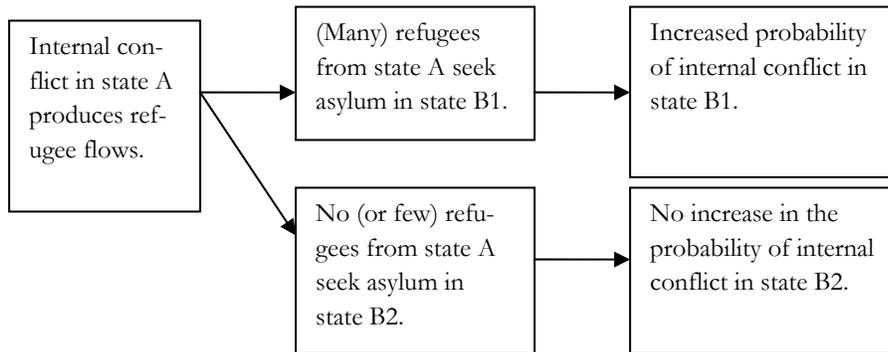
### Contrasting and Merging Two Perspectives: The Sending and the Receiving State

Central to this study is the argument that in order to fully evaluate the impact of refugee flows in contagion processes, and hence separate it from refugees as a cause of civil conflict in general, one has to incorporate the whole chain including both the state that produces refugee flows due to internal conflict and the states that receive them. Most studies, including the systematic study by Salehyan & Gleditsch (2006), have a different approach as they focus on the state that receives/harbor refugees. Refugee flows coming from neighboring states are considered as a factor that may increase the risk of onset of armed conflict in the host state. If this effect is present also when controlling for civil war in the neighborhood, it can be interpreted as a type of contagion effect being at hand. As argued here, it is problematic to focus solely on the receiving state if one wants to evaluate refugee flows as a cause of the spread of civil conflict across borders. There is a need to analytically and empirically clarify the distinction between forced migration as a cause of *civil conflict* in the host state and as a cause of the *contagion of civil conflict*. Although these processes are distinct and invoke different

research puzzles, they are oftentimes blurred. For instance, previous studies often emphasize that migration can increase the likelihood of conflict in the host state due to e.g. competition over scarce resources (Goldstone, 2002). However, this may be the case both when the migrants have fled a civil war (and indicate a process of conflict contagion) and when they migrated due to other reasons (not indicating conflict contagion). Many of the examples provided in previous studies to illustrate the process are indeed only supportive of the latter scenario. Consider, for instance, the role migration plays in the conflicts in Northeast India (in e.g. Assam, Tripura, and Bodoland) often used as an illustrative example. Although some of the early groups mobilized as a reaction to the influx of Bengali refugees, most of the insurgency groups today are primarily directed towards the immigrants that have relocated due to poverty rather than conflict (e.g. from Bihar). These movements illustrate how migration can cause conflict, but not how migration can cause conflict to spread.

Consequently, to identify cases of refugee-induced spread of civil war one should include only refugees fleeing from countries that indeed experience civil conflict. If refugees are suggested as a cause of conflict spreading from one state to another, it should be obvious that the first state has an ongoing conflict that resulted in people fleeing international borders. Refugees are not always the result of armed conflict, but may arise from e.g. persecution, ethnic cleansing, discrimination, government purges, and intimidation short of armed conflict. The figure below illustrates the sender-receiver perspective employed in this study. If refugee flows are expected to increase the risk of the *contagion* of civil conflict, the relationship illustrated in Figure 1 is anticipated.

Figure 1. *The Sender-Receiver Perspective*



*Note:* States B1 and B2 are neighboring states to State A.

Using this perspective, here referred to as a contagion process approach, enables novel analysis of the causes of refugee-induced contagion of internal conflict. It makes it possible to hypothesize specified conditions, based on explanations proposed in previous literature, with the potential to pinpoint which neighbors (potential host states) to states with internal conflict that are the most susceptible to contagion effects. The following sections discuss different routes by which refugee flows may cause such contagion of civil conflict, from a conflict state to a neighboring host state.

### Direct Spill-Over Effects

Civil war generates a number of negative externalities.<sup>3</sup> Several researchers have clearly demonstrated that such externalities do not stop at the border; indeed, they may have repercussions through a whole region. For instance, Murdoch & Sandler (2002; 2004) confirm that civil war in one state has severe negative consequences on the neighboring states' economy and Ghobarah, Huth & Russett demonstrate that civil wars also have a negative impact on regional health (2003). Refugee flows may

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<sup>3</sup> A negative externality is present when the action and/or behavior of one party/set of parties has negative consequences for an unrelated third party.

also constitute such an externality of civil war. A refugee flow caused by civil war may destabilize a host state in a number of ways (Adelman, 2002; Brown, 1996). Rebels may hide among the refugees, sometimes bringing with them arms, and cause a militarization of the refugee flow. The refugee flow may also put a heavy economic burden on the host state and spark competition over scarce resources (Brown, 1996; Goldstone, 2002). As argued here, and elsewhere, these negative externalities of refugee flows in some cases trigger new conflict.

According to Stedman & Tanner (2003) militarization of refugees is present in about 15% of recent refugee crises. Lischer (2000; 2001) provides similar estimates of militarization of refugee populations. She categorizes refugee-related political violence into several different types (for instance including violence between refugees and the receiving state and between refugees and the sending state) and according to its frequency, intensity, and pervasiveness. Examples of militarized refugee flows include those emanating from the civil wars in Liberia, Sudan, and Rwanda. Militarization of refugee populations is usually the result of a purposive strategy by parties involved in the war; by using refugees, warring parties can recruit new supporters as well as getting access to benefits from international aid donors. In some cases, refugee militarization becomes a threat to the home state but there are also examples where they pose a threat to the host country. In the case of Hutu refugees from Rwanda in DRC there was indeed a direct link to the onset of war in the host state (Stedman and Tanner, 2003).

Hence, there are reasons to believe that major refugee flows are associated with destabilizing spill-over effects that generally make countries receiving refugees from conflict areas more prone to internal conflict than states not receiving refugees to such a large extent, all else equal. Consequently, the following is hypothesized for states that neighbor a state in conflict:

*Hypothesis 1:* A state receiving refugees from a state with internal armed conflict is more likely to experience onset of armed conflict.

### Latent Conflict in the Host State

The first hypothesis suggests that refugee flows in general are associated with an increased risk of conflict contagion. Hence, given an internal conflict in one country, a neighboring state that receives refugees from the conflict are more susceptible to contagion. The point for comparison is, hence, a neighboring state not receiving refugees to the same extent. However, it is likely that specific conditions will make certain host states particularly vulnerable to the inflow of refugees. Indeed, it seems probable that an influx of a large refugee flow should have a higher likelihood of provoking unrest if there are already latent conflicts in the host state. Such a situation can be categorized as fertile ground for rebellion, as it indicates that there are already actors willing to take up arms, if an opportunity presents itself. If insurgents from the conflict state are part of the refugee flow they may hence stir up latent conflicts to a level when they become armed and violent. Refugee flows may furthermore strengthen the capacity of local groups to mobilize militarily, especially so if they bring with them arms and combatants, if there are local groups willing to mobilize for rebellion (Lischer, 2002; Loescher, 1992; Weiner, 1992/1993). Refugees are sometimes used by domestic opposition groups for recruitment and for increasing the support base. An inflow of refugees may consequently provide the momentum required for the opposition movement to mount armed rebellion (Salehyan and Gleditsch, 2006: 343). Based on this discussion, the following conditional relationship is suggested for states that neighbor a state in conflict:

*Hypothesis 2:* A state receiving refugees from a state with internal armed conflict is more likely to experience onset of armed conflict, especially so if the receiving state has a latent conflict.

## Demographic Changes as a Result of Refugee Flows

The first two hypotheses identified conditions that may increase the likelihood of internal armed conflict erupting in a host state. However, another type of explanation often forwarded is linked to a higher propensity of *ethnic* conflict in the host state; i.e. that large refugee flows may upset the ethnic power balance in the host state. According to Brown & Ganguly (1997:524) "...changes in ethnic geography almost always aggravate existing ethnic tensions". Previous studies emphasize that when conflict in one state leads to significant demographic changes in a neighboring state, by the movement of refugees, the risk of contagion increases (Lake and Rothchild, 1998; Lobell and Mauceri, 2004). Armed conflict may in some cases cause demographic changes in neighboring states, due to population movements. Especially if such movements are substantial, they could disrupt ethnic relations in the receiving states by tipping the balance and upsetting a previously stable ethnic contract (Lake and Rothchild, 1998; Lobell and Mauceri, 2004; Newland, 1993; Walter and Snyder, 1999). When an area's demographic balance is considerably changed, this may upset existing power-sharing arrangements and create uncertainty about future relations, and trigger strategic dilemmas. This in turn heightens the risk of ethnically mobilized conflict in that area (Lake and Rothchild, 1998: 25). Hence, demographic changes resulting from a refugee movement may generate ethnic conflict in the host state. The following hypothesis is suggested for states that neighbor a state in conflict:

*Hypothesis 3a:* A state receiving refugees from a state with internal armed conflict is more likely to experience onset of ethnic conflict.

As a specification of hypothesis 3a, I argue that such a disruption of the ethnic relations in a state hosting refugees is more likely to generate ethnic conflict when the society is characterized by a volatile ethnic power balance, close to the tipping point, as even a small alteration may tip the balance in

favor of a group previously in minority. A small number of equally strong ethnic groups indicate the existence of groups that have the capability to mobilize for rebellion and which may perceive a reasonable chance of winning should the confrontation become violent (see, among others, Ellingsen, 2000; Forsberg, 2008; Horowitz, 1985; Montalvo and Reynal-Querol, 2005). Hence, a situation of few groups of roughly equal size generates more uncertainty and such situations are linked to a higher likelihood of conflict (Lemke and Werner, 1996; Powell, 2002; Reed, 2003). Consequently, the following hypothesis is formulated for states that neighbor a state in conflict:

*Hypothesis 3b:* A state receiving refugees from a state with internal armed conflict is more likely to experience onset of ethnic conflict, especially so if the receiving state is characterized by a volatile ethnic power balance.

## Data and Methods

### The Dataset

To enable an evaluation of these hypotheses, there are important analytical considerations to be made, and these considerations have methodological implications. The first aim is to disaggregate the data in order to examine the impact refugees leaving their states of origin, due to civil conflict, have on their country of asylum.<sup>4</sup> A second aim is to attempt to empirically (by design and variable specifications) capture the different explanations proposed.

The setup employed in this study is designed to satisfy these requirements. In line with the relationship illustrated in Figure 1 I examine pairs of countries; I call them state A and state B. State

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<sup>4</sup> Salehyan & Gleditsch (2006) analyze countries that host refugees, but sums up the total number of refugees hosted from *all* neighboring states. Then it is not possible to determine from which neighboring state the source of conflict spread emanated, if such a process indeed transpired.

A is selected based on it having an ongoing internal conflict at any time in the 1960-2006 period; some of these conflicts produce refugees, which then makes state A a refugee-sending country. State B is any neighboring state to state A (i.e. state A and B share a land border); if state A is a refugee-sending state, state B may be a refugee-receiving state. The data is then organized by state of origin and state of asylum in order to examine whether the number of refugees originating in the conflict state (state A) that seeks asylum in a given neighboring state (state B) is associated with an increased likelihood of state B experiencing an onset of armed conflict. This set-up makes it possible to evaluate whether a neighboring state that receives refugees from a state involved in conflict are more prone to also experience internal conflict than a neighboring state that does not receive refugees to a large extent.

This design enables an evaluation of the impact of refugees on the *contagion* of internal armed conflict, from one country to a neighboring country, since the refugees considered are the result of an ongoing internal conflict in state A and are not leaving state A due to some other reason than armed conflict. Furthermore, the design permits an evaluation of the relative effect of refugee flows on the likelihood of conflict among the states proximate to a conflict state. More precise measures can be used; the relevant refugee flows are those emanating from the conflict state to the coded neighboring state rather than using a measure of the total number of refugees arriving in a given state. This also means that if state A has three neighboring states (i.e. three states B), produces refugee flows due to internal conflict and B1 receives refugees and B2 and B3 do not, one can evaluate whether B1 is more likely to experience conflict than B2 and B3 are, as predicted by the hypotheses.<sup>5</sup>

Thus, dyads are constructed with a state experiencing armed conflict as the starting point; i.e. the first state of the dyad. The second state of the dyad is considered at risk of contagion, increasing-

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<sup>5</sup> These two aspects would not be possible to capture with a standard country-year design. Then one could either measure the number of refugees hosted by (or arriving to) a country a given year or the number of refugees produced by the country a given year. It could not disaggregate the refugee movements relevant to explain refugee-related spread of civil conflict.

ly so if receiving refugees from the conflict state.<sup>6</sup> This cross-sectional time-series consist of a total of 7182 observations. Due to missing data on several of the independent variables, primarily on the measure for latent conflict part of hypothesis 2, the number of observations analyzed ranges from 4708 to 6553.

## Dependent Variables and Estimator

This study has two slightly different dependent variables. Hypotheses 1 and 2 suggest an increased probability of the onset of internal armed conflict in a state which neighbors a state with conflict, if it harbors refugees. This is a dichotomous measure of onset and follows the definitions and coding rules of the Uppsala Conflict Data Program (UCDP). UCDP defines intrastate armed conflict as “a contested incompatibility that concerns government or territory or both where the use of armed force between two parties results in at least 25 battle-related deaths in a year.” The two parties of a dyad in an intrastate armed conflict is the government of a state and an opposition group, and each conflict can include one or more warring dyads (Harbom, 2008: 25). The onset of internal armed conflict onset is here considered if either the onset of a new conflict, the onset of a new warring dyad in a conflict, or the re-emergence of conflict or a warring dyad after at least three years of inactivity take place.<sup>7</sup> The UCDP provides information on each warring dyad in an armed conflict (and one armed conflict can involve more than one warring dyad) which makes it possible to identify sev-

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<sup>6</sup> The first state may experience conflict on and off over a range of years. The conflict-inducing effect it has on neighboring states may also not be immediate. To account for this, continuous spells of internal conflicts in the first state are identified by including all active conflict years plus an additional five years after the end of the conflict, or until the end of the observation period. These sets of conflict spells also treat a conflict being inactive for a few years as a continuous spell of conflict. These are the years during which a neighboring state is considered at risk of contagion. For instance, the conflict in the Republic of Congo (Congo-Brazzaville) is active (according to the UCDP) in 1993-1994, 1997-1999 and 2002 but is recorded here as a continuous spell from 1993 until the end of the observation period (2006). The dataset includes one cross-section with the Republic of Congo 1993-2006 for each of its neighboring states.

<sup>7</sup> Other methods for determining onsets are also considered, e.g. onsets on the conflict level rather than dyadic onset. The reported results hold up well.

eral onsets in each armed conflict (and several conflicts in one country a given year).<sup>8</sup> Hence, each country-year with at least one onset of internal armed conflict as defined above is coded (1) whereas all other observations are coded (0).<sup>9</sup>

The dependent variable in hypothesis 3a and 3b is restricted to the onset of *ethnic* conflict, since it suggests that refugees may upset the ethnic geography in the host state. I use the same operational criteria to identify these onsets as those outlined above, but to be coded (1) the onset has to take place in an internal armed conflict where warring parties are organized along ethnic lines. I follow primarily Fearon & Laitin (2003) to identify ethnic conflicts plus additional information are collected on a case-by-case basis for those conflicts that are part of the UCDP but not included in Fearon & Laitin's dataset. Both dependent variables are, consequently, dichotomous. Considering this the hypotheses are evaluated using logit regression.<sup>10</sup>

## Independent Variables

### REFUGEES

The refugee data come from the Statistical Office of the UNHCR (United Nations High Commissioner for Refugees), which is sorted both by country of origin and country of asylum<sup>11</sup>. The UNHCR figures include both those that have crossed international borders due to individual persecution and those that were forced to leave due to armed conflict and other episodes of generalized

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<sup>8</sup> The level of precision of the annual UCDP data in the period before 1989 is lower compared to 1989-onwards; for the 1946-1988 period, it has been more difficult to confirm conflict activity on the dyadic level year by year. It is most problematic for the period 1946-1959, a temporal domain not included in this analysis.

<sup>9</sup> Years of ongoing conflict past the year of onset are coded as (0), i.e. as non-onsets and are, thus, not censored. This decision was based on the importance of including all years when a country is considered at risk of contagion; in years following an onset the state is still at risk since each state can have more than one active conflict any given year. Hence, dropping those observations from the analysis is inappropriate.

<sup>10</sup> Logit is chosen over probit mainly because common post-estimation techniques used for substantive interpretation of the coefficients are based on odds and odds ratios, hence applying only to the binary logit model.

<sup>11</sup> The data is annual and records refugee flows by country of origin and country of asylum. By re-arranging this data, it is possible to obtain figures of how many refugees from state A were hosted by state B a given year. A refugee flow is coded as the change from one year to the next.

violence (Loescher, 1992:6; Newland, 1993:143-144).<sup>12</sup> The variable *Refugee flow* measures the change in the number of refugees from the country in conflict hosted by the neighboring state from one year to the next. Since one can assume that a situation of refugees arriving is more conflict-generating than a situation of refugees repatriating, negative refugee flows are truncated to zero; this follows Melander & Öberg (2007). There is reason to believe that the relationship between refugees and the probability of armed conflict in the hosting state is non-linear. Also, the distribution of the variable is highly skewed, with both many zeros and few cases of extremely large refugee flows. To account for these aspects I have transformed the variable using its natural log after adding one to its base, a procedure in line with previous studies (Salehyan and Gleditsch, 2006). The variable is reported as *Ln refugee flow* and is lagged one year.

Some of the explanations proposed relate to disruptions and shifts in ethnic geography, i.e. are more likely to be attributed to the more or less sudden inflow of refugees rather than the long-term hosting of asylum seekers. Theoretically one may, hence, expect the *arrival* of a major refugee flow to increase the probability of armed conflict in the hosting state, rather than the *presence* of refugees. This is also what is captured in the measure described above. However, it is also possible that the accumulation of refugees over time may generate instability in the host state. In other words, it may not just be the sudden disruption associated with large-scale inflow of refugees that generate conflict, but also the long-term presence of refugees from conflict areas. In addition, the only large-N study on the link between refugees and conflict contagion (Salehyan and Gleditsch, 2006), indeed uses a measure of the hosting state's stock of refugees from neighboring states, rather than the ups and downs caused by refugee flows. Hence, to compare my results with Salehyan & Gleditsch's findings, and as an alternative specification of the refugee – conflict link, I also evaluate the impact of hosting refugees over time. The variable measures the number of refugees from the state in conflict

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<sup>12</sup> Since I only include those refugees leaving countries involved in civil conflict, it can be assumed that most indeed left due to the conflict and not for other reasons.

residing in the neighboring state in a given year, specified in the same way as the refugee flow measure, i.e. transformed using its natural log after adding one to its base. The variable is lagged one year and reported as *Ln refugee stock* in the empirical analysis.

## LATENT CONFLICT

Latent conflict in a risk state is here proxied by state repression.<sup>13</sup> Data is taken from the Political Terror Scale (PTS), which records state repression by country and over time on a scale from 1 to 5, where 5 represent the highest level of state repression, in the time period from 1976 to 2006. PTS uses two different sources to construct the scales, the U.S. State Department Country Reports on Human Rights Practices and Amnesty International's annual country reports (Gibney, Cornett and Wood, 2008). In this study, I construct a dichotomous measure for repression by collapsing categories 1 and 2 on the original scale into (0) representing no/low repression and categories 3 through 5 are categorized as higher levels of repression, assigned (1). To evaluate the second hypothesis, I interact the variable *Repression* with the measures for refugees. In the results reported, the dummy is based on the U.S. State Department measure; I also ran all analyses with the measure based on Amnesty International.<sup>14</sup> The results were substantially the same.

## VOLATILE ETHNIC RELATIONS

Since the available data does not tell us the ethnicity of the refugees (at least not in cross-sectional time-series data), it is difficult to fully evaluate empirically that refugee flows may disrupt the power balance between ethnic groups in the host state. I attempt to capture this process by identifying situ-

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<sup>13</sup> Finding an empirical measure that aptly captures the existence of a latent, non-militarized, conflict in a state is rather difficult. Several potential measures, including expressed grievances, and low-scale rebellious activity is only available for countries included in the Minorities at Risk dataset and is, hence, limited to the behavior of those ethnically motivated groups listed by the project. Data on repression, however, is available for a wider sample in the Political Terror Scale and is used as the main proxy for latent conflict in this paper.

<sup>14</sup> The data from the U.S. State Department are chosen over the Amnesty International data because it has slightly less missing data.

ations where refugee flows arrive in a country which is characterized by sensitive ethnic power balances. At a minimum, this approach at least allows for a better approximation of the statement that refugees may cause conflict in the host state by disrupting the ethnic geography than just having a measure for refugee flows. This study views volatile ethnic relations as those societies characterized by having few ethnic groups that are roughly evenly matched. I use a dummy variable based on the group proportions which are part of Fearon's ethnic group dataset (2003). If the state has evenly matched ethnic groups, here meaning that no one group is dominant (larger than 70% of the population) *and* the state is not highly fractionalized either (it has at least one group making up 30% of the population), the variable *Volatile ethnic relations* is coded (1); otherwise (0). These thresholds follow Forsberg (2008) and Melander (2009). Due to data constraints, the variable is time-invariant. The measure is interacted with refugee flows to capture the conditional relationship proposed in hypothesis 3b.

## CONTROLS

To limit the risk of statistically “proving” spurious relationships, a set of control variables is included. These are chosen because they could have an impact on both one or more of the central covariates as well as the dependent variable. A number of control variables relates to domestic conditions in the neighboring state, i.e. the state considered at risk of conflict contagion due to refugee flows. In most civil war studies, GDP per capita has a negative impact on the likelihood of conflict. It is also possible that the host state's GDP per capita may be associated with the number of refugees hosted.<sup>15</sup> Population size is often included as a control variable in studies of civil war, since one could argue that the larger the population, the more opportunities for rebellion. Also, one can expect that the severity of the number of refugees hosted, and its relation to armed conflict, is relative

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<sup>15</sup> This relationship could be positive (i.e. wealthy states may attract more refugees) or negative (i.e. countries with low GDP/capita levels may have less efficient border control, hence hosting more refugees).

to the population size of the host state; it is a larger burden for a small state than for a large state to host a major refugee flow. Based on Penn World Tables (Heston, Summers and Aten, 2002), Gleditsch (2002) provides data on GDP per capita and the size of the country's population up to the year 2004; data for 2005 and 2006 are extrapolated. The GDP per capita relates to GDP per capita in US dollars in constant 2000 values and population is measured in thousands. Previous research suggests that the effects of GDP per capita and population size are best captured as a decreasing function of diminishing return. Consequently, these two variables are transformed using their natural log.

Another condition in the state at risk that this study controls for is its democracy score. The findings about democracy and its effect on civil war suggest an inverted U-shaped relationship (Fearon and Laitin, 2003; Hegre et al., 2001; Hegre and Sambanis, 2006; Muller and Weede, 1990). In other words, highly autocratic and highly democratic states display a lower risk of armed conflict than do semi-democratic states. It is also plausible that refugee flows are linked to the democracy level of the hosting state. The inverted U-shaped relationship is captured by including two covariates from the Polity IV data (Marshall and Jaggers, 2002); in addition to the standard Polity measure, a squared term of the variable is included in the model. *Ln population*, *Ln GDP/capita*, *Polity* and *Polity squared* are lagged one year.

In addition to these conditions in the neighboring state, i.e. the potential host of refugee flows, conditions in the border area of the conflict state and the neighboring state may be related both to the number of refugees and the propensity of conflict. A long shared border may be linked to a higher risk of spillover of conflict due to refugee flows since it, on average, makes border control more difficult. Hence, it may be easier for rebels in disguise to mingle with the genuine refugees. The data on the length of shared borders, in kilometers, are provided by Furlong and Gleditsch (2003); in the empirical analysis this measure is reported as *Length of border*. Second, a mountainous

border area may also be associated with both the independent and dependent variables. Given that refugees have a choice, they may choose to seek shelter in a neighboring state to which entry is as easy as possible. However, given that refugees have passed a mountainous border, it may complicate repatriation. Data on mountainous border areas are provided by Shellman (2001) and reported here as *Mountainous border*.

A final control regards the temporal autocorrelation that are likely to be present in the data. Each neighboring state is followed over time from entering the data until it is no longer considered at risk of contagion. In such a risk period it is possible that it experiences multiple onsets of internal armed conflict (or onset of ethnic conflict). In such cases, it is likely that a history of conflict, will increase the likelihood of any given onset. In a corresponding way peace also begets peace, making a state less likely to experience onset of conflict if it has a history of peace. To deal with the potential problem with such temporal autocorrelation, I employ the recommendation by Beck, Katz & Tucker (1998) and add a variable counting the number of years since the last onset and three cubic splines.<sup>16</sup> All estimations include these covariates, but the results are not reported in the tables that follow.

## Findings

### Evaluating the Hypotheses

According to the first hypothesis, the expectation is that refugee flows in general are associated with destabilizing spill-over effects that make countries that receive refugees from a country in civil war

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<sup>16</sup> An alternative approach to dealing with temporal autocorrelation is presented by Raknerud and Hegre (1997). They recommend including an exponential function of time without conflict onset, building on the logic that the inertia of conflict history decays over time. I re-estimated all models using this approach (with a half-life of 5 years); all results remained substantially identical. With regard to spatial autocorrelation, the models reported here are all clustered on the first state of the dyad (i.e. the conflict state and potential sender of refugees). I also estimated models clustered on the dyad and on the state at risk of contagion; the results were substantially the same. These results are not reported here by available from the author upon request.

more prone to internal conflict than states not hosting refugees to such a large extent, all else equal. Models 1 and 2 in Table I report the two refugee specifications, *Refugee flows* and *Refugee stock*, while controlling for a series of other independent variables.

Table I. *Hypotheses 1 and 2*

|                      | (1)                  | (2)                  | (3)                  | (4)                  |
|----------------------|----------------------|----------------------|----------------------|----------------------|
| ln refugee flow      | 0.033<br>(0.012)***  |                      | 0.060<br>(0.028)**   |                      |
| ln refugee stock     |                      | 0.029<br>(0.009)***  |                      | 0.055<br>(0.025)**   |
| Repression           |                      |                      | 0.708<br>(0.226)***  | 0.769<br>(0.242)***  |
| Ref flow*repression  |                      |                      | -0.054<br>(0.029)*   |                      |
| Ref stock*repression |                      |                      |                      | -0.053<br>(0.027)*   |
| ln GDP/capita        | -0.352<br>(0.075)*** | -0.315<br>(0.072)*** | -0.350<br>(0.085)*** | -0.355<br>(0.084)*** |
| ln population        | 0.180<br>(0.045)***  | 0.186<br>(0.041)***  | 0.152<br>(0.049)***  | 0.156<br>(0.050)***  |
| Polity               | 0.025<br>(0.010)**   | 0.024<br>(0.010)**   | 0.023<br>(0.011)**   | 0.023<br>(0.011)**   |
| Polity, squared      | -0.006<br>(0.002)*** | -0.007<br>(0.002)*** | -0.004<br>(0.003)    | -0.004<br>(0.003)    |
| Mountainous border   | 0.004<br>(0.166)     | 0.007<br>(0.162)     | -0.061<br>(0.154)    | -0.072<br>(0.154)    |
| Length of border     | 0.000<br>(0.000)     | -0.000<br>(0.000)    | -0.000<br>(0.000)    | -0.000<br>(0.000)    |
| Constant             | -0.392<br>(0.731)    | -0.713<br>(0.710)    | -0.660<br>(0.765)    | -0.702<br>(0.767)    |
| Observations         | 6295                 | 6553                 | 4708                 | 4805                 |

Estimations performed using Intercooled Stata 8.0.

Robust standard errors, clustered on the conflict state, in parentheses, \* significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level.

The estimations were performed with a peace year variable and three cubic splines, not reported here.

As indicated by Models 1 and 2, the first hypothesis is supported empirically. Given a civil conflict in one state, refugees arriving to, or being hosted by, a neighboring state make that state more likely to

experience civil conflict onset as well. The substantial impact of refugees, in terms of predicted probabilities, is computed by setting the other covariates at their mean values. For example, when refugee flows are set at 100 000 (in logged terms), the predicted probability of conflict onset is 0.077, which equals a 37% increase over the baseline probability. Table II contains predicted probabilities of conflict onset for different values of both refugees arriving to (Refugee flow) and being hosted by (Refugee stock) a country neighboring a conflict country.

Table II: *Predicted probabilities of conflict onset*

| Refugee flow | $pr(y = 1)$ | Refugee stock | $pr(y = 1)$ |
|--------------|-------------|---------------|-------------|
| 0            | 0.0536      | 0             | 0.0519      |
| 30 000       | 0.0739      | 30 000        | 0.0688      |
| 100 000      | 0.0767      | 100 000       | 0.0711      |
| 500 000      | 0.0806      | 500 000       | 0.0743      |
| 1 000 000    | 0.0823      | 1 000 000     | 0.0757      |
| 2 000 000    | 0.0841      | 2 000 000     | 0.0771      |

Note: Predicted probabilities are based on coefficients reported in Table I; the other covariates are held at mean values.  
Estimations performed using Intercooled Stata 8.0.

In terms of odds-ratios, post-estimations based on the results from Model 1 also show that a standard deviation increase in the refugee flow variable increases the odds of conflict by 11%, all else equal. Model 2 reports corresponding information for the variable measuring the number of refugees hosted by a neighboring state. A standard deviation increase is here associated with an increase in the odds of conflict by 14%, holding all other variables constant.

The conditional relationship suggested by hypothesis 2 is evaluated in Models 3 and 4 (in Table I). This hypothesis suggests that the effect of refugee flows is conditioned upon the existence of latent conflict in the neighboring host state. In the empirical analysis reported in Table I the exis-

tence of a latent conflict is proxied by a dichotomous measure of state repression. Model 3 interacts refugee flows with repression and Model 4 interacts the variable for the stock of refugees hosted with the repression measure. Both interaction terms are negative and significant. The results suggest that the effect of refugee flows/stock is positive and significant, in the context of no/low repression. When, on the other hand, the modifying variable (repression) is switched<sup>17</sup> so that refugee flows are evaluated in the context of high repression, refugee flows have no significant relationship with the likelihood of conflict. Hence, the effect of refugee flows are clearly conditioned upon the level of repression in the host state; however, in a way not predicted by the hypothesis. In fact, refugee flows are associated with the contagion of civil conflict, only when the host state is characterized by low levels of state repression. Using state repression to represent a latent conflict in the host state may, on the other hand, not capture the essence of latent conflict. Hence, as a robustness test of hypothesis 2, I also evaluate an alternative measure of latent conflict (not reported in the table). Based on Minorities at Risk data (2005), an index of *Grievance* is computed. If one or more groups in the neighboring state is expressing significant political, economic, or cultural grievances, or grievances over autonomy, it is coded (1); otherwise (0). When interacted with refugee flows, the same pattern emerges. Refugee flows have a positive impact on conflict, in the absence of group grievances; however, it is not significant in the presence of expressed grievances. The interaction term is, hence, negative and significant, contrary to the hypothesized relationship. I will return to a discussion about these counterintuitive results.

Next, the results reported in Table III serve to evaluate hypotheses 3a and 3b.

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<sup>17</sup> In this model with an interaction term, the refugee flow variable is the main variable and repression is the modifying variable. The effect of refugee flows is interpreted as the estimated effect when repression equals zero. Since repression is here a dichotomy, the interpretation has a substantive meaning. Also, by reversing the coding of repression so that a zero represents high repression, one can estimate the effect of refugee flows when repression equals one.

Table III. *Hypotheses 3a and 3b*

|                           | (1)                  | (2)                  | (3)                  | (4)                  |
|---------------------------|----------------------|----------------------|----------------------|----------------------|
| ln refugee flow           | 0.066<br>(0.013)***  |                      | 0.095<br>(0.025)***  |                      |
| ln refugee stock          |                      | 0.053<br>(0.010)***  |                      | 0.100<br>(0.022)***  |
| Volatile ethnic relations |                      |                      | 0.923<br>(0.201)***  | 1.129<br>(0.224)***  |
| Ref flow*volatile         |                      |                      | -0.037<br>(0.039)    |                      |
| Ref stock* volatile       |                      |                      |                      | -0.060<br>(0.030)**  |
| ln GDP/capita             | -0.553<br>(0.097)*** | -0.459<br>(0.085)*** | -0.573<br>(0.113)*** | -0.452<br>(0.101)*** |
| ln population             | 0.244<br>(0.045)***  | 0.246<br>(0.044)***  | 0.286<br>(0.045)***  | 0.287<br>(0.041)***  |
| Polity                    | 0.057<br>(0.010)***  | 0.053<br>(0.010)***  | 0.055<br>(0.009)***  | 0.049<br>(0.008)***  |
| Polity, squared           | -0.005<br>(0.002)**  | -0.006<br>(0.002)*** | -0.007<br>(0.002)*** | -0.008<br>(0.002)*** |
| Mountainous border        | -0.159<br>(0.161)    | -0.121<br>(0.155)    | -0.075<br>(0.147)    | -0.037<br>(0.138)    |
| Border length             | -0.000<br>(0.000)    | -0.000<br>(0.000)    | -0.000<br>(0.000)    | -0.000<br>(0.000)    |
| Constant                  | 0.235<br>(0.752)     | -0.464<br>(0.713)    | -0.560<br>(0.835)    | -1.611<br>(0.759)**  |
| Observations              | 6295                 | 6553                 | 6290                 | 6546                 |

Estimations performed using Intercooled Stata 8.0.

Robust standard errors, clustered on the conflict state, in parentheses, \* significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level.

The estimations were performed with a peace year variable and three cubic splines, not reported here.

Starting with hypothesis 3a, the results reported in Table III demonstrate that refugee flows and stocks are significantly correlated with ethnically mobilized internal conflict (see Model 1 and 2).

Overall the predicted probability of an onset of ethnic conflict is lower than that of an internal armed conflict of any type, due to its lower frequency. The interesting information is whether refugee flows have a different (i.e. stronger) impact on ethnic conflicts than on internal conflicts in general. Recall that post-estimations based on Table I indicated that a standard deviation increase in the

arrival of a refugee flow from a conflict state is associated with an 11% increase in the odds of conflict, compared to the baseline observation. When instead predicting ethnic conflicts, post-estimations from Table III demonstrate that a standard deviation increase in a refugee flow is associated with a 22% increase in the odds of ethnic conflict. This is also illustrated in the predicted probabilities given in Table IV. The predicted probability of ethnic conflict onset is lower than that for the onset of all types of internal conflict. However, the predicted probabilities increase more in the presence of refugee flows/stocks. The predicted probability of conflict when 100 000 refugees flee from a state in conflict and arrive to a neighboring state is 0.054; this represents a 90% increase over the baseline. Hence, the results support the relationship proposed by hypothesis 3a.

Table IV: *Predicted probabilities of ethnic conflict onset*

| Refugee flow | $pr(y = 1)$ | Refugee stock | $pr(y = 1)$ |
|--------------|-------------|---------------|-------------|
| 0            | 0.0262      | 0             | 0.0254      |
| 30 000       | 0.0502      | 30 000        | 0.0430      |
| 100 000      | 0.0541      | 100 000       | 0.0457      |
| 500 000      | 0.0598      | 500 000       | 0.0496      |
| 1 000 000    | 0.0624      | 1 000 000     | 0.0513      |
| 2 000 000    | 0.0651      | 2 000 000     | 0.0531      |

Note: Predicted probabilities are based on coefficients reported in Table IV; the other covariates are held at mean values. Estimations performed using Intercooled Stata 8.0.

Hypothesis 3b proposes that given an armed conflict in one state, if it results in refugees fleeing to a neighboring state and that state is characterized by a sensitive ethnic power balance, the probability of ethnic conflict onset in the neighboring state is enhanced further. The setup of this hypothesis is, hence, similar to that of the second hypothesis as it proposes a condition that enhances the effect of

refugees. The dependent variable evaluated here is the onset of ethnically mobilized internal conflict. The hypothesis is evaluated both for the flow and the stock measures (Models 3 and 4). The results are mixed. In model 3, both component variables – refugee flows and the measure for volatile ethnic relations – demonstrate strong positive relationships with conflict onset. However, the interaction term is not significant. Post-estimations demonstrate that when a refugee flow arrives to a country with volatile ethnic relations, as defined here, it adds to that country’s predicted probability of conflict. However, the effect of each variable is not conditioned upon the value of the other. In contrast, the interaction effect evaluated in Model 4 (as an alternative test of hypothesis 3b) is significant. Interestingly the hosting of refugees has a positive (and significant) effect on the host state’s likelihood of conflict *both* when the state is characterized as having volatile ethnic configurations and when it is not. Hence, at first glance it appears that the effect of refugee flows is not dependent upon the value of the modifying variable. However, the interaction term is negative (and significant), indicating that the positive effect of refugees is smaller in the presence of volatile ethnic relations. Hence, hosting refugees is more likely to generate conflict if the host state has an ethnic composition either characterized as ethnic dominance or highly fractionalized. This result runs counter to the hypothesized relationship and will be discussed later.

In all models reported, the control variables relating to conditions in the neighboring state (the one considered at risk of contagion) behave as predicted by previous research. The GDP per capita level of the neighboring state is negatively associated and population size positively related to the likelihood of onset of internal conflict. The two polity measures corroborate the findings about an inverted U-shaped relationship between regime type and conflict; *Polity* is positively related and *Polity squared* negatively related to conflict. In contrast, the characteristics of the border shared by the conflict state and the neighboring risk state seem to have no impact. This goes for both the length of

the shared border and whether or not the border area is mountainous. Re-estimating the models without those measures made no difference in the substantial interpretation of the other covariates.

## Discussion

The results presented in the tables above provide solid support to the hypothesis that refugee flows from countries with civil conflict make neighboring states that host those refugees more prone to also experience conflict in its territory. Neighboring states are indeed more likely to experience both internal armed conflict and such conflicts where parties are mobilized along ethnic lines, when they host refugees from conflict countries. However, the results regarding hypotheses 2 and 3b are noteworthy, especially as they contradict previous studies and, perhaps, intuition as they demonstrate some unexpected conditional relationships. First, the effect of refugee flows appears to be conditioned upon the level of repression in the host state; however, in a way not predicted by the hypothesis. In fact, refugee flows are associated with the contagion of civil conflict, only when the host state is characterized by low levels of state repression. A possible interpretation of this finding is that states characterized as repressive may possess strong coercive power and, consequently, able to force refugees back to their country of origin if they would stir up problems in the host state. An interesting parallel is the often proposed explanation for the inverted U-shaped relationship between regime type and conflict; i.e., states at the authoritarian end of the continuum are able to suppress dissent in the cradle. Hence, it may be easier for such states to suppress local rebellions emanating from refugee flows. For instance, had the government of Zaire possessed a strong repressive power in the mid and late-1990s it may have been *able* to disarm and/or expel the *Interahamwe* and ex-FAR members using refugee camps for mobilizing and, consequently, suppress the emerging rebellion; if it was also willing to do so is another question.

Second, the results regarding hypothesis 3b also run counter to what was expected. This hypothesis proposed that the influence of refugee flows on ethnic conflict in the neighboring host state should be stronger if the neighboring state has a precarious ethnic balance. Instead the results indicating that hosting refugees<sup>18</sup> is less likely to generate conflict if the host state has an ethnic power balance here referred to as volatile. The hosting of refugees had a stronger impact when the ethnic composition instead could be categorized as either ethnic dominance or high fractionalization.

In sum, the results regarding hypotheses 2 and 3b went against theoretical expectation. However, they may not be that counterintuitive after all, especially from a bargaining perspective. Actors are purposeful and strategic and may anticipate the intention and behavior from other actors. Conflict in one state may generate uncertainty in a neighboring state. The added element of refugees makes for a volatile situation in the hosting state. If the hosting state has a latent conflict, the leaders of that state anticipate that an outside influence may make manifest conflict more likely and hence take countermeasures. If there are no latent conflicts, leaders of the host state is less worried and in the end conflict becomes more likely. The result regarding hypothesis 3b is, although less robust, also counter to what was proposed. In operational terms, the ethnic composition of the host was considered volatile if there were few groups of roughly equal size. Hence, the point of comparison of this dichotomous measure included both situations of highly fractionalized societies (i.e. with a multitude of small ethnic groups) and societies characterized by ethnic dominance (i.e. there is one large majority group and one or several small groups). Since these categories taken together were found to be associated with a stronger effect of hosting refugees, it is worth further examination.

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<sup>18</sup> The interaction effect was not significant when refugee *flows* were interacted with volatile ethnic relations.

## Conclusions

The purpose of this study was to further explore refugee flows as a cause of the spread of civil war, from a state experiencing civil conflict to a neighboring state. With the contagion process approach employed, this study is the first that can distinguish the impact of refugee flows on the international spread of civil conflict. This study also contributes to previous research by identifying, and empirically evaluating, specific conditions arguably making refugee receiving countries more conflict-prone.

The findings show that receiving refugees may be a security predicament for some states. It is shown that both the long-term hosting, as well as sudden inflows, of refugees is associated with an increased risk of domestic armed conflict in the host state. It also demonstrates that refugee flows may indeed explain why internal conflicts sometimes spread geographically from one state to another. In addition, the results indicated that hosting refugee flows may be especially linked to the onset of ethnically mobilized internal conflict. Hence, a path for future research may be to further distinguish the impact of refugee flows on the spread of civil conflict in general and the spread of ethnic conflict.

As discussed previously, the empirical analysis also generated some counterintuitive findings. These unexpected results would be interesting to examine further. They may indicate that some of the factors normally associated with a higher risk of internal conflict (in this case a preexisting non-militarized conflict and a delicate ethnic power balance) make contagion due to refugee flows less likely. Not taking refugee flows into account indeed show that both these variables are positively associated with conflict in states that are neighbors to a conflict state. Exploring these interactions more thoroughly is a prioritized avenue for further exploration.

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