

Conflict-induced IDPs and the spread of conflict*

Heidrun Bohnet[†] Fabien Cottier[‡] Simon Hug[§]

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Abstract

Recent scholarship has started to find more and more evidence that refugees in their plight also contribute to the spread of conflict across borders. Relatively little is known, however, about whether internally displaced persons (IDPs) lead through similar mechanisms to the spread of conflict domestically. Drawing on a novel geographic dataset on IDP location and IDP origin we assess this question and find that similar mechanisms operate at the domestic level as those that recent research has shown to link refugees to cross-border conflict spread.

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[†]Department of Political Science and International Relations, University of Geneva; Switzerland; E-mail: heidrun.bohnet@unige.ch

[‡]Department of Political Science and International Relations, University of Geneva; Switzerland; E-mail: fabien.cottier@unige.ch

[§]Department of Political Science and International Relations, University of Geneva; Switzerland; E-mail: simon.hug@unige.ch

1 Introduction

Recent scholarship has intensively studied the linkage between refugee flows and political violence. Researchers have investigated in particular how refugee flows may increase the risk of conflict, as well as the locus and clustering of violence (Lischer 2005; Salehyan and Gleditsch 2006; Rügger 2012; Bohnet 2012). The evidence suggests that refugees may inadvertently contribute to conflict within the host state and therefore lead to conflict diffusion. Refugees are however hardly the only ones to be forced to leave their homes due to conflict and persecution, as a substantial number of displaced persons remain stranded within the borders of their home state. In fact, according to recent statistics, at the end of 2011 the number of internally displaced persons (IDPs)¹ worldwide stood at more than 2.5 times the number of refugees, or in other words a staggering 26.4 millions to 10.4 millions, respectively (IDMC 2012; UNHCR 2012).² For example, while the number of Syrian refugees have recently passed 1 million, the UN estimates that a further 3.6 millions have been displaced within Syria, unable or unwilling to leave the country.³ Furthermore, although examples such as in Darfur and Uganda have shown that IDPs can play a significant role in the spread of conflict, internal displacement have been ignored until now by conflict scholars. Apart from occasional case studies (e.g., Muggah 2006*a*; Achvarina and Reich 2006; Lischer 2008), no quantitative analysis until now has investigated more closely the effects of conflict-induced internal displacement on the spread of domestic conflict. This lack of attention possibly stems from a scarcity of data on IDPs, as well as on theoretical concerns regarding the usefulness of distinguishing IDPs from the otherwise more general civilian population, as both categories are likely

¹Internally displaced persons are defined as “persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border,” although we focus here only on IDPs that fled because of armed conflict and situations of generalized violence (Cohen and Deng 1998).

²The numbers reported for IDPs include only the displacements that are resulting from armed conflicts, generalized violence and human right violations (IDMC 2012: 14).

³“High Commissioner for Refugees warns of moment of truth for Syria, risk of unmanageable crisis”, UNHCR, Press Release, March 19th 2013. <http://www.unhcr.org/5148b6286.html>, retrieved on March 27th 2013.

to be affected by violence.

With regards to the first issue, the inherent difficulty in obtaining accurate information on the location and scale of internal displacement has arguably compounded the challenge of any research on this topic. Several factors concur to make it particularly difficult to collect data on IDPs: First, contrary to refugees, who settle often in camps, IDPs are generally dispersed within urban or rural areas (depending on the circumstances). They are also frequently housed by relatives, and may in some contexts avoid contact with state and humanitarian agencies (Cohen and Deng 1998: 6). Data collection has been further hindered as no international agency has been mandated to provide assistance for IDPs, which has prevented any systematic collection of data.⁴ Finally, and perhaps more importantly, states have been often loath to admit the existence of IDPs, especially if their counter-insurgency policies have been the root cause of displacement (Ibid.: 6-7)

Second, as indicated previously, the usefulness of distinguishing IDPs from the local population has been debated.⁵ Interestingly, this debate has not solely concerned conflict research, but also the more practical field of international humanitarian law (see Mooney 2005; Cohen and Deng 1998: 26-29). Indeed, as both internally displaced and locals are likely to be affected by conflict dynamics, as well as having in turn an impact on these dynamics, one could question the adequacy of such a theoretical distinction. There are, nonetheless, conceptual reasons that argue in favor of separating IDPs from the otherwise more general civilian population. Indeed, drawing on the refugee and conflict literature Lischer (2005: 22) has emphasized that the experience of flight has the effect of hardening ethnic identities. Moreover, compared to the general population, and for that matter refugees themselves, IDPs often live in markedly squalid and insecure conditions (Cohen and Deng 1998: 27, Muggah 2006*a*: 113). Conflict-induced IDPs are also likely to feel aggrieved and politicized as refugees, while, by virtue of their location within the borders of their home state, be much more vulnerable to predation and

⁴In a few cases, UNHCR has nonetheless been tasked by states to provide assistance to IDPs. This is for instance the case of Colombia and South Sudan.

⁵This issue is not raised when it comes to refugee flows, as their location across a border makes them effectively conceptually distinct from the domestic population, and they may thereby be associated with distinct mechanisms of conflict diffusion.

forced recruitment by the belligerents. IDP settlements are often not secured as refugee settlements are, as they are often not formally recognized as zones of special needs. The consequence is that conflict-induced IDPs are particularly at risk of militarization. Indeed, it has been reported that both rebels and the Sudanese government recruited a substantial number of fighters from IDPs in Darfur (Aspa 2011). Likewise, Achvarina and Reich (2006) find that a key determinant of the levels of child soldiers during the Liberian civil war, was the belligerents' access to IDP camps. As IDPs flee fighting to safer areas, they may thus inadvertently cause further conflict diffusion by spreading war resources and rebel networks.

Consequently, the question arises how and if internal displacement in general increases the risk of conflict diffusion within a country's borders. It should be stressed that this research only considers internal displacement caused by conflict and persecution, and excludes from its definition forced displacement due to natural or man-made disasters or any form of voluntary migration. We, thus, speak of conflict-induced IDPs here.

In the paper, we introduce a newly created spatial dataset on internal displacement which in the following we will refer to as the *Global Internal Displacement Pattern* (G-IDP) dataset. The dataset was compiled using maps provided by the *Internal Displacement Monitoring Centre* (IDMC) and covers all countries affected by conflict-induced internal displacement for the period 2008 to 2011. We subsequently rely on this dataset to investigate whether internal displacement may contribute to conflict diffusion, in a pattern similar to that of refugee flows. To overcome unavoidable concerns regarding endogeneity,⁶ we analyze if internal displacement in Africa leads to ethnic conflict spread by overlaying our IDP dataset with the GeoEPR (Wucherpfennig et al. 2011) and the UCDP GED point datasets (Melander and Sundberg 2011; Sundberg, Lindgren and Padskocimaite 2012). Our results suggest that IDPs may spread ethnic conflict. However, these results should be taken with precaution. To begin with, our dataset suggests that ethnic violence rarely occurs outside of an ethnic group's settlement. This raises the question whether the likelihood of ethnic violence diffusion depends on

⁶A major difficulty when studying the linkage between internal displacement and the spatial diffusion of violence emerges from the inherent risk of reverse causality. In other words, internal displacement results in all likelihood from violence, a fact, which limits any research carried on the topic.

intervening variables. Further studies in this area are thus needed. In addition, concerns about the quality and precision of the maps, on which our dataset is based, brings up the problem of causal inference, but it is the only current data available on IDPs.

In the next section we first review the current state of the art. We then present in section three our theoretical argument and present a hypothesis explaining how IDPs might relate to processes of conflict diffusion. In section five we present our newly collected IDP dataset and the methodology we employ to test whether internal displacement indeed increases the risk of conflict spread. Our preliminary results presented in section six suggest that the presence of IDPs does heighten the risk of ethnic violence diffusion. We then conclude by outlining our future research steps.

2 State of the Art

While recent research has investigated the link between forced displacement and conflict (Lischer 2005; Salehyan and Gleditsch 2006; Rügger 2012; Bohnet 2012), the focus until now has been on refugees and left out the effects of IDPs on conflict spread. Ferris (2007:5) also remarks that virtually no published work on the national security implications of IDPs exist. This is surprising as cases of IDP militarization have been recorded as often as refugee militarization, if not even more. Examples can be found currently in Syria and Somalia and has been seen in Uganda and Darfur before. In some cases, IDP militarization indeed might precede refugee militarization as rebels move from recruitment within their country to recruitment outside their home borders. The literature on IDPs overall has been very limited and been mainly restricted to conceptual issues (see for example: Mooney 2005). The reason possibly being that only since the mid- 1990s IDPs have made it on the international agenda and are still often not formally recognized as a separate category by policy-makers and conflict researchers alike (Mooney 2005: 10). However, Mooney (2005: 18), as well as others, stress that IDPs should be distinguished from the general local population because of their unique needs and heightened vulnerability, thus, exposing them to additional risks and making them more susceptible to new conflict situations.

Muggah (2006*b*; 2010) is one of the few who indicates that IDPs can become

militarized and therefore creating the potential for conflict to spread “into otherwise ‘peaceful’ areas” (167). He speaks of outward and inward militarization referring to the fact that IDPs can directly or indirectly be involved in the conflict diffusion process, thus being both victim and agent. IDPs can take up arms themselves, or their settlements can serve as strategical advantages, for example as buffer zones to rebel groups. This was the case in northern and eastern Sri Lanka where IDP camps were located in so called “High Security Zones” (Muggah 2010: 185). Muggah (2010: 185) further underlines that IDP militarization is particularly likely where IDP settlements serve as arms storage for rebel groups. With the case of Uganda, Muggah (2006*b*: 103) illustrates how perilous the security situation of IDPs can be. In 2004 IDPs made up between 60 to 93 percent of the total population in the northern and eastern districts of Uganda. The Lord’s Resistance Army (LRA) attacked IDPs and the Uganda People’s Defence Force (UPDF) recruited from IDPs. Nonetheless, although Muggah points out the significant role of IDPs in the conflict dynamic, he does not clearly differentiate between IDP and refugee militarization. He always considers both together. It is not clear, however, if the mechanism behind these two militarization processes are indeed the same, although we assume them to be similar. Still, large-N studies seem necessary to prove this assumption. We want to fill this gap.

Lischer (2008) focuses on the example of Iraq, indicating that because IDPs have encountered increased resentment and restrictions on their activities, they have become susceptible to political manipulation. As they are concentrated and vulnerable, they are easy targets (Lischer 2008: 96) and, thus, contribute to conflict diffusion. Moreover, “an influx of IDPs may upset ethnic balances within a region and incite conflict. There is also the possibility that militants will move with the IDPs and engage in violence in their new locations” (Lischer 2008: 102). Ferris (2007) also suggests with the case of Iraq that internal displacement can have major consequences for security, and, hence, the spread of conflict. Nevertheless, both her and Lischer’s (2008) work remain restricted to case studies. No general conclusion about the role of IDPs in the conflict dynamic has been made yet.

Kahn (2008: 26) emphasizes, however, that IDP settlements do not have to be apolitical and, thus, could play a significant role in the diffusion process. He points

out that particularly in the case of Darfur where the majority of IDPs are located in government-controlled areas, but are no supporters of the government, state-based conflict is very likely (Kahn 2008: 17). In addition, as IDP camps are relatively open, rebel groups have easy access to and, thus, can recruit from them (Kahn 2008: 35).

In sum, the literature on IDPs, especially in regard to their effects on conflict spread has been scarce and not well developed until now. The existing case studies suggest that IDPs play a significant role in conflict dynamics. However, the general effects of IDPs on conflict diffusion has not been analyzed yet. In the following, we want to examine more closely the relationship between IDPs and the spread of conflict, focusing in particular on ethnic and state-based conflict.

3 Theory

As the literature on IDPs and their role in the conflict dynamic is scarce, no current theory exists that explains the linkage between the two. Yet, because IDPs are often found in similar situations as refugees, however, similar mechanisms possibly apply. Thus, we draw in part our theoretical arguments from the refugee-security nexus literature. Muggah (2006*b*; 2010) and Lischer (2008) both demonstrate that similar mechanisms are at work. Moreover, as IDPs are mainly regarded as part of the civilian population, the more general conflict literature also provides the basis for our arguments here, although we want to stress that IDPs play a special role as they present a particular vulnerable group.

In general, two mechanisms prevail in the conflict literature that attempts to explain why conflict breaks out: motivational and opportunity factors (e.g., Collier and Hoeffler (2004*b*)). We argue that IDPs can affect both aspects. First, we outline our motivational argument, which contends that IDPs are particularly likely to provide support to rebels from the same ethnic groups, as IDPs may harbor strong grievances and, thus, incentives for engaging in violence to change their situation. Moreover, shared ethnicity between IDPs and rebels will make promises of recruits of the rebels to the IDPs more credible and increases the value of future commitments between the two (Weinstein 2005). Following Cederman, Wimmer and Min (2010: 98), we define ethnicity “as any

subjectively experienced sense of commonality based on the belief in common ancestry and shared culture” and we consider a rebel group to have strong ties with an ethnic group if it articulates ethno-nationalist objectives and recruits on the “basis of ethnic affiliation” (Cederman, Wimmer and Min 2010: 102).

The experience and traumatism of flight of IDPs is likely to increase the salience of ethnic identities (Lischer 2005: 22, Rügger 2013: 10). For instance, Fearon stresses that Azeri IDPs resulting from the Nagorno-Karabakh war hold particularly strong grievances and “are actively developing a political ideology of revenge and return” (Fearon 2004: 405). In addition, IDPs are often the most vulnerable population of concern in a conflict. IDPs face major challenges in getting access to assistance from humanitarian agencies. They are also often excluded from any meaningful participation in the political process due to a lack of proper documentation (Mooney 2005: 18). Thus, as a consequence of both flight and political, as well as socio-economic, marginalization, IDPs are likely to collectively hold grievances against the state. They may therefore share the same goals as rebels from the same ethnic groups. In such circumstances, IDPs may be particularly receptive to security dilemma discourses and propaganda from rebel entrepreneurs (Lischer 2008: 99-100).

The recent displacement-security literature with a focus on refugees (Lischer 2005, 2008; Salehyan and Gleditsch 2006; Rügger and Bohnet 2011; Rügger 2012, 2013) has also stressed the significance of ethnic kin between the displaced and the host population. More precisely, scholars have corroborated the hypothesis that refugees sharing ethnic kinship with a politically marginalized group in their host country makes conflict spread more likely, particularly if the refugee influx is large. The risk of diffusion, moreover, is especially heightened if rebel organizations share ethnic kin with the refugees (Salehyan 2007; Rügger 2013). We assume the same to be true for IDPs. Although, we have no available information on the ethnic composition of IDPs here, we suppose that recruitment of IDPs occurs along ethnic linkages. Recruitment along ethnic linkages should indeed be particularly likely in this case as IDPs in contrast to refugees have not crossed the border and thus might be more inclined to engage in fighting. Refugees find themselves in very new surroundings, foreign country, while IDPs, although also displaced, stay in their home country that is known to them. The cost for refugees

therefore for engaging in conflict is much higher than for IDPs. As refugees are new to their host country, they have not the same available information as IDPs might have. Moreover, by being refugees, they only have a "guest" status in the host country and thus might be more reluctant to engage in fighting against their hosts, because otherwise they might lose their status and be forced to return to their home country. In addition, IDPs, in contrast to refugees, might be more willing to fight for a cause concerning their region and be more willing to engage with rebels as they share a common history. IDPs, consequently, might more easily identify with rebel groups trying to recruit them than refugees and, thus, their motivation to engage in violence is possibly stronger.

In general, we assume that rebel groups are critically dependent on co-ethnics to carry out violent attacks against the state. As Sambanis (2008: 9) shows, ethnicity facilitates the mobilization process of rebel groups by generating "shared loyalties and obligations" among co-ethnics. As such, drawing on ethnic networks, rebel groups may therefore rely on co-ethnic IDPs for recruitment as well as support, including hiding places to evade government forces. As an illustration of this dynamic, Lischer (2008: 106) reported that rebels around Muqtada Al-Sadr and his Mahdi Army had been recruiting in Iraqi IDP camps. This implies that anti-state violence may only occur in areas, in which rebel groups may rely on a "sympathetic" local population. Aspa (2011: 17) also underscores that rebel groups are heavily dependent on external support. IDPs, particular if of the same ethnicity, can provide this support. They can be a source of supply and recruitment and function as logistical bases as well. The presence of IDPs thus can also provide opportunity structures for rebels and consequently increase the risk of conflict diffusion. IDPs fleeing to other areas, possibly outside their common ethnic group boundary, can contribute to the diffusion pattern of ethnic conflict as they can then provide support to a rebel group in a region where the rebel group before had no support. The ability to mobilize is thus heightened. That the settlement pattern of ethnic groups is crucial for the probability of ethnic conflict, because it provides the context in which group members can interact, has been strongly argued by Weidmann (2007; 2009), following Toft (2003). They found that the concentration of an ethnic group increases the risk of conflict. Although we do not have information available on the exact concentration levels of IDPs, we assume that the general influx of IDPs into a

region where they have not been before, increases the concentration of the ethnic group in that region and, thus, providing opportunity structures for mobilization.

Moreover, scholars have argued that weak rebel groups only challenge the state in areas of the country, where they are comparatively stronger (Buhaug 2010). As such, rebel groups should generally be deterred from launching attacks in areas in which they are deprived of support from the local population. Violence would be unlikely in such areas, as these operations may carry particularly high risks of detection and failure and thus entail high costs. Yet, in line with Lischer (2008: 102), we propose that massive internal displacement may lead to a change in the ethnic demography within previously peaceful regions and, as a result leads to conflict diffusion, as IDPs may provide support for rebels sharing the same ethnic identity.

In this regard, we postulate that the spread of ethnic violence is especially likely in cases where internal displacements would spill-over ethnic boundaries. In such contexts, the ethnic composition of previously peaceful regions may be modified as a result of an influx of IDPs. Both grievances and opportunity mechanisms would then suggest that violence diffusion may ensue. In such circumstances, rebel groups could have the capacity to carry out military operations in areas, from which they had been previously denied access to, because of a lack of either a “sympathetic population” or social rebel networks. Internal displacement may therefore contribute to conflict diffusion by modifying the ethnic composition of an area, which in turn allows ethnic rebel groups to carry out acts of violence outside of the ethnic group’ territorial settlement. We therefore hypothesize that:

H: Administrative regions affected by conflict-induced internal displacement face an increased risk of ethnic state-based conflict incidences.

It should be stressed that the argument does not necessarily imply that the relations between ethnic rebel groups and their co-ethnics rely on common interest. Rather, the opportunity argument suggests that the relations may well be predatory: rebel networks follow naturally along kinship lines, thus enabling armed groups to exert control over co-ethnics. Aspa (2011: 17) underlines as well that in Darfur IDPs have been recruited voluntarily, as well as forcibly. As IDPs are often unorganized, weak and unarmed, they

can easily be recruited by force (Aspa 2011: 17). Moreover, as IDP settlements are also often not formally recognized and thus, often do not receive protection, rebels can easily access them and recruit among them.

In the following, we present our new dataset on IDPs allowing us to investigate if internal displacement might bring about the spatial diffusion of ethnic violence in previously unaffected areas. More precisely, we proceed by analyzing whether as a result of internal displacements violence involving rebel organizations with strong ties to ethnic groups did occur outside of the group's settlement area.

4 Data and methodology

To be able to assess the effect of IDPs on the spread of ethnic state-based conflict, spatial data on internally displaced persons is needed. We first explain in this section how we collected spatial data on IDPs for our *G-IDP* dataset before explaining more specifically the methodology we use when analyzing this data.

4.1 Data

Systematic data collection on IDPs has generally been hindered by the often dispersed nature of internal displacement flows, the reluctance of states to acknowledge their existence, as well as the lack of an international agency specifically mandated to provide assistance towards IDPs. As a matter of fact, while UNHCR has been collecting data on IDPs, it has only done so for cases, for which it has been explicitly requested to provide assistance and protection. The US Committee for Refugees and Immigrants (USCRI) has also been collecting data on IDPs at a global scale for at least two decades. However, its statistics suffer from a lack of reliability and do not provide any spatial information.⁷ Founded in 1998 by the *Norwegian Refugee Council* at the request of the United Nations, IDMC has been systematically collecting data on internal displacement on an annual basis for all countries affected by conflict-induced displacement throughout the world. From 2009 onward, it has supplemented its data by releasing country specific

⁷It remains nonetheless the primary source of data on internal displacement for the period prior to the establishment of IDMC.

maps displaying the location of IDPs within a country. To our knowledge these maps represent the first ever attempt at providing spatial information on IDPs in a systematic fashion. As the maps of IDMC are loosely based on first order administrative units,⁸ we proceeded by georeferencing each of these maps with the Global Administrative Unit Layers (GAUL) using the first order administrative unit (v2008) (FAO 2008).⁹ The administrative units were then coded according to whether they had been affected by internal displacement.

The maps provided by IDMC give for every country the approximate spatial location of internally displaced persons resulting from armed conflict, generalized violence or human rights violations (IDMC 2012: 14).¹⁰ These maps distinguish three types of zones affected by internal displacement flows: areas from which IDPs have originated, areas to which IDPs have migrated to, even if only temporarily, and finally, areas, which have been affected by both previous outward and inward conflict-induced displacement. This category forms the bulk of the zones affected by internal displacement and arguably underscores the fact that IDPs are dispersed within a country's borders, as opposed to refugees, which are primarily located in camps.

Yet, the quality and precision of these maps are not ideal. This stems primarily from the difficulty to gather data on IDPs. IDMC itself warns that “the extent and reliability of information on the scale of internal displacement varies widely between countries”

⁸Interview with IDMC staff in August 2012. It should be nonetheless noted that for some countries, it appears that these maps were drawn without any attention to the first order administrative units. In some cases, they correspond rather to the second administrative unit or to none at all

⁹“The Global Administrative Unit Layers (GAUL) is an initiative implemented by FAO within the EC-FAO Food Security Programme funded by the European Commission. The GAUL aims at compiling and disseminating the most reliable spatial information on administrative units for all the countries in the world, providing a contribution to the standardization of the spatial dataset representing administrative units [...] The GAUL keeps track of administrative units that has been changed, added or dismissed in the past for political causes,” extracted from: <http://www.fao.org/geonetwork/srv/en/metadata.show?id=12691> on the April 16, 2013.

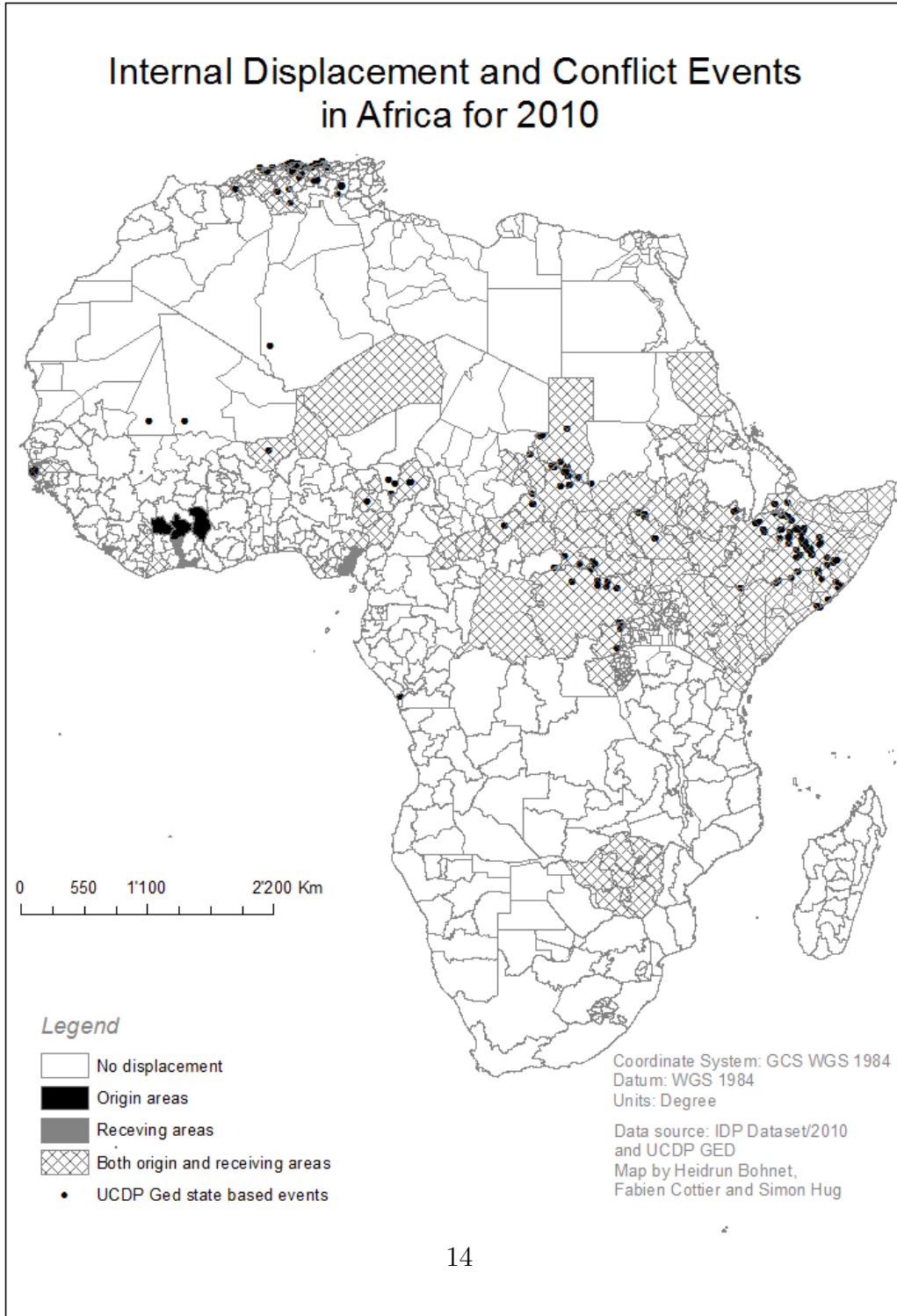
¹⁰IDMC incorporates within the notion of armed conflict: “international armed conflicts, including internationalised armed conflicts, and conflicts of a non-international character, or internal armed conflicts.” Further, it defines generalized violence as “a serious disruption of internal order resulting from acts of violence, which nevertheless are not representative of an armed conflict, such as riots struggles between factions or against the authorities, or inter-communal violence.” Finally, human rights violations “encompass failure by any state or where applicable, relevant non-state actors, to respect their obligations under international human rights law” (IDMC 2010: 14).

(IDMC 2010: 6). Upon visual inspection, this statement is corroborated as some country maps do provide relatively precise information, while others appear to be coded based on data with a much lower resolution. In any event, this is likely to be at least partially the product of the observational unit that IDMC uses, namely the first order administrative units, whose sizes may vary considerably between countries. Furthermore, for some countries, such as Zimbabwe or Nepal, IDMC has been unable to collect spatially disaggregated information on displacement. Nevertheless, despite its drawback, the maps provided by IDMC represents the first attempt to systematically collect spatial data on IDPs. In this regard, the limitations of the maps should not critically affect macro-level analysis, even though future research should strive at collecting better data.

The resulting *G-IDP* dataset includes 6178 first order administrative unit-years, structured around 88 countries, of which 4304 administrative-years are located within 57 countries affected by internal displacement. The time frame covered is from 2008 to 2011 as only in 2008 IDMC started to provide spatial information on IDPs. In its current state, the dataset incorporates all countries affected by displacement on a global scale, as well 31 countries in Africa unaffected by displacement.¹¹ The dataset shows that the majority of countries affected by internal displacement are located in Africa and Asia with respectively 22 and 25 countries. By contrast, Europe and the Americas encompass only 6, respectively 4, countries that have experienced internal displacement in the period covered. The *G-IDP* dataset is to our knowledge the first-ever created spatial dataset on conflict-induced IDPs. The dataset is structured around two principal *dummy* variables. The first records for any given year if IDPs have originated from an administrative unit, while the second records if IDPs have been forcefully displaced to this unit. For administrative units that IDMC maps code as having experienced inward and outward internal displacement, both variables are assigned the value of 1. All in all, 1097 administrative unit-years are coded as having experienced an outflow of IDPs and 1147 as having experienced an inflow of IDPs. Among these, the vast majority (1010) are coded on both variables. Since the areas affected by internal displacement according to IDMC do not systematically correspond to the GAUL first order administrative unit,

¹¹For a future version of the paper, we hope to present an updated version of the *G-IDP* dataset including all countries in the world, independent of the presence or absence of IDPs.

Figure 1: Internal displacement and conflict in Africa for 2010



we investigated in addition the extent of inaccuracy. On this point, slightly more than half of the administrative units affected by internal displacement overlap perfectly with the maps provided by IDMC.¹² Finally, we added a dummy variable for countries for which no spatially disaggregated information were provided, i.e. the whole extent of a country is affected by displacement.

Figure 1 shows a visual representation of our dataset for Africa in 2010, overlaid with the UCDP GED state-based events for internal armed conflict and internationalized internal armed conflict. As previously reported, the vast majority of administrative units affected by displacement in one way or another have experienced both outward and inward internal displacement. Also worth noting, is the fact that the bulk of UCDP GED events are located within displacement affected administrative units. A fact, which does not come as a surprise since mass displacement has often been the consequence of conflict (Cohen and Deng 1998). In addition, the larger spatial extent of displacement affected areas relative to the administrative units affected by violence, also underscores the fact that internal displacement is a lasting situation for which remedies are difficult to implement (*Ibid.*).

4.2 Methodology and operationalization

We restrict our analysis to the African continent as data on conflict events provided by the UCDP GED is limited to the African continent. The analysis covers the period from 2008 to 2010 only, as the latest release of UCDP GED does not extend beyond 2010. Our unit of analysis is the first order administrative unit.

4.2.1 Dependent variable

Our dependent variable, *ethnic conflict diffusion* is operationalized as any instance of ethnic conflict diffusion. However, as the analysis of the impact on conflict diffusion resulting from internal displacement is plagued by reverse causality, we rely on an indirect empirical strategy. This means that we consider as instance of conflict diffusion,

¹²For the cases suffering from inaccuracy, we coded in addition the extent to which the GAUL administrative units overlap the areas affected by IDPs along three ranks: low coverage (below 50% of the spatial extent of the province), partial coverage (approximately 50%) or high coverage (above 50%).

only those cases of violence which satisfy the two following *necessary conditions*: First, these instances of violence must have involved government forces against a rebel group fighting in the name of an ethnic group. Second, the violent events must have taken place outside of the territorial settlement (understood in spatial terms) of the ethnic group, for which the rebel group claims to fight for. Proceeding along those lines should arguably reduce the concerns about endogeneity (though not eliminate it), when one studies the impact of internal displacement on the spatial spread of violence.¹³

To compute our dependent variable, we rely on the UCDP GED point dataset v1.5-2011, which provides the location of any conflict event involving a dyad included in the UCDP armed conflict resulting in at least one fatality (Melander and Sundberg 2011; Sundberg, Lindgren and Pads kocimaite 2012; Gleditsch et al. 2002).¹⁴ We proceed by first joining the UCDP GED point dataset with the ACD2EPR v1.2 docking using the UCDP dyad identifier (Wucherpfennig et al. 2012).¹⁵ In accordance with the EPR coding rule for ethnic conflict, we only consider rebel groups to share strong ties with an ethnic groups if it “recruits fighters among their leaders’ own ethnic group and [...] forge[s] alliances on the basis of ethnic affiliation” and “explicitly pursue[s] ethnonationalist aims” (Cederman, Wimmer and Min 2010: 101). Combining both UCDP GED and the GeoEPR (Wucherpfennig et al. 2011), we then looped over all GeoEPR groups’ settlement in Africa to identify, which acts of violence involving a rebel group did occur outside of the group’s spatial settlement.¹⁶ The resulting dummy variable which serves

¹³Proceeding in this fashion raises, however, another problem, as administrative units settled by an ethnic group in conflict can only obtain the value of 1 on the dependent variable, if there is at least one other ethnic group in conflict with the state. In a future version of this paper we will try to exclude these cases from the analysis. However, since visual inspection shows that the territory of ethnic groups in conflict with the state is to a large extent also affected by displacement, our expectations is that the exclusion of these cases from the analysis will strengthen our empirical results.

¹⁴As our IDP dataset is based on administrative units, we exclude all events which cannot be located at a level below or equal to the the first order administrative division.

¹⁵As some rebel groups in the ACD2EPR docking may be related to several ethnic groups, we had to transform the structure of the ACD2EPR dataset from a dyad-group format to a dyad format. Under the new structure, a rebel groups may be linked to multiple ethnic groups, whereby one variable is assigned to each of these groups.

¹⁶As the ethnic group settlement territory in the GeoEPR only rarely changes, we assumed that the geographical extension of an ethnic group of 2009 is similar to that of 2010 as the GeoEPR currently only extends to 2009.

as our dependent variable here takes the value of 1 for each of the first administrative unit included in our IDP dataset if there was any incidence of ethnic violence opposing a state to a rebel group, which did occur outside of the ethnic group, to which the rebel claims to fight for. In all other cases, it is coded as 0.

4.2.2 Independent variables

In order to track the spatial extent of internal displacement, we draw on our IDP dataset and code, for any given year, a first order administrative unit as affected by displacement, if IDPs have settled within its border, even if only temporarily. Thus, we created a dummy variable indicating through 1 when the administrative unit is affected by displacement and 0 if not. This, however, has one major drawback: ideally, we would have had information about the ethnic composition of an IDP influx. This would have enabled us to infer if internal displacement effectively was a cause of conflict diffusion within a country's border. However, bereft of such information, we are prevented from assessing if any instance of ethnic conflict spread may have been made possible by the settlement of IDPs, sharing the same ethnic identity as rebels fighting against the government.

4.2.3 Control variables

To control for confounding factors, we first add a control for the size of the population per first order administrative unit, as prior theory would lead us to expect that conflict is more likely in demographically larger administrative units (Fearon and Laitin 2003). We derive this information from the *Gridded Population of the World*, v3, which provides population estimates at a 2.5 arc-minute raster resolution for the world (CIESIN 2005).¹⁷ In order to compute our variable, we use the population estimates for 2000. We then aggregate the cells included in an administrative unit and take the logarithm of the population per administrative unit. In addition, we control for the level of economic development of the administrative unit. Prior expectations are two-fold. On the one hand, a comparatively richer administrative unit may be more exposed to violence

¹⁷This corresponds to about 4.6 km at the equator.

as rebels would more likely fight over wealthier areas and where resources are most abundant to be able to sustain their rebellion. As such, we would expect a richer area to be more prone to the diffusion of ethnic violence. On the other hand, one could also expect richer areas to be less likely to experience ethnic violence spread. Either due to stronger and more efficient state institutions or due to rebel labor mechanism, whereby in poorer areas, rebellion is less costly and therefore more attractive (Fearon and Laitin 2003; Collier and Hoeffler 2004a). We obtain spatial data on economic output from the *G-Econ* dataset, v 4.0 (Nordhaus 2006; Nordhaus et al. 2006). However, the resolution of the dataset, 1 degree cell,¹⁸ is problematic, as the grid cells frequently overlap the boundaries of administrative units. As such, following the method used by Cederman, Weidmann and Gleditsch (2011: 485), we compute a population-weighted grid with a 2.5 arc-minute resolution. This allows for a more precise measurement of the level of economic development within an administrative unit. We then obtain a measure of the economic development per capita by dividing the economic output of the unit by its population. In our analysis, we use the logarithm of the variable. As for the population variable, this indicator is time-invariant and is based on estimates for 2005.

Next, we add a control for the type of regime, as democracies should be less likely to witness violence due to the existence of mechanisms, which allows groups to address their grievances at the political level (2003). We rely on Vreeland’s recoding suggestion of the Polity IV dataset, as he shows that a country’s score on the original Polity IV is affected by the presence of violence (Gurr, Jagers and Moore 1989; Marshall, Jagers and Gurr 2011; Vreeland 2008a). The recoded version codes countries on a regime scale, which varies between -6 and + 7. We also add a control variable for institutionally incoherent regimes, which display both democratic and authoritarian feature. Indeed, evidence has been found in favour of the hypothesis that anocracies are more likely to experience violence, due the inherent contradiction in the institutions, which generate grievances among societies, while depriving the state from the ability to effectively repress any opposition (Fearon and Laitin 2003; Hegre et al. 2001). The *anocracy* variable is a dummy variable, which takes the value of 1 if the country is coded between -2 and 3 inclusive on the *xpolity* scale (Vreeland 2008b). Both variables are lagged to mitigate

¹⁸Or approximately 111 km at the equator.

the risk of endogeneity.

In addition, we control for the country level of economic development, as it has been found to be positively associated with a lower likelihood of political violence (Fearon and Laitin 2003; Collier and Hoeffler 2004a). We operationalize the economic development as the GDP per capita at PPP constant. Data is obtained from the World Bank’s *World Development Indicators* (2012). The variable is lagged by one year, as well as being logged.

Furthermore, since the locus of violence may be dependent on the type of conflict, we include dummy variables for governmental and territorial conflicts. Governmental conflict should be more likely to lead to the spread of ethnic violence outside of an ethnic group settlement since the ultimate goal of rebels is to overthrow government controlled areas that most likely are located outside the ethnic group settlement. By opposition, territorial conflict should remain on average confined within the ethnic group territorial borders.¹⁹ As such, we add two dummy variables which record for any given year in a country if there was any active governmental or territorial conflict. We obtain the data of conflict’s types from the UCDP onset of intrastate conflict dataset, v4-2012 (Gleditsch et al. 2002; Themnér and Wallensteen 2012). Finally, we control for previous violence, by adding a dummy variable, which codes if any violence between a rebel group and government forces has occurred in the previous year within the first order administrative unit. To code this variable, we rely on the UCDP GED point dataset. We expect this variable to capture localized breakdown in control exercised by the state, which would make violence more likely.²⁰

¹⁹UCDP defines governmental conflicts as conflict on “the type of political system, the replacement of the central government, or the change of its composition.” By opposition, territorial conflicts involve “demands for secession or autonomy” (Gleditsch et al. 2002: 619).

²⁰We also generated a variable to measure the presence of state-based violence in neighboring units, in order to control for conflict diffusion independent of IDP presence. We encounter, however, a problem of complete separation, i.e., the absence of a conflict event in a neighboring administrative unit perfectly predicts the absence of ethnically based violent event as defined above. We mention this problem when presenting our main results, and refer to Bayesian logit models reported in the appendix, which address this problem and replicate model 2 and 3 shown in the empirical section.

5 Analysis

The analysis is carried out on a restricted sample of 19 African countries, which only incorporates those affected by displacement during the 2008 to 2010 period,²¹ and included in the GeoEPR dataset.²² As previously indicated, the unit of analysis is the first order administrative unit. As such, a total of 1055 administrative unit-years are included in the empirical analysis. Regarding our dependent variable the diffusion of ethnic conflict, the dataset records only 10 such instances.²³ Clearly, ethnic violence pitting a rebel group against government forces rarely occurs outside of the boundaries of the ethnic group to which a rebel group is related to. As table 1 shows, however, whether an administrative unit is affected by IDPs considerably increases the likelihood to see a conflict event. This association between internal displacement and ethnic violence diffusion is further illustrated by the fact that a χ^2 test rejects the null hypothesis of no association ($p=0.006$).

Table 1: IDPs and conflict

	administrative unit	
	is unaffected by IDPs	is affected by IDPs
no conflict event	99.8 % (605)	98.0 % (440)
conflict event	0.2 % (1)	2.0 % (9)
total	606	449

²¹We exclude African countries unaffected by displacement from the analysis due to the fact that our theoretical argument applies primarily to countries affected by displacement. In addition, the inclusion of countries unaffected by conflict-induced internal displacement would make it difficult to interpret our main independent variable, which would now pool together administrative units without IDPs in countries affected by displacement with administrative units located in countries spared from conflict-induced displacement. Also, upon inspection, it appears that, out of an additional 745 administrative unit-years in countries not affected by displacement for the period under consideration (or for only some of the years), our dependent variable records only one instance of ethnic conflict diffusion (Angola). Nevertheless, Table 8, in the appendix, shows the results for Model 2 and Model 3, when one includes these countries in the sample. They in fact suggest a stronger effect of our independent variable than in the restricted sample

²²This has as consequence that one country, Somalia, which is affected by internal displacement, is excluded from the analysis as it is not included in the GeoEPR dataset.

²³These cases are located in Ethiopia, Sudan, Senegal and the Democratic Republic of Congo.

Obviously, conflict diffusion outside the settlement area of an ethnic group may also occur in countries unaffected by IDPs. Our data on these latter countries show, however, that in only one administrative unit-year out of 745 did such a conflict event occur. This implies that a more challenging baseline probability of conflict diffusion is 0.001. This probability is, however, largely similar to the one found in the first column of table 1.

5.1 Results

To test our hypothesis, we carry out a binary cross-sectional time series logistic regression with robust standard errors.²⁴ Table 2 shows our main results. Model 1 is a baseline specification, including all our control variables, but excluding the variable measuring internal displacement. It appears that the demographic size of an administrative unit has no impact on the likelihood of violence, the direction of the coefficient even contradicts our expectations. On the other hand, the level of economic development in an administrative unit is negatively and significantly associated with the spread of ethnic violence. This result would lend support for both a state strength and rebel labor market mechanism and reject the hypothesis that richer administrative units are more at risk of violence due to their strategic importance. In addition, the incidence of state based conflict in the previous year increases the likelihood of violence diffusion. This suggests that in administrative units where the state control is weakened, rebel groups may more easily carry out attacks, thereby making conflict diffusion more likely.

Regarding the country level variables, in accordance with our expectations democracies are less likely to experience the diffusion of ethnic conflict violence. Interestingly, a similar association is also found for anocracies. This, however, may be due to the fact that the distribution of the *xpolity* variable displays a heavy concentration of polities, with a score between -2 and + 3, while there are very few strong democracies and no pure autocracies within the sample. In addition, surprisingly, countries affected by territorial conflict are also more likely to have administrative units affected by violence

²⁴To prevent the recurrence of ethnic conflict diffusion within the same administrative unit from affecting our results, we drop all admin unit-years subsequent to an instance of ethnic conflict diffusion from the empirical analysis. This has for consequence that one instance of ethnic conflict is excluded: Northern Sudan, 2009.

Table 2: Logistic regression: Models 1-3

	<i>Ethnic violence diffusion</i>		
	Baseline Model 1	Full Model 2	Conservative coding Model 3
<i>First order admin unit</i>			
Internal displacement		2.155 (1.360)	2.373** (1.120)
Population (log)	-0.376 (0.391)	-0.395 (0.434)	-0.144 (0.490)
Income pc (log)	-5.186*** (1.076)	-4.477*** (1.042)	-5.553*** (1.321)
Conflict in previous year	3.267*** (0.681)	2.749*** (0.713)	3.300*** (0.807)
<i>Country</i>			
Xpolity (lagged)	-0.422*** (0.160)	-0.483*** (0.122)	-0.355** (0.173)
Anocracy (lagged)	-5.276*** (1.174)	-6.123*** (1.645)	-5.148*** (1.720)
GDP pc (log, lagged)	4.207*** (1.037)	4.100*** (1.171)	4.381*** (1.367)
Territorial conflict	7.103*** (1.845)	7.607*** (1.966)	7.730*** (1.953)
Governmental conflict	0.636 (0.647)	0.656 (0.681)	0.127 (0.555)
Intercept	-24.823*** (4.049)	-25.251*** (4.745)	-30.614*** (7.984)
Observations	957	957	957
Log likelihood	-29.817	-27.772	-26.914
Akaike Inf. Crit.	77.634	75.545	73.828

Note:

*p<0.1; **p<0.05; ***p<0.01

diffusion, while we would have expected the reverse. This, however, may be the result of an artefact of the data, as only two countries (Ethiopia and the Democratic Republic of Congo) experience a secessionist conflict for the period under consideration and happen to also host instances of ethnic conflict diffusion. Finally, against our prior expectations, the GDP per capita at the national level is positively associated with the diffusion of ethnic violence. This is probably also the consequence of the properties of our sample, which contains a high number of poverty stricken sub-Saharan states, while incorporating only few relatively richer countries, among which, Ethiopia may be an influential outlier, due to the number of active insurgencies in the country periphery.

In Model 2, we add our principal independent variable, *internal displacement*, which records for any given year if IDPs were present within a first order administrative unit. Yet, despite the fact that the direction of the coefficient is consistent with our hypothesis, it is not significant ($p=0.113$). These results suggest that administrative units affected by internal displacement are more likely to experience ethnic violence diffusion than those that are not affected by displacement, but this difference may be due to chance. Yet, since the cases coded positively for internal displacement contain a non-marginal share of administrative units (about 20% or 78 cases), which suffer from a partial overlap with the maps provided by *IDMC*, one should be careful not to outrightly reject a potential association between internal displacement and ethnic violence diffusion. When it comes to the control variables, the inclusion of the *internal displacement* variable does not have any substantial effect on any of them.

Finally, in model 3, we attempt to account for the previous remark and recode our *internal displacement* variable using a more conservative rule. This new version of the variable codes as unaffected by displacement all administrative units, for which the precision of the coding may be suspicious. Indeed, as previously mentioned, some of the administrative unit provided by the GAUL dataset did not squarely fit within the maps provided by *IDMC*. The resulting dataset now has only 7 cases of ethnic violence diffusion occurring within administrative units where IDPs are present, against 9 in the previous model. As a consequence of the modification, the *internal displacement* variable is now significant at the 5% level ($p=0.034$). As such, it appears that a more conservative coding of the variable lends support to our hypothesis that administrative units affected by

displacement are more likely to experience the spread of ethnic violence. In substantive terms, we find that an administrative unit affected by IDPs has a probability of 0.026 percent point higher ($\text{Pr}=0.0003$) to see a conflict diffusion than a unit that is not affected by IDPs ($\text{Pr}=0.00004$), keeping all variables constant at their sample means, respectively modal values. Although the likelihood of ethnic diffusion is very low, it remains that the presence of IDPs results in a seven fold increase in the risk of conflict diffusion. It should also be mentioned that none of the other variables are meaningfully affected by the modification of our main independent variable.

Nonetheless, the evidence found in Model 3 in favor of our hypothesis should be taken with precaution as we cannot reject the absence of an association between internal displacement and ethnic conflict diffusion in Model 2. Moreover, the relative small number of instances of diffusion of ethnic violence (only 10 such cases are recorded) may artificially increase the prospect for causal inference. Also, as mentioned earlier, the quality of the data is relatively low, which may have biased our empirical results.

To investigate the predictive power of Model 3, we calculated a receiver operator characteristic (ROC) plot, which compares the correctly and falsely predicted positive outcomes of whether an administrative unit experiences conflict. The baseline model, which excludes, the *internal displacement* variable has already a high predictive power of 86.8% . The addition of this latter variable, nevertheless, still substantially improves the rate of correctly predicted outcomes. The area below the ROC curve increases to 97.4%.

5.2 Sensitivity analysis

To check the robustness of our results for Model 3, we carried our three rounds of robustness checks. The results of the sensitivity analysis are shown in Table 3.²⁵ First, in Model 4, we acknowledge the multilevel structure of our dataset, whereby administrative units are nested within countries, and carry out logistic regression with country random intercepts. The sensitivity analysis leads us to retain our hypothesis.

²⁵Tables 6 and 7 in the appendix show similar robustness checks for Model 2. Since the *internal displacement* variable is not significant in this model, we do not discuss the results of the sensitivity analysis for the model in the present section.

Table 3: Sensitivity analysis

	<i>Ethnic violence diffusion</i>		
	random effects	rare-event	without non-spatial IDPs
	Model 4	Model 5	Model 6
<i>First order admin unit</i>			
Internal displacement	2.374** (1.103)	1.646 (1.103)	2.552** (1.051)
Population (log)	-0.144 (0.374)	-0.211 (0.374)	-0.169 (0.422)
Income pc (log)	-5.553** (2.441)	-3.264 (2.441)	-5.190*** (1.099)
Conflict in previous year	3.300*** (1.008)	2.730*** (1.008)	3.409*** (0.824)
<i>Country</i>			
Xpolity (lagged)	-0.355 (0.385)	-0.407 (0.385)	-0.063 (0.228)
Anocracy (lagged)	-5.148* (2.727)	-4.582* (2.727)	-3.226** (1.355)
GDP pc (log, lagged)	4.381** (1.994)	2.730 (1.994)	3.044*** (0.851)
Territorial conflict	7.730*** (2.540)	5.785** (2.540)	5.775*** (1.439)
Governmental conflict	0.127 (0.959)	-0.195 (0.959)	0.018 (0.595)
Intercept	-30.613** (12.721)	-17.555 (12.721)	-21.912*** (6.819)
Observations	957	957	879
Log likelihood	-26.91	-26.914	-26.073
Akaike Inf. Crit.	75.83	73.828	72.145

Note:

*p<0.1; **p<0.05; ***p<0.01

In fact, the association between the presence of IDPs within an administrative unit and the diffusion of ethnic violence remains nearly unchanged but becomes statistically significant ($p=0.031$). Next for Model 5, we rerun Model 3, but we employ a rare event logit (Imai, King and Lau 2007). Our *internal displacement* variable is, however, not robust when considering this estimation strategy, as the coefficient fails to achieve the 1% statistical significance level ($p=0.136$). In fact, it appears that the use of a rare event logit impacts much of the model as several variables are no longer associated with the spread of ethnic conflict (the economic development of administrative units, the level of democracy and the national GDP per capita). Finally, in Model 6, we exclude from the regression sample all countries for which no spatially disaggregated information were provided in the *IDMC* maps. The restricted sample now covers 890 first order administrative units, clustered over 15 countries.²⁶ Our results for the conservative version of the *internal displacement* variable are robust to this alternative specification of the model. In addition, we also attempted to control in these models for spatial diffusion of conflict events by adding a spatial lag of this variable. As mentioned above, this variable generates a problem of complete separation. Following Gelman and Hill (2006), we estimate a Bayesian Logit model, which allows addressing this problem. Table 5 in the appendix shows that the association between internal displacement and the spread of ethnic conflict remains also robust to this specification.

In conclusion, the sensitivity analysis reinforces, albeit in a limited way, the confidence in the results we obtain for Model 3 concerning the higher risk of ethnic violence diffusion in administrative units affected by conflict-induced displacement.

6 Conclusion

In conclusion, internally displaced persons (IDPs) seem to play a substantial role in the spread of conflict within state borders. Although our results show only for administrative regions that are completely covered by IDPs a significant effect, they still suggest that administrative regions affected by conflict-induced displacement can increase the risk of state-based ethnic diffusion incidences. Moreover, despite some drawbacks, our newly

²⁶Rwanda and Burundi are the two countries excluded from the analysis.

collected *Global Internal Displacement Pattern (G-IDP)* dataset, presents a first dataset on the geographical location of IDPs that enables us to make inferences about the effect of IDPs on conflict spread.

Recent literature so far has only focused on refugees and the mechanism linking them to conflict while leaving out IDPs. The reason being that differentiating IDPs from the general local civilian population has been debated and that there is data shortages on the former. However, as IDPs can change the ethnic composition of administrative regions, transport arms, thus providing opportunity mechanism for mobilization, they can play a significant role in the conflict dynamic and, thus, should be considered as a separate category. Particularly also because of their unique needs and vulnerability which makes them more susceptible to security risks in general. Thus, similar mechanisms for linking conflict to refugees seem to apply to IDPs, although IDPs find themselves in particularly precarious situations, especially when IDPs stand in opposition to the government as they are the ones who should protect them, such can be currently seen in Somalia and also was the case in Darfur. Moreover no international aid organization is mandated with the protection of IDPs and thus, IDPs face severe protection gaps and, therefore, also might be more willing to engage in violence to change their situation which leads to a spiral of conflict.

Until now, our analysis has been limited to state-based incidences, but we hope in the future to extent the analysis also to other types of conflict, as well to other world regions to see if our results also hold true for other types of conflict and regions. Ideally, we would also include information of the ethnic composition of IDPs as well the total concentration level per administrative region. Despite the current drawbacks of our data and analysis, we hope to have shown that internally displaced persons should receive more attention by conflict researchers and policy-makers alike to understand better the link between IDPs and conflict and, thus, be able to hinder its spread.

7 Appendix

In this appendix we present descriptive statistics of the variables used in our main analyses for Table 2. Table 5 shows the results of Model 3, when we run a Bayesian Logit model which addresses the problem of complete separation created by the spatial lag of the conflict event variable. Then, in tables 6 and 7, we report the results of the sensitivity analysis for model 2. Finally, Table 8 shows the outcome of the analyses for Models 2 and 3 when unaffected countries are added to the analysis.

Table 4: Summary statistics

Statistic	N	Mean	St. Dev.	Min	Max
Ethnic violence diffusion	1,055	0.009	0.097	0	1
Internal displacement	1,055	0.426	0.495	0	1
Income pc (log)	1,046	0.980	0.565	0.011	3.197
Population (log)	1,055	13.232	1.239	9.220	16.893
Conflict in previous year	1,055	0.147	0.354	0	1
Conflict in neighboring adm. unit	1,055	0.398	0.490	0	1
Xpolity (lagged)	998	0.963	2.776	-3	6
Anocracy (lagged)	998	0.653	0.476	0	1
GDP pc (log, lagged)	1,025	7.278	0.844	5.682	8.913
Territorial conflict	1,055	0.042	0.200	0	1
Governmental conflict	1,055	0.577	0.494	0	1

Table 5: bayesian logit for Model 3

	<i>Ethnic violence diffusion</i>		
	b	95% credible interval	
<i>First order admin unit</i>			
Internal displacement	2.395	0.539	4.097
Population (log)	-0.048	1.018	0.571
Income pc (log)	-6.188	-13.532	0.608
Conflict in previous year	3.099	0.667	6.193
Conflict in neighboring adm. unit	359.264	18.644	660.534
<i>Country</i>			
Xpolity (lagged)	-0.753	-2.089	0.264
Anocracy (lagged)	-7.183	-13.921	-0.417
GDP pc (log, lagged)	4.558	0.534	9.914
Territorial conflict	8.487	4.541	13.988
Governmental conflict	-0.649	-3.882	2.290
Intercept	-390.637	682.647	-50.733
Observations		957	

10000 burnin, 10000 mcmc, thinned by 10

Table 6: Sensitivity analysis for Model 2

	<i>Ethnic violence diffusion</i>		
	random effects	rare-event	without non-spatial IDPs
<i>First order admin unit</i>			
Internal displacement	2.155* (1.219)	1.622 (1.219)	2.257 (1.382)
Population (log)	-0.395 (0.350)	-0.380 (0.351)	-0.409 (0.416)
Income pc (log)	-4.47** (2.03)	-3.071 (2.039)	-4.004*** (1.029)
Conflict in previous year	2.749*** (0.952)	2.340** (0.952)	2.780*** (0.718)
<i>Country</i>			
Xpolity (lagged)	-0.483 (0.308)	-0.430 (0.308)	-0.308** (0.136)
Anocracy (lagged)	-6.124* (2.587)	-5.084** (2.587)	-4.888*** (1.235)
GDP pc (log, lagged)	4.100** (1.899)	2.849 (1.899)	3.065*** (1.001)
Territorial conflict	7.608*** (2.538)	5.914** (2.538)	6.196*** (1.759)
Governmental conflict	0.656 (0.870)	0.279 (0.870)	0.579 (0.689)
Intercept	-25.252** (11.181)	-16.214 (11.181)	-18.527*** (3.646)
Observations	957	957	879
Log likelihood	-27.77	-27.772	-27.243
Akaike Inf. Crit.	77.54	75.545	74.486

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 7: bayesian logit for Model 2

	<i>Ethnic violence diffusion</i>		
	(b)	95% credible interval	
<i>First order admin unit</i>			
Internal displacement	2.924	-0.131	5.801
Population (log)	-0.525	-1.202	0.230
Income pc (log)	-4.585	-10.065	0.025
Conflict in previous year	2.590	0.495	4.594
Conflict in neighboring adm. unit	379.183	46.563	672.011
<i>Country</i>			
Xpolity (lagged)	-1.145	-2.170	-0.064
Anocracy (lagged)	-9.768	-17.694	-3.721
GDP pc (log, lagged)	4.189	1.306	7.433
Territorial conflict	8.532	4.560	13.049
Governmental conflict	-0.366	-2.980	2.43
Intercept	-400.682	-697.588	-62.939
Observations		957	

10000 burnin, 10000 mcmc, thinned by 10

Table 8: Logit regression with all African countries

	<i>Ethnic violence diffusion</i>	
	Model 2	Model 3
<i>First order admin unit</i>		
Internal displacement	2.725* (1.559)	3.093*** (1.153)
Population (log)	-0.297 (0.290)	0.005 (0.343)
Income pc (log)	-4.441*** (0.892)	-5.853*** (1.459)
Conflict in previous year	3.038*** (0.800)	3.747*** (0.927)
<i>Country</i>		
Xpolity (lagged)	-0.214 (0.206)	-0.083 (0.241)
Anocracy (lagged)	-4.085** (1.799)	-3.287** (1.322)
GDP pc (log, lagged)	3.098*** (0.930)	3.770*** (1.210)
Territorial conflict	6.269*** (1.304)	6.862*** (1.405)
Governmental conflict	1.008 (0.735)	0.284 (0.626)
Intercept	-21.716*** (7.967)	-30.379*** (10.476)
Observations	1,800	1,800
Log likelihood	-30.271	-28.655
Akaike Inf. Crit.	80.543	77.310
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

References

- Achvarina, Vera and Simon F. Reich. 2006. "No place to Hide: Refugees, Displaced Persons and Recruitment of Child Soldiers." *International Security* 31(1):127–164.
- Aspa, Jose Maria Royo. 2011. "The economic relationship of armed groups with displaced population." *Forced migration review* pp. 17–18.
- Bohnet, Heidrun. 2012. "Concentrated refugee settlements and conflict." Paper prepared for the Second Annual General Conference of the European Political Science Association (EPSA) in Berlin June 21-23, 2012.
- Buhaug, Halvard. 2010. "Dude, Where's My Conflict? LSG, Relative Strength, and the Location of Civil War." *Conflict Management and Peace Science* 27(2):107–128.
- Cederman, Lars-Erik, Andreas Wimmer and Brian Min. 2010. "Why Do Ethnic Groups Rebel? New Data and Analysis." *World Politics* 62(1):87–119.
- Cederman, Lars-Erik, Nils B. Weidmann and Kristian Skrede Gleditsch. 2011. "Horizontal Inequalities and Ethno-Nationalist Civil War : A Global Comparison." *American Political Science Review* 105(3):478–495.
- CIESIN. 2005. "Gridded Population of the World, Version 3 (GPWv3): Population Count Grid." NASA Socioeconomic Data and Applications Center (SEDAC).
- Cohen, Roberta and Francis M. Deng. 1998. *Masses in Flight: The Global Crisis of Internal Displacement*. Brooking Institution Press.
- Collier, Paul and Anke Hoeffler. 2004a. "Greed and Grievance in Civil War." *Oxford Economic Papers* 56(4):563–595.
- Collier, Paul and Anke Hoeffler. 2004b. "Greed and Grievance in Civil Wars." *Oxford Economic Papers* 56:563–595.
- FAO. 2008. "Global Administrative Unit Layers (GAUL)." <http://www.fao.org/geonetwork/srv/en/metadata.show?id=12691>.

- Fearon, James. 2004. "Separatist Wars, Partition, and World Order." *Security Studies* 13(2):394–415.
- Fearon, James and David Laitin. 2003. "Ethnicity, Insurgency and Civil War." *American Political Science Review* 97(1):75–90.
- Ferris, Elizabeth. 2007. "Security, Displacement and Iraq: A Deadly Combination." Paper prepared within the Brookings-Bern Project on Internal Displacement.
- Gelman, Andrew and Jennifer Hill. 2006. *Data Analysis Using Regression and Multi-level/Hierarchical Models*. New York: Cambridge University Press.
- Gleditsch, Nils Petter, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg and Havard Strand. 2002. "Armed Conflict 1946-2001: A New Dataset." *Journal of Peace Research* 39(5):615–637.
- Gurr, Ted, Keith Jagers and Will Moore. 1989. "Polity II codebook." Unpublished Working Paper.
- Hegre, Håvard, Tanja Ellingsen, Scott Gates and Nils Petter Gleditsch. 2001. "Towards a Democratic Civil Peace? Democracy, Political Change, and Civil War, 1816-1992." *American Political Science Review* 95(1):33–48.
- IDMC. 2010. "Internal Displacement: Global overview of trends and developments in 2009." IDMC: Geneva.
- IDMC. 2012. "Global overview 2011: people internally displaced by conflict and violence." IDMC: Geneva.
- Imai, Kosuke, Gary King and Oliva Lau. 2007. relogit: Rare Events Logistic Regression for Dichotomous Dependent Variables. In *Zelig: Everyone's Statistical Software*, ed. Kosuke Imai, Gary King and Oliva Lau. <http://gking.harvard.edu/zelig>.
- Kahn, Clea. 2008. "Conflict, Arms, and Militarization: The Dynamics of Darfur's IDP Camps." Paper prepared within the Sudan Human Security Baseline Assessment Project.

- Lischer, Sarah Kenyon. 2005. *Dangerous sanctuaries: refugee camps, civil war and the dilemmas of humanitarian aid*. Ithaca, NY: Cornell University Press 2005.
- Lischer, Sarah Kenyon. 2008. "Security and Displacement in Iraq." *International Security* 33(2):95–119.
- Marshall, Monty, Keith Jagers and Ted Gurr. 2011. *Polity IV Project: Dataset Users' Manual*.
- Melander, Erik and Ralph Sundberg. 2011. Climate change, environmental stress, and violent conflict - Test introducing the UCDP Georeferenced Event Dataset. Paper presented at the International Studies Association, March 16-19, Montreal, Canada.
- Mooney, Erin. 2005. "The concept of internal displacement and the case for internally displaced persons as a category of concern." *Refugee Survey Quarterly* 24(3):9–26.
- Muggah, Robert. 2006a. Protection failures: outward and inward militarization of refugee settlements and IDP camps in Uganda. In *No Refuge: The crisis of refugee militarization in Africa*, ed. Robert Muggah. Zed Books.
- Muggah, Robert. 2010. *Human Security and Non-Citizens*. Cambridge University Press.
- Muggah, Robert, ed. 2006b. *No Refuge: The crisis of refugee militarization in Africa*. Zed Books.
- Nordhaus, William D. 2006. "Geography and Macroeconomics: New Data and New Findings." *Proceedings of the National Academy of Science* 103(10):3510–3517.
- Nordhaus, William D., Qazi Azam, David Corderi, Kyle Hood, Makarova Nadejda Victor, Muhktar Mohammed, Miltner Alexandra and Jyldyz Weiss. 2006. "The G-Econ Database on Gridded Output: Methods and Data." Yale University. Unpublished paper.
- Rüegger, Seraina. 2012. "Refugees, transnational ethnic linkages and civil conflict." Paper prepared for presentation at the ISA Annual Meeting, San Diego, USA, April 1-4, 2012.

- Rüegger, Seraina. 2013. "Uninvited Guests: Transnational Rebels and Refugees." Unpublished working paper.
- Rüegger, Seraina and Heidrun Bohnet. 2011. "Refugees, Conflict and Ethnic Power Relations." Paper prepared for the annual meeting of the American Political Science Association, Seattle, 1 – 4 September 2011.
- Salehyan, Idean. 2007. "Transnational Rebels: Neighbouring States as Sanctuary for Rebel Groups." *World Politics* 59:217–242.
- Salehyan, Idean and Kristian Skrede Gleditsch. 2006. "Refugee and the spread of civil war." *International Organization* 60(2):335–366.
- Sambanis, Nicholas. 2008. "What is Ethnic War?: Organization and Interest in Insurgency." Unpublished Working Paper.
- Sundberg, Ralph, Mathilda Lindgren and Ausra Pads kocimaite. 2012. "UCDP GED Codebook version 1.0-2011." Department of peace and conflict research, Uppsala University.
- Themnér, Lotta and Peter Wallensteen. 2012. "Armed Conflict, 1946-2011." *Journal of Peace Research* 49(4):565–575.
- Toft, Monica Duffy. 2003. *The geography of ethnic violence: identity, interest, and the indivisibility of territory*. Princeton University Press.
- UNHCR. 2012. "A Year of crisis: UNHCR Global trend 2011." UNHCR: Geneva.
- Vreeland, James Raymond. 2008a. "The Effect of Political Regime on Civil War: Unpacking Anocracy." *Journal of Conflict Resolution* 52(3):401–425.
- Vreeland, James Raymond. 2008b. "The Effect of Political Regime on Civil War: Unpacking Anocracy – The Web Appendix." *Journal of Conflict Resolution* 52(3):401–425.

- Weidmann, Nils. 2007. "Geographic Group Fragmentation and Civil Peace." Paper prepared for GROW-Net conference at the University of Essex, November 24-25, 2007.
- Weidmann, Nils. 2009. "Geography as Motivation and Opportunity: Group Concentration and Ethnic Conflict." *Journal of Conflict Resolution* 53(4):526–543.
- Weinstein, Jeremy M. 2005. "Resources and the Information Problem in Rebel Recruitment." *Journal of Conflict Resolution* 49(4):598–624.
- World Bank. 2012. "World Development Indicators." World Development Indicators Online (WDI) database.
- Wucherpfennig, Julian, Nils Metternich, Lars-Erik Cederman and Kristian Skrede Gleditsch. 2012. "Ethnicity, the state and the duration of civil war." *World Politics* 64(1):79–115.
- Wucherpfennig, Julian, Nils Weidmann, Luc Girardin, Lars-Erik Cederman and Andreas Wimmer. 2011. "Politically Relevant Ethnic Groups across Space and Time: Introducing the GeoEPR Dataset." *Conflict Management and Peace Science* XX(X)(1–15).