Examining Forced Displacement beyond Violence: The Effect of Violence and Control of Armed Actors in Colombia[*]

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Abstract

This paper examines the effect of conflict on internal migration. We uncover the mechanisms through which the presence of non-state armed actors cause migration: direct exposure to violence, uncertainty and fear, and the non-state armed actor exercise of control over the community. We use panel data for households in Colombia before and after migration and exploit the variation in the incidence of community violence and control of non-state armed actors within municipalities. The results show that households are willing to trade reductions in per capita consumption for improvements in security conditions. Direct victims of violence migrate to urban areas, while individuals living in communities with high control of armed groups are less likely to migrate within their municipalities. Stayers are presumably better able to cope with conflict induced risks by negotiating their daily lives with armed actors, adjusting their behavior to abide by the rules they impose, changing their economic behavior, or forming alliances in exchange for protection and economic and political benefits.

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1. Introduction

The rising incidence of internal wars during the last decades increased the number of internally displaced persons worldwide to 38 million in 2014[1], 15 percent more than in 2013 and near five percent of the total stock of internal migrants[2]. Migration is a coping strategy during wars. People migrate to prevent victimization, to mitigate the declining economic conditions caused by conflict, or after aggressions by armed groups (Lindley 2010; Justino 2011; Zetter, Purdekova et al. 2013; Ibáñez 2014).

Empirical evidence on the causes of internal displacement shows violence is the main driver of migration (Gottschang 1987; Morrison and May 1994; Engel and Ibáñez 2007; Czaika and Kis-Katos 2009; Lozano-Gracia, Piras et al. 2010; Bohra-Mishra and Massey 2011). These studies also find that people are not defenseless victims, but active agents that make decisions based on a benefit-cost analysis of staying or migrating. The results of these studies illustrate how households are willing to trade reductions in income for improved security conditions after migration (Morrison and May 1994; Engel and Ibáñez 2007; Ibáñez and Vélez 2008; Lozano-Gracia, Piras et al. 2010; Bohra-Mishra and Massey 2011; Williams 2013).

These papers ignore however that violence is only one of the many dimensions of conflict that shape the decision to migrate. Some households decide to migrate in spite of not being direct victims of conflict and experiencing sharp drops in welfare after migrating, while other households stay in regions with intense violence (Engel and Ibáñez 2007). Stayers are presumably better able to cope with the risks imposed by conflict, facing thus a lower risk of victimization and a lower likelihood of migrating (Steele 2009). In addition, some groups of the population stay because they face migration constraints or high opportunity costs (Lucas 1997; Du, Park et al. 2005; Bazzi 2013; Brauw 2014; Bryan, Chowdhury et al. 2015).

The risk of victimization depends on strategies adopted by civilians and their interactions with armed groups. Households interact strategically with armed groups to negotiate their daily lives (Lindley 2010; Wood 2010) and adjust their behavior to abide by

[1] http://www.internal-displacement.org/ retrieved on August 20th 2015

[2] Lucas (2015) estimates the total number of internal migrants is 762 million. Lucas, R. (2015). Internal Migration in Developing Economies: An Overview. Washington DC.

the rules imposed by the hegemonic armed group (Kalyvas 1999; Steele 2009). Other households withdraw to their private lives to become less visible (Korf 2004; Lindley 2010), changing also their economic behavior by curtailing visible investments, increasing idle land and retrieving from markets (Deininger 2003; Bozzoli and Brück 2009; Verpoorten 2009). Yet others form alliances with armed groups to receive protection and in some cases to extract economic and political benefits (Korf 2004; Kalyvas and Kocher 2007; Steele 2009; Zetter, Purdekova et al. 2013).

The objective of this paper is to examine how the dynamics of conflict shape the decisions of households to migrate or to stay in conflict regions. In particular, we uncover some of the causal mechanisms through which the presence of armed groups and their control over the civilian population affect migration decisions. We first identify whether armed groups selectively target some groups of the population and whether this selective targeting causes migration. Secondly, we study how uncertainty, measured by violent shocks at the community level, may cause migration, presumably to prevent future aggressions. Third, we explore whether the control of armed groups in the community may reduce migration by imposing governance rules that reduce uncertainty, or forming alliances with some groups of the population.

We use a unique panel of household surveys in Colombia that tracks migrants before and after migration. Besides standard household socio-economic information, the survey contains detailed information on direct exposure to violence and the incidence of violent shocks at the community level. We complement the panel survey with qualitative and quantitative evidence on historical presence of conflict and non-state armed actors, as well as the extent of their control on local communities. This data was collected at the community level, based on a methodology developed by Arjona (2016), and provides a rich description on the different dimensions of conflict that affect the decision to migrate of households besides violence.

Our findings show that conflict shapes the decision of households to migrate. Direct victimization is associated with a higher likelihood of migration, whereas migration is lower in communities with strong control of non-state armed actors. We postulate that a stronger control of non-state armed actors in a region may reduce temporarily uncertainty of the civilian population, leading to lower migration rates(Justino 2009). The

heterogeneous effects suggest potential alliances with non-state armed actors, deliberate targeting beyond direct physical victimization or financial constraints to migration are also related to the decision to migrate.

Stayers in regions with low control from non-state armed actors seem to be mostly concentrated on the extremes of the wealth distribution. Notably, the heterogeneous effects show people with financial and economic constraints or households with high opportunity costs decide to stay in conflict regions despite the risks of facing future aggressions.

Forced internal displacement exerts a heavy toll on migrants and host communities. Forced migrants flee in distress, leaving behind assets and their social networks (Ibáñez and Moya 2010a; Ibáñez and Moya 2010b). In the receiving destinations, their insertion in the labor markets is slow, which paired with the previous asset losses, causes a steep decline in their income and produce poverty traps for some households (Kondylis 2010; Ibáñez and Moya 2010a; Ibáñez and Moya 2010b; Bozzoli, Bruck et al. 2013). The violence internally displaced persons (IDP) endure before migration produces sequels of post-traumatic stress, impairing in some cases their income generating capacity (Moya 2013; Carter and Moya 2014). However, some households may see their economic conditions improved (Kondylis 2010; Ruiz and Vargas-Silva 2013). Host destinations also face short-term negative consequences. Large inflows of IDP cause a decline in employment and wages as well as worsening health conditions (Baez 2011; Calderón and Ibáñez 2015).

Understanding how conflict shapes migration beyond direct exposure to violence is crucial to craft post-conflict policies that reduce the negative impacts of internal displacement, allow migrants to better settle in destination cities or their hometowns after the war ends, and assist stayers in conflict regions. First, the paper shows conflict produces a redistribution of the population along economic and political dimensions. We find that stayers in conflict regions were better able to cope with the risks of violence or stayed because of sheer necessity and strong migration constraints. The former group may have also extracted some economic and political benefits from conflict and might more easily reap-off the benefits of post-conflict, while the latter might face extreme conditions of vulnerability. Post-conflict policies should prioritize investments in the latter groups to overcome the initial conditions that prevented them from migrating.

Second, the paper identifies who decides to migrate and how conflict interacts with economic conditions to shape migration, providing valuable information to design return policies for internally displaced persons. Return is seldom an option. By 2012 only 3.2 percent of internally displaced migrants had returned to their hometown (Ibáñez 2014). Many forced migrants might be unwilling to return to the location where they previously faced overt human rights violations or where conflict and violence are still ongoing menaces. Others might not return because they lack the appropriate policies or incentives to do so. The paper shows that providing access to formal land tenure and economic opportunities, reducing uncertainty, and supporting the insertion of these households into local organizations may prompt the return of some internally displaced persons.

The structure of the remainder of the paper is as follow. The next section briefly describes the conflict in Colombia as well as the causes and consequences of forced migration. Section three describes the data and the empirical strategy. In section four, we describe the results and in section five we conclude.

2. Migration and conflict in Colombia

The current conflict in Colombia started in 1964 with the emergence of two left-wing guerrilla groups aiming to seize power, the *Fuerzas Armadas Revolucionarias de Colombia* (FARC for its acronym in Spanish) and the *Ejército de Liberación Nacional* (ELN for its acronym in Spanish). In later years, additional guerrilla groups were created. Rural poverty, unequal resource distribution and rural grievances fed the guerrillas' discourse. During the first decades, their operations were restricted to isolated rural regions of the country and sporadic attacks against government troops (Echeverry, Navas et al. 2001).

In the eighties, guerrillas expanded from peripheral areas of the country to wealthier ones (González 2014). The shift in strategy aimed to increase monetary resources in order to fund war activities by resorting to the kidnapping and extortion of land-owners. Illicit crop cultivation in later years provided additional monetary resources and further strengthened the warring capacity of the guerrilla groups. By the end of the 80s, paramilitary and vigilante groups appeared in several regions of the country to fight

guerrillas and defend large land-owners, drug-dealers, and in some cases medium and small land-owners.

Stronger guerrilla groups, illicit drug money, and the emergence of paramilitary groups fueled the conflict from the 90s onward. The presence of non-state armed actors expanded to several regions of the Colombian territory and aggressions against the civil population heightened. The number of victims between 1985 and 2015, according to official registries, is a little more than 7.3 million people (15.1% of the Colombian population)[3]. Selective homicides of community leaders, union members, and human rights activists as well as massacres were recurrent strategies used by non-state armed groups to control the territory and the population. Approximately 220,000 people died: 81.5 percent were civilians, 150,000 of deaths were selective homicides and 11,700 died in 1,982 massacres (GMH 2013). In addition, 27,000 people were kidnapped, 25,000 people were abducted, near 10,200 were maimed or killed by landmines, and more than 1,700 were victims of sexual violence (GMH 2013).

Forced displacement was an additional strategy non-state armed actors used to terrorize the population, weaken the support to the opponent group, prevent civil resistance, and seize valuable assets (Henao 1998; Ibáñez and Vélez 2008; Velásquez 2008; Reyes 2009). The number of internally displaced persons for the period between 1985 and 2015 is 6.9 million people[4], the second highest figure worldwide after Syria. Internal displacement was not restricted to isolated regions of the country: 90 percent of the Colombian municipalities were affected as origin location, as destination or both.

Forced displacement was not random. First, non-state armed actors deliberately targeted land-owners, community leaders and political actors (Henao 1998; Lozano and Osorio 1999; Engel and Ibáñez 2007; Steele 2011; Balcells and Steele 2012). Second, some civilians strategically interacted with non-state armed groups to minimize their risk of victimization. Steele (2009) finds that in the Urabá region people decided to stay due to their alliances with the dominant group or decided to stop supporting the rival group in

[3] http://rni.unidadvictimas.gov.co/?q=node/107 retrieved on 7th of September 2015.

[4] The official number of internally displaced persons for Colombia comes from http://rni.unidadvictimas.gov.co/?q=node/107 retrieved on the 7th of September of 2015. The worldwide numbers of internally displaced persons comes from http://www.internal-displacement.org/ retrieved on August 20th 2015.

order to stay in the region. Third, although violence was the dominant factor on the displacement decision, economic dimensions also played a role. Internally displaced persons faced lower opportunity costs from migrating: they were small land-owners, with lower access to state provided services, were younger and lived in regions isolated from economic markets, with more unsatisfied basic needs and less state presence (Engel and Ibáñez 2007; Lozano-Gracia, Piras et al. 2010).

The intensity of the conflict decreased significantly from 2002 onwards. The Colombian government invested massive resources to strengthen the capacity of its armed forces. Government forces exerted major military blows to guerrilla groups and pushed them back to their traditional and isolated strongholds. A peace process with paramilitary groups led in 2006 to 38 collective demobilizations of more than 31,700 combatants (Valencia 2007). Lastly, on-going peace talks between the government and FARC started on September of 2012. Violence dropped sharply after the adoption of FARC of three unilateral cease fires since the negotiation started.

Violence against civilians and the ensuing forced migration prevails in some regions, albeit at significantly lower rates. Current operations of illegal drug-traffickers, former paramilitary members that mutated into criminal bands and guerrilla groups, have led to the forced migration of almost 661.000 persons between 2012 and 2014[5].

A successful negotiation between the Government and FARC will presumably improve security conditions in many regions of the country, spurring the return of some groups of internally displaced persons. The recent decline in violence and the state control of previous strongholds of non-state armed groups have produced some scattered collective returns (Econometría 2008). Nevertheless, surveys to internally displaced persons find that only 11 percent of households are willing to return, mostly land-owners, previous agricultural workers, and people with dense social networks. Vulnerable groups and direct victims of violence are less inclined to return (Arias, Ibáñez et al. 2014).

3. Empirical strategy

[5] http://rni.unidadvictimas.gov.co/?q=node/107 retrieved on the 7th of September of 2015.

The purpose of this paper is to identify how conflict shapes the decision of people to migrate from or stay in conflict regions. We identify three channels through which conflict impacts the migration decision: direct victimization, uncertainty, and the extent of control of armed groups. We first test whether direct victimization is targeted to particular groups of the population and we estimate the impact of direct exposure to violence on the decision to migrate. Second, we gauge whether uncertainty, measured as the incidence of violence in the community, push households to migrate preventively. Lastly, we identify how the extent of control of non-state armed actors on a community shapes the decisions to migrate, and whether this effect is mediated by the perceptions of uncertainty.

3.1. Data

We use longitudinal household data that tracks migrants before and after migration, and was purposively designed to understand the impacts of conflict on household economic conditions and behavior. We conducted the Colombian Longitudinal Survey of Universidad de los Andes (ELCA for its Spanish acronym) in 2010 and 2013 among 4,555 rural households. The 2010 sample covers four regions, 17 municipalities and 224 rural communities. We selected regions and municipalities within them to maximize variation in conflict intensity. Two regions had a high intensity of conflict (Middle-Atlantic and Central East) and two experienced low intensity conflict (Cundi-Boyacense and Coffee region). Within each municipality, rural districts were chosen randomly.

In 2013, we resurveyed households and, if they had split-off or migrated, we tracked the households' core group in their new households or host communities. The core group within each household comprises of the household head, spouse and children below nine years of age in 2010 of the original household. The attrition rate was three percent. Since we followed migrants and split-offs, the sample of 2013 increased to 114 municipalities and 637 communities.

The household questionnaire contains information on household composition and characteristics of household members, employment, land tenure, asset ownership, agricultural production, consumption and participation in organizations, among others. We designed a detailed module on incidence of traditional economic shocks and direct

exposure to violence between the two waves of the survey. Each household location is geo-coded.

We applied also a community questionnaire in a focus group discussion setting to three community leaders. The purpose of the questionnaire was to collect information on public infrastructure, provision of state services, access to markets, land quality and incidence of violent events at the community level. The questionnaire also contains a detailed module on presence of armed groups, the history of conflict during the last three years, and the behavior of armed groups.

In order to gather detailed information on the extent of control of non-state armed actors and complement the household data, we collected qualitative and quantitative data at the community level based on the methodology developed by Arjona (2016). The information on the community questionnaire of the first wave allowed us to identify the communities with presence of non-state armed actors in 2010. We contacted community leaders before starting the field-work to inquire whether non-state armed actors were still present – 35 communities reported armed group presence. We visited all these communities and identified specific individuals with in-depth local knowledge to participate in key informant interviews. The interviews elicited information on the participation of non-state armed actors on the imposition of social norms, the provision of public goods and security as well as their economic, political and social influence. For each dimension, we collect yearly information for each armed group present on a range between two and five variables. We use the information collected on these interviews to build an index on the extent of control of non-state armed actors, which we describe in the next section.

We have constructed also a set of geographical variables using the coordinates of each household. The geographical variables include altitude above the sea level of the household and distance to the state capital, the nearest main road, and the nearest river. We calculated the Euclidean distances using data from IGAC[6] and the National Roads Institute (INVIAS). Also, we created a set of variables to control for weather shocks based on the daily data on rainfall collected between 1980 and 2013 in the 1,365 monitoring stations of the Institute of Hydrology, Meteorology, and Environmental Studies (IDEAM)[7]. Municipal

[6] Government institution responsible for collecting geographic information.
[7] We first calculate monthly rainfall for each station and then, using the Kriging method values, we assigned rainfall values to each household using the coordinates of each household and the monitoring stations.

characteristics come from the Economic Development Research Center (CEDE) at the Universidad de los Andes and cover the period between 1990 and 2010.

3.2. Estimation strategy

In order to identify the impact of conflict on migration decisions, we estimate the probability of a household migrating permanently between 2010 and 2013. Our identification strategy exploits the longitudinal nature of our data to observe households before and after migration, and the variation within municipalities in the incidence of community violence and control of non-state armed actors. This allows us to control for the households' initial conditions, and compare communities that share similar institutional, social and economic characteristics, yet have variation in the dynamics of conflict. In addition, we include three dimensions of conflict which are strongly correlated, reducing the unobservable variables related to conflict. Lastly we control for a rich set of households, community and geographical variables that are strongly correlated with direct exposure to violence, presence of non-state armed actors and their extent of control over the civil population.

We estimate the decision to migrate of household *i* living in community *j* in 2010 located in municipality *k* which depends on conflict dynamics $(V_{ijk}, \tilde{V}_{jk}, A_{jk})$, household (X_{ijk}) and community controls (C_{jk})

$$m_{ijk} = f(\alpha_0 + \alpha_k + \alpha_1 X_{ijk} + \alpha_2 C_{jk} + \alpha_3 V_{ijk} + \alpha_4 \tilde{V}_{jk} + \alpha_5 A_{jk} + \alpha_6 \tilde{V}_{jk} * A_{jk} + \varepsilon_{ijk})$$

where α_k are fixed effects for the municipality of origin in 2010[8]. We use overall migration and three additional outcomes to capture the impact of conflict on the distance moved during migration: (i) migration to another rural community within the municipality (henceforth within rural migration); (ii) migration to a rural community in another municipality (henceforth rural migration); and (iii) migration to an urban destination (henceforth urban migration).

The impact of conflict is captured by the coefficients $\alpha_3, \alpha_4, \alpha_5$ and α_6. V_{ijk} measures direct target of violence and is a dichotomous variable equal to one if household *i*

[8] The results are robust to including also fixed effects of destination cities for migrants.

was a direct victim of violence between 2010 and 2013. The coefficient α_3 shows the impact of direct victimization on the decision of household *i* to migrate, capturing forced migration as defined by international organizations: the decision to flee after being the victim of violence.

We proxy uncertainty with a dichotomous variable equal to one when community *j* experienced at least one violent incident between 2010 and 2013 ($\tilde{V}_{jk}$). Violent incidents include homicides, land evictions, kidnapping and threat from armed groups. Since we control for direct exposure to violence, the coefficient on the incidence of community violence captures the impact of indirect violence on the decision to migrate. People may migrate preventively in spite of not being a direct target of violence to avoid future aggressions.

A_{jk} is a vector of two dummy variables capturing the extent of control of the stronger non-state armed actor (NSAA) in the community of origin. The first dummy is equal to one when the control of NSAA is above the median of an index that measures the control of NSAA and the second is equal to one when this index is equal or below the median of control. To construct the index, we aggregate the yearly variables within each of the six dimensions of influence of each non-state armed actors (imposition of social norms, the provision of public goods, the provision of security and economic, political and social influence) and then across the six dimensions. We normalize the yearly index such that zero reflects no control and one total control of non-state armed actors on the community, and average the index for the number of years the non-state armed actors were present. A detailed description of the index is in Arjona (2016). Conflict may affect migration beyond incidence of violence. The control of non-state armed groups may reduce uncertainty by imposing rules on the population, bringing a temporary stability and performing state like functions (Kalyvas 2006; Arjona 2008; Lindley 2010). In addition, some groups of the population may form alliances to reduce their risk of victimization and in some case to extract benefits from war (Korf 2004; Kalyvas and Kocher 2007; Steele 2009; Steele 2011; Gáfaro, Ibáñez et al. 2014). The coefficient α_5 estimates the impact of the control of armed groups on the decisions to migrate, while α_6 identifies whether this impact is caused by a reduction in uncertainty.

Conflict dynamics affect widely the ELCA households: 2.6 percent of households are victims of conflict, 21.8 percent of households live in communities with at least one incidence of violence between 2010 and 2013, and 13.8 percent of the communities have presence of non-state armed actors, with an average index of control of 0.2 (Table 1). The most frequent violence incident at the community level is homicide (17.9%) followed by kidnapping (4.4%) and threats from armed groups (2.4%).

Some under-reporting might be present for direct exposure to violence and incidence of violence at the community level since this information is self-reported. In order to check whether this is the case, we calculate the percentage of direct victimization for the Colombian population using the registry of victims, and find that between 2010 and 2013 the number of direct victims of conflict in Colombia was 911.927, equivalent to 1.9 percent of the population[9]. Victimization rates are higher for ELCA regions, yet this is not surprising given that two regions experience high intensity of conflict.

In regions with low control of non-state armed actors, incidence of community violence is 1.4 times higher in contrast to communities with high control. This incidence is particularly high for homicides and threats from armed groups. On the other hand, non-state armed actors rely frequently on direct targeting in regions with high control: victimization rates in these regions are twice as those with no presence of armed groups and similar to those with low control. It is important to note criminal groups or non-state armed actors passing temporarily by a community may perpetrate violence against the population. Thus, regions with no presence of armed groups exhibit also positive rates of violence. Incidence of violence at the community level is much lower in regions with high control compared to regions with low control, showing some level of order in these regions. These figures coincide with the hypothesis by Kalyvas (2006) and Steele (2009): in contested regions non-state armed actors resort to indiscriminate violence to control the population.

[Table 1 goes about here]

Near 23 percent of the ELCA households migrated within a period of three years: 12.4 percent within the municipality, four percent to rural communities and more than six

[9] http://rni.unidadvictimas.gov.co/?q=node/107 retrieved on 7th of September 2015.

percent to urban areas (Table 2). Overall migration rates are higher for direct victims of violence and households living in communities which experienced at least one violent event during the last three years. Not surprisingly, households living in regions with low control of non-state armed actors[10] are more likely to migrate (35.4%) vis-à-vis those households in communities with no presence of non-state armed actors (21.9%) or with high control (13.1%).

The distance of migration is also associated with the different dimensions of conflict. Migration rates to rural areas are 1.7 times higher for direct victims of violence and 88 percent higher for households living in communities with incidence of violence, also urban migration rates are 93 percent higher for victims of violence. Interestingly, low control of armed groups is associated with relocation to other rural communities within the municipality: 24 percent of households living in regions with low control from non-state armed actors relocated, while this figure is 9.6 and 11.6 percent for communities with high control or no presence respectively. The relocation within municipalities due to conflict has been persistent in Colombia. During *La Violencia,* households relocated along political allegiances to other rural communities within their municipality (Palacios 1995).

[Table 2 goes about here]

Two issues are worth discussing about our estimation strategy. On the one hand, conflict is endogenous to the migration decision. First, direct victimization is not random. Non-state armed actors attack certain groups of the population to achieve war objectives. The targeting is based on observable characteristics, such as land ownership, wealth and community leadership, and some unobserved ones, such as the alliances of households with non-state armed actors. Second, the incidence of violence at the community level depends on whether non-state armed actors are hegemonic in the community, the strategic role of the community for non-state armed actors and economic shocks that may spur an intensification of violence (Miguel, Satyanath et al. 2004; Dube and Vargas 2013), among others. Third, non-state armed actors establish presence in regions in which operating is

[10] We define a community has low control of non-state armed actors when the index is equal or below the median of control and high control otherwise.

less costly due for example to favorable geographic conditions or historical social grievances, among others. In addition, the ability of armed groups to control a community depends on the macro dynamics of conflict, the interactions with the civil population and other unobservables variables. Some unobservables from deliberate targeting, incidence of community violence and control of armed groups may also determine migration biasing our coefficients. In order to reduce this bias, we include a rich set of controls at the household and community level, geographic characteristics strongly correlated with armed group presence and incidence of weather shocks. We describe these variables in the following paragraphs. We also control for direct exposure to violence at the household level in 2009, the year before the baseline, and the average homicide rate during the five years prior to 2010.

On the other hand, economic conditions and the decision to migrate have a simultaneous relationship. Economic conditions determine the decision to migrate: people migrate after negative economic shocks, to diversify risk or as an investment strategy (Todaro 1969; Stark 1991; Lucas 1997; Rosenzweig and Stark 1998; Du, Park et al. 2005; Bazzi 2013; Brauw 2014; Kleemans 2014). Yet migration impacts the economic conditions of households (Beegle, Weerdt et al. 2011; Bryan, Chowdhury et al. 2015). In addition, current economic conditions are associated with violent shocks. Conflict deteriorates economic conditions and declining economic conditions may spur periods of more violence[11]. To overcome simultaneity, we control for initial economic conditions in 2010 and also for incidence of violence at the household and municipal level prior to 2010.

X_{ijk} is a rich set of household controls measured in 2010. Economic conditions include a wealth index, the standardized size of land plots, whether land property is formal, whether the land plot has access to water sources, the number of large and small livestock owned by the household and whether the household was a beneficiary of a conditional cash transfer program. We control for the educational levels and demographic composition of the household with the maximum level of education in the household, whether the household is male-headed and the number of household members at different age ranges

[11] For a detailed literature review on the economic impacts of conflict see Blattman, C. and E. Miguel (2010). "Civil War." Journal of Economic Literature **48**(1): 3-57.

, Justino, P. (2011). War and Poverty Oxford Handbook of the Economics of Peace and Security. M. R. Garfinkel and S. Skarpedas. Oxford, Oxford University Press.

(below 5 years of age, between 6 and 17, between 18 and 65, older than 65 years of age). Lastly, we include a set of controls that captures the leadership role of the household in the community and the density of its social networks: a dummy variable equal to one if the household head was a community leader of a political organization in 2010 and the number of organizations in which the household participated in 2010. Besides controlling for the traditional determinants of economic migrations, these variables capture deliberate targeting of non-state armed actors on particular groups of the population and potential alliances between some groups of the population and armed groups.

We control for the incidence of weather shocks between 2010 and 2013 with the number of months between 2010 and 2013 in which rainfall was one standard deviation below (or above) the historic mean. We control also for weather shocks in the year previous to the baseline survey and the historic rainfall mean.

Lastly, we include community controls that simultaneously determine the presence of non-state armed actors and the decision to migrate: C_{jk}. The first set of community variables are geographical controls strongly correlated with presence of non-state armed actors: altitude above the sea level, distance to the urban center of the municipality, distance to the nearest main road, distance to the nearest river and distance to the state capital. Other community controls include the number of households in the community, a principal component index of community access to public utilities (potable water, sewage system, electricity, gas and phone lines) and ownership of assets (refrigerator, washing machine and color TV), the percentage of household heads with less than primary education, the percentage of heads with secondary education, and the percentage of households affiliated to health insurance.

Table 3 reports the descriptive statistics for the household and community controls for the total sample and divided by migratory status. The figures show that traditional determinants of economic migration also seem to play an influential role for migration in conflict regions. First, wealthier households or with less financial constraints are more likely to migrate. Migrants have higher wealth indexes and come from communities with more provision of public services, more private assets and better educated. Second, migrants face lower opportunity costs from relocation. Migrants have lower formality of property rights (26% vs 40.5%), less valuable land as access to water sources is 38 percent

for migrants and 47.2 percent for non-migrants, and a smaller stock of big animals (1.44 vs. 2.53). In addition, the percentage of beneficiaries of conditional cash transfer programs is 38.9 percent for migrants and 44.8 percent for non-migrants. Third, migrants are original from communities less isolated from the urban center of the municipality, the nearest main road and the state capital.

[Table 3 goes about here]

We present a first approximation on the potential returns to migration on Table 4. We estimate how migration is associated to changes in per capita consumption between 2010 and 2013. In order to control for time invariant unobservables at the household level, we restrict the sample to the households that split-off and one member (or more) migrated. This allows us to control for fixed effects of the original household similarly to Beegle, Weerdt et al. (2011). We cluster the standard errors at the community level. Column (1) reports the results when we only include the dummy for migration (overall, within rural migration, rural migration and urban migration), while columns (2) to (5) show the coefficients for the migration dummy and migration interacted with one of the dimensions of conflict: direct exposure to violence, incidence of community violence, high control of NSAA and low control of NSAA. Overall migration is associated with an increase in per capita consumption of a little more than COP$649.000, which is equivalent to 64 percent of the mean change of consumption for the split-off sample. This increment is mostly driven by urban migrants: the change in consumption for these households is almost COP$969.000. The coefficient for within rural migration is positive and for rural migration negative, yet both coefficients are not statistically significant. The results suggest only urban migrants have positive and sizeable returns to migration. Migrants to rural areas, within their own municipality or to other municipalities, do not seem to extract short-term benefits from migration. These people might migrate to flee from the consequences conflict or to mitigate other shocks.

We explore further whether being a victim of conflict or migrating from a conflict region is correlated with the returns migration. The coefficient estimates for the interactions of the migration dummy with the four dimensions of conflict are in most cases not

statistically significant. Changes in consumption are positive for within rural migrants that that used to live in rural communities with at least one incidence of violence between 2010 and 2013. The total impact of migration for these households is positive and statistically significant. On the other hand, living previously in communities with low control of armed groups and migrating within their municipality to other rural communities is associated with a drop in consumption of a little more than COP$482.000. The total impact of migration for these migrants is not statistically different from zero.

[Table 4 goes about here]

4. Results

Direct target of violence

We identify first whether non-state armed actors target particular groups of the population by estimating the probability of direct victimization on household and community controls. Columns (1) and (3) report the results for the total sample, and columns (2) and (4) the results when we restrict the sample to the communities with presence of non-state armed actors. Results for the total sample show direct exposure to violence is random with respect to observable variables: only households with a larger number of big livestock face a higher probability of direct victimization. The coefficients are robust to the inclusion of community and geographic controls.

Two potential interpretations might explain these results. First, direct victimization is indeed random and arises from indiscriminate violence. Second, direct exposure to violence is the result of interactions between the civilian population and non-state armed actors. Some households might form alliances with armed groups or adopt strategic behaviors, reducing the likelihood of victimization. This strategic behavior may depend on unobservables.

In order to explore this second interpretation, we control for the dummy variables of high and low control of NSAA. As expected, the likelihood of direct victimization is higher in regions with low control of NSAA. When control over a community is low, armed actors use indiscriminate violence and strategically to expel supporters of the rival group, collect

valuable information and force allegiances to their cause (Azam and Hoeffler 2002; Kalyvas 2006; Kalyvas and Kocher 2007; Steele 2009).

We further explore this by restricting the sample to the communities with presence of non-state armed actors. After restricting the sample, some patterns of deliberate targeting emerge. The likelihood of direct victimization is lower for better educated households, with a larger number of small livestock, and with formal land ownership in 2010, while victimization is higher for households with a larger stock of big livestock and more household members between 0 and 5, and 6 and 17. The patterns of victimization are not clear. Better-off individuals are less likely to be victims of violence, yet a higher number of livestock is consistently associated with more frequent victimization rates. Large livestock might more visibly signal wealth, increasing deliberate targeting from non-state armed actors.

[Table 5 goes about here]

Decision to migrate and conflict

Conflict is associated with the decision to migrate, yet the three mechanisms we examine have different effects. We first estimate the decision to migrate only including the direct exposure to violence and municipality controls (Table 6). Direct victims of violence are more likely to migrate. This effect is driven by urban migrants. Victims of violence may decide to migrate to urban centers because cities may bring more anonymity and protection from the deliberate attacks of armed actors. However, this result might be driven by a correlation between direct victimization and traditional economic determinants of migration. Urban migrants might be better able to reap-off the benefits of migration, which might be correlated to the deliberate aggressions of armed actors. To explore whether this is the case, we control for household and community variables and find the coefficient estimate is robust to including these additional variables. The robustness of the coefficient estimate provides additional evidence on the randomness of deliberate aggressions based on observable variables.

We include incidence of community violence to capture whether conflict is associated with violence beyond direct victimization. Incidence of community violence captures if uncertainty and fear might prompt some households to migrate despite not being direct victims of violence to prevent future aggressions. The coefficient estimate for direct exposure to violence is again robust to controlling for the incidence of community violence, while the coefficient estimate for community violence is not statistically significant different from zero. If violence at the community level occurs in regions with high control of non-state armed actors, aggressions might be infrequent and targeted to particular groups of the population. Thereby, only households at risk or victims of violence might decide to migrate. The following regressions capture the control of non-state armed actors with dummies for high and low control.

The coefficient estimates for high control of NSAA are negative and statistically significant. People living in regions with high control of NSAA are less likely to migrate compared to communities with no presence of NSAA. The coefficient estimate is negative for all types of migration, and statistically significant for rural and urban migration. On the other hand, the coefficient estimate for low control of NSAA is positive for overall migration, within rural and rural. However, the coefficient is not statistically significant. The small number of communities with low control of NSAA might reduce the precision of the coefficient estimates.

If hegemonic, non-state armed actors may bring some temporary order in the community, perform state-like functions and provide protection to some members of the community, reducing therefore the risk of victimization, uncertainty and the likelihood of migrating. We interact incidence of community violence with the dummies of control to explore whether the lower likelihood of migration for high control areas is driven by lower uncertainty. We find this indeed the case for rural and urban migration. The likelihood of migration is lower in regions with high control of NSAA and incidence of community violence. However, the coefficient estimate is only statistically significant for urban migration.

Decision to migrate: interaction of conflict dimensions and economic variables

Economic variables are also associated with the decision to migrate. We find similar effects than for economic migration. First, households with low opportunities costs from migrating are more likely to relocate: informal landowners to all migration destinations and political leaders to rural areas in other municipalities, and households with fewer members in working ages (18 to 65) to rural areas within or in other municipalities. Second, households better educated, who can reap-off more benefits from migration, are more likely to migrate to urban areas. Third, financial or economic constraints deter some households to migrate such as people with a low stock of big animals (less wealthy households), women headed households and households that faced an extreme weather event during the last three years. Lastly, large costs of migration reduce the likelihood of migration: households living farther away from the state capital are less likely to migrate to other municipalities (urban or rural areas).

The effect of direct exposure to violence or control of NSAA might be heterogeneous to certain household characteristics. Deliberate targeting of armed groups, potential alliances with particular groups of the population or economic constraints might shape this heterogeneity. We interact some household controls with direct exposure to violence and control of armed groups to identify this potential heterogeneity (see Tables A1a y A1b in the Appendix).

The results show leadership and social networks play a role in the decision to migrate of households facing conflict. Direct victims of violence and political leaders are less likely to migrate to urban areas and households with dense social networks and living in regions with high control of NSAA are less likely to migrate to other rural communities within the municipality. Social networks and community leadership might deter migration by providing support to mitigate the impacts of conflict or may signal potential alliances with non-state armed actors (Wood 2003; Korf 2004; Williams 2013; Arjona 2014).

Landowners with valuable plots are more likely to migrate when facing conflict. Direct victims of violence and owners of land plots with access to water sources are more likely to migrate to rural areas, either within the municipality or to other municipalities. Also, formal landowners living in communities with high control of NSAA are more likely to migrate overall, and to urban, rural and within rural areas. On the one hand, valuable land may reduce financial constraints to migration, allowing landowners to migrate when facing

victimization or difficult conflict dynamics. On the other, landowners of valuable plots may face additional deliberate targeting beyond direct violence and may migrate to prevent aggressions from armed actors.

Financial or economic constraints to migration may prompt some households to stay in conflict regions, in spite of the risk they face. We find owners of small livestock, a signal of poverty, are less likely to migrate to other rural areas when victims of direct violence or when living in regions of low control of NSAA. Less educated households living in regions with low control of NSAA are less likely to migrate to urban areas.

Lastly, the opportunity costs of migrating may prompt some households to stay in conflict regions despite the risk they face. Landowners with access to water sources and living in regions with presence of non-state armed actors, with low or high control, are less likely to migrate to urban areas.

[Table 6 goes about here]

Conclusions

Local conflict dynamics shape household decisions to migrate or stay in conflict areas. People flee after being the victim of violence, to prevent future aggressions or to mitigate the economic consequences of violence. The literature on forced migration shows incidence of violence causes the migration of the population and exerts a heavy economic toll on households. In addition, people who faced overt human rights violations are less willing to return to their place of origin once the conflict is over. We contribute to this literature by disentangling three mechanisms through which conflict is associated with migration: direct target of violence, uncertainty driven by the incidence of community violence, and control of non-state armed actors over the communities.

We find that conflict shapes the decision of households to migrate in different ways. Direct exposure to violence and control of non-state armed actors affect differently the decision to migrate and the destination of relocation. Direct exposure to violence is positively associated with urban migration, confirming that households flee after being direct victims of aggressions and seek protection in urban centers. Strong control by non-state armed actors over local communities is associated with a lower likelihood of

migration, in particular to other urban and rural municipalities. Some evidence suggests that the reduction in the likelihood of migration in regions with strong control of armed groups may partially be driven by a reduction in the uncertainty of living amid conflict.

The results also show that the effect of violence is mitigated or amplified by some characteristics of households. Density of social networks and leadership is associated with lower migration for direct victims of conflict or people living in regions with high control of NSAA. The likelihood of migration is higher for formal landowners, especially those that owned land with access to water sources. These set of results are suggestive of potential alliances of the civil population with non-state armed actors, deliberate targeting beyond direct physical victimization or financial constraints to migration.

Stayers in regions with low control by non-state armed actors seem to be mostly concentrated on the extremes of the wealth distribution. The heterogeneous effects show that people with financial and economic constraints or households with high opportunity costs decide to stay in conflict regions despite the risks of facing future aggressions.

It is important to note that the previous results are not causal. For next versions of this paper we will design an empirical strategy to find causal effects and we will continue exploring some of the potential mechanisms through which conflict affects migration decisions.

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Table 1. Conflict dynamics

	Total Sample	Direct exposure to violence		Incidence of violence community level		Control of non-state armed actors		
		Yes	No	Yes	No	High	Low	No
Direct exposure to violence: 2010-2013	2,6%	-	-	4,0%	2,2%	4,4%	5,4%	2,2%
Incidence of violence – community level: 2010-2013	21,8%	33,3%	21,5%	-	-	9,6%	23,4%	22,4%
=1 if shock: homicides	17,9%	28,1%	17,6%	-	-	9,2%	23,4%	18,0%
=1 if shock: land eviction	0,7%	3,5%	0,6%	-	-	0,0%	0,0%	0,8%
=1 if shock: kidnapping	4,4%	5,3%	4,4%	-	-	7,4%	2,7%	4,4%
=1 if shock: threats from armed groups	2,4%	6,1%	2,3%	-	-	0,4%	5,4%	2,3%
Control of non-state armed actors	20,0%	40,1%	19,5%	13,4%	21,8%	-	-	-
Number of observations	4.392	114	4.278	959	3.433	229	333	3.830

Source: Authors' calculations based on ELCA Waves I and II

Table 2. Migration rates between 2010 and 2013

	Total Sample	Direct exposure to violence		Incidence of violence community level		Control of non-state armed actors		
		Yes	No	Yes	No	High	Low	No
Overall migration	22,5%	35,1%	22,2%	30,1%	20,4%	13,1%	35,4%	21,9%
Within rural migration	12,4%	13,2%	12,4%	15,7%	11,5%	9,6%	24,0%	11,6%
Rural migration	4,0%	10,5%	3,9%	6,4%	3,4%	0,4%	4,5%	4,2%
Urban migration	6,1%	11,4%	5,9%	8,0%	5,5%	3,1%	6,9%	6,2%
Number of observations	4.392	114	4.278	959	3.433	229	333	3.830

Source: Authors' calculations based on ELCA Waves I and II

Table 3. Descriptive statistics: controls

	Total sample	Migratory status		
		Yes	No	Difference
Direct exposure to violence: 2010-2013	2.60%	4.05%	2.17%	
	(15.90%)	(19.72%)	(14.59%)	
Incidence of violence at community level: 2010-2013	21.84%	29.25%	19.68%	
	(41.32%)	(45.51%)	(39.77%)	
Control of non-state armed actors	0.20	0.18	0.21	***
	(0.62)	(0.54)	(0.64)	
Direct exposure to violence: 2009	0.34%	0.51%	0.29%	***
	(5.83%)	(7.01%)	(5.41%)	
Average homicide rates: 2004-2009	8.54	10.46	7.99	
	(6.29)	(7.08)	(5.93)	
Maximum education levels in household	5.06	5.36	4.97	
	(2.94)	(2.90)	(2.95)	
=1 if female headed household	17.71%	13.87%	18.83%	
	(38.18%)	(34.58%)	(39.10%)	
Household members below 5 years	0.58	0.65	0.56	
	(0.82)	(0.83)	(0.82)	
Household members between 6 and 17	1.33	1.36	1.32	**
	(1.31)	(1.28)	(1.32)	
Household members between 18 and 65	2.55	2.46	2.57	
	(1.15)	(1.08)	(1.17)	
Household members older than 65	0.26	0.20	0.28	
	(0.53)	(0.48)	(0.54)	
Wealth index: 2010	-0.06	-0.04	-0.06	***
	(2.49)	(2.35)	(2.53)	
Standardized size of land plots: 2010	-0.01	-0.03	0.00	
	(0.94)	(0.82)	(0.97)	
=1 if land property is formal: 2010	37.27%	26.01%	40.54%	***
	(48.36%)	(43.89%)	(49.10%)	

=1 if land had access to water sources: 2010	45.06%	37.75%	47.18%	*
	(49.76%)	(48.50%)	(49.93%)	
Number of large livestock: 2010	2.28	1.44	2.53	**
	(6.19)	(3.74)	(6.72)	
Number of small livestock: 2010	17.13	7.65	19.88	
	(318.26)	(10.59)	(361.43)	
=1 if beneficiary of CCT program	43.49%	38.87%	44.83%	***
	(49.58%)	(48.77%)	(49.74%)	
=1 if household head is leader of a political organization:2010	12.07%	10.43%	12.54%	
	(32.58%)	(30.57%)	(33.13%)	
Number of organizations household participated: 2010	0.55	0.51	0.56	**
	(0.88)	(0.83)	(0.90)	
Rainfall historic mean 2009	5.55	6.24	5.36	***
	(1.75)	(1.95)	(1.64)	
Number days rainfall 1 SD above mean: 2009	39.24	39.97	39.03	
	(8.64)	(9.55)	(8.36)	
Number days rainfall 1 SD below average: 2009	233.78	228.70	235.23	
	(53.94)	(55.15)	(53.5)	
Rainfall historic mean 2012	5.46	5.82	5.36	***
	(1.72)	(1.93)	(1.64)	
Number days rainfall 1 SD above average: 2010-2013	45.32	42.69	46.07	***
	(21.85)	(20.16)	(22.25)	
Number days rainfall 1 SD below average: 2010-2013	227.67	219.06	230.13	
	(46.55)	(53.84)	(43.95)	
Altitude above the sea level	1203.53	1256.55	1188.14	***
	(1008.51)	(828.61)	(1054.60)	
Distance to urban center of municipality	0.71	0.68	0.73	***
	(0.68)	(0.60)	(0.71)	
Distance to the nearest main road	8.20	7.82	8.32	***
	(9.29)	(8.61)	(9.48)	
Distance to the nearest river	14.46	15.65	14.12	***

	(12.50)	(10.83)	(12.92)	
Distance to the state capital	66.12	56.10	69.03	***
	(40.55)	(38.37)	(40.71)	
Index of community assets	0.04	0.66	-0.14	***
	(1.74)	(2.04)	(1.60)	
% household heads with less than primary education	82.49%	80.44%	83.08%	***
	(8.91%)	(9.87%)	(8.52%)	
% household heads with secondary education	16.63%	18.59%	16.06%	***
	(8.52%)	(9.58%)	(8.10%)	
% households with health insurance	75.43%	73.49%	76.00%	
	(16.12%)	(15.18%)	(16.34%)	
Number of observations	4392	988	3404	

Source: Authors' calculations based on ELCA Waves I and II

Table 4. Changes in consumption and migration

	Migration	Migration*Direct exposure to violence	Migration*Incidence violence community level	Migration* High control NSAA	Migration*Low control NSAA
Overall migration	649,806***	658,659***	419,228	685,949***	645,035***
	[222,740]	[231,733]	[262,170]	[222,075]	[227,306]
Interaction		-330,951	851,266*	-1219000	93,784
		[1.002e+06]	[510,526]	[1.807e+06]	[1.143e+06]
Number of observations	1,451	1,451	1,417	1,451	1,451
R-squared	0.531	0.531	0.539	0.533	0.531
Within rural migration	478,737	456,633	-63,386	481,781	478,737
	[438,774]	[446,894]	[508,285]	[444,065]	[438,774]
Interaction		1.048e+06	2.193e+06***	-262,434	-482,448***
		[1.261e+06]	[618,717]	[444,065]	[2.25e-06]
Number of observations	1,121	1,121	1,100	1,121	1,121
R-squared	0.681	0.682	0.693	0.681	0.681
Rural migration	-195,348	---	-391,627	-195,348	-37,481
	[336,423]		[356,168]	[336,423]	[289,345]
		-203,815	803,482	---	-2.034e+06
Interaction		[348,553]	[1.005e+06]		[1.609e+06]
Number of observations	1,032	1,032	1,007	1,032	1,032
R-squared	0.721	0.721	0.722	0.721	0.724
Urban migration	968,950***	1.011e+06***	939,671**	1.048e+06***	915,902***
	[330,251]	[350,119]	[409,104]	[327,687]	[345,793]
Interaction		-1.216e+06	17,125	-1.674e+06	779,650
		[1.216e+06]	[740,317]	[2.074e+06]	[1.126e+06]
Number of observations	1,202	1,202	1,172	1,202	1,202
R-squared	0.600	0.601	0.600	0.603	0.601

Source: Authors' calculations based on ELCA Waves I and II

Robust standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Table 5. Direct exposure to violence: linear probability model

Variables	(I)	(II)	(III)	(IV)
Non-state armed groups index (high)			0.229	-
			[0.208]	
Non-state armed groups index (low)			0.406***	2.948***
			[0.0707]	[0.954]
Direct exposure to violence: 2009	0.578	-	0.613	-5.818***
	[0.555]		[0.567]	[1.881]
Average homicide rates: 2004-2009	0.0220	1.059*	0.0385	-
	[0.0254]	[0.555]	[0.0263]	
Maximum education levels in household	-0.0375	-0.277***	-0.0331	-0.300***
	[0.0379]	[0.0716]	[0.0364]	[0.0667]
Maximum education levels in household sq.	0.00351	0.0155**	0.00301	0.0167**
	[0.00317]	[0.00732]	[0.00310]	[0.00719]
=1 if female headed household	-0.192	0.585	-0.198	0.645
	[0.146]	[0.522]	[0.144]	[0.564]
Household members below 5 years	0.0381	0.359***	0.0401	0.386***
	[0.0449]	[0.0912]	[0.0441]	[0.0975]
Household members between 6 and 17	0.0163	0.109***	0.0192	0.138***
	[0.0270]	[0.0380]	[0.0276]	[0.0438]
Household members between 18 and 65	0.0108	0.0541	0.0114	0.0693
	[0.0537]	[0.175]	[0.0543]	[0.166]
Household members older than 65	0.0297	-0.117	0.0197	-0.102
	[0.0848]	[0.187]	[0.0856]	[0.206]
Wealth index	0.0728	0.306	0.0673	0.368
	[0.0593]	[0.214]	[0.0566]	[0.242]
Wealth index squared	-0.00721	-0.0252	-0.00669	-0.0302
	[0.00637]	[0.0234]	[0.00618]	[0.0267]
Standardized size of land plots	-0.0369	0.189**	-0.0437	0.159
	[0.0344]	[0.0804]	[0.0379]	[0.0972]

=1 if land property is formal	0.0149	-0.605**	0.0325	-0.582**
	[0.0831]	[0.247]	[0.0825]	[0.256]
=1 if land had access to water sources	-0.122	-0.416	-0.119	-0.365
	[0.119]	[0.297]	[0.114]	[0.297]
Number of large livestock	0.0110**	0.0214**	0.0105**	0.0320*
	[0.00427]	[0.0104]	[0.00430]	[0.0167]
Number of small livestock	-0.000995	-0.0294***	-0.000932	-0.0373**
	[0.00148]	[0.00860]	[0.00155]	[0.0161]
=1 if beneficiary of CCT program	0.120	-0.494	0.120	-0.599
	[0.117]	[0.347]	[0.118]	[0.395]
=1 if head leader of political organization	0.0114	0.0344	0.0232	-0.109
	[0.169]	[0.270]	[0.175]	[0.348]
Number organizations household participated	0.0774	-0.110	0.0833	-0.126
	[0.0674]	[0.114]	[0.0667]	[0.137]
Number of observations	4,059	555	4,059	555
Pseudo R-squared	0.0820	0.300	0.0892	0.349
Controls for weather shocks	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Community controls	Yes	Yes	Yes	Yes

Table 6. Probability of migration: linear probability model

	Direct exposure to violence	Incidence community violence	High control NSAA	Low control NSAA	Community violence*high control	Community violence*low control	Controls	Observations	R-squared
Overall migration	0.0685*						No	4,581	0.084
	[0.0386]								
	0.0534						Yes	4,467	0.193
	[0.0337]								
	0.0554	0.00995					Yes	4,351	0.195
	[0.0340]	[0.0348]							
	0.0550*	0.00672	-0.100**	0.0385			Yes	4,351	0.198
	[0.0302]	[0.0358]	[0.0378]	[0.0777]					
	0.0586*	0.00404	-0.130**	0.0524	0.263	-0.0622	Yes	4,351	0.200
	[0.0287]	[0.0408]	[0.0465]	[0.0901]	[0.211]	[0.0701]			
Within rural migration	0.000847						No	4,124	0.056
	[0.0288]								
	-0.00912						Yes	4,036	0.121
	[0.0275]								
	-0.00975	0.0235					Yes	3,926	0.124
	[0.0274]	[0.0297]							
	-0.0155	0.0215	-0.0602	0.0726			Yes	3,926	0.128
	[0.0244]	[0.0315]	[0.0448]	[0.0894]					
	0.0655	0.0193	-0.0975**	0.0949	0.318	-0.108	Yes	3,926	0.133
	[0.0473]	[0.0353]	[0.0451]	[0.105]	[0.189]	[0.0803]			
Rural migration	0.0655						No	3,730	0.075
	[0.0473]								
	0.0590						Yes	3,652	0.226
	[0.0358]								
	0.0617	-0.00746					Yes	3,555	0.227

	[0.0364]	[0.0166]							
	0.0607	-0.00952	-0.0313*	0.0231			Yes	3,555	0.228
	[0.0349]	[0.0169]	[0.0168]	[0.0193]					
	0.0612	-0.0154	-0.0298	-0.000384	-0.0331	0.0923	Yes	3,555	0.230
	[0.0355]	[0.0189]	[0.0190]	[0.0101]	[0.0426]	[0.0624]			
Urban Migration	0.0569**						No	3,825	0.058
	[0.0246]								
	0.0425*						Yes	3,741	0.268
	[0.0242]								
	0.0448*	-0.0110					Yes	3,640	0.266
	[0.0243]	[0.0195]							
	0.0481*	-0.0123	-0.0393**	-0.0223*			Yes	3,640	0.267
	[0.0243]	[0.0200]	[0.0158]	[0.0127]					
	0.0469*	-0.0107	-0.0319**	-0.0238*	-0.0896**	0.00640	Yes	3,640	0.268
	[0.0247]	[0.0224]	[0.0128]	[0.0132]	[0.0328]	[0.0388]			

Tables A1a and A1b

Table 1Aa

Variables	(I)	(II)	(III)	(IV)
Direct exposure to violence: 2010-2013	0.131	-0.0253	0.0455	0.0795
	[0.133]	[0.0799]	[0.0788]	[0.124]
Wealth index	0.000631	-0.00491	0.00277	0.00561
	[0.00579]	[0.00724]	[0.00289]	[0.00527]
Wealth index squared	0.000144	0.000628	-0.000189	-0.000451
	[0.000481]	[0.000715]	[0.000338]	[0.000501]

Standardized size of land plots	0.00964	0.0110*	0.00289	-0.00256
	[0.00582]	[0.00542]	[0.00312]	[0.00425]
=1 if land property is formal	-0.0651***	-0.0313**	-0.0259***	-0.0333**
	[0.0187]	[0.0136]	[0.00738]	[0.0140]
=1 if land had access to water sources	-0.0432**	-0.0405**	-0.0105	-0.00826
	[0.0181]	[0.0178]	[0.00927]	[0.00773]
Number of large livestock	-0.00119	-0.000609	0.000105	-0.000404
	[0.000982]	[0.000879]	[0.000354]	[0.000670]
Number of small livestock	1.56e-06	1.17e-07	3.85e-06	2.77e-07
	[5.32e-06]	[4.17e-06]	[2.65e-06]	[3.26e-06]
=1 if head leader of political organization	-0.00619	0.00343	-0.0242***	0.0158
	[0.0189]	[0.0164]	[0.00685]	[0.0109]
Number organizations household participated	-0.00481	-0.00282	-0.000582	-0.00475
	[0.00945]	[0.00879]	[0.00272]	[0.00493]
Maximum education levels in household*shock	-0.0124	0.0128	0.00725	0.0157
	[0.0507]	[0.0345]	[0.0236]	[0.0388]
Maximum education levels in household sq.*shock	0.000119	-0.00130	-0.000556	-0.00225
	[0.00412]	[0.00342]	[0.00156]	[0.00272]
Wealth index*shock	-0.0187	-0.00192	-0.0360	0.00635
	[0.0427]	[0.0370]	[0.0242]	[0.0398]
Wealth index squared*shock	0.00255	-0.00111	0.00661	-0.00213
	[0.00574]	[0.00356]	[0.00451]	[0.00424]
Standardized size of land plots*shock	0.0622	0.0570	0.0347	0.00429
	[0.0526]	[0.0523]	[0.0272]	[0.0262]
=1 if land property is formal*shock	-0.0275	-0.0592	-0.0551	-0.000250
	[0.0530]	[0.0836]	[0.0329]	[0.0707]
=1 if land had access to water sources*shock	0.0928	0.166**	0.0703*	-0.0583
	[0.0891]	[0.0710]	[0.0362]	[0.0730]
Number of large livestock*shock	-0.000705	-0.00133	0.000871	-0.000440
	[0.00272]	[0.00243]	[0.00182]	[0.00162]
Number of small livestock*shock	-0.00492	-0.00377*	-0.00442**	0.000196

	[0.00291]	[0.00199]	[0.00186]	[0.00226]
=1 if head leader of political organization*shock	-0.131	-0.121	-0.0103	-0.0904**
	[0.0874]	[0.0834]	[0.0578]	[0.0404]
Number organizations household participated*shock	-0.0175	0.0187	-0.0291	0.000938
	[0.0303]	[0.0296]	[0.0266]	[0.00558]
Number of observations	4,467	4,036	3,652	3,741
Pseudo R-squared	0.194	0.123	0.229	0.269
Controls for weather shocks	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Community controls	Yes	Yes	Yes	Yes

Table 1Ab

Variables	(I)	(II)	(III)	(IV)
High control NSAA	-0.109*	-0.00982	-0.0753***	-0.0489
	[0.0521]	[0.0453]	[0.0221]	[0.0419]
Low control NSAA	0.000139	0.102	-0.0470	-0.0534
	[0.126]	[0.146]	[0.0793]	[0.0354]
Direct exposure to violence: 2010-2013	0.0581*	-0.0153	0.0643*	0.0498*
	[0.0310]	[0.0247]	[0.0361]	[0.0250]
Wealth index	0.00101	-0.00545	0.00266	0.00549
	[0.00627]	[0.00866]	[0.00337]	[0.00454]
Wealth index squared	0.000204	0.000709	-6.78e-05	-0.000402
	[0.000547]	[0.000822]	[0.000403]	[0.000427]
Standardized size of land plots	0.00626	0.00783	0.00198	-0.00171
	[0.00651]	[0.00594]	[0.00354]	[0.00402]
=1 if land property is formal	-0.0771***	-0.0379***	-0.0302***	-0.0384**
	[0.0183]	[0.0120]	[0.00869]	[0.0152]
=1 if land had access to water sources	-0.0315*	-0.0313*	-0.0106	-0.00183

	[0.0158]	[0.0179]	[0.00851]	[0.00775]
Number of large livestock	-0.00122	2.68e-05	-0.000147	-0.000916
	[0.00106]	[0.000933]	[0.000417]	[0.000586]
Number of small livestock	9.85e-07	-2.76e-06	5.28e-06*	1.91e-06
	[5.28e-06]	[3.93e-06]	[2.87e-06]	[3.70e-06]
=1 if head leader of political organization	-0.0163	-0.00610	-0.0244***	0.0152
	[0.0208]	[0.0194]	[0.00723]	[0.0116]
Number organizations household participated	-1.63e-07	0.00324	1.55e-05	-0.00580
	[0.00765]	[0.00679]	[0.00321]	[0.00593]
Maximum education levels*high control NSAA	0.0113	0.00354	0.00408	-0.00221
	[0.0197]	[0.0239]	[0.00316]	[0.00920]
Maximum education levels*low control NSAA	0.0578	0.0430	0.0423	0.0182*
	[0.0474]	[0.0553]	[0.0272]	[0.00901]
Maximum education levels sq.*high control NSAA	2.48e-05	0.000400	-0.000117	0.000326
	[0.00214]	[0.00246]	[0.000266]	[0.000906]
Maximum education levels sq.*low control NSAA	-0.00423	-0.00355	-0.00297	-0.000690
	[0.00355]	[0.00435]	[0.00181]	[0.000867]
Wealth index*high control NSAA	0.00293	0.000806	0.00494	0.00628
	[0.0316]	[0.0288]	[0.00741]	[0.0219]
Wealth index*low control NSAA	0.00722	0.0306	-0.00879	6.07e-05
	[0.0337]	[0.0410]	[0.0236]	[0.0287]
Wealth index squared*high control NSAA	0.000409	0.000968	-0.000650	-0.000980
	[0.00355]	[0.00317]	[0.000823]	[0.00245]
Wealth index squared*low control NSAA	-0.00381	-0.00547	-2.25e-05	-0.00120
	[0.00359]	[0.00458]	[0.00237]	[0.00299]
Standardized size of land plots*high control NSAA	-0.0316	-0.0207	-0.00730	-0.0152
	[0.0306]	[0.0142]	[0.00730]	[0.0336]
Standardized size of land plots*low control NSAA	0.0302	0.0312	0.00727	-0.0102
	[0.0253]	[0.0231]	[0.0270]	[0.0211]
=1 if land property is formal*high control NSAA	0.123**	0.0656**	0.0473**	0.0509*
	[0.0424]	[0.0289]	[0.0188]	[0.0248]

=1 if land property is formal*low control NSAA	0.0680	0.0344	0.0194	0.0203
	[0.0555]	[0.0619]	[0.0383]	[0.0257]
=1 if land access to water sources*high control NSAA	-0.0746*	-0.0503	0.0206	-0.0526**
	[0.0387]	[0.0380]	[0.0170]	[0.0197]
=1 if land access to water sources*low control NSAA	-0.119***	-0.0813	-0.0273	-0.0802***
	[0.0320]	[0.0506]	[0.0261]	[0.0249]
Number of large livestock*high control NSAA	0.00476	-0.00885**	0.000603	0.0156***
	[0.00497]	[0.00317]	[0.00129]	[0.00529]
Number of large livestock*low control NSAA	0.000906	-0.000407	0.00127	0.000811
	[0.00300]	[0.00285]	[0.00205]	[0.00207]
Number of small livestock*high control NSAA	-0.00439	-0.00573	0.000972	-0.000380
	[0.00404]	[0.00395]	[0.00105]	[0.00184]
Number of small livestock*low control NSAA	-0.00344**	-0.00364**	-0.00186*	0.000170
	[0.00142]	[0.00155]	[0.000923]	[0.000610]
=1 if leader political organization*high control NSAA	0.0603	0.0689	0.0203	-0.0235
	[0.0464]	[0.0475]	[0.0175]	[0.0199]
=1 if leader political organization*low control NSAA	0.0113	0.0133	-0.0559*	-0.00553
	[0.0521]	[0.0400]	[0.0296]	[0.0395]
Number organizations *high control NSAA	-0.0683**	-0.0667**	0.00250	-0.00143
	[0.0279]	[0.0279]	[0.00597]	[0.00947]
Number organizations *low control NSAA	-0.0411	-0.0443	-0.0124	0.00740
	[0.0365]	[0.0390]	[0.0110]	[0.0181]
Number of observations	4,351	3,926	3,555	3,640
Pseudo R-squared	0.205	0.137	0.233	0.273
Controls for weather shocks	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Community controls	Yes	Yes	Yes	Yes