

Collective Action and Armed Group Presence in Colombia

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Abstract: The main objective of this paper is to provide empirical evidence on the mechanisms that shape the relationship between violent conflict and collective action. Conflict dynamics in Colombia allow us to exploit rich variation in armed group presence and individual participation in local organizations. Our identification strategy is based on the construction of contiguous-pairs of rural communities that share common socio-economic characteristics but differ in armed group presence. This allows us to control for unobservable variables that may affect local participation and conflict dynamics simultaneously. The results show that the presence of armed groups increases overall participation in local organizations, with a particularly strong effect on political organizations. Contrary to existing results, we find that stronger individual participation may arise from coercion exercised by armed groups and not from a more vibrant civil society.

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1. Introduction

Collective action and social cooperation are central to how societies and economies develop (North 1990, Ostrom 1990, Putnam 1993), and strongly shape poverty and development processes (Easterly et al. 2006, Woolcock 1998). Collective action is particularly important in areas where public goods provision is limited as it may solve coordination problems (Ostrom 1990), and provide networks of support (Foster and Rosenzweig 2001, Fafchamps and Lund 2002). We would expect therefore local forms of collective action to be central to the lives of people and the organization of communities affected by violent conflict because authority in these contexts is typically fragmented, and state institutions tend to be largely absent or weak.

Recent studies have shown that direct experiences of violence may be associated with changes in individual and group preferences in favor of pro-social behavior and engagement in collective action once conflicts are over (Bellows and Miguel 2009, Blattman 2009, Gilligan et al. 2014, Voors et al. 2012).⁴ Although other studies have shown more nuanced effects of conflict on pro-social behavior (Bauer et al. 2011, Cassar et al. 2011, Nunn and Wantchekon 2011, Rohner, Thoenig and Zilibotti 2011), these results have led several authors to suggest that conflict may be associated with positive social transformation in the long-term, by providing “new evidence against pessimistic views on the destructive legacies of civil war” (Voors et al., 2012: 962). The link between observed pro-social behavior and positive development outcomes is, however, an untested assumption because little is known about the mechanisms that may explain why victims of violence may participate more in local collective organizations (Bellows and Miguel 2009), vote more (Blattman 2009), or be more altruistic (Voors et al. 2012). One exception is Gilligan et al. (2014), which show that communities affected by violence in Nepal invest more in trust-based transactions and contribute more to a collective good due to changes in norms and institutions that foster social capital. This paper is an important advance in the literature but does not explore further the nature

⁴ Bateson (2012) shows that crime is also associated with increases in pro-social behaviour and in social engagement.

of these institutional changes because, as the other studies, it is based on the analysis of individuals or communities that experience direct exposure to violence during armed conflict.

However, violent conflict may affect collective action through changes in institutions and norms beyond direct experiences of violence. One of the main sources of institutional change in areas of armed conflict is the contestation of territories and populations by different armed factions (Justino 2013, Kalyvas 2006, Wood 2008). Through their behavior and strategic use of violent and non-violent actions, these actors may shape profoundly local forms of collective action and the participation of the civilian population in local collective organizations (Arjona 2009, Gambetta 1996, Korf 2004, Weinstein 2007). On the one hand, armed actors may form (voluntary or coercive) alliances with local organizations in order to advance their strategic objectives. Alliance formation may be voluntary when communities share the ideological views of armed groups, but more often than not it is coercive as armed groups appropriate local institutions for their own purposes, or replace community leaders with their own supporters (Acemoglu, Reed and Robinson 2012, Kaplan 2010). On the other hand, local collective organizations may be used by civilians to oppose and resist armed groups (Arjona 2009, Petersen 2001). In either of these cases, we may observe a positive relationship between violent conflict and collective action, but it is unclear whether this would necessarily lead to positive development and political outcomes in the long-term.

The main objective of this paper is to analyze how the presence of armed groups may affect individual participation in local forms of collective organization. We compare and contrast the results of this analysis with the effects of direct exposure to violence. Asking about the effects of conflict beyond direct experiences of violence is an important question because forms of social organization and collective action that emerge from violent conflict will entail considerable consequences to how societies recover from the effects of violence, and to how people access livelihoods, services, security and public goods in the aftermath of armed conflicts. Understanding

the effects of violent conflict beyond direct experiences of violence has also significant theoretical implications. In particular, focusing only on direct experiences of violence may be problematic because using direct exposure to violence as a proxy to the incidence of conflict may leave out general equilibrium effects of conflict caused by the presence of non-state actors and the governance structures imposed on the population. Since direct exposure to violence is low when non-state armed actors are hegemonic (Kalyvas 2006), the coefficient on direct exposure is unlikely to capture fully how conflict influences local organizations and collective action.

Our analysis is based on the case study of Colombia, where important regional differences in terms of presence of diverse armed groups provide valuable analytical variation to evaluate comparatively the impact of armed group presence and direct exposure to violence. The analysis is based on data provided in the *Encuesta Longitudinal Colombiana de la Universidad de los Andes* (ELCA), a unique individual, household and community-level dataset with specific modules designed to understand how institutions and social norms emerge and evolve during conflict.

Our main identification strategy relies on comparing contiguous pairs of rural communities that share common socio-economic characteristics but differ in terms of armed group presence. This strategy allows us to control for unobservable variables such as local institutions, cultural traits and other characteristics that vary smoothly across communities and may be potential sources of bias. This is an important contribution of the paper because it enables us to control for potential endogeneity in the relationship between violent conflict and local collective organization. Existing studies like Bellows and Miguel (2009) for Sierra Leone and Voors et al. (2012) for Burundi have argued quite plausibly that violence in their case studies is random at the household level. However, in many contexts of armed conflict, violence is not random as specific individuals and localities may be targeted as part of the strategic objectives of armed groups (Kalyvas 2006), or due to characteristics that facilitate their movements (Fearon and Laitin 2003). The non-random nature of

violence and armed group presence may result in an omitted variable problem as unobservable variables may determine jointly individual exposure to conflict and participation in local organizations. Results may also be affected by reverse causality when armed groups choose to take over communities with weak institutions because capture is easier, or choose to target communities with strong institutions for deliberate destruction (if they resist their presence and objectives) or to establish control (if they are sympathetic to their cause and may help advancing their political goals once the war is over).

In this paper, we are able to partially address these endogeneity concerns by taking advantage of within-community pair variation in armed group presence to establish a causal relation between conflict and local collective action. We are also able to rely on an extensive module of questions on local collective action, which will allow us to distinguish individual participation in different types of organizations (productive, political and others), as well as between different dimensions of participation (leadership, meeting attendance and engagement in decision-making). This latter differentiation is particularly important because it allows us to assess not only *whether* individuals join collective organizations, but also *how effectively they engage* in them and participate in decision-making processes. For instance, it is possible that armed conflict is associated with increased meeting attendance of community members when armed groups use meetings for indoctrination purposes or to spread fear. This apparent increase in individual participation in social organizations may, however, be accompanied by reductions in the appointment of, for instance, community natives to leadership positions or the engagement of certain community members in decision-making processes. Our data allow us to disentangle these important mechanisms of local collective action.

In line with existing studies, we find evidence that individual participation in local organizations increases – particularly in political organizations – after a violent shock occurs in the community.

Once we control for presence of armed groups, many of the positive effects of violent shocks disappear. We find that the initial positive results are largely due to the omission of armed group presence in the regressions. Once this variable is included, the results show that the presence of armed groups in any given community is positively associated with an increase in overall individual participation in local organizations. Taken together the results show that the impact of violent conflict on individual participation in local organizations is mediated by the governance structures and norms imposed by armed groups and not by direct exposure to violent shocks.

We analyze several potential mechanisms that may shape these results by testing empirically a series of competing theoretical hypotheses. We find that the positive effect of armed group presence on individual participation in collective organizations in Colombia is driven mostly by an increase in individual attendance of meetings of political organizations. This is accompanied by reduced individual participation in political decision-making processes, signaling that stronger participation in these organizations might be the result of coercion from armed groups, rather than an indication of a vibrant civil population.

The remainder of the paper is organized as follows. The next section discusses the relationship between armed conflict and collective action and identifies a set of competing theoretical hypotheses that may explain the effects of conflict on individual participation in collective action. Section 3 describes the Colombian context. The empirical strategy and data are discussed in section 4. In section 5, we present our main econometric results and discuss their robustness to alternative model specifications. Section 6 concludes the paper.

2. Theoretical links between armed conflict and collective action

One of the most important findings in recent literature on violent conflict is the positive association between direct exposure to armed violence and pro-social behavior (Bellows and Miguel 2009,

Blattman 2009, De Luca and Verpoorten 2011, Gilligan et al. 2014, Voors et al. 2012). Other studies have casted some doubts on whether these results can be generalized across case studies. Nunn and Wantchekon (2011) show that the violent slave trade experienced by communities in Africa has resulted in lower levels of interpersonal trust today. Bauer et al. (2011) shows that exposure to the conflict was associated with increases in forms of altruism and fairness within communities, but not between communities in Georgia and Russia. Cassar et al. (2011) discuss similar results in the case of individuals exposed to violence during the civil war in Tajikistan in the 1990s, as do Rohner, Thoenig and Zilibotti (2011) for the case of Uganda using survey data.

All the studies above analyze the relationship between violent conflict and collective action by observing direct experiences of victimization. We explore in this paper how individual participation in collective action is affected by changes in local institutions driven by the presence and behavior of armed groups. We focus on three main hypotheses implicit in the literature. The first is related to conflict theories around the formation of alliances. The second hypothesis emerges from a new body of literature which unpacks the role of armed actors in conflict processes and analyzes how armed groups exercise control over populations and territories. The third hypothesis draws on work that has highlighted the role of civilian agency in processes of armed conflict in terms of cooperation but also resistance to armed groups.

Alliance formation. Armed conflicts lead to new political and social alliances between armed groups and civilian populations (Kalyvas 2006, Wood 2003, 2008), as armed groups attempt to muster local support by coercive means or otherwise, and populations try to survive (Kalyvas and Kocher 2007). These could reflect patterns of (overt or covert) social and political mobilization prior to the conflict, or new alliances and networks shaped by the conflict itself (Wood 2008). These forms of social transformation may be accompanied by increases in the participation of certain individuals and groups on local collective organizations in ways not dissimilar by those observed in

contexts where political actors offer patronage advantages in exchange for votes (Scott 1969, Stokes 2005). When confronted with the presence of armed groups, households adopt several strategies to minimize the risk of victimization and take advantage of economic opportunities: either forming alliances with political and military power holders, or avoiding political involvement to keep a low profile and restricting networks to the close family (Korf 2004). Some individuals may join in forms of collective action to either collaborate with or resist armed groups (or other behaviors in between). Others may remove themselves from local organizations for fear of being targeted (or are removed forcibly). When alliance formation takes place at a collective level, we may observe a net increase in what appears to be pro-social behavior. This may not necessarily have positive effects in terms of development and stability because it may result in increased inequalities and social exclusion of some social groups (Durlauf and Fafchamps 2004).

Alliance formation is an indication of processes of negotiation and interaction between armed groups and civilian populations as armed groups attempt to establish themselves in particular communities, and local populations try to survive amidst armed conflict. Alliances can, however, result in two opposite effects: they can be used by armed groups to control (forcibly or otherwise) particular communities, or they can be used by communities themselves to resist armed group presence. These two effects may both also result in increases in collective action in areas of violent conflict, but each has very different interpretations and consequences.

Control. In many circumstances, armed groups make use of local organizations to control local populations and territory not just through the establishment of networks and alliances but also through the capture of existing institutions or the establishment of new ones. Evidence for Italy and Germany reveals how the Fascist and Nazi parties captured pre-existing civic organizations to spread their message, recruit members, co-opt leaders, and take advantage of successful organization techniques (Satyanath et al. 2013, Riley 2005). In these situations, we may observe an

increase in individual or group participation in collective organizations, not due to improvements in pro-social behavior, but rather due to coercion and specific war strategies. For instance, Wood (2008) discusses how the Sendero Luminoso in Perú forced people to attend meetings and killed publicly community leaders in order to impose control and fear and disseminate their war messages. Similar accounts are described in Tambiah (1986) for the case of the LTTE in Sri Lanka and in Kaplan (2010) for the case of Colombia. Although in these circumstances we will observe a positive association between conflict and participation in collective action, it is unlikely that this will reflect true increases in social capital.

Resistance. People in areas of conflict are not necessarily pawns used in strategic warfare. All suffer greatly from the effects of violence, but many resist armed groups and shape the dynamics of conflict and violence on the ground (Kalyvas 2006, Petersen 2001). Examples of people resisting armed factions and avoiding direct war engagement abound in the literature. Wood (2003) reports how peasants in El Salvador resisted the state army (by sometimes joining the rebel movement). Petersen (2001) discusses similar evidence in the case of Lithuanian resistance against Soviet occupation in the 1940s. Support networks at the level of communities are central to successful resistance. Resistance movements have taken the form of militia groups or civil defense groups, such as the notorious *Kamajor* in Sierra Leone or a myriad of paramilitary groups in El Salvador, Perú and Colombia (Brockett 1990, Wood 2008). In Colombia, several accounts show that communities took control over their own security by creating self-defense and neighborhood watching groups (Kaplan 2010). Individuals may therefore increase participation in collective organizations to protect themselves against armed groups (Kaplan, 2010). Arjona (2009) shows that levels of resistance and opposition to armed groups in Colombia were largely shaped by the quality of local institutions pre-war: communities with a history of stronger institutions and networks were more likely to resist occupation by armed groups. As a response to the collective ability to resist, non-state armed groups may inhibit participation in local organizations to prevent civil resistance

movements or alienate support to the opponent group (Azam and Hoefler 2002, Engel and Ibáñez 2007). Increases in participation in local collective organizations may therefore be observed when communities come together to resist occupation or minimize the level of control exercised by armed groups. This is the form of collective action most likely to result in positive development outcomes over the long term (see Bateson 2014). We explore these hypotheses further in sections 4 and 5.

3. Violence and local institutions in Colombia

Colombia has suffered two major internal conflicts since 1940. The first conflict erupted during the first half of the 20th century as a result of a struggle between two major political parties, the Liberals and the Conservatives. This period, known as *La Violencia*, ended in 1958 with a power sharing agreement between the two parties which excluded leftist movements from the political system. Peasant organizations that emerged during the late period of *La Violencia* turned into left-wing guerrilla groups during the early-sixties (Sánchez and Meertens 1983). The emergence of the illegal drug trade intensified the conflict by providing resources to left-wing guerrilla groups, and promoting the creation of private armies for the protection of drug barons and some large land-owners from guerrilla attacks (Sánchez and Palau 2006, Gutierrez and Barón 2005). The conflict moved then from isolated areas to areas with abundance of natural resources and economic dynamism, and aggressions against the civil population escalated sharply. The paramilitary demobilization in 2003, along with an increase in public efforts to improve the provision of national security, has resulted in a decrease in the levels of violence. However, violence continues to persist in isolated areas of the country.

Violence against the civil population was intense in both conflicts. The whole period of *La Violencia* resulted in more than 200,000 deaths in rural areas (Palacio 1995, Sanchez and Meertens 1983). Between 1985 and 2013, approximately 166,000 people died due to the conflict, 4,700,000

people were forcibly displaced, 27,000 people were kidnapped and 25,000 people were abducted (Grupo de Memoria Histórica 2013).

The presence of different armed groups and their strategic objectives influenced strongly social relations and institutions due to their imposition of social norms and economic regulations. Guerrilla and paramilitary groups regulated daily matters, controlled movements of the population, and assumed the roles of the state in the regions under their control (Gutierrez and Barón 2005, Grupo de Memoria Histórica 2012, 2011a). These groups enforced economic regulations by defining rules of extraction for natural resources, acting as intermediaries between the communities and private enterprises, and levying taxes (Grupo de Memoria Histórica 2010, 2011a).

Other strategic objectives of armed groups included the capture of state institutions, the weakening of the political system and the elimination of existing power structures to impose a new social order. Non-state armed actors co-opted or joined local authorities to control the population and capture local rents (Arjona 2008). The decentralization process that started in 1988 facilitated a closer relation between local authorities and armed groups, setting the ground for armed groups to control local institutions and gain greater access to political power and local budgets (Sánchez and Palau 2006). Armed actors also sought to directly influence elections (Acemoglu, Robinson and Santos 2009). The purpose was to undermine state presence, weaken the legitimacy of the electoral process and allow them to increase control over the civilian population (Grupo de Memoria Histórica 2010).

These strategies debilitated social networks and community organizations. Non-state armed actors instilled fear on the population, and deliberately targeted community leaders and some organizations to force collaboration. For example, paramilitary groups targeted productive organizations and JACs because they perceived them to be lenient to guerrilla groups. Willingness

to participate in community organizations or collective activities decreased. Fear and the risk of aggressions if being perceived as collaborators of opponent groups generated mistrust among the population. Households retreated to private life and restricted social interactions to family and some close friends. Sometimes destruction of infrastructure, land mines and compulsory confinement created physical obstacles to collective activities (Grupo de Memoria Historica 2011a, 2010).

But armed groups also captured local organizations and created new ones, imposing leaders and new members. In some areas, community organizations became a protection mechanism against violence. In others, armed groups faced civil resistance in communities with strong organizations. In these places, armed groups bursted into communities by coercing the actions of the JACs, Community Action Boards formed in 1958 whose main purpose was to counteract weak state presence in geographically isolated areas and strengthen social networks. They forced the population to attend JAC sessions and coerced its members to participate in public work. Community members kept attending meetings and participating in organizations out of fear. In other communities, non-state armed groups captured local organizations, mainly JACs, and used them as a vehicle to further their political objectives. Armed groups more easily influenced the population in communities with weak social organizations.

At the same time, some communities devised creative strategies to avoid total control of non-state armed actors over their organizations and collective life. Communities created new organizations with an apparent non-political purpose, such as sports, religious and cultural organizations, to avoid targeting. Massive protests relying on religious signs were organized after the occurrence of overt human rights violations. Direct negotiations between armed groups and community representatives took place to ease rules of conduct, request mercy for threatened community members, and prevent asset seizure. Women started to play a predominant role in community organizations to reduce the visibility of men or after their death (Grupo de Memoria Historica 2011b, 2012).

These historical processes provide an account of the complex nature of the relationship between armed groups, community organizations and individual motivations in conflict-affected areas in Colombia. The adoption of the strategies used by armed groups and local communities (alliance, control or resistance) is strongly related to the territorial control armed groups exert. We argue, and show empirically in the next sections, that these local contexts and the ability to exert control over a region influence considerably the decisions of households and individuals to participate in local organizations, ultimately affecting local forms of collective action.

4. Empirical strategy

The purpose of this section is to identify empirically the impact of armed conflict on collective participation and the structure of local organizations. We estimate first the impact of direct exposure to violence on participation in local organizations in order to be able to compare our results to similar studies (Bellows and Miguel 2009, Blattman 2009). We then explore how the relationship between violent conflict and individual participation in local organizations is mediated by the presence of non-state armed actors in each community. We estimate these effects by type of organization (productive organizations, political organizations and others) and by the extent of individual participation in each type of organization (in terms of taking up leadership positions in those community organizations, attending community meetings and participating in decision-making at the community level). Community organizations are divided into productive (cooperatives, unions and producers' organizations), political (JACs, political parties or movements and organizations supported by the state) and non-political (charity, environmental, cultural, sport or security organizations).

4.1. Data

We use several sources of data to conduct the analysis. The first is the Colombian Longitudinal Survey of Universidad de los Andes (ELCA). The sample covers 10,800 households: 6,000 in urban areas and 4,800 in rural areas. In this paper, we use the rural sample (surveyed in 2010) since the conflict in Colombia has mostly taken place in the rural areas of the country. The rural sample is representative of small agricultural producers in four micro-regions: Atlantic, Central, Coffee-Growing and South. Within each region, municipalities and communities were randomly chosen. The sample covers 17 municipalities and 222 rural communities.⁵ The household questionnaire collects information on employment, consumption, land tenure and property rights, agricultural production, asset ownership, and participation in social organizations, among others. The exact geographical location of each household was recorded using GPS. The rural community questionnaire elicited information on social and public infrastructure, incidence of land-related conflicts and the conflict history of the community the 10 years prior to the survey.

We triangulate the information in ELCA with several other sources of data on geographical information, the conflict history and municipal characteristics. We gathered detailed information on geographical variables for the 222 communities based on sources from the official geographical institute in Colombia (IGAC) and the Global Land Cover Facility at the University of Maryland. Due to concerns about the accuracy of self-reported data,⁶ we complement the information on conflict history collected through ELCA with official sources from the National Government on non-state armed groups and fronts that were present in each rural community between 2000 and 2009. We use additional municipal characteristics as controls in the different regressions. These include average homicide rates, and distance to the main market for agricultural produce. We constructed these variables using a municipal panel collected by the Department of Economics of Universidad de los Andes which regularly collects information from several official sources.

⁵ Municipalities in Colombia are divided into smaller administrative units (rural communities) that cover between 500 and 1.000 inhabitants.

⁶ Since conflict is still on-going in the ELCA regions, some households may have not reported violent victimization.

4.2. Empirical model

One important feature of the empirical strategy we use is the fact that it allows us to address potential endogeneity biases. To this purpose, we constructed pairs of contiguous rural communities with and without presence of non-state armed actors. We define contiguous pairs of rural communities based on two criteria: (i) the two communities share a geographical border within the municipality; and (ii) among the two communities, one has presence of armed groups and the other does not. Any given rural community with presence of armed groups may have multiple pairs of rural communities without armed group presence. We exploit this variation within each rural community pair to identify the impact of armed group presence on individual participation in collective organizations. Rural communities share a common history of institutional development, cultural traits, and social norms of collective participation, among others, that may influence participation in organizations and presence of non-state armed actors. By exploiting variation in the presence of armed actors within contiguous communities, we control for these unobservable variables that vary smoothly across communities and are potential sources of bias. Acemoglu et al (2012), Naidu (2012), Gilligan et al (2014) and Dube et al (2010) use a similar spatial discontinuity strategy.

We also control for a rich set of geographic, household, land plot, rural community and municipality variables that may simultaneously determine the presence of non-state armed actors, the incidence of violent shocks and individual participation in local organizations. This strategy corrects endogeneity caused by the non-random relationship between armed group presence and community characteristics. However, endogeneity biases that may result from the deliberate targeting of certain community members may persist. We control also in all regressions for several household and individual characteristics that may signal potential targeting from armed groups.

We estimate the following model for person i , in household h , located in rural community j , pair p and state k ,

$$P_{hijpk} = \alpha_0 + \gamma_p + \mathbf{W}'_{hijk}\alpha_1 + \mathbf{X}'_{hjk}\alpha_2 + \mathbf{Z}'_{jk}\alpha_3 + \alpha_4 S_{jk} + \alpha_5 A_{jk} + v_{hijk} \quad (1)$$

where γ_p denotes a rural community pair fixed effect, \mathbf{W}_{hijk} , \mathbf{X}_{hjk} and \mathbf{Z}_{jk} are vectors of individual, household and rural community characteristics respectively, S_{jk} is the number of type of conflict-induced shocks that occurred in the rural community during the previous year, A_{jk} represents years of presence of non-state armed actors during the 10 years prior to the survey in rural community j located in state k and v_{hijk} is a random error. P_{hijpk} represents several outcomes for individual participation as discussed above. We cluster the standard errors at the municipality level.

We define violent shocks as those clearly related to conflict such as homicides, illegal land seizure, kidnapping and threats from armed groups. We exclude cattle theft because it is difficult to establish whether it was performed by criminal or non-state armed groups. However, we control for cattle theft in all regressions.

We control also for a series of individual characteristics including traditional covariates such as age, age squared, years of completed education and gender. We also control for whether the individual was born in that rural community because we expect individuals born in the rural community to have stronger social networks and be less responsive to violent threats. Household-level variables included in the regressions are household size, number of children under five years of age, and a principal component index for asset ownership. Rural community-level variables control for geographic characteristics, land quality, and other covariate shocks. Geographic variables measure distance from the rural community to economic activities and transportation routes and include: time to reach municipality, distance to the state capital, distance to primary roads and nearest non-

primary road, distance to the nearest sea shore, and distance to the nearest river route. As our sample covers rural households dedicated to agricultural activities, we control also for physical characteristics that may determine agricultural productivity, such as an index of soil erosion, whether water is scarce in the community and the monthly rainfall mean from 1980 to 2008. We also control for other shocks that may promote participation and might be correlated to conflict onset: the number of months during the previous year in which rainfall was below the mean rainfall, the number of months during the previous year in which rainfall was above the mean rainfall and the incidence of cattle theft during the previous year. State presence in the rural communities may determine participation and the ability of non-state armed actors to control the territory. To control for state presence, we create a variable for the number of state institutions at the rural community level.⁷ Time to reach the urban center municipality and distance to the state capital also partially control for state presence. We control also for population size of the rural community, as well as the past history of conflict in the municipality by including the average municipal homicide rate between 1993 and 2000, and between 2000 and 2008. Our coefficients of interest are α_4 and α_5 , which capture respectively how direct exposure to violence and presence of non-state armed actors may shape participation in local organizations.

4.3. Descriptive statistics

Table 1 shows the presence of armed groups as reported in the community questionnaires and by the National Government. We define a dummy variable equal to one if during the period between 2000 and 2009 an armed group was present at least one year, according to any of the two sources of information. We combine the two sources because we have identified under-reporting in both datasets. In the community questionnaire, leaders may be afraid of answering truthfully if armed groups are present and/or exerting control. Some leaders may also not report armed group presence to avoid future attacks. Government sources seem also to under-report armed group presence. On

⁷ The number of state institutions at the rural community level include day care centers, primary schools, secondary schools, and health centres.

the one hand, in rural communities where state presence is weak, government sources may not be aware of armed group presence. On the other hand, government sources may not report presence of armed groups for strategic reasons. Reports of armed group presence are slightly higher in the Government data than in the ELCA community questionnaire: 25.1 and 23.6 percent, respectively. Information for a large percentage of rural communities overlaps, but reports do not coincide in nearly 31.7 percent of all cases.

[Table 1 about here]

To measure household exposure to violent shocks, we have included a dummy variable equal to one if the household lives in a rural community that faced covariate violent shocks during the year before the survey. Table 2 reports incidence of covariate and idiosyncratic shocks. Sixteen percent of households suffered a covariate conflict-induced shock during the last year. The most frequent shock is homicides (12%). Threats from armed groups – which are not violent attacks but instill fear in the population – affect 4.1 percent of all households. Incidence of idiosyncratic shocks is high: 9.8 percent of households have been individually exposed to violence. However, idiosyncratic violent shocks are related mostly to (cattle) theft, a shock not necessarily related to the conflict but rather to other criminal networks (and high in Colombia). Given these results, the remaining analysis will focus only on covariate violent shocks.

Violent shocks are in general more frequent in communities with presence of armed groups (table 2). Interestingly, this effect is dominated by threats from armed groups, and not physical violence per se. If armed groups are present in a given community, homicides against the population are usually lower than in communities with no armed group presence, although the difference is not statistically significant. Yet they use strategies, such as threats and kidnappings, to control the population. This is in line with the seminal results discussed in Kalyvas (2006), which show that

aggressions typically intensify when two groups contest the same territory, but are likely to decline when one armed group takes control over a territory and its population.

[Table 2 about here]

Table 3a and 3b show a series descriptive statistics across the full sample, and distinguish between direct exposure to violence and armed group presence. People living in rural communities with and without direct exposure to violence have similar characteristics: individuals living in rural communities with incidence of shocks are slightly better educated and have less wealth, but all other characteristics are similar (table 3a). We observe significant geographical differences across rural communities with and without incidence of shocks. Rural communities that have experienced violent shocks are more populated, are located in drier areas, faced more drier months during the previous year, and land is of a lesser quality (less access to water and more soil erosion). These communities are also more isolated from urban areas, the state capital, and the nearest sea shore and river routes (table 3b). We find a similar pattern for households living in rural communities with and without presence of non-state armed groups (table 3a). The wide divergence we observe in geographical characteristics, but much less in terms of household characteristics, reinforces the use of our identification strategy.

[Tables 3a and 3b about here]

We examined the balance of household characteristics for communities with and without presence after creating the contiguous pairs. We find that matching communities in contiguous pairs reduces the differences across household characteristics. The difference for most of the geographic characteristics decreases significantly, in particular the number of institutions and population, which

may be correlated to participation. Other geographic characteristics are not necessarily correlated to participation, but are controlled for in any case in the main regressions.⁸

Table 4 reports the descriptive statistics for individual participation in local organizations. Almost one quarter of people in our sample participate in organizations, 10% take up leadership roles, 22.8% attend meetings in the community and 15.5% engage in decision-making processes. Participation is concentrated among political (16.8%) and other organizations (10%). Further analysis of this data (not shown) showed that participation in political organizations is mostly driven by participation in JACs (15.2%).

Participation differs across exposure to violent shocks and to armed group presence. Individual participation in community organizations is lower in rural communities that faced direct exposure to violence during the previous year. Political organizations seem to be particularly weakened. Participation and leadership in productive and other organizations are higher in communities exposed to violent shocks. In sharp contrast, overall participation, leadership, meeting attendance and engagement in decision-making are significantly higher in communities with presence of non-state armed actors vis-à-vis those without armed group presence. The results are mostly driven by participation in political organizations. Leadership in political organizations is also higher in communities with armed group presence.

[Table 4 about here]

5. Econometric results

⁸ Results are available upon request to the authors.

Following the existing literature, we estimate first the impact of direct exposure to violence, conditional on a rich set of individual, household and geographic controls. We then separate the impact of conflict into incidence of violent shocks and years of presence of armed groups.

5.1. Empirical results: direct exposure to violence

Table 5 reports the results for the causal impact of violent shocks on individual participation in different types of organizations, and across different dimensions of participation. The results show that direct exposure to violence does not have a statistically significant impact on overall participation or on participation in political organizations. The effect on participation in productive and other organizations, and on engagement in decision-making across all types of organizations, is negative and statistically significant. Violent shocks seem, however, to result in considerable increases in individuals assuming leadership positions (across all types of organizations) and attending political meetings. The magnitude of these effects is large. For example, the marginal effect evaluated at the mean for the effect of violent shocks on assuming leadership positions is 12.8% (127% of total), and 10.5% (72% of total) for attendance to meetings.

Although direct exposure to violence does not affect participation in political organizations, assuming leadership positions and attendance to meetings does increase significantly. However, participating in decision-making is lower in political organizations as a consequence of direct exposure to violent shocks.

[Table 5 about here]

5.2. Empirical results: presence of armed groups

In table 6, we introduce the presence of armed groups. We regress participation in local organizations on direct exposure to violence and years of presence of armed groups. The results are quite striking. After controlling for years of presence, the coefficient estimates for incidence of

direct exposure to violent shocks become negative and statistically significant in the three types of organizations and across all dimensions of participation. Assuming leadership positions in political organizations is the only coefficient that remains positive.

The regressions show further that the longer the presence of armed groups in any given community, the larger the increase in overall participation, and across all other dimensions of collective action. This positive impact is particularly strong for political organizations in which a longer presence of armed groups exerts a positive effect on participation in political organizations and attending meetings. Participation in political organizations increases by 5.6%, which is equivalent to 35% of total participation, and attendance to meetings increases by 5% (34% of total). Nonetheless, lengthy armed group presence reduces participation in decision making in political organizations by 0.3% (158% of total) and has no impact on assuming leadership roles. The impact of years of presence on productive organizations is also positive and significant for all dimensions of participation.

[Table 6 about here]

These results strongly support our hypothesis that the impact of conflict on individual participation in local organizations is mediated by the presence of armed groups. Armed group presence seems to promote local participation, in particular in political organizations. In contrast with existing literature, we find that direct exposure to violence has a strong negative impact on participation in community organizations, once we take into account the presence of armed groups in each community.

The validity of the causal results discussed above is dependent on our ability to identify the presence of armed groups as a ‘treatment’ effect. One potential challenge to this identification strategy is the occurrence of spillover effects across the boundaries of the rural communities. These

spillover effects may arise because the presence of non-state armed actors may have an impact beyond the borders of the rural community, or households may migrate to neighboring communities to avoid the impacts of conflict. If this is the case, we would expect individual participation in collective organizations to also increase in neighboring communities indicating that our results may underestimate the true effect of armed group presence on collective action. This will not threaten our estimations in a substantial way given that we have obtained coefficients that are large in magnitude and statistically significant. However, results may be overestimated if fear or other reasons related to the presence of armed groups reduced participation in neighboring communities. In order to test for spillover effects, we conduct a placebo test. For each rural community without presence of non-state armed actors, we assigned the average number of years of presence of the bordering communities with presence of armed groups. We estimated then the regressions using only the sample of the communities without armed group presence. A statistically significant coefficient for years of presence would be indicative of spillover effects. A statistically significant and positive coefficient would indicate that the control communities (without armed group presence) are communities that may be strongly resisting armed groups. In that case, armed groups do not choose to go into those communities because they would rather avoid resistance. They therefore choose communities that are easier to control. If this is the case, then we would confirm that our results underestimate the true relationship between armed group presence and participation in collective action. A statistically significant but negative coefficient would indicate an overestimation of the results because, for instance, individuals in surrounding communities (without armed group presence) may choose to avoid participation in collective organizations for fear of attracting armed groups to their communities. We find that the coefficients are not statistically significant and their magnitude is very small (tables 7 and 8). These results strongly suggest that spillover effects are unlikely.⁹

⁹ As an alternative robustness check we estimated propensity scores for the probability of armed groups' presence in a community and created fictitious regions matching each community with presence of non-state armed actors to five rural communities without presence and the closest propensity score to the former. We perform the same estimations as in table 6 within these fictitious regions. The results are qualitatively similar to those of table 6. Most of the coefficient

5.3. Discussion and mechanisms

The results above provide evidence for two main findings: (i) the effect of violent conflict in Colombia on individual participation in collective organizations is shaped by the presence of armed groups rather than by direct exposure to violence; and (ii) armed group presence in a given community leads to increases in individual participation in collective forms of organization. What mechanisms explain these results?

The reasons for the first result have been discussed in detail in sections 1 and 2 in the paper: direct exposure to violence only allows for a very partial influence of violent conflict on collective action, which may be strongly mediated by institutional changes caused by the arrival of armed groups in local communities. The mechanisms explaining stronger individual participation in local organizations in regions with armed group presence are less straightforward. On a positive note, we may argue that communities organize themselves to counteract the presence of armed groups, by resisting them or by creating networks of support among themselves. A less rosy outlook might interpret higher participation in local organizations as a result of strong control of armed groups upon the population, rather than an increase in pro-social group behavior. In section 2 we discussed three alternative theoretical hypotheses that may explain a positive association between armed group presence and collective action: alliance formation, control and resistance. We analyze below whether these hypotheses may explain the results above.

Alliance formation is not easy to observe empirically because people will try to hide their alliances in areas where insecurity is high. One solution would be to look at patterns of voting behavior in communities with armed group presence (Acemoglu, Robison and Santos 2010). Unfortunately the ELCA 2010 survey does not include this information. Another solution would be to examine

estimates for years of presence have the same sign but some are not statistically significant. This is to be expected because matching via PSM is likely to be less efficient than our matching strategy (Hirano, Imbens et al. 2003). Results are available from the authors upon request.

patterns of unequal membership of different collective organizations. This is because the formation of strategic alliances in conflict-affected areas is likely to create certain clubs that will include some community members (or other individuals brought into the community) that will advance the objectives of the armed group, and exclude those that oppose those objectives (see, for instance, Korf 2004). We are able to test for distributional effects of organizational membership by individual wealth and education status. The underlying hypothesis is that if our results reflect a genuine increase in the strength of civil society then we would not expect much of a difference across socio-economic groups because there would be no barriers to entry. After all, the communities in our sample are all poor rural communities where socio-economic differences are almost negligible (as reported in table 3a). Differences across socio-economic groups would indicate some preference for who leads, particularly if the interests of that group are aligned to those of the armed group.

Tables 7 and 8 show the results across education levels and wealth terciles. We divide households into educated (at least one household member with more than primary education) and less educated (no household members with more than primary education). We also divide households into low wealth (first tercile), medium wealth (second tercile) and high wealth (third tercile). The results are very striking, showing that increases in individual participation in political organizations are driven mostly by the wealthier and better educated. The results show in addition an increase in leadership in political organizations by wealthier individuals, but no change in their engagement in decision-making processes. In contrast, poorer and less educated individuals increase their participation, meeting attendance, leadership and decision-making engagement in productive organizations. The fact that we see an increase in participation – in particular political participation across the rich – may indicate some alliance formation between armed groups and more powerful individuals, similarly to the Sri Lanka case documented by Korf (2004). These findings are only indicative but suggest that alliance formation may explain an increase in collective action in communities with stronger armed group presence.

[Tables 7 and 8 about here]

Testing the competing hypotheses about the capture of organizations by armed groups or resistance by communities is even more challenging because it is very difficult to obtain reliable data on these types of strategic objectives. We have been able, however, to gather two pieces of evidence that substantiate the ‘control’ hypothesis. As discussed in section 2, increases in participation may indicate control if certain groups (such a community natives) stop being appointed as leaders or engaging in decision-making processes. These may be chased out of the community, killed or simply replaced by allies of the armed group (Wood 2008). In order to partially test this hypothesis, we were able to construct a measure of ‘native inhabitant’ of the community by looking at whether the individual has always lived in the same house since the formation of the household. The results, presented in tables 7 and 8, show that the increase in participation in political organizations in communities with strong armed group presence are not being driven by individuals that have always lived in the community. In fact, these individuals reduce their participation (not statistically significant), leadership positions and meeting attendance in political organizations. Native inhabitants of the community do, however, increase their participation, leadership and decision-making in productive organizations. These results are remarkably similar to those obtained for the poorer individuals in the sample suggesting that perhaps the increase in participation in political organizations we observe in the previous section may be being driven by wealthier individuals from other communities.¹⁰ Indeed, some anecdotic evidence for Colombia reports non-state armed actors in Colombia strategically displaced some groups of the population to bring non-natives akin to their ideology.¹¹ Armed actors provided also these non-natives with land and other productive assets.¹²

¹⁰ In order to identify whether this is the case, we regress the probability of being non-native on household characteristics. The results show non-natives are wealthier than natives.

¹¹ http://moe.org.co/home/doc/moe_mre/CD/PDF/arauca.pdf retrieved on the 5th of July.

¹² For some examples see:

The second piece of evidence comes from the differentiated effect of length of armed group presence. In tables 7 and 8, we explore whether the effect of years of presence of armed groups on participation is stronger in regions with a recent arrival of armed groups. The idea here is that we expect control of armed groups to increase across time. Therefore, if individual participation in collective organizations is driven by capture then we expect this to increase as armed groups consolidate their presence in the community. Conversely, if participation is being driven by resistance, we would expect households to strongly adjust their behavior in regions with a recent arrival of armed groups and therefore increase participation in the short-term. Once they adjust beliefs about the behavior of armed groups and learn to live amid conflict, reactions towards armed group presence might be weaker and participation may reduce. In order to identify this potentially important effect, we create a dummy variable equal to one when armed groups have been present less than two years and we interact this variable with the variable representing armed group presence.¹³

Tables 7 and 8 show the heterogeneous impact of armed group presence according to whether presence is recent (less than 2 years) or more prolonged (2 to 10 years). The results for the interaction term between years of armed presence and a dichotomous variable for recent presence indicates that households adjust sharply during the first two years. Recent presence of non-state armed actors reduces significantly participation in all dimensions, yet each additional year of presence increases participation. In other words, as the presence of armed groups prolongs, individuals increase participation in all dimensions. Although it is possible that this indicates that people become better at devising collective strategies to reduce the impact of armed groups and negotiate with them via collective organizations, we believe that these results, in conjunction with

<http://www.centrodehistoria.gov.co/documentos/informes/informes2013/guerrilla-poblacion-civil.pdf> and <http://www.verdadabierta.com/tierras/despojo-de-tierras/5015-el-fantasma-de-sor-teresa-gomez-en-territorio-chocoano> retrieved on the 5th of July.

¹³ We tested using one year or less of presence and the results are robust. The results are available upon request to the authors.

the evidence discussed above, suggest that armed groups strengthen their control over the population over time, coercing certain communities members to participate more in organizations that advance their objectives.

There is one small piece of evidence in favor of the resistance hypothesis. In addition to the findings above, the results show that women increase participation across most forms of participation (including an increase in political leadership and in political decision-making; though this latter effect is not statistically significant). Because mortality is more frequent among men, several studies have shown that women often assume an active role in community organizations during violent conflict (Bateson 2012, Justino et al. 2012). The results show that impact of armed groups on individual participation is different for men and women (tables 7 and 8). Women in communities with armed group presence participate more, assume more leadership roles and attend more meetings overall in political and productive organizations. The impact is negative or not statistically significant for non-political organizations. The impact of years of presence of armed groups on men's participation is mostly negative (with the exception of productive organizations). Several causes may be driving the differential effect for women and men. First, women may assume leadership roles during conflict as men are more affected by aggressions of armed groups and die in larger proportions. Second, men may prefer to retreat to private life to reduce their visibility and thus avoid targeting from armed groups. However, the literature on the Colombia conflict suggests that these results do not indicate overt resistance from women (Grupo de Memoria Histórica 2011a; Grupo de Memoria Histórica 2011b), but rather hidden resistance along the lines of Scott (1985). It remains to be seen whether these hidden forms of resistance may benefit social cohesion and contribute to enhanced social capital once the conflict ends.

6. Conclusions

The paper analyzed how the presence of armed groups may affect individual participation in local forms of collective organization in Colombia, using a unique individual, household and community-level dataset with specific modules designed to understand how institutions and social norms emerge and evolve during conflict. We derived causal effects of armed group presence on individual participation in local collective organizations by comparing contiguous pairs of rural communities that share common socio-economic characteristics but differ in terms of armed group presence. This is an important contribution of the paper because, contrary to existing literature, it enabled us to control for potential endogeneity in the relationship between violent conflict and local collective organization. We compared and contrasted the results of this analysis with the effects of direct exposure to violence.

In line with recent studies, we find some evidence that individual participation in local organizations increases in communities affected by war-related violence. The results change dramatically once we control for presence of armed groups. We find that the positive effect of conflict on individual participation in local collective organizations is explained by the presence of armed groups in any given community. This suggests that the impact of violent conflict on individual participation in local organizations is mediated by the governance structures and norms imposed by armed groups and not by direct exposure to violent shocks.

This is an important result because the effects of conflict on society are not limited to the effects of direct exposure to violence. Notably, violent conflicts result in changes in norms and institutions (some violent, some non-violent) that will shape how societies recover from the effects of conflict violence, and to how people access livelihoods, basic services, security and public goods in the aftermath of armed conflicts. Furthermore, violence exposure may constitute only a partial aspect of conflicts, particularly those that last for long periods of time.

We analyzed three potential theoretical mechanisms that may shape these results. We found that the positive effect of armed group presence on individual participation in collective organizations in Colombia is driven mostly by an increase in individual attendance of meetings of political organizations. This is accompanied by reduced individual participation in political decision-making processes, signaling that stronger participation in these organizations might be the result of coercion from armed groups, rather than an indication of a vibrant civil population.

These results contribute significantly to better understanding of the links between household choices and institutional organizations in a context of violent conflict. The absence of theorization and empirical evidence on channels linking variation in behavior of local populations with changing institutional environments has been one of the main gaps identified in the emerging research on local conflict processes (Blattman and Miguel 2010, Kalyvas 2008). The paper shows how social capital may be manipulated by armed groups to advance and cement their own war strategies and political objectives. This is an important contribution to the literature because the impact of these processes of social change on the lives of local populations can be significant, affecting the ability of people to rely on and participate in community networks and organizations, as well as how communities will rebuild and resources are accessed and distributed in the aftermath of violent conflict. In particular, the results point to some caution in current policy agendas on targeting aid to communities in the hope of sustaining social cohesion. If the type of social capital capture we observe in Colombia is also present in other countries, post-conflict aid may well reinforce war dynamics and the power of armed groups and their allies, thereby sowing the seeds for conflict re-ignition. This will also have important significance for the ongoing peace process in Colombia, where the role of social capital will be central for the economic and social recovery of communities affected by six decades of violent conflict.

References

- Acemoglu, Daron, James Robinson and Rafael Santos. 2012. "The Monopoly of Violence: Evidence from Colombia." *Journal of the European Economic Association* 11(1):5-44
- Arjona, Ana M. 2009. "One National War, Multiple Local Orders: An Inquiry into the Unit of Analysis of War and Post-war Interventions." In *Law in Peace Negotiations* Edited by: M. Bergsmo and P. Kalmanovitz. Oslo: Torkel Opsahl Academic Publisher.
- Azam, Jean Paul and Anke Hoeffler. 2002. "Violence against Civilians in Civil Wars: Looting or Terror?" *Journal of Peace Research* 39 (4): 461-485.
- Bateson, Regina. 2012. "Crime Victimization and Political Participation." *American Political Science Review* 106(3): 570-587.
- _____. 2014. "Constructing Order after Civil War: Theory and Evidence from Guatemala." Draft prepared for MPSA, April 3.
- Bauer, Michal, Julie Chytilova, Barbara Pertold-Gebicka. 2011. "Effects of Parental Background on Other-regarding Preferences in Children." CERGE-EI Working Papers wp450, The Center for Economic Research and Graduate Education - Economic Institute, Prague.
- Bellows, John and Miguel, Edward. 2009. "War and local collective action in Sierra Leone." *Journal of Public Economics*, Elsevier, 93(11-12): 1144-1157.
- Blattman, Christopher. 2009. "From Violence to Voting: War and Political Participation in Uganda." *American Political Science Review*, 103: 231-247.
- Brockett, Charles D. 1990. *Land, Power and Poverty: Agrarian Transformation and Political Conflict in Central America (Thematic studies in Latin America)* Westview Press.
- Cassar, Alessandra, Pauline Grosjean and Samuel Whitt. 2011. "Social Cooperation and the Problem of the Conflict Gap: Survey and Experimental Evidence from Post-War Tajikistan." UNSW Australian School of Business Research Paper No. 2011-15.
- De Luca, Giacomo and Marijke Verpoorten. 2011. "From Vice to Virtue? Civil War and Social Capital in Uganda," HiCN Working Papers 111, Households in Conflict Network.
- Dube, Arindrajit, William Lester and Michael Reich. 2010. "Minimum Wage Effects Across State Borders: Estimates Using Contiguous Counties." *Review of Economic and Statistics* 92(4): 945-964.
- Durlauf, Steven N. and Marcel Fafchamps. 2004. "Social Capital". NBER Working Paper No. 10485.
- Easterly, William, Michael Woolcock and Jozef Ritzen. 2006. "Social Cohesion, Institutions and Growth." *Economics and Politics* 18(2), July.
- Engel, Stefanie and Ana M. Ibáñez. 2007. "Displacement Due to Violence in Colombia: A Household Level Analysis." *Economic Development and Cultural Change* 55(2): 335-365.

- Fafchamps, Marcel and Lund, Susan. 2003. "Risk-sharing networks in rural Philippines." *Journal of Development Economics*, Elsevier, 71(2): 261-287, August.
- Fearon, James D. and David D. Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 75-90. doi:10.1017/S0003055403000534.
- Foster, Andrew D. and Mark R. Rosenzweig. 2001. "Imperfect Commitment, Altruism, And The Family: Evidence From Transfer Behavior In Low-Income Rural Areas." *The Review of Economics and Statistics*, MIT Press, vol. 83(3):389-407, August.
- Gambeta, Diego. 1996. *The Sicilian mafia. The business of private protection*. Cambridge: Harvard University Press.
- Gilligan, Michael J. and Pasquale, Benjamin J. and Samii, Cyrus. 2011. "Civil War and Social Cohesion: Lab-in-the-Field Evidence from Nepal", *American Journal of Political Science* 58 (3): 604-619.
- Grupo de Memoria Histórica. 2010. *Silenciar la democracia. Las masacres de Remedios y Segovia, 1982-1997*. Taurus Editores, Bogotá.
- _____. 2011a. *San Carlos: Memorias del éxodo en la guerra*. Taurus Editores, Bogotá.
- _____. 2011b. *Mujeres que hacen historia: Tierra, cuerpo y política en el Caribe Colombiano*. Taurus Editores, Bogotá.
- _____. 2013. *Basta Ya! Colombia: Memorias de guerra y dignidad*. Imprenta Nacional, Bogotá.
- Gutiérrez, Francisco and Mauricio Barón. 2005. "Re-Stating The State: Paramilitary Territorial Control and Political Order in Colombia (1978-2004)". London School of Economics. Working Paper No. 66.
- Hirano, Keisuke, Guido W. Imbens and Geert Ridder. 2003. "Efficient Estimation of Average Treatment Effects Using the Estimated Propensity Score." *Econometrica* 71(4): 1161-1189.
- Justino, Patricia. 2013. Research and policy implications from a micro-level perspective on the dynamics of conflict, violence and development." In *A Micro-Level Perspective on the Dynamics of Conflict, Violence and Development*, edited by: Justino, P., Brück, T. and Verwimp, P. Oxford University Press.
- Justino, Patricia, Ivan Cardona, Rebecca Mitchell and Catherine Müller. 2012. "Quantifying the Impact of Women's Participation in Post-Conflict Economic Recovery," HiCN Working Papers 131, Households in Conflict Network.
- Kalyvas, Stathis. 2006. *The Logic of Violence in Civil War*. Cambridge: Cambridge University Press.
- _____. 2008. Ethnic Defection in Civil War. *Comparative Political Studies* 41(8): 1043-68, August. 10.1177/0010414008317949.

- Kalyvas, Stathis N. and Matthew Adam Kocher. 2007. "How "Free" is Free Riding in Civil Wars?: Violence, Insurgency, and the Collective Action Problem." *World Politics* 59: 177-216. doi:10.1353/wp.2007.0023.
- Kaplan, Oliver R. 2010. "Civilian Autonomy in Civil War." Dissertation: Stanford University.
- Korf, Benedict. 2004. "War, Livelihoods and Vulnerability in Sri Lanka." *Development and Change* 35(2): 275-295.
- Naidu, Suresh. 2012. "Suffrage, Schooling, and Sorting in the Post-Bellum US South." NBER Working Paper No. 18129.
- North, Douglas. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- Nunn, Nathan and Leonard Wantchekon. 2011. "The Slave Trade and the Origins of Mistrust in Africa." *American Economic Review*, 101(7): 3221-52.
- Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press.
- Palacios, Marco. 1995. *Entre la legitimidad y la violencia. Colombia 1875 -1994*. Santafé de Bogotá: Editorial Norma.
- Petersen, Roger. 2001. *Resistance and rebellion: lessons from Eastern Europe*. Cambridge, UK: Cambridge University Press.
- Putnam, Robert D. 1993. "The prosperous community: social capital and public life." *American Prospect* 4:13.
- Riley, Dylan. 2005. "Civic Associations and Authoritarian Regimes in Interwar Europe: Italy and Spain in Comparative Perspective." *American Sociological Review* 70 (2): 288–310.
- Rohner, Dominic, Mathias Thoenig and Fabrizio Zilibotti. 2011. "War signals: a theory of trade, trust and conflict." ECON - Working Papers 013, Department of Economics - University of Zurich
- Sánchez, Fabio and María Del Mar Palau. 2006. "Conflict, Decentralisation And Local Governance In Colombia, 1974-2004." DOCUMENTOS CEDE 002180, UNIVERSIDAD DE LOS ANDES-CEDE.
- Sánchez, Gonzalo and Meertens, D. 1984. *Bandoleros, gamonales y campesinos: el caso de la Violencia en Colombia*. El Áncora Ed. Bogotá.
- Satyanath, Shanker, Nico Voigtlaender and Hans-Joachim Voth. 2013. "Bowling for Fascism: Social Capital and the Rise of the Nazi Party. NBER Working Paper No. 19201.
- Scott, James C. 1969. "Corruption, Machine Politics, and Political Change." *American Political Science Review* 63: 1142–58, December.

- Scott, James C. 1985. *Weapons of the Weak: Everyday Forms of Peasant Resistance*. New Haven: Yale University Press.
- Stokes, Susan C. 2005. Perverse Accountability: A Formal Model of Machine Politics with Evidence from Argentina. *American Political Science Review* 99(3): 315–25, August.
- Tambiah, Stanley J. 1986. *Sri Lanka--Ethnic Fratricide and the Dismantling of Democracy*. The University of Chicago Press.
- Voors, Maarten J. Eleonora E. M. Nillesen, Philip Verwimp, Erwin H. Bulte, Robert Lensink and Daan P. Van Soest. 2012. "Violent Conflict and Behavior: A Field Experiment in Burundi." *American Economic Review*, American Economic Association 102(2): 941-64, April.
- Weinstein, Jeremy M. (2007). *Inside Rebellion: The Politics of Insurgent Violence*. Cambridge, UK: Cambridge University Press.
- Wood, Elisabeth J. 2003. *Insurgent Collective Action and Civil War in El Salvador*. Cambridge, UK: Cambridge University Press.
- Wood, Elisabeth J. 2008. The Social Processes of Civil War: The Wartime Transformation of Social Networks. *Annual Review of Political Science* 11: 539-561, June.
- Woolcock, Michael. 1998. "Social Capital and Economic Development: Toward a Theoretical Synthesis and Policy Framework." *Theory and Society* 27(2): 151-208.

Table 1. Armed group presence: self-reported and Government data

% of rural communities		Armed group presence (Government)		
		No	Yes	Total
Armed group presence (self-reported)	No	59.8%	16.6%	76.4%
	Yes	15.1%	8.5%	23.6%
	Total	74.9%	25.1%	100.0%

Source: Author's calculations based on ELCA (2010) and Government (2010)

Table 2. Incidence of violent shocks – Whole sample and by armed group presence

Covariate Shocks	% of households	Armed Groups Presence		
		No	Yes	
=1 at least one shock during last year	16.3%	15.0%	18.5%	***
=1 if shock: homicides	12.2%	12.7%	11.4%	
=1 if shock: land eviction	1.0%	0.8%	1.2%	*
=1 if shock: kidnapping	1.2%	0.8%	1.8%	***
=1 if shock: threats from armed groups	4.1%	2.3%	7.0%	***
Observations	7,455	4,708	2,747	

Idiosyncratic Shocks	% of households	Armed Groups Presence		
		No	Yes	
=1 if at least one shock during last year	9.8%	9.3%	10.8%	***
=1 if assets/property destruction	1.2%	1.0%	1.6%	**
=1 if victims of violence	0.4%	0.4%	0.4%	
=1 if property theft	7.0%	6.7%	7.5%	
=1 if robberies	1.9%	1.7%	2.2%	*
=1 if extortion	0.2%	0.1%	0.3%	*
Observations	7,455	4,708	2,747	

Source: Author's calculations based on ELCA (2010)

Test for differences in sample means between communities with and without armed group presence *** p<0.01, ** p<0.05, * p<0.1

Table 3a. Descriptive statistics of control variables across shock exposure and armed group presence

Mean (S.D.)	Whole Sample (1)	Covariate Shock		+	Armed Groups Presence		++
		No (2)	Yes (3)		No (4)	Yes (5)	
Violent shocks (number of types)	1.00 (1.84)						
Years of presence	0.18 (0.44)						
=1 if male headed	0.489 (0.50)	0.487 (0.50)	0.494 (0.50)		0.487 (0.50)	0.491 (0.50)	
Age	44.43 (13.46)	44.43 (13.41)	44.45 (13.72)		44.67 (13.74)	44.02 (12.95)	**
Years of completed education	4.41 (3.37)	4.41 (3.37)	4.40 (3.41)		4.46 (4.32)	3.48 (3.18)	*
=1 if lives in town of birth	0.09 (0.28)	0.09 (0.28)	0.09 (0.28)		0.06 (0.24)	0.13 (0.34)	***
Number of household members	4.61 (1.94)	4.58 (1.93)	4.74 (1.99)	***	4.63 (1.97)	4.57 (1.89)	
Children under 5 years	0.54 (0.79)	0.53 (0.77)	0.62 (0.86)	***	0.53 (0.79)	0.55 (0.77)	
Wealth Index	-0.01 (2.51)	-0.04 (2.45)	0.15 (2.77)	**	0.10 (2.68)	-0.19 (2.17)	***
Observations	7,455	6,239	1,216		4,708	2,747	

Source: Author's calculations based in ELCA (2010) and Government Data (2010)

+ Difference between samples with and without covariate shocks. ++ Difference between samples with and without presence of armed groups. Test for mean differences *** p<0.01, ** p<0.05, * p<0.1

Table 3b. Descriptive statistics of municipality and community control variables across shock exposure and armed group presence

Mean (S.D.)	Whole Sample (1)	Covariate Shock		+	Armed Groups Presence		++
		No (2)	Yes (3)		No (4)	Yes (5)	
Number of households on community	107.34 (120.70)	109.70 (127.56)	95.25 (75.17)	***	124.94 (138.38)	77.18 (72.65)	***
Monthly rainfall average 1980-2008 (mm)	144.54 (31.45)	144.06 (31.56)	147.04 (30.74)	***	145.83 (29.44)	142.33 (34.51)	***
Months rainfall one S. D. below the mean	1.41 (1.10)	1.35 (1.07)	1.75 (1.17)	***	1.27 (1.11)	1.65 (1.02)	***
Months rainfall one S. D. above the mean	0.79 (0.90)	0.81 (0.91)	0.72 (0.90)	***	0.76 (0.95)	0.84 (0.82)	**
Time to reach urban center (hrs.)	0.78 (0.70)	0.77 (0.69)	0.84 (0.71)	***	0.75 (0.72)	0.82 (0.66)	***
Number of institutions in rural community	3.45 (2.23)	3.41 (2.24)	3.65 (2.18)	***	3.78 (2.30)	2.89 (1.98)	***
Lack of water in rural community	0.48 (0.50)	0.48 (0.50)	0.46 (0.50)		0.44 (0.50)	0.54 (0.50)	***
Municipal homicide rate (1993-2000)	60.40 (47.54)	61.93 (49.32)	52.53 (36.07)	***	54.63 (44.56)	70.28 (50.76)	***
Municipal homicide rate (2000-2008)	40.04 (29.70)	40.36 (30.68)	38.38 (24.03)	**	36.36281 (26.93)	46.34 (33.00)	***
Distance to capital of state (km)	64.52 (41.47)	65.49 (40.34)	59.52 (46.53)	***	62.95 (43.33)	67.21 (37.91)	***
Distance to primary road (km)	7.53 (8.67)	7.04 (7.73)	10.02 (12.12)	***	5.99 (6.84)	10.16 (10.63)	***
Distance to non-primary road (km)	3.46 (2.53)	3.50 (2.62)	3.22 (1.94)	**	3.82 (2.65)	2.83 (2.15)	***
Distance to rivers (km)	15.09 (12.70)	15.34 (13.04)	13.81 (10.67)	***	16.09 (13.63)	13.36 (10.68)	***
Distance to sea (km)	162.18 (113.91)	164.94 (114.87)	148.03 (107.84)	***	157.43 (122.95)	170.33 (95.98)	***
Distance to river routes (km)	79.75 (23.24)	79.15 (23.70)	82.81 (20.41)	***	83.13 (18.48)	73.94 (28.76)	***
Soil erosion index	3.27 (2.06)	3.29 (2.04)	3.16 (2.14)	*	3.11 (2.09)	3.53 (1.97)	***
Observations	7,455	6,239	1,216		4,708	2,747	

Source: Author's calculations based in ELCA (2010) and Government Data (2010)

Distance variables calculated from communities' centroids. Municipal homicide rates are averages of annual per 100,000 inhabitants' rates. + Difference between samples with and without covariate shocks. ++ Difference between samples with and without presence of armed groups. Test for mean differences *** p<0.01, ** p<0.05, * p<0.1

Table 4. Participation outcomes across shock exposure and armed group presence

	Whole Sample (1)	Covariate Shock		Armed Groups Presence		++	
		No (2)	Yes (3)	No (4)	Yes (5)		
Participation in organizations	24.45%	24.44%	24.51%	23.70%	25.74%	**	
Leadership	10.10%	10.00%	10.61%	9.77%	10.67%		
Meeting attendance	22.76%	22.68%	23.19%	21.96%	24.14%	**	
Decision-making	15.52%	15.36%	16.37%	15.36%	15.80%		
Participation in productive associations	1.26%	1.12%	1.97%	**	1.42%	0.98%	
Participation in political organizations	16.08%	16.20%	15.46%		14.74%	18.38%	***
Participation in other organizations	10.03%	9.75%	11.51%	*	10.49%	9.25%	*
Leader in productive associations	0.52%	0.46%	0.82%		0.47%	0.62%	
Leader in political organizations	6.37%	6.30%	6.74%		5.99%	7.03%	*
Leader in other organizations	4.23%	4.18%	4.44%		4.25%	4.19%	
Meeting attendance productive associations	1.17%	1.03%	1.89%	**	1.30%	0.95%	
Meeting attendance political organizations	14.55%	14.59%	14.39%		13.17%	16.93%	***
Meeting attendance other organizations	9.58%	9.33%	10.86%	*	10.00%	8.85%	
Decision-making productive associations	0.91%	0.83%	1.32%		0.98%	0.80%	
Decision-making political organizations	0.19%	0.18%	0.25%		0.25%	0.07%	*
Decision-making other organizations	0.35%	0.32%	0.49%		0.45%	0.18%	*
Observations	7,455	6,239	1,216		4,708	2,747	

Source: Author's calculations based in ELCA (2010) and Government Data (2010)

+ Difference between samples with and without covariate shocks. ++ Difference between samples with and without presence of armed groups. Test for mean differences *** p<0.01, ** p<0.05, * p<0.1

Table 5. OLS estimation: contiguous pair fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A	Participation				Leader			
	Any	Productive	Political	Other	Any	Productive	Political	Other
Violent shocks (number of types)	-0.037	-0.022*	0.060	-0.196***	0.128***	0.012**	0.214***	-0.090***
	[0.047]	[0.010]	[0.035]	[0.035]	[0.028]	[0.005]	[0.028]	[0.012]
Observations	7,455	7,455	7,455	7,455	7,455	7,455	7,455	7,455
R-squared	0.158	0.069	0.181	0.081	0.091	0.048	0.084	0.063
Panel B	Meeting Attendance				Decision-Making			
	Any	Productive	Political	Other	Any	Productive	Political	Other
Violent shocks (number of types)	0.030	-0.027**	0.105***	-0.138***	-0.091***	-0.035***	-0.012*	-0.039***
	[0.046]	[0.010]	[0.035]	[0.035]	[0.029]	[0.008]	[0.006]	[0.005]
Observations	7,455	7,455	7,455	7,455	7,455	7,455	7,455	7,455
R-squared	0.152	0.065	0.178	0.079	0.118	0.054	0.027	0.041

Estimations include all geographic, household and individual controls presented in tables 3a and 3b. Standard errors (in brackets) are estimated clustering at the municipality level

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

Table 6. Participation in local organizations and intensity of violent shocks and years of presence of armed groups - Contiguous-pair fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A	Participation				Leader			
	Any	Productive	Political	Other	Any	Productive	Political	Other
Years of Presence of any armed group	0.056***	0.020***	0.056***	0.016*	0.013	0.005***	0.012	-0.015***
	[0.009]	[0.003]	[0.004]	[0.009]	[0.008]	[0.001]	[0.008]	[0.004]
Violent shocks (number of types)	-0.251***	-0.098***	-0.152***	-0.257***	0.079*	-0.008	0.168***	-0.031*
	[0.057]	[0.016]	[0.040]	[0.037]	[0.040]	[0.007]	[0.033]	[0.018]
Observations	7,455	7,455	7,455	7,455	7,455	7,455	7,455	7,455
R-squared	0.158	0.069	0.181	0.081	0.091	0.048	0.084	0.063
Panel B	Meeting Attendance				Decision-Making			
	Any	Productive	Political	Other	Any	Productive	Political	Other
Years of Presence of any armed group	0.053***	0.019***	0.050***	0.006	0.022**	0.013***	-0.003**	0.003***
	[0.009]	[0.002]	[0.006]	[0.008]	[0.008]	[0.002]	[0.001]	[0.001]
Violent shocks (number of types)	-0.173***	-0.099***	-0.084**	-0.161***	-0.177***	-0.085***	0.000	-0.049***
	[0.054]	[0.012]	[0.038]	[0.037]	[0.042]	[0.011]	[0.005]	[0.005]
Observations	7,455	7,455	7,455	7,455	7,455	7,455	7,455	7,455
R-squared	0.152	0.065	0.178	0.079	0.118	0.054	0.027	0.041

Estimations include all geographic, household and individual controls presented in tables 3a and 3b. Standard errors (in brackets) are estimated clustering at the municipality level.

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

Table 7. Participation and assuming leadership positions: robustness checks and heterogeneous impact

	Participation				Leader			
	Any (1)	Prod. (2)	Political (3)	Other (4)	Any (5)	Prod. (6)	Political (7)	Other (8)
Panel A								
Baseline	0.056*** [0.009]	0.020*** [0.003]	0.056*** [0.004]	0.016* [0.009]	0.013 [0.008]	0.005*** [0.001]	0.012 [0.008]	-0.015*** [0.004]
Placebo	-0.009 [0.008]	0.000 [0.002]	-0.007 [0.010]	-0.000 [0.007]	0.004 [0.006]	0.000 [0.001]	0.001 [0.006]	0.005 [0.004]
Educated	0.010 [0.020]	-0.005 [0.007]	0.010 [0.016]	0.006 [0.023]	-0.038*** [0.012]	-0.008*** [0.002]	0.005 [0.011]	-0.038** [0.017]
Not Educated	0.001 [0.023]	0.017*** [0.002]	-0.002 [0.017]	0.024** [0.011]	-0.028*** [0.009]	0.005*** [0.001]	-0.001 [0.008]	-0.028*** [0.004]
High income	0.036* [0.019]	-0.002*** [0.001]	0.053*** [0.015]	0.010 [0.010]	0.018** [0.008]	-0.002*** [0.000]	0.028*** [0.008]	0.001 [0.007]
Medium income	-0.077*** [0.016]	-0.028*** [0.005]	-0.040*** [0.012]	-0.054*** [0.015]	-0.028** [0.012]	-0.006 [0.003]	0.020* [0.009]	-0.046*** [0.010]
Low income	-0.055*** [0.017]	0.044*** [0.008]	-0.032** [0.015]	-0.001 [0.011]	-0.033** [0.015]	0.005 [0.003]	-0.013 [0.010]	-0.048*** [0.011]
Native	-0.013 [0.018]	0.016*** [0.004]	-0.012 [0.017]	0.040** [0.015]	-0.068*** [0.011]	-0.005** [0.002]	-0.056*** [0.011]	0.000 [0.012]
Women	0.043*** [0.014]	0.018*** [0.001]	0.043*** [0.006]	0.018 [0.011]	0.015** [0.005]	0.006*** [0.001]	0.017*** [0.006]	-0.007** [0.003]
Men	-0.005 [0.010]	0.003 [0.002]	0.006 [0.010]	-0.016*** [0.005]	-0.018* [0.010]	0.004*** [0.001]	-0.010 [0.010]	-0.023*** [0.004]
Panel B								
Years of Presence of any armed group	0.040*** [0.006]	0.014*** [0.002]	0.041*** [0.005]	0.014*** [0.004]	-0.001 [0.005]	0.004*** [0.001]	0.008 [0.006]	-0.019*** [0.002]
Recent Arrival Armed Groups	-1.397** [0.491]	-0.222*** [0.074]	-1.242*** [0.185]	-0.105 [0.379]	-1.239*** [0.214]	-0.097*** [0.031]	-0.662*** [0.185]	-0.267 [0.165]
Recent Arrival x Years of presence Observations	0.818* 7,455	0.288*** 7,455	0.711*** 7,455	0.102 7,455	0.688*** 7,455	0.090*** 7,455	0.210 7,455	0.169 7,455
R-squared	0.158	0.069	0.181	0.081	0.091	0.048	0.084	0.063

Each entry in panel A presents the coefficient estimate for the years of presence of armed groups in a regression using as dependent variable the outcome indicated in each column and restricting the sample as indicated in each row. Each column in panel B presents the estimation results for the corresponding outcome variable using the whole sample. All estimations include the geographic, household and individual controls presented in tables 3a and 3b. Standard errors (in brackets) are estimated clustering at the municipality level. *** p<0.01, ** p<0.05, * p<0.1

Table 8. Meeting attendance and participation in decision-making: robustness checks and heterogeneous impact

	Meeting Attendance				Decision-Making			
	Any (1)	Prod. (2)	Political (3)	Other (4)	Any (5)	Prod. (6)	Political (7)	Other (8)
Panel A								
Baseline	0.053*** [0.009]	0.019*** [0.002]	0.050*** [0.006]	0.006 [0.008]	0.022** [0.008]	0.013*** [0.002]	-0.003** [0.001]	0.003*** [0.001]
Placebo	-0.009 [0.008]	0.000 [0.002]	-0.007 [0.011]	0.000 [0.007]	0.001 [0.008]	-0.001 [0.001]	0.000 [0.001]	-0.000 [0.001]
Educated	0.014 [0.017]	-0.008 [0.008]	0.009 [0.016]	0.006 [0.026]	-0.026** [0.009]	-0.008 [0.006]	-0.000 [0.003]	-0.002 [0.004]
Not Educated	-0.010 [0.022]	0.016*** [0.002]	-0.011 [0.016]	0.010 [0.010]	-0.017 [0.017]	0.019*** [0.001]	-0.001 [0.004]	0.009*** [0.000]
High income	0.040** [0.018]	-0.002*** [0.001]	0.056*** [0.015]	0.011 [0.009]	0.019 [0.012]	-0.003*** [0.000]	0.002 [0.003]	0.001 [0.003]
Medium income	-0.071*** [0.015]	-0.024*** [0.005]	-0.031** [0.012]	-0.052*** [0.015]	-0.039** [0.017]	-0.008** [0.004]	-0.004** [0.002]	-0.008*** [0.001]
Low income	-0.051*** [0.016]	0.042*** [0.006]	-0.031** [0.015]	0.001 [0.011]	0.011 [0.017]	0.021*** [0.006]	-0.001 [0.003]	-0.004* [0.002]
Native	-0.044** [0.020]	0.009* [0.004]	-0.034** [0.016]	0.008 [0.017]	-0.037** [0.014]	0.015*** [0.002]	-0.000 [0.008]	-0.007** [0.003]
Women	0.037** [0.015]	0.014*** [0.002]	0.034*** [0.007]	0.005 [0.011]	0.004 [0.008]	0.006*** [0.002]	0.001 [0.001]	-0.004*** [0.001]
Men	-0.002 [0.011]	0.004*** [0.001]	0.006 [0.011]	-0.018*** [0.006]	-0.025** [0.011]	0.003*** [0.001]	-0.004** [0.001]	-0.003** [0.001]
Panel B								
Years of Presence of any armed group	0.037*** [0.006]	0.014*** [0.001]	0.037*** [0.006]	0.005 [0.004]	0.011 [0.006]	0.011*** [0.001]	-0.003*** [0.001]	0.003*** [0.001]
Recent Arrival Armed Groups	-1.454*** [0.449]	-0.199*** [0.066]	-1.242*** [0.174]	-0.076 [0.337]	-1.000*** [0.293]	-0.066 [0.054]	0.049 [0.076]	0.025** [0.011]
Recent Arrival x Years of presence	0.788* 7,455	0.263*** 7,455	0.651*** 7,455	0.037 7,455	0.559* 7,455	0.124*** 7,455	-0.026 7,455	0.007 7,455
Observations								
R-squared	0.152	0.065	0.178	0.079	0.118	0.054	0.027	0.041

Each entry in panel A presents the coefficient estimate for the years of presence of armed groups in a regression using as dependent variable the outcome indicated in each column and restricting the sample as indicated in each row. Each column in panel B presents the estimation results for the corresponding outcome variable using the whole sample. All estimations include the geographic, household and individual controls presented in tables 3a and 3b. Standard errors (in brackets) are estimated clustering at the municipality level. *** p<0.01, ** p<0.05, * p<0.1