HiCN Households in Conflict Network
hicn.org

Conflict Victimization and Civilian Obedience: Evidence from Colombia *

Gustav Agneman

HiCN Working Paper 379

December 2022

Keywords: conflict victimization, civilian obedience, rule compliance, field experiment

Abstract
In this study, I investigate how conflict victimization influences civilians' likelihood of (dis)obeying armed actors, a behavioral tendency which I elicit through a lab-in-the field experiment. Violence could foster either obedience or defiance depending on whether a "fear of punishment" or a "taste for retribution" dominate. In a sample with residents in Meta, a conflict-ridden department of Colombia, I find that conflict victimization increases disobedience. Participants who were victimized during the conflict are significantly more likely than non-victimized civilians to disobey the main insurgent group, but no more likely to disobey the Colombian Armed Forces. This differential effect is attributed to more frequent civilian victimization by the insurgents. I support a causal interpretation through an Instrumental Variable approach which leverages the distance to a historic front line as an instrument for victimization. In sum, the findings show that violent targeting of civilians can inspire resistance rather than submission.

* Data and code necessary for the replication of the main findings will be made publicly available at Mendeley Data. The study was pre-registered at AsPredicted XXX. I depart from the pre-registration in that I do not consider variation from a prime that was intended to provide for experimental variation in the salience of (past) armed group presence but which failed to induce variation. Since the purpose of the prime was to enable causal inference, I consider an alternative strategy, using an Instrumental Variable approach exploiting spatial variation in conflict exposure to support a causal interpretation of the findings.
Correspondence to gustav.agneman@svet.lu.se

1 Introduction

The ability of armed actors to gather information and enforce decisions hinges on their social control of the local communities in which they operate (Arjona, 2016b). But just like any actor that attempts to control territory, armed groups meet local resistance, both through open defiance and hidden disobedience (Arjona, 2015). The extent to which civilians comply with the rules set by aspiring rulers varies significant. Yet, despite the centrality of civilian behavior, little is known about the factors that determine civilian compliance or non-compliance with armed actors in conflict zones.

The main impediment to research on civilian compliance is the lack of credible behavioral data. For obvious reasons, non-compliance is often purposefully hidden, and armed actors lack incentives to disclose local resistance. Therefore, micro-level data is rare, whereas aggregate measures obscures important nuances on the ground. In this study, I overcome the data scarcity inherent to research on civilian behavior through a lab-in-the-field experiment conducted in a conflict-ridden department of Colombia. The experiment provides a measure of civilians' propensity to follow rules when they refer to, respectively, the Colombian Armed Forces and the main insurgent group, the Revolutionary Armed Forces of Colombia—People's Army (FARC-EP). I link the experimental measure of obedience (referred to as "rule compliance") with a survey-based indicator of victimization to investigate how armed actor violence influences obedience.

Given that one objective of civilian targeting during conflicts is to inspire obedience (e.g., De la Calle, 2017; Terpstra and Frerks, 2017), victims of violent attacks might be expected to display higher levels of rule compliance compared to non-victimized civilians. Yet, the theoretical link between victimization and disobedience is ambiguous. On the one hand, as was shown in a study by Lyall (2009) on the effect of bombings in Chechnya, violence could indeed lead to submissiveness among victimized populations, inter alia, to avoid future repercussions. On the other hand, and in line with recent evidence presented by Kreft (2019), victimization could inspire resistance (and hence disobedience). I discuss the circumstantial factors that make one or the other outcome more likely in Section 2.

I find evidence in line with conflict victimization inspiring resistance, in that vic-

tims are significantly less likely compared to non-victimized participants to comply with the FARC-EP. At the same time, victims do not display lower levels of compliance with the Colombian Armed Forces. This differentiation can be attributed to the fact that a larger share of participants reported the FARC-EP as the perpetrator group: the guerrillas were allegedly partly or fully responsible for approximately 56% of the cases of victimization in our sample, whereas the corresponding number was slightly higher than 2% for the Colombian Armed Forces. In support of this conclusion, participants who were victimized by the Colombian Armed Forces are also more likely to cheat the Armed Forces, but, due to a lower number of cases, this relationship is not statistically significant. In sum, the findings suggest that, if the purpose is to inspire obedience, violent targeting of civilians may backfire.

I rule out that the link between conflict victimization and obedience is spurious or due to selection based on observables by accounting for a range of potential confounding variables, including socio-economic factors. Yet, if violence is targeted based on behavioral traits, for instance if more unruly individuals are more likely to be victimized, a causal interpretation may still not be warranted. In order to circumvent bias due to selection, I therefore consider an Instrumental Variable approach which leverages the fact that civilians in disputed territories are more likely to become victimized (Stewart and Liou, 2017). To this end, I compute a measure of geographical distance to a former front line—the border of a former Demilitarized Zone which was *de facto* controlled by the FARC-EP—as a source of plausibly exogenous variation in the likelihood of being victimized. In the first stage, the estimates confirm that individuals living closer to the front line are more likely to be victims of violent attacks. The findings in the second stage align with the reduced form results: instrumented victimization predicts less compliance with the FARC-EP, while there is no statistical relationship between victimization and compliance with the Colombian Armed Forces.

The present study speaks, first and foremost, to the emergent literature concerned with the behavioral consequences of conflict. To date, this research has covered topics such as armed actor support (Berman, Shapiro and Felter, 2011; Lyall, Blair and Imai, 2013; Lupu and Peisakhin, 2017), resilience (Ibáñez et al., 2019), collective action (Justino and Stojetz, 2019), trust (Nunn and Wantchekon, 2011; Cassar, Grosjean and Whitt, 2013), risk-

preferences (Callen et al., 2014), and pro-sociality (e.g., Bauer et al., 2016; Blattman, 2009; Voors et al., 2012). An intriguing contribution of this latter strand is evidence showing that conflict exposure often *promotes* pro-social behavior in the aftermath of war. The present paper provides a nuance to this finding by showing that victimization may *reduce* pro-social behavior toward the very actor(s) responsible for victimization.

This paper also adds to a growing research agenda on rebel governance and the interplay between armed actors and civilians. This literature has emphasized the importance of civilian behavior and how armed actors strategize to, at best, rally civilians around their cause, and, at the very least, subordinate them (Loyle, 2021). While research on armed actors' violent targeting of civilians is relatively mature (see, e.g., De la Calle, 2017; Eck and Hultman, 2007; Haer and RezaeeDaryakenari, 2022; Kaplan, 2013; Wood, 2010; Wood, Kathman and Gent, 2012), less is known about how victimization influences civilian behavior and, thus, future civilian–armed actor interactions (Justino, 2018). Determinants of civil resistance have been considered by Arjona, Kasfir and Mampilly (2015); Arjona (2016a), but these studies have focused on institutional rather than micro-based explanations, presumably because micro-data on resistance has been lacking. Following a emergent body of research using experiments to obtain hard-to-measure variables (e.g., Khadka, Gilligan and Samii, 2022; Mironova and Whitt, 2018; Blair and Morse, 2021), the present study addresses this shortcoming and shows that the use of violence against civilians *causally* decreases the likelihood of civilian obedience. This finding could potentially explain why armed actors typically are less violent in communities where they intend to stay for longer (Arjona, 2016b): if violence is a trigger rather than a deterrent of popular resistance, it is clearly a bad strategy for long-term ruling.

The fact that the behavioral effects of victimization remain more than 5 years after the signing of the peace agreement between the Colombian State and the FARC-EP is intriguing but in line with previous research on the behavioral legacy of wartime (e.g., Voors et al., 2012). As described by Arjona (2016b): "insofar as new forms of order emerge and endure in conflict zones, it is possible that new identities, interest groups, elites, conflicts, and alliances arise. We should expect these changes to leave legacies in the aftermath of the war". In this respect, the findings carry relevance both for conflict *and* post-conflict societies.

In particular, they highlight a behavioral channel which may undermine reconciliation and state-building in the aftermath of conflict, especially in areas where the regular army has victimized civilians.

The paper proceeds as follows. In Section 2, I describe the rationale for studying civilian obedience in a (former) warzone and discuss the relationship between victimization and obedience. Section 3 introduces the empirical setting. In Section 4, I outline the survey and experiment as well as the identification strategy in detail. Finally, Section 5 presents the results and Section 6 concludes.

2 Background and theory

2.1 Background

Conflict zones are typically described as violent and chaotic, with no social order in place. However, this simplistic understanding of life during conflicts overlooks important nuances on the ground (Justino, Brück and Verwimp, 2013). Many conflict affected communities experience relative peace, and armed actors often attempt to establish order (Arjona, 2016b; Loyle, 2021) in order to extract revenues (Ch et al., 2018; Sánchez de la Sierra, 2020) and to gather information (Mampilly and Stewart, 2021; Revkin, 2021). In other words, just like states, armed actors *govern*. Governing involves the establishment of formal and informal institutions such as mechanisms for dispute resolution and policing (Arjona, 2016b).

In many instances, however, civilians refuse to abide by the rules and principles established by armed actors. Civilian disobedience complicates ruling, and the associated revenue extraction and information gathering that ruling entails. Accordingly, armed actors try to minimize disobedience (Terpstra and Frerks, 2017). One strategy that they pursue is to inspire voluntary cooperation, for instance by addressing social and political issues (Cunningham, Huang and Sawyer, 2021; Heger and Jung, 2017) as well as by co-opting traditional sources of legitimacy (Terpstra and Frerks, 2017). Another strategy is to attempt to make civilians more complacent through coercion and the threat of violence (De la Calle, 2017; Wood, Kathman and Gent, 2012). In conflict zones, the risk of violence is an ever-

present reality of life, especially near front lines (Schmitt, 2004) and in disputed territories (Stewart and Liou, 2017), where actors might pursue short-term and hence more violent strategies (Arjona, 2016b). Basically all decision-making needs to account for the risk of violent repercussions. But how do civilians react to armed groups using violent means? More concretely, does victimization make them more or less willing to obey armed actors?

2.2 Theoretical predictions

A burgeoning literature has considered the empirical link between conflict exposure and behavior. Specifically, studies have investigated the relationships between conflict exposure and, e.g., trust (Nunn and Wantchekon, 2011; Cassar, Grosjean and Whitt, 2013; Rohner, Thoenig and Zilibotti, 2013), pro-sociality (Bauer et al., 2016; Blattman, 2009; Voors et al., 2012), and armed actor support (Berman, Shapiro and Felter, 2011; Lyall, Blair and Imai, 2013). The results have thus far been inconclusive. While a number of studies find that conflict exposure has a detrimental influence on norms and preferences (Cassar, Grosjean and Whitt, 2013; Coupé and Obrizan, 2016; Rohner, Thoenig and Zilibotti, 2013), others find that conflict victimization actually can promote pro-sociality (Bauer et al., 2016; Blattman, 2009).

One explanation to this conundrum is offered by Mironova and Whitt (2018), who argue that conflict exposure may increase ingroup favoritism since tighter ingroup cohesion may serve as a coping mechanism in the face of an outside threat (see also Van der Kolk, 1987). Through economic experiments in Kosovo, they show that participants who have been personally affected by conflict display higher levels of ingroup favoritism, i.e., they behaviorally differentiate more between the ingroup and the outgroup. The divergent findings in the literature on conflict exposure and pro-sociality can, according to Mironova and Whitt (2018), partially be attributed to whether the dependent variable captures ingroup or outgroup interactions.

An alternative explanation as to why conflict exposure might trigger either pro-social or anti-social behavioral responses is offered by related work in psychology on assigned blame (e.g., Malle, Guglielmo and Monroe, 2014), which is argued to shape how people react to past events. In conflict research, scholars have documented that blame assignment matters

for how conflict victimization influences civilian preferences. For instance, conflict parties that are blamed for past atrocities have been found to enjoy lower civilian support (Lyall, Blair and Imai, 2013) and hostility may persist for generations (Lupu and Peisakhin, 2017). Accordingly, individuals who have been personally affected by violence *and* who can identify the perpetrators may develop *"tastes for retribution"*, i.e., spiteful preferences. This means that they derive utility from inflicting harm on the adversary. According to laboratory evidence from economics (e.g., Falk, Fehr and Fischbacher, 2005; Fehr, Hoff and Kshetramade, 2008), spiteful preferences govern actions, and individuals may even be willing to sacrifice personal gains to punish others for their wrongdoings. In conjunction, the reviewed findings suggest that, ceteris paribus, victimization—because it fosters a taste for retribution—should make individuals behave less benevolent toward the conflict party identified as perpetrator.

Yet, when it comes to conflict victimization, the ceteris paribus assumption is most certainly violated. Victimization triggers also other mechanisms that can alter the decision-making process, most prominently raising the expected costs of opposing the perpetrator group (Kalyvas, 2006). Given that victimization influences intrinsic preferences and expected costs in opposite directions, the empirical prediction as to how victimization might impact civilian behavior toward conflict parties becomes ambiguous. However, contextual factors moderate to which extent intrinsic preferences determine civilian actions. When victimization involves "loved ones" and when the perpetrator group lacks monitoring capacity, a taste for retribution may trump expected costs and it becomes more likely that victimization promotes civil resistance (Arjona, 2017). As such, the formulation of *conditional* predictions is possible when contextual factors are taken into account.

In this study, I focus on a key element of civil resistance in conflict zones, namely civilians' propensity to follow (or disobey) rules when they refer to different conflict parties. Rule compliance is measured experimentally, purposefully precluding any possibility of monitoring, a feature that should favor the prominence of intrinsic preferences in the decision-making process. I link rule compliance with conflict victimization, which is measured through a number of survey questions. The questions refer to victimization of participants' families, a feature that further enables a clear theoretical prediction regarding the relationship between victimization and rule obedience. Hence, in light of the surveyed literature and the variable

operationalizations in the present study, I conjecture that victimization should reduce the propensity to follow rules when they refer to the perpetrator group. The key variables are discussed in more detail in Section 4. In the next section, I describe the setting where the data was collected.

3 Empirical setting

To empirically investigate the link between victimization and civilian obedience, a team of enumerators collected data in Meta, a department just south of the capital city of Colombia, Bogotá. The department has historically been characterized by weak state institutions and a strong presence of armed groups. Meta was one the most heavily affected departments throughout the civil war that plagued the country for decades (Acemoglu, Robinson and Santos, 2013). The department became the focal point of fierce contestation between conflict actors because of its vast natural resources, suitability for growing illicit crops, and its strategic location. The FARC-EP operated in Meta already in the 1960s and its presence was consolidated after the formation of the Eastern Block [*Bloque Oriental de las FARC-EP*]—considered to be the strongest military faction of the guerrilla—in 1987. In 1998, following a heavy guerrilla expansion in the region during the 1990s, the government of President Pastrana decided to cede to the FARC-EP a significant amount of territory, a so-called Demilitarized Zone (DMZ), in order to initiate peace talks (Delgado, 2015). The territory comprised five municipalities, four of which are located in Meta, that were controlled by the FARC-EP from the inception to the end of the peace talks (in 2002). When the peace talks broke down, the Colombian Armed Forces launched an aggressive military campaign known as *Plan Patriota* to attempt to re-establish control over the DMZ (Mejía et al., 2011). Yet, the area remained a stronghold for the guerrilla until the disintegration of the insurgent group after the peace agreement in 2016 (Reliefweb, 2021).

Conflict parties, including the Colombian Armed Forces and the FARC-EP, typically attempt to regulate civilian conduct, for instance by restricting mobility and the freedom of speech (Reliefweb, 2021). Yet, their arguably biggest impact on civilian behavior is through the threat—and use—of violence. Civilians were frequently victimized in violent

attacks over the course of the Colombian conflict. For instance, the FARC-EP conducted kidnappings of civilians and other travelers at a massive scale. The practice surged to unprecedented levels during the time of the Demilitarized Zone (Rubio, 2004) and became known as *pescas milagrosas* (miraculous fishing), referring to the massive rents that FARC-EP extorted from the victims' families, companies, and the Colombian state. The Colombian Armed Forces, on the other hand, became infamous for a counterinsurgency strategy that incentivized the killings of left-wing guerrillas but also led to the murder of thousands of civilians purported to be guerrillas (Acemoglu et al., 2020).

Among the participants in this study, 46.6% reported that a family member had lost their land due to the armed conflict; 57% reported that a family member had been displaced; and 38.4% reported that a family member or a relative were lost or still missing as a consequence of the conflict. Two-thirds of the participants had been victimized according to at least one of these indicators. The FARC-EP was involved in (at least) 56% of the cases of victimization, the Paramilitaries were reported as responsible in (at least) 20% of the cases, and the Colombian Armed Forces were responsible for (at least) 2% of the cases. The share of civilian victimization attributed to each of these groups is likely under-reported, since about a fifth of the participants answered either "Other" or "Cannot answer" to a question on the group(s) that were responsible for the act of victimization. It should be noted that these numbers are not representative for the Colombian conflict but specific to the sample from the department of Meta, where FARC-EP had a strong presence throughout the conflict. That both the Paramilitaries and the FARC-EP are more likely to attack civilians align with cross-country evidence presented in Eck and Hultman (2007), which shows that—in democracies—non-state actors are more often responsible for one-sided violence compared to government forces. In what follows, I outline the methodology that I pursue to establish whether this pattern translates into differences in actor-specific rule compliance.

4 Methodology

4.1 Sampling procedure

The data collection covered 16 municipalities in Meta. In the first phase, I purposefully selected municipalities according to three distinct criteria. First, the four municipalities in the former Demilitarized Zone (DMZ) that was controlled by the FARC-EP were selected. Second, the eight municipalities whose capitals were most geographically proximate to the DMZ were included. Third, the district capital, Villavicencio, as well as its two nearest municipality capitals, were sampled. Finally, the municipality capital third closest to Villavicencio, Acacias, was included as a replacement municipality.[1] By purposefully sampling municipalities with varying distance to the DMZ and, hence, conflict exposure, I enable the use of spatial data to support causal inference (see Sub-section 4.4). The empirical setting along with the sampled localities is presented in Figure 1.

[1]The original sample included 15 municipalities. When a number of respondents in one locality expressed concerns with answering questions about the FARC-EP and the Armed Forces, we decided to leave the municipality and to complete the quota in Acacias, a replacement municipality.

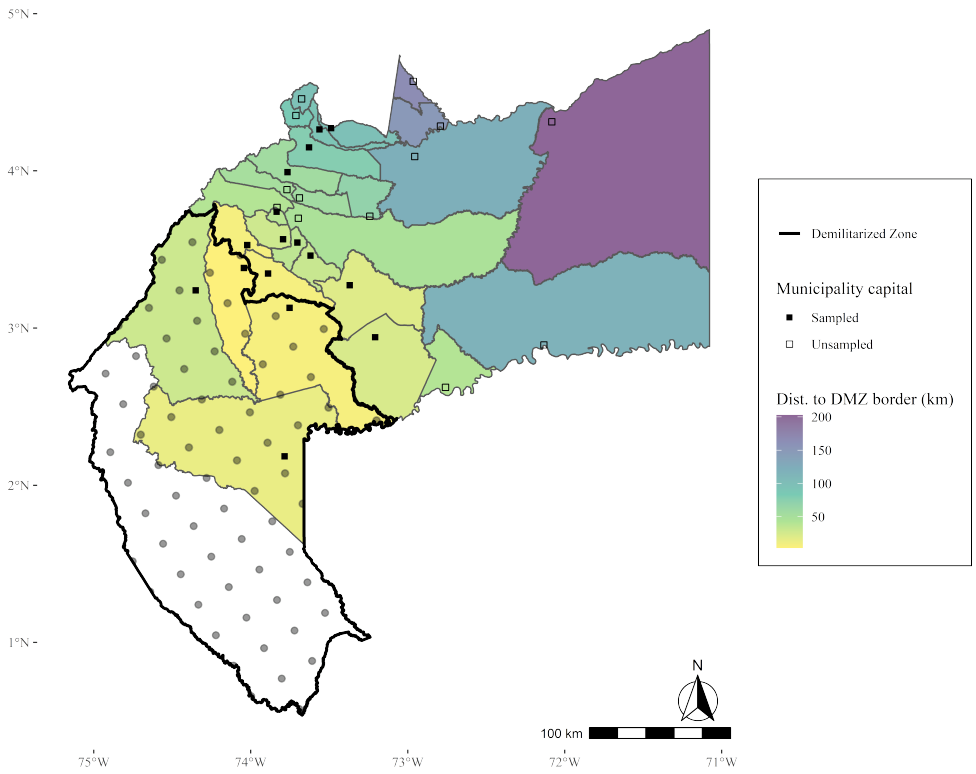

Figure 1: The empirical setting

Notes: The map displays the 16 sampled municipality capitals (black). The color scheme displays the distance to the border between the (former) Demilitarized Zone and respective municipality capital.

In the second phase, I randomly sampled a number of residential areas, both urban and rural neighborhoods (*manzanas*), in each municipality capital. The third phase concerned the surveying on the ground. Seven pairs of enumerators surveyed Meta from January 22nd to February the 4th. They followed a door-to-door surveying procedure, recruiting participants according to a number of pre-determined criteria detailed in the Appendix Section A. Surveying potentially sensitive matters in a (former) conflict zone requires special attention to design and implementation of the data collection. Accordingly, the safety of participants and enumerators, both physically and mentally speaking, was the main priority during the field work. In Appendix Section C, I detail ethical considerations and how

they were addressed, and provide information on ethical approval by an Institutional Review Board in Colombia.

4.2 Experimental design

The survey included a behavioral experiment that was designed to capture micro-level variation in targeted civilian rule compliance, a concept that is inherently difficult to measure. The experiment was a so-called Dice Experiment, first introduced by Fischbacher and Föllmi-Heusi (2013), and since used extensively to measure intrinsic rule compliance. I modify the Dice Game in order to measure the propensity to disobey the FARC-EP and the Colombian Armed Forces, respectively, and thus present the first use of the experiment to capture rule compliance with armed actors.[2]

In the experiment, participants are allocated a die and 30,000 Colombian Pesos (COP) in fake notes ($7.75; approximately a day's salary based on the minimum wage in Colombia). They are instructed that they should allocate money between the FARC-EP, the Colombian Armed Forces, and themselves, following a simple rule-based procedure that they undertake in a private space. First, they should roll the die and allocate 2,000 COP for every pip of the die to an envelope that they should associate with the FARC-EP. Second, they are instructed to roll the die again and to allocate 2,000 COP for every pip to an envelope that they should associate with the Colombian Armed Forces. Finally, they are instructed to put the remaining notes in an envelope that they should keep for themselves. Before the experiment begins, they are informed that the sum which remains in this envelope will be transferred to them in the form of telephone credits.[3] Accordingly, participants' actions are monetarily incentivized. The full experimental instructions are provided in Appendix Section B and the payoff-structure is summarized in Equation 1.

$$Earnings_i = 30,000 - FARCEnvelope_i - ArmedForcesEnvelope_i \quad (1)$$

[2]The approach most similar to the present study is undertaken in Heldring (2021), where rule compliance with state institutions is measured through a similar resource allocation task. Also, see Khadka, Gilligan and Samii (2022) for behavioral experiments with former combatants.

[3]This form of monetary transaction was chosen, instead of cash payments, in order to mitigate risks for enumerators in the field.

Provided that participants allocate notes according to the rules, the envelopes of both the FARC-EP and the Colombian Armed Forces should on average contain approximately 7,000 COP (since a die roll in expectation yields 3.5) and the average payoff should thus be around 16,000 COP. But, since die rolls are unobserved, participants have incentives to cheat to enhance their payoffs. In Colombia, a common expression is "do not give papaya" [*No dar papaya*], colloquially translated as "don't give others the opportunity to take advantage of you". In a sense, the experiment entails *giving papaya*, since participants are provided an opportunity to prop up their earnings without risking sanctions. Disobedience can only be inferred on an aggregate level and decisions are thus solely regulated by internalized norms. This feature implies plausible deniability of participants, as each roll potentially could have indicated minimum allocation to the envelopes associated with the FARC-EP and the Armed Forces, and thereby reduces risks of social desirability bias (Matanock and García-Sánchez, 2018). Through regression analysis, however, I am able to infer systematic relationships, such as the statistical link between civilian victimization and rule compliance.

4.3 Data

The survey also included a questionnaire that allowed me to gauge, e.g., respondents' experiences during the armed conflict. In three separate questions, respondents were asked whether their family had lost (i) a member, (ii) land, or (iii) their place of residence because of the conflict. The questions purposefully refer to the family rather than the respondent since this mitigates the risk of selection bias in the measure of victimization. Moreover, capturing violence inflicted on "loved ones", the operationalization of conflict victimization substantiates the theoretical prediction that victimization should increase civil resistance (Arjona, 2017). By aggregating the information from the three items, I obtain a count variable (ranging from 0-3) which captures variation in victimization in the intensive margin.

Moreover, the questionnaire contained a component in which half of the respondents were asked to indicate the past presence (the power exercised) of the Colombian state and the FARC-EP in their area of residence between three separate time periods (1998-2005; 2006-2013; 2014-2021). I compute the past presence of actors as the mean response (ranging from 0 (no power at all) to 5 (great extent of power)) to each time period and for respective

actor. In Appendix Figure D2, I plot the power projection of the Colombian Authorities and the FARC-EP over time. In line with Delgado (2015), the survey indicator shows that FARC-EP gradually lost power during the 21st century, while the Colombian authorities gradually expanded their presence.

In Appendix Section D, I outline the survey questions and operationalizations of control variables used in the analysis. The final sample comprises 904 individuals, 877 of which completed the dice experiment successfully (left notes between 2,000 and 12,000 in each envelope) and provided information on victimization. Appendix Figure D1 maps the socio-economic profiles of participants. The figure reveals that females were more likely than men to participate, about half of the respondents identified as Caucasian or Mestizo, and that the level of education and salaries were modest (the vast majority of participants earned at or below the minimum wage-level in Colombia). In the next sub-section, I detail the strategy that I pursue to identify how civilian obedience is shaped by past victimization.

4.4 Identification strategy

Since the conflict parties lack monitoring capacity in the Dice Game and victimization refers to family and close relatives, the guiding hypothesis is that victimization should reduce rule compliance with the perpetrator group. To investigate this conjecture, I estimate the following baseline model through Ordinary Least Squares regressions:

$$Money.In.Envelope_{ij} = \alpha + \beta_1 Victimization_i + X_i\gamma + \xi_i, \tag{2}$$

where $MoneyInEevelope$ is the amount of money left in a Dice Game envelope associated with armed actor j and participant i; $Victimization$ denotes the count of cases of victimization during the conflict reported for each participant; X is a vector comprising variables on education, income, ethnicity, religion, literacy, gender, age, and number of children; and ξ denotes the error. The model is estimated separately for rule compliance with the FARC-EP and rule compliance with the Colombian Armed Forces.

Having established a reduced form relationship, I then consider an Instrumental Variable strategy that allows me to leverage plausibly exogenous variation in victimization.

The strategy builds on the notion that civilians are more likely to be victimized in areas where neither of the conflict factions pertain long-term or permanent control, e.g., in contested areas near front lines Stewart and Liou (2017). That armed actors are more violent closer to front lines makes intuitive sense since the importance of local support and compliance is smaller when time horizons are shorter. Accordingly, areas where the adversaries' spheres of influence meet are more likely to be violent compared to areas deep in respective actors' spheres of influence Arjona (2016b).

As outlined in Section 3, the Pastrana government of 1998-2002 formally divided Meta into a Demilitarized Zone, which was controlled by the FARC-EP, and the remainder of the department, which was state-controlled. The division implied a border between the FARC-EP's and the state's spheres of influence which existed for less than four years but *de facto* played a role for much longer. Many battles occurred in the vicinity of the border (Acemoglu, Robinson and Santos, 2013), and, in line with the reasoning in the previous paragraph, the ephemerality of governance in this area is likely to imply more civilian victimization.

To leverage this empirical pattern for purposes of identification, I compute the geographical distances between all municipality capitals and their nearest points at the DMZ-border. Under the assumption that the distance to the DMZ—a well-defined territorial space that was salient during the conflict but no longer exists—influences rule compliance today only via conflict experiences, I can estimate the causal impact of victimization through the following instrumental variable regression:

$$Money.In.Envelope_{ji} = \alpha + \beta_1(Victimization_i = Dist.To.DMZ_k) + X_i\gamma + \xi_i, \quad (3)$$

where $Dist.To.DMZ$ is the distance to the Demilitarized Zone (in kilometers) for municipality capital k. In the next section, I present the empirical findings.

5 Results

5.1 Rule compliance in the sample

I first zero in on participants' behavior in the Dice Game. Since the games were completed in private, participants could cheat the rules in order to boost their own payoffs. The random nature of the die means that, in case participants played the game according to the explicit rules, each outcome (2,000; 4,000; 6,000; 8,000; 10,000; 12,000) would be as frequently reported (approximately 16.67% of the cases). Rule disobedience, on the other hand, would be manifested in the aggregate distribution through low outcomes being reported more frequently (i.e., less money left in the envelopes, which entail higher payoffs for participants). In Figure 2, I display the sums left in the envelopes associated with the Colombian Army and the FARC-EP, respectively.

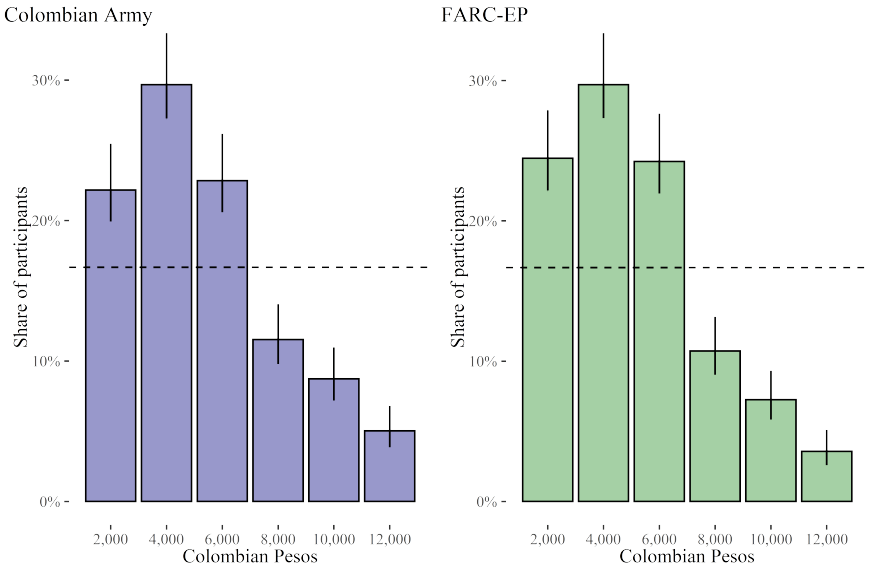

Figure 2: Rule compliance with respective actor

Note: Figure 2 shows the distribution of money left in the envelopes associated with the Colombian Army and the FARC-EP, respectively. The vertical lines represent 95% confidence intervals.

Two results stand out. First, disobedience against both the Colombian Army and the FARC-EP is widespread. The three low outcomes are all reported significantly more frequently than what should be expected if participants followed the rules. Conversely, the high outcomes are reported significantly less frequently than in (the expected) 16.67% of the

cases. For instance, if participants rolled a six, they were instructed to leave 12,000 COP in the envelope. Yet, only 5% did so in the envelope associated with the Armed Forces and 3.6% did so in the envelope associated with the FARC-EP.

Second, participants are more likely to cheat in the resource-allocation game associated with the FARC-EP. Among the 891 participants who completed the two Dice Games, the average sum left in the envelope associated with the Colombian Army was 5,403 COP, while, on average, 5,143 COP were left in the envelope associated with the FARC-EP (the difference is statistically significant at the 5% level in two-sided t-tests).[4] In the next subsection, I investigate the impact of civilian victimization on the propensity to comply with respective conflict parties.

5.2 Civilian victimization reduces compliance with the FARC

As outlined in Section 2.2, the theoretical prediction is that conflict victimization should reduce rule compliance with the perpetrator group. In Table 1, I present the relationships between conflict victimization and the experimental measures of rule compliance with the FARC-EP (Columns 1 and 2) and the Colombian Armed Forces (Columns 3 and 4).

[4]Given full rule compliance, the envelopes should in expectation contain 7,000 COP.

Table 1: Victimization and rule compliance

Dep. Var.:	Money in the FARC Envelope		Money in the Army Envelope	
	(1)	(2)	(3)	(4)
Victimization	-212.4**	-218.6***	-8.577	-19.19
	(78.05)	(70.73)	(83.67)	(90.17)
Constant	5454.2***	6899.4***	5416.9***	3791.2***
	(194.0)	(674.8)	(225.4)	(765.6)
Observations	879	879	877	877
R-squared	0.00887	0.0451	0.0000130	0.0470
Dep. Var. Mean	5153.6	5153.6	5404.8	5404.8
Dep. Var. Std.	2698.7	2698.7	2845.6	2845.6
Controls	No	Yes	No	Yes

Cluster-robust standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$

Note: Table 1 displays OLS regression estimates of the relationship between victimization (ranging 0-3) on amount kept in respective envelope. "Controls" indicates individual fixed effects for education, income level, ethnicity, religion, literacy, and gender, as well as controls for age (continuous) and number of children (continuous). All columns report robust standard errors clustered at the municipality level.

As can be seen in Table 1, victimization significantly decreases rule compliance with the FARC-EP. Since victimization is operationalized as a count variable ranging from 0-3 (See Appendix Table D1), the bivariate results show that the most victimized participants are estimated to leave 637 COP less in the envelope associated with the FARC-EP (or almost a quarter of a standard deviation). The coefficient is stable and estimated with better precision when adding controls for age, children, income, education, ethnicity, religion, literacy, and gender (Column 2). The statistical link between victimization and *less* compliance with the FARC-EP thus emerges as both economically meaningful and statistically strong. Conversely, Columns 3 and 4 of Table 1 show that there is virtually no relationship between victimization and rule compliance with the Colombian Army. In both the bivariate and the multivariate models, the estimated coefficients of interest are close to zero. Accordingly, in a model where all Dice Game outcomes are pooled and the interaction between FARC-EP "treatment" and victimization is the independent variable of main interest, the interaction effect is shown to be negative and statistically significant.[5] Taken together, the

[5]Interaction coefficient=-203.8; d.f.=1752, p-val.=0.028; Robust standard errors clustered at the municipality level.

results demonstrate that victimization reduces compliance with the FARC-EP but not with the Colombian Armed Forces.

What might explain the differences in the links between victimization and rule compliance with the two conflict parties? If the effect of victimization on the tendency to disobey is due to violence increasing aversion toward the culpable armed actor, it is natural that victimization links stronger with disobedience to an actor responsible for more cases of victimization. As outlined in Section 3, the FARC-EP is reported about 25 times as often as the Colombian Armed Forces to be responsible for victimization of the participants in our survey. To investigate whether more frequent civilian victimization by the FARC-EP may explain why victimized participants are less prone to comply with them, I disaggregate the measure of victimization to separately indicate victimization by the FARC-EP and the Armed Forces. In Appendix Table E1 Columns 1 and 3, I show that victimization by the Armed Forces reduces compliance with the Armed Forces even more than victimization by the FARC-EP. However, due to the small number of cases of victimization by the Armed Forces, the coefficient cannot be estimated with sufficient statistical precision.

To corroborate the conclusion that civilian targeting reduces obedience, I investigate how state and rebel governance differentially influences rule compliance. Appendix Table E1 shows that participants who experienced living under strong FARC-EP presence are *less* likely to comply with the FARC (although the coefficient is estimated below conventional significance levels), whereas participants who experienced living under strong state presence are *more* likely to comply with the Armed Forces. This suggests that governance fosters different norms of obedience depending on the use (or not) of violence as a strategy to govern.

Finally, I disentangle the measure of victimization to investigate whether different event types matter differently for rule compliance. In Appendix Table E2, I estimate separate effects for whether participants' families had (1) lost a member, (2) been displaced, and (3) lost land. Arguably, the most severe form of victimization is losing a family member and, accordingly, it is unsurprising that the behavioral effect is largest for this form of victimization. Furthermore, in line with the baseline results, the three indicators of victimization are all shown to be unrelated to rule compliance with the Colombian Armed Forces.

5.3 Instrumental variable results

So far, I have focused on the reduced form link between conflict victimization and rule compliance. I have argued that, because of the way in which civilian victimization is measured (aggregating indicators for victimization of *family* rather than the participant in question), the results are unlikely to be driven by selection bias. The stability of the estimated coefficients when accounting for a range of covariates is reassuring in the sense that the results are shown not to be driven by individuals with certain socioeconomic profiles being excessively targeted during the conflict. However, if more unruly participants are more likely to be victimized, the baseline estimates may still suffer from endogeneity. In what follows, I go a step further to mitigate such concerns by considering an Instrumental Variable strategy.

The strategy builds on the notion that civilians near front lines are more likely to be attacked during conflict (Schmitt, 2004). To leverage this empirical pattern for purposes of identification, I compute a measure of geographical distance between each municipality capital and the nearest points at the DMZ border, i.e., the front line between the FARC-EP and the Colombian Armed Forces during a substantial share of the recent period of the civil war. The strategy is discussed in detail in Sub-section 4.4. In Panel A of Table 2, I show that, as expected, there is a strong negative association between the distance to the DMZ-border and conflict victimization. In other words, participants who reside closer to the former front line between the state and the FARC-EP are more likely to have been victimized during the conflict than those who live further away.

Table 2: Instrumenting victimization by DMZ-border distance

Panel A: First Stage				
Dep. Var.:	Victimization			
	(1)	(2)	(3)	(4)
Dist. to DMZ-border	-0.00759***	-0.00841***	-0.00755***	-0.00842***
	(0.00142)	(0.00139)	(0.00144)	(0.00138)
Constant	1.687***	2.287***	1.686***	2.285***
	(0.101)	(0.490)	(0.101)	(0.488)
Observations	879	879	877	877
R-squared	0.0345	0.0797	0.0342	0.0785
Dep. Var. Mean	1.415	1.415	1.416	1.416
Dep. Var. Std.	1.197	1.197	1.196	1.196
Controls	No	Yes	No	Yes
Panel B: Second Stage				
Dep. Var.:	Money in the FARC Envelope		Money in the Army Envelope	
	(1)	(2)	(3)	(4)
Victimization	-861.1**	-998.4***	-560.8	-344.2
(Instrumented)	(427.4)	(346.2)	(611.6)	(508.9)
Constant	6372.2***	8470.9***	6199.0***	4444.3***
	(585.6)	(836.0)	(856.1)	(955.8)
Observations	879	879	877	877
Cragg-Donald Wald F	28.40	36.38	27.63	37.29
Dep. Var. Mean	5153.6	5153.6	5404.8	5404.8
Dep. Var. Std.	2698.7	2698.7	2845.6	2845.6
Controls	No	Yes	No	Yes

Cluster-robust standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$

Note: Table 2 displays Instrumental variable regression estimates with victimization (ranging 0-3) being instrumented on the distance to the DMZ-border (in kilometers). "Controls" indicates individual fixed effects for education, income level, ethnicity, religion, literacy, and gender, as well as controls for age (continuous) and number of children (continuous). All columns report robust standard errors clustered at the municipality level.

In Table 2 Panel B, I present the second stage results. The instrumented effect of victimization on compliance with the FARC-EP is shown to be negative and statistically significant. In fact, the estimated behavioral effect of victimization is substantially larger than in the reduced form specifications. In Column 2, when conditioning on socio-demographic characteristics, the link between victimization and rule compliance with the FARC-EP is even stronger and more precisely estimated. In contrast, the link between victimization and rule compliance with the Colombian Armed Forces remains statistically insignificant in the

Instrumental Variable estimations. The IV results should, however, be interpreted with caution. While I can rule out potential issues associated with weak instruments (the F-statistics are much larger than 10, the rule of thumb threshold for weak instruments), the exclusion restriction—that distance to the Demilitarized Zone affects rule compliance only by altering the likelihood of being victimized—cannot be empirically tested. Still, the fact that the evidence from the reduced form and the Instrumental Variable strategy align supports the conclusion that victimization causally reduces obedience.

6 Discussion and conclusion

The present study devices an innovative strategy to measure civilian disobedience to armed actors, namely through a lab-in-the-field experiment. The controlled design enables a behavioral measure of civilian obedience which approximates small, but in accumulation important, every-day decisions on whether to comply or not with aspiring rulers. With plausible deniability and monetary incentives not to comply, many participants enhance their payoffs by cheating the rules.

The study is particularly concerned with how victimization influences rule abidance. I find that civilian victimization reduces compliance with the main insurgent group, the FARC-EP, but not with the Colombian Armed Forces. The results are corroborated in specifications where a range of socio-demographic characteristics that potentially could confound the analysis are accounted for. In addition, I pursue an Instrumental Variable approach in which I instrument civilian victimization by distance to a historical border that constituted a front line between the FARC-EP and the Colombian Armed Forces, and thereby mitigate concerns that the results are driven by selection bias.

The dice experiment provides a unique micro-based measure of rule compliance. The design implies that institutional elements, which otherwise could confound the analysis, are held constant, and the measure is thus comparable across individuals who reside in very different contexts. Moreover, by ensuring plausible deniability (cheating is undetectable at the individual level), the experimental measure is unaffected by unwanted confounding influence by, e.g., reputational concerns or experimenter demand effects. Yet, it should

be noted that the controlled environment also comes at a cost. While the game captures individual decision-making on rule compliance, it is agnostic about interpersonal coordination. Coordination is, of course, an important factor in determining when communities can solve collective action problems and launch campaigns of large-scale civil resistance (Arjona, 2016b). To complement the findings presented in this paper, future experimental studies on civilian obedience should attempt to incorporate a social dimension in their experimental designs.

In addition, it should be highlighted that the results are derived from a post-peace agreement context. This might imply different dynamics compared to ongoing conflicts. However, while the FARC-EP officially laid down arms after the peace agreement, dissident factions of the rebel group still operate in Meta, and the legacy of both the FARC-EP and the Colombian Armed Forces is still palpable. This was evidenced during the surveying in Mesetas (one of the municipalities that used to be part of the Demilitarized Zone), where a number of residents refused to answer questions about the army and the FARC-EP, prompting us to relocate the data collection to another municipality.

In conclusion, the present study shows that violence, if intended to raise compliance, may backfire. The findings may explain why civilian targeting is used as a strategy in some contexts but not in others (De la Calle, 2017). If the endgame is territorial control and obedient local communities, the carrot is perhaps more expedient than the stick.

References

Acemoglu, Daron , Leopoldo Fergusson, James Robinson, Dario Romero, and Juan F Vargas (2020). The perils of high-powered incentives: evidence from colombia's false positives. *American Economic Journal: Economic Policy 12*(3), 1–43.

Acemoglu, Daron , James A Robinson, and Rafael J Santos (2013). The monopoly of violence: Evidence from colombia. *Journal of the European Economic Association 11*(suppl_1), 5–44.

Arjona, Ana (2015). *Civilian resistance to rebel governance*, Volume 1. Cambridge University Press Cambridge.

Arjona, Ana (2016a). Institutions, civilian resistance, and wartime social order: a process-driven natural experiment in the colombian civil war. *Latin American Politics and Society 58*(3), 99–122.

Arjona, Ana (2016b, December). *Rebelocracy*. Cambridge University Press. Google-Books-ID: xO6SDQAAQBAJ.

Arjona, Ana (2017). Civilian cooperation and non-cooperation with non-state armed groups: The centrality of obedience and resistance. *Small Wars & Insurgencies 28*(4-5), 755–778.

Arjona, Ana , Nelson Kasfir, and Zachariah Mampilly (2015, October). *Rebel Governance in Civil War*. Cambridge University Press. Google-Books-ID: FXGgCgAAQBAJ.

Bauer, Michal , Christopher Blattman, Julie Chytilová, Joseph Henrich, Edward Miguel, and Tamar Mitts (2016). Can war foster cooperation? *Journal of Economic Perspectives 30*(3), 249–74.

Berman, Eli , Jacob N. Shapiro, and Joseph H. Felter (2011, August). Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq. *Journal of Political Economy 119*(4), 766–819. Publisher: The University of Chicago Press.

Blair, Robert A and Benjamin S Morse (2021). Policing and the legacies of wartime state predation: Evidence from a survey and field experiment in liberia. *Journal of Conflict Resolution 65*(10), 1709–1737.

Blattman, Christopher (2009). From violence to voting: War and political participation in uganda. *American political Science review 103*(2), 231–247.

Callen, Michael , Mohammad Isaqzadeh, James D Long, and Charles Sprenger (2014). Violence and risk preference: Experimental evidence from afghanistan. *American Economic Review 104*(1), 123–48.

Cassar, Alessandra , Pauline Grosjean, and Sam Whitt (2013). Legacies of violence: trust and market development. *Journal of Economic Growth 18*(3), 285–318.

Ch, Rafael , Jacob Shapiro, Abbey Steele, and Juan F. Vargas (2018, November). Endogenous Taxation in Ongoing Internal Conflict: The Case of Colombia. *American Political Science Review 112*(4), 996–1015.

Coupé, Tom and Maksym Obrizan (2016). Violence and political outcomes in ukraine—evidence from sloviansk and kramatorsk. *Journal of Comparative Economics 44*(1), 201–212.

Cunningham, Kathleen Gallagher , Reyko Huang, and Katherine M Sawyer (2021). Voting for militants: Rebel elections in civil war. *Journal of Conflict Resolution 65*(1), 81–107.

De la Calle, Luis (2017). Compliance vs. constraints: A theory of rebel targeting in civil war. *Journal of Peace Research 54*(3), 427–441.

Delgado, Jorge E (2015). Colombian military thinking and the fight against the farc-ep insurgency, 2002–2014. *Journal of Strategic Studies 38*(6), 826–851.

Eck, Kristine and Lisa Hultman (2007). One-sided violence against civilians in war: Insights from new fatality data. *Journal of Peace Research 44*(2), 233–246.

Falk, Armin , Ernst Fehr, and Urs Fischbacher (2005). Driving forces behind informal sanctions. *Econometrica 73*(6), 2017–2030.

Fehr, Ernst , Karla Hoff, and Mayuresh Kshetramade (2008). Spite and development. *American Economic Review 98*(2), 494–99.

Fischbacher, Urs and Franziska Föllmi-Heusi (2013, June). Lies in Disguise—An Experimental Study on Cheating. *Journal of the European Economic Association 11*, 525–547.

Haer, Roos and Babak RezaeeDaryakenari (2022). Disasters and civilian victimization: Exploring the dynamic effect in africa, 1997–2017. *Journal of Peace Research 59*(1), 43–57.

Heger, Lindsay L and Danielle F Jung (2017). Negotiating with rebels: The effect of rebel service provision on conflict negotiations. *Journal of Conflict Resolution 61*(6), 1203–1229.

Heldring, Leander (2021, March). The Origins of Violence in Rwanda. *The Review of Economic Studies 88*(2), 730–763.

Ibáñez, Ana Mariá , Julián Arteaga, Juan Camilo Cárdenas, Ana Arjona, Patricia Justino, and UNU-WIDER (2019). *The effects of wartime institutions on households' ability to cope with shocks: Evidence for Colombia* (84 ed.), Volume 2019 of *WIDER Working Paper*. UNU-WIDER.

Justino, Patricia (2018, April). The need to be governed: Governance and violence in conflict contexts. *The Economics of Peace and Security Journal 13*(1). Number: 1.

Justino, Patricia , Tilman Brück, and Philip Verwimp (2013, November). *A Micro-Level Perspective on the Dynamics of Conflict, Violence, and Development*. OUP Oxford. Google-Books-ID: xHc9AgAAQBAJ.

Justino, Patricia and Wolfgang Stojetz (2019). *Civic legacies of wartime governance* (104 ed.), Volume 2019 of *WIDER Working Paper*. UNU-WIDER.

Kalyvas, Stathis N (2006). *The logic of violence in civil war*. Cambridge University Press.

Kaplan, Oliver (2013). Protecting civilians in civil war: The institution of the atcc in colombia. *Journal of Peace Research 50*(3), 351–367.

Khadka, Prabin , Michael Gilligan, and Cyrus Samii (2022). Intrinsic social incentives in state and non-state armed groups. *American Political Science Review*.

Kreft, Anne-Kathrin (2019). Responding to sexual violence: women's mobilization in war. *Journal of Peace Research 56*(2), 220–233.

Loyle, Cyanne E (2021). Rebel justice during armed conflict. *Journal of Conflict Resolution 65*(1), 108–134.

Lupu, Noam and Leonid Peisakhin (2017). The legacy of political violence across generations. *American Journal of Political Science 61*(4), 836–851.

Lyall, Jason (2009). Does indiscriminate violence incite insurgent attacks? evidence from chechnya. *Journal of Conflict Resolution 53*(3), 331–362.

Lyall, Jason , Graeme Blair, and Kosuke Imai (2013). Explaining support for combatants during wartime: A survey experiment in afghanistan. *American political science review 107*(4), 679–705.

Malle, Bertram F , Steve Guglielmo, and Andrew E Monroe (2014). A theory of blame. *Psychological Inquiry 25*(2), 147–186.

Mampilly, Zachariah and Megan A Stewart (2021). A typology of rebel political institutional arrangements. *Journal of Conflict Resolution 65*(1), 15–45.

Matanock, Aila M and Miguel García-Sánchez (2018). Does counterinsurgent success match social support? evidence from a survey experiment in colombia. *The Journal of Politics 80*(3), 800–814.

Mejía, Daniel , María José Uribe, Ana María Ibáñez, et al. (2011). Una evaluación del plan de consolidación integral de la macarena (pcim). Technical report, Universidad de los Andes-CEDE.

Mironova, Vera and Sam Whitt (2018). Social norms after conflict exposure and victimization by violence: Experimental evidence from kosovo. *British Journal of Political Science 48*(3), 749–765.

Nunn, Nathan and Leonard Wantchekon (2011). The slave trade and the origins of mistrust in africa. *American Economic Review 101*(7), 3221–52.

Reliefweb (22 December 2021). Acaps thematic report: Colombia - regional needs analysis: Meta and guaviare. URL: https://reliefweb.int/sites/reliefweb.int/files/resources/20211222_acaps_mire_them_report_meta-guaviare_en.pdf. Accessed: 2022-03-21.

Revkin, Mara Redlich (2021). Competitive governance and displacement decisions under rebel rule: Evidence from the islamic state in iraq. *Journal of conflict resolution 65*(1), 46–80.

Rohner, Dominic , Mathias Thoenig, and Fabrizio Zilibotti (2013). Seeds of distrust: Conflict in uganda. *Journal of Economic Growth 18*(3), 217–252.

Rubio, Mauricio (2004). Kidnapping and armed conflict in colombia. In *conference, Techniques of Violence in Civil War, PRIO, Oslo, Norway*.

Schmitt, Michael N (2004). *" Direct Participation in Hostilities" and 21st century armed conflict*. na.

Stewart, Megan A and Yu-Ming Liou (2017). Do good borders make good rebels? territorial control and civilian casualties. *The Journal of Politics 79*(1), 284–301.

Sánchez de la Sierra, Raúl (2020, January). On the Origins of the State: Stationary Bandits and Taxation in Eastern Congo. *Journal of Political Economy 128*(1), 32–74.

Terpstra, Niels and Georg Frerks (2017). Rebel governance and legitimacy: Understanding the impact of rebel legitimation on civilian compliance with the ltte rule. *Civil Wars 19*(3), 279–307.

Van der Kolk, Bessel A (1987). The psychological consequences of overwhelming life experiences. *Psychological trauma 1*, 30.

Voors, Maarten J , Eleonora EM 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 102*(2), 941–64.

Wood, Reed M (2010). Rebel capability and strategic violence against civilians. *Journal of Peace Research 47*(5), 601–614.

Wood, Reed M , Jacob D Kathman, and Stephen E Gent (2012). Armed intervention and civilian victimization in intrastate conflicts. *Journal of Peace Research 49*(5), 647–660.

Appendix

A Sampling strategy

In each of the 16 municipalities, the goal was to complete approximately 60 interviews, 24 in rural areas and 36 in urban areas. Since I sampled municipalities based on pre-determined criteria rather than complete randomization and also did not weight the sample based on the population shares of municipalities, the sample is not representative of Meta as a whole. However, this was not the intention. The goal was rather to (a) recruit participants in an identical manner across all municipalities; to (b) provide sufficiently large samples for each municipality; such that (c) differences between participants in different municipalities can be attributed to variation in local experiences. This sampling strategy mitigates noise when using spatial variation in conflict exposure (such as the instrument "distance to DMZ-border"). The data collection was carried out between January 22nd and February 4th 2022 with the help of a survey company, GC Research, and 14 experienced enumerators. All enumerators were provided maps of randomized residential areas to cover in each municipality and a set of instructions to follow:

1. A map is assigned to each enumerator.
2. The enumerator takes a sampled neighborhood as a starting point.
3. The starting point is the intersection of the two main streets.
4. If the starting point is in a commercial area, the enumerator should search for the nearest non-commercial part of the neighborhood.
5. If the area of the starting point is deemed to be dangerous, the enumerator should inform the supervisor who will report the incident and randomly sample a new neighborhood.
6. The route should take a clockwise direction, with the right shoulder to the wall.
7. Only residents should be contacted. Do not invite, for instance, employees in stores to participate.
8. In urban areas, the enumerator should skip the next two doors each time a survey is completed. This rule does not apply in rural areas.
9. When successfully recruiting a household to participate, first ask the oldest member of the household to participate. If they decline, ask the second oldest, and so on.
10. In urban areas, 12 surveys per neighborhood should be completed. In rural areas, 24 surveys should be completed.
11. In urban areas, maximum 4 surveys should be completed per block and maximum 2 surveys per street of a block. In rural areas, the quota should be filled by following the route.

B Economic experiment

Experimental instructions [translated from Spanish]

Here you have three envelopes: one blue envelope, one green envelope, and one white envelope. You also have 1 die, and thirty thousand pesos in monopoly money (15 bills all in the denomination of two thousand pesos). Please first listen to the below instructions. Then, go to a private space, where no one is able to see you, and complete the tasks.

First: You start by rolling the die. The number that you roll determines the money that you should put in the green envelope, which you should associate with the FARC. Each point on the dice corresponds to two thousand pesos (1 bill). For example, if you get 2 points on the die-roll, you should put 4,000 pesos (2 bills) in the green envelope. Or if, for example, you get 5 points on the die-roll, you should put 10,000 pesos (5 bills) in FARC's green envelope.

Second: You now roll the die again. This time, the number that you roll determines the money that you should assign to the blue envelope, which you should associate with the Colombian Armed Forces. Each point on the dice corresponds to two thousand pesos (1 bill). For example, if you get 2 points on the die-roll, you should put 4,000 pesos (2 bills) in the blue envelope. Or if, for example, you get 5 points on the die-roll, you should put 10,000 pesos (5 bills) in the Colombian Armed Forces' envelope.

Third: put the remaining money in the white envelope and keep this for yourself. We will transfer this sum as telephone credit to the cell phone number that you indicated.

Fourth: When you have finished the task, please keep the white envelope for yourself, and give back the blue and green envelopes, along with the die, to the enumerator.

Instructions to enumerator: If necessary, explain the dynamics of the game again to the respondent. Ask if they have any doubts about what they should do. Make sure that they understand the game and that they must do it in private. Before you leave the respondent to finish the task, please give them the Visual Aid. When the respondent has completed the tasks, they must return the blue and the green envelope. Do not count the money in the envelopes before the interview is over and you have said goodbye to the interviewee - you will input the sum in each envelope in the last section of the survey. You can continue with the next question once you receive these two envelopes.

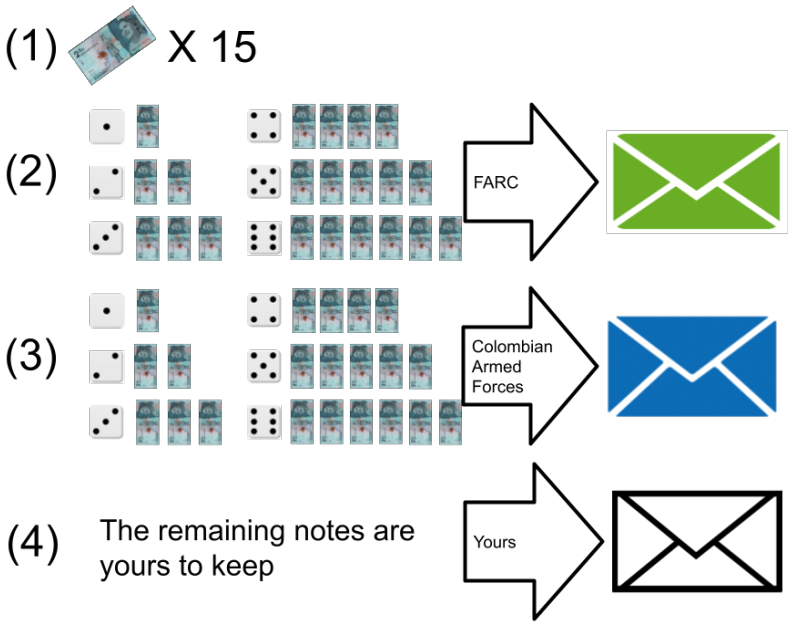

Figure B1: Visual Assistance

Note: Figure B1 was provided to each participant as a guide on how to complete the Dice Game (here translated from Spanish).

C Ethical considerations

Field work during the Covid-19 pandemic. Since the data was collected during the Covid-19 pandemic, a number of precautions were taken in order to reduce the risk of contagion.

- First of all, enumerators wore face masks at all times.
- Second, in the consent form, the first item outlined the conditions for participation: "You should participate only if you have no symptoms that could indicate a Covid-19 infection."
- Third, interviews were conducted either outside or in spaces where the enumerator and participants could keep appropriate distance.
- Fourth, in case an enumerator would contract the Virus, we had the telephone numbers to participants that they had been in contact with. Over the course of the data collection phase, none of the enumerators contracted Covid-19.

General safety. The empirical context also necessitated a risk analysis and a contingency plan for any eventualities that may risk the safety of enumerators. In order to ensure that the surveying would be feasible and safe, prior to visiting we compiled news reports of recent events and informed the official communications office in each municipality about the survey. When arriving in a municipality, the enumerators also reported their presence at the local police stations. To mitigate risks of tension, the survey included a consent form which made it clear that participants did not have to answer questions if they did not want to. Moreover, they could at any point stop the interview. In case enumerators felt threatened by the participant or other people in the area, they were instructed to *stop the survey and leave the area.* They were also told to *call the field supervisor or coordinator to inform them about the incident as soon as possible.* We had one incident in Mesetas—when some respondents felt uneasy answering questions about the FARC-EP and the Colombian Armed Forces, and told neighbors and friends to decline participation—which prompted us to end the surveying

of that municipality to ensure the safety of enumerators and the well-being of participants. Instead, we completed the quota in a replacement municipality, namely Acacias.

Debriefing. The resource allocation did not involve real transfers to the Colombian Armed Forces or the FARC-EP (see Heldring (2021) for a similar practice). Accordingly, enumerators were instructed to debrief participants in the end of the survey session by reading the following statement:

> *In this questionnaire, you have been asked to consider actions associated with the FARC and the Colombian Armed Forces. These interactions were purely hypothetical and did not involve any real interaction.*

Ethical approval. The survey project, titled XXX, received ethical approval by the Institutional Review Board at the University of Los Andes in Bogotá, Colombia (November 23, 2021). The project was deemed as an "*investigation with minimum risks*".

D Variables and data

Table D1: Variable descriptions

Label	Survey item [min-max] (categories)	Mean
Rule compliance		
FARC envelope	The sum (COP) that was left in the envelope associated with the FARC-EP [2,000-12,000]	5146
Army envelope	The sum (COP) that was left in the envelope associated with the Armed Forces [2,000-12,000]	5402
Victimization		
Lost family	Have you lost, or are still missing, any family member or close relative as a consequence of the armed conflict in this country? [0-1 (Yes)]	0.384
Displaced family	And has any family member had to take shelter from or abandon his or her place of residence due to the conflict in this country? [0-1 (Yes)]	0.570
Lost land	Has any family member been stripped of their land due to the armed conflict? [0-1 (Yes)]	0.466
Victimization	Count variable of Lost family, Displaced family, and Lost land [0-3]	1.414
Dist. to DMZ-border	Distance in kilometers to the nearest point of the former border of the Demilitarized Zone [3.4-98.4]	36
Armed Forces vic.	Participant reported being victimized and indicated "The army" to the question "What group or groups were responsible for these acts?" [0-1 (Yes)]	0.022
FARC-EP vic.	Participant reported being victimized and indicated "The FARC" to the question "What group or groups were responsible for these acts?" [0-1 (Yes)]	0.560
Other variables		
Past state presence	The mean of the following 3 items: "how much power did *the Colombian Authorities* exercise in your municipality during the years between (1998&2005; 2006&2013; 2014&2021)" [1 (Not at all)-5 (To a great extent)]	2.57
Past FARC presence	The mean of the following 3 items: "how much power did *the FARC* exercise in your municipality during the years between (1998&2005; 2006&2013; 2014&2021)" [1 (Not at all)-5 (To a great extent)]	2.39
Controls		
Education	What is the highest level of education that you have completed? (No education; Preschool; Primary; Secondary; Technical; University without degree; University with degree; Post-graduate without degree; Post-graduate with degree)	
Income	On average per month, how much money do you personally receive for your work, allowances, pensions and/or rents? You can give an answer in an approximate range. (17 categories in the range 0 - 6,000,000 COP)	
Ethnicity	With which of the following ethnic groups do you identify the most? (Indigenous; Afro-descendant; Raizal; Mestizo; Palenquero; Roma; Arab; Caucasian; Asian; No ethnicity; Other; Prefer not say)	
Religion	What is your (primary) religion, if any? (Christian (Catholic); Christian (Protestant); Christian (Other); Muslim; Traditional religions; Spirituality; Hindu; Buddhist; Jewish; I don't practice any religion; Other; No answer)	
Literacy	Can you read and write in Spanish or any other language? [0-1 (Yes)]	0.97
Gender	What gender do you identify as? [0-1 (Female))] (there were multiple options, but respondents either identified themselves as male or female)	0.671
Age	What is your age? [18-89]	39.9
Number of children	How many children (below the age of 18) live in your household? [0-16]	1.32

Note: Table D1 outlines the variables used in the empirical analysis. The descriptive statistics are calculated for participants that completed at least one of the rule compliance experiments.

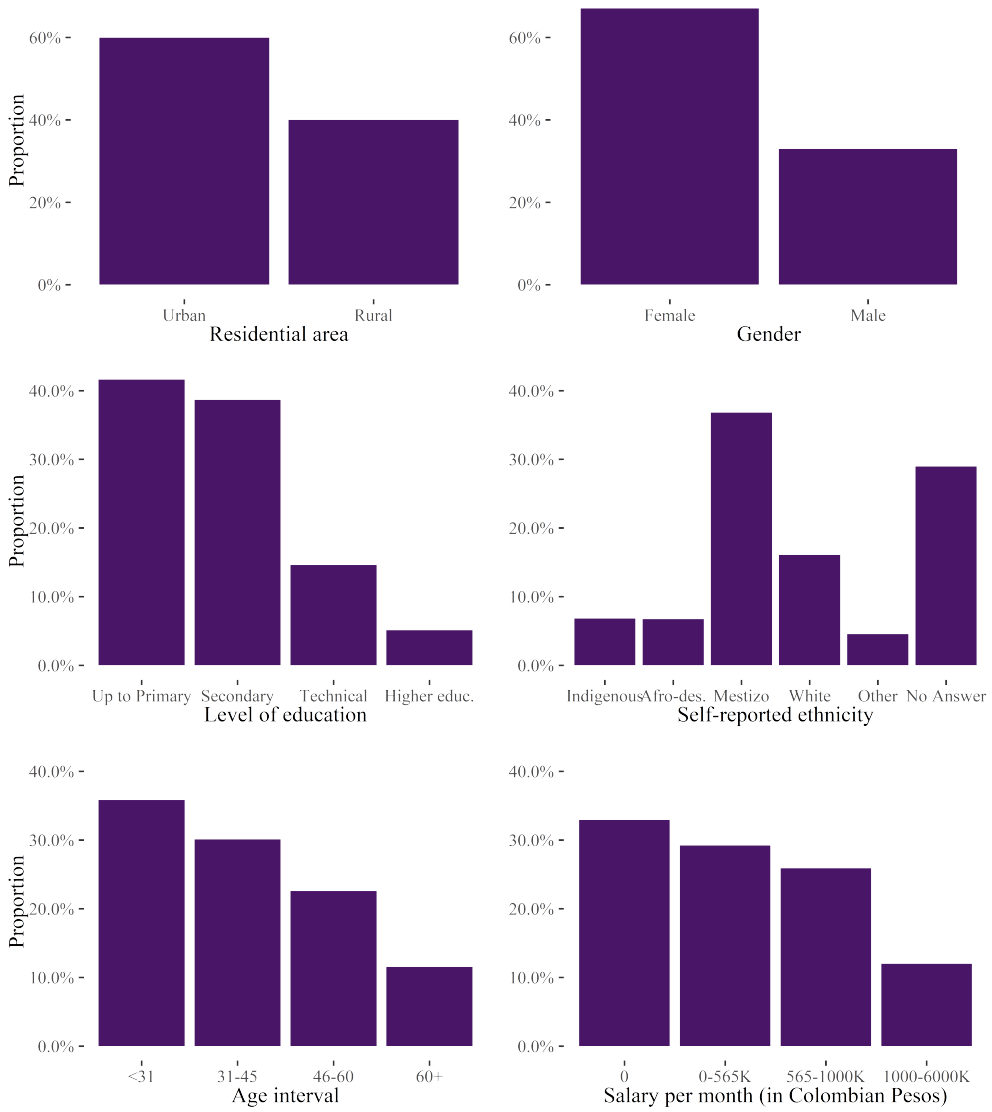

Figure D1: Demographic characteristics

Notes: The figure displays the distribution of participants according to residential area, gender, education, ethnicity, age, and salary.

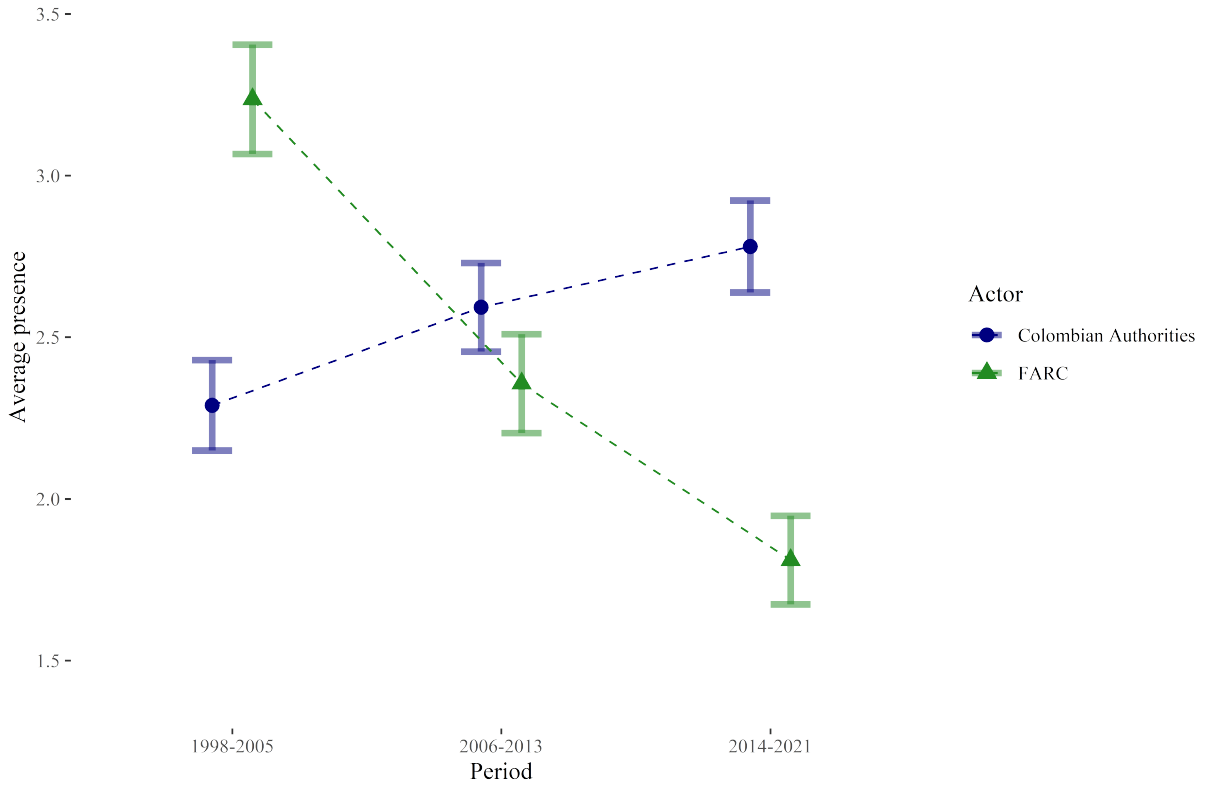

Figure D2: Average reported actor presence in the sample

Notes: The figure displays the change in power projection over time, respectively for the Colombian Authorities and the FARC-EP. The variables "Past state presence" and "Past FARC presence" are described in Appendix Table D1.

E Additional results

Table E1: Actor-specific violence and presence

Dep. Var.:	Money in the FARC Envelope		Money in the Army Envelope	
	(1)	(2)	(3)	(4)
Armed Forces vic.	-193.9		-827.0	
	(392.9)		(509.0)	
FARC-EP vic.	-440.2*		-12.18	
	(217.6)		(204.8)	
Past State Presence		26.83		317.3**
		(114.7)		(134.0)
Past FARC Presence		-188.8		-27.51
		(124.6)		(125.3)
Constant	5474.0***	5571.9***	5448.0***	4678.2***
	(229.0)	(456.0)	(233.0)	(427.4)
Observations	643	381	640	380
R-squared	0.0067	0.0059	0.0017	0.014
Dep. Var. Mean	5244.2	5191.6	5425	5426.3
Dep. Var. Std.	2701.3	2725.6	2862.6	2813.0

Cluster-robust standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$

Note: Table E1 displays OLS regression estimates of the relationships between (1) victimization by the Armed Forces and the FARC and the amount left in respective envelope, and (2) the historic presence of respective group and the amount left in respective envelope. The operationalization of variables are described in Table D1. Columns 1 and 3 include participants who reported being victimized by the FARC-EP or the Armed Forces and use non-victimized participants as reference groups. Columns 2 and 4 include participants who provided non-missing data to the indicators of presence of (1) the FARC-EP and (2) the Colombian State. All columns report robust standard errors clustered at the municipality level.

Table E2: Different types of victimization and rule compliance

Dep. Var.:	Money in the FARC Envelope		Money in the Army Envelope	
	(1)	(2)	(3)	(4)
Lost family	-389.3**	-359.9**	-64.97	-77.70
	(182.5)	(158.8)	(153.2)	(158.0)
Displaced family	-209.5	-282.0	-21.00	-21.59
	(200.3)	(190.2)	(271.3)	(309.1)
Lost land	-63.18	-30.03	52.46	34.14
	(193.9)	(201.3)	(251.2)	(285.8)
Constant	6112.5***	7515.2***	5450.5***	3834.7***
	(410.0)	(766.2)	(438.0)	(817.8)
Observations	879	879	877	877
R-squared	0.0100	0.0461	0.00014	0.0471
Dep. Var. Mean	5153.6	5153.6	5404.8	5404.8
Dep. Var. Std.	2698.7	2698.7	2845.6	2845.6
Controls	No	Yes	No	Yes

Cluster-robust standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$

Note: Table E2 displays OLS regression estimates of the relationship between different types of victimization and the amount left in respective envelope. "Controls" indicates individual fixed effects for education, income level, ethnicity, religion, literacy, and gender, as well as controls for age (continuous) and number of children (continuous). All columns report robust standard errors clustered at the municipality level.