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Rebel governance and political participation

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WIDER Working Paper 2022/98

Rebel governance and political participation

Abbey Steele¹ and Michael Weintraub²

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Abstract: Rebels, militias, and criminal groups all govern civilians. Governing strategies adopted by armed groups during civil war likely influence citizens' post-conflict political participation, with consequences for democratic politics. We theorize that an armed group's position relative to the state (anti-state or pro-state) and governing ideology (sharing governing responsibilities with local institutions or destroying them to govern centrally) interact to influence citizens' later choices about political participation. We test our argument with an original household survey of 12,000 households from war-affected communities in Colombia. Contrary to expectations, having experienced governance by either anti-state groups or pro-state paramilitaries increased participation in formal *and* informal political channels when compared to those not having experienced armed group rule. We explore potential explanations for these unexpected results and demonstrate the importance of studying the long-run political effects of wartime governance by armed groups.

Key words: armed group governance, political participation, civil war, Colombia, household surveys

JEL classification: D74, D71, D72

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1 Introduction

Rebels, militias, and criminal groups all govern civilians. Armed group governance includes the provision of security, dispute resolution, tax collection, establishment of schools and hospitals, and political representation (e.g., Arjona 2015; Arjona et al. 2015; Mampilly and Stewart 2020). For example, the Islamic State in Iraq and Syria sought to create a legal system to resolve disputes among citizens and between civilians and the newly established Islamic state government between 2014 and 2017 (Revkin and Ahram 2020). Half a world away, the African Party for the Independence of Guinea and Cape Verde (PAIGC) provided education and healthcare, and also held elections (Stewart 2020).

Yet armed groups approach governance in different ways. Some replace local governing authorities upon assuming local rule, while others work with existing decision-makers to govern jointly (Vargas Castillo 2019). Some armed groups impose draconian, illiberal policies that run counter to local preferences, while others implement rules adopted via participatory mechanisms, akin to democratic representation, in ways that reflect local customs and beliefs (e.g., Kasfir 2005). Because armed group governance may transform local decision-making, alter expectations about what would-be governors can and should do, and/or legitimate existing state institutions, we expect that how armed groups govern has important consequences for how local citizens experience politics. These varied experiences should in turn shape decisions about how civilians mobilize and participate in politics, even once conflict wanes or ends entirely.

We argue that governing strategies adopted by armed groups during civil war affect how citizens choose to engage politically in post-conflict environments, with potentially significant consequences for the health of democratic politics. We conceptually disaggregate formal from informal political participation. Formal engagement, in which individuals participate in politics through the state, and informal engagement, in which individuals join civil society organizations or engage in protest, are important because civil wars represent contests over the rules of the game and the legitimacy of state institutions. How armed group governance affects political participation should shed light on core questions about political engagement, democratic stability, and the robustness of civic life in post-war settings.

Differences in armed group governance and the kinds of mobilization that armed groups incentivize, encourage, or prohibit should affect the preferences and behaviours of individuals even once conflict ends. We argue that two dimensions of armed group rule intersect and shape individuals' political engagement. The first is the armed group's position relative to the state. Armed groups can either fight against state authority or reinforce it. Rebels engage in competitive state-building over and against the state, while pro-government militias and paramilitaries pursue actions to buttress the state's counterinsurgency efforts. The second dimension is the governance ideology of the group. Armed groups can either embrace a 'shared' or 'centralized' governance ideology. A shared governance ideology includes civilians in governance at the local level, while a centralized one excludes civilians and imposes top-down rule.

Armed groups aligned with the state will encourage civilian participation in formal state institutions. Where pro-state armed groups also embrace a shared governance ideology, incorporating pre-existing communal institutions into their governing strategy, we expect an increase in informal political participation as well. In contrast, we expect anti-state rebels that rule with a shared governance ideology to channel political action away from formal channels, to avoid legitimizing the state in areas they control. These groups will encourage political participation through other means. When anti-state rebels hold a centralized governance ideology, in contrast, we expect lower levels of political participation, whether formal or informal.

We test this argument in Colombia, drawing on a novel, large-scale survey conducted as part of the Mapping Attitudes, Perceptions and Support (MAPS) project (Weintraub et al. 2021). In 2016 the Colombian government and the country’s largest rebel group, the FARC-EP, signed a peace agreement after nearly five decades of conflict. In late 2019 we fielded a survey in 16 regions of Colombia targeted for peace agreement implementation, determined based on historic exposure to violence and levels of poverty. These ‘Programs for Development with a Territorial Focus’ (PDETs, for its Spanish acronym) cover a massive area of the country: at 411,029 km², they represent 36 per cent of all Colombian territory and, when taken together, are larger than Norway. The MAPS survey is representative at the level of each of the 16 PDETs, allowing us to draw inferences about each and make comparisons among them.¹ The total number of respondents was 12,052 individuals, making ours among the largest surveys deployed to study the implementation of Colombia’s peace agreement, and the only survey of which we are aware that is representative at the PDET level. The vast geographic coverage, combined with a sampling strategy that intentionally targeted areas deeply affected by conflict, means that our survey is uniquely suited to answer research questions related to armed group governance. To minimize potential threats to inference, our statistical models include fixed effects at the municipal level, as well as a battery of covariates at the individual level.

We find partial support for our hypotheses. While governance by pro-state paramilitaries increased formal participation, so too did governance by the FARC-EP. Exposure to insurgent governance only increased *some* forms of informal participation—such as protest activity, belonging to a victims’ organization, and belonging to communal village councils. And those exposed to paramilitary governance were *also* more likely to participate informally, including via protests, participation in activist groups, and victims’ organizations. Given this mixed support for our hypotheses, we test alternative explanations as well, although we do not find support for these alternatives either. Following this brush-clearing empirical exercise, we provide a roadmap for future research on related questions.

This paper contributes to multiple bodies of research. First, we contribute to the literature on rebel governance (e.g., Arjona 2016; Arjona et al. 2015; Cunningham and Loyle 2020; Loyle 2021; Mampilly 2011; Mampilly and Stewart 2020; van Baalen 2021). Second, we contribute to a large and rapidly expanding literature on the legacies of armed conflict (Balcels 2012; Costalli and Ruggeri 2015; Grandi 2013; Lupu and Peisakhin 2017; Osorio et al. 2019; Wood 2008). Third, we contribute to work on political participation and social mobilization in weakly institutionalized democracies and post-conflict spaces (e.g. Bratton 1999). In particular, on this last point, we conceptually disaggregate forms of political engagement and test our theoretical expectations by leveraging micro-level public opinion data in Colombia.

2 Theoretical framework

Institutions—the rules of the game that structure human interactions (North and Weingast 1989)—shape decisions about how citizens participate in their communities, and influence citizen preferences over policy processes and outcomes. The institutions that armed groups establish or adapt during conflict are likely to do the same. But does armed group governance during war leave a lasting impact on individuals’ political preferences and behaviour? If so, what changes does armed group governance produce?

¹ In August 2020, two new PDETs—both within Bogotá—were approved. Our survey does not include these two new subregions.

We follow Arjona et al. (2015: 3) in defining rebel governance as ‘the set of actions that insurgents engage in to regulate the social political and economic life of non-combatants during civil war’.² Governance can vary across multiple dimensions: for example, Arjona (2016) distinguishes between rebelocracy and aliocracy, depending upon how much relative power the rebel group or the community retains in governance arrangements, as well as the breadth of governance adopted by rebels. Armed groups’ engagement in communal affairs can also vary in terms of how coercive and illiberal or responsive and democratic that engagement is. Mampilly and Stewart (2020) characterize the qualities of different political institutions adopted by armed groups and argue that armed groups decide which institutions to construct in a step-wise fashion, in part influenced by the community itself.

Other studies examine variation in governance across rebel groups or between different civil war settings (Huang 2016; Mampilly 2011; Revkin 2019; Stewart 2018; Vargas Castillo 2019).³ Differences between armed groups might produce meaningful variation across communities—and, we think, individuals—long after rebel rule has ended. We draw on this work to develop testable hypotheses connecting armed group governance to individual-level decisions about political participation.

2.1 Political participation

When deciding whether and how to participate in politics in post-conflict spaces, individuals have multiple options available to them.⁴ We conceive of these as broadly falling into two types: formal and informal engagement. Formal engagement involves participating in state-based institutions, such as voting or contacting an elected official (e.g. Bratton 1999).⁵ Informal engagement occurs outside of, and is often antagonistic towards, the state. We consider membership in civil society organizations and participating in protests or strikes as core examples of informal participation.

Formal and informal engagement also differ in the degree to which engagement is independent or collective. Formal channels of engagement tend to be independent, while informal channels are more likely to be collective. For example, although decisions about whether to vote may be influenced by other community members’ decisions to do so (Eubank et al. 2019; Rolfe 2012), the act of voting itself does not require significant interpersonal or communal coordination. On the other hand, informal participation, including forming or mobilizing non-governmental organizations for political action, requires overcoming significant collective action problems, particularly in environments where participation might be met with violence (Kuran 1991; Siegel 2009).

We believe that these dimensions of participation are substantively important. The extent to which individuals participate in formal (democratic) channels likely has an impact on the health of democratic states. In states that have experienced civil wars, it is normatively desirable for regions most afflicted by violence to be represented in national debates about peace-building and post-war politics that most affect them. Informal participation, in the form of civil society engagement and collective protest or strikes, is arguably equally important for influencing the course of post-war states and politics, as an active civil society can help tame repressive governments while providing channels for radical ideas to flourish and gain popular acceptance.

² While early work focused on actions taken by *rebels*, studies are no longer limited to insurgents who compete with state governance, but also include reactionary paramilitary and militia groups (Kasfir et al. 2017) and criminal actors (Blattman et al. 2021), and we include such groups when we refer to ‘rebel’ governance.

³ van Baalen (2020) considers ‘responsiveness’ of armed groups’ governance across armed groups, communities, and *segments* of the population. Revkin (2021) also finds differences across population segments’ perceptions of governance within Mosul.

⁴ Not all options may be available to all individuals, given the persistent threat of violence and differing access to tools of mobilization.

⁵ Ley (2018) and Berens and Dallendörfer (2019) refer to similar types of engagement as ‘electoral’ and ‘non-electoral’. We choose ‘formal’ and ‘informal’ to capture engagement with state institutions and non-state political organizations and actions.

2.2 Our argument

How does rebel governance influence informal and formal political participation? We focus on two key dimensions that interact in theoretically meaningful ways: the position of an armed group vis-à-vis the state—whether it is ‘anti-state’ (rebels) or ‘pro-state’ (paramilitaries or militias)—and its approach to incorporating community members into its governing practices.

We begin with *position vis-à-vis the state*. Armed groups can either be nominally or formally aligned with the state—complementing its coercive capacity—or against it. Rebel groups that seek to overthrow the government, or secede from a given polity, are the clearest examples of anti-state armed actors, while ‘rear-guard’ paramilitary forces that use local ties to determine who has collaborated with rebels are clear examples of pro-state armed actors. Others fall on a spectrum somewhere in between: organized criminal groups that collude with state authorities to capture rents are, in one sense, against the state, committing illicit acts formally punished under the penal code, but sustained cooperation between state officials and organized criminal groups to violate the law belies that anti-state designation. We argue below that an armed group’s position affects the kinds of activities permitted and encouraged within the territory an armed group rules, with consequences for citizens’ political participation over the long run.

The second dimension is the approach an armed group takes to community involvement in governance: it is either a shared project between the community and the armed group, or it stems from top-down rules that community members are obliged to follow.⁶ Shared governance creates ‘shared understandings such as a normative expectation that communal authority should lead through consultation processes with the community, notions of order and cleanliness of public space, and communitarian and egalitarian logics in addressing collective affairs’ (Vargas Castillo 2019: 211).

Consultations with community members may become more frequent, and communicating preferences more common. While armed groups may imply punishment for not joining communal organizations, or even openly demand participation, in shared governance arrangements the armed group is not directly responsible for implementing governance actions.

Table 1 outlines the intersection of the two dimensions of armed group governance (position vis-à-vis the state and governance ideology) and our expectations about political participation. When shared governance is pursued by an armed group that opposes the state (upper left-hand box), we expect citizens will participate more informally.⁷ Because anti-state rebel groups engage in competitive state-building, we anticipate that civilians exposed to governance by these groups will be socialized to reject the legitimacy of formal state institutions, and will instead over the long term seek to participate in politics via informal channels. Civilians exposed to state-aligned armed group governance should, on average, be encouraged to participate in formal channels of participation. At the same time, individuals who experience shared governance should be more likely to hold beliefs that collective forms of organizing are both desirable and effective for achieving political ends. As a result, we expect them to be more open or inclined, on average, to participate in associations and other collective forms of organization, and be more willing to assume costs associated with participating in these ways.

⁶ These types of rule would both fall under what Arjona (2016) terms ‘rebelocracy’, which involves extensive intervention in community life. Here we distinguish *how* that intervention takes place and, as such, do not address what Arjona calls ‘aliocracy’, in which community affairs are delegated to community leaders and in which armed groups refrain from shaping economic, political, and social life.

⁷ Our theoretical expectations differ from Huang (2016), who reasons that contentious politics are more likely following wars during which civilians have sustained contact with insurgent groups, given that insurgent groups will expose civilians to new ideas about politics, and may lead to mass organizing against the state. We argue that insurgents do not only need to provide an alternative to the state’s vision of governance, but also to embrace an ideology that promotes alternative modes of political participation.

Table 1: Armed group governance and political participation

Community involvement in governance	Position	
	Anti-state	Pro-state
Shared	+ Informal	+ Formal and informal
Centralized	– Formal and informal	+ Formal

Source: authors' compilation.

When an anti-state armed group embraces a centralized governance ideology (lower left-hand box)—‘an administrative arrangement where armed group agents rule social life directly’ (Vargas Castillo 2019: 51)—we expect individuals will be less engaged in both formal and informal modes of participation. Centralized governance emphasizes rule-following rather than shared decision-making, with rules that are ‘pre-baked’ and enforced by the armed group. Such an approach to political organization would not be amenable to bottom-up, informal participation, given that organizational vehicles for participation are either actively depressed or simply not encouraged. The armed group’s opposition to state institutions should, as described above, likewise disincentivize formal participation.

In contrast, when a state-aligned armed group embraces centralized governance (lower right-hand box), we expect that the armed group will endorse rules for formal political participation and encourage individuals to follow them.⁸ Centralized governance may involve coercion to prompt participation in formal state institutions, including mandating voting in elections. Pro-state, centralized rule will also discourage anti-status quo political activities, even those that are only adjacent to insurgent organizing tactics, such as protests or strikes. For this reason, we argue that those living under this governance arrangement are unlikely to participate informally in politics.

Finally, armed groups aligned with the state that embrace shared governance (upper right-hand box) are likely to have increased formal and informal political participation. Norms, beliefs, and preferences to increase participation will be cultivated under shared governance practices, regardless of the armed group’s position relative to the state. State-aligned armed groups should encourage participation via state-based channels of participation to legitimate government-aligned processes of participation. Compared to individuals from communities that do not experience any such endorsement or organizing, we expect these individuals on average will engage through multiple participatory channels.

Each of the changes occasioned by armed group governance—which relate to the scope, depth, and texture of local political life under armed groups—should generate changes in attitudes and behaviour for ordinary citizens. The broad argument is that an armed group governing in a collaborative way with the community is likely to encourage *informal* participation by citizens on average. In contrast, governance by pro-state armed groups is more likely to foster *formal* participation, whether or not the form of governance is centralized or shared.

We recognize that governance is not always exclusive: multiple armed group may seek to rule over the same populations simultaneously, or they may do so sequentially (e.g., Kasfir et al. 2017; Mampilly and Stewart 2020). Here we agree with Vargas Castillo (2019): the aggregate effect of multiple rulers is likely to undermine the impact of one form of rule over another and, as a result, we should observe weaker relationships between governance type and political engagement outcomes in the presence of multiple would-governors.

⁸ For pro-state armed groups in autocratic settings without formal institutions for participation, we may not see an increase in political participation. However, the majority of autocracies now hold elections (Gandhi and Lust-Okar 2009).

3 Colombian context

The Colombian civil war dates to the formation of the FARC in the mid-1960s. Until the 1980s, the group remained peripheral, developing a strong presence in several remote areas but rarely confronting state forces.⁹ In the 1980s, the FARC expanded its role in the cocaine trade, eventually entering into conflict with El Mexicano, a member of the Medellín cartel, over taxation of coca crops. This confrontation with militias affiliated with the cartel eventually evolved into the revival of counterinsurgent militias (Ronderos 2014). Though the FARC participated in peace talks in the early 1980s, and formed a legal political party as a result, it did not demobilize, but rather increased in strength throughout the decade. In the 1990s, the FARC expanded its territorial presence, oftentimes confronting the Colombian armed forces directly.

Counterinsurgent militias unified under a federation known as the *Autodefensas Unidas de Colombia* (AUC) in 1997 and succeeded in ousting the FARC from many regions through bloody incursions involving massacres and mass displacement (Steele 2017). Over time the armed forces became more effective at fighting the FARC, sometimes in tandem with the AUC. Beginning in the early 2000s, the military began targeting high-ranking FARC members for assassination. After losing several leaders, the FARC entered into secret talks with the Santos administration in 2010.

Between 2012 and 2016, government and FARC representatives and international guarantors negotiated the contents of a peace agreement that comprised five core pillars (plus details regarding the implementation of the agreement): agrarian/land reform, political participation, illicit crops, transitional justice and reparations for victims, and demobilization and reincorporation of ex-combatants. The peace agreement was signed by the parties on 26 September 2016, but failed by a slim margin to win popular support in a plebiscite on 2 October 2016. The parties returned to the negotiating table to discuss the petitions of political leaders who led opposition to the plebiscite, and then signed a modified agreement in November 2016.¹⁰ As of April 2021 there were 13,087 ex-members of the FARC-EP engaged in reincorporation following disarmament via the 2016 peace agreement.

The ELN also formed in the early 1960s, inspired by the Cuban revolution and dedicated to Guevara's *foquismo* approach to guerrilla warfare. The ELN is less centralized than the FARC, which some observers link to its failure to remain in peace talks with the government. Most recently, peace talks were called off in January 2019. The group remains active on the Venezuelan border, particularly Catatumbo and Arauca, and in Chocó.

3.1 Rebel governance in Colombia

Non-state armed groups intervened in civilians' lives to varying degrees across Colombian communities (Arjona 2016). Variation in governance practices also exists across armed groups (Vargas Castillo 2019). The FARC and the ELN operated in collaboration with existing forms of political authority—exhibiting polycentric governance alongside communal village boards or *Juntas de Acción Comunal* (JACs) where they controlled territory—while paramilitaries generally sought to eradicate pre-existing forms of political decision-making locally—imposing more centralized forms of governance.¹¹

⁹ In the early 1970s a group broke away from the FARC to found the M-19, whose leaders explicitly disagreed with the FARC about how to take the war effort forward: they argued for, and pursued, an urban front. The brief summary of the conflict that we provide here focuses on the FARC, but several other insurgent groups formed over this time period as well.

¹⁰ The Santos administration subsequently required approval from a court to accept the agreement through a 'fast-track' legislative process. Though it was approved by the court, it stalled in Congress. Nearly five years later, Congress is still in the process of amending and adopting laws to implement the peace agreement.

¹¹ Though see Larratt-Smith (2020).

Paramilitary groups also engaged in governance (Arjona 2016; Ch et al. 2018; Robinson 2013). However, paramilitary blocks were aligned with the state and regional elites, and often worked through state institutions for the benefit of these elites. Governance at the community level was more centralized than what their insurgent counterparts pursued: paramilitaries enforced a ‘zero tolerance policy towards petty criminality’ while also directly offering conflict resolution services for disputes among neighbours, instead of using existing communal vehicles to do so (e.g. Vargas Castillo 2019: 249–51). Measures of social control—including restrictions on movement and curfews—were also commonly imposed and enforced directly by paramilitaries.

3.2 Political engagement in Colombia

Opportunities for political participation in Colombia have shifted over time and in relation to the ongoing war. In spite of the conflict, Colombia is one of the most durable democracies in Latin America. Nevertheless, between 1958 and 1982, the democracy was a consociational one, dominated by the Liberal and Conservative political parties who alternated power mechanically every four years. Presidents appointed governors, who then appointed municipal mayors. Some argued that the exclusionary and top-down political system fuelled the twin insurgencies, because it could not sufficiently accommodate a broader range of political preferences (Pécaut 1989). During the 1982 peace talks with the FARC, this interpretation was embraced and political reforms were adopted to address it. The FARC founded a legal political party in 1985, the Patriotic Union (UP), whose candidate for president in the 1986 elections won 4 per cent of the national vote. In 1988 municipalities began holding direct elections for mayors—another reform stemming from the peace talks. Though the FARC initially embraced electoral participation, following a wave of assassinations and mass displacements perpetrated by counterinsurgent militias, it abandoned this strategy and in the 1990s it forbade electoral participation in areas it controlled (Steele 2017). The UP stopped contesting elections in 2002. Despite the UP’s exit from formal politics, uneven protections for electoral participation, and high levels of clientelism in some regions, new political parties proliferated in the 1990s following the adoption of a new constitution in 1991. Electoral participation rates in Colombia during this period were roughly comparable to those in other democracies.

In terms of political engagement beyond formal state channels, civil society organizations and unions expanded after the return to democracy in 1957. Government repression of student activists and unions under the Turbay administration (1978–82) led many to join the insurgency. In the late 1980s, the Catholic Church and human rights activists began agitating for greater attention to the violence that social leaders and union members faced in peripheral regions of the country (Tate 2007). Social leaders seeking reparations and land restitution for victims have frequently been targeted with lethal violence, at a pace that has accelerated since the signing of the 2016 peace agreement with the FARC (Prem et al. 2018). In spite of the history of violence against activists, Colombia has a vibrant civil society that is frequently vocal in its criticism of the state.

The division of formal and informal political engagement blurs in some domains, such as the JACs and civil society organizations like the National Peasant Union (ANUC). Both were formed by the state in the early 1960s in order to engage more peasants and secure land reforms, although these innovations did not work as planned (e.g. Albertus and Kaplan 2013). JACs are elected bodies located within municipalities that have some say in the governance of rural communities and form the axis of local governance in rural communities (Blair et al. 2022). However, in some regions where armed groups were active, JACs were targeted for infiltration (Ch et al. 2018; Eaton 2006; Vargas Castillo 2019), while in other cases insurgent groups used the JACs to help govern or collaborated with them to do so. As a result, those who experienced rebel governance would be unlikely to view the JACs as formal state institutions.¹²

¹² We also suspect that many who did not experience rebel governance would likewise be unlikely to view them this way.

3.3 Testable implications of the theory in Colombia

The FARC and ELN, as described above, were both anti-state rebel groups that embraced shared governance, albeit with slightly different implementations. In contrast, pro-state paramilitary blocks largely applied centralized forms of governance. We expect that those who experienced rebel governance under the FARC or ELN are more likely to be politically engaged through informal channels than those who did not. We expect that those who experienced pro-state, centralized rule via paramilitary governance are more likely to be politically engaged through formal channels than those who did not. Finally, we anticipate that those who experienced armed group rule by multiple types of groups are less likely to be politically engaged through formal and informal channels than those who did not experience governance by multiple groups. Note that because of the configurations of position vis-à-vis the state and governance ideology in the Colombian case, we are unable to test all four combinations described in Table 1.

4 Empirical strategy

4.1 Survey data

We test our hypotheses using data from a novel survey that we conducted in 2019. The first surveys were administered in January 2019, in two PDETs—Arauca and Tolima—the former on the Venezuelan border and deeply affected by Colombia’s largest remaining rebel army, the ELN, and the latter the birthplace of the FARC. After making adjustments to the survey instrument, we conducted surveys in the remaining 14 PDETs between October and December 2019.

The sample included the *cabecera municipal*, or municipal seats, and the *centros poblados* or slightly more urbanized villages—consisting of at least 20 homes—for each municipality.¹³ Within *centros poblados*, field coordinators randomly selected blocks (‘*manzanas*’) for enumerators to visit. Within selected blocks, the enumerator walked around to identify the type of structures contained within each block, including inhabited residences, abandoned homes, empty lots, or businesses. The enumerator then entered this information into a hand-held device. Given the types of properties observed, and the sample size required, the software randomly selected households to be surveyed among the universe of inhabited residences on each block. Within the household, the aim was to speak with a member of the household who was an adult and at home at the time. Enumerators aimed for gender parity in the sample of each block, but this depended on availability. Table 2 displays descriptive statistics for our sample; more detail about the data collection process can be found in Appendix A. The total number of survey respondents was 12,052 individuals. Figure 1 shows the distribution of our respondents at the municipal level.

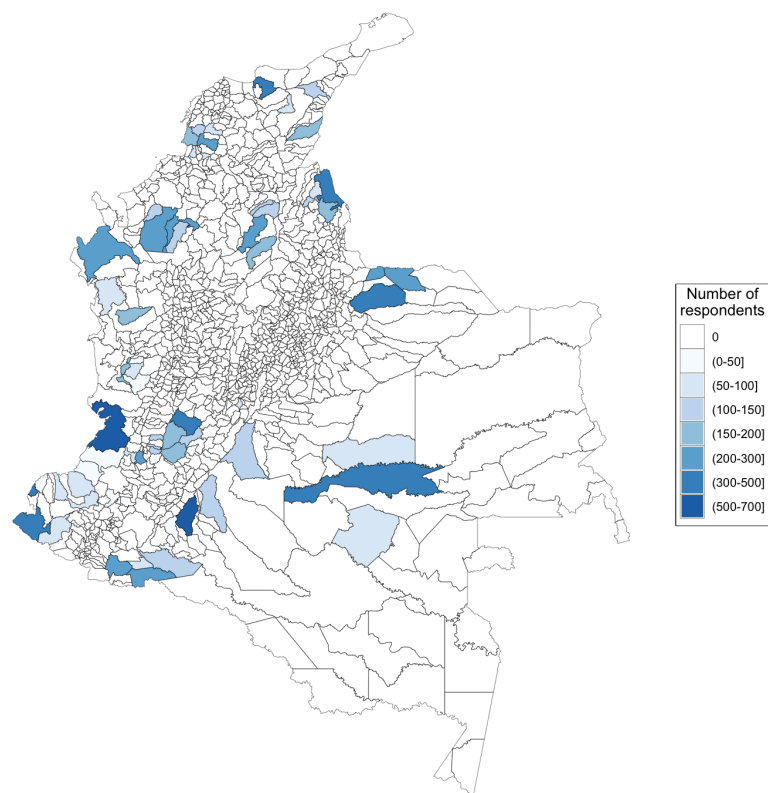
¹³ The ‘dispersed’ rural population was not included: it would have been prohibitively costly given that no sampling frame exists for such areas.

Table 2: Descriptive statistics

	Mean	SD	Min.	Max.	N
Formal participation dummy	0.77	0.42	0	1	12,052
Informal participation dummy	0.26	0.44	0	1	12,052
FARC-only governance	0.13	0.34	0	1	12,052
ELN-only governance	0.05	0.22	0	1	12,052
Paramilitary-only governance	0.36	0.48	0	1	12,052
All governance	0.14	0.35	0	1	12,052
FARC and paramilitary governance	0.09	0.29	0	1	12,052
FARC and ELN governance	0.03	0.18	0	1	12,052
ELN and paramilitary governance	0.01	0.12	0	1	12,052
No armed governance	0.46	0.50	0	1	12,052
Contact leader	0.17	0.37	0	1	12,052
Contact politician	0.20	0.40	0	1	12,052
Vote plebiscite	0.49	0.50	0	1	12,052
Vote legislative	0.64	0.48	0	1	12,052
Protest	0.09	0.28	0	1	12,052
Activist group	0.12	0.33	0	1	12,052
Victims' org	0.06	0.24	0	1	10,335
JAC	0.11	0.31	0	1	10,335
Female	0.57	0.50	0	1	12,052
Age	3.38	1.61	1	6	12,052
Work	0.53	0.50	0	1	12,052
Study	0.04	0.19	0	1	12,052
Domestic tasks and other	0.49	0.50	0	1	12,052
Education	2.18	1.49	0	6	12,052

Source: authors' compilation.

Figure 1: Distribution of respondents in the MAPS sample in each municipality



Source: authors' compilation.

4.2 Estimation

We use an ordinary least squares (OLS) estimator. We include a set of individual-level controls for age, level of education, gender, a set of dummies for employment status (employed, student, domestic worker), and whether an individual lives in a municipal centre or a village. To soak up any unmeasured heterogeneity at the municipal level, we also include municipal-level fixed effects.¹⁴ In all models we use population weights that reflect the municipal population size per PDET and rural–urban divide, based on the 2018 census.

All dependent and independent variables are operationalized at the individual level. Our core dependent variables are formal and informal political engagement. To measure formal political engagement, we take two approaches. First, we construct a dummy variable that takes a value of 1 if an individual responded affirmatively to having engaged in *any* of the following activities: (1) contacted a community leader in the prior six months; (2) contacted a politician in the prior six months; (3) voted in the 2016 plebiscite on the peace agreement; or (4) voted in the 2018 legislative elections. More than 76 per cent of the sample take a value of 1 on this variable, driven chiefly by affirmative answers to the voting questions: 49 per cent report having voted in the plebiscite, while nearly 64 per cent report having voted in legislative elections. Second, we estimate the effects of armed group governance on each of these individual components.

To measure informal political engagement, we take a parallel approach. First, we construct a dummy variable that takes a value of 1 if an individual responded affirmatively to having engaged in *any* of the following activities: (1) participated in a protest in the prior six months; (2) was a member of an NGO; (3) was a member of a victims' group or citizen platform organization; or (4) was a member of a JAC. Although JACs were originally launched by the state in the 1960s (Kaplan 2017), they typically functioned autonomously and were frequently co-opted by rebel groups (e.g., Karl 2017; Peñaranda Currie et al. 2021: 4; Vargas Castillo 2019: 196–220). We code JAC membership as informal engagement, although our results are not sensitive to this decision. Approximately 26 per cent of respondents take a value of 1 on the informal participation dummy variable. A total of 12 per cent report having participated in an activist group, while 11 per cent report participation in a JAC. Second, as above, we test the effects of armed group governance on each of these individual components. Figure 2 shows the distribution of the formal and informal participation dummy variables, using the population survey weights described and displaying 95 per cent confidence intervals.

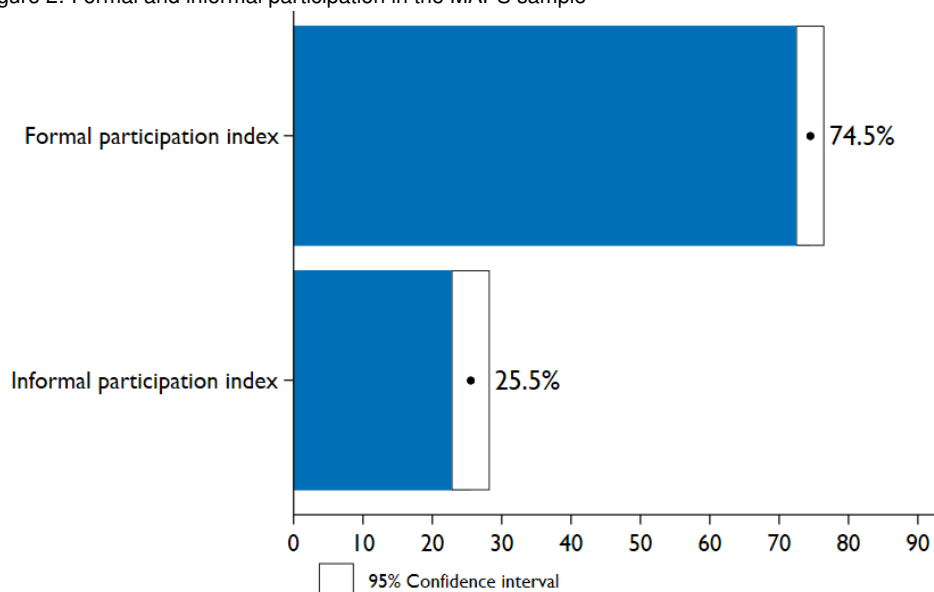
Our core independent variables measure self-reported exposure to different forms of armed group governance. We ask whether, prior to the signing of the 2016 peace agreement, one or more of the following groups was 'in charge' in respondents' communities: FARC, ELN, and paramilitaries. Respondents were provided the opportunities to respond yes or no to each.¹⁵ Based on the answer to these questions, we create a set of dummy variables for each respondent, depending upon whether they reported FARC-only governance (8.7 per cent of the sample); ELN-only governance (4.2 per cent); paramilitary-only governance (38.2 per cent); FARC and ELN governance (3.5 per cent); FARC and paramilitary governance (9 per cent); ELN and paramilitary governance (1.5 per cent); or governance by all three (12.8 per cent). The reference category for these regressions is reporting no armed group governance at all (5,548 respondents, or 48.9 per cent of the sample), which most likely corresponds to state-provided governance but may also capture the absence of *any* authority locally. The percentage of respondents reporting no armed group governance is broadly consistent across regions, ranging from a minimum of 3.41 per cent in Sur de Bolívar to a maximum of 9.19 per cent in Cuenca del Caguan and Piedemonte

¹⁴ Following Abadie et al. (2017), we do not cluster standard errors given our use of fixed effects and the fact that our core interest is not in treatment heterogeneity.

¹⁵ Don't know/refuse to answer were also options provided to respondents.

Caqueteño. The overall distribution of the armed group governance variables can be found in Figure 3 (for legibility we exclude some multiple armed group categories).

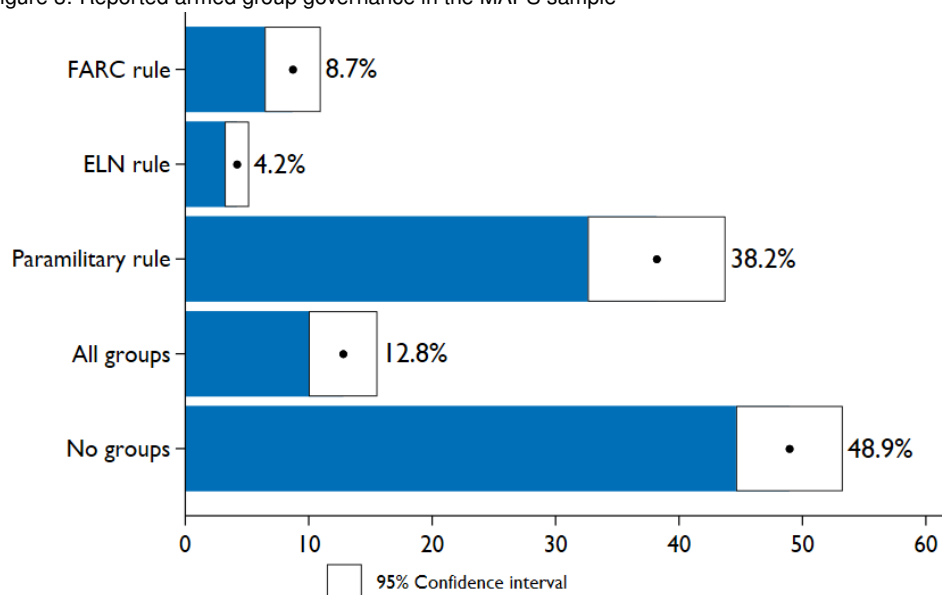
Figure 2: Formal and informal participation in the MAPS sample



Note: $N = 12,052$.

Source: authors' compilation based on the 2019 MAPS survey.

Figure 3: Reported armed group governance in the MAPS sample



Note: $N = 12,052$.

Source: authors' compilation based on the 2019 MAPS survey.

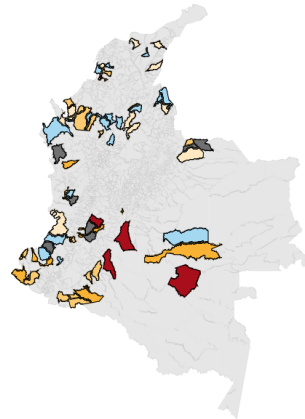
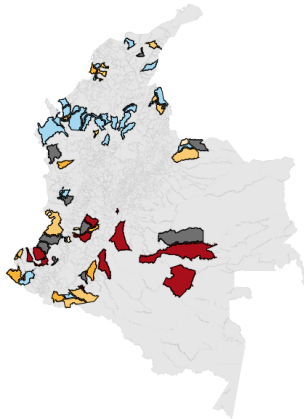
The geographic distribution of these armed group governance variables can be found in Figure 4, where we also distinguish between respondents living in more urban areas (municipal capitals) and rural areas (hamlets). For these purposes we exclude migrants and internally displaced persons (IDPs), an issue to which we return below. The patterns lend credence to our survey measure of armed group governance: in traditional FARC strongholds such as Ariari-Guayabero, for example, more than 50 per cent of respondents report FARC-only governance. The same holds for areas of traditional ELN control, as in Arauca on the Venezuelan border, and in some areas of the Pacific Coast. Finally, the area around Montes de María, Córdoba, and Bolívar all clearly show significant paramilitary governance. Nor do we

see massive differences in responses across rural and urban areas. In short, we believe that the survey responses are likely a reasonable measure for armed group governance.

Figure 4: Maps of armed group governance using survey data

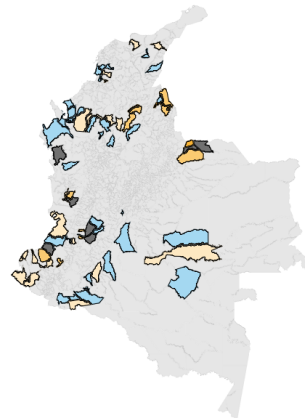
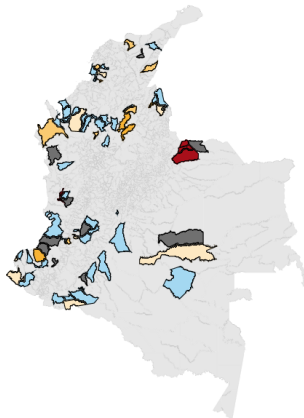
(a) FARC governance in rural areas

(b) FARC governance in urban areas



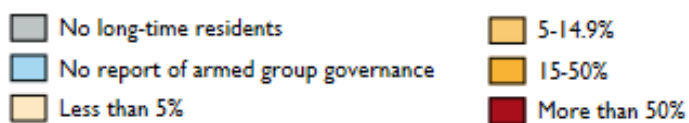
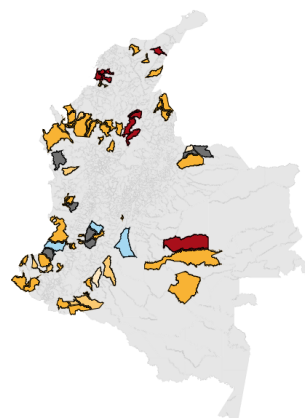
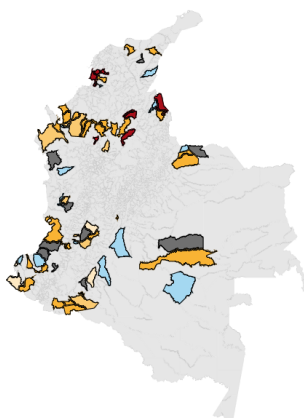
(c) ELN governance in rural areas

(d) ELN governance in urban areas



(e) Paramilitary governance in rural areas

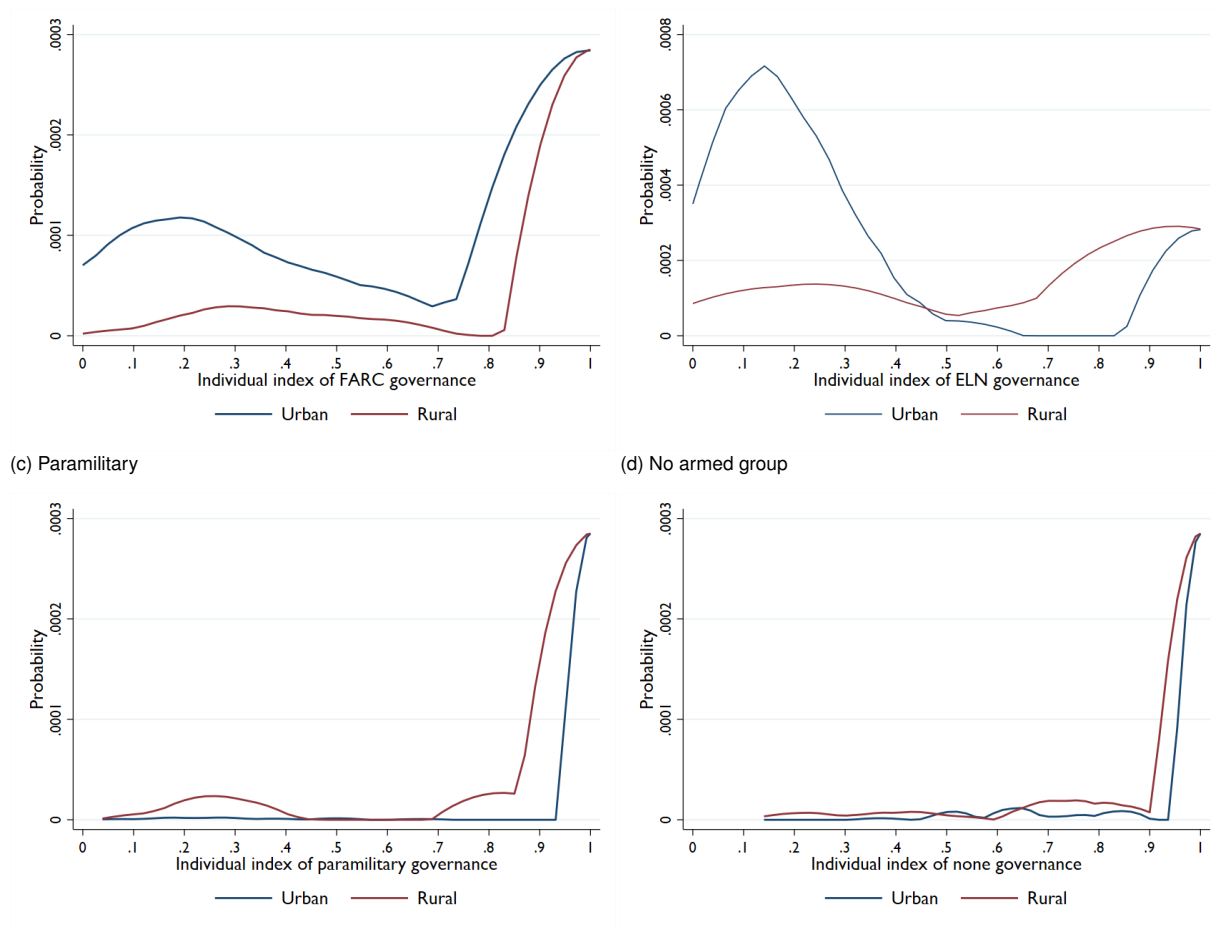
(f) Paramilitary governance in urban areas



Source: authors' compilation based on the 2019 MAPS survey.

At the same time, we acknowledge that measuring armed group governance is difficult and subject to potential measurement error. For example, there may be significant dispersion within communities in how individuals report on armed group governance. To determine how consistent individual responses are with community responses, we construct indices measuring the probability that an individual respondent's answer to each armed group governance question matches that provided by others in her community. For each individual respondent, we take the number of respondents indicating that a given group (either FARC, ELN, or paramilitaries) ruled in their community and divide it by the number of individuals reporting the most-reported group in their community. For example, if we surveyed ten individuals in a rural hamlet and only one mentioned ELN governance while the rest chose paramilitaries, the ELN index for that respondent would be 1/9, and 1 for the other respondents in the hamlet. Figure 5 reveals a high degree of consistency in responses about armed group governance across both rural and urban areas for the FARC (panel a), paramilitaries (panel c), and no armed group rule (panel d). Results for the ELN (panel b) are noisier, potentially because ELN rule was more rare and geographically concentrated (see Figure 3).

Figure 5: Consistency in responses regarding armed group governance using survey data
(a) FARC (b) ELN



Source: authors' compilation based on the 2019 MAPS survey.

5 Limitations

Our study is not without limitations. First, the statistical relationships we uncover may be driven by the endogeneity of armed group choices, both about which communities they opt to rule and what governing strategies they adopt (Gáfaró et al. 2022). If armed groups choose to rule communities that already have

preferences aligned with rules they subsequently use to govern, then governance is epiphenomenal. We think this is unlikely, given that armed group decisions about governance strategies are frequently made on the basis of ideological commitments or ultimate goals, rather than local ‘matches’ between armed group preferences and local attitudes. Decisions about which communities to rule are the product of complex calculations about pre-existing state strength, arms and drug trafficking routes, and more.

Second, if individual survey respondents choose where to live based on past or current armed group governing patterns, the relationships we uncover may not be causal. To counter this possibility, we include a rich set of individual-level control variables, as well as municipality fixed effects to soak up unmeasured heterogeneity across municipalities, but we cannot rule this out definitively. To probe its plausibility, we run robustness checks that exclude both victims of forced displacement and anyone who has moved from their place of birth.

Third, we are unable to measure with precision the length of armed group rule experienced by each respondent, nor how much time has elapsed between the reported armed group rule and our outcomes of interest.

6 Results

6.1 Weak evidence that insurgent governance increases informal participation

Table 3 provides the main results for the effect of armed group governance on our informal engagement binary measure (column 1), as well as the disaggregated outcomes: protests (column 2), membership in NGOs (column 3), membership in other civil society organizations (column 4), and membership in the JACs (column 5). We find evidence that self-reported exposure to rebel governance increases informal participation. We observe a 15.5 per cent increase in informal participation for those exposed to FARC-only governance (0.269) when compared to those not exposed to any armed group governance (0.233), although this is not statistically significant at conventional levels. We see a statistically significant and large effect for paramilitary-only governance (0.302), which increases informal participation by 29.5 per cent when compared to the baseline of no armed group governance. Finally, those reporting that all groups governed—nearly 14 per cent of the total sample—are 20.5 per cent less likely (0.185) than the baseline to report informal participation. The disaggregated components of informal participation in columns 2–5 of Table 3 show that FARC-only governance increased protest and membership in victims’ organizations. In contrast, the large increases in informal participation stemming from paramilitary-only governance are—quite surprisingly—driven chiefly by protest activity, participation in an activist group, and (weakly) participation in victims’ organizations.

6.2 Armed group governance tends to increase formal participation

Table 4 provides results for the effect of armed group governance on our formal engagement binary measure (column 1), as well as the formal engagement disaggregated outcomes: contacting community leaders (column 2) or politicians (column 3), and voting in the 2016 peace accord plebiscite (column 4) and the 2018 legislative elections (column 5). We observe a 12.6 per cent increase in formal participation for those exposed to FARC-only governance (0.792) when compared to those who experienced no armed group governance (0.703). We see a 9.8 per cent increase in formal participation for those exposed to paramilitary governance only (0.772) when compared to those without exposure to any armed group governance. We also find evidence that individuals who report having experienced FARC and ELN governance were 4.9 per cent more likely to participate formally. All of these effects are statistically significant at conventional levels. These patterns are broadly consistent when looking at the disaggregated components of formal participation in columns 2–5 of Table 4: the effects of FARC-only governance are

not driven by any one outcome, while the paramilitary-only governance effects described above appear to be driven mostly by contacting politicians and legislative voting.

Table 3: Informal participation and armed group governance

	(1) Informal participation dummy	(2) Protest	(3) Activist group	(4) Victims' org.	(5) JAC member
FARC-only governance	0.04 (0.02)	0.03** (0.01)	0.02 (0.02)	0.02* (0.01)	0.02 (0.01)
ELN-only governance	0.03 (0.04)	0.05 (0.04)	-0.00 (0.02)	-0.02 (0.01)	0.02 (0.02)
Paramilitary-only governance	0.07*** (0.02)	0.04** (0.01)	0.04* (0.02)	0.02* (0.01)	0.00 (0.01)
All governance	-0.05* (0.02)	-0.04* (0.02)	-0.02 (0.02)	-0.01 (0.01)	0.00 (0.01)
FARC and paramilitary governance	-0.00 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.00 (0.02)	0.02 (0.01)
FARC and ELN governance	-0.05 (0.05)	0.00 (0.05)	-0.04 (0.03)	0.02 (0.02)	-0.03 (0.02)
ELN and paramilitary governance	-0.08 (0.05)	-0.07+ (0.04)	-0.01 (0.04)	-0.01 (0.03)	-0.01 (0.02)
Constant	0.07+ (0.04)	-0.01 (0.03)	0.01 (0.02)	-0.06*** (0.01)	0.05* (0.02)
N	12,052	12,052	12,052	12,052	12,052

Note: effects of armed group governance on an informal participation dummy (column 1) and the components of informal participation (columns 2–5). All specifications include municipal fixed effects, as well as individual respondent controls (gender, age, educational attainment, and dummies for employment). + $p < 0.10$, * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

Source: authors' compilation based on MAPS survey data.

Table 4: Formal participation and armed group governance

	(1) Formal participation dummy	(2) Contact community leader	(3) Contact politician	(4) Plebiscite vote	(5) Legislative vote
FARC-only governance	0.09*** (0.02)	0.09*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.07** (0.02)
ELN-only governance	0.02 (0.05)	0.10*** (0.03)	0.07* (0.03)	0.02 (0.05)	0.01 (0.05)
Paramilitary-only governance	0.07*** (0.02)	0.03+ (0.02)	0.09*** (0.01)	0.08* (0.03)	0.07** (0.03)
All governance	0.02 (0.03)	0.03 (0.02)	-0.03 (0.02)	0.02 (0.03)	0.01 (0.03)
FARC and paramilitary governance	0.04+ (0.02)	0.05+ (0.03)	0.00 (0.02)	0.06* (0.03)	0.04+ (0.02)
FARC and ELN governance	0.03 (0.04)	0.00 (0.03)	-0.01 (0.05)	0.10* (0.05)	0.02 (0.05)
ELN and paramilitary governance	-0.02 (0.03)	-0.00 (0.03)	-0.07 (0.04)	-0.04 (0.04)	0.01 (0.03)
Constant	0.35*** (0.04)	0.00 (0.03)	0.01 (0.02)	-0.01 (0.05)	0.19*** (0.05)
Individual-level controls	✓	✓	✓	✓	✓
Municipal FEs	✓	✓	✓	✓	✓
N	12,052	12,052	12,052	12,052	12,052

Note: effects of armed group governance on a formal participation dummy (column 1) and the components of formal participation (columns 2–5). All specifications include municipality fixed effects, as well as individual respondent controls (gender, age, educational attainment, and dummies for employment). + $p < 0.10$, * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

Source: authors' compilation based on MAPS survey data.

In Section A1 we consider possible heterogeneous treatment effects (HTEs) of armed group governance on political participation. We find relatively modest effects: women who experienced FARC-only governance appear to participate more via formal channels when compared to men, while women who experienced FARC and ELN governance are more likely to participate via formal channels when com-

pared to men. Some of these effects may be due to differential reporting of armed group governance by gender: indeed, we show in Section A1 that women are less likely to report most kinds of armed group governance than men. We also consider HTEs by education and find little evidence that education modulates the effect of armed group governance on participation.

6.3 Measurement issues related to sample composition: IDPs and non-native-born populations

Our results may suffer from a problem of ecological inference, given that a high proportion of our sample are IDPs (55 per cent). To evaluate whether IDPs were affected differently by rebel governance than long-term residents, we take two steps. First, in Table 5 we compare results that include IDPs (columns 1 and 3) and those that exclude them (columns 2 and 4). Second, in Table 6 we compare models that include all respondents (columns 1 and 3) and only those who were born in the same municipality where the survey was administered (columns 2 and 4). Our results are consistent regardless of whether we exclude IDPs or migrants.

Table 5: Internally displaced persons

	(1) Formal participation dummy	(2) Formal participation dummy, no IDPs	(3) Informal participation dummy	(4) Informal participation dummy, no IDPs
FARC-only governance	0.09*** (0.02)	0.07* (0.03)	0.04 (0.02)	0.02 (0.03)
ELN-only governance	0.02 (0.05)	0.13+ (0.07)	0.03 (0.04)	-0.03 (0.07)
Paramilitary-only governance	0.07*** (0.02)	0.09** (0.03)	0.07*** (0.02)	0.07*** (0.02)
All governance	0.02 (0.03)	-0.00 (0.05)	-0.05* (0.02)	-0.07* (0.03)
FARC and paramilitary governance	0.04+ (0.02)	0.02 (0.03)	-0.01 (0.02)	-0.02 (0.03)
FARC and ELN governance	0.04 (0.04)	-0.07 (0.08)	-0.05 (0.05)	0.05 (0.10)
ELN and paramilitary governance	-0.02 (0.03)	0.03 (0.06)	-0.08 (0.06)	-0.09 (0.07)
Education	0.06*** (0.00)	0.07*** (0.01)	0.05*** (0.00)	0.04*** (0.01)
Constant	0.35*** (0.05)	0.27*** (0.07)	0.07+ (0.04)	0.03 (0.08)
Individual-level controls	✓	✓	✓	✓
Municipal FEs	✓	✓	✓	✓
N	12,052	4,830	12,052	4,830

Note: effects of armed group governance on a formal participation dummy (columns 1 and 2) and an informal participation dummy (columns 3 and 4), with IDPs included (columns 1 and 3) and without (columns 2 and 4). All specifications include municipal fixed effects, as well as individual respondent controls (gender, age, educational attainment, and dummies for employment). + $p < 0.10$, * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

Source: authors' compilation based on MAPS survey data.

Table 6: Mobile respondents versus native municipal residents

	Formal	Formal, native only	Informal	Informal, native only
FARC-only governance	0.09*** (0.02)	0.08** (0.03)	0.04 (0.02)	0.05+ (0.03)
ELN-only governance	0.02 (0.05)	-0.05 (0.06)	0.03 (0.04)	0.08 (0.06)
Paramilitary-only governance	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.08*** (0.02)
All governance	0.02 (0.03)	-0.00 (0.03)	-0.05* (0.02)	-0.06+ (0.03)
FARC and paramilitary governance	0.04+ (0.02)	-0.01 (0.03)	-0.01 (0.02)	-0.04 (0.03)
FARC and ELN governance	0.04 (0.04)	0.13+ (0.07)	-0.05 (0.05)	-0.03 (0.08)
ELN and paramilitary governance	-0.02 (0.03)	-0.06 (0.04)	-0.08 (0.06)	-0.11+ (0.06)
Education	0.06*** (0.00)	0.06*** (0.01)	0.05*** (0.00)	0.05*** (0.00)
Constant	0.35*** (0.05)	0.40*** (0.04)	0.07+ (0.04)	0.01 (0.05)
Individual-level controls	✓	✓	✓	✓
Municipal FEs	✓	✓	✓	✓
N	12,052	6,845	12,052	6,845

Note: effects of armed group governance on a formal participation dummy (columns 1 and 2) and an informal participation dummy (columns 3 and 4), with all respondents included (columns 1 and 3) and with only native-born municipal residents (columns 2 and 4). All specifications include municipal fixed effects, as well as individual respondent controls (gender, age, educational attainment, and dummies for employment). + $p < 0.10$, * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

Source: authors' compilation based on MAPS survey data.

7 Discussion

Two findings do not conform to our expectations: exposure to FARC governance increased formal participation, and exposure to paramilitary governance increased informal participation. In this section we consider potential explanations for these unexpected results.

7.1 Why does insurgent governance produce greater formal participation?

We find unexpectedly that insurgent governance is associated with higher participation. Why? Although we believe our coding of the FARC as 'anti-system' is accurate, the group was much more flexible in its *practices*.¹⁶ How the FARC actually governed demonstrates the porous boundaries between the rebel and state institutions. For example, Peñaranda Currie et al. (2021: 7) describe how the FARC interfaced with the state in a frontier region where the former explicitly mobilized residents and local state institutions to build roads or achieve other collective ends, effectively 'legitimizing the FARC as representatives who secured benefits from the state for their social bases'. Therefore, even though *rhetorically* the FARC positioned itself as a state adversary, it *used* the state to gain benefits and arguably showed residents in these territories that it was possible to do so, and how.

Along similar lines, Arjona (2016: 147) shows that where the state ruled rebelocracy was higher, suggesting a symbiotic relationship with state institutions. Mampilly (2011) also demonstrates that armed groups competing with more institutionalized states were more likely to develop or co-opt these institutions. In terms of what we call 'formal participation', Arjona (2016) also finds that in '50% of all cases of rebelocracy, combatants intervened in local, regional, or national elections' (Arjona 2016: 186). In-

¹⁶ See Wood (2010) and Parkinson (2021) for a discussion of practices.

volvement in elections also changed over time: initially the FARC opposed participating in elections, yet in the mid-1980s it created a legal political party to contest elections. While the approach backfired—in part due to the extermination of party leaders and members—those living under FARC influence were mobilized to participate in future elections, and the FARC would later influence citizen decisions about whether and for whom to vote, just as paramilitaries did. For example, Arjona (2016: 186–87) shows that rebels told locals for whom they should vote in 22 per cent of cases of rebel rule, and banned voting in 40 per cent of cases. This active rebel intervention may have incentivized formal participation in ways that our theoretical framework elided.

The JACs—those communal institutions that the FARC used to co-administer territory in some places—were not entirely independent of the state, either: ‘[i]nterestingly, the JAC’s success — at the expense of other forms of social organization such as labor unions, or the legally unrecognized “Colonization Committees” — was precisely because “it’s a more legal form to make demands on the government,” and “because we can solicit public works” (colonos cited in Cubides et al., 1986, 180)’ (Peñaranda Currie et al. 2021: 4). This proximity to the state may have encouraged more formal political participation than what a revolutionary armed group might be expected to incentivize.

More anecdotally, the FARC socialized communities it ruled to know the Colombian constitution and specific laws that could be used to make legal claims against the state. The rebel group’s willingness to cite Colombian law seems to indicate not that these rules were illegitimate, but that the state had failed to uphold its duty to citizens to properly enforce them.

Finally, the FARC’s anti-state posture had one final but crucial pivot: the FARC accepted the legitimacy of the Colombian state in the 2016 peace agreement. While the group’s territorial control had waned substantially by this point, such a recognition may have had an influence over those previously ruled by the group, ushering in final ‘approval’ by rebels and urging citizens to join participatory actions sanctioned and implemented by the state.

7.2 Why does paramilitary rule increase informal participation?

Does a similar gap between ideology and practice also exist on the paramilitary side, and might this explain the positive association between paramilitary governance and informal participation? In our theoretical framework we reasoned that pro-state armed groups with a centralized approach to governance would produce greater participation via formal channels, and that a pro-state armed group that engaged in shared approaches to governance would increase both formal and informal political participation.

One difference between paramilitaries and the FARC is how decentralized the paramilitary alliance was: the AUC was an umbrella organization that unified pre-existing paramilitary blocs. As a result, the group likely featured more heterogeneity in ideology *and* governance practices across commanders, and therefore across their subordinates enforcing armed group rule. As Gutiérrez Sanín (2015) recounts, El Alemán, the former paramilitary commander of the Bloque Élder Cárdenas of the AUC in Urabá, ‘created a series of NGOs’ that included ‘leaders of community action boards’, among other local community leaders. In other words, some commanders adopted more shared governance arrangements, which may have produced more informal political participation by citizens experiencing this kind of rule. Given the relative paucity of documentation related to paramilitary governance when compared to insurgent rule, however, this explanation is speculative and could be pursued in future work.

8 Conclusion

Armed group governance has diverse effects on local- and national-level politics, many of which likely transcend the conflict period (Huang 2016; Vargas Castillo 2019). Rebel, paramilitary, and criminal governance—depending on whether they challenge or seek to reinforce state authority, and how they do so—may either mobilize or depress ordinary citizens’ political behaviour in the post-conflict period. Yet we know little about the impact that different forms of armed group governance has on political participation in post-conflict societies. This is a crucial omission, because most civil wars end in negotiated settlements, which typically include mechanisms for establishing or strengthening democratic competition and buttressing civic life (Matanock 2014).

Existing efforts to explain post-conflict political participation also fail to account for the rich and varied ways that armed groups govern communities they control. Most studies have focused on victimization and its impact on individuals’ political participation: increasing citizens’ likelihood of voting in elections (Blattman 2009), for example. But communities’ interactions with armed groups should not be reduced to having suffered violence. The focus on violence may be an artefact of the comparative ease of measuring victimization, relative to other important concepts that are more difficult to proxy. Likewise, failure to study a broad range of outcomes related to participation threatens to generate misleading findings: are increases in turnout prompted by armed group behaviour also accompanied by greater engagement in communal affairs? Under what conditions do armed group governance decisions ‘crowd out’ allegiance to state authorities, by exposing individuals to previously unimagined governance possibilities? Under what conditions do they have the opposite effects, convincing civilians that the state is and should be the ultimate guarantor of rights?

The advantage of our simple theoretical approach is its applicability to a broad range of contexts, and its flexibility in accommodating shifts in armed groups’ positions. Yet our hypotheses were not unambiguously supported by our empirical results. Instead, experience with armed group governance on average leads to more participation through both informal and formal channels. (The exception is reported rule by multiple armed groups, which depressed participation.) We account for these unexpected results primarily by reevaluating our assessment of the armed groups’ characteristics that we study here. Avenues for further research could include alternative ways of categorizing armed groups’ governance approaches as well.

Another area for further work relates to the persistence or attenuation of effects over time, and defining the precise mechanisms through which persistence or attenuation occurs. A large literature has catalogued how beliefs, attitudes, and opinions constituted during transformative events are passed down over time (e.g., Balcells 2012; Charnysh and Peisakhin 2021; Lupu and Peisakhin 2017; Osorio et al. 2019). Acharya et al. (2018), for example, show how parent-to-child transmission of racial attitudes in the American South translated into durable political attitudes generations later, in the contemporary period. This typically requires either reliable ‘transmission belts’ that use existing organizational vehicles—such as the Catholic Church or schools—to instantiate, replicate, and transmit messages from one generation to the next, or the establishment of convincing incentives for one group to continue believing certain things, or continue engaging in certain behaviours. The latter, for example, would include significant symbolic or material benefits stemming from holding particular beliefs: if in the conflict period an armed group consistently rewarded particular attitudes that produced a set of behaviours, in the post-conflict period citizens would likely hold those same attitudes and continue to undertake those same behaviours. Understanding the impact of armed group rule on post-conflict participation is both theoretically interesting and urgent for policy-makers: avoiding democratic backsliding and conflict relapse depend upon the creation of a healthy, participatory democracy capable of adjudicating differences and peacefully resolving disputes. Understanding the legacies of armed group rule should help identify

places most at risk for democratic malaise, and assist policy-makers in reinvigorating participation in the aftermath of war.

References

- Abadie, A., S. Athey, G.W. Imbens, and J. Wooldridge (2017). 'When Should You Adjust Standard Errors for Clustering?'. Working Paper 24003. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w24003>
- Acharya, A., M. Blackwell, and M. Sen (2018). *Deep Roots*. Princeton, NJ: Princeton University Press. <https://doi.org/10.23943/9781400889976>
- Albertus, M., and O. Kaplan (2013). 'Land Reform as a Counterinsurgency Policy: Evidence from Colombia'. *Journal of Conflict Resolution*, 57(2): 198–231. <https://doi.org/10.1177/0022002712446130>
- Arjona, A. (2015). 'Civilian Resistance to Rebel Governance'. In A. Arjona, N. Kasfir, and Z. Mampilly (eds), *Rebel Governance in Civil War*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9781316182468>
- Arjona, A. (2016). *Rebelocracy: Social Order in the Colombian Civil War*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781316421925>
- Arjona, A., N. Kasfir, and Z. Mampilly (2015). 'Introduction'. In A. Arjona, N. Kasfir, and Z. Mampilly (eds), *Rebel Governance in Civil War*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9781316182468>
- Balcells, L. (2012). 'The Consequences of Victimization on Political Identities: Evidence from Spain'. *Politics & Society*, 40(3): 311–47. <https://doi.org/10.1177/0032329211424721>
- Berens, S., and M. Dallendörfer (2019). 'Apathy or Anger? How Crime Experience Affects Individual Vote Intention in Latin America and the Caribbean'. *Political Studies*, 67. <https://doi.org/10.1177/0032321718819106>
- Blair, R., M. Moscoso, A. Vargas, and M. Weintraub (2022). 'After Rebel Governance: A Field Experiment in Security and Justice Provision in Rural Colombia'. *American Political Science Review*. <https://doi.org/10.1017/S0003055422000284>
- Blattman, C. (2009). 'From Violence to Voting: War and Political Participation in Uganda'. *American Political Science Review*, 103(2): 231–47. <https://doi.org/10.1017/S0003055409090212>
- Blattman, C., G. Duncan, B. Lessing, and S. Tobón, S. (2021). 'Gang Rule: Understanding and Countering Criminal Governance'. Working Paper 28458. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w28458>
- Bratton, M. (1999). 'Political Participation in a New Democracy: Institutional Considerations from Zambia'. *Comparative Political Studies*, 32(5): 549–88. <https://doi.org/10.1177/0010414099032005002>
- Ch, R., J.N. Shapiro, A. Steele, and J.F. Vargas (2018). 'Endogenous Taxation in Ongoing Internal Conflict: The Case of Colombia'. *American Political Science Review*, 112(4): 996–1015. <https://doi.org/10.1017/S0003055418000333>
- Charnysh, V., and L. Peisakhin (2021). 'The Role of Communities in the Transmission of Political Values: Evidence from Forced Population Transfers'. *British Journal of Political Science*, 52(1): 238–58. <https://doi.org/10.1017/S0007123420000447>
- Costalli, S., and A. Ruggeri (2015). 'Forging Political Entrepreneurs: Civil War Effects on Post-Conflict Politics in Italy'. *Political Geography*, 44: 40–49. <https://doi.org/10.1016/j.polgeo.2014.08.008>
- Cunningham, K.G., and C.E. Loyle (2020). 'Introduction to the Special Feature on Dynamic Processes of Rebel Governance'. *Journal of Conflict Resolution*, 65. <https://doi.org/10.1177/0022002720935153>

- Eaton, K. (2006). 'The Downside of Decentralization: Armed Clientelism in Colombia'. *Security Studies*, 15(4): 533–62. <https://doi.org/10.1080/09636410601188463>
- Eubank, N., G. Grossman, M. Platas, and J. Rodden (2019). 'Viral Voting: Social Networks and Political Participation'. *Quarterly Journal of Political Science*, 16(3): 265–84. <https://doi.org/10.1561/100.00019092>
- Gandhi, J., and E. Lust-Okar (2009). 'Elections under Authoritarianism'. *Annual Review of Political Science*, 12: 403–22. <https://doi.org/10.1146/annurev.polisci.11.060106.095434>
- Grandi, F. (2013). 'Why Do the Victors Kill the Vanquished? Explaining Political Violence in Post-World War II Italy'. *Journal of Peace Research*, 50(5): 577–93. <https://doi.org/10.1177/0022343313480202>
- Gutiérrez Sanín, F. (2015). 'Conexiones Coactivas: Paramilitares Y Alcaldes En Colombia'. *Análisis Político*, 28(85): 131–57. <https://doi.org/10.15446/anpol.v28n85.56251>
- Gáfaró, M., A.M. Ibáñez, and P. Justino (2022). 'Community Organization and Armed Group Behaviour: Evidence from Colombia'. WIDER Working Paper 2022/2. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2022/133-4>
- Huang, R. (2016). *The Wartime Origins of Democratization: Civil War, Rebel Governance, and Political Regimes*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9781316711323>
- Kaplan, O. (2017). *Resisting War: How Communities Protect Themselves*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781316671887>
- Karl, R.A. (2017). *Forgotten Peace: Reform, Violence, and the Making of Contemporary Colombia*. Berkeley: University of California Press.
- Kasfir, N. (2005). 'Guerrillas and Civilian Participation: The National Resistance Army in Uganda, 1981–86'. *Journal of Modern African Studies*, 43(2): 271–96. <https://doi.org/10.1017/S0022278X05000832>
- Kasfir, N., G. Frerks, and N. Terpstra (2017). 'Introduction: Armed Groups and Multi-Layered Governance'. *Civil Wars*, 19(3): 257–78. <https://doi.org/10.1080/13698249.2017.1419611>
- Kuran, T. (1991). 'Now Out of Never: The Element of Surprise in the East European Revolution of 1989'. *World Politics: A Quarterly Journal of International Relations*, 44(1): 7–48. <https://doi.org/10.2307/2010422>
- Larratt-Smith, C. (2020). 'Navigating Formal and Informal Processes: Civic Organizations, Armed Nonstate Actors, and Nested Governance in Colombia'. *Latin American Politics and Society*, 62(2): 75–98. <https://doi.org/10.1017/lap.2019.61>
- Lazarev, E. (2019). 'Laws in Conflict: Legacies of War, Gender, and Legal Pluralism in Chechnya'. *World Politics*, 71(4): 667–709. <https://doi.org/10.1017/S0043887119000133>
- Ley, S. (2018). 'To Vote or Not to Vote: How Criminal Violence Shapes Electoral Participation'. *Journal of Conflict Resolution*, 62(9): 1963–90. <https://doi.org/10.1177/0022002717708600>
- Loyle, C.E. (2021). 'Rebel Justice during Armed Conflict'. *Journal of Conflict Resolution*, 65(1): 108–34. <https://doi.org/10.1177/0022002720939299>
- Lupu, N., and L. Peisakhin (2017). 'The Legacy of Political Violence across Generations'. *American Journal of Political Science*, 61(4): 836–51. <https://doi.org/10.1111/ajps.12327>
- Mampilly, Z.C. (2011). *Rebel Rulers: Insurgent Governance and Civilian Life during War*. Ithaca, NY: Cornell University Press.
- Mampilly, Z., and M.A. Stewart (2020). 'A Typology of Rebel Political Institutional Arrangements'. *Journal of Conflict Resolution*, 65(1): 15–45. <https://doi.org/10.1177/0022002720935642>
- Matanock, A. (2014). 'Militant Group Electoral Participation Dataset'. Presented at the Peace Science Society Annual Meeting, Philadelphia.

- North, D., and B.R. Weingast (1989). 'Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England'. *Journal of Economic History*, 49: 803–32. <https://doi.org/10.1017/S0022050700009451>
- Osorio, J., L.I. Schubiger, and M. Weintraub (2019). 'Legacies of Resistance: Mobilization Against Organized Crime in Mexico'. *Comparative Political Studies*, 54(9): 1565–96. <https://doi.org/10.1177/0010414021989761>
- Parkinson, S.E. (2021). 'Practical Ideology in Militant Organizations'. *World Politics*, 73(1): 52–81. <https://doi.org/10.1017/S0043887120000180>
- Peñaranda Currie, I., S. Otero-Bahamon, and S. Uribe (2021). 'What Is the State Made Of? Coca, Roads, and the Materiality of State Formation in the Frontier'. *World Development*, 141: 105395. <https://doi.org/10.1016/j.worlddev.2021.105395>
- Prem, M., A.F. Rivera, D.A. Romero, and J.F. Vargas (2018). 'Killing Social Leaders for Territorial Control: The Unintended Consequences of Peace'. Working Paper 016385. Bogotá: Universidad del Rosario.
- Pécaut, D. (1989). *Crónica de Dos Décadas de Política Colombiana 1968–1988*. Bogotá: Siglo Veintiuno.
- Pérez-Cardona, S., R. Ch, J.F. Vargas, and M. Weintraub (2022). 'Let the Rebels Rule? Rebel Governance and Economic Development in Colombia'. Working Paper 3. Bogotá: Universidad de los Andes.
- Revkin, M.R. (2019). 'What Explains Taxation by Resource-Rich Rebels? Evidence from the Islamic State in Syria'. *Journal of Politics*, 82(2): 757–64. <https://doi.org/10.1086/706597>
- Revkin, M.R. (2021). 'Competitive Governance and Displacement Decisions under Rebel Rule: Evidence from the Islamic State in Iraq'. *Journal of Conflict Resolution*, 65(1): 46–80. <https://doi.org/10.1177/0022002720951864>
- Revkin, M.R., and A.I. Ahram (2020). 'Perspectives on the Rebel Social Contract: Exit, Voice, and Loyalty in the Islamic State in Iraq and Syria'. *World Development*, 132: 104981. <https://doi.org/10.1016/j.worlddev.2020.104981>
- Robinson, J.A. (2013). 'Colombia: Another 100 Years of Solitude'. *Current History*, 112(751): 43–48. <https://doi.org/10.1525/curh.2013.112.751.43>
- Rolfe, M. (2012). *Voter Turnout: A Social Theory of Political Participation*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9781139058513>
- Ronderos, M.T. (2014). *Guerras Recicladas: Una Historia Periodística del Paramilitarismo en Colombia*. Bogotá: Aguilar.
- Siegel, D.A. (2009). 'Social Networks and Collective Action'. *American Journal of Political Science*, 53(1): 122–38. <https://doi.org/10.1111/j.1540-5907.2008.00361.x>
- Steele, A. (2017). *Democracy and Displacement in Colombia's Civil War*. Ithaca, NY: Cornell University Press. <https://doi.org/10.7591/cornell/9781501713736.001.0001>
- Stewart, M.A. (2018). 'Civil War as State-Making: Strategic Governance in Civil War'. *International Organization*, 72(1): 205–26. <https://doi.org/10.1017/S0020818317000418>
- Stewart, M.A. (2020). 'Rebel Governance: Military Boon or Military Bust?'. *Conflict Management and Peace Science*, 37(1): 16–38. <https://doi.org/10.1177/0738894219881422>
- Tate, W. (2007). *Counting the Dead: The Culture and Politics of Human Rights Activism in Colombia*. Berkeley, CA: University of California Press.
- van Baalen, S. (2020). 'Reconceptualising Rebel Rule: The Responsiveness of Rebel Governance in Man'. Program on Governance and Local Development Working Paper 34. Rochester, NY: Social Science Research Network. <https://doi.org/10.2139/ssrn.3732277>
- van Baalen, S. (2021). 'Local Elites, Civil Resistance, and the Responsiveness of Rebel Governance in Côte d'Ivoire'. *Journal of Peace Research*, 58(5): 930–44. <https://doi.org/10.1177/0022343320965675>

- Vargas Castillo, A. (2019). 'Legacies of Civil War: Wartime Rule and Communal Authority in Rural Colombia'. PhD dissertation. New Haven, CT: Yale University.
- Weintraub, M., A. Steele, H. Mogleiv Nygård, M. Dahl, and H. Malmin Binningsbø (2021). 'Introducing the Mapping Attitudes, Perceptions and Support (MAPS) Dataset on the Colombian Peace Process'. Working Paper. Bogotá: Universidad de los Andes.
- Wood, E.J. (2008). 'The Social Processes of Civil War: The Wartime Transformation of Social Networks'. *Annual Review of Political Science*, 11: 539–61. <https://doi.org/10.1146/annurev.polisci.8.082103.104832>
- Wood, E.J. (2010). 'Sexual Violence during War: Variation and Accountability'. In A. Smeulers and E. Van Sliedregt (eds), *Collective Crimes and International Criminal Justice: An Interdisciplinary Approach*. Antwerp: Intersentia.

Appendix A

A1 Heterogeneous treatment effects

In this section we consider possible heterogeneous treatment effects of armed group governance on political participation. We focus on gender and education.

A1.1 Gender

Armed group governance may destabilize existing gender norms, with consequences for political behaviour. For example, Lazarev (2019) shows that in war-affected areas in Chechnya gender hierarchies were more profoundly upended, leading women in those areas to seek redress from institutions that were (at least officially) more gender-equal. We might expect women who experienced FARC and ELN governance to be exposed to more norms of gender equality in terms of labour and political participation. As a result, women who experienced rebel governance may be more likely than their counterparts to report all kinds of participation.

We begin by asking whether women and men in our sample experienced self-reported armed group governance in similar proportions. To do so, we use simple *t*-tests; we find that women are less likely to report each kind of armed group governance (except ELN and paramilitary joint governance), differences that are statistically significant at conventional levels. These systematic gender-based differences in reporting could be due to multiple causes. Women may be less likely to directly experience armed group governance if armed groups prioritize male-dominated spaces for decision-making. Or women may be less likely to feel comfortable reporting armed group governance if they have more reasons to fear retribution from armed groups. This is an important avenue for future research.

Next, we ask whether the effects of armed group governance are stronger for men or women. We find relatively modest effects: women who experienced FARC-only governance appear to participate more via formal channels when compared to men. Women who reported FARC and ELN governance are more likely to participate via formal channels when compared to men. The other interaction terms are not statistically significant, indicating no differential effects of gender on participation depending upon armed group governance.

Table A1: Heterogeneous treatment effects by gender

	(1) Formal participation dummy	(2) Informal participation dummy
FARC-only governance	0.07* (0.03)	0.05 (0.03)
Female	0.00 (0.02)	-0.04*** (0.01)
FARC-only governance × female	0.03 (0.04)	-0.02 (0.04)
ELN-only governance	0.04 (0.09)	0.07 (0.06)
ELN-only governance × female	-0.03 (0.11)	-0.07 (0.06)
Paramilitary-only governance	0.06+ (0.03)	0.10*** (0.03)
Paramilitary-only governance × female	0.02 (0.04)	-0.07* (0.03)
All governance	0.01 (0.04)	-0.05 (0.03)
All governance × female	0.02 (0.04)	-0.00 (0.04)
FARC and paramilitary governance	0.05+ (0.03)	-0.02 (0.04)
FARC and paramilitary governance × female	-0.03 (0.04)	0.02 (0.06)
FARC and ELN governance	0.02 (0.08)	-0.09 (0.06)
FARC and ELN governance × female	0.03 (0.12)	0.09 (0.06)
ELN and paramilitary governance	0.01 (0.04)	-0.16* (0.06)
ELN and paramilitary governance × female	-0.05 (0.08)	0.16* (0.07)
Constant	0.36*** (0.05)	0.06 (0.04)
<i>N</i>	12,052	12,052
Individual-level controls	✓	✓
Municipal FEs	✓	✓

Note: heterogeneous treatment effects of armed group governance on a formal participation dummy (column 1) and an informal participation dummy (column 2). All specifications include municipal fixed effects, as well as individual respondent controls (gender, age, educational attainment, and dummies for employment). ⁺ $p < 0.10$, * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

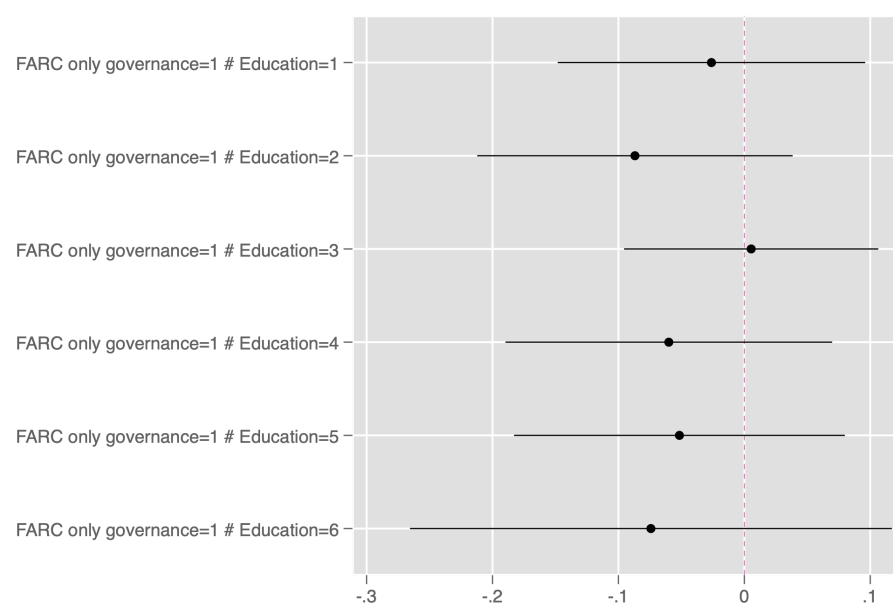
Source: authors' compilation based on MAPS survey data.

A1.2 Education

We perform a parallel exercise for education by asking whether more educated individuals are more likely to be induced by armed group governance to participate formally or informally, when compared to those with comparatively less education. It is important to note that our measure of education might be affected by post-treatment bias: if exposure to armed group governance limits (or expands) opportunities for educational advancement (Pérez-Cardona et al. 2022), a clean causal effect cannot be credibly identified.

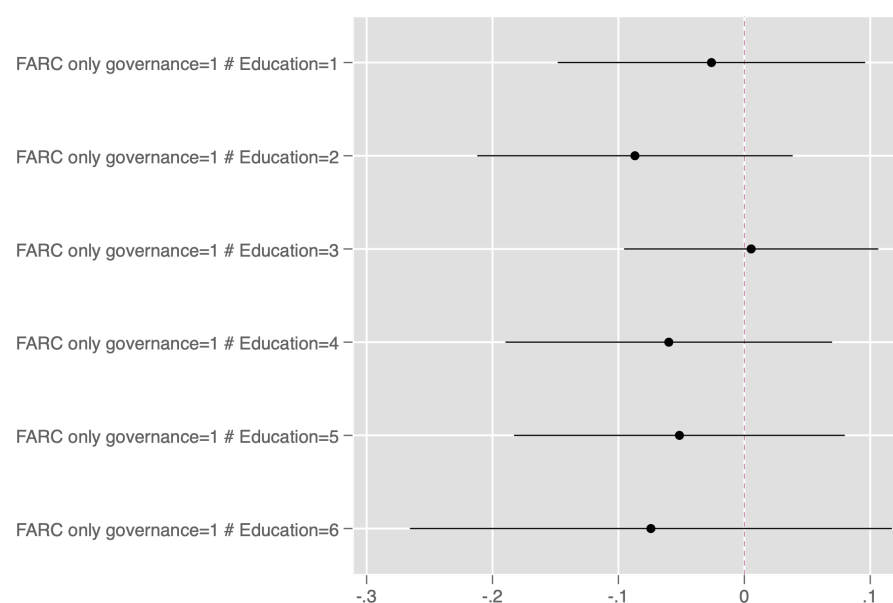
Given the sheer number of interaction terms involved (all armed group governance variables interacted with each of six levels of education), we opt to reproduce a selection of coefficient plots (Figures A1–A8)—only displaying the interaction terms themselves—instead of presenting the results in table form. Overall we find little evidence that education modulates the effect of armed group governance on participation.

Figure A1: Effects of FARC governance and education on formal participation



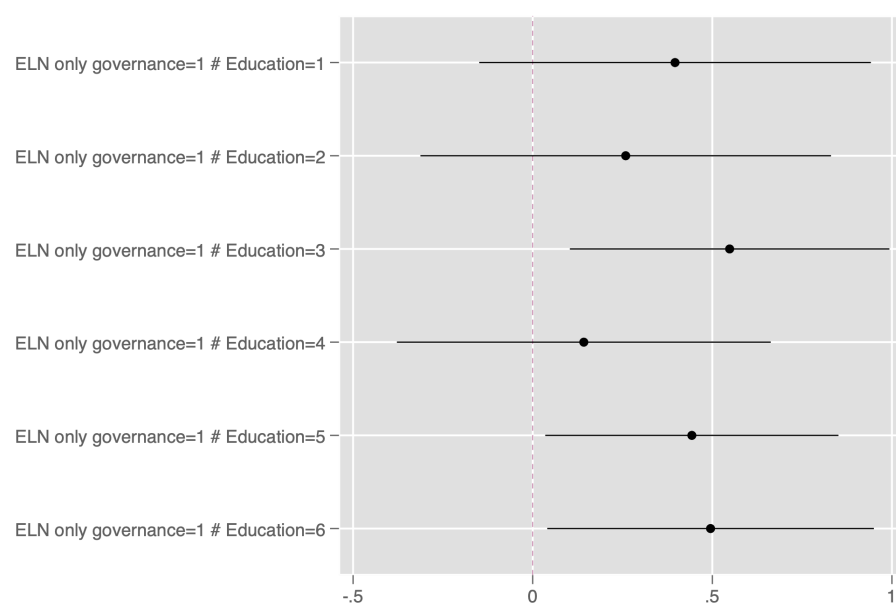
Source: authors' compilation based on MAPS survey data.

Figure A2: Effects of FARC governance and education on informal participation



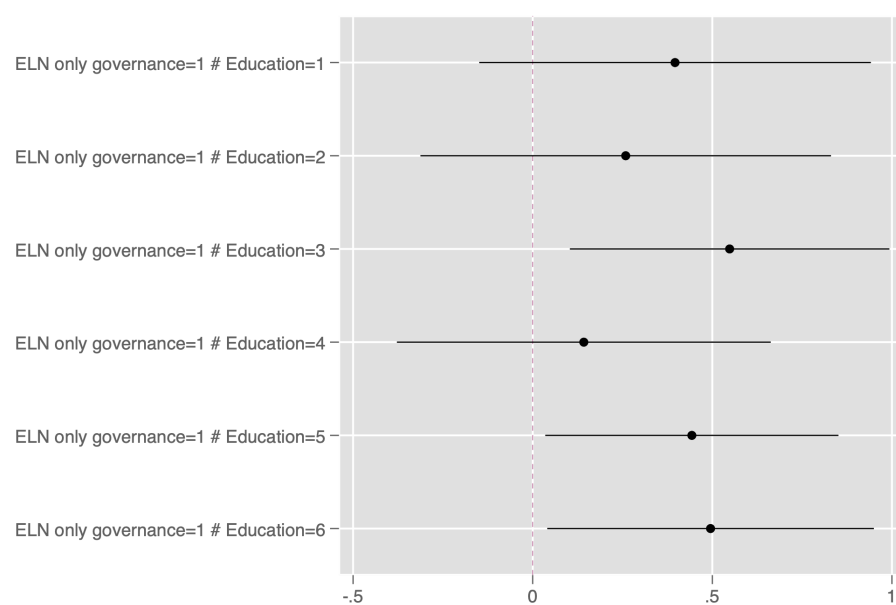
Source: authors' compilation based on MAPS survey data.

Figure A3: Effects of ELN governance and education on formal participation



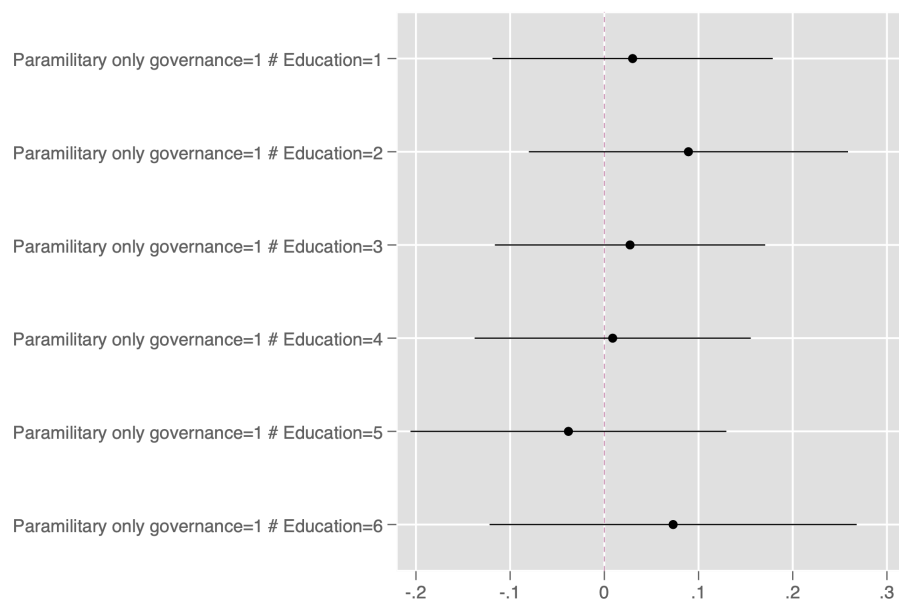
Source: authors' compilation based on MAPS survey data.

Figure A4: Effects of ELN governance and education on informal participation



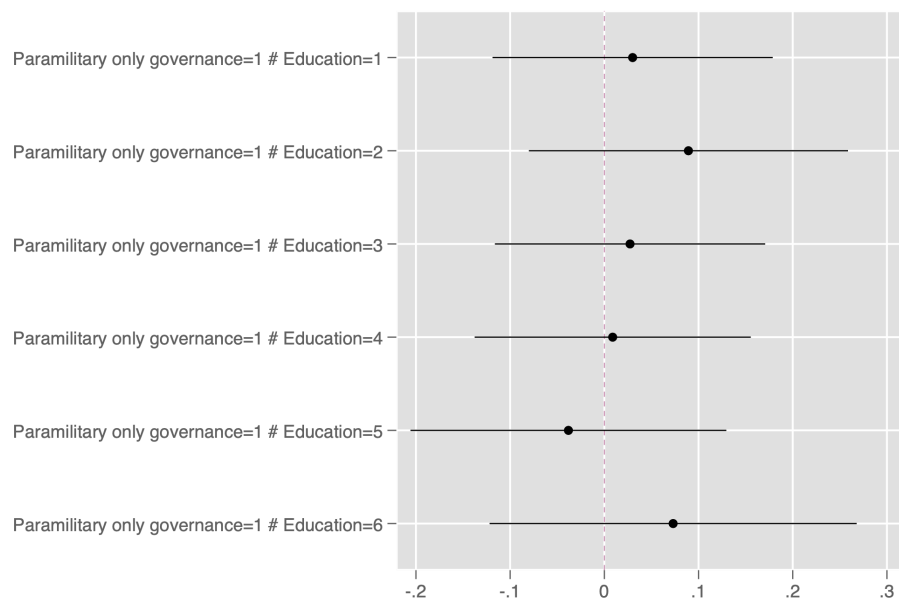
Source: authors' compilation based on MAPS survey data.

Figure A5: Effects of paramilitary governance and education on formal participation



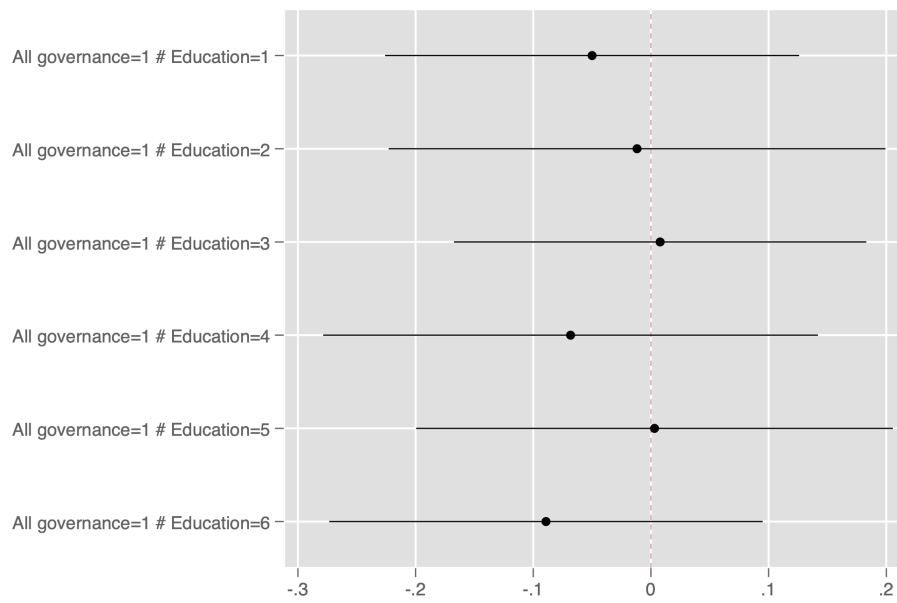
Source: authors' compilation based on MAPS survey data.

Figure A6: Effects of paramilitary governance and education on informal participation



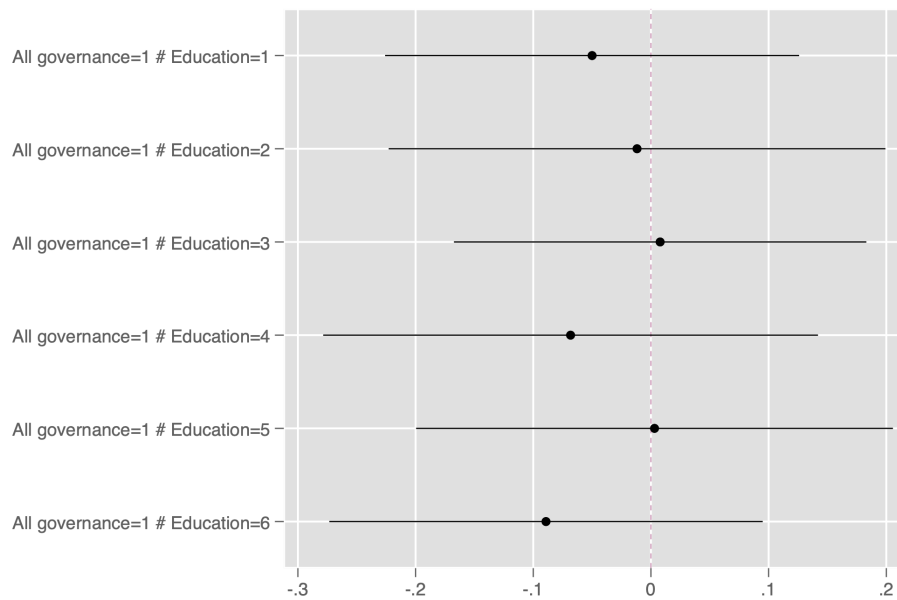
Source: authors' compilation based on MAPS survey data.

Figure A7: Effects of all group governance and education on formal participation



Source: authors' compilation based on MAPS survey data.

Figure A8: Effects of all group governance and education on informal participation



Source: authors' compilation based on MAPS survey data.