Fear and Dreams: Understanding the non-Institutional sources of Leader Strategy[*]

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September 23, 2024

Abstract

Political leaders make policy choices which are often hard to explain via institutions. We use the behavior of Colombian paramilitary groups as an environment to study non-institutional sources of variation in how public good provision and violence are combined to control populations. We hypothesize that a significant source of variation stems from the social preferences of the paramilitary commanders. Reciprocators adopt a strategy of offering public goods in exchange for support, but also use violence to punish those who do not reciprocate back. Reciprocity, developed via childhood socialization, is a characteristic of rural "peasants". We develop a model which generates these hypotheses and test them using a unique dataset compiled from transitional justice documents.

Keywords: Leader Behavior, Public Goods, Violence, Socialization.
JEL classification: P00, D7, D9, H42.

"*A community is ruled with fear or dreams*" - Demobilized combatant, Heroes of Granada paramilitary group.[1]

1   Introduction

There is a large amount of variation in the strategies that political leaders employ to pursue their goals. For example, the extent to which they provide public goods or use violence and repression. This variation has been mostly argued to stem from institutional differences. For example, it has been hypothesized that the provision of public goods is higher in democratic regimes compared to autocratic ones (Acemoglu, Naidu, Restrepo, & Robinson, 2019), when executives face checks and balances (North & Weingast, 1989; Persson, Roland, & Tabellini, 1997), or particular types of electoral institutions are in operation (Persson & Tabellini, 2004). Democratic political regimes are also associated with less repression of their citizens (Davenport, 2007). Relatedly, states with capacity provide more public goods (Acemoglu, García-Jimeno, & Robinson, 2015; Besley & Persson, 2011b) which is usually related to the institutional structure of the state, for instance the extent of bureaucratization (Dell, Lane, & Querubín, 2018; Evans & Rauch, 1999).

Yet there are many examples of political decisions which seem difficult to explain on the basis of institutional differences like these. Many of the "development miracles" over the past half century, for example in Singapore, South Korea and Taiwan and more recently in Ethiopia and Rwanda, appear to have been driven by leaders or coalitions that were not incentivized or constrained by institutions. Other evidence suggests that individual leaders have a causal effect on economic growth especially in weakly institutionalized polities (Jones & Olken, 2005) though the research does not explain why leaders choose the strategies that they do. Bertrand and Schoar (2003) find a similar significant impact of individual CEOs on firms performance and link different management "styles" to the age of a manager and whether they have an MBA degree (see also Cagé, Dagorret, Grosjean, and Jha (2023) and Bai, Jia, and Yang (2023) for evidence on the role of individual leaders).

In this research we use the history of Colombian paramilitarism to shed light on non-institutional sources of variation in the strategies leaders use to pursue their goals. As we discuss in detail in the next section, paramilitary groups formed beginning in the 1960s, primarily as local responses to the expansion of the two large Marxist guerilla groups, the Revolutionary Armed Forces of Colombia (FARC) and the National Liberation Army (ELN). Paramilitary groups expanded rapidly, particularly after 1997 when they formed an umbrella organization called the United Self-Defense Forces of Colombia (AUC), which by the time they collectively demobilized in 2005-6 was organized into 38 large groups, called blocks, each of which consisted of multiple lower units called fronts, which will be the focus of our analysis. 34 of the blocks, consisting of 146 fronts and 35,317 armed fighters, demobilized. They were present in close to 3/4 of Colombian municipalities (see Grupo

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[1]See Grupo de Memoria Histórica (2011, p.170).

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de Memoria Histórica (2016) - henceforth GMH - the most comprehensive investigation into the Colombian conflict, including paramilitarism, made under the auspices of the National Center for Historic Memory - CNMH).

These fronts' motivations were both ideological and practical - to combat the influence and control of guerillas on local populations. As Gonzalo Sánchez, director of the GMH, puts it in his preface to *Basta Ya!* ("Enough!"), the main summary of the conclusions of the research group, they adopted a "strategy of war that deliberately sought to maintain control at a local level" (Grupo de Memoria Histórica, 2016, p.21).[2] Nevertheless, the fronts used very different combinations of strategies to control people and territory. In particular, some engaged in extensive provision of public goods, building roads, schools, health clinics and housing. Others did not.[3] All fronts also engaged in systematic acts of violence, often assassinating individuals and massacring groups of people.[4]

We develop a theory which predicts a particular co-variation in public good provision and massacres as a consequence of the social preferences of the paramilitary front commanders who had a large amount of discretion in the combinations of *fear* (violence) and *dreams* (public goods) used. We argue that commanders who had reciprocal preferences would find it optimal to offer people public goods in exchange for contributions (which could, for example, be information or money) and punish those who did not reciprocate with violence.[5] This combination emerges naturally from the way reciprocity is usually conceptualized. For example, Falk and Fischbacher (2006, p.293) state that "people are reciprocal if they reward kind actions and punish unkind ones" and Fehr and Gächter (2000, p.159) argue that:

> "Reciprocity means that in response to friendly actions, people are frequently much nicer and much more cooperative than predicted by the self-interest model; conversely, in response to hostile actions they are frequently much more nasty and even brutal."

The origins of these reciprocal preferences are in childhood socialization and we appeal to

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[2]Though these are the central goals many of these fronts got involved in drug production and distribution and also used the opportunities created by paramilitarism for enrichment and the expropriation of property and other assets, particularly land. They also used their power to manipulate political outcomes. In Section 7 we explicitly address the two main alternative hypotheses about paramilitary motivation and show that these mechanisms cannot explain our main findings.

[3]The fronts also provided dispute resolution, they engaged in extensive taxation and they even wrote constitutions, called "Estatutos". These issues are extensively discussed in the reports of the GMH, see for example Grupo de Memoria Histórica (2022b, p.224-234).

[4]A massacre is defined by the CNMH to be an incident where 4 or more unarmed people are killed at the same time in the same place. In addition to killing people the paramilitary fronts used a larger "repertoire of violence" which included threats, torture, forced displacement, rape and sexual violence against women. We focus on massacres because our theory suggests that these should be connected to public good provision. See Ibáñez (2009) and Acemoglu, Robinson, and Santos-Villagrán (2013) for analyses using data on forced displacement.

[5]That violence was used to incentivize and punish civilians is widely accepted in Colombia. The GMH argues that "when the support of civilians is regarded as a decisive factor in the final outcome of the conflict, the armed agents use violence to intimidate them. But when civilians are seen as a prolongation of the enemy, the aim is to exterminate or destabilize them." Grupo de Memoria Histórica (2016, p.44).

qualitative evidence, fieldwork, the literature in sociology and household surveys discussed in Section 2, to argue that they tend to be possessed by "peasants", or people who grew up in rural "closed corporate communities" (Wolf, 1966, p.86).[6]

In our model the commander of a paramilitary front is trying to control a territory and its' constituent population. Providing public goods generates utility for people, and thus boosts support in the struggle with the guerillas. Commanders with reciprocal preferences further benefit by giving public goods, but only if they receive contributions in return. If this is not forthcoming, they are able to credibly punish citizens. We characterize the circumstances in which such commanders choose to provide public goods and commit massacres which we interpret as collective punishment for those who do not reciprocate. Commanders without such preferences cannot commit to punish and thus do not find it optimal to provide public goods. The model makes a number of empirical predictions. Most important, peasant commanders, who are more likely to have reciprocal preferences, are more likely to provide public goods and commit massacres.

We test these predictions using unique datasets we compiled about the characteristics of front commanders and the nature of their strategies. Our main sources of information, documented in Section 4, come from the Justice and Peace Transitional Justice System initiated by the collective demobilization of paramilitaries after 2005. We combine this with other archival data and quantitative information.

To estimate the causal effect of having a peasant commander on the strategy of the front we exploit detailed information on the geographical location of the front boundaries (collected by the magistrates as part of the transitional justice process). We then use a Spatial Regression Discontinuity Design (SRDD) to compare neighboring pairs of fronts, one of which had a peasant commander and the other which did not. Whether or not a front had a peasant commander is obviously endogenous and may be a function of unobservables. Thus, our key identifying assumptions are that such unobservables vary smoothly at front boundaries and there is no selective sorting. If so our model estimates the Local Average Treatment Effect (LATE) of having a peasant commander. We show that front pairs are balanced on key geographic and pre-treatment variables at their boundaries (Table 3) and do not exhibit selective migration (Table E.7).

To make our identification strategy more credible we adopt several complementary strategies. First, since the choice of paramilitary commander might be influenced by unobservables at the front level, not just at the boundary, we show that our samples are balanced at that level as well (Table E.1). Second, we compiled extensive information on the paramilitary career paths of our commanders. People entered into paramilitarism for many, often quite idiosyncratic, reasons. For example, they were hired to drive a truck; became a bodyguard; they were present in a town that paramilitaries took over and experienced first hand how they controlled the area; sought protection

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[6]In Colombia the word used is "*campesino*", for which peasant is the best English translation. This word sometimes has a pejorative connotation in English, but this is not the case in Colombia so we use it rather than the Spanish word.

from a group because they had been threatened by the FARC; or joined for ideological reasons.

The leaders of paramilitary fronts were typically chosen by block leaders, but the information we compiled about this process, which we discuss in detail in Appendix B.3, rarely mentions the features of the territories the commanders were meant to control. Rather, it focuses on individuals' characteristics. People were chosen to be commanders because they were relatives or friends of block leaders; had greater experience, which mostly signifies that they were known to be loyal and were trusted; had military training; possessed various types of relevant human capital; or, were said to be good "leaders". Peasants are distinguished both by being more loyal and trusted and being more likely to be identified as "leaders". We believe this information bolsters the plausibility of our identification strategy because it is not consistent with commanders "selecting into" a front because of unobservables at the local or front level that might also jump at the front boundary.

We find that having a peasant commander is associated with about a 150% increase in the probability of a public good being provided by the front and close to a 100% increase in the probability of the front committing a massacre. These results are highly robust to different specifications of the bandwidth and spatial polynomials, including to the use of paramilitary block fixed-effects.

These estimates are a reduced form in the sense that whether or not the commander was a peasant is not the only systematic difference between the fronts. For example, different fronts organized in different ways with more or less specialization. There was also variation in the extent to which commanders hired their relatives, or developed systems of taxation. The qualitative evidence suggests that the fronts were highly personalized and commanders could therefore choose to organize in different ways. This is consistent with the robustness of our results to block fixed-effects. We think of these features as outcomes of having a peasant commander and are thus part of the mechanism that led to higher public good provision or massacres.

Peasants seem to have differed in several systematic ways from non-peasants, for example being regarded as more trustworthy. Our results do not inform us of the importance of this relative to, say, leadership skills. A more subtle issue is whether or not there are unobservables at the level of the commander which influenced their selection and could also jump at the front boundary. Though we cannot completely rule this out we investigate the effect of other individual leader characteristics. Though our focus is to show that none of these factors confound our main findings, several results are of independent interest. We find that it is more likely that public goods will be provided by locals (as in Sánchez de la Sierra (2020)) though such leaders are not less likely to commit massacres. We also find that all forms of Armed Forces experience lead to a greater probability of public good provision, though being a former Armed Forces officer is also associated with a greater probability of committing massacres. Our results also suggest that more educated commanders, though they are not more likely to provide public goods, are less likely to commit massacres. Finally, we find that commanders who had previously been found guilty of crimes connected to the drug industry are both less likely to provide public goods and more likely to commit massacres. Throughout, the estimated

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effect of peasant commanders is very robust to controlling for these observed characteristics which suggests that to generate our results any unobservables would have to have very large effects.

We then test two other implications of the model. First, it is not simply that peasant commanders are more likely to provide public goods and commit massacres on average. The model predicts that it is the same commander that provides public goods that also commits the violence. The data supports this prediction. Second, the model predicts that since only commanders with reciprocal preferences can commit to provide public goods, they deliver greater levels of utility to citizens and thus are more likely to maintain their support. In the model this implies that a front led by a peasant would be more likely to enter and should last longer, conditional on having entered. These implications are also consistent with the data and we find that a front led by a peasant commander has a duration of about 1/3 more than one that is not and this is driven by front entry.

Our findings contribute to a number of literatures. They provide evidence that systematic variation in political strategies which cannot be explained by institutions can be related to the social preferences of leaders which can in turn be systematically related to leaders' socialization experience and community background. This is resonant of course with large literatures in economics on neighborhood and peer effects though this has not asked similar questions to the ones we do here. Our findings are consistent with qualitative studies, such as that of Caro (1975) which often tend to emphasize socialization as a source of preferences for public goods. Our findings also speak to the fact that certain types of violence may be associated with public good provision, and indeed some scholars have emphasized the use of repression in the context of the East Asian development miracle (Deyo, 1989).

Our model relates to Besley (2020) who develops a behavioral model of public good provision where citizens can be "civic minded" and gain utility from reciprocating public good provision by paying taxes. This mechanism is related to ours but he does not study behavioral preferences of those providing the public goods or consider the use of violence to enforce reciprocity or control people. Also related is the work of Berman, Shapiro, and Felter (2011, 2018) who model both public good provision and violence against insurgents as complementary strategies to win the allegiance of communities. A key distinction between our framework is that we model violence as a tool for controlling citizens, rather than fighting opponents (as also in Besley and Persson (2011a)). Though we also find a positive co-variation between public good provision and violence the mechanism is very different. This co-variation is also different from much of the literature which thinks in terms of "*fear* or *dreams*", as in "*plata* o *plomo*" (Dal Bó, Dal Bó, & di Tella, 2006).

Work in political science has studied the use of violence to intimidate and rule civilian populations. Kalyvas (2006) developed a theory of when armed groups would strategically use violence to control people. He argued that selective violence is used when "one actor exercises dominant but incomplete control" (p.174). Incomplete, so there is competition with another group and violence is needed; dominant, but not hegemonic, so that people provide information without fear of reprisals.

Weinstein (2006) also studied variation in the the use of violence arguing that this is explained by the composition of the group which is itself endogenous to the available resource base. Balcells (2017) posits that violence against civilians in civil war is driven by patterns of pre-war political contestation. Our contribution is to propose the social background and preferences of leaders as a key source of variation in the use of violence. None of the mechanisms suggested by these authors appear likely to explain our results. For example, our balance tests show that there are no significant differences in the presence of Marxist groups in our treatment and control, suggesting no differences in the extent of control by the paramilitary group or the imbalance of power between them. They also do not suggest significant differences in patterns of political competition prior to the period we study.

Paramilitary commanders built little "states", but existing research on when states emerge has not to our knowledge studied or tested the mechanisms we develop in our model. Recent empirical studies by Sánchez de la Sierra (2020), Allen, Bertazzini, and Heldring (2023) and François and Schönholzer (2023) have followed a large literature in political science and sociology which tends to emphasize the structural features which influence the costs and benefits of building state institutions (see for example Herbst (2000)) rather than the characteristics of individual leaders.

Other work has examined the governance strategies of non-state armed actors including when they provide public goods. Arjona (2017) studied this in Colombia and argues that state like behavior, what she calls "rebelocracy", occurs when groups have a long time horizon and local society is unable to organize collectively to resist. Our hypothesis is distinct and our balance tests show that her mechanisms are unlikely to explain our results. For example, we find no differences between territories controlled by peasant and non-peasant commanders in terms of measures of social capital. Blattman, Duncan, Lessing, and Tobón (2022) study the governance strategies of gangs in urban Medellín, Colombia, finding that often they are complementary to state activities. The interaction between the state and paramilitaries is not the focus of our study and their evidence suggests that the illicit drug industry is the main motivation for territorial control. Though paramilitary groups certainly were involved in this business the qualitative evidence does not suggest this was their primary motivation and we show in Section 7 that coca production is unlikely to be driving our results. Bandiera, Dinarte, Jimenez, Rozo, and Sviatschi (2023) and Ibáñez, Arjona, Arteaga, Cárdenas, and Justino (2023) study the long-run reduced form development effects of rebel governance in El Salvador and Colombia, respectively, but do not analyze variation within areas held by non-state armed actors which is our main focus.

Other research has emphasized how the characteristics of politicians influence public policy, for example Besley and Coate (1997), empirically relating this to characteristics such as gender (Chattopadhyay & Duflo, 2004; Dube & Harish, 2020), human capital (Besley, Montalvo, & Reynal-Querol, 2011), and race (see Stout, Tate, and Wilson (2021) and Dal Bó and Finan (2018) for a general overview of empirical findings). Experimental evidence has also found that reciprocal leaders

tend to be better at creating more successful groups because they trigger more desirable responses from followers (Gächter, Nosenzo, Renner, & Sefton, 2012; Harrell & Simpson, 2016). Finally, Finan and Schechter (2012) show how reciprocity allows political economy equilibria which would otherwise not be credible to be sustained.

The paper proceeds as follows, in the next section we discuss the history and nature of Colombian paramilitarism and some of the institutional details as background for our study. We also discuss the research and evidence on the relationship between peasants and reciprocity. Section 3 discusses the main implications derived from the theoretical model. Section 4 discusses the data and Section 5 our empirical strategy. Section 6 presents our main results, Section 7 rules out alternative hypothesis, and Section 8 concludes.

2   Colombian Paramilitarism

2.1   A Brief History and Overview

The origins of Colombian paramilitarism lie in 1960s counterinsurgency measures (primarily Law 48 of 1968) that allowed the creation of armed self-defense groups by private citizens for the purposes of protecting their properties and lives against guerrilla groups, particularly the Revolutionary Armed Forces of Colombia (FARC) and the National Liberation Army (ELN), both of which had formed in 1964.[7] For example, the Peasant Self-Defense Forces of the Middle Magdalena (ACMM) began in 1977 as a group called Los Escopeteros (The Shotgunners) who organized to fight against the FARC. The Peasant Self-Defense Forces of Casanare began in 1979. The Castaño brothers, Carlos, Fidel and Vincente, who subsequently became the most important paramilitary leaders, became involved in paramilitarism after the kidnapping and murder of their father by the FARC in 1980, soon after forming a group called Los Tangueros. The Peasant Self-Defense Forces of the Sierra Nevada of Santa Marta were organized after the 1982 incursion of the FARC into the region. In Table D.1 we collect information on the paramilitary blocks and fronts that are the subject of our study, when they were first institutionalized and demobilized, their senior commanders at the time of demobilization, and also when their antecedent groups (Los Escopeteros or Los Tangueros) began.[8]

Paramilitary activity grew in the 1980s and early 1990s as the Colombian state was incapable of containing the expansion of guerrilla movements. Apart from the insecurity of rural areas and the threat of kidnapping and violence by the FARC and ELN, the increase was associated with the rise of the large drug cartels in Medellín and Cali. These indirectly contributed to paramilitarism in 1981 by forming a group called MAS – Muerte a Secuestradores (Death to Kidnappers). In 1994

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[7]Other guerrilla groups included Quintin Lame, M19, see Grupo de Memoria Histórica (2016) for an overview.

[8]Although there were 34 blocks that demobilized, our sample consists of only 23. We elaborate on this in Section 4.

President Ernesto Samper introduced Convivir (Law 356) - a national program of neighborhood watch groups, which further promoted the expansion of paramilitarism.

A significant escalation occurred in 1997, when Carlos Castaño created the United Self-Defense Forces of Colombia (AUC) - an umbrella paramilitary organization comprising 90% of the existing 38 autonomous blocks in the country. Between 1997 and 2006, the AUC rapidly expanded at the expense of guerrilla groups and were present in roughly 75% of the country's municipalities. This came to an end during the presidency of Álvaro Uribe who persuaded the preponderance of the paramilitaries to demobilize under the Justice and Peace Law (Law 975 of 2005). Most paramilitaries walked free, but those accused of human rights violations and crimes were given reduced sentences (5-8 years) in exchange for confessing before Justice and Peace Tribunals and entering a transitional justice process. By 2006, 34 paramilitary blocks composed of 146 fronts and 35,317 fighters collectively demobilized.[9]

There is a very rich case study literature in Colombia on paramilitarism.[10] In addition to the work we cite a great deal of attention has been paid to the involvement of paramilitaries in politics (Romero (2007), López (2010) and Acemoglu et al. (2013)), their interaction with state institutions more broadly (Gutiérrez-Sanín, 2019), their impact on inequality and the distribution of land (Gutiérrez-Sanín & Vargas Reina, 2016), and their interaction with U.S. aid (Dube & Naidu, 2015). None of this research has advanced similar hypotheses to those we develop and investigate here.[11]

In Appendix B.1 we discuss the aspects of the case study literature on Colombian paramilitarism which are relevant for our paper. We show it is consistent with the idea that paramilitary groups were mainly focused on controlling territory and fighting against the FARC and ELN. To control territory and people some groups provided public goods and all of them used various types of violence. All these types of violence were strategic and to some extent targeted though the evidence also suggests that many innocent people were accused and killed.

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[9] 4,588 former combatants eventually faced criminal prosecution by the Justice and Peace Tribunals, including senior and mid-level commanders. 14 of the most senior paramilitary commanders, charged with narcotics offenses, were also extradited to the U.S. in 2008.

[10] Important work on paramilitarism by Colombian scholars includes Romero (2003); Rangel (2005); Duncan (2006); León (2009); Ronderos (2014); and Grupo de Memoria Histórica (2018).

[11] The GMH does advance a partial theory for variation in violence. In particular, limited "circumscribed violence" tended to emerge when there was "a primary or endogenous anchoring" (Grupo de Memoria Histórica, 2016, p.44) by which they mean groups consistently occupied a particular location and took on "regulatory functions". Yet in these same places the arrival of competing groups led to mass violence to dislodge the incumbent. This argument suggests that mass violence by paramilitary groups should be associated with consolidated FARC or ELN presence. We find that our treatment and control groups are balanced on pre-treatment guerilla presence, which is not consistent with this mechanism. The GMH also delineates situations of "an unstable anchoring" which lacked persistent control. Here the GMH argues "the paramilitary raids in these territories were characterized by a massive and indiscriminate violence" (Grupo de Memoria Histórica, 2016, p.46), but they also argue that these were places where paramilitary groups "posed as an alternative form of protection". Though this does not generate a clear prediction with respect to violence the GMH does suggest that these situations occurred in particular contested parts of Colombia, for instance in "regions of bonanzas based on coca-growing fields" and we address these issues in our balance tests and empirical specifications.

2.2 Peasant Commanders Preferences

Evidence for a connection between the social background of paramilitary leaders and their strategies emerges in the case study literature and our fieldwork. In Appendix B.2 we discuss the qualitative evidence that commanders who were explicitly identified as peasants have been argued to behave differently as a consequence of having social preferences.

A classic literature in anthropology and sociology developed the notion of a peasant as a sociological category and identity. This innovation was meant to distinguish the peasantry from other groups, like the bourgeoisie or proletariat. Shanin advanced four criteria to distinguish peasants. The first two related to land ownership and occupation and specifically "land husbandry as the main means of livelihood directly providing the major part of the consumption needs" (Shanin, 1971, p.294). The third was a "specific traditional culture related to the way of life of small communities" particularly a "small village community" (Shanin, 1971, p.295). Shanin stressed that a "small community in a relatively stable society is generally characterized by habitual personal contact, by a lack of anonymity, a high level of homogeneity and ... such conditions are reflected both in the typical personalities of village members and in the accepted "world view" " (Shanin, 1971, p.295). Roberts (1990, p.357) emphasizes in his survey "the web of family and communal relationships", the "communal grid" and the "communitarian practices and ideologies".[12]

The definition of peasant which emphasizes the relationship to the land and the small village community motivates our own empirical operationalization of the concept: we define a peasant as somebody born in a predominantly rural area.

One consequence of these "communitarian practices" and the "habitual personal contact" and "lack of anonymity" is the emergence of pro-social, particularly reciprocal preferences (Wolf, 1966, p. 86). In fact, it is "critical to understand that the obligation of reciprocity is a moral principle par excellence" in peasant communities (Scott, 1977, p.168). What is the connection between the "communal grid" and social preferences? An obvious one, which we formalize in our model, is that in close knit communities information flows very easily and comprehensively. There are collective advantages to having reciprocal and other pro-social preferences, but there are also material gains from taking advantage of a person with such preferences. In an evolutionary environment the fact that it is easier to detect this "taking advantage" in close knit communities makes it easier for pro-social preferences to emerge.

2.3 Evidence on Peasant Preferences

We can investigate the relationship between being a peasant and social preferences in Colombia directly by using data from the 2021 political culture survey of the National Administrative

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[12]The same themes are echoed in the more specifically Colombian literature, Fals-Borda (1955) and Reichel-Dolmatoff and Reichel-Dolmatoff (1961) being classic accounts of peasant society.

Department of Statistics (DANE). Importantly, the survey allows us to map the way we define a peasant into the individual responses. We follow Falk et al. (2018) to define reciprocity with survey questions and create two indexes measuring positive and negative reciprocity. Table 1 documents that peasants exhibit, on average, significantly higher reciprocity of both kinds. They are more likely to return a favor or reward kind actions from strangers, and are thus associated with 0.14 standard deviations higher positive reciprocity compared to non-peasants. Likewise, they are considerably more willing to punish unkind actions towards themselves or others, and have 0.08 standard deviations higher negative reciprocity. Both results are significant at the 1% confidence level.

3   Empirical Implications of a Model of Paramilitary Strategy

We relegate the specification and analysis of the model to Appendix C. Here we provide an intuitive discussion, emphasizing the testable implications that we take to the data. Citizens can either be reciprocators or not, and peasants or not. However, peasants are more likely to be reciprocators. We take this as given in the baseline static model, but then endogenize it in a dynamic model along the lines of Bisin and Verdier (2000).

Paramilitary commanders are randomly chosen from the population. This assumption captures the fact that our evidence suggests that commanders are not selected based on the characteristics of the areas where they were leaders. Any type of commander has to decide whether to enter (set up a paramilitary group) and try to control a territory by getting the inhabitants to support them rather than a guerilla group. They can do this by providing public goods which raises peoples' payoffs from paramilitary control and they do so in a contingent way by threatening punishment on those who fail to reciprocate public goods with contributions. Providing public goods induces support against the guerillas, particularly from reciprocators in the population, who also get utility from contributing to the paramilitaries. Non-reciprocators benefit only from public good provision.

We examine a part of the parameter space with two key conditions; (1) non-reciprocators do not contribute to the paramilitaries even though they risk punishment, which we identify with massacres, if identified; (2) massacres, since they are costly, are credible only for commanders who are reciprocators since they get utility from punishing those who do not reciprocate their provision.

The empirical predictions follow (see Appendix C):

1. A peasant commander, since they are more likely to be a reciprocator, will be more likely to provide public goods than a commander with a non-peasant background.

2. A peasant commander will be more likely to commit massacres than a commander with a non-peasant background.

3. It is the same commander who both provides public goods and commits massacres.

4. Fronts led by peasants have a higher expected duration, both because they are more likely to enter and because they have a lower probability of exiting (conditional on entry).

4   Data

Next, we take the empirical predictions of our model to the data. We focus on the period between 1997 – the year the United Self-Defense Forces of Colombia (AUC) was created – and 2006 – when the last paramilitary group collectively demobilized under the Justice and Peace Law. Though as we noted, some of the groups were older and had antecedents, this was the period for which the transitional justice process collected the most accurate information. We take paramilitary fronts and leaders as our units of analysis instead of blocks, because the fronts were largely autonomous to choose local strategies in their territories, and they also provide us with more statistical variation. In the next subsections, we describe in detail the novel datasets constructed for this study.

4.1   Commanders Data

First, we constructed a micro-level dataset of 72 paramilitary commanders matched to the same number of fronts for the period 1997 - 2006. These formed part of 23 paramilitary blocks.[13] Our most relevant source is the court rulings issued by the Justice and Peace Tribunals.[14] These were created by the Justice and Peace Law to facilitate the prosecution and sentencing of former commanders and combatants through the transitional justice system. Accounts from journalists (particularly the website *Verdad Abierta* - Open Truth) or research initiatives, such as the National Center for Historical Memory (CNMH), were also used to complement or corroborate facts.[15]

Using all this information, we coded basic individual socio-demographics of the paramilitary front leaders, including their names and surnames, aliases, national IDs, place and year of birth, sex (all were male, though there were many women at lower levels of command and within the forces of the fronts), education, and family background. Moreover, we employed their CVs to code variables characterizing their lives before and during their paramilitary experience (see Appendix D.1 Figures D.1 and D.2 for examples). For instance, their prior occupations, including whether they were previously part of the Armed Forces, whether they or close members of their families

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[13]In the empirical analysis we employ systematic information on 72 out of the 146 paramilitary fronts that collectively demobilized. We excluded: 15 fronts that were deemed fake by the Attorney General or existed for less than a year, 31 fronts that had missing commander information and 28 fronts that had overlapping jurisdictions with rival paramilitary groups. In some cases, multiple front commanders existed because a few where killed, replaced or rotated, but in all cases a single commander was identified as the main commander and assigned as such. See Appendix D for a more thorough discussion.

[14]We checked this information with other supporting legal material from trials, such as the publicly available indictments made by the Attorney General or court hearings.

[15]These other sources are invaluable in particular for gleaning information on commanders that did not demobilize, were killed after doing so, or were expelled from the Justice and Peace Transitional Justice System, and whose information therefore is not necessarily found in their legal files.

were victims of guerrillas (for example, had properties damaged or expropriated, were tortured, kidnapped, displaced or, in the case of a relative, killed), or had a criminal record before joining the paramilitary group (for example, for committing robbery). We also specifically coded whether they had been found guilty of offenses related to the production (including growing coca crops) and distribution of illicit drugs. We also recorded their places of operation (see Table A.1).

We classified each commander in the dataset as a peasant or not. As we discussed in Section 2, the prominent fact which defines a peasant is a rural and agrarian upbringing. In consequence, our main definition considers a commander to have a peasant origin if he was born in a predominantly rural municipality according to the 1993 Colombian Population Census. In practical terms, this means that at the time at least half of the households in the municipality lived in the countryside. In robustness checks, we also explored alternative ways of classifying commanders as peasants. Our stricter definition raises a commander's rural place of birth threshold to 60% (we also experimented with raising it to 70% but were under-powered). Though we investigated using other ways to classify a person as a peasant, for example prior occupations, CV descriptions, or court rulings that explicitly mentioned a commander's peasant origins, these sources of information turned out to be too incomplete for empirical analysis.

Figure 1 graphically shows where peasant leaders operated during this period. Fronts with peasant commanders are shaded in green and those with non-peasant commanders in grey. White regions include both the cases where there were no paramilitary groups and those where there was but for which we have incomplete information and are therefore not part of our analysis. As can be seen paramilitary groups operated in most of Colombia and peasant commanders were spread everywhere and not clustered in a particular region or part of the country. Since there are distinct regional cultures in Colombia this is interesting evidence that these are unlikely to confound our results. The map also shows that there are a large number of borders that we exploit in our empirical analysis and these are scattered all over the country. Reassuringly, the map also coincides with the historical evidence on the emergence of paramilitary forces across the country discussed in detail in the case study literature, for example Grupo de Memoria Histórica (2016).

Finally, we further collected and classified information from the judicial documents about how individuals became front commanders. Typically the court rulings explicitly discuss this and when they did not we consulted other secondary sources previously mentioned (i.e: *Verdad Abierta*, CNMH). This data is discussed in detail in Appendix B.3. We introduce it later in Section 4 and exploit it to study what factors influenced how an individual commander was chosen as this is an important issue in the credibility of our identification strategy, as we discussed in the introduction.

4.2 Fronts Data

We constructed another dataset that geolocates the 23 blocks and 72 fronts for which we have data across 636 municipalities (57% of municipalities) that were led by leaders included in the commanders data. To do so, we developed a simple methodology for organizing paramilitary groups and geolocating their boundaries over time. First, we employed court rulings issued by the Justice and Peace Tribunals, which contained detailed information about municipal, submunicipal and geographical barriers (i.e: rivers, mountains) that marked the limits of these groups. Second, when this information was incomplete or unavailable, we complemented it with geolocation data from the Attorney General that was used in the indictments, but not shown in court rulings (see Appendix D.2 for a thorough discussion). Third, as before, we also drew from other secondary sources to corroborate facts (i.e.: *Verdad Abierta*, CNMH). Finally, after cross-checking information, we mapped front boundaries.

The sample used in the empirical analysis includes adjacent peasant and non-peasant fronts created after the rise of AUC in 1997, whose boundaries were largely stable and explicitly defined, lasted more than one year and for which we have the commander's individual characteristics fully documented. In the end, we constructed unique front boundaries and linked these to paramilitary commanders. As discussed above, Table D.1 lists the blocks and fronts included in this study. The table also records the number of peasant and non-peasant fronts that each block had and documents the large amount of variation with most blocks having fronts commanded by both peasants and non-peasants.

Additionally, we compiled and mapped front level outcome data at the municipality, and sub-municipality, rural neighborhood (*vereda*) level. This data characterizes paramilitary strategies, most importantly the provision of public goods, massacres, and front duration in 1997-2006 (see Appendix D.2, Table 2 and Table A.1).[16] Using court rulings and other secondary sources, we first geolocated with longitude and latitude 156 different public goods provided by paramilitaries, including the construction of infrastructure (roads, bridges, etc.), schools, health centers, houses for the poor, nursing homes, and recreational or cultural centers (stadiums, bullrings, etc.) (see Figure D.6 for coding example). We also complemented this with fieldwork and interviews with former paramilitary commanders. For instance, the pictures shown in Appendix B.1 document public good provision in the municipality of Sonsón, Antioquia – an epicenter of paramilitary activity. Our data may underestimate the true extent of this phenomenon, but we are confident we are able to capture most of it.

Likewise, we employ rich data from CNMH to manually geocode to the rural neighborhood level 1,192 massacres committed during this period by paramilitary, guerrilla, and government forces (see

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[16]Throughout, we employ municipal and rural neighborhood (*veredas*) – the smallest submunicipal administrative unit in Colombia – shapefiles from the National Administrative Department of Statistics (DANE).

Figure D.7 for coding examples). Of these 794 were committed by paramilitaries.[17] The CNMH's data is widely considered the most comprehensive and reliable of the Colombian conflict, because it draws from several primary sources that include Noche y Niebla, the journal of the research institute CINEP (Centro de Investigación y Educación Popular Programa Por la Paz), Justice and Peace Bulletins, and independent journalistic accounts.[18] For each massacre, we have its date, the number of victims, their characteristics, and the armed group suspected of committing it.[19]

4.3 Other Data

Finally, we use other relevant geolocated data, particularly to test for balance on pre-treatment covariates, include as controls, or to rule out alternative hypothesis (see Table A.1 for a complete discussion of variable definitions and sources). First, we use granular topographic and climatic data produced by the WorldPop (2018) project from the University of Southampton and the National Oceanic and Atmospheric Administration (NOAA) (2019) to create rural neighborhood-level measures of elevation (in meters above sea level), slope (in %), rainfall (in average annual mm), and temperature (in average annual degree Celsius). We employ various soil raster files from the United Nations' Food and Agriculture Organization (FAO) (2008) on soil nutrients, oxygen, salts, toxicity, etc. that are necessary for agriculture and average them to construct a standard soil quality index.

Second, we compile several measures of economic development. Disaggregated welfare measurements are unfortunately rare for the period of study. However, we do have data from the National Aeronautics and Space Administration (NASA) on nightlight intensity (on a scale from 0-64) (Henderson, Storeygard, & Weil, 2012). Though we have this for various years we focus on 1996 to examine pre-treatment development differences. We also used as a proxy for development the level of rurality (percentage of households living in rural areas) found in the 1993 Colombian population census produced the National Administrative Department of Statistics (DANE). Additionally, we construct rural neighborhood-level measures of public good provision in 1997, for instance the presence of public schools using school directories from the Ministry of Education (MinEducacion) or access to main roads based on Pachón and Ramirez (2006).

Third, we use data from the CNMH on massacres perpetrated by guerilla groups, paramilitaries and the army between 1993-1997. This data is the best we have as a proxy for the pre-treatment presence of these different groups.[20]

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[17]We use the data on massacres by other groups as part of our balance tests. When we zoom in on the 15km boundary we have 74 massacres in total, 66 of which were committed by paramilitary groups.

[18]Previous studies of conflict in Colombia have usually used broader definitions of violence, including attacks and clashes, and always at the municipality level, for example Acemoglu et al. (2013) and Dube and Vargas (2013).

[19]Other violence data, such as individual assassinations, is available but not geolocated and is far harder to attribute to specific paramilitary groups.

[20]The relevance of data on the presence of the military reflects not just their use of illegal violence Acemoglu, Fergusson, Romero, Robinson, and Vargas (2020), but also because the military sometimes cooperated with paramilitary groups in counter-insurgency operations, or possibly because the presence of the military might reduce the incentives for paramilitaries to control territory.

Fourth, we also assembled data on natural resource availability and extraction. We focus on coca crops and oil pipelines, because rents from the illicit drug industry and the illegal gasoline trade became the two most prominent revenue sources for paramilitary groups at the height of conflict (see further discussions in Sections 5 and 7). Indeed, legal evidence presented at the Justice and Peace Tribunals consistently showed these groups either produced or taxed coca crops or were heavily involved in the distribution of illegal drugs, and stole gasoline from the various oil pipelines traversing the country, most notably those from the government-owned petroleum company Ecopetrol. As an exogenous measure of the potential to grow coca we use the coca suitability index of Mejia and Restrepo (2016). We also use data on actual coca production in the form of 1×1 km rasters from the United Nations' Integrated System for Monitoring Illicit Crops (SIMCI) to calculate rural neighborhood-level measures of coca crops (in hectares) for 1999-2006. Finally, we use oil pipeline shapefiles from the Ministry of Mining (MinMinas) to code the presence of such pipelines in 1997.

Fifth, we draw from several sources to study politics since the pre-existing political context has been hypothesized to be a determinant of strategies, particularly the use of violence, in civil wars. We employ the Elections Database from the Center for the Study of Economic Development (CEDE) at University of the Andes, which has compiled the most comprehensive and detailed database on Colombian elections, to construct local measures of political competition. A simple and appealing one we use is the win margin in elections for mayors in the 1994 municipal elections. We complement it with a measure of local political dynasties where we coded whether a municipality elected mayors that shared the same surnames (a proxy for belonging to the same family) in at least two of three elections prior to the founding of the AUC which occurred in 1988, 1992, and 1994. Moreover, we also use data from Acemoglu et al. (2013) to calculate the local vote share for "para-politicians" in 1998 and 2002 – politicians convicted by the Supreme Court of having received electoral help from paramilitaries in exchange for political favors.

Sixth, we look at social capital. Primarily, we collect and code data on the presence of local community organizations in 1997. In our regions of study, these mostly take the form of Community Action Boards (Juntas de Acción Comunal - JAC), which are civic organizations made up of individuals living in the same rural neighborhood (*vereda*). They promote community development and often step in to coordinate local collective action, resolve contracting or other disputes, for example with respect to incomplete property rights. The data comes from JAC directories of departmental governments, which don't contain detailed descriptions of their activities, but at least list the rural neighborhoods in which they exist and their year of creation (see Kaplan (2017) for the use of this data to study the impact of civil society on conflict in Colombia). Furthermore, as discussed earlier, we use the 2021 political culture survey from DANE to examine reciprocity as another dimension of social capital. The benefits of using this survey are its relatively large sample size and the precise questions about pro-sociality included, specially those inquiring about positive

and negative reciprocity, which we code following Falk et al. (2018).

The final set of covariates relate to land and disputes. We employ rich municipal and sub-municipal data from the National Land Agency (ANT) and the Superintendence of Notaries and Registry (SuperNotariado) on state-owned land allocation (*baldíos*), titling, and disputes since 1961 to code three measures in 1997. The first is the land allocation gini coefficient, which proxies for land inequality given that most rural lands were previously distributed by the Colombian state in the form of *baldíos*. For the second, we construct a variable of land informality, which captures the proportion of those lands with formal titles. Third, given that land inequality or informality is often associated with peasant grievances or disputes, we also code a measure for whether a municipality had active land disputes taken to courts. While this data may clearly underestimate the true extent of rural disputes, it represents the best systematic source of information available. As a final way to get at disputes we use data at the municipality level on the number of people forcibly displaced over the period 1993-1997. The data comes from the CEDE Violence Database at the University of the Andes.

In the post-treatment period, to examine the possibility of selective sorting, we also code measures of migration based on the percentage of households that reported to have migrated in the previous five years from the 2005 Colombian population census.

4.4 Descriptive Statistics

Table 2 summarizes descriptive statistics for our main outcomes and treatments. Our final sample of study is comprised of 72 paramilitary fronts, each one led by one commander while they existed, which simplifies the empirical analysis. As shown in Panel A, 37 (51%) were led by peasants and 35 (49%) by non-peasants. Leaders differed along a range of individual characteristics. For instance, columns (2) and (5) indicate that prior to joining paramilitary groups, peasant commanders were significantly less educated (only 23% finished high school vs. 71%) and possessed significantly less Armed Forces experience (18% had served in the Armed Forces vs. 48%), while none had ever been an officer in the Armed Forces (defined as being of the rank of captain or higher). Peasants were, however, more likely to have a criminal record (100% vs. 44%). In particular, they were more involved in the drug industry (59% had a criminal conviction related to the drug industry vs. 43%), possibly due to the fact that coca is overwhelmingly grown in the countryside (see Sviatschi (2022)).

However, they also shared common attributes. Nearly all commanders had at least one of their first-degree relatives (i.e: partners, parents, siblings, or children) victimized in some way by the guerrillas: 75% of peasants and 100% of non-peasants suffered such an event. This means that they or their family members were tortured, forcefully displaced, kidnapped, or even killed in the case of

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relatives, among other potential violent acts, or their properties were damaged or expropriated.[21] Surprisingly, too, most leaders were not local to their front territories, meaning they generally did not have previous relationships or attachments to local communities. In fact, there was a high rate of migration, as only 14% of peasant commanders were born in one of the municipalities they later controlled, compared to 9% of non-peasants.

In Panel B, we summarize additional information collected from the Justice and Peace court rulings that describe why commanders were promoted or appointed to lead fronts (see the case study evidence in Appendix B.3). On average, around 30% of commanders – a very similar percentage for peasant and non-peasants – had prior family or friendship connections with superior paramilitary leaders and were promoted because of these connections and/or because they were trusted. Interestingly, though, relevant differences appear when looking at their training and skills. A higher proportion of peasant commanders were chosen for their proven experience in the group (27% vs. 12% for non-peasants) and leadership skills among combatants (21% vs 9% for non-peasants). The evidence suggests that experience was important because it allowed people to demonstrate loyalty.

In contrast, non-peasant commanders tended to be chosen more because of their military training, either in the Armed Forces or with the paramilitaries themselves (33% vs 12% for peasants). This is in line with previous evidence showing they were also more likely to be part of the Armed Forces before joining the paramilitaries. If anything, they indicate that non-peasant commanders may have been better prepared for war. Non-peasants also had marginally better strategic and management skills (we describe how we coded these in Appendix B.3 and Table A.1).

Moving to Panel C, and in line with qualitative descriptions in Appendix B.1, there is also large variation in front strategies. As will become evident in the next section, we zoom in on variation within 15km of front boundaries because this sample will be the basis for our empirical analysis. Fronts led by peasant leaders provided, on average, more public goods and committed more massacres. Columns (2) and (5) show that 30% of these fronts provided some type of public goods close to their boundaries, relative to 9% of non-peasant ones. Column (3) indicates the standard deviation is high, equivalent to more than 1.6 times the mean. 41% of fronts commanded by peasant leaders also committed massacres in their tenure near boundaries, almost twice as much as those lead by non-peasant commanders. Finally, peasant fronts also lasted much longer, 6.2 years relative to 5.5 years, mainly explained by earlier entry years but not exit years (see the distribution of front entry and exit years in Appendix E Figure E.4).[22]

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[21]When coding we followed the definition employed in the Victims Law (Law 1448 of 2011) that the Colombian state employs to define victims from the civil conflict.

[22]Note that front exit is truncated by the mass coordinated demobilization that took place in 2006 under the Justice and Peace Law.

5   Empirical Framework

A simple OLS estimation of the effects of peasant leaders on their combination of war strategies would quite possibly be biased. Territories ruled by peasants and non-peasants plausibly differed along a range of observable, and potentially unobservable, characteristics, which could influence the commander selection into Colombian paramilitarism or conflict. Also, perhaps there may be omitted variables which are correlated with the social background of commanders and the local incentives to provide public goods or massacre people.

To overcome these issues, we leverage the idiosyncratic nature of how paramilitary front boundaries were determined. After 1997, most of them were negotiated by commanders who wanted to coordinate operations within the AUC. They often followed geographical features (i.e., rivers and mountain ridges), infrastructure (like roads), or municipal boundaries, reflecting idiosyncratic war shocks rather than more structural economic or social factors. In one representative example, "the Castaños explained that their area [in Urabá] was to the left side of the Atrato River" between the Ungia and Turbó (Ronderos, 2014, p.274). In another example, the boundary between the Peasant Self-Defense Forces of the Middle Magdalena and Puerto Boyacá "was the margin of the Magdalena River" that separates Puerto Boyacá from Puerto Triunfo and La Dorada (Justicia y Paz, 2014, p. 433; Hearing February 18, Min: 10:30). For a more comprehensive set of case studies on the idiosyncratic nature of front boundaries and our final sample see Appendix B.4 and Figures D.4 and D.5.

Thus, our empirical strategy relies on a Spatial Regression Discontinuity Design (SRDD) exploiting the discontinuous change in the peasant origins of paramilitary leaders at their fronts' boundaries. Intuitively, our analysis compares outcomes of rural neighborhoods (*veredas*) in nearby municipalities exposed to fronts led by peasants relative to those led by non-peasants, but who otherwise were subjected to the same national and local context. Front boundaries form a bidimensional discontinuity in longitude-latitude space. Our baseline specification estimates regressions of various forms following:

$$y_{v,m,f,b} = \alpha + \gamma peasant_f + f(\text{geo}_{v,m}) + X'_{v,m}\beta + \phi_b + \epsilon_{v,m,f,b}, \tag{1}$$

Where $y_{v,m,f,b}$ is an outcome (in the baseline specification indicator variables for whether or not front f provided public goods or committed a massacre) for rural neighborhood v in municipality m controlled by front f along front pair segment b. $peasant_f$ is an indicator variable equal to 1 if the paramilitary commander of front f had a peasant origin and 0 otherwise. In Section 4, we defined this as being born in a ($>50\%$) rural municipality according to the 1993 Colombian population census.[23] $f(\text{geo}_{v,m})$ is the spatial polynomial for rural neighborhood v in municipality m, which controls for smooth functions of geographical location. X is a set of exogenous covariates, such as

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[23]As discussed there, we perform a robustness check by raising the rurality threshold to 60%.

elevation, slope, soil quality, etc. and in some specifications also individual characteristics of the front commanders. ϕ_b are a set of front pair fixed-effects that fix comparisons between adjacent observations. Finally, $\epsilon_{v,m,f,b}$ is an error term clustered at the front level.

In this setup, the coefficient of interest is γ – the causal difference in paramilitary strategies in territories ruled by peasant leaders relative to those with non-peasant ones. The baseline specification estimates a Local Average Treatment Effect (LATE). We use a longitude and latitude local linear RD polynomial and limit the sample to observations within 15 kilometers of the boundary.[24] Since there are many options for how to specify the spatial RD polynomial and bandwidth, and we are unaware of a widely accepted method to select them, we perform several robustness checks to document that point estimates remain fairly stable across various specifications that change the spatial RD polynomial and bandwidth (Calonico et al., 2020, 2014; Gelman & Imbens, 2018; Imbens & Kalyanaraman, 2012).

The SRDD requires two identifying assumptions. First, all relevant factors besides the peasant origins of commanders must vary smoothly at fronts' boundaries. Similar to (Dell et al., 2018), we let c_1 and c_0 denote potential outcomes under treatment and control, x denote longitude, and y denote latitude. This assumption requires that $E[c_1|x,y]$ and $E[c_0|x,y]$ are continuous at the boundaries for observations located within fronts led by peasants to be appropriate counterfactuals to those of non-peasants.

We take a number of steps to assess the credibility of this assumption. Intuitively, it is made plausible by the fact that a whole range of many different types of observables do not jump at the boundary. Therefore we first document in the next subsections geographical and pre-treatment balance in relevant covariates, not only across boundaries but also at larger front units. Second, we provide extensive case study evidence in Appendix B.3 that commanders do not seem to have been selected based on the characteristics of fronts. From a theoretical perspective, these exercises are also useful because they provide supporting evidence that our findings in the empirical analysis are not necessarily driven by other hypotheses about the origins of states or rebel governance that compete with or confound our own. Third, the estimated coefficient of peasant is barely influenced by controlling for other observable covariates of commanders in Section 6 (see Table 6) suggesting that the effect of unobservables would have to be extremely large relative to observables to be driving our results.

The second identifying assumption is no selective sorting around front boundaries. In our context, this would be violated if the actions of one front affected individuals living in adjacent fronts, which in turn influenced the strategies paramilitary commanders pursued during their time in power. For instance, if public good provision was employed as a tool to attract individuals in adjacent rural neighborhoods to increase the tax base. This in itself might be an interesting

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[24]This bandwidth is double the optimal one found using (Calonico, Cattaneo, & Farrell, 2020; Calonico, Cattaneo, & Titiunik, 2014) in a one dimensional approach, which ranges from 5k to 7km depending on the outcome.

outcome variable or a consequence of paramilitary strategies. However, we restrict our analysis here to establishing that there does not seem to have been differential migration in places commanded by a peasant commander.

5.1 Pre-Treatment Balance

Table 3 examines a series of regressions of the form described in equation (1) with different geographic and pre-treatment characteristics as the dependent variable. The basic intuition is to show balance in relevant covariates near front boundaries that may have determined the selection of commanders or confound the outcomes of interest. Rows (1) and (2) examine elevation and slope, respectively. Point estimates are small relative to the mean and statistically insignificant. Not surprisingly, row (3) documents that soil quality, an important determinant of agricultural productivity, is statistically balanced too. Row (4) does not reveal differences in precipitation either. Row (5) shows that temperature – which is highly correlated with elevation in Colombia – is likewise balanced. Results not only indicate that geography is similar across peasant and non-peasant fronts, but that structural factors of the sort posited in much of the social science literature on state formation do not seem likely to account for differences in paramilitary strategies close their boundaries (see for example Allen et al. (2023); François and Schönholzer (2023); Herbst (2000); Sánchez de la Sierra (2020)).

Next, we look at the initial level of economic development and public good provision. This may be important, for instance, because when either of these are lower the marginal utility of providing public goods would be higher, encouraging their provision by paramilitaries or perhaps inducing the selection of a commander who could credibly provide them. We do not have measures of income per-capita or simple proxies for it at the submunicipal level, but in (6) we show that rurality, which is usually associated with poverty in Colombia, is balanced. Rows (7) and (8) indicate that places across front boundaries had statistically similar levels of public good provision (specifically roads and schools). Row (9) contains perhaps our best proxy for pre-treatment economic development, the intensity of night light. This also shows no statistically significant difference between peasant and non-peasant fronts.

Rows (10) to (12) show that there are also negligible disparities in the levels of conflict, as measured by the accumulated massacres perpetrated by guerrillas, the Armed Forces, or other paramilitary groups in years prior to the period we study. These results are important because of potential selection. For example, our model predicts that peasant commanders are better at fighting the guerillas and therefore when initially guerillas were stronger, there might be an advantage of having a peasant leader in charge. Similarly, if there was a relative absence of either military or paramilitary forces initially, it might be advantageous to place a peasant in charge. None of these channels appear to be operational. These rows also speak a little to the hypotheses of Kalyvas

([2006](#)), even though they are obviously imperfect measures of his notion of "control".

We also look at other determinants of armed group strategy commonly mentioned in the social science literature. Rows (13) to (14) illustrate similar natural resource availability, such as coca suitability or access to petroleum pipelines, two of the most important revenue sources for paramilitary groups. These findings are relevant because it could be that if there was greater potential for growing coca or stealing gasoline from pipelines, this would give a front more income and thus resources for public goods. This does not seem to be the case, however. Another potential confounding mechanism could be that territories with natural resources were more attractive for paramilitaries to control and this could induce the appointment of a peasant leader. The data does not support these channels. Interestingly, the sign of the coca suitability variable is not consistent with what one would expect from Weinstein ([2006](#))'s mechanism since fronts with less resources should end up committing fewer massacres. The coefficient is insignificant, however.

Row (15) examines local political competition, measured as the victory margin in the 1994 mayoral elections, and row (16) the existence of local political dynasties as discussed above. Both coefficients are insignificant, which suggests that pre-war politics, as in Balcells ([2017](#)), or political elites are unlikely to mediate local paramilitary behavior or be major influences on what type of strategy was adopted to control territory.

In row (17) we examine differences in social capital in 1997 at the boundary using our data on Community Action Boards (JAC). The coefficient is insignificant suggesting that this measure of social capital does not vary between peasant and non-peasant territories. Balance in the capacity to organize collectively and resist non-state actors is not consistent with Arjona ([2017](#))'s arguments about the role of civil society in explaining rebel governance from our analysis.

In rows (18) and (19) we use the micro data on social preferences that we used earlier to investigate whether or not peasants behave in significantly different ways. Here we map this data to the municipality level. It is not ideal since it comes from 2021 and is therefore post-treatment. Nevertheless, one might be concerned that peasant commanders select into areas where people tend to be more reciprocal, say. We do not see differing levels of negative or positive reciprocity in 2021 across boundaries. Even if measured two decades later, we believe these results help to rule out such an alternative story because it seems rather unlikely that prosocial preferences were different before and converged over time. In particular, if it were the case that territories with more reciprocal people tended to get more reciprocal paramilitary commanders one might have anticipated that this would fortify this difference rather than eradicate it. This would be particularly so if evolutionary mechanisms were at play - in our model, for example, individuals in these territories who were reciprocal, would be less likely to be massacred and there would be huge incentives for parents to socialize their children to be reciprocators.

Another concern is that the type of paramilitary leader put in charge merely reflects local disputes or grievances that are amplified by conflict dynamics (see examples in Kalyvas ([2006](#))

about the Greek civil war). Rows (20) to (22) focus on land, whose insecurity and informality are historically at the root of widespread disputes in rural Colombia. No statistical differences are noticeable in terms of the share of informal property rights or active land disputes taken to courts in 1997. Moreover, there is no statistically significant difference in the inequality of land allocated. Finally, in row (23), we examine balance of the extent of forced displacement as another measure of potential grievances. There is no evidence of disparities in the levels of forced displacement before the creation of the AUC, which may have generated deep grievances among local communities or elites. We thus also rule out these potential channels.

Next, we estimate a variety of OLS regressions with the same set of geographic and pre-treatment characteristics analyzed in Table 3 as the dependant variable but aggregated at the front-level. The basic intuition of this complementary exercise is to show balance in relevant front-level covariates (rather than those close to boundaries) that may have also influenced the selection of commanders or confound the outcomes of interest. Appendix E Table E.1 reports estimates. As before, rows (1) to (23) show no differences between peasant and non-peasant led fronts. While not strictly necessary for the SRDD, we believe this provides further statistical evidence that our pre-treatment balance results hold even across fronts, which alleviates concerns that front-level unobservables correlated with the individual characteristics of commanders and our outcomes of interest may bias our findings.

Finally, in our baseline specifications we are conservative and treat rural neighborhoods as independent observations, because the use of spatially correlated standard errors tends to increase their magnitude. Table E.2 employs Conley standard errors with a radius of 25km instead of front clusters to account for spatial dependence. The pre-treatment balance looks generally the same across most variables. The two comparisons which are now significant are with respect to oil pipelines and initial paramilitary massacres (a proxy for presence). The coefficient on pipelines has the wrong sign however given Weinstein (2006)'s hypothesis that greater resources leads to more violence. The negative coefficient on paramilitary massacres could reflect the fact that the formation of fronts after the formation of the AUC did project paramilitary presence into some areas where it had not been before. Figures E.1 and E.2 provide further evidence on balance and graphically show geographic and pre-treatment balance RD plots. Overall, the statistical evidence presented in this section documents that observable factors in the geography and local context vary smoothly across front boundaries. This gives us some confidence that any important unobservables, to the extent they exist, will also vary smoothly.

5.2 Selective Sorting

In the empirical analysis we do not use micro data and so we cannot use standard techniques for assessing the robustness of our results to potential selective sorting - for example trimming

observations for migrating individuals. Instead, we use municipal data on migration from the 2005 Colombian population census, a year by which most paramilitary groups had either collectively demobilized or were in the process of doing so.

Appendix E Table E.7 reports regressions of the form described in equation (1) with migration as the dependent variable. We measure this as the proportion of people in a municipality in 2005 who reported living elsewhere in 2000. The basic intuition is to show there were no differential migration flows that may have selectively sorted individuals near front boundaries, potentially influencing the incentives of paramilitary commanders to provide public goods or perpetrate massacres. Columns (1) to (8) illustrate that the territories of fronts led by peasants do not exhibit major differences in migration rates between 2000 and 2005 relative to non-peasant ones (see the next section for a detailed discussion of these different empirical models). Moreover, Appendix B.4 further discusses case study evidence on front boundaries. Together with previous checks, these facts provide support for the assumption of no selective sorting and overall validate the use of our empirical strategy.

6   The Choice of Paramilitary Strategy

6.1   Public Goods

We now investigate the consequences of peasant leaders for paramilitary strategy. First, we look at public good provision. We group together all public goods (i.e.: roads, schools, health centers, etc.) in our dataset into a single indicator variable that simply measures whether one was provided in a neighborhood. Probable externalities imply that individuals in nearby neighborhoods also benefit from their provision. Intuitively, for example, roads in a particular neighborhood can be used by locals in that neighborhood but also traversed by other people in contiguous and adjacent neighbourhoods. Indeed, the qualitative evidence on such public goods suggested that they serviced multiple neighborhoods (see Appendix B.1). Thus, we code our main outcome as an indicator variable equal to 1 for all rural neighborhoods v in municipality m within the boundary bandwidth if at least one public good was provided by front f in one of those neighborhoods, and 0 otherwise.

Estimates from various versions of equation 1 are reported in Table 4. Across specifications, we show RD coefficients, specify the bandwidth (in km), spatial polynomial, outcome mean, number of observations and clusters, and include the following controls to improve precision: elevation, slope, precipitation, and front pair fixed-effects. Moreover, we cluster standard errors at the front level.

We test the first empirical prediction of our model. In column (1), our baseline regression using a local linear RD polynomial in longitude and latitude documents that fronts led by peasants were, on average, 8.9 percentage points more likely to provide some type of public goods in their area of operations, compared to non-peasant commanders. The coefficient is statistically significant at

the 1% confidence level and economically meaningful when compared to the mean of 6.1% (so the estimated coefficient represents 150% of the mean). Point estimates remain economically and statistically similar – around 9 percentage points – when running alternative specifications. For instance, a local linear polynomial in distance to front boundaries (column 2) or including both previous polynomials (column 3).[25] They are also unchanged when using higher order quadratic or cubic functional forms (columns 4 and 5).

One concern is that the strategies of paramilitary fronts primarily reflect the orders of block commanders or their policies. Thus, in column (6) we introduce block fixed-effects. The magnitude of the coefficient is reduced to 5.1 percentage points, but remains statistically significant at the 10% level, which indicates that front leaders retain critical autonomy over local behavior. Another concern is that boundaries may be at unusual places given our limited information. We address this by examining an alternative sample that considers only rural neighborhoods between 5km and 15km away, omitting the boundary regions themselves (column 7). As before, the point estimate is remarkably similar – 9.0 percentage points. In the final alternative specification in column (8), we follow Calonico et al. (2020, 2014) and employ the set up in column (3) to calculate the optimal bandwidth employing distance to front boundaries as the one-dimensional running variable: 5.4km, shorter than the one we selected. The coefficient remains similar – 7 percentage points – and its statistical significance is unchanged.

Figure 2 graphically documents an RD plot for the public goods coefficient. Regressions use a local linear polynomial in distance to front boundaries, estimated separately on each side of the threshold, and control for longitude and latitude, elevation, slope, and front-pair fixed effects. 95% confidence intervals around the estimated lines are shown as well.

An important concern is that our previous findings are specific to single bandwidths of 15km (or the Calonico et al. (2020, 2014)'s optimal one in the one-dimensional set up). Thus the top panel of Figure 3 plots public good estimates of the baseline specification from equation (1) for observations within 1km and up to 15km of front boundaries, at 1km intervals. Dashed lines show 95% confidence intervals. Taken together, effects are remarkably robust to alternative bandwidth and RD polynomial choices.

Finally, in Table E.8 in Appendix E we examine different types of public goods. There we find that peasant commanders are associated with more infrastructure, social public goods, such as houses for poor people, and more recreational and sports public goods (like bull rings).

6.2 Massacres

Next, we examine massacres – defined by CNMH as a single violent event of 4 or more people killed in the same place. To be conservative, we code this outcome of interest as an indicator

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[25]We use distance to the boundary as the main running variable, but control for longitude and latitude, similar to column 3.

variable equal to 1 if at least one massacre was committed in rural neighborhood v in municipality m by front f, and 0 otherwise. We then estimate the same set of regressions as in the previous table, with the usual controls, bandwidths, spatial polynomials, and fixed-effects, but massacres as the main outcome.

In line with the second empirical prediction of our model, Table 5 shows that, on average, fronts with peasant leaders were much more likely to commit a massacre. Column (1) shows they were 0.9 percentage points more likely to do so relative to non-peasant commanders. The coefficient is statistically significant at the 5% confidence level and socially meaningful since it's equivalent to 100% of the mean. As in the case of public goods, point estimates remain fairly similar in economic and statistical terms when estimating various specifications using alternative RD polynomials, block fixed-effects, and samples in columns (2) to (7), ranging from 0.6 to 1 percentage points. In column (8), the coefficient is 0.4 percentage points (although insignificant) using (Calonico et al., 2020, 2014)'s optimal bandwidth, which in this scenario is 7km.

As in the previous case of public good provision, the middle panel of Figure 2 graphically documents an RD plot for the massacre coefficient estimated in an analogous way. Figure 3 plots massacres estimates of the baseline specification from equation (1) for observations within 1km and up to 15km of front boundaries, at 1km intervals. As before, dashed lines show 95% confidence intervals. Taken together, effects are generally robust to alternative bandwidths and RD polynomial choices.

6.3 Robustness Checks

6.3.1 Commander Characteristics

We saw in Table 2 commanders differ along other dimensions apart from being peasants or not. A significant concern, therefore, is that our treatment variable captures or confounds the effects of other individual commander characteristics. To examine this issue further, in Table 6 we explore regressions of the form described in equation (1), but add covariates for other individual characteristics in a staggered pattern. Panel A looks at public good provision, while Panel B examines massacres. Crucially, as discussed earlier, this part of the empirical analysis also allows us to examine important hypothesis in the social science literature that may compete with or confound our own.

It is worth noting, however, that is it not obvious how alternative hypotheses can explain the particular combination of "*fear* and *dreams*" we hypothesize and find. For example, take the hypothesis that the strategy of combining public good provision and massacres could just be a consequence of commanders embeddedness in local communities, rather than their reciprocal preferences. While, as in Sánchez de la Sierra (2020), it could be argued that locals provide more public goods because of greater empathy or social ties, it is not clear at all why this also leads them

to commit more massacres. In column (2), we control for whether a commander was local to one of his front territories. The point estimates of peasant remain basically the same for both public good provision and massacres. Conditional on this, they were 8.1 percentage points more likely to provide public goods and 0.9 percentage points more like to perpetrate a massacre, compared to non-peasants. Thus being a local does not seem to be confounding our result. Interestingly, however, and in line with Sánchez de la Sierra (2020), locals are also associated with providing more public goods (21% percentage points) and committing fewer massacres (0.3 percentage points, although this last coefficient is statistically insignificant). We conclude that being a local is an independent source of variation in strategy, though it remains an open question why this does not significantly reduce the propensity to massacre, as one would have conjectured. Note that in our model commanders acquire their preferences when young via socialization (as in Bisin and Verdier (2000)) and they take these with them wherever they move. Therefore, there is no obvious connection between our argument and being local since a reciprocator will be able to reciprocate wherever they are.

Even if effects could be attributed to leaders' preferences, these could have been acquired through a different mechanism than their peasant upbringing. For example, a large literature in social psychology argues that traumatic violent events, such as suffering a tragedy at the hands of guerrillas, can have the potential for changing social preferences. Perhaps even by increasing pro-sociality which might help explain the incidence on public good provision and massacres (Bauer et al., 2016).[26] Column (3) controls for whether a commander or a close relative was a victim of the guerrillas. In this specification, peasant leaders were 8.8 percentage points more likely to provide public goods and 0.8 percentage points more likely to commit a massacre, statistical significant at the 1% and 5% confidence levels respectively. Recall from the descriptive statistics however that though there is very little variation in this variable, it was the case that peasant commanders were less likely to have been victimized, making this an unlikely channel via which peasants ended up providing more public goods and engaging in fewer instances of mass violence. Indeed, the guerrilla victim variable is not significant in either panel.

Next, we examine the effects of education. Education is not only a widely employed proxy for poverty in overwhelmingly rural societies, such as those that make up our regions of study, but may also have been another confounding factor influencing the social preferences of commanders. In column (4), we control for whether a commander completed high school or not. The point estimates on public goods and massacres remain statistically similar to before, although quantitatively the massacres coefficient is reduced a little bit (to 0.5 percentage points). Interestingly, more educated leaders are less likely to commit massacres though they are no more likely to provide public goods. Though the effect of being a peasant is statistically significant and quantitatively large, consistent with our theory, one could interpret these results as showing that a part of the effect on massacres

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[26]Again, it is not clear how this channel, pro-sociality, explains greater public good provision and also the propensity to commit massacres.

is related to the fact that peasants tend to have lower educational levels.

Lastly, one may also think that skills that might have been acquired in the Armed Forces or in organized crime rather than preferences are driving baseline results. For instance, commanders with previous experience in the Armed Forces, or human capital acquired in criminal activities, may have had a comparative advantage in committing more violence. As such, we include controls for whether the commander previously served in the Colombian Armed Forces (column 5), in particular as a high-ranking officer (i.e., above captain level) (column 6), possessed a criminal record prior to joining the paramilitaries (column 7), or was indicted or convicted of being involved in the drug industry, meaning the production (including growing coca crops), distribution, or selling of illegal drugs such as cocaine (column 8). Despite the inclusion of these covariates, point estimates of interest remain statistically and economically stable in most specifications. In the case of public goods, they range between 8.0 and 11.6 percentage points, while in the case of massacres, they do so between 0.6 and 1.1 percentage points, respectively. We interpret these results as evidence that the possession of such skills or human capital are not confounding our results.

The coefficients on the covariates are of independent interest. For instance, fronts whose commanders were previously involved in the drug industry were 11.6 percentage points less likely to provide public goods and 1.0 percentage points more likely to perpetrate massacres. Somewhat surprisingly, those who had any Armed Forces experience were significantly more likely to provide public goods. With respect to massacres, however, the picture is complicated with former Armed Forces officers being more likely to commit massacres. Throughout, the estimated effect of peasant commanders is very robust to controlling for these observed characteristics which suggests that to generate our results any unobservables would have to have very large effects.

In this subsection we do not control explicitly for some of the other variables we coded concerning the reasons that peasants became commanders. For instance, in Table 2 we presented information on the extent to which commanders exhibited leadership or other skills or were trusted. There we pointed out that peasants were distinct in that they had more experience, which seems to be associated with loyalty, and were regarded as better leaders. We do not control for these because we regard these as being facets of peasant personalities and so this would constitute a form of "bad control".

6.3.2   Alternative Standard Errors, Measures, and Samples

We perform additional robustness checks in Appendix E employing alternative standard errors, measures, and samples. First, as we have discussed already, we consider the case where standard errors may plausibly depend on spatial proximity. Similar to results in previous sections, our baseline results on public good provision and massacres mostly hold the same levels of statistical significance (5% confidence level) when estimating equation (1) with spatially adjusted Conley standard errors

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(radius = 25km) instead of front clusters (see Tables E.3 through E.4).[27]

Our main specifications uses indicator variables for whether or not a commander provided a public good or committed a massacre. In Tables E.9 and E.10 we re-estimate the main results, but instead examine the total number of public goods and individuals killed in massacres as outcome variables. Peasant leaders provided 0.9 more public goods compared to non-peasant ones, equivalent to approximately 150% of the mean. They also produced 0.074 additional massacre victims per rural neighborhood, which also represents 100% of the mean. In both cases, point estimates are significant at the 5% confidence level. We thus conclude that our results are statistically and economically robust to these different ways of measuring public good provision or massacres.

Likewise, Table E.11 exhibits results for outcomes of interest employing our stricter definition of what defines a peasant, by raising a commander's rural place of birth threshold to 60% rural. This leads to a re-classification of the commanders in the process of which we lose three fronts because they no longer have borders which match peasant with non-peasant fronts. The sample now has 30 peasant commanders and 39 non-peasant commanders. In general, however, coefficients mimic the magnitudes and statistical significance from those of our baseline regressions. Peasant commanders using this definition are 7.5 percentage points more likely to provide public goods (mean =5.7) and 0.8 percentage points more likely to perpetrate a massacre (mean =0.8). The public goods baseline coefficient remains statistically significant at the 5% confidence level, however the one for massacres looses some significance at the 10% confidence level when we use a donut estimator or optimal bandwidth, plausibly due to power issues. In general, though, we again conclude that our main findings do not seem dependent on a single definition of a peasant.

Finally, we perform a falsification test to understand whether public good provision or massacres of the magnitude found along boundaries are typical (see Apppendix E for detailed description of the procedure). First, we partition the map with random front borders. Second, we assign one of the partitions to a placebo treatment group and the other one to a placebo control group. Third, we re-calculate the distances of all rural neighborhoods to the random borders. And finally, we re-estimate regressions following our baseline SRDD model, but using our false measure of a peasant. Table E.12 exhibits results for this exercise. As expected, point estimates are small and statistically insignificant which reassures us about our most important results.

6.4 Complementarity

The third prediction of our theoretical model is that the same commander who provides public goods also perpetrates the massacres. In other words, it is not simply that peasant commanders

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[27]Our baseline specification here uses a radius of 25km, which we believe is adequate given the RD bandwidth. However, because we are unaware of a standard way for choosing the radius, we also show robustness to increasing the radius to 50km, 75km, and 100km. Overall, the level of statistical significance decreases as the radius increases, but most results hold (see Table E.6). Increasing the radius implies that the spatial correlation due to proximity exists at larger distances, which seems unlikely in a country with such diverse and changing geography as Colombia.

are more likely to provide public goods and commit massacres on average. As we documented in previous subsections, we argue that these actions are complementary strategies. We analyze this prediction by estimating the correlation between public good provision and massacres on a given territory using the following simple OLS model:

$$publicgood_{m,f} = \eta + \tau massacre_{m,f} + X'_m \xi + \mu_{m,f} \tag{2}$$

Where $publicgood_{m,f}$ is an indicator variable that equals 1 if the front f provided a public good to municipality m and 0 otherwise, $massacre_{m,f}$ is an indicator variable that equals 1 if the front f perpetrated a massacre in municipality m and 0 otherwise, X' is a set of exogenous controls such as latitude, longitude, elevation, slope, and precipitation, and $\mu_{m,f}$ are heteroskedasticity robust standard errors.

The prediction here is not a causal issue and so we do not estimate regressions of the form described in equation (1). Instead, we estimate the simple OLS model described by equation 2. Here, τ is our coefficient of interest, which we report in Table 7. The occurrence of a massacre is associated with 7.3 percentage points higher probability of also providing a public good, compared to a mean of 18.9%. The coefficient is significant at the 5% confidence level and robust to including geographic controls and block fixed effects. Altogether, we conclude that the same peasant commanders who provided more public goods were also more likely to perpetrate massacres.

6.5 Duration

A final empirical prediction from the model is that only reciprocal leaders can commit to provide public goods, and since they deliver greater levels of utility to citizens, they are thus more likely to maintain their support. Although our model is not fully dynamic we model the decision of a commander to create a front (entry) and also the probability that the front is defeated by the guerillas (exit). The model predicts that a peasant commander should be more likely to enter and his front less likely to exit (be defeated). A reasonable translation of this result into the data is that fronts led by a peasant should last longer. Thus, in this subsection we investigate the effects on front duration. To do so, we code duration as the number of years front f ruled over rural neighborhood v in municipality m.[28]

Table 8 documents that fronts led by peasant commanders lasted longer in power. Our baseline regression indicates they lasted, on average, 1.5 more years relative to non-peasants (column 1), which is equivalent to almost a third of the mean (5.6 years). Figure E.4 graphically documents this stems from peasant leaders beginning their tenure earlier than non-peasant ones and not demobi-

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[28]In our sample of study, the commander and front duration are the same because we have one commander for each front.

lizing later.[29] The coefficient is statistically significant at the 5% confidence level. As before, point estimates remain socially and statistically similar when running alternative specifications, between 1.2 and 2.6 years when we use one form on optimal bandwidth due to (Calonico et al., 2020, 2014) (column 8). The results are very robust to controlling for linear distance to the boundary (column 2), both linear latitude-longitude and linear distance to the boundary (column 3), quadratic and cubic functional forms (columns 4 through 5), adding block-fixed effects (column 6), and restricting observations in 5-15km away from boundaries (column 7). These results remain statistically significant when using Conley standard errors (see Table E.5).

As before, the bottom panel of Figure 2 graphically documents an RD plot for the duration coefficient, while Figure 3 plots front duration estimates of the baseline specification from equation (1) for observations within 1km and up to 15km of front boundaries, at 1km intervals.

Finally, Table E.13 shows robustness checks analogous to those in Table 6 with front duration as an outcome. Our main effect is very robust to controlling for these different commander characteristics, which are typically not significant. The only case is with respect to experience in the Armed Forces which is associated with shorter duration. Both figures and the table are statistically in line with the previous econometric evidence.

7 Alternative Hypotheses

7.1 The Drug Industry and Paramilitarism

Many of the paramilitary fronts ended up growing and dealing illicit drugs, particularly cocaine, which is by far the most significant drug produced in Colombia. One block, the Metro Block, was founded by Diego Murillo Bejarano (alias "Don Berna"), who was a major drug dealer, as was Fidel Castaño one of the founders of the AUC (Ronderos, 2014). It is also clear that the at least partial motivation for the creation of some fronts, for example the Heroes of Chocó Front and the Caquetá Front, was to control drug producing municipalities or drug shipment routes (Rutas del Conflicto, 2019). It is also well known that cartel leaders, like Pablo Escobar, provided public goods like sports stadiums and houses for poor people (Salazar, 2023).

Our perspective on this topic is that drug production and shipment has been the normal reality of much of rural Colombia since the 1970s. Clearly the taxation or control of this business was a ready source of revenues for paramilitary groups, yet this in itself does not establish that this was the motivation for paramilitarism. Indeed, the whole GMH project takes a perspective close to ours - that paramilitarism was primarily an ideological contest with the Marxist guerilla groups in the absence of the Colombian state. A vast amount of qualitative research is consistent with this.

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[29]As noted before this is really driven by the coordinated demobilization that was induced by the Justice and Peace Law which we do not model explicitly in our theory.

However, it is useful to address the concern that our results are confounded by involvement in the drug industry and to investigate whether the evidence supports the notion that this industry was the main motivation for paramilitarism.

So far we showed in Table 3 that peasant and non-peasant fronts were balanced on coca suitability. We now conduct a more direct test of whether or not our results might be driven purely by some correlation between being a peasant and a greater propensity to be involved in the drug industry (perhaps leading to public goods, à la Pablo Escobar, and greater levels of violence). This concern might be heightened by the fact that Table 2 Panel A shows that peasants were significantly more likely to have been involved in the drug industry prior to being involved in paramilitarism. Notably, however, when we looked at this issue econometrically in Table 6 we found that a history in the drug industry was actually associated with a significantly lower probability of providing public goods (showing that Pablo Escobar's behavior was likely not representative).

If rents from the drug industry was the main issue driving our results and perhaps motivating the combination of public good provision and massacres we find, we might also hypothesize that peasant commanders would therefore be associated with greater levels of drug production. To investigate this we estimate versions of equation (1) with average actual coca production over the period 1999-2006 as the dependent variable. We measure this as the hectares of coca per km squared in the municipalities that a front controlled. We report results Table E.14. If our results were being driven by incentives to take part in the drug industry, then one would expect to see the coefficient on peasant being positive and significant. As can be seen in the table, however, in fact the coefficient are all negative and never close to significant. We believe this is direct evidence against the idea that the activities of the drug industry are confounding our findings. There was drug production and dealing, but this is not what distinguished peasant commanders from the rest and it was not what induced the particular combination of *fear* and *dreams* which they used to control populations and territory.

7.2 Parapolitics

A different interpretation of our findings is suggested by the literature on "parapolitics". A focus of the qualitative research in Colombia and Acemoglu et al. (2013) is that paramilitaries were heavily involved in manipulating the 1998 and 2002 Colombian elections. The entry of paramilitaries into politics may have happened even earlier, right after the formation of the AUC in 1997. Could it be that the motivation for providing public goods was to influence people to support the political candidates that paramilitaries favored? Or the incidence of massacres was driven by punishing people who did not vote as required? Both of these arguments are plausible and may well have happened, though the case study literature does not lead us to believe that peasant commanders were more involved in parapolitics than non-peasant commanders.

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To make sure these political mechanisms are not confounding our results we took the data from Acemoglu et al. (2013), specifically the list of congresspeople who were found guilty of being involved in these frauds and calculated their vote share in every municipality in our areas of study. We can therefore calculate the fraction of the votes "cast" in a municipality that were for "para-politicians" in both the 1998 and 2002 elections. We also coded an indicator variable for whether a para-politician got most votes in a municipality in either the 1998 or 2002 elections.

In Table E.15 we report estimates of equation (1) where the dependent variable is one of these three outcomes. We can only run this regression at the municipal level since this is the level at which we have electoral returns. If this mechanism was driving our results one might expect the coefficient on peasant would be positive and significant. However, only in one of the 24 specifications is the coefficient significant, and in this case it has the wrong sign. None of this is to say that the paramilitaries did not get involved in manipulating elections. They did. However, what these results show is that this motivation and strategy did not distinguish peasant from non-peasant commanders.

8 Conclusions

In this paper we have used the experience of Colombian paramilitarism as a lens to examine the sources of non-institutional variation in leader strategies. It is well understood that these vary massively with important consequences for welfare but as yet, outside of the institutional paradigm, we have few good ideas for what can explain this variation.

The qualitative evidence suggests that the main goals of paramilitary groups were similar - to control territory in the face of rivals and to promote their ideological projects amongst the population. To do this they provided public goods but they also engaged in systematic violence, including massacres. The combination of these varied greatly across the 72 paramilitary fronts that we were able to build comparable data on from transitional justice documents.

We developed a model to understand the co-variation of public good provision and massacres and in particular, based on our fieldwork and the qualitative evidence, used it to study the implications of some commanders, primarily peasants, having reciprocal preferences. The model predicts that public good provision goes hand in hand with the massacre of people who do not reciprocate the provision of public goods. Non-reciprocators cannot use such a strategy and therefore tend neither to provide public goods nor commit mass violence. We tested these hypotheses with a unique dataset on Colombian paramilitarism and found support for them. Peasant commanders are indeed more likely to provide public goods and massacre civilians.

These findings suggest that variation in the social preferences of leaders is a potential explanation for variation in observed strategies. This is not tautological however, because our approach rests on socialization mechanisms, and suggests paying attention to systematic differences in the social

backgrounds of leaders. Whether the distinction we make here between peasants and non-peasants is relevant outside of the Colombian context is an empirical question. To our knowledge little attention has been paid to this type of issue except of a small literature in international relations, for example Chiozza and Goemans (2011), though this has not examined the issue we address here. We believe this is an exciting area for future research.

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Figure 1: Peasant Commanders

Legend
🟩 Peasant Paramilitary Commanders
⬜ No Peasant Paramilitar Commanders
☐ No Paramilitary Groups / Insufficient Data
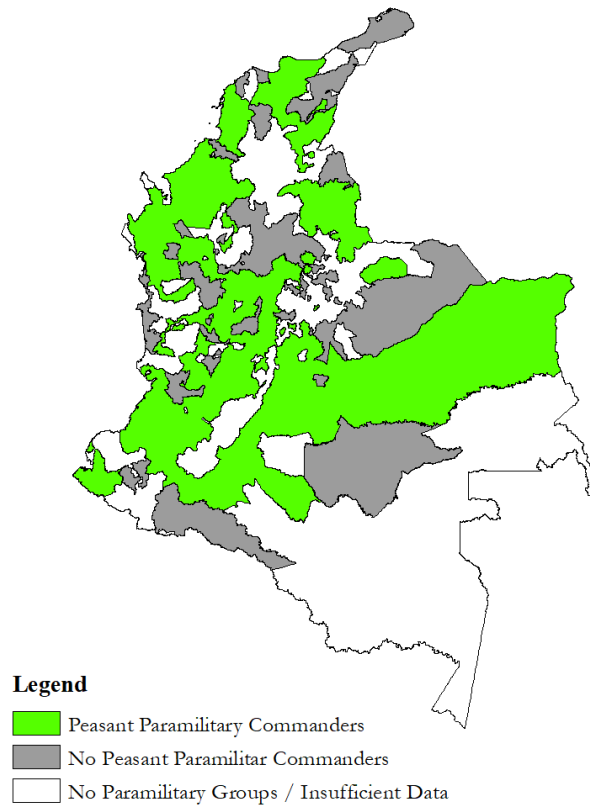
Notes: This map shows the geographic distribution of peasant (in green) and non-peasant (in grey) paramilitary front commanders in 1997-2006. Source: Justice & Peace Tribunals.

Figure 2: Outcome RD Plots

(a) Public Goods

(b) Massacres

(c) Front Duration
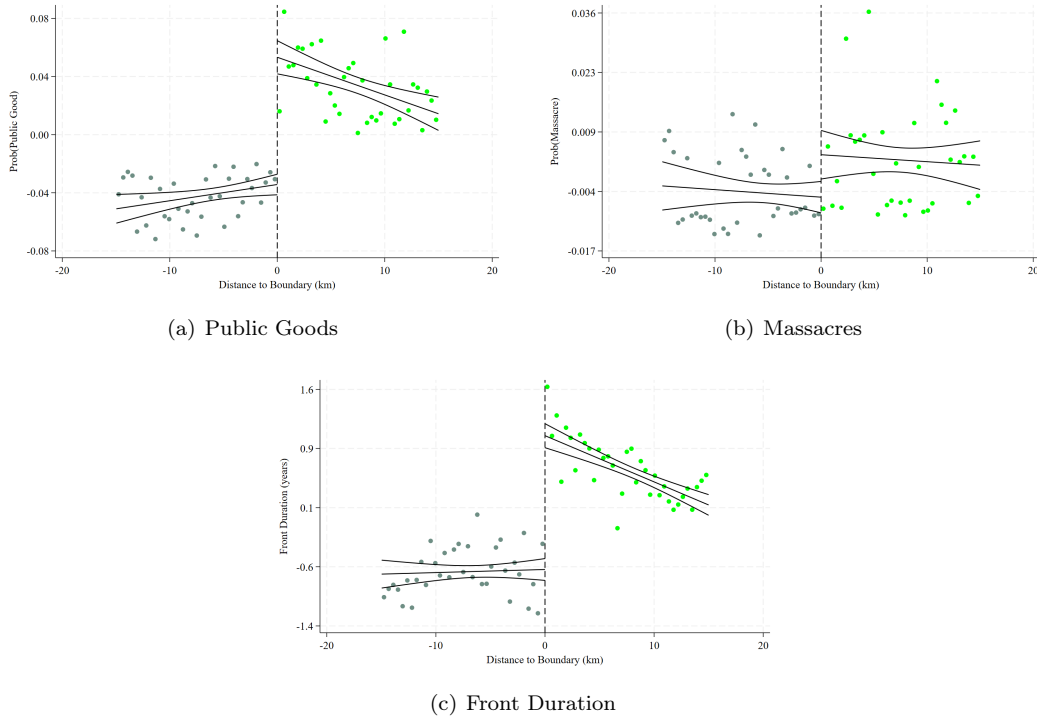
Note: This figure graphically documents RD plots for outcomes of interest. Panels show the effects (in green) of *Peasant*, an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise, on the front provision of public goods (a), massacres (b) and front duration (c). Regressions are estimated using a local linear polynomial in distance to paramilitary front boundaries, estimated separately on each side of the threshold, and control for longitude and latitude, elevation, slope, precipitation, and front-pair fixed effects. 95% confidence intervals around the estimated lines are shown in the shaded area. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Figure 3: RD Bandwidth Robustness Check
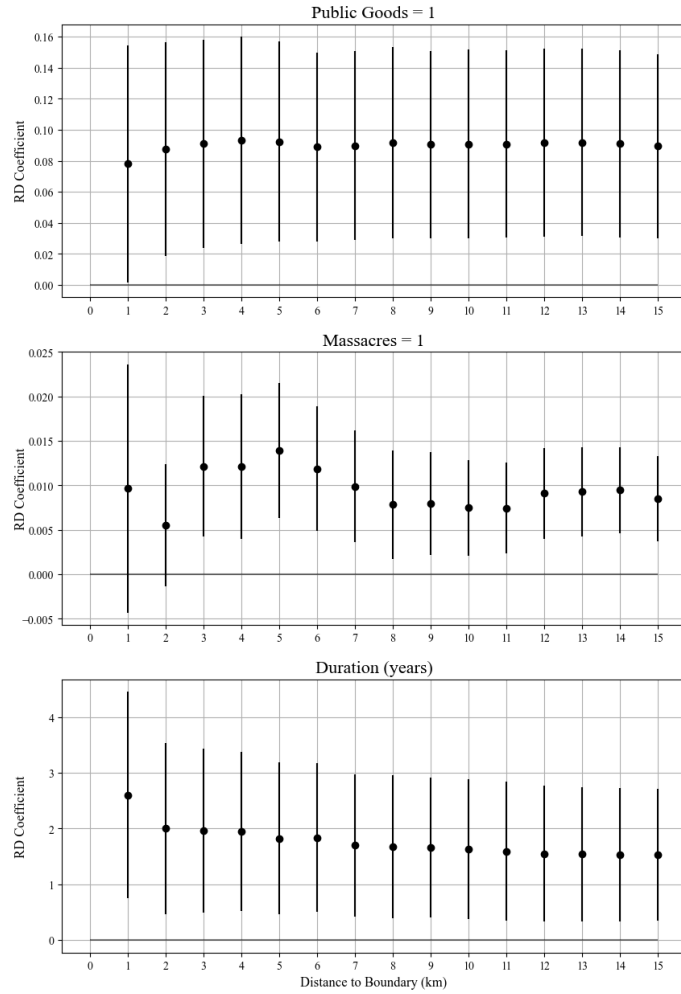
Note: This figure graphically documents RD coefficients for outcomes of interest as a function of distance to front boundaries (in km). Each sub-figure plots the point estimates of γ (vertical axis) from the baseline equation (1) for different bandwidth values between 1-15 kilometers in 1 km increments (horizontal axis). Regressions are estimated using a local linear polynomial in distance to paramilitary front boundaries and control for longitude and latitude, elevation, slope, precipitation, and front-pair fixed effects. Thin lines stemming from the point estimates show 95% confidence intervals. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

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Table 1: Peasants and Reciprocity

	Peasant	S.E	Obs.
	(1)	(2)	(3)
Positive Reciprocity			
Positive Reciprocity Index	0.141***	(0.021)	18,958
(1) Returns a Favor	0.074***	(0.022)	18,389
(2) Gives Gift to Stranger Who Helps Them	0.081***	(0.022)	18,958
Negative Reciprocity			
Negative Reciprocity Index	0.079***	(0.021)	18,479
(3) Punishes Unfair Behavior Towards Themselves	0.068***	(0.022)	18,389
(4) Punishes Unfair Behavior Towards Others	0.075***	(0.021)	18,399
(5) Violence Is Legitimate to Serve Justice	0.145***	(0.027)	18,126

Note: This table documents correlations between our measure of *Peasant* (born in a $>50\%$ rural municipality) and reciprocity. Robust standard errors are in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The unit of observation is the survey respondent. The sample is restricted to adult (>18 years old) males. Following (Falk et al., 2018), the Positive Reciprocity Index averages responses of questions (1) and (2), while the Negative Reciprocity Index averages responses of questions (3) to (5). Responses are standardized and coefficients are measured in standard deviations. Source: Political Culture Survey (DANE, 2021).

Table 2: Descriptive Statistics

	Peasant			Non-Peasant		
	Obs.	Mean	Sd	Obs.	Mean	Sd
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Commander Characteristics						
Local	37	0.14	0.35	35	0.09	0.28
Guerrilla Victim	37	0.75	0.50	35	1.00	0.00
Education	37	0.23	0.43	35	0.71	0.46
Armed Forces Experience	37	0.18	0.39	35	0.48	0.51
Armed Forces Officer	37	0.00	0.00	35	0.09	0.28
Criminal Past	37	1.00	0.00	35	0.44	0.53
Drug Industry Involvement	37	0.59	0.50	35	0.43	0.50
Panel B: Commander Appointment Reasons						
Family, Friendship, or Trust	33	0.30	0.47	33	0.30	0.47
Paramilitary Experience	33	0.27	0.45	33	0.12	0.33
Leadership	33	0.21	0.42	33	0.09	0.29
Military Training	33	0.12	0.33	33	0.33	0.48
Strategic Skills	33	0.15	0.36	33	0.21	0.42
Management Skills	33	0.03	0.17	33	0.09	0.29
Panel C: Front Strategies at the Boundary						
Public Goods	37	0.30	0.46	35	0.09	0.28
Massacres	37	0.41	0.50	35	0.23	0.43
Duration	37	6.22	3.93	35	5.47	3.71

Note: This table documents descriptive statistics for front commander characteristics (Panel A), appointment reasons (Panel B), and front strategies within 15km of their boundaries (Panel C). Columns (1) and (2) show the mean and standard deviation for *Peasant* (born in a >50% rural municipality) commanders or paramilitary fronts led by them, while columns (3) and (4) do the same for *Non-Peasant* ones. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table 3: Pre-Treatment Balance, 1997

		Peasant (1)	S.E (2)	Obs. (3)	Clusters (4)	Mean (5)
	Geography					
(1)	Elevation	-28.167	(181.811)	7,024	72	1158.41
(2)	Slope	-0.175	(1.671)	7,024	72	13.331
(3)	Soil Quality	0.016	(0.022)	7,024	72	0.844
(4)	Rainfall	-6.691	(17.304)	7,024	72	204.525
(5)	Temperature	0.067	(0.946)	7,024	72	21.721
	Economic Development					
(6)	Rurality 1993	0.017	(0.038)	6,790	72	0.625
(7)	Roads 1997	0.006	(0.024)	7,024	72	0.121
(8)	Schools 1997	-0.008	(0.016)	7,024	72	0.016
(9)	Nightlights 1996	-0.356	(1.101)	7,024	72	4.317
	Conflict					
(10)	Guerrilla Massacres 1993-1997	0.000	(0.001)	7,024	72	0.002
(11)	Armed Forces Massacres 1993-1997	-0.000	(0.001)	7,024	72	0.001
(12)	Paramilitary Massacres 1993-1997	-0.006	(0.004)	7,024	72	0.006
	Natural Resources					
(13)	Coca Suitability	0.032	(0.036)	7,024	72	0.218
(14)	Pipelines 1997	-0.014	(0.177)	7,024	72	0.010
	Politics					
(15)	Electoral Victory Margin 1994	-0.012	(0.023)	6,749	72	0.177
(16)	Political Dynasty 1988-1994	0.040	(0.054)	6,790	72	0.283
	Social Capital					
(17)	Community Organizations 1997	-0.014	(0.035)	7,024	72	0.035
(18)	Positive Reciprocity 2021	-0.209	(0.134)	1,905	72	0.000
(19)	Negative Reciprocity 2021	0.116	(0.196)	1,852	72	0.000
	Land & Disputes					
(20)	Land Allocation Gini 1997	-0.004	(0.019)	6,112	69	0.471
(21)	Land Informality 1997	0.007	(0.055)	6,160	69	0.635
(22)	Land Disputes 1997	0.001	(0.027)	7,024	72	0.046
(23)	Displaced Population 1993-1997	-0.001	(0.006)	7,024	72	0.017

Note: This table documents geographic and pre-treatment statistical balance. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. All regressions include a linear polynomial in longitude and latitude, elevation, slope, precipitation, and observations within 15km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table 4: Public Goods

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km	CCT Optimal Bandwidth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Public Good =1			
Peasant	0.089***	0.091***	0.092***	0.094***	0.096***	0.051*	0.090***	0.070**
	(0.030)	(0.031)	(0.031)	(0.032)	(0.031)	(0.031)	(0.027)	(0.035)
Mean	0.061	0.061	0.061	0.061	0.061	0.061	0.058	0.061
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133	1,291
BW.	15	15	15	15	15	15	15	5.38

Note: This table documents the effects of peasant commanders on public good provision. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Public Good* is an indicator variable equal to 1 for all neighborhoods in the municipality within the boundary bandwidth if the front provided a public good, and 0 otherwise. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table 5: Massacres

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km	CCT Optimal Bandwidth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Massacre =1			
Peasant	0.009**	0.008**	0.009**	0.010***	0.010***	0.009***	0.006	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.004)	(0.008)
Mean	0.009	0.009	0.009	0.009	0.009	0.009	0.008	0.007
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133	1,840
BW.	15	15	15	15	15	15	15	7.08

Note: This table documents the effects of peasant commanders on massacres. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Massacre* is an indicator variable equal to 1 if the front perpetrated a massacre, and 0 otherwise. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table 6: Robustness Checks

	Baseline	Local	Guerrilla Victim	Education	Armed Forces Exp.	Armed Forces Officer	Criminal Past	Drug Industry Involvement
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Public Good $=1$			
Peasant	0.089***	0.081***	0.088***	0.091***	0.100***	0.096***	0.080***	0.116***
	(0.030)	(0.027)	(0.030)	(0.032)	(0.031)	(0.033)	(0.026)	(0.032)
Local		0.209***						
		(0.075)						
Guerrilla Victim			-0.129					
			(0.098)					
Education				0.004				
				(0.035)				
Armed Forces Exp.					0.075*			
					(0.041)			
Armed Forces Officer						0.089**		
						(0.037)		
Criminal Past							0.152**	
							(0.075)	
Drug Industry Involvement								-0.116***
								(0.035)
Mean	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	7,024	7,024
					Massacre $=1$			
Peasant	0.009**	0.009**	0.008**	0.005**	0.006**	0.011***	0.008**	0.006**
	(0.004)	(0.004)	(0.004)	(0.002)	(0.003)	(0.004)	(0.004)	(0.003)
Local		-0.003						
		(0.004)						
Guerrilla Victim			-0.011					
			(0.008)					
Education				-0.009**				
				(0.004)				
Armed Forces Exp.					-0.017***			
					(0.005)			
Armed Forces Officer						0.032***		
						(0.007)		
Criminal Past							0.002	
							(0.005)	
Drug Industry Involvement								0.010**
								(0.004)
Mean	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	7,024	7,024

Note: This table documents the effects of peasant commanders on the provision of public goods (Panel A) and massacres (Panel B), conditional on other commander characteristics. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Public Good* is an indicator variable equal to 1 for all neighborhoods in the municipality if the front provided a public good, and 0 otherwise. *Massacre* is an indicator variable equal to 1 if the front perpetrated a massacre in the rural neighborhood, and 0 otherwise. All regressions include a linear polynomial in longitude and latitude, elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table 7: Complementarity

	OLS	OLS + Controls	Paramilitary Block FE
	(1)	(2)	(3)
	Public Good =1		
Massacre	0.073**	0.073**	0.069**
	(0.037)	(0.036)	(0.034)
Mean	0.189	0.189	0.189
Obs.	371	371	371

Note: This table documents complementarity between massacres and public good provision. Robust standard errors are in brackets. *** p<0.01, ** p<0.05, * p<0.1 The unit of observation is the municipality. *Massacre* is an indicator variable equal to 1 if the front perpetrated a massacre, and 0 otherwise. *Public Good* is an indicator variable equal to 1 if the front provided a public good, and 0 otherwise. Column (1) includes an OLS estimation without controls. Columns (2) & (3) include latitude, longitude, elevation, slope, and precipitation as controls. Column (3) additionally controls for paramilitary block fixed-effects. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table 8: Front Duration

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km	CCT Optimal Bandwidth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Duration (in Years)							
Peasant	1.531**	1.569**	1.573**	1.540**	1.562**	1.860***	1.151**	2.560**
	(0.604)	(0.61)	(0.617)	(0.638)	(0.632)	(0.700)	(0.532)	(0.786)
Mean	5.591	5.591	5.591	5.591	5.591	5.591	5.387	5.591
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133	1,500
BW.	15	15	15	15	15	15	15	7.05

Note: This table documents the effects of peasant commanders on front duration. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Duration* is the number of years the front was present in the rural neighborhood. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Appendices

Appendix A Variable Descriptions and Sources

Table A.1: Commanders and Front Data

Variable	Description	Coding	Source
Peasant	Commander was born in a municipality with a higher rate of >50% of rural area in the 1993 Census	=1 if commander was born in a municipality where the rural area is higher than >50% 1993, =0 otherwise	Justice & Peace Tribunals, DANE Pop. Census (1993)
Local	Commander was born in one of his front's municipalities	=1 if commander was born in one of his front's municipalities, =0 otherwise	Justice & Peace Tribunals, DANE Pop. Census (1993)
Guerilla Victim	Commander or a first degree relative (i.e: partner, parents, siblings, or children) were victimized by guerrillas: tortured, forcefully displaced, kidnapped, or killed (in case of relatives), among other violent ways, or their properties were damaged or expropriated. We follow Colombian's Victims Law (Law 1448 of 2011).	=1 if commander or a family member was physically harmed by guerrillas as described, =0 otherwise	Justice & Peace Tribunals
Education	Commander completed high school	=1 if commander completed high school, =0 otherwise	Justice & Peace Tribunals
Armed Forces Experience	Commander had prior military experience in the Armed Forces	=1 if commander served in the Armed Forces, =0 otherwise	Justice & Peace Tribunals, Armed Forces
Armed Forces Officer	Commander was an officer in the Armed Forces with a ranking higher than captain	=1 if commander had captain rank or higher in the Armed Forces, =0 otherwise	Justice & Peace Tribunals, Armed Forces
Criminal Past	Commander committed a crime before joining the paramilitaries and it was recorded in the judicial system.	=1 if commander had a criminal record before joining the paramilitaries, =0 otherwise	Justice & Peace Tribunals, National Police
Drug Industry Involvement	Commander was indicted or convicted of being involved in the cultivation, production, distribution, or selling of illegal drugs such as cocaine before joining the paramilitary group.	=1 if indicted or convicted of cultivating, producing, or distributing illegal drugs, =0 otherwise	Justice & Peace Tribunals, National Police, Verdad Abierta and CNMH
Family, Friendship, or Trust	If the new commander was promoted because of a direct family link (son, son-in-law, brother, or cousin, etc) of the previous commander or a more powerful commander; if the new commander was a close friend; and/or was explicitly trusted by the previous commander or a more powerful commander.	=1 if new commander had direct links as described to the previous or more powerful commander, =0 otherwise	Justice & Peace Tribunals
Paramilitary Experience	Commander appointment was attributed to military trajectory within the organization	1 = if appointment was attributed to military trajectory within the organization, =0 otherwise	Justice & Peace Tribunals
Leadership	Commander appointment was attributed to his leadership skills.	1 = if appointment was attributed to his leadership skills.	Justice & Peace Tribunals

Military Training	Commander appointment was attributed to due his military training within the paramilitary organization and/or the Armed Forces if they belonged to it.	1 = if appointment was attributed to his military training.	Justice & Peace Tribunals
Strategic Skills	Commander appointment was attributed to his skills in infiltration tasks and strategic information gathering, or stood out for his mastery in the use of weapons and his experience in guerrilla operations.	1 =if appointment was attributed to his strategic thinking or planning as described, =0 otherwise	Justice & Peace Tribunals
Management Skills	Commander appointment was attributed for having exhibited skills in financial and logistical management, essential for the overall functioning of the paramilitary group, and had efficiently managed financial and logistical resources to maintain the operation and effectiveness of the block.	1 =if appointment was attributed to the commander's financial or logistical management, =0 otherwise	Justice & Peace Tribunals
Public Good	We group together all public goods (i.e: roads, schools, health centers, electricity, etc.) into a single indicator variable that measures whether one was provided in a neighborhood.	=1 for all neighborhoods v in municipality m within the boundary bandwidth if at least one public good was provided by front f in one of those neighborhoods, =0 otherwise	Justice & Peace Tribunals, Verdad Abierta
Number of Public Goods	We group together all public goods (i.e: roads, schools, health centers, electricity, etc.) into a single indicator variable that sums the total number of public goods provided by the front.	Number of public goods in all rural neighborhoods within the bandwidth in the municipality	Justice & Peace Tribunals, Verdad Abierta
Massacre	Front perpetrated a massacre defined by the CNMH to be an incident where 4 or more unarmed people are killed at the same time in the same place.	=1 if front perpetrated a massacre in the rural neighborhood, =0 otherwise	National Center for Historic Memory (CNMH)
Number of Massacre Victims	Number of victims killed in massacres committed by the front	Number of massacre victims in the rural neighborhood	National Center for Historic Memory (CNMH)
Duration	Number of years the front was present in the rural neighborhood	Number of years a commander from front f ruled over rural neighborhood v in municipality m	Justice & Peace Tribunals
Peasant 60	Commander was born in a municipality with a higher rate of >60% of rural area in the 1993 Census	=1 if born in a >60% rural municipality in 1993, =0 otherwise	Justice & Peace Tribunals, DANE Pop. Census (1993)
Random Peasant	Commander was randomly assigned to have been born in a municipality with a higher rate of >50% of rural area in the 1993 Census. The neighborhoods commanded by this commander will also have the treatment/control value (See appendix E.3)	=1 if randomly assigned to have born >50% rural municipality in 1993, =0 otherwise	Justice & Peace Tribunals, DANE Pop. Census (1993)

Note: This table describes commander-level variables employed in the empirical analysis. Column (1) lists the variable name, column (2) describes its content, column (3) shows its coding, and column (4) specifies sources of information.

Table A.2: Other Data

Variable	Description	Coding	Source
Elevation	Average elevation above sea level of the rural neighborhood	Meters above sea level	WorldPop (2000) - University of Southampton
Slope	Average slope of the rural neighborhood	Percentage (%) (0,1)	WorldPop (2000) - University of Southampton
Soil Quality	Soil suitability for agriculture of the rural neighborhood	Avg qualities: nutrient availability and retention, rooting conditions, oxygen availability, salts, toxicity, and workability	Food and Agriculture Organization (FAO)
Rainfall	Average annual rainfall of the rural neighborhood	Millimeters (mm)	National Oceanic and Atmospheric Administration (NOAA) (2000)
Temperature	Average annual temperature of the rural neighborhood	Degree Celsius (°C)	National Oceanic and Atmospheric Administration (NOAA) (2000)
Rurality 1993	Percentage of households living in rural areas in 1993 in the municipality	Percentage (%) (0,1)	Population Census (DANE, 1993)
Roads 1997	Access to main roads in 1997 of the rural neighborhood	=1 if the rural neighborhood was crossed by a main road, =0 otherwise	Pachón and Ramirez (2006)
Schools 1997	Access to public school in 1997 in the rural neighborhood	=1 if the rural neighborhood had a public school, =0 otherwise	Ministry of Education and ICFES
Nightlights 1996	Intensity of night lights in 1996 at the rural neighborhood level	0-64 light intensity score	National Aeronautics and Space Agency (NASA)
Guerrilla Massacres 1993-1997	Guerrillas perpetrated a massacre in in the rural neighborhood between 1993-1997	=1 if guerrillas perpetrated a massacre in the rural neighborhood, =0 otherwise	National Center for Historic Memory (CNMH)
Armed Forces Massacres 1993-1997	The Armed Forces perpetrated a massacre in the rural neighborhood between 1993-1997	=1 if the Armed Forces perpetrated a massacre in the rural neighborhood, =0 otherwise	National Center for Historic Memory (CNMH)
Paramilitary Massacres 1993-1997	Paramilitaries perpetrated a massacre in the rural neighborhood between 1993-1997	=1 if paramilitaries perpetrated a massacre in the rural neighborhood, =0 otherwise	National Center for Historic Memory (CNMH)
Coca Suitability	Soil suitability for growing coca crops at the rural neighborhood level	Standarized measure (mean =0, standard deviation =1)	Mejia and Restrepo (2016)
Pipelines 1997	Access or presence to oil pipelines in 1997 at the rural neighborhood	=1 if an oil pipeline crossed the rural neighborhood, =0 otherwise	Ministry of Mining
Electoral Victory Margin 1994	Mayoral elections margin of victory in 1994 at the municipality level	Percentage (%) (0,1)	CEDE Elections Database (Universidad de los Andes, 2023)

Political Dynasty 1988-1994	A political dynasty exists when the municipality elected mayors that belong to the same family in at least two of three elections prior to the founding of the AUC which occurred in 1988, 1992, and 1994	=1 if the same family won 2 out of 3 mayoral elections in 1988-1994, =0 otherwise	CEDE Elections Database (Universidad de los Andes, 2023)
Community Organizations 1997	Presence of civic organizations made up of individuals living in the same rural neighborhood in 1997 known as Community Action Boards (JAC)	=1 the rural neighborhood had a Community Action Board (JAC), =0 otherwise	Ministry of Interior
Positive Reciprocity 2021	We follow Falk et al. (2018) to define reciprocity with survey questions from the Political Culture Survey (2021) at the municipality level	Avg of the following survey questions: Returns a favor and gives gift to stranger who helps them, then standardized measure (mean =0, sd =1)	Political Culture Survey (DANE, 2021)
Negative Reciprocity 2021	We follow Falk et al. (2018) to define reciprocity with survey questions from the Political Culture Survey (2021) at the municipality level	Avg of survey questions: Punishes unfair behavior towards themselves, Punishes unfair behavior towards others and Consider that Violence is legitimate to serve justice.Then standardized measure (mean =0, sd =1)	Political Culture Survey (DANE, 2021)
Land Allocation Gini 1997	Gini of publicly-allocated lands in 1997 at the municipality level	Gini coefficient (0,1)	National Land Agency (ANT)
Land Informality 1997	Fraction of titled properties from publicly-allocated lands in 1997 at the municipality level	Percentage (%) (0,1)	National Land Agency (ANT)
Land Disputes 1997	Land disputes taken to court in 1997 at the municipality level	=1 if municipality had land disputes in court, =0 otherwise	National Land Agency (ANT)
Displaced Population 1997	Forcibly displaced population in 1993-1997 as share of total population in 1993 at the municipality level	Percentage (%) (0,1)	CEDE Violence Database (Universidad de los Andes, 2022.5)
Migration 2005	Percentage of households that reported to have migrated between 2000 and 2005 at the municipality level	Percentage (%) (0,1)	Population Census (DANE, 2005)
Coca Crops 1999-2006	Average number of hectares of coca crops per Km^2 in the municipality per year the front was active.	Hectares/Km^2	United Nations' Integrated System for Monitoring Illicit Crops (SIMCI)
Para-Politics Vote Share 1998	Vote share for congresspeople convicted of having ties to paramilitaries in 1998 at the municipality level	Percentage (%) (0,1)	Acemoglu et al. (2013)
Para-Politics Vote Share 2002	Vote share for congresspeople convicted of having ties to paramilitaries in 2002 at the municipality level	Percentage (%) (0,1)	Acemoglu et al. (2013)
Para-Politician Received Most Votes in 1998 or 2002	Para-politician received most votes in either 1998 or 2002 elections	1=if Para-politician received most votes in 1998 or 2002 elections, 0= otherwise	Acemoglu et al. (2013)

Note: This table describes other variables employed in the empirical analysis. Column (1) lists the variable name, column (2) describes its content, column (3) shows its coding, and column (4) specifies sources of information.

Appendix B Colombian Paramilitarism

In this section of the Appendix we discuss qualitative evidence on several key aspects of Colombian paramilitarism relevant for our study.

B.1 Paramilitary Strategies

"*Tell me, how could a small independent state work inside a lawful state such as ours?*"
Iván Roberto Duque Gaviria, alias "Ernesto Báez", commander of the Central Bolivar Block[30]

First, we emphasize the evidence on the objectives of paramilitary groups. There is a great deal of consensus in the more specialized literature on the objectives of paramilitary groups. As we noted in the introduction, though there were different motivations, the prime one was controlling people and territory. It is not a coincidence that "Ernesto Báez" in the quote above refers to the paramilitary groups as independent states. He and many other senior paramilitary commanders, such as Salvatore Mancuso, used this analogy. The reports of the GMH provide a vast amount of evidence that "this violence is the result of intentional actions that are mostly inscribed within political and military strategies" (Grupo de Memoria Histórica, 2016, p.37). Moreover, "the methods of violence used and the intensity of its implementation differ in accordance with the assessment which each agent makes of the region, the stage of the war and the strategies which he deploys, all of which involve the civilian population" (Grupo de Memoria Histórica, 2016, p.40). The reports of the GMH detail the strategies used by paramilitary (and rebel) groups and how violence was used in different ways:

"The armed agents attack civilian populations as part of a strategy to force them to either transfer or maintain their loyalties and use them to obtain resources. For the armed agents, attacking the civilian population is a way to weaken the adversary and, at the same time, amass strength ... civilians are a source of political, economic, moral, and logistical support which is crucial for the final outcome of the conflict" (Grupo de Memoria Histórica, 2016, p.43).

They add "massacres were central to their strategies to maintain control over the population" (Grupo de Memoria Histórica, 2016, p.54).

Importantly for our study, the qualitative evidence suggests that "massacres have a clear intention" and are part of a rational strategy (Grupo de Memoria Histórica, 2016, p.296). Evidence for this comes from the fact that so often paramilitaries had lists of people who they thought were opposed to them or where subversives (leftists, or supporters of the FARC or ELN). To cite one among many examples "one morning "Cadena" (the commander Rodrigo Mercado Pelufo) arrived in a red Mitsubishi Montero and had names on a list" (Grupo de Memoria Histórica, 2011b, p.124) (see Taussig (2003) for an ethnographic example).

The case study evidence also indicates that paramilitaries sometimes attempted to control communities via contingent offers where they offered "public goods" particularly order and security in exchange for support. For example:

"They got the inhabitants of village of La India together to tell them: "Either join us, go with the guerrilla or leave the region: otherwise, you'll die" (Grupo de Memoria Histórica, 2011a, p.306).

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[30]Ronderos (2014, p.48).

In another example, from the rural neighborhood of Los Árboles "a group of 5 paramilitaries, 4 of them armed, gathered 25 residents of the neighborhood in a private garage and identified themselves as members of the self-defense groups. They stated they were providing security in the area and mentioned that they would continue to call meetings ... They sought information on guerillas, drug addicts, thieves, rapists and drug dealers" (Revista Noche y Niebla, 2005, p.106). Three days later paramilitaries executed four people.

Nevertheless, these offers of security were often successful as members of local communities cooperated with the paramilitary groups. As one testimonial from San Carlos, Antioquia has it:

> "At some point they saw the paramilitaries as helpers, they opened the doors to them, denounced their own neighbors as alleged guerrilleros" (Grupo de Memoria Histórica, 2011c, p.98).

In some cases, security evolved into provision of other public goods such as health clinics, roads and many sorts of services. For example, in the case of the Miners Block based in Tarazá in the north of the department of Antioquia:

> "The objectives of the community programs of the Miners Block were to contribute to social welfare by improving and equipping educational establishments, the construction of clinics, playgrounds, centers for the elderly, sports fields, road improvement, and the sponsorship of entertainment, recreational and cultural activities constituted a way of seeking legitimacy with the communities" (Grupo de Memoria Histórica, 2022a, p.218-219).

Hence,

> "Paramilitary rule did not rely only on the use of violence for legitimation, but also resorted to actions that provided welfare to obtain the approval of the population. That's the case of the construction of the Nueva Luz Clinic, which was intended to serve only the members of the Miners Block, but ended up providing free medical services to the entire community" (Grupo de Memoria Histórica, 2022a, p.268).

This report from which we quote documents how the leader of this group, Ramiro "Cuco" Vanoy Murillo, garnered support in the community: "he gradually won over the peasants" (Grupo de Memoria Histórica, 2022a, p.219). The testimonials recorded by the GMH also indicate a complex relationship between public good provision and violence. For example, in the discussion of a commander of the Miners Block called "Milton" "everyone says "he was a very kind person", "very attentive", "that he was not rude", "that he did not hit anyone". And that was true a "very educated" person but, unfortunately he was the one who killed the most people" (Grupo de Memoria Histórica, 2022a, p.268).

The use of public good provision and its complex inter-relationship with violence is also well illustrated by the case of the fronts of the the Peasant Self-Defense Forces of the Middle Magdalena. The José Luis Zuluaga Front (FJLZ), was commanded by Luis Eduardo Zuluaga Arcila, alias "MacGyver".

> ""MacGyver" commanded at will in La Danta (Sonsón), built a bullring, a neighborhood, roads, indoctrinated and paid teachers and held public trials. His leadership and demagogic style led him to create estatutos for the ACMM and not to accept the taxes by the ACCU and [Carlos] Castaño" (Grupo de Memoria Histórica, 2019b, p.172).[31]

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[31]ACCU is the acronym for the Peasant Self-Defense Forces of Córdoba and Urabá.

These "Estatutos" (or Statutes) was a 32 page constitution which outlined the political and social objectives of the FJLZ and detailed, amongst other things, how its combatants were to treat civilians. The last feature of the quote, refusing to pay taxes to the ACCU, the Peasant Self-Defense Forces of Córdoba and Urabá, again illustrates the extent to which commanders were free to organize their front strategies as they wished. Pictures in Figure B.1 document some of the public goods that the FJLZ built in the eastern region of Antioquia. Commanders in other traditional paramilitary strongholds of the Middle Magdalena, Urabá, or Los Llanos also provided some form of them. Yet, many organizations did little or none of this.

The report of the GMH on the ACMM provides a large amount of evidence on the strategies of territorial control: "This is how the self-defense groups are legitimized ... they talked to the people there, the ones who were most afraid of the guerrillas due to some kind of threat, pressure, they felt protected" (Grupo de Memoria Histórica, 2019b, p.184). In exchange for protection and services people had to cooperate, particularly providing information. "And when they had the family there they gave them a house and there they gave them the permission, and they were already beginning to collaborate and do intelligence" (Grupo de Memoria Histórica, 2019b, p.199). They imposed a quite draconian order however: "they said that they were the law, that here there was no more law but theirs. At six in the evening we already had to be locked up, there was no power or anything like that. This was terrifying ... And the truth is that here there were many people who died unjustly, just because others told them: "kill her because that was how it was"" (Grupo de Memoria Histórica, 2019b, p.187).

An alternative source of evidence to the work of the GMH are the court hearings (or *Audiencias de Legalización de Cargos*) which were held as part of the Justice and Peace process where the paramilitary commanders were required to tell the truth about their operations. Since the GMH focused on the victims, there is little discussion of this material in their publications. It is useful for our purposes since it provides direct evidence from the commanders themselves. Zuluaga put it in a court hearing: "we became de facto authorities in that region... and I would be wrong to construct [public] works so that others take the merit" (Justicia y Paz, 2011). Meaning, they took credit for the public goods the FJLZ provided. Moreover, "social works was one of the bases or ideological platforms for us to accumulate masses" (Justicia y Paz, 2011). The court hearings also reveal that the FJLZ provided public goods in exchange for contributions. Zuluaga noted the potential for free riding stating that if you gave public goods to someone "surely he will not want to contribute to the war, he will want to evade that responsibility." Therefore, he continued, they held meetings at which all the community had to attend. "We did not leave anyone outside" and "everyone had to go, because whoever was not going remained an opponent or the enemy of those who participated. So everyone had to contribute to the cause and to security" (Justicia y Paz, 2011).

Figure B.1: Provision of Public Goods

(a) Schools

(b) Roads

(c) Health Clinic

(d) Housing for the Poor

(e) Bullring

Note: This figure shows pictures of the provision of public goods by the José Luis Zuluaga Front of the Peasant Self-Defense Forces of the Middle Magdalena (ACMM) in Sonsón, Antioquia. Fieldwork.

B.2 Peasant Commanders Preferences

In order to gain a deeper understanding of this variation, we performed extensive fieldwork and interviews in the riverine region of the Middle Magdalena and literature reviews of the CNMH case studies. Qualitative evidence and the context indicate that differences in strategies could not be explained by institutions (although of course paramilitary groups created institutions). Instead, there was a lot of discretion on the part of the leaders in how their paramilitary groups operated.

A fundamental differentiating aspect mentioned by several sources was the reciprocal preferences of peasant (in Colombia, called commonly *campesino*) commanders.[32]

This idea came up several times in our interviews of the Peasant Self-Defense Forces of Middle Magdalena. A member of the Community Action Board of La Danta, a rural neighborhood in the municipality of Sonsón, Antioquia, where front commander Luis Eduardo Zuluaga Arcila had his base, said in response to the question of why this group had provided public goods and behaved differently from other paramilitaries:

> "He never lost his peasant origin or background – he was proud of being a peasant. Also that he had this philosophy on the welfare of people: "If people are doing well, I do well", that there is less resentment from them."[33]

At the same meeting another member said "he developed a project a la Robin Hood plus his war strategy, making people happy and better off but he would asked them to collaborate in his projects", suggesting precisely that Zuluaga provided public goods, but in exchange demanded support. At the back was always coercion. As one farmer put it when we asked him whether Zuluaga had done good things for the community he said "yes, but with a gun at his side". He continued "if here I am the one who is armed and you are not, I rule".[34]

That paramilitary leaders with peasant origins display more reciprocal behavior also emerges in the vast case study evidence of the GMH. In one of the most explicit examples, the report on the Peasant Self-Defense Forces of Puerto Boyacá, another paramilitary group based in the Middle Magdalena region, argues that behind the group's combination of public good provision and massacres was the "humble and peasant origins" of commander Arnubio Triana Mahecha, alias "Botalón" (Grupo de Memoria Histórica, 2019a, p.330). Former combatants who were interviewed in Puerto Boyacá responded that his behavior was different from other paramilitary leaders because:

> "Even though he was a mene, an Indian, so he did not know how to write or read"; "he grew up here [in the countryside], he worked on farms there ... he was a milker, he was a mochero as they call it."

In essence, he had a profile:

> "That was not ambitious, that was noble, that was peasant" (Grupo de Memoria Histórica, 2019a, p.330).

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[32]This was even noticeable in the way paramilitary groups were called and saw themselves (i.e.: Peasant Self-defense Forces). For example, a former combatant from the Elmer Cárdenas Block argued that: "you see, what happens is that I perceive this movement in different ways: one, it's paramilitarism; two, it's the self-defense groups. Paramilitarism are para-state groups that do what the Army and the legitimately constituted authorities cannot do because of human rights ... The peasant self-defense groups are peasants organized to defend themselves, in the absence of the State, from the guerrillas" (Grupo de Memoria Histórica, 2022a, p.213).

[33]Interview with members of the Community Action Board, La Danta, Sonsón, Antioquia.

[34]Interview with a farmer, El Porvenir, Sonsón, Antioquia.

Triana tried to benefit the community: "the way the man was with the people, that the social side was seen, that he worked" on providing public goods, "because of his way of being, because of his way of treating the peasant". Interestingly, too, in another interview a member from the community argued that Triana "is not one of those who say we are going to kill for everything, he is more inclined to talk and things like that". If someone made a mistake or broke his rules, he would say "find out first, don't kill him but find out to see if it's true"", implying that violence was employed as a means to punish non-reciprocators (Grupo de Memoria Histórica, 2019a, p.332).

Another telling example comes from the report on the Heroes of los Llanos and Guaviare, a group that operated in the plains of the Meta and Guaviare departments in the east of the country. When asked by a Justice and Peace magistrate to hypothesize why front commander Manuel de Jésus Pirabán (alias "Jorge Pirata"), who was not a local of the area, had different attitudes towards the community than those of other commanders from his block, the prosecutor in charge of investigating him replied that:

> "Being a peasant himself... he started to build a lot of relationships with the people of San Martín and Vistahermosa, and they began to appreciate him" (Grupo de Memoria Histórica, 2021, p.193).

Later on, a demobilized combatant remembered the thinking Pirabán transmitted to his subordinates: "if you want to live in this, get the people on your side ... If you manage yourself well, people take care of you. They will never sell you out. But if you are a son of a bitch, the Prosecutor's Office arrives", meaning the people would not reciprocate and denounce the paramilitaries to the authorities (Grupo de Memoria Histórica, 2021, p.459). Such relationship materialized in the form of public good provision in "an alliance to clean roads, build bridges, things like that" where people would in turn become "informants" (Grupo de Memoria Histórica, 2021, p.462). Massacres were used against those who deviated from his orders, most importantly if they collaborated with the guerrillas. As Pirabán himself admitted in court, "certainly orders were given to kill ... because of the relationship they [the people] may have with the FARC". A person interviewed later explained that they perpetrated "the Mapiripán massacre, not only that, but they have done several more ... That is what "Jorge Pirata" did there at that intersection of Cumaral, there are any number of dead buried there" (Grupo de Memoria Histórica, 2021, p.368).

The case on the Tayrona Resistance Front, located in the Sierra Nevada of Santa Marta in the Caribbean Coast, provides a similar picture. An important pillar of the group was their commander Hernán Giraldo Serna, whom combatants and citizens "saw as a leader of peasant origin" (Grupo de Memoria Histórica, 2022b, p.106). Crucially, a former combatant interviewed provided insights about the reciprocal lens through which Giraldo saw his relationship with the local population. He recalled that Giraldo told them:

> "Look, I brought electricity, I built roads, I have health centers, schools ... So you have to keep in mind that the community needs to be engaged, because ... [if you] win the community over, you'll see that the community will follow you" (Grupo de Memoria Histórica, 2022b, p.434).

Unlike other commanders, though, the provision of public goods was done not only in exchange for information or support, but also personal sexual favors. Another former combatant recalled that "he bought cattle for farmers or offered to improve their farms; however, this was not free. In exchange he made the express request that they provide him with girls between 12 and 14 years old

to rape. From this moment on, he also became known as a sexual predator" (Grupo de Memoria Histórica, 2022b, p.117). Those that did not comply faced massive coercion, as evidenced by the large number of massacres that "began to have a punitive character" (Grupo de Memoria Histórica, 2022b, p.464).

Other qualitative evidence is less explicit, but equally revealing. For example, in the report on the Peasant Self-Defense Forces of Cundinamarca, whose base was in the Andes mountain range in Yacopí, Cundinamarca, former combatants remember that villagers referred to peasant commander Luis Eduardo Cifuentes Galindo, alias "El Aguila", as the "boss" (in Spanish *patrón*). Why? Because "he listened to the peasant... he made a lot of contributions to people with very low resources, food or money. One would call him commander, but the peasant would call him boss" (Grupo de Memoria Histórica, 2020, p.140). In the rural context, the word "boss" often describes a person in a position of power that provides physical or economic security in return for some type of support.[35]

As other peasant leaders, Cifuentes or his lieutenants employed Community Action Boards as intermediaries to summon the local population and explain to them:

> "Why this self-defense force existed there and what the goal was, to work with them, that we are all hand in hand; that they took care of us, that we took care of them" (Grupo de Memoria Histórica, 2016, p.253).

According to a Justice and Peace Tribunal, the group allocated "resources to the construction of roads, schools, markets, medical centers, etc.... They sought to gain social legitimacy by investing in public works" (Grupo de Memoria Histórica, 2020, p.217). In particular, Cifuentes was known for helping "people who suffered from hunger, especially the elderly, he helped them a lot with food". Or "sick people who didn't have [health] insurance, nothing [and they told Cifuentes]: 'Boss, my son has this'" (Grupo de Memoria Histórica, 2020, p.222). This was important because, "just as he helped the peasant, then the peasant developed a certain affection for the organization" (Grupo de Memoria Histórica, 2020, p.226).

However, testimonies indicate his group severely punished non-reciprocators. Massacres were "marked by a high level of cruelty and by being directed at members of the same family or those close to each other" and "do not seem to have had any intentions other than to eliminate people who challenged the imposed order" (Grupo de Memoria Histórica, 2020, p.309). They involved not only guerrilla collaborators, but social cleansing too: "yes it was done too. Social cleansing like entering a town and entering a hamlet and removing all the thieves, drug-dealers, and everything" (Grupo de Memoria Histórica, 2020, p.219). It is possible that the paramilitaries saw the elimination of thieves and drug dealers as providing "public goods" to the local people. An alternative observation however is that there were undoubtedly motivations for violence in addition to the one our theory focuses on.

In a different report on the Peasant Self-Defense Forces of Meta and Vichada, a former combatant remembers that peasant commander José Baldomero Linares, alias "Guillermo Torres", would remind his forces that:

> "We were not people who ignored the civilians. On the contrary, we had to unite with them... so that they would have respect for us, [as] we would for them" (Grupo de Memoria Histórica, 2018b, p.242).

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[35]This perhaps explains why other peasant leaders, for instance Ramón Isaza from the Peasant Self-Defense Forces of Middle Magdalena, Hernán Giraldo from the Tayrona Resistance Front, or José Baldomero Linares from the Peasant Self-Defense Forces of Meta and Vichada, were sometimes also referred to in the same way by the local population.

Linares provided various types of public goods with the same logic shown through the previous examples, but a relevant fact is the way in which he did it. He "adapted practices typical of rural communities, such as collective work, which sought to make improvements in the towns" (Grupo de Memoria Histórica, 2018b, p.259). Most case studies of the GMH document these practices were widely employed by all other peasant commanders and would translate, for instance, into the communal cleaning of the towns and the maintenance of trails and roads, organization and participation in community festivals, enforcement of rules, etc. For the municipal ombudsman of Caparrapí, Cundinamarca, a municipality controlled by commander Cifuentes, "it sounds strange to say it like that, but a positive thing [of these commanders] was that they forced community work, community cooperation" in various tasks (Grupo de Memoria Histórica, 2020, p.226).

In doing so, they reproduced the "logic of patronage, ... which would strengthen the image of the leaders as authorities" in their respective regions (Grupo de Memoria Histórica, 2018b, p.256).

B.3   Appointment of Front Commanders

Qualitative evidence presented at the Justice and Peace Tribunals and assembled elsewhere, for example in the reports of the GMH, shows there were different reasons behind the promotion or appointment of paramilitary commanders. We classified this information into different themes and coded a series of indicator variables accordingly (see also Table A.1):

- **Family, Friendship, or Trust:** This variable is assigned a value of 1 if the new commander was promoted because of a direct family link, such as being the son, son-in-law, brother, or cousin of the previous commander or a more powerful commander; if the new commander was a close friend; and/or was explicitly trusted by the previous commander or a more powerful commander. Reading the sources these three things seemed to be closely related as motivations for promoting people.

- **Paramilitary Experience:** This variable is assigned a value of 1 if the new commander was appointed because of a long trajectory within the organization and had held several positions.

- **Leadership:** This variable is assigned a value of 1 if the new commander was appointed based on his demonstrated leadership skills or held leadership positions within the community before being appointed as commander, and if he had the ability to motivate his subordinates.

- **Military Training:** This variable is assigned a value of 1 if the new commander was appointed because he had previous military experience, having been part of the ranks of the Colombian Armed Forces or received formal military training within the paramilitaries, which provided him with knowledge of tactics and military strategies.

- **Strategic Skills:** This variable is assigned a value of 1 if the new commander was appointed because he has demonstrated skills in infiltration tasks and strategic information gathering, or stood out for his mastery in the use of weapons and his competence in operations against the guerrilla.

- **Management Skills:** This variable is assigned a value of 1 if the new commander was appointed for having exhibited skills in financial and logistical management, essential for the overall functioning of the paramilitary group, and had efficiently managed financial and logistical resources to maintain the operation and effectiveness of the block.

To illustrate the materials and how we used them we now give a sense of our coding for eight different front commanders. Note that it is possible that a commander was promoted for multiple reasons and we coded those as such.

B.3.1 Oliverio Isaza Gómez - alias "Terror": Heroes of Prodigy Front, Peasant Self-Defense Forces of the Middle Magdalena (ACMM)

Isaza Gómez, a peasant according to our classification, was one of the sons of the ACMM block commander Ramón María Isaza Arango and clearly promoted because of this relationship. We code him as Family (a subset of Family, Friendship, or Trust). For example the relevant part of his judicial sentence reads:

"He is the son of Ramón María Isaza Arango. During his youth, he engaged in commercial activities such as mining and livestock farming. In mid-1998, he was appointed by his father to command a patrol of the ACMM, which had as its area of influence the rural zone of the municipality of Puerto Nare (Antioquia). At the time when the ACMM initiated its expansion process and established the Isaza Front – Heroes of Prodigy (January 2002), he was appointed as the commander of this structure" (Justicia y Paz, 2012, p.3-4).

B.3.2 Walter Ochoa Guisao - alias "Gurre": Omar Isaza Front, Peasant Self-Defense Forces of the Middle Magdalena (ACMM)

We coded the reason for Ochoa, a non-peasant, attaining the command of the Omar Isaza Front as being due to "Friendship" (hence part of Family, Friendship, or Trust). We now give two excepts from the material which shows how we came to this coding:

"In the north of Tolima, the ACMM operated as the Omar Isaza Front, in honor of Ramón's eldest son ... It was commanded by Walter Ochoa Guisao, alias "Gurre", a protegé of the Isaza family since childhood" (Astudillo, 2016, p.14).

Ochoa was not related to the Isaza family, but was a family friend, a "protegé" who had become involved with the group when he was just 14. This history is elaborated in the part of the block sentence which explains how Ochoa became front commander:

"Alias "Gurre", joined as an informant for the self-defense groups when he was about 14 years old, around the year 1986. In 1989, he was recruited as a combatant by the ACMM and underwent a trial period of three months, after which he performed patrolling duties and subsequently became part of Ramón Isaza's bodyguard team. Between 1990 and 1991, he served as a patrolman in the Sonsón region (Antioquia). After the expansion process of the ACMM, by orders of Ramón Isaza, he was appointed commander of the Omar Isaza Front (FOI)" (Justicia y Paz, 2012, p.9).

The fact that he was promoted because of his history of being a "protegé" who then became part of Isaza's bodyguard means we categorize Ochoa as "Family, Friendship, or Trust."

B.3.3 Jefferson Enrique Martínez López – alias "Omega": Motilona Resistance Front, Northern Block (BN)

Martínez, a peasant, is also coded as Family, Friendship, or Trust. For example:

"Jefferson Enrique Martínez López entered the United Self-Defense Forces of Colombia in 1999 as a trusted man of Rodrigo Tovar Pupo, alias "Jorge 40". He served as the commander and second-in-command of the Motilona Resistance Front, which he helped to establish. The area of influence

was the department of César, from the municipality of Aguachica northward, where any decision had to be taken in consultation with Martinez López" (Justicia y Paz, 2019a, p.3).

We translate "hombre de confianza", used in the original, as "trusted man" so this is not our interpretation, but a direct translation from the Spanish. Though we do not have direct evidence that he was a friend of block commander Rodrigo Tovar Pupo, alias "Jorge 40", the fact that he was a man of trust seems to be a very similar reason for promoting him.

B.3.4 Oscar Leonardo Montealegre Beltran – alias "Piraña": Juan Carlos Hernández Front, Central Bolívar Block (BCB)

We coded Montealegre, not a peasant, as being appointed because of Experience since he seems to have gradually worked his way up the paramilitary ranks. For example:

"[Oscar Leonardo Montealegre Beltran] entered the ACCU in Puerto Boyacá in June 1999, and then was sent to the South of Bolívar where he remained until February 2001. He joined the BCB with the paramilitary fronts Fidel Castaño, Walter Sánchez, Pablo Emilio Guarín, and Juan Carlos Hernández, from February 2001 until December 2005, when he demobilized collectively. Within the paramilitary structure, he was known by the aliases "Piraña" and "Daniel Felipe" and served as a bodyguard, financial commander of the Walter Sánchez and Fidel Castaño paramilitary fronts, and commander of the Juan Carlos Hernández front" (Justicia y Paz, 2017, p.10).

Recall the ACCU were the Peasant Self-Defense Forces of Códoba and Urabá.

B.3.5 Luis Eduardo Cifuentes Galindo - alias "El Aguila": Yacopí Front, Peasant Self-Defense Forces of Cundinamarca (ACC)

We coded Cifuentes, a peasant, as having both Experience and Leadership. Cifuentes had originally been part of the Communist Youth when paramilitaries from the Self-Defense Forces of Puerto Boyacá arrived where he lived. As Cifuentes himself put it they announced that:

"They did not want to oppress the peasants and wanted their collaboration. The community asked [them] to give us the chance to express ourselves and what ... was wanted was for someone from the community to join the self-defense organization. And since I was the political secretary in the JUCO, I had some leadership in the community, so the people told me why not support them to prevent homicides and displacements, because displacements had already occurred. So I told him that since the community chose me, if the commitment was not to affect the peasants and that the people who had left out of fear would return, well, fine, I agreed" - Account by Luis Eduardo Cifuentes Galindo (Grupo de Memoria Histórica, 2020, p.67).

JUCO refers to Juventudes Comunistas, the Communist Youth Organization. Here we translate "liderazgo" as leadership and it is clear that this is one of the features that led Cifuentes to be chosen.

B.3.6 José Bernardo Lozada Artuz: Tibú Front, Catatumbo Block (BC)

Lozada, not a peasant, is coded as having Military Training. He belonged to the Colombian Army before joining the paramilitaries:

"Despite his membership in the National Army, where he reached the rank of Second Lieutenant, in September 1998, José Bernardo Lozada Artuz left the military ranks to join ... the United Self-Defense Forces of Colombia, where he served as a military instructor" (Corte Suprema de Justicia, 2015).

Moreover:

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"Known by the aliases "Mauro" or "Old Mauro", he commanded the Tibú Front, was a military instructor at the La 35 school, then led military training schools in El Diamante and Los Guayabos and in the Catatumbo area" (Justicia y Paz, 2014c, p.4).

Here Lozada got into paramilitarism after a military career and his military training in the army was clearly invaluable to his group, which eventually led to his promotion to front commander. No other reason for the appointment was cited in the court ruling.

B.3.7 Omar Egidio Carmona Tamayo: Gonzalo Pérez de Cimitarra Front, Peasant Self-Defense Forces of Puerto Boyacá (ACPB)

Carmona, not a peasant, is coded as Strategic skills. The relevant part of the sentence for the Peasant Self-Defense Forces of Puerto Boyacá which discusses how he was appointed as front commander says:

"Omar Egidio Carmona Tamayo joined the Peasant Self-Defense Forces of Puerto Boyacá at the end of 1994 ... He was sent to the 'Camposeco' municipal neighborhood in Cimitarra, to the training 'School' located there, where he stayed for 2 to 3 months. At the end of 1996, he was sent as the commander of a patrol in 'Camposeco'. At the end of 1996, he was sent to Antioquia under the command of 'Torombolo' to the area of Ramón Isaza. In 1997, he was assigned to the municipality of Cimitarra, to the urban center by order of alias 'Botalón' and, as he had no criminal record, was appointed Vice-President of the Convivir 'Carare Opón Corporation', where his role was to be an infiltrator, observing the movements of the public forces; he remained in this role from May 1997 to mid-1998. In 1999, he was assigned to the urban part of Puerto Boyacá as a leader and remained until 2003, where he was to lead activities with the Community Action Boards (JAC), and investigate and report to higher commanders; for this task, he was given a motorcycle, five mobile radios, a group of men under his command, and control of transmitter stations." (Justicia y Paz, 2014b, p.19)

B.3.8 Juan Mauricio Aristizabal – alias "El Fino": Pacific Front, Calima Block (BC)

We coded Aristizabal, not a peasant, as becoming a front commander because of his Management skills. For example, in the discussion of why he came to become a commander it was recorded that:

"Alias "El Fino", who arrived in Buenaventura with "HH" in April 2000 and from that moment managed the financial matters of the paramilitary group in the Valle del Cauca in the Pacific region. He was in charge of collecting money from the gramaje tax, contributions from merchants, transporters, and companies operating in the port. According to the FGN [Attorney General], the financial structure aimed to raise funds for the block for the payment of combatants' salaries, purchase of armament, purchase of logistics materials, payments for bribes to officials, payments to lawyers to represent the members of the organization who had been captured, and generally, the acquisition of all the elements for the functioning of the block." (Grupo de Memoria Histórica, 2018a, p.70)

Alias "HH" (Hebert Veloza García) was a prominent paramilitary block commander. The gramaje was a tax imposed on drug production and dealing. These quote reveals that Aristizabal's main skills were managerial which were key to a successfully functioning paramilitary group.

B.3.9 Conclusion

What is striking about most of the evidence on why different people became commanders is how little reference there is to the actual territories that they were to govern or control. There seems rarely to a sense that a particular person was a good match for a particular job. Mostly, as shown above, a given person had some important characteristic, like being a family member, a friend, trusted, or had some important skill. Territories do come up. For example, Rafael Londoño Jaramillo (alias "Rafa Putumayo") was put in charge of the Caquetá Front in the department of Caquetá by the Castaño brothers to expel the FARC from the department, specifically to take over the coca-growing areas controlled by the guerilla (Rutas del Conflicto, 2019). Even here, however, he seems to have been given this task because he was a friend of the Castaños (Rutas del Conflicto, 2019). A more interesting case is Parmenio de Jesús Usme García. He had been a community leader in the municipality of San Carlos in the department of Antioquia and because of his "deep knowledge of the terrain and his familiarity with the surrounding areas" (Justicia y Paz, 2019b, p.5-6) he ended up commanding the Rural Front in San Carlos and neighboring San Rafael (Justicia y Paz, 2019b, p.5-6). While Usme García obviously had some relevant local knowledge our descriptive statistics show that in fact few front commanders were locals.

All in all the detailed case study evidence does not suggest that it is likely that peasant commanders were chosen to control particular territories as a function of the characteristics of the territories. Hence it seems implausible that there are some omitted variables which induce both peasant commanders and make it more attractive to provide public goods, say. Of course, as this section has shown, peasants and non-peasants did have different characteristics and skills which were useful for being a front commander. This is why we controlled for these in the main text, or argued that they were in some sense what it meant to be a peasant.

B.4 Front Boundaries

After the creation of the AUC in 1997, Carlos Castaño led efforts to establish boundaries among paramilitary groups to enhance coordination in combating FARC and ELN guerrillas. His organization, including his brothers Vicente and Fidel, organized several meetings during the year with this purpose. For example:

> "At the beginning of 1997, Vicente Castaño called a meeting in Nechí, which was attended by all the local commanders to establish territorial boundaries. The area of Piedmonte, Puerto Colombia, and Vegas de Segovia corresponded to alias "Macaco"" (Justicia y Paz, 2013b, p.274).

As the paramilitarism phenomenon grew, rival groups fought for territory but Carlos Castaño first let block and front commanders autonomously negotiate boundaries. One prominent case was between the Miners and Central Bolivar Blocks:

> "Carlos Jiménez, alias "Macaco", entered the territory of the municipality of Cáceres and, as several groups already existed in the area, a problem of 'crossfires' arose, which led to Vicente Castaño, alias "The Professor", to delimit the area, as follows: from the bank of the Cauca River towards the townships of Piamonte and La Reserva for alias "Macaco", and from the bank of the river, township of Jardín, Nicaragua, Puerto Belgium and Manizales to "Cuco" Vanoy" (Justicia y Paz, 2015, p.40-46).

When problems emerged, Carlos Castaño and his group tried to mediate. For instance:

> "There were also clashes with people who claimed to be under the command of Carlos Castaño and who were going to steal trucks in FOI's (Omar Isaza Front) territory. The people of Isaza did not want to come into greater conflicts with the Castaño House and through Luis Eduardo Zuluaga, alias "MacGyver", they organized a meeting with Carlos Castaño in La Danta, Antioquia. ... At the meeting there were strong discussions and they agreed with the people of FOI, but Carlos Castaño still gave the order that more territory be given up for the people of the Tolima Block and so it was done. ... According to the Prosecutor's Office, after that meeting the disagreements between the two paramilitary groups ended" (Justicia y Paz, 2016, p.237).

The available legal and case study evidence indicates that boundaries followed geographical features (i.e., rivers, roads, etc.) or municipal boundaries, and they seem to have been mostly determined by idiosyncratic war shocks rather than more structural economic or social factors (see Figure D.4 (b) - (c)):

> "For example, the ABC (Peasant Self-Defense Forces of Cundinamarca) divided territories with the other self-defense groups that operated in Middle Magdalena, as follows:
> (i) with the Peasant Self-Defense Forces of Puerto Boyacá (ACPB), territories were divided according to the margin of the Guaguaquí River. Thus, in the district of Rionegrito, which divides the department of Caldas and Cundinamarca, both groups separated.
> (ii) with the Peasant Self-Defense Forces of Middle Magdalena (ACCM), the border was the margin of the Magdalena River that separates the municipality of Puerto Salgar from Puerto Triunfo and La Dorada (where Ramón Isaza and Luis Eduardo Zuluaga, alias "MacGyver", operated).
> (iii) With the Heroes of Gualivá Front of the Central Bolívar Block, the boundary followed the existing territorial divisions, as the ABC operated in La Palma and Caparrapí, while Dorancé Murillo Bohórquez organized his self-defense group in the neighboring municipalities of Utica and La Peña." (Justicia y Paz, 2014a, p. 433; Hearing February 18, Min: 10:30).

In another case:

> "The self-defense groups present in the south of the department of Bolívar, divided for geographical reasons into three groups that were called: i. Liberators of the Magdalena River Front in the southernmost region under its control; ii. Victors of the South Front, based in the municipality of Morales in the central west of the southern region of Bolívar and the Fighters of the Serranía de San Lucas Front in the town of Pueblito Mejía, located in the foothills of the Serranía in the jurisdiction of the municipality of Barranco de Loba. iii. The Walter Sánchez Front in the rural areas of Sabana de Torres, lower Rionegro and Puerto Wilches, with a command center on the San Rafael Plateau, from where the entry into the city of Barrancabermeja was coordinated, where the Fidel Castaño Gil Front was consolidated." (Justicia y Paz, 2014d, p.209).

When boundaries were not respected, violence often ensued:

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"In mid-1998, a meeting was called at the site known as El Tropezón, attended by alias "Jorge Pirata"[36], alias "Martin Llanos" and alias "Caballo", José Linares and representatives of the group that Carlos Castaño had sent to the area from Urabá (among them, alias "Raúl"). In it, Los Urabeños stated that Carlos Castaño wished to work together and determine some areas of exclusive presence. This proposal was rejected by Los Buitrago group and Linares Moreno did not take any position, but in practice he had to reformulate his initial position of neutrality." (Justicia y Paz, 2013a, p.223).

All in all then the case study evidence suggests that a lot of idiosyncratic factors went into the determination of the boundaries between different paramilitary fronts and the main issues were to do with mitigating the risks of conflict between the groups and also the military struggle with the guerilla groups.

Appendix C   A Model of Paramilitary Strategy

C.1   Citizens, Policy and Reciprocity

We consider a static society populated by a continuum of citizens with measure normalized to 1.[37] A fraction f^c of citizens are peasants (in Colombia called *campesinos*), while the remaining fraction $f^n = 1 - f^c$ are not. Citizens live in local communities populated by citizens with the same social origin as themselves. Throughout we use superscripts c and n to denote if a citizen is from a peasant or non-peasant local community, respectively, and we also use these as subscripts to refer to the whole group when this causes no confusion. Citizens receive income, benefit from the provision of public goods, face political violence, and decide whether or not to "contribute" to local authorities. We maintain a broad interpretation of what contributing entails. For example, it may be resources but it may also be giving information to the commander about where the rebels are, or alternatively not informing the rebels about where the paramilitaries are.

At the outset a citizen is drawn at random to lead a paramilitary group, and we term this individual the commander. Obviously such leaders were not actually chosen at random but this modelling choice is a convenient way theoretically to capture the fact, which we have extensively documented, that paramilitary commanders do not seem to have been "selected" based on any characteristics of the territories they were trying to control.

After being chosen, the commander decides whether or not to create a paramilitary group ("enter"), and if he (there were no women paramilitary commanders) does, then he pays a fixed cost $h > 0$. This fixed cost is a stochastic variable drawn from a cumulative distribution function D :R $\rightarrow$[0,1] (we assume that the associated probability density function has positive support on the relevant interval). If the commander enters, his tenure is not secure as he is challenged by guerillas which may capture the society. The probability the commander is able to maintain control is

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[36]Alias -Jorge Pirata- whose real name was Manuel de Jesús Piraban, was the commander of the Heroes of Los Llanos and Guaviare Block and also held command within the Centauros Block of the AUC. José Baldomero Linares was the commander of the Peasant Self-Defense Forces of Meta and Vichada, both of whom were affiliated with the AUC. The Urabeños were a paramilitary group operating within the Centauros Block of the AUC. In contrast, alias "Martín Llanos" (real name Héctor Germán Buitrago) and his brother, alias "Caballo" (real name Nelson Orlando Buitrago), led the Self-Defense Forces of Casanare, a group that was not part of the AUC and was engaged in a territorial conflict with them.

[37]We subsequently extend the static model and develop a dynamic evolutionary model where we can endogenize several of the key variables particularly the fraction of peasants that are reciprocal. For simplicity, for now we treat this as exogenous.

stochastic (as the strength of both the guerillas and the commander may be stochastic) and given by the cumulative distribution function $F : \mathbb{R} \to [0,1]$. This cdf is increasing in the total utility the commander will be expected to provide to the population relative to the utility the guerillas will provide to the population should they be victorious (again we assume that the associated probability density function has positive support on the relevant interval and thus F is strictly increasing in expected relative utility).

If the commander is able to stay in power, he provides a combination of public goods and violence, and may demand that citizens "contribute" to the paramilitary group. The commander decides the level of public goods, then possibly asks for contributions, and then decides on the extent of violence.

Public goods $\hat{g}$ are either not provided, $\hat{g} = 0$, or they are provided in exogenous quantity $\hat{g} = g > 0$. The cost of each unit of public goods is unity. The commander asks for an exogenous contribution from each citizen of $\hat{\tau} = 0$ or $\hat{\tau} = \tau > 0$.

Each citizen decides whether to contribute to the commander. Citizens that do not contribute may be revealed by their local community and this information transmitted to the commander. We model this in a reduced form way by assuming that there is an exogenous probability of being revealed given by π^j. In a peasant community we assume that information flows more easily and that agents who do not contribute are easier to identify. We thus assume that $\pi^c > \pi^n$.[38] The motivation from this assumption is that as the case study literature we discussed above reveals, the paramilitary groups did reach types of collective agreement with local communities and there was common knowledge about this agreement. We are assuming therefore that this allowed them to tap into the normative structure of the communities and get local people to reveal to them individuals who did not provide contributions after public goods had been provided. This might happen for the simple reason that those who did contribute feared the collective consequences of others not contributing. However, we do not explicitly model such incentives here.

The commander decides whether or not to use violence to punish citizens who have been revealed not to have contributed. Such violence is provided in exogenous quantity $v > 0$ if used against a citizen and creates a dis-utility of v.

A fraction $p^j \in [0,1]$ of citizens in group $j \in \{c, n\}$ have what we will term reciprocal preferences. Reciprocal preferences, which we denote by s, is modelled by assuming that citizens gain utility by reciprocating a "gift", but also gain the same utility (for simplicity) by punishing someone who does not reciprocate a gift that they gave. Such reciprocal preferences are widely agreed to be a key part of peasant identity, and we thus assume that $p^c > p^n$.[39] Citizens with reciprocal preferences derive an increase in utility of s by reciprocating, i.e., contributing to the commander if the commander provides public goods. Citizens without reciprocal preferences, the remaining fraction $1 - p^j$, derive a lower utility, which we normalize to zero, by being reciprocal.

Similarly, a commander with reciprocal preferences derives utility if an offer of public goods is met with a contribution from a citizen. Thus if $g > 0$, then if a citizen decides to contribute $\tau > 0$ this increases the utility of a reciprocal commander by s. However, if the commander offers public goods and the citizen does not contribute, then the commander gains utility s by punishing this citizen. A commander without reciprocal preferences derives no utility from either positive or

[38] In addition the norm to reveal non-reciprocators who are identified may be stronger amongst reciprocators, which is also a reason for assuming that $\pi^c > \pi^n$.

[39] We show later that this is a natural result in a model in which the evolution of reciprocal preferences is endogenous. However, to simplify the exposition we treat the share of the population in different groups as exogenous here, and delegate the case where $p^c > p^n$ follows as an endogenous steady-state result to the dynamic extension of the model.

negative reciprocity.

C.2 Utility of Citizens

We can now formulate the utility of citizens. We denote the income of a citizen by y. The utility of a citizen $j \in \{c, n\}$ with reciprocal preferences that provides a contribution to the commander, which we denote by $U^{j,s}$, is then given by

$$U^{j,s} = y + \hat{g} - \hat{\tau} + \hat{s}, \tag{C-1}$$

where the first term on the right hand side is their income, the second term the utility of public goods $\hat{g} \in \{0, g\}$, the third term their contribution $\hat{\tau} \in \{0, \tau\}$, and the fourth term their utility $\hat{s} \in \{0, s\}$ of reciprocating. To save notation already at this stage, we have set the amount of violence a citizen that contributes to a commander will face to zero, which as we will see below turns out the be the case in equilibrium.

Similarly, the utility of a citizen of group $j \in \{c, n\}$ that does not have reciprocal preferences and provides a contribution to the commander, which we denote by $U^{j,-s}$, is given by

$$U^{j,-s} = y + \hat{g} - \hat{\tau}. \tag{C-2}$$

Note that such a citizen does not experience any utility from making the contribution $\hat{\tau}$.

Consider next a citizen that does not provide a contribution to the commander. The utility of a citizen $j \in \{c, n\}$ with reciprocal preferences in this case, which we denote by $\bar{U}^{j,s}$, is then given by

$$\bar{U}^{j,s} = y + \hat{g} - \pi^j \hat{v}, \tag{C-3}$$

recalling that the probability that the failure of the individual to contribute is revealed is π^j and the violence in this case is given by $\hat{v} \in \{0, v\}$. Similarly, the utility of a citizen of group $j \in \{c, n\}$ that does not have reciprocal preferences and does not provide a contribution to the commander, which we denote by $\bar{U}^{j,-s}$, is also given by

$$\bar{U}^{j,-s} = y + \hat{g} - \pi^j \hat{v}. \tag{C-4}$$

Finally, consider the case where the commander is not able to fend off the guerillas, and thus the guerillas take over the society. In this case the utility of citizens is simply given by $y + R$, where again y is private income and R denotes the utility provided by the guerillas (which may be positive or negative).

C.3 Timing of Events

To sum up, the timing of events is as follows.

1. A citizen is randomly selected as commander, uncertainty about the entry cost h is resolved, and the commander decides whether or not to enter.

2. If the commander does not enter, citizens consume their income, and the game ends.

3. If the commander does enter, citizens observe if he has reciprocal preferences or not.

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4. Nature determines whether the commander stays in power. If not he gets a payoff of 0.

5. If the commander stays in power he decides whether to set $\hat{g} = 0$ or $\hat{g} = g > 0$, and decides whether to ask for $\hat{\tau} = 0$ or $\hat{\tau} = \tau > 0$. Citizens then decide whether to contribute to the commander or not. With probability π^j in community $j \in \{c, n\}$ the commander discovers those that do not contribute. The commander then decides whether to use violence.

C.4 Main Assumption and Equilibrium

To study the interesting case in the model we make the following assumption:
Assumption 1:
$$g > \tau > \pi^c v \quad \text{and} \quad s > v + \frac{g}{p^c f^c + p^n (1 - f^c)}. \tag{C-5}$$

The first part of this assumption implies that there is a benefit for citizens from being provided with public goods even when they contribute to the commander, that there is a net cost to the commander from providing public goods, and that the expected cost of violence is less than that of the required contribution. The second part of the assumption will be seen to guarantee that reciprocal preferences are sufficiently strong that the reciprocal preferences of commanders and citizens affect their behavior.

We now solve for the subgame perfect Nash equilibrium by backwards induction. We first consider the case with a reciprocal commander that is able to stay in power. We start out at the stage where the commander decides who is to suffer from violence. The commander has utility s by punishing citizens that did not contribute, while the cost is $v < s$ which follows from the second part of Assumption 1. Thus he uses violence against all the citizens he discovers have not contributed. He does not use violence against any other citizens (since with reciprocal preferences such violence does not provide him utility but is still costly). Given this, at the preceding stage where citizens decide whether to make contributions or not, citizens that have reciprocal preferences make a contribution to the commander (given that he has provided public goods) since this gives them utility s and Assumption 1 implies that $s > \tau$.[40] Citizens without reciprocal preferences do not pay contributions since $\tau > \pi^j v$. By backward induction, a commander with reciprocal preferences provides public goods $g > 0$ (which follows from the second part of Assumption 1).

Thus a commander with reciprocal preferences provides public goods, demands contributions, and uses violence to punish those citizens that are revealed not to have contributed. As we noted in the introduction of the paper, in the model, this violence takes place against a mass of agents and it is this that motivates our interpretation of the violence as being in the form of massacres.

The total expected utility the commander provides to the citizens is then given by

$$
\begin{aligned}
&(p^c f^c + p^n (1 - f^c)) (y + g - \tau + s) \\
&+ (1 - p^c) f^c (y + g - \pi^c v) + (1 - p^n) (1 - f^c) (y + g - \pi^n v) \\
&= y + g + (p^c f^c + p^n (1 - f^c)) (s - \tau) \\
&- (1 - p^c) f^c \pi^c v - (1 - p^n) (1 - f^c) \pi^n v \\
&\equiv y + Y,
\end{aligned}
$$

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[40]This follows since the second part of Assumption 1 implies that $s > g$ since $v > 0$ and $p^c f^c + p^n (1 - f^c) < 1$, and the first part states that $g > \tau$, which then implies that $s > \tau$.

where we have defined Y to save on notation, and where $Y > 0$. The intuition for $Y > 0$ is simply that the expected utility of all citizens is higher with a reciprocal commander that provides public goods and violence than with one that does not.

Thus the probability a reciprocal commander who provides public goods and uses violence on non-reciprocators is able to stay in power, which we denote by F_s, is given by

$$F_s = F\left(Y - R\right), \tag{C-6}$$

and denoting the exogenous rents which accrue from controlling the territory and holding off the guerilla by Q, the expected utility of such a commander in this case is given by

$$U_s = F\left(Y - R\right)\left(Q + X\right) - h, \tag{C-7}$$

where

$$X \equiv \left(p^c f^c + p^n \left(1 - f^c\right)\right)\left(\tau + s\right)$$
$$+ \left(\left(1 - p^c\right) f^c \pi^c + \left(1 - p^n\right)\left(1 - f^c\right)\pi^n\right)\left(s - v\right) - g > 0,$$

and where the intuition for $X > 0$ is simply that he would not have been able to commit to this strategy if it did not give him higher utility.[41] Thus, in this strategy a reciprocal commander increases his probability of staying in power, as well as the utility of having power.

Moving back to the entry decision in the first stage of the game, a reciprocal commander decides to enter if U_s from (C-7) is positive. This requirement defines a critical value of the entry cost, which we term h_s, given by

$$h_s = F\left(Y - R\right)\left(Q + X\right), \tag{C-8}$$

where the commander decides to enter if the entry cost is less than h_s. The probability of entry is thus given by $D(h_s)$.

Consider next a commander without reciprocal preferences that is able to stay in power. Such a commander gains no utility from punishing someone who does not reciprocate public good provision, and thus there will be no violence since this is costly. Realizing this, citizens without reciprocal preferences do not make contributions, while citizens with reciprocal preferences make contributions provided the commander has set $g > 0$. Since $g > \tau$ a commander without reciprocal preferences will not provide public goods (even if all citizens should decide to contribute), as the cost exceeds the contributions. Thus it follows immediately that such a commander has no incentive to provide public goods nor use violence.

The total expected utility a non-reciprocal commander provides to citizens is therefore simply given by y, and thus the probability such a commander is able to stay in power, which we denote by F_{-s}, is then simply given by

$$F_{-s} = F\left(-R\right). \tag{C-9}$$

It follows immediately that

$$F_s > F_{-s}, \tag{C-10}$$

i.e., a reciprocal commander has a higher probability of staying in power compared to a nonreciprocal commander, and the reason is simply that citizens realize that such a commander provides citizens

---

[41]It it straight forward to verifiy that $X > 0$ when Assumption 1 holds, for instance by noting that Assumption 1 implies that the first term exceeds the third term, and that the second term is positive.

with higher expected utility than a nonreciprocal commander, and thus they support him more strongly in the face of the guerilla.

The expected utility of the commander in this case is given by

$$U_{-s} = F\left(-R\right)Q - h, \tag{C-11}$$

Finally, moving back to the entry decision, a nonreciprocal commander decides to enter if U_{-s} from (C-11) is positive, which again defines a critical value of the entry cost, which we term h_{-s}, given by

$$h_{-s} = F\left(R\right)\left(Q\right), \tag{C-12}$$

where the commander decides to enter if the entry cost is less than h_{-s}. The probability of entry is thus given by $D(h_{-s})$. Since it is easy to verify that $h_{-s} < h_s$, it follows immediately that $D(h_{-s}) < D(h_s)$. Thus a nonreciprocal commander is less likely to enter compared to a reciprocal commander. The intuition is simply that a reciprocal commander obtains higher utility conditional on political survival, and also that the probability of political survival is higher.

Of course empirically we do not observe whether a commander has reciprocal preferences or not. What we do observe is whether or not they are peasants. By assumption in the static model it is more likely that a randomly selected peasant will be a reciprocator (this will be a result however in the dynamic model we develop next). We therefore state the main result of this section in terms of peasants.

It is worth noting that of course non-peasant commanders can also be reciprocators, they are just less likely to be so. Therefore the model does not predict that non-peasants never provide public goods or commit massacres, it just predicts that on average they will do this less than peasant commanders.

We now have:

Proposition C-1 *Main Results of Model*

(i) Peasant commanders are more likely to provide public goods and commit massacres than non-peasant commanders.

(ii) Peasant commanders are more likely than non-peasant commanders to enter, and more likely to stay in power conditional on entry.

C.5   The Evolution of Reciprocal Preferences

We now extend the static model to study the endogenous evolution of reciprocity, and in a dynamic model we show that the assumption that a greater fraction of peasants have reciprocal preferences is a natural steady-state result, as a consequence of peasants growing up in closed corporate communities. Preferences develop, as in the Bisin and Verdier type of models ((Bisin & Verdier, 2000, 2001)), through interactions with parents and the community in which citizens grow up.

As in the baseline model we consider a society populated by a continuum of citizens, now with measure of each generation normalized to 1. Citizens live for two periods, the first as children and the second as adults. In the first period they are born into a peasant community or into a non-peasant community, and their preferences are formed, as we describe below. All citizens that where children in one period enter as adults in the next with their preferences determined by their

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childhood experiences, in the previous period. Adult citizens then interact in the exactly same environment as described in the model above.

C.5.1 Formation of Preferences

Adult citizens give birth to a child, decide which preferences will give their child the highest utility, and decide parental effort to socialize the child to have those preferences. Parents are altruistic towards their offspring, but evaluate the utility of their child through their own preferences. We denote the type of parent by $i \in \{s, -s\}$, where a parent of type s is a parent with reciprocal preferences and a parent of type $-s$ is a parent without reciprocal preferences. We term the latter nonreciprocal preferences.

There is a probability $d_{i,t}^j$ that a child in period t in a local community of type $j \in \{c, n\}$ is socialized by a parent of type i to have the same preferences as the parent. There is a probability $1 - d_{i,t}^j$ the child is not socialized by the parent, but by the interaction with other citizens in the local community (horizontal socialization). In that case there is a probability p_t^j they enter as an adult with reciprocal preferences, and a probability $1 - p_t^j$ they become an adult without reciprocal preferences.

Thus the probability a period t child of a parent in local community j with reciprocal preferences s becomes an adult with reciprocal preferences s in period $t + 1$, denoted $q_{s,s,t+1}^j$, is

$$q_{s,s,t+1}^j = d_{s,t}^j + \left(1 - d_{s,t}^j\right) p_t^j, \tag{C-13}$$

and the probability the child becomes an adult without reciprocal preferences is given by $1 - q_{s,s,t+1}^j$.

The probability a period t child of a parent without reciprocal preferences becomes an adult with reciprocal preferences in period $t + 1$ is

$$q_{-s,s,t+1}^j = \left(1 - d_{-s,t}^j\right) p_t^j, \tag{C-14}$$

and again, the probability the child enters adulthood without reciprocal preferences is given by $1 - q_{-s,s,t+1}^j$.

Parents put effort into socializing their child in a way that, viewed through their own preferences, gives the child the highest utility. Such effort is costly, and for simplicity we assume that the cost of affecting the probability of their child having the same preferences as themselves is governed by a quadratic cost function given by $\frac{1}{2\beta}(d_{i,t}^j)^2$ with $\beta > 0$.

C.5.2 Evolution of Preferences

The overall fraction of citizens with reciprocal preferences in the whole society develops endogenously over time, and in a given period is given by

$$p_t = f^c p_t^c + (1 - f^c) p_t^n. \tag{C-15}$$

Thus the probability a commander in the next period has reciprocal preferences is given by (C-15) evaluated at time $t + 1$.

Recall that in the case where there is a reciprocal commander, his probability of entering is given by $D_s = D(h_s)$, and his probability of remaining in power (conditional on entry) is given by $F_s = F(Y - R)$. If there is a nonreciprocal commander the same probabilities are given by

$D_{-s} = D(h_{-s})$ and $F_{-s} = F(-R)$, respectively. If a commander does not enter, or he enters but loses power, then the guerillas rule society.

From the point of view of a parent with reciprocal preferences the expected utility of their child will be the highest if the child also ends up with reciprocal preferences, which follows from Assumption 1. Thus the parent will exert parenting effort to socialize their child into having the reciprocal preferences s.

Given this such a parent will in period t choose $d_{s,t}^j$ so as to maximize

$$
y + \left[d_{s,t}^j + \left(1 - d_{s,t}^j\right) p_t^j \right] p_{t+1} D_s F_s \left(g - \tau + s\right)
$$
$$
+ \left(1 - d_{s,t}^j\right) \left(1 - p_t^j\right) p_{t+1} D_s F_s \left(g - \pi^j v\right)
$$
$$
+ \left(p_{t+1} \left(1 - D_s F_s\right) + \left(1 - p_{t+1}\right) \left(1 - D_{-s} F_{-s}\right)\right) R - \frac{1}{2\beta} (d_{s,t}^j)^2.
$$

Here the bracket in the first line is the probability that the child enters adulthood with the same reciprocal preferences as the parent, which is then multiplied by the additional expected utility of the child in this case, evaluated from the perspective of the preferences of the parent. This additional expected utility is the probability that the chosen commander is reciprocal and enters and remains in power $p_{t+1} D_s F_s$ times the additional utility is this case $(g - \tau + s)$. The second line is the probability a child from a parent with reciprocal preferences ends up with nonreciprocal preferences, multiplied by the expected utility the parent assesses the child will have in this case, which is $(g - \pi^j v)$ if a reciprocal commander enters and remains in power. The first term in the third line is the expected probability the guerillas rule, times the additional utility R is this case, while the last term in the third line is the cost of parental effort.

After collecting terms this can be rewritten as

$$
y + p_{t+1} D_s F_s g + \left(p_{t+1} \left(1 - D_s F_s\right) + \left(1 - p_{t+1}\right) \left(1 - D_{-s} F_{-s}\right)\right) R
$$
$$
+ \left[d_{s,t}^j + \left(1 - d_{s,t}^j\right) p_t^j \right] p_{t+1} D_s F_s \left(-\tau + s\right)
$$
$$
+ \left(1 - d_{s,t}^j\right) (1 - p_t^j) p_{t+1} D_s F_s \left(-\pi^j v\right) - \frac{1}{2\beta} (d_{s,t}^j)^2.
$$

Taking the derivative of this expression with respect to $d_{s,t}^j$ one derives the first order condition for a maximum[42], resulting in a parental effort to socialize the child to have the same preferences as themselves given by

$$
d_{s,t}^j = \beta(1 - p_t^j) p_{t+1} D_s F_s \left(-\tau + s + \pi^j v\right). \tag{C-16}
$$

Thus parental socialization effort depends on the marginal cost of the parenting effort, the present distribution of reciprocal preferences in the local community, the future distribution of reciprocal preferences in the whole society, the probability a reciprocal commander enters and remains in power, the level of contributions to the commander, the strength of the reciprocal preferences, and the expected disutility of violence from not acting in a reciprocal way.

A parent without reciprocal preferences, on the other hand, considers the utility of their child to be the highest if the child does not have reciprocal preferences. In view of this such a parent in

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[42]It can easily be verified that the second order condition for a maximum is fulfilled.

period t will choose $d_{-s,t}^j$ to maximize

$$y + \left[d_{-s,t}^j + \left(1 - d_{-s,t}^j \right) \left(1 - p_t^j \right) \right] p_{t+1} D_s F_s \left(g - \pi^j v \right)$$
$$+ \left(1 - d_{-s,t}^j \right) p_t^j p_{t+1} D_s F_s \left(g - \tau \right)$$
$$+ \left(p_{t+1} \left(1 - D_s F_s \right) + \left(1 - p_{t+1} \right) \left(1 - D_{-s} F_{-s} \right) \right) R - \frac{1}{2\beta} (d_{s,t}^j)^2.$$

Again after collecting terms this can be rewritten as

$$y + p_{t+1} D_s F_s g + \left(p_{t+1} \left(1 - D_s F_s \right) + \left(1 - p_{t+1} \right) \left(1 - D_{-s} F_{-s} \right) \right) R$$
$$+ \left[d_{-s,t}^j + \left(1 - d_{-s,t}^j \right) \left(1 - p_t^j \right) \right] p_{t+1} D_s F_s \left(-\pi^j v \right)$$
$$+ \left(1 - d_{-s,t}^j \right) p_t^j p_{t+1} D_s F_s \left(-\tau \right) - \frac{1}{2\beta} (d_{-s,t}^j)^2,$$

and thus the first order condition implies

$$d_{-s,t}^j = \beta p_t^j p_{t+1} D_s F_s \left(-\pi^j v + \tau \right). \tag{C-17}$$

The evolution of reciprocal preferences in each group $j \in \{c, n\}$ is given by

$$p_{t+1}^j = p_t^j (d_{s,t}^j + \left(1 - d_{s,t}^j \right) p_t^j) + (1 - p_t^j) \left(1 - d_{-s,t}^j \right) p_t^j, \tag{C-18}$$

which may be rewritten as

$$p_{t+1}^j - p_t^j = p_t^j (1 - p_t^j)(d_{s,t}^j - d_{-s,t}^j). \tag{C-19}$$

Inserting from (C-16) and (C-17) and collecting terms we get

$$p_{t+1}^j - p_t^j = \beta p_t^j (1 - p_t^j) p_{t+1} D_s F_s \left(\left(1 - p_t^j \right) s + \pi^j v - \tau \right), \tag{C-20}$$

where p_{t+1} is given by (C-15).

We can then fully characterize the evolution of reciprocity:

Proposition C-2 *Evolution of Reciprocity*

The evolution of reciprocity is given by (C-20). There are three steady states, given by the vector $\left\{ 0, p_*^j, 1 \right\}$, that satisfies:
(i) The steady states $\{0, 1\}$ are unstable.
(ii) The steady state p_*^j is defined by

$$p_*^j = 1 - \frac{\tau - \pi^j v}{s}, \tag{C-21}$$

satisfies $0 < p_*^j < 1$, and is the unique stable steady state. For all $p_t^j \in (0, 1)$ the distribution of reciprocity converges to p_*^j.

Proof *Note from (C-20) that when $p_t^j = 0$ or when $p_t^j = 1$ then $p_{t+1}^j - p_t^j = 0$. Thus these are steady states. Differentiating (C-20), and evaluating in $p_t^j = 0$ and in $p_t^j = 1$, respectively, yields*

$$Sign \left[\frac{d \left(p_{t+1}^j - p_t^j \right)}{dp_t^j} |_{p_t^j = 0} \right] = Sign \left[s + \pi^j v - \tau \right] > 0, \tag{C-22}$$

and

$$Sign \left[\frac{d \left(p_{t+1}^j - p_t^j \right)}{dp_t^j} |_{p_t^j = 1} \right] = Sign \left[\tau - \pi^j v \right] > 0. \tag{C-23}$$

The signs of the right hand sides of these equations follow from Assumption 1, and implies that both of these steady states are unstable, and (i) of the proposition then follows.

To see (ii) of the proposition we insert $p_{t+1}^j - p_t^j = 0$ in (C-20). When $p_t^j \neq \{0, 1\}$ it can easily be verified that the solution to this equation is given by (C-21), which thus constitutes a steady state. It follows from Assumption 1 that $0 < p_*^j < 1$. To see that the steady state p_*^j is stable, we differentiate (C-20), and evaluate in $p_t^j = p_*^j$, which yields

$$Sign \left[\frac{d \left(p_{t+1}^j - p_t^j \right)}{dp_t^j} |_{p_t^j = p_*^j} \right] = Sign \left[-s p_*^j \left(1 - p_*^j \right) \right] < 0. \tag{C-24}$$

The steady state defined in (C-21) is then stable, and (ii) of the proposition follows.

The most important insight from Proposition C-2 in our case is that our assumption in the static model, that the share of citizens with reciprocal preferences among peasants is higher than among non-peasants, is in fact a steady-state result when reciprocity evolves endogenously. The intuition for this is as follows: a more transparent community is more likely to detect nonreciprocal behavior. This affects incentives of both types of parents. When society is more transparent this is an advantage for those with reciprocal preferences, as it increases their relative payoff. Since the reciprocal preferences pay off better in terms of relative utility, parents with those preferences have a stronger incentive to provide parental effort so as to install such preferences in their child. On the contrary, parents with nonreciprocal preferences get a weaker incentive to install nonreciprocal preferences in their child, since such preferences pay off relatively less well. For both reasons, the stable steady state fraction of a community that holds reciprocal preferences increases when the community is more transparent. Therefore p_*^j is strictly increasing in π^j. This implies that since $\pi^c > \pi^n$ we have $p_*^c > p_*^n$ so the latter inequality, which was an assumption in the static model, is a result in this model.

From (C-21) other results also follow. It can be seen that the stable steady state level of reciprocal preferences in a community is higher (i) the stronger is the benefit of reciprocal preferences among those that hold them (high s), (ii) the more nonreciprocal citizens lose by not contributing to local public goods (high v), and (iii) the lower is the contribution asked by the commander (low τ).

The intuition for these results is that strong reciprocal preferences among those who hold them, increases the incentives of reciprocal parents to install the reciprocal preferences in their child, guaranteeing that the steady state level of reciprocal preferences is higher than it would otherwise be. The intuition for the effect of how much nonreciprocal citizens are punished by not reciprocating,

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v, and how much reciprocal behavior costs τ is similar.

Finally, to see the intuition for the instability of the steady states which are corner solutions; $p_{t+1}^j = p_t^j \in \{0, 1\}$, consider, for instance, the case where the fraction of the community that holds reciprocal preferences approaches zero. Parents with reciprocal preferences will then realize that, absent parental efforts, their child will most likely end up without reciprocal preferences as they are socialized by the community in which they grow up, which mainly has nonreciprocal preferences. Thus the incentive to provide parental effort to install reciprocal preferences becomes very strong. At the same time, parents without reciprocal preferences will realize that, absent parental efforts, their child will most likely end up with nonreciprocal preferences. Thus the incentive to provide parental effort to install nonreciprocal preferences becomes very weak. Thus, in a situation where the fraction of citizens in a community with reciprocal preferences becomes very small, incentives are, for both reasons, tilted in a direction that guarantees that the share of citizens with reciprocal preferences increases over time. This same intuition also explains why the internal steady state is stable. Here, incentives of both types of parents are balanced such that the preferences of one generation is reproduced by the next.

Appendix D   Data Construction

D.1   Commanders Data

We followed several steps to construct the commanders data. Using court rulings from the Justice and Peace Tribunals, we first made a list of paramilitary commanders and fronts during the period 1997-2006. Figure D.1 for example depicts information from the Peasant Self-Defense Forces of the Middle Magdalena in 2000 from which one can read off the names of the different fronts. Then, we coded basic individual socio-demographics from commanders' C.Vs. Figure D.2 shows the start of the C.V. of Ramiro 'Cuco' Vanoy, the commander of the Miners Block. The information we coded included the names and surnames of the commanders, their aliases, national IDs, place and year of birth, sex, education, and family background. We also coded variables characterizing their lives before and during their paramilitary experience. For instance, their prior occupations, including whether they had been in the Armed Forces and if so at what rank, whether they or a close relative were victims of guerrilla groups, whether they had a criminal record and in particular one that was explicitly connected to the illicit drug industry. We also recorded their paramilitary ranks, occupations, and service time, as well as their places of operation.

Next, we tried to complete missing information. To do this, we employed other complementary sources and help from expert journalists. In particular, we searched the indictments made by the Attorney General and court hearings (*Audiencias de Legalización de Cargos*). Other sources included the directories from the Armed Forces and National Police webpages, from where we scraped data on military and criminal records using commanders' national IDs.[43] Additionally, accounts from journalists and research initiatives, particularly the website *Verdad Abierta* and National Center for Historical Memory (CNMH), were also used to corroborate facts.[44]

Finally, we cleaned the data further to designate a unique front commander while the front was active. In a majority 74% of cases, court rulings and other supporting legal material clearly identified a unique front commander. However, in a few cases: (i) multiple front commanders

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[43]Armed Forces: https://www.libretamilitar.mil.co/modules/consult/militarysituation. National Police: https://antecedentes.policia.gov.co:7005/WebJudicial/.

[44]Verdad Abierta: https://verdadabierta.com/quienes-somos/.

existed, because a few of them were killed, replaced or rotated, or (ii) no front commander was known. In the case of multiple commanders, we manually assigned the unique front commander to those who were in charge for over 70% of the front's duration and employed case study evidence from secondary sources provided to support the decision too. Table A.1 lists and describes the commander information utilized in this study.

Figure D.1: Example of Organizational Chart

(a) Organizational Chart

5.7 La estructura de la organización

166. El Bloque Cacique Nutibara era una estructura jerárquica y piramidal, pero en su base funcionaba como una red extendida de bandas y combos que, sin embargo, obedecían las políticas y directrices de la estructura central.

La máxima autoridad era Diego Fernando Murillo Bejarano[139], quien desde la zona de seguridad del municipio de Valencia (Córdoba) operaba a través de Daniel Alberto Mejía Ángel en la ciudad de Medellín y el área metropolitana. Éste era el segundo al mando y fungía como comandante militar y de finanzas y a su lado estaba Severo Antonio López, alias Job, quien hacía de comandante político.

(b) Written Description

Notes: This figure shows an example of an organizational chart (a) found in a court ruling along with it's written description (b). Source: Justice & Peace Tribunals.

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Figure D.2: Example of a Commander Bio

REPÚBLICA DE COLOMBIA
RAMA JUDICIAL DEL PODER PÚBLICO

TRIBUNAL SUPERIOR DE MEDELLÍN
SALA DE JUSTICIA Y PAZ

MAGISTRADA PONENTE:
MARÍA CONSUELO RINCÓN JARAMILLO

Medellín, febrero dos (2) de dos mil quince (2015)

Radicado:	110016000253200680018
Postulado:	**RAMIRO VANOY MURILLO**, alias "**Cuco Vanoy**"
Delitos:	Homicidio en persona protegida y otros
Procedencia:	Fiscalía Quince de Justicia Transicional
Asunto:	Sentencia

(a) Court Ruling

2.- BIOGRAFÍA DEL POSTULADO[1]

RAMIRO VANOY MURILLO[2], alias "**Cuco Vanoy**", "**El Viejo**", "**Orlando**", "**El Patrón**" o "**Marcos**", plenamente identificado con cédula de ciudadanía No. 462.653 de Yacopí (Cundinamarca), nació en esa municipalidad el 31 de marzo de 1948; hijo de **ANÍBAL VANOY** y **ANA DOLORES MURILLO**; casado con **DINA EMÉRITA CIFUENTES**, en la actualidad separado y padre de 12 hijos. Lo particulariza amputación en la falange 7.

Se conoce que, **VANOY MURILLO**, pasó su niñez durante los años 1948 a 1965 en la vereda Llano Mateo del municipio de Yacopí (Cundinamarca), en el seno de una familia humilde de bajos niveles económicos y escolares, donde su padre trabajaba como carnicero y en labores del campo, mientras que él se desempeñó como jornalero, arriero, carnicero y apostador de gallos hasta 1960.

(b) Biography

Notes: This figure shows an example of a court ruling against a commander (a) along with the commander's C.V. (b). Source: Justice & Peace Tribunals.

D.2 Front Data

Front Geolocation and Duration: To construct the front-level database characterizing paramilitary strategies in 1997-2006, we geolocated paramilitary fronts across municipalities (and when appropriate submunicipal administrative units) and years. First, we employed descriptions

from court rulings (Figure D.3 shows how information was often displayed) that illustrated where fronts operated. Descriptions were not uniformly formatted, but all of them mentioned municipalities, particular submunicipal units, or geographical features (i.e: rivers, mountains, etc.) that served as clear limits between paramilitary groups, as well as dates of operation (in Appendix B.4 we document case study evidence about the relatively idiosyncratic nature of these boundaries).

When information was incomplete or missing, we complemented it with geolocation data from the Attorney General used in the indictments, but not necessarily shown in court rulings. For the most part, this information combined military and police intelligence (i.e.: *Órdenes de Batalla*) reports, on-the-ground investigations led by the prosecutor in charge of each case, and other secondary sources (i.e: NGOs, victims reports) that the Attorney General considered credible. The data included municipal and submunicipal references that we were also able to map. We again tried to corroborate and cross-check facts with the alternative sources noted above, including *Verdad Abierta* and CNMH.

Then, we drew block and front boundaries for the empirical analysis. To provide a few examples, Figure D.4 displays several maps of front boundaries from the court rulings and case study descriptions discussed in Section 5 and Appendix B.4. For instance, subfigure (a) shows the Elmer Cardenas and Banana Blocks boundary followed the left bank of the Atrato river. Subfigure (b) maps the boundaries of several fronts from the Tolima Block and the Peasant Self-Defense Forces of the Middle Magdalena, while subfigures (c) to (d) do the same for the Peasant Self-Defense Forces of Middle Magdalena, Puerto Boyacá, and Cundinamarca along the Magdalena river banks.

Finally, to pin down the duration of the fronts we mostly relied on the judicial sources following a simple procedure:

1. If court rulings or geolocation data from the Attorney General reported information, the available entry and exit dates were taken. If locations and dates existed but information differed (i.e.: if these two sources of information indicated different entry or exit years), court rulings were prioritized (30.3%).

2. In case court rulings did not contain information, geolocation data from the Attorney General was prioritized and the available locations and dates were taken (51.4%).

3. In case these sources provided information about locations but not dates (i.e.: if these two sources of information reported the presence of paramilitaries in a municipality but not entry or exit years), we imputed dates for locations without dates from the nearest location of the front or block with available dates (18.3%).

Following these steps, we were able to geolocate 31 paramilitary blocks and 146 fronts (3 blocks were considered to have never existed or deemed fake). Second, we excluded fronts that were created after the rise of AUC in 1997 and lasted for less than a year in 1997-2006 – mainly whose boundaries were largely unstable or ill defined during this period (14 fronts or 9.5%). If blocks did not have a well defined front, we considered the block to also represent a front. Then, we matched front data with the commanders data described above. Since we could not fully corroborate the individual information of 32 front commanders, we dropped an additional 32 fronts from our sample of analysis (or 21.9%).

Finally, when fronts had overlapping territories within the same municipalities, we selected a dominant front based on descriptions from court rulings. In particular, we prioritized those which exhibited continual presence during this period, rather than sporadic or limited incursions. In case

this is not possible, we dropped fronts from the sample (28 fronts or 34%). We ended up with a final sample of 23 blocks and 72 paramilitary fronts and leaders, which simplifies our empirical analysis described in Section 5. Figure D.5 below maps these paramilitary blocks (shown in various colors) and fronts (delimited by grey boundaries). Table D.1 also lists paramilitary blocks and describes their leaders' names, number of peasant and non-peasant fronts, entry and exit years, and areas of operation.

Figure D.3: Geolocation Reference Example

6.2.5.3.5.1 Frente Vencedores del Sur.

Tuvo presencia en los municipios de Santa Rosa del Sur, Simití, Regidor, Morales, Arenal y Rio Viejo.

6.2.5.3.5.2 Frente Libertadores del Río Magdalena.

Tuvo injerencia en los municipios de San Pablo y Canta Gallo.

6.2.5.3.5.3 Frente Combatientes de la Serranía de San Lucas.

Operó en los municipios de El Peñón, Barranca de Loba, Hatillo de Loba, San Martín de Loba, Tiquisio y Altos de Rosario[292].

Notes: This figure shows an example of a location reference in a court ruling. Source: Justice & Peace Tribunals.

Figure D.4: Front Boundaries Examples

Elmer Cárdenas Block

Bananero Block

(a) Elmer Cardenas - Banana Blocks

Peasant Self-Defense Forces of the Middle Magdalena

Peasant Self-Defense Forces of Cundinamarca

(b) Tolima Block - Peasant Self-Defense Forces of the Middle Magdalena

Peasant Self-Defense Forces of the Middle Magdalena

Peasant Self-Defense Forces of Puerto Boyacá

(c) Peasant Self-Defense Forces of the Middle Magdalena - Peasant Self-Defense Forces of Puerto Boyacá Blocks

Peasant Self-Defense Forces of the Middle Magdalena

Tolima Block

(d) Peasant Self-Defense Forces of the Middle Magdalena - Peasant Self-Defense Forces of Cundinamarca Blocks

Note: This figure shows maps of paramilitary front boundaries from various court rulings. Sources: Justice & Peace Tribunals.

Figure D.5: Paramilitary Blocks and Fronts, 1997 - 2006
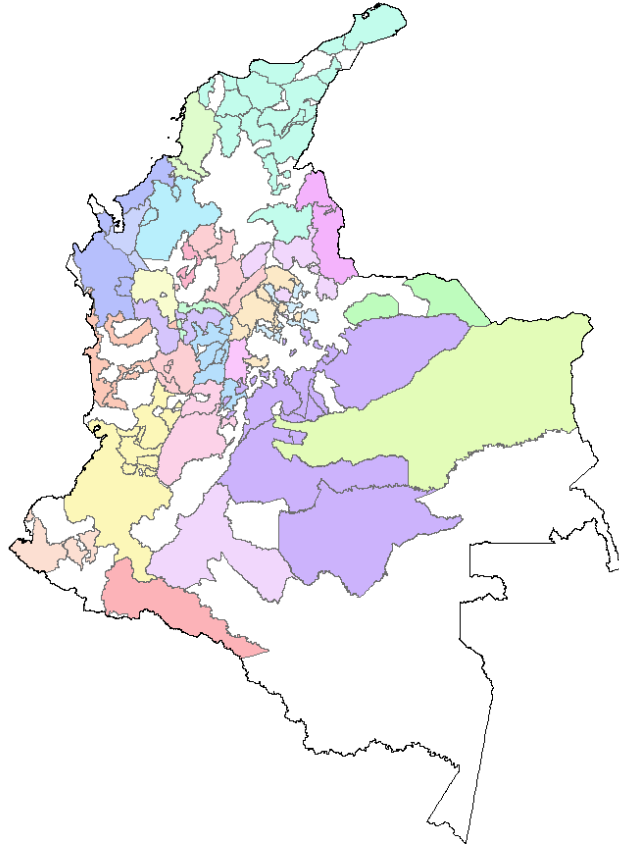
Notes: This map shows the geographic distribution of paramilitary blocks (in various colors) and fronts (black boundaries) in 1997-2006 in our sample of study. Source: Justice & Peace Tribunals, own calculations.

Table D.1: Paramilitary Blocks and Fronts, 1997 - 2006

Block Name	Commander Name	Total Fronts	Peasant Fronts	Antecedents	Entry Year	Exit Year	Regions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Peasant Self-Defense Forces of Cundinamarca	Luis Eduardo Cifuentes Galindo	1	1	1981	1998	2004	Andean
Peasant Self-Defense Forces of Puerto Boyacá	Arnubio Triana Mahecha	7	3	1977	2000	2006	Andean
Peasant Self-Defense Forces of the Middle Magdalena	Ramón María Isaza Arango	6	5	1977	2000	2006	Andean
Banana Block	Ever Veloza García	2	1	-	1995	2004	Andean
Southern Liberators Block	Guillermo Pérez Alzate	2	1	-	2000	2005	Pacific
Central Region Block	Carlos Mario Jiménez Naranjo	5	1	-	1998	2007	Andean, Pacific
Northern Region Block	Carlos Mario Jiménez Naranjo	2	0	-	2001	2005	Andean
Sourthern Putumayo Block	Rafael Antonio Londoño Jaramillo	1	0	-	1998	2006	Amazon
Calima Block	Ever Veloza García	5	2	1989	1999	2004	Andean, Pacific
Catatumbo Block	Salvatore Mancuso Gómez	2	1	-	1999	2004	Andean
Centaurs Block	José Miguel Arroyave Ruíz	6	3	1989	1998	2005	Amazon, Andean, Orinoco
Central Bolívar Block	Carlos Mario Jiménez Naranjo	4	2	-	1997	2006	Amazon, Andean, Caribbean
Córdoba Block	Salvatore Mancuso Gómez	2	2	1980	1996	2005	Caribbean
Elmer Cárdenas Block	Freddy Rendón Herrera	4	2	1980	1996	2006	Andean, Caribbean, Pacific
Heroes of Granada Block	Diego Murrillo Bejarano	1	0	-	2000	2005	Andean
Heroes of Los Llanos and Guaviare	Manuel de Jesús Pirabán	1	1	-	2004	2006	Amazon, Orinoco
Metro Block	Carlos Mauricio García Fernández	3	2	-	1996	2003	Andean
Miners Block	Ramiro Vanoy Murillo	2	1	1984	1997	2006	Andean
Mountains of María Block	Edwar Cobos Téllez	2	1	1986	1999	2005	Caribbean
Northern Block	Rodrigo Tovar Pupo	7	4	1986	1997	2006	Andean, Caribbean
Pacific Block	Luis Eduardo Echavarria Durango	3	1	1991	1996	2005	Andean, Pacific
Tolima Block	Diego José Martínez Goyeneche	2	2	1983	1998	2005	Andean
Victors of Arauca Block	Miguel Ángel Mejía Munera	2	1	-	2000	2005	Orinoco

Note: This table lists and describes the paramilitary blocks and fronts in 1997 - 2006 in our sample of study. Columns (1) and (2) indicate the names of paramilitary blocks and their most senior commander. Columns (3) and (4) document the number of fronts within each block and the number of them led by a peasant commander. Column (5) shows the year antecedent groups began. Columns (6) and (7) shows the year the block was created and the year it demobilized. Column (8) shows the regions where paramilitary blocks operated. Source: Justice & Peace Tribunals, own calculations.

Public Goods: The public goods data was primarily coded by examining court rulings and other supporting material from the Justice and Peace Tribunals, which included descriptions of public goods constructed by paramilitaries or lists of them for the purpose of using them to give some type of reparations to victims. Figure D.6, for example, from the judicial sentence of Ramiro "Cuco" Vanoy Murillo, commander of the Miners Block, states that he built two hospitals, first, the Clínica Nueva Luz in the Corregimiento of Guáimaro in the municipality of Tarazá (a Corregimiento is an intermediate administrative unit inbetween a vereda and a municipality). Second the Clínica San Martin also in the municipality of Tarazá, Antioquia. Note that it gives the exact street address of the Clínica San Martin in the urban center of Tarazá. The sentence even provides a photograph of the Clínica Nueva Luz. Supplementary sources came from *Verdad Abierta* and CNMH, whose testimonial volumes yielded further insights into the provision of public goods by the paramilitary groups. Upon completing this phase, we worked with journalists to crosscheck the compiled information across different sources. We also corroborated its validity through previously gathered evidence from paramilitary commanders and local citizens. In total, we collected information on 156 public goods in 1997-2006, including the type of public good (i.e, school, health clinic, etc.), the group that provided it, the address, and sometimes specific dates when they were constructed (although only for 20.5% of cases). Ultimately, we matched these to locations (longitude and latitude), and subsequently associate them with the corresponding municipalities and rural neighborhoods (*veredas*).

Figure D.6: Public Goods Reference Example

(a) Reference   (b) Picture
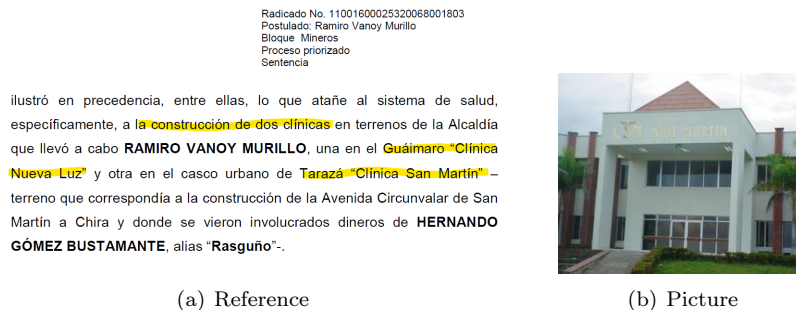
Notes: This figure shows an example of a public goods reference in a court ruling. Source: Justice & Peace Tribunals.

Massacres: The massacres data was collected from the National Center for Historical Memory (CNMH). Specifically, we employed the massacre dataset and filtered by the type of perpetrator (i.e.: paramilitaries) and dates according to our needs. The CNMH data derives in turn from various sources, predominantly the testimonial volumes of Noche y Niebla – the journal of the NGO CINEP, as we mentioned, which assembles comprehensive reports on violent armed group actions –, Justice and Peace Bulletins, and journalistic accounts. Each massacre observation was meticulously sourced, enabling us to refer to the original documentation to ascertain its precise location. Figure D.7 provides two examples. The first, Reference 1, notes how the paramilitary group the United Peasant Forces of the Eastern Plains entered the rural neighborhood of Puerto Oriente and assassinated 11 people on July 5, 1998. The entry notes they had a "lista en mano" ("list in hand") suggested that these peoples' names were on a list and they were targeted. The

entry also mentioned that this vereda was in the department of Vichada. Reference 2 records how members of the AUC "selectively" massacred 6 people on August 28, 2001 in the rural neighborhood of La Granja in the municipality of Ituango in the department of Antioquia. We used the detailed geographic references to rural neighborhoods (*veredas*) to precisely geolocate massacres (in longitude and latitude) and date frames to assign them to fronts. Additionally, we undertook a rigorous verification of the perpetrator and the number and nature of victims.

Figure D.7: Massacre Reference Example

Julio 05/1998

DEPARTAMENTO: **VICHADA**

Paramilitares denominados como "Fuerzas Unidas Campesinas de los Llanos Orientales" incursionaron en la vereda de Puerto Oriente y asesinaron a 11 personas, lista en mano. En el grupo de víctimas se encuentran dos menores de edad. El hecho se inscribe en una serie de masacres perpetradas en la zona, por parte de este grupo, en los días mensionados. En días siguientes, por lo menos 250 personas de la vereda Puerto Oriente, abandonaron la población huyendo de las acciones paramilitares.

(a) Reference 1

Agosto 28/2001

DEPARTAMENTO: *ANTIOQUIA*
MUNICIPIO: *ITUANGO*

Paramilitares ejecutaron selectivamente a seis personas en el corregimiento La Granja. Cuatro de los cadáveres fueron hallados en la zona rural. Esta acción desencadenó el desplazamiento hacia la cabecera municipal de los habitantes de las veredas Chontaduro, Mandarino, Monte Alto, Guadual y Alto Ceniza.

(b) Reference 2

Notes: This figure shows an example of a violence reference in Noche y Niebla[a]. Source: Noche y Niebla No. 9 p.29 and Noche y Niebla No. 21 p.142.

[a]Noche y Niebla - Human rights and political violence magazine: https://www.nocheyniebla.org/?page _id=399

Appendix E   Robustness Checks

Types of Public Goods: Table E.8 distinguishes between the different types of public goods provided by paramilitaries. We split our main outcome into several public goods categories specifically infrastructure, for instance rural roads or dams, and what we refer to as social public goods. This latter category is comprised on housing, education, health care, or recreation & sports. We re-estimate versions of the baseline equation 1 but separating out the different categories of public goods. In column (1) we reproduce our baseline finding. Interestingly, columns (2) and (3) document that both the provision of infrastructure and social goods are higher when a front is commander by a peasant. The remaining columns show however that the result for social public goods is driven by the provision of recreational or sporting services like artisan centers, soccer pitches, or bullrings (see some pictures in Figure B.1). The evidence suggests there weren't clear disparities among other types of public goods, for example in the provision schools or health centers.

Number of Public Goods: In the main text and the last sub-section we used dummy variables to code whether or not a public good, or a type of public good was provided. It is interesting to think of the dependent variable instead as a count variable. In Table E.9 we estimate versions of 1 with the dependent variable defined in this way. The results are very similar to our baseline specification and quantitatively comparable since the estimated coefficient is about 150% of the mean. As in the main text the coefficient on peasant becomes smaller with the addition of block fixed effects in column (6) and just loses significance at the 10% level here. All in all however, our results are robust to re-coding the public goods variable.

Number of Massacres: We now do a similar exercise using data on the number of massacres as the outcome variable instead of a dummy as in the main text. The results of estimating 1 with this new dependent variable are reported in E.10. The results are very consistent in terms of significance to our main results and also in terms of magnitude with the estimated coefficient being around 100% of the mean. In fact while in 5 the estimated coefficient loses significance when we use the donut estimator, it remain significant in E.10 at the 5% level. As in 5 however when we adapt Calonico et al. (2020, 2014)'s approach to the optimal bandwidth in column (8), the sample falls to less than a quarter of our baseline sample with a 15km bandwidth and we are under powered.

We conclude that our baseline findings do not depend on a single way of measuring outcomes. In both tables, point estimates in columns (2) through (8) are economically and statistically similar to the usual variations in bandwidth, RD polynomials, and controls, with coefficients ranging between 0.64 and 1.15 in the case of the number of public goods, and between 0.071 and 0.10 in the case of the number of people killed in massacres.

Front Entry and Exit Years: One could raise the concern that the front duration coefficient in Table 8 is explained by certain paramilitary groups negotiating longer demobilization dates with the national government rather than the mechanism predicted by our model. To unpack this further, Figure E.4 in Appendix E graphically documents the distribution of entry and exit years for paramilitary fronts in 1997-2006. Histograms show the systematic differences for peasant and non-peasants fronts. While this is a purely descriptive exercise, the data suggests that on average peasant and non-peasants fronts demobilized at very similar dates and that most of the variation stems from peasant leaders beginning their tenure earlier than non-peasant ones, which we believe supports our story.

Alternative Treatment Measure and Sample: Table E.11 exhibits results for outcomes of interest employing a stricter definition of a peasant, by raising a commander's rural place of birth threshold to 60% rural. To be consistent with results in Tables 4, 5, and 7, we re-estimate

the same number of regressions following equation 1. Point estimates mimic those from baseline regressions in the main text, particularly for public goods. On average, coefficients decrease from 8.9 in Table 4 to 7.5 percentage points in Table E.11, but remain statistically significant at the 5% confidence level throughout columns (1) to (8). The same is true for front duration, whose estimates basically remain the same when we compare Table 7 to Table E.11. However, in the case of massacres, coefficients retain similar economic sign and magnitude, but some loose statistical significance (from 5% confidence level in Table 5 to 10% confidence level in Table E.11). Most likely, this is explained by low variation given that the number of massacres in our sample is relatively small compared to the number of rural neighborhoods. Overall, though, we are confident these results provide evidence that our baseline findings do not depend on a single definition of a peasant.

Moreover, Table E.12 reports a boundary falsification test. We randomly assign treatment in order to understand whether public good provision or massacres of the magnitude found close to the boundaries are typical. Columns (1) to (3) document that the public goods and massacres estimates have the opposite sign to those we document in the main text (and the magnitude of public goods is basically zero). Jointly with the duration estimate, they are also all statistically insignificant, which suggests to us that our main findings are not found generally along boundaries. We describe exactly how we constructed this falsification exercise in section E.3 of this Appendix.

Alternative Hypothesis: Finally, as we discussed in the text in Section 7, we document the effects of peasant commanders on drug production and parapolitics. Table E.14 suggests that peasants leaders are not disproportionately associated with having more coca crops in the territories they commanded. In fact, column (1) shows that coca production in the year they demobilized is -0.016 hectares per km^2 of municipal area less than compared to non-peasant leaders, although the coefficient is statistically insignificant. Columns (2) to (7) indicate that this result extends to the usual forms of equation 1 that we examine previously, with the point estimate ranging between -0.006 and -0.025. The sign changes in column (8) when we employ Calonico et al. (2020, 2014)'s optimal bandwidth, but the coefficient remains insignificant and small.

Moving to Table E.15 we also see that peasant commanders are not necessarily more likely to be involved in parapolitics than non-peasant ones. Column (1), for instance, illustrates that the vote share for congresspeople linked to paramilitaries in places rules by peasants was only 0.4 percentage points higher in 1998 (mean =7.1%) and 2.3 percentage points in 2002 (mean =28%). Both point estimates are small and statistically insignificant. Columns (2) to (8) show similar patterns when we specify other bandwidths or RD polynomials. In some cases coefficients become even smaller or change signs. These results extend to our last measure, which shows that the likelihood that a para-politician obtained the most votes in 1998 or 2002 in peasant commanded territories was 1.1 percentage points less than non-peasant ones, compared to a mean of 41%. As before, point estimates are small and insignificant (apart from column (8) which suggests that if anything peasants commanders were less linked to para-politicians).

E.1   Figures

Figure E.1: Geographic Balance RD plots

(a) Elevation

(b) Slope

(c) Soil Quality

(d) Rainfall

(e) Temperature
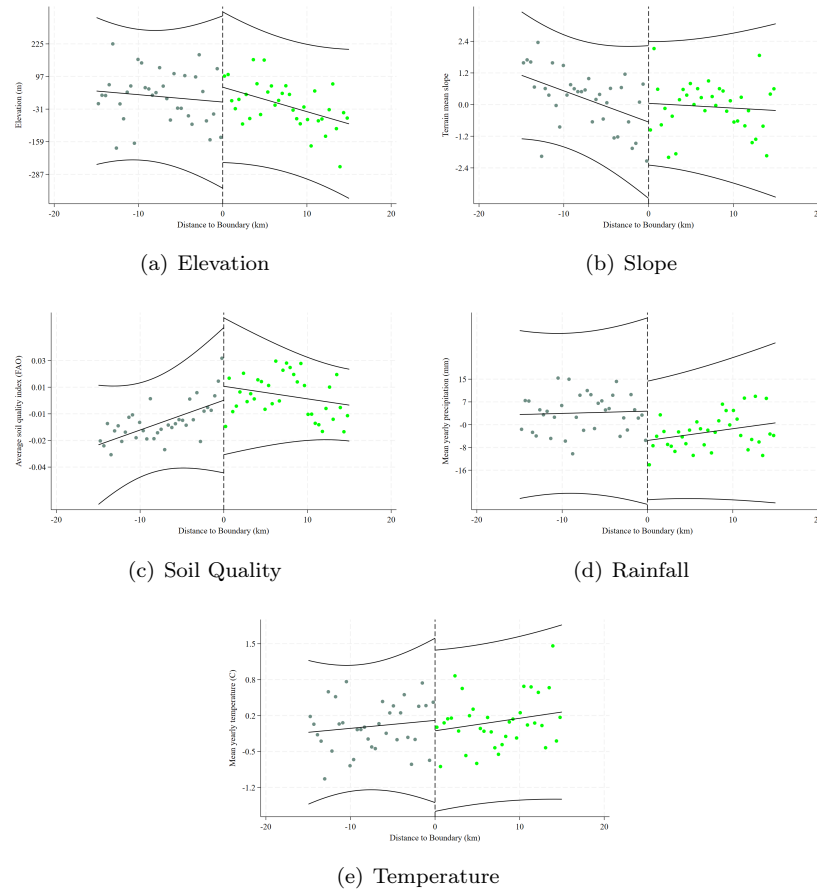
Notes: This figure graphically documents RD plots for geographic variables. Panels show the systematic differences (in green) of *Peasant*, an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise, on elevation (a), slope (b), soil quality (c), rainfall (d), and temperature (e). Regressions are estimated using a local linear polynomial in distance to paramilitary front boundaries, estimated separately on each side of the threshold, and control for longitude and latitude. 95% confidence intervals around the estimated lines are shown in the shaded area. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Figure E.2: Pre-Treatment Balance RD plots
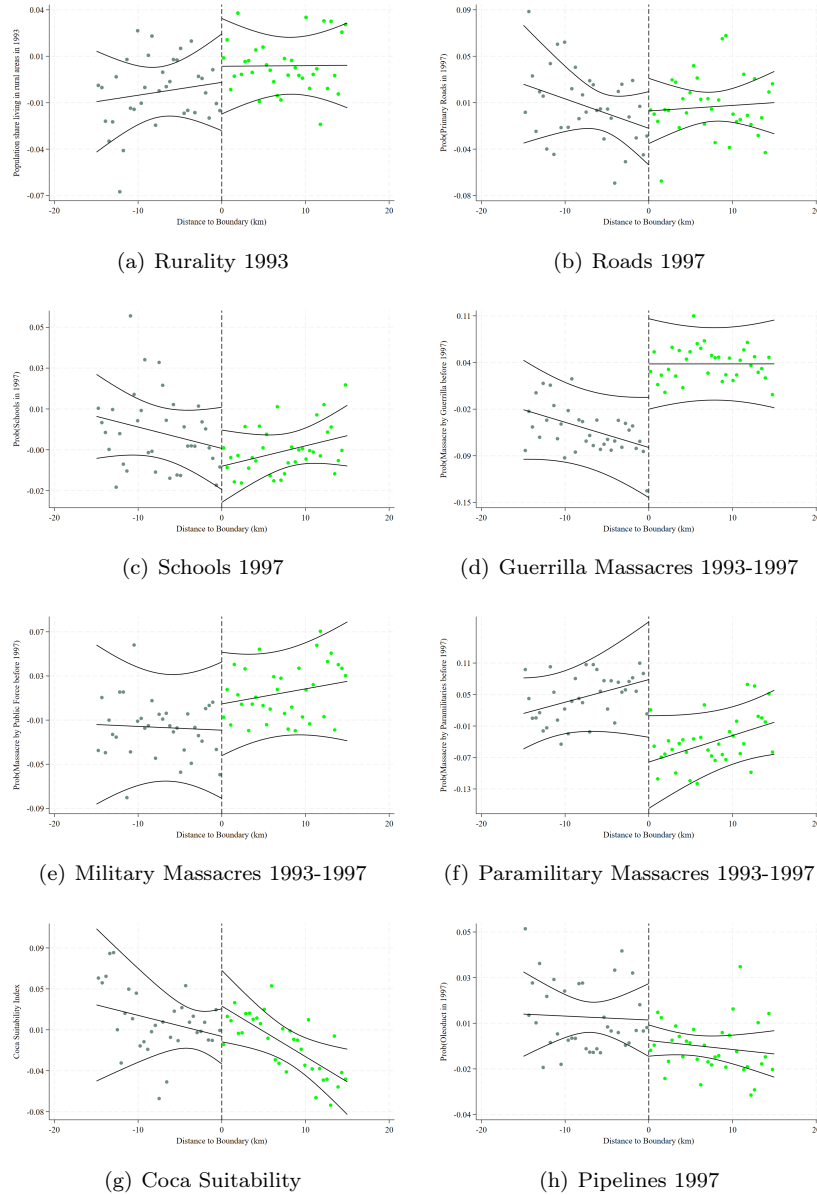
(a) Rurality 1993

(b) Roads 1997

(c) Schools 1997

(d) Guerrilla Massacres 1993-1997

(e) Military Massacres 1993-1997

(f) Paramilitary Massacres 1993-1997

(g) Coca Suitability

(h) Pipelines 1997

Notes: This figure graphically documents RD plots for pre-treatment variables. Panels show the systematic differences (in green) of *Peasant*, an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise, on development (a, and b), massacres (c, d, and e), and natural resources (f, and g). Regressions are estimated using a local linear polynomial in distance to paramilitary front boundaries, estimated separately on each side of the threshold, and control for longitude and latitude, elevation, slope, and precipitation. 95% confidence intervals around the estimated lines are shown in the shaded area. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

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Figure E.3: Pre-Treatment Balance RD plots
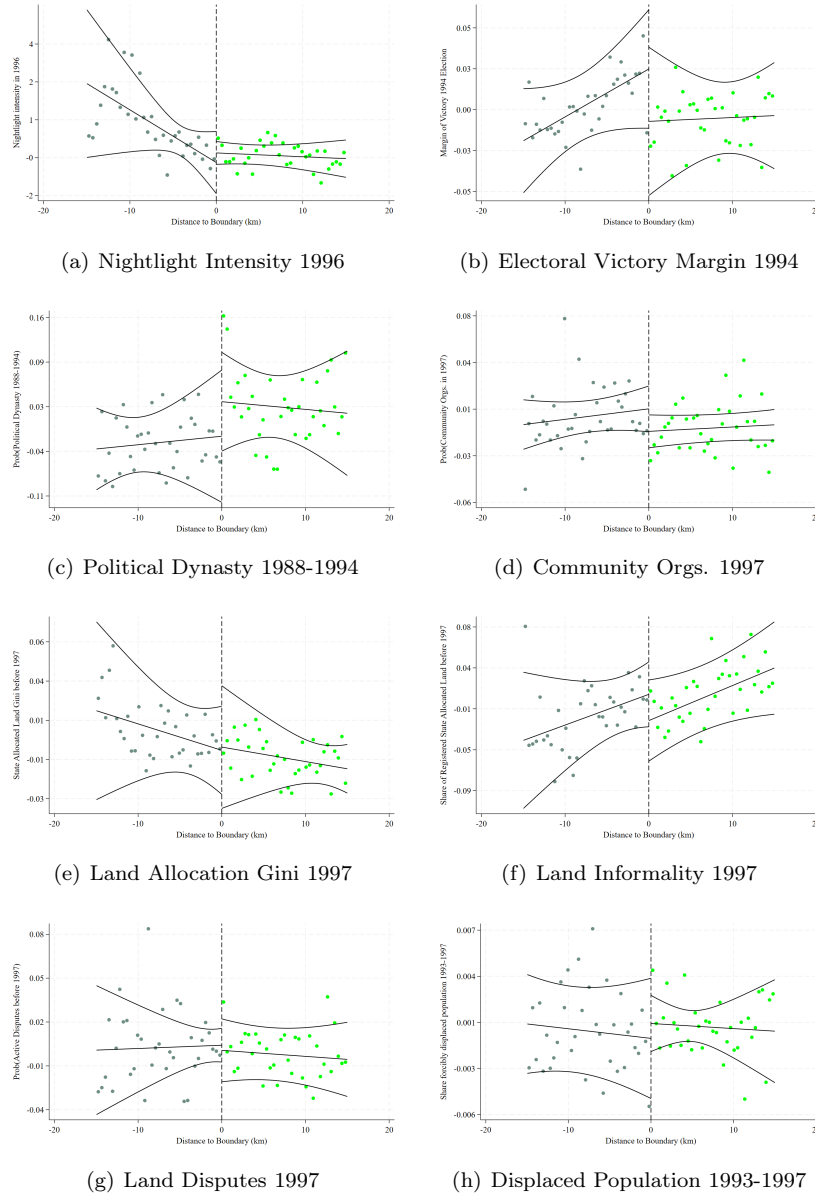
(a) Nightlight Intensity 1996

(b) Electoral Victory Margin 1994

(c) Political Dynasty 1988-1994

(d) Community Orgs. 1997

(e) Land Allocation Gini 1997

(f) Land Informality 1997

(g) Land Disputes 1997

(h) Displaced Population 1993-1997

Notes: This figure graphically documents RD plots for pre-treatment variables. Panels show the systematic differences (in green) of *Peasant*, an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise, on politics (a, and b), social capital (c), land & disputes (d, e, f, and g). Regressions are estimated using a local linear polynomial in distance to paramilitary front boundaries, estimated separately on each side of the threshold, and control for longitude and latitude, elevation, slope, and precipitation. 95% confidence intervals around the estimated lines are shown in the shaded area. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Figure E.4: Distribution of Front Entry and Exit Years
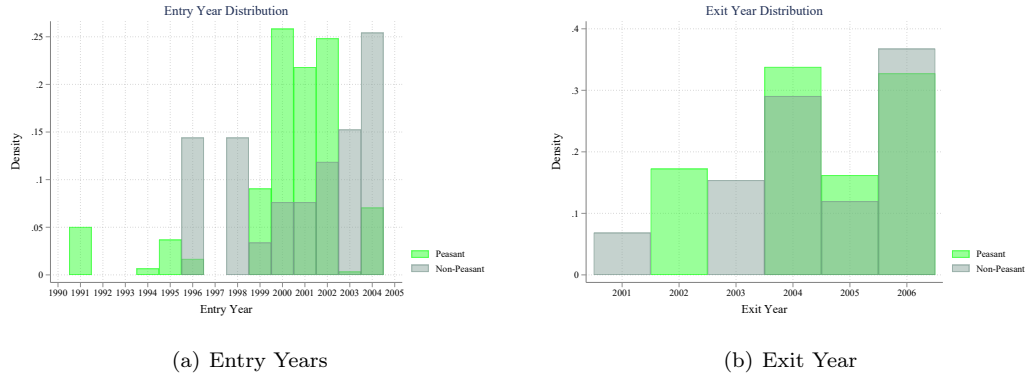
(a) Entry Years

(b) Exit Year

Notes: This figure graphically documents the distribution of entry and exit years for paramilitary fronts in 1997-2006. Histograms show the systematic differences between *Peasant* led paramilitary fronts (in green) and *Non-Peasant* ones (in grey). Source: Justice & Peace Tribunals, own calculations.

E.2 Tables

Table E.1: Front-Level Pre-Treatment Balance, 1997

	Variable	*Peasant*	S.E	Obs.	Mean
		(1)	(2)	(3)	(4)
	Geography				
(1)	Elevation	-44.500	(154.950)	72	853.57
(2)	Slope	-0.820	(1.552)	72	10.748
(3)	Soil Quality	0.006	(0.014)	72	0.824
(4)	Rainfall	-8.059	(14.441)	72	205.939
(5)	Temperature	0.074	(0.820)	72	23.354
	Economic Development				
(6)	Rurality 1993	0.001	(0.042)	72	0.609
(7)	Roads 1997	0.010	(0.027)	72	0.121
(8)	Schools 1997	-0.022	(0.019)	72	0.024
(9)	Nightlights 1996	-0.356	(0.813)	72	3.405
	Conflict				
(10)	Guerrilla Massacres 1993-1997	-0.001	(0.001)	72	0.001
(11)	Armed Forces Massacres 1993-1997	-0.000	(0.001)	72	0.002
(12)	Paramilitary Massacres 1993-1997	0.005	(0.009)	72	0.011
	Natural Resources				
(13)	Coca Suitability	-0.001	(0.042)	72	0.220
(14)	Pipelines 1997	0.007	(0.013)	72	0.021
	Politics				
(15)	Electoral Victory Margin 1994	-0.017	(0.024)	72	0.165
(16)	Political Dynasty 1988-1994	0.003	(0.070)	72	0.272
	Social Capital				
(17)	Community Organizations 1997	0.005	(0.017)	72	0.045
(18)	Positive Reciprocity 2021	-0.209	(0.134)	72	0.000
(19)	Negative Reciprocity 2021	0.116	(0.196)	72	0.000
	Land & Disputes				
(20)	Land Allocation Gini 1997	-0.000	(0.020)	69	0.477
(21)	Land Informality 1997	-0.016	(0.047)	69	0.657
(22)	Land Disputes 1997	0.029	(0.031)	72	0.049
(23)	Displaced Population 1993-1997	-0.002	(0.016)	72	0.028

Note: This table documents geographic and pre-treatment front-level statistical balance. Robust standard errors are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the paramilitary front. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.2: Pre-Treatment Balance with Conley Standard Errors, 1997

		Peasant (1)	S.E (2)	Obs. (3)	Clusters (4)	Mean (5)
	Geography					
(1)	Elevation	-28.167	(79.177)	7,024	72	1158.41
(2)	Slope	-0.175	(0.958)	7,024	72	13.331
(3)	Soil Quality	0.016	(0.013)	7,024	72	0.844
(4)	Rainfall	-6.691	(8.717)	7,024	72	204.525
(5)	Temperature	0.067	(0.432)	7,024	72	21.721
	Economic Development					
(6)	Rurality 1993	0.014	(0.027)	6,790	72	0.625
(7)	Roads 1997	0.006	(0.017)	7,024	72	0.121
(8)	Schools 1997	-0.008	(0.009)	7,024	72	0.016
(9)	Nightlights 1996	-0.356	(0.791)	7,024	72	4.317
	Conflict					
(10)	Guerrilla Massacres 1993-1997	0.000	(0.001)	7,024	72	0.001
(11)	Armed Forces Massacres 1993-1997	-0.000	(0.001)	7,024	72	0.121
(12)	Paramilitary Massacres 1993-1997	-0.006**	(0.003)	7,024	72	0.006
	Natural Resources					
(13)	Coca Suitability	0.032	(0.029)	7,024	72	0.220
(14)	Pipelines 1997	-0.014*	(0.007)	7,024	72	0.018
	Politics					
(15)	Electoral Victory Margin 1994	-0.012	(0.022)	6,749	72	0.177
(16)	Political Dynasty 1988-1994	0.040	(0.061)	6,790	72	0.283
	Social Capital					
(17)	Community Organizations 1997	-0.014	(0.010)	7,024	72	0.035
(18)	Positive Reciprocity 2021	-0.209	(0.134)	1,905	72	0.000
(19)	Negative Reciprocity 2021	0.116	(0.196)	1,852	72	0.000
	Land & Disputes					
(20)	Land Allocation Gini 1997	-0.004	(0.016)	6,112	69	0.471
(21)	Land Informality 1997	0.007	(0.041)	6,160	69	0.635
(22)	Land Disputes 1997	0.001	(0.024)	7,024	72	0.046
(23)	Displaced Population 1993-1997	-0.001	(0.004)	7,024	72	0.017

Note: This table documents geographic and pre-treatment statistical balance. 25km radius Conley standard errors are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. See Appendix D Table A.1 detailed information describing variables, coding and sources in rows (1) to (23). All regressions include a linear polynomial in longitude and latitude, elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.3: Public Goods with Conley Standard Errors

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Public Good =1			
Peasant	0.089**	0.091**	0.092**	0.094**	0.095**	0.051	0.090***
	(0.037)	(0.037)	(0.037)	(0.039)	(0.039)	(0.031)	(0.033)
Mean	0.061	0.061	0.061	0.061	0.061	0.061	0.058
Radius (km)	25	25	25	25	25	25	25
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133
BW.	15	15	15	15	15	15	15

Note: This table documents the effects of peasant commanders on public good provision. Conley standard errors (for a radius of 25km) are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Public Good* is an indicator variable equal to 1 for all neighborhoods in the municipality within the boundary bandwidth if the front provided a public good, and 0 otherwise. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.4: Massacres with Conley Standard Errors

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Massacre =1			
Peasant	0.009**	0.008**	0.009**	0.010***	0.010***	0.009***	0.006
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.004)
Mean	0.009	0.009	0.009	0.009	0.009	0.009	0.008
Radius	25	25	25	25	25	25	25
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133
BW.	15	15	15	15	15	15	15

Note: This table documents the effects of peasant commanders on massacres. Conley standard errors (for a radius of 25km) are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Massacre* is an indicator variable equal to 1 if the front perpetrated a massacre, and 0 otherwise. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.5: Duration with Conley Standard Errors

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Front Duration (in Years)						
Peasant	1.531**	1.569**	1.573**	1.540**	1.600**	1.874**	1.151**
	(0.688)	(0.702)	(0.710)	(0.735)	(0.743)	(0.790)	(0.552)
Mean	5.591	5.591	5.591	5.591	5.591	5.591	5.387
Radius	25	25	25	25	25	25	25
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133
BW.	15	15	15	15	15	15	15

Note: This table documents the effects of peasant commanders on front duration. Conley standard errors (for a radius of 25km) are in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a $>50\%$ rural municipality) and 0 otherwise. *Duration* is the number of years the front was present in the rural neighborhood. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.6: Robustness Checks to Conley Standard Errors

	r=25km	r=50km	r=75km	r=100km
	(1)	(2)	(3)	(4)
		Public Good =1		
Peasant	0.089**	0.089**	0.089**	0.089*
	(0.037)	(0.038)	(0.042)	(0.049)
Mean	0.061	0.061	0.061	0.061
Obs.	7,024	7,024	7,024	7,024
		Massacre =1		
Peasant	0.009**	0.009*	0.009*	0.009
	(0.004)	(0.005)	(0.005)	(0.005)
Mean	0.009	0.009	0.009	0.009
Obs.	7,024	7,024	7,024	7,024
		Front Duration (in Years)		
Peasant	1.531**	1.531	1.531	1.531
	(0.688)	(0.953)	(1.000)	(0.941)
Mean	5.591	5.591	5.591	5.591
Obs.	7,024	7,024	7,024	7,024

Note: This table documents the effects of peasant commanders on the provision of public goods (Panel A) massacres (Panel B), and front duration (Panel C). Conley standard errors (for radii of 25km, 50km, 75km, and 100km) are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Public Good* is an indicator variable equal to 1 for all neighborhoods in the municipality if the front provided a public good, and 0 otherwise. *Massacre* is an indicator variable equal to 1 if the front perpetrated a massacre in the rural neighborhood, and 0 otherwise. *Duration* is the number of years the front was present in the rural neighborhood. All regressions include a linear polynomial in longitude and latitude, elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.7: Migration

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km	CCT Optimal Bandwidth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Migration in 2000-2005			
Peasant	-0.015	-0.013	-0.015	-0.009	-0.007	-0.013	-0.018	0.014
	(0.015)	(0.015)	(0.015)	(0.014)	(0.014)	(0.015)	(0.017)	(0.010)
Mean	0.223	0.223	0.223	0.223	0.223	0.223	0.217	0.223
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133	1,336
BW.	15	15	15	15	15	15	15	2.27

Note: This table documents the effects of peasant commanders on migration. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Migration* is the percentage of households that reported to have migrated between 2000 and 2005. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.8: Types of Public Goods

	Baseline	Infrastructure	Social	Housing	Education	Health	Recreation & Sports
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Public Good =1			
Peasant	0.089***	0.053**	0.066***	0.011	-0.001	0.007	0.035**
	(0.030)	(0.022)	(0.024)	(0.006)	(0.003)	(0.007)	(0.015)
Mean	0.061	0.038	0.044	0.008	0.004	0.01	.02
Clusters	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	7,024
BW.	15	15	15	15	15	15	15

Note: This table documents the effects of peasant commanders on the types of public goods provided. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Public Good* is an indicator variable equal to 1 for all neighborhoods in the municipality if the front provided any public good (column 1), or public goods related to infrastructure (i.e: roads, dams) (column 2), social goods (column 3), housing (i.e: houses for poor people) (column 4), education (i.e: schools) (column 5), health care (i.e: health clinics) (column 6) or recreation & sports (i.e: artisan centers, soccer pitches, bullrings, etc.) (column 7), and 0 otherwise. All regressions include a linear polynomial in longitude and latitude, elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.9: Number of Public Goods

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km	CCT Optimal Bandwidth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Number of Public Goods			
Peasant	0.897**	0.945**	0.945**	0.936**	0.937**	0.706	0.641***	1.157*
	(0.409)	(0.437)	(0.432)	(0.422)	(0.413)	(0.445)	(0.238)	(0.692)
Mean	0.570	0.570	0.570	0.570	0.570	0.570	0.403	0.570
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133	1,313
BW.	15	15	15	15	15	15	15	2.23

Note: This table documents the effects of peasant commanders on the total number of public goods. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Number of Public Goods* is the total number of public goods provided by the front. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.10: Number of Massacre Victims

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km	CCT Optimal Bandwidth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Number of Massacre Victims			
Peasant	0.074**	0.071**	0.074**	0.095***	0.100***	0.084**	0.082**	0.034
	(0.029)	(0.028)	(0.028)	(0.034)	(0.035)	(0.032)	(0.034)	(0.057)
Mean	0.072	0.072	0.072	0.072	0.072	0.072	0.070	0.072
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133	1,540
BW.	15	15	15	15	15	15	15	2.59

Note: This table documents the effects of peasant commanders on alternative massacre measures. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Number of Massacre Victims* is the total number of victims killed in massacres. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.11: Alternative Peasant Definition

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km	CCT Optimal Bandwidth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Public Good =1			
Peasant 60	0.075**	0.076**	0.077**	0.078**	0.079**	0.036	0.068**	0.082**
	(0.030)	(0.031)	(0.031)	(0.031)	(0.031)	(0.025)	(0.028)	(0.035)
Mean	0.057	0.057	0.057	0.057	0.057	0.057	0.053	0.061
Clusters	69	69	69	69	69	69	69	69
Obs.	6,332	6,332	6,332	6,332	6,332	6,332	3,737	1,173
BW.	15	15	15	15	15	15	15	2.17
					Massacre =1			
Peasant 60	0.008*	0.008*	0.007*	0.009**	0.009**	0.008***	0.005	0.005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.004)	(0.008)
Mean	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.009
Clusters	69	69	69	69	69	69	69	69
Obs.	6,332	6,332	6,332	6,332	6,332	6,332	3,737	1,173
BW.	15	15	15	15	15	15	15	2.17
					Front Duration (in Years)			
Peasant 60	1.578**	1.589**	1.610**	1.617**	1.624**	1.999**	1.124**	2.622***
	(0.641)	(0.643)	(0.652)	(0.678)	(0.674)	(0.778)	(0.558)	(0.925)
Mean	5.568	5.568	5.568	5.568	5.568	5.568	5.364	5.591
Clusters	69	69	69	69	69	69	69	69
Obs.	6,332	6,332	6,332	6,332	6,332	6,332	3,737	1,173
BW.	15	15	15	15	15	15	15	2.17

Note: This table documents the effects of peasant commanders on the duration of the front. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant 60* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >60% rural municipality) and 0 otherwise. *Public Good* is an indicator variable equal to 1 for all neighborhoods in the municipality if the front provided a public good, and 0 otherwise. *Massacre* is an indicator variable equal to 1 if the front perpetrated a massacre, and 0 otherwise. *Duration* is the number of years the front was active in the rural neighborhood. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.12: Falsification Test

	Public Goods	Massacres	Duration
	(1)	(2)	(3)
Random Peasant	-0.000	-0.035	1.194
	(0.000)	(0.021)	(1.956)
Mean	0.001	0.012	0.552
Obs.	1418	1418	1418

Note: This table documents the effects of peasant commanders on outcomes of interest using random front boundaries. Robust standard errors are in brackets. *** p<0.01, ** p<0.05, * p<0.1 The unit of observation is the municipality. *Random Peasant* is an indicator variable equal to 1 if the paramilitary front commander was randomly allocated to have a peasant origin (born in a >50% rural municipality), and 0 otherwise. *Public Good* is an indicator variable equal to 1 if the front provided a public good, and 0 otherwise. *Massacre* is an indicator variable equal to 1 if the front perpetrated a massacre, and 0 otherwise. *Duration* is the number of years the front was present. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the false boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.13: Duration and Commander Characteristics

	Baseline (1)	Local (2)	Guerrilla Victim (3)	Education (4)	Armed Forces Exp. (5)	Armed Forces Officer (6)	Criminal Past (7)	Drug Industry Involvement (8)
				Front Duration (in Years)				
Peasant	1.531**	1.538**	1.534**	1.495***	1.384**	1.568**	1.382**	1.625**
	(0.604)	(0.611)	(0.604)	(0.516)	(0.614)	(0.641)	(0.524)	(0.707)
Local		-0.182						
		(0.754)						
Guerrilla Victim			0.348					
			(1.387)					
Education				-0.109				
				(0.770)				
Armed Forces Exp.					-1.052*			
					(0.564)			
Armed Forces Officer						0.522		
						(0.805)		
Criminal Past							2.455	
							(1.644)	
Drug Industry Involvement								-0.415
								(0.766)
Mean	5.591	5.591	5.591	5.591	5.591	5.591	5.591	5.591
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	7,024	7,024

Note: Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1 The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Duration* is the number of years the front was active in the rural neighborhood. All regressions include a linear polynomial in longitude and latitude, elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

Table E.14: Drug Production

	Lat., Long. (1)	Dist. to Boundary (2)	Lat., Long., & Dist. to Boundary (3)	Lat., Long., Quadratic Poly. (4)	Lat., Long., Cubic Poly. (5)	Paramilitary Block FE (6)	Donut RD 5km-15km (7)	CCT Optimal Bandwidth (8)
				Coca Crops (in Hectares/Km^2)				
Peasant	-0.002	-0.002	-0.002	-0.001	-0.001	-0.002	-0.003	-0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Mean	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Clusters	72	72	72	72	72	72	72	72
Obs.	7,024	7,024	7,024	7,024	7,024	7,024	4,133	1633
BW.	15	15	15	15	15	15	15	2.74

Note: This table documents the effects of peasant commanders on coca crops. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Coca Crops* is the average number of hectares of coca crops per Km^2 in the municipality per year the front was active. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

	Lat., Long.	Dist. to Boundary	Lat., Long., & Dist. to Boundary	Lat., Long., Quadratic Poly.	Lat., Long., Cubic Poly.	Paramilitary Block FE	Donut RD 5km-15km	CCT Optimal Bandwidth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Para-Politician Vote Share in 1998				
Peasant	0.004	0.004	0.004	0.006	0.005	0.009	0.025	-0.016
	(0.010)	(0.011)	(0.010)	(0.010)	(0.009)	(0.010)	(0.027)	(0.014)
Mean	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071
Clusters	72	72	72	72	72	72	72	72
Obs.	6,853	6,853	6,853	6,853	6,853	6,853	4,026	1,811
BW.	15	15	15	15	15	15	15	3.09
				Para-Politician Vote Share in 2002				
Peasant	0.023	0.019	0.021	0.018	0.018	-0.005	0.025	-0.019
	(0.025)	(0.024)	(0.025)	(0.026)	(0.027)	(0.028)	(0.027)	(0.033)
Mean	0.280	0.280	0.280	0.280	0.280	0.280	0.289	0.280
Clusters	72	72	72	72	72	72	72	72
Obs.	6,857	6,857	6,857	6,857	6,857	6,857	4,028	1,882
BW.	15	15	15	15	15	15	15	3.21
			Para-Politician Received Most Votes in 1998 or 2002 =1					
Peasant	-0.011	-0.014	-0.013	-0.013	-0.019	-0.105	0.026	-0.174*
	(0.058)	(0.057)	(0.057)	(0.060)	(0.061)	(0.072)	(0.060)	(0.103)
Mean	0.411	0.411	0.411	0.411	0.411	0.411	0.401	0.411
Clusters	72	72	72	72	72	72	72	72
Obs.	6,859	6,859	6,859	6,859	6,859	6,859	4,095	1,841
BW.	15	15	15	15	15	15	15	3.10

Note: This table documents the effects of peasant commanders on paramilitary-backed politicians' electoral performance. Robust standard errors, clustered at front level, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. The unit of observation is the rural neighborhood. *Peasant* is an indicator variable equal to 1 if the paramilitary front commander had a peasant origin (born in a >50% rural municipality) and 0 otherwise. *Para-Politician Vote Share in 1998* and *Para-Politician Vote Share in 2002* are the vote shares in the 1998 and 2002 congressional elections for candidates convicted by the Supreme Court of having ties to paramilitaries. *Para-Politician Received Most Votes in 1998 or 2002* is an indicator variable equal to 1 if a para-politician received the most votes in the 1998 or 2002 congressional elections, and 0 otherwise. All regressions include elevation, slope, precipitation, front pair FE, and observations within 15km of the boundary. Column 1 includes a linear polynomial in longitude and latitude. Column 2 includes the distance to the boundary. Column 3 includes a linear polynomial in longitude and latitude, and the distance to the boundary. Column 4 includes a quadratic polynomial in longitude and latitude. Column 5 includes a cubic polynomial in longitude and latitude. Column 6 includes FE at the block level, the upper military structure of the paramilitaries. Column 7 excludes observations within 5km of the boundary. Column 8 estimates the RDD non-parametrically following Calonico et al. (2014). See Tables A.1 and A.2 for detailed information describing variables, coding, and sources.

E.3 Falsification Test

In this section, we describe the construction of the spatial falsification test. In contrast to similar exercises in the recent empirical literature (see for instance Dell et al. (2018)), we are unable to draw random boundaries between treated and control rural neighborhoods. Since being a peasant is a characteristic of paramilitary front commanders across rural neighborhoods, the spatial placebo boundaries are drawn using paramilitary fronts and not rural neighborhoods. This approach allows us to mimic the regression in our main specification, particularly the use of front pair fixed-effects and front clusters.

First, suppose our dataset has the following form:

Rural Neighborhood	Front	Peasant
N1	A	1
N2	A	1
N3	B	1
N4	B	1
N5	C	1
N6	C	1
N7	D	1
N8	D	1
N9	E	0
N10	E	0
N11	F	0
N12	F	0

Which in turn can be visualized as a rural neighborhood-level map of the following form (where the red boundary marks the limits of peasant and non-peasant led fronts):


TRUE DATA

Front A: 1   Front B: 1   Front C: 1

Front D: 1   Front E: 0   Front F: 0

True Border
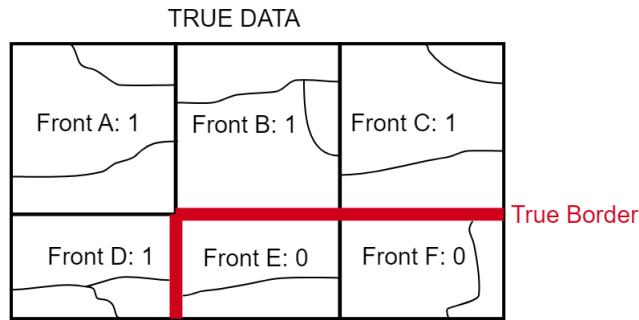
In order to build our placebo boundary, we first randomize the paramilitary fronts led by peasant (which we call "random peasant") and non-peasant ("random non-peasant") commanders. For instance:

Front	Peasant	Random Peasant
A	1	1
B	1	0
C	1	1
D	1	1
E	0	0
F	0	1

Then, we code all rural neighborhoods commanded by a "random peasant" to be under his leadership:

Rural Neighborhood	Front	Peasant	Random Peasant
N1	A	1	1
N2	A	1	1
N3	B	1	0
N4	B	1	0
N5	C	1	1
N6	C	1	1
N7	D	1	1
N8	D	1	1
N9	E	0	0
N10	E	0	0
N11	F	0	1
N12	F	0	1

Then, we merge the new georerefenced data to our rural neighborhood-level map. The placebo boundary is constructed as the intersection between the rural neighborhoods' polygons where "random peasant = 1", and those where "random peasant = 0". The placebo map takes the following form (as before, the red line marks the limits of peasant and non-peasant fronts):

PLACEBO DATA
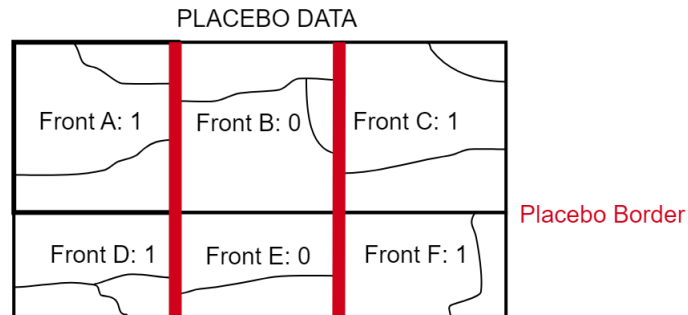
We then can calculate the geodesic distances from the centroids of the rural neighborhoods to the placebo boundary. Finally, we estimate equation 1 restricting observations to within 15km of the placebo boundary, which produces the regression estimates found in Table E.12.

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