Unequal Before the Law: Political Incentives and Selective Drug Enforcement in Colombia*

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May 2025

Abstract

Although equal law enforcement is a desirable normative ideal, enforcement is rarely uniform in practice. Why does the state choose to crack down in some places but not others? Governments face electoral pressures to enforce unequally, especially when managing illicit markets involving non-state armed groups, because politically influential armed actors create differential enforcement incentives. Using a difference-in-differences design, I demonstrate patterns of restraint and intensification of forced coca crop eradication by aerial fumigation in Colombia for political reasons. Despite widespread increases in eradication during the 2000s, municipalities with more historical violence by groups that shared political alignment with the government—paramilitary groups—experienced less eradication after the election of hardline President Álvaro Uribe. Conversely, areas with more historical violence by groups opposed to the government—guerrilla groups—experienced disproportionately more eradication. The state decreased enforcement in paramilitary municipalities where Uribe outperformed electoral expectations and in areas with recent electoral violence, suggesting that electoral influence drives the distribution of eradication. This type of selective enforcement privileges short-term political gain, but at the cost of jeopardizing long-term state consolidation.

*Thanks to Elena Barham, Ella Bayi, Carolina Bernal, Stephanie Char, Sarah Daly, John Marshall, Arnaud Maurel, Eduardo Moncada, Beatrice Montano, Vicky Murillo, Oscar Pocasangre, Iván Ramírez, Zara Riaz, Yining Sun, Carolina Torreblanca, Jessie Trudeau, Andres Uribe, and attendees of the 2024 Political Economy of Latin America Conference and the Studies of Organized Crime and Politics Mini-Conference at the 2024 Midwest Political Science Association meeting for helpful comments and suggestions. Interviews and survey results for this research were carried out under Columbia University Institutional Review Board Protocol #AAAU1892. This project is supported by an APSA Doctoral Dissertation Research Improvement Grant and a United States Institute of Peace-Minerva Research Initiative Peace and Security Scholar Fellowship.

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"For my friends, everything; for my enemies, the law."

– attributed to Óscar R. Benavides
(former President of Peru)

"Voices are being raised asking us to put an end to illicit crops. We asked ourselves and want to share these questions with the Congress of the Republic: are these crops exclusively the responsibility of the paramilitaries? Could it be that Colombia is unaware that the fumigations are carried out only in areas under the influence of the paramilitaries?"

– Salvatore Mancuso, paramilitary leader,
address to Colombian Congress, 2004

1 Introduction

Law enforcement is the essential and defining function of the state. Citizens submit to the state to gain the benefits of a peaceful sociopolitical order (Hobbes [1651] 1994; Olson 1993) because the state is the holder of the monopoly on the legitimate use of violence in its territory (Weber [1919] 2004).[1] Ideally, states would enforce violations of their laws uniformly, creating additional predictability and stability. Indeed, equal protection under the law is a recognized desirable normative principle enshrined in many countries' constitutions as a fundamental human right. Nevertheless, unequal enforcement of the law is the empirical norm in cases as varied as property rights (Holland 2017), labor statutes (Ronconi 2010), taxes (Bergman 2009), and environmental regulations (Bonilla-Mejía and Higuera-Mendieta 2019).

Why does the state crack down on violations of its laws more harshly in some places and at some times over others? In part, enforcement gaps can result from structural factors or institutional

1. Of course, states can also provide additional public goods such as education, healthcare, and infrastructure, but the provision of these goods is difficult, if not impossible, in the absence of security.

weakness (Brinks, Levitsky, and Murillo 2019), the inability of the state to enforce where it wants to and when it wants to. However, enforcement efficacy is not only a function of structural constraints or weak state capacity: it can also result from strategic decisions by state actors (Kleinfeld and Barham 2018; Wilkinson 2004), which themselves shape state capacity (Suryanarayan 2024).

Charles Tilly influentially argued that war makes states, but also pointed out that policing and other forms of violence belong "on the same continuum" as war-making (Tilly 1985, 170). This suggests that policing is not merely a reflection of state strength or weakness, but a site where state capacity is actively constructed and contested. Focusing on policing through counternarcotics enforcement, I argue that when non-state armed groups immersed in illegal economies influence elections, variation in their characteristics and presence will, in turn, affect the geographic targeting of enforcement. I expect the state to use restraint in enforcement as a tool for reprieve to areas under the influence of non-state armed groups with which it is politically aligned, even as these groups threaten the state's monopoly on violence (Acemoglu, Robinson, and Santos 2013).[2] Conversely, I expect the state will intensify enforcement to repress areas under the influence of unaligned non-state armed groups. Incumbent governments can thus use counternarcotics efforts like crop eradication selectively to maximize the benefits of their implementation while externalizing the negative consequences of such policies. This paper uses forced coca crop eradication in Colombia via aerial fumigation, a significant component of counternarcotics strategy (Mejia and Restrepo 2016), as a case study of these dynamics.

Since 2000, the United States government has spent billions on counternarcotics programs in Latin America, the region with the highest levels of criminal violence globally (Arjona 2021). Despite this substantial investment, our understanding of the factors that drive variation in the incidence or intensity of drug enforcement efforts remains limited. Puzzlingly, research on supply-side policies aimed at reducing the amount of illicit drugs in the market via punishing producers or traffickers finds that such an approach to counternarcotics is generally ineffective and results in extensive negative externalities. These nominal inefficiencies reflect more than weak state capacity: they

2. This tension can manifest even without collusion between the state and armed groups or state capture by armed groups, although overt cooperation or cooptation will exacerbate it.

are endogenous to political factors. At a national, aggregated level, crackdowns on illicit drugs can benefit incumbent governments by improving their standing with the international community—especially their standing vis-a-vis the US—and crime-sensitive voters. But, like other policies with diffuse benefits but specific costs, such as environmental regulations, healthcare reforms, and public infrastructure projects, it can be beneficial to strategically target the de facto implementation of antidrug policies at the local level. Even if repressive enforcement practices create a concentrated backlash among affected citizens, non-state armed groups generate differential incentives for enforcement because they can directly influence electoral behavior or governance (Acemoglu, Robinson, and Santos 2013; Barnes 2017; Daniele and Dipoppa 2017; Trudeau 2024).

To examine this, I investigate a pivotal period in the expansion of Colombian counternarcotics policies: the late 1990s and the decade of the 2000s. In 2000, the U.S. signed into law Plan Colombia, a bilateral aid initiative that allocated billions of U.S. dollars to military training and equipment, specifically focusing on new Colombian counternarcotics battalions. This initiative greatly expanded the capacity of the state to implement counternarcotics enforcement. At this time, President Andrés Pastrana (1998-2002) faced low approval ratings because of his handling of the country's security issues. Further, Pastrana could not run for a second term due to the country's constitutional ban on reelection. This set the stage for the election and inauguration of his successor, President Álvaro Uribe (2002-2010), which I leverage as a critical juncture during which the government would have been motivated to eradicate differently based on the historical influence of competing armed groups. Paramilitary groups favored Uribe, who ran a staunchly militaristic anti-guerrilla campaign and effectively lobbied the Colombian Congress to amend the 1991 constitution, enabling himself to seek a second term.[3] The quantitative analysis is motivated by this historical context, as well as exploratory fieldwork I conducted in Bogotá and four coca-growing municipalities with variation in historical violence by different non-state armed groups, where I interviewed former members of armed groups, coca growers, social leaders, politicians, and military, police, and government officials.

3. Uribe also sought a third term in office but the Colombian Constitutional Court stopped a law seeking a referendum to change the constitution to permit a second consecutive reelection for Uribe.

Using monthly municipal-level data on aerial eradication obtained through an information request to the Colombian Ministry of Justice (*Ministerio de Justicia*) and a difference-in-differences design, I show that during Uribe's government, less eradication relative to Pastrana's government was conducted in municipalities with historically high levels of paramilitary violence. These results hold when controlling for coca cultivation and across various measurement strategies. Substantively, for a given municipality, a standard deviation increase in historical paramilitary violence is associated with 10 fewer hectares of aerial eradication per month on average, about a 5.82% decrease. This translates to around 500 hectares over a 4-year term.[4] I interpret this relationship as resulting from retrospective restraint toward the paramilitaries—the non-state armed groups more politically aligned with the government—after Uribe's election. Conversely, during this same period, there was more eradication in municipalities with historically high levels of guerrilla violence. The standardized effect for guerrilla violence is similar in magnitude but positive: an increase in average monthly hectares fumigated of about 7.03%.

I argue that armed group electoral influence drives the results that show restraint in enforcement. While paramilitary organizations in Colombia were always ostensibly aligned with the state in its conflict against guerrilla groups, their direct political influence on the Colombian government crescendoed in the 2000s. In 2001, dozens of paramilitary leaders connected under the banner of the United Self-Defense Forces of Colombia (*Autodefensas Unidas de Colombia*, AUC) signed a secret pact with prominent politicians including department governors, senators, and more, that called for a "refounding" of the country in support of Uribe's third-party candidacy for president and his nascent political movement.

Consequently, in the 2002 national elections, there was extensive coercion and vote-rigging in paramilitary areas. Uribe won a large presidential electoral victory in these same elections. In 2004, the legislature, pushed by Uribe, passed a law undoing precedent which amended the constitution to allow Uribe to run for a second term as president. For years, Colombian presidents were restricted to a single four-year term and prohibited from any form of reelection, including noncon-

4. The average size of a coca plot during this time is approximately 1.25 hectares, and about 63% of all total hectares of coca crops detected were cultivated in plots smaller than 3 hectares.

secutive terms. Late into the first term of Uribe's presidency (2002-2006), the AUC—the largest paramilitary umbrella organization—negotiated its demobilization with the administration (Daly 2016) under highly favorable conditions including limited sentences that could be served on private property, restrictions on the seizure of profits from criminal activities by the state, and more.[5] After, it was revealed that many members of the Colombian Senate and Chamber of Representatives—including those who voted in favor of the term limit removal—among other prominent politicians, had illegal ties to paramilitary groups, with dozens investigated and convicted (Acemoglu, Robinson, and Santos 2013; Daly 2022a).

Testing mechanisms, I use two indirect measures of paramilitary electoral influence on elections to provide evidence of electorally motivated restraint in enforcement particularly during Uribe's first term from 2002 to 2006. I contrast Uribe's first and second terms because of paramilitary demobilization during Uribe's first term. First, I evaluate the interactive relationship between historical paramilitary violence and electoral overperformance by Uribe on patterns of enforcement. I argue that electoral overperformance proxies for electoral influence by paramilitaries. I find that forbearance is concentrated in municipalities with historically high paramilitary violent presence where Uribe overperformed electoral expectations in 2002. After demobilization, when paramilitaries had less direct electoral influence, this relationship between overperformance, historical paramilitary violence, and eradication is muted. Put differently, while there is a significant difference between municipalities with differing levels of historical paramilitary violence and electoral overperformance on eradication from 2002-2006, there is no statistically detectable difference between municipalities with differing levels of historical paramilitary violence and electoral overperformance on eradication from 2006-2010. Second, I use a measure of electoral violence—primarily undertaken by paramilitaries—to proxy for paramilitary electoral influence. Similarly, from 2002-2006, less eradication was undertaken in municipalities with electoral violence in 2002. This relationship is attenuated when using electoral violence in 2006 to predict eradication in 2006-2010. These tests suggest that when criminal actors successfully deliver votes—as measured in-

5. Much of these favorable conditions would be later retracted by the Colombian Constitutional Court, which stayed relatively independent during this time.

directly by assessing where their preferred candidate overperformed or by places where violence was used to influence elections—they receive relief from repression as a reward.

Existing studies of counternarcotics have focused on the consequences of these policies and their enforcement on violence (Calderón et al. 2015; Campos, Nieto-Matiz, and Schenoni 2025; Dell 2015; Durán-Martínez 2018; García-Jimeno 2016; Lessing 2017; Phillips 2015; Trejo and Ley 2020; Snyder and Duran-Martinez 2009), state capacity (Flores-Macías 2018; Yashar 2018), and the drug market itself (Becker, Murphy, and Grossman 2006). Relatively less attention, however, has been given to the reasons why the same government can differ in its implementation of these strategies across time and space in the first place: enforcement is treated as absent (Bueno de Mesquita 2020) or exogenous (Lessing 2017; Castillo and Kronick 2020). Considering political factors surrounding drug enforcement is the first step toward addressing this gap in the literature. Torreblanca (2024) studies the electoral consequences of forced eradication of poppy fields in Mexico, showing that eradication engenders decreases in government trust and electoral participation. I build on this contribution by theorizing and testing variation in the political expediency of enforcement to explore the causes of variation in eradication. In doing so, I link together the literature on counternarcotics with that of tough-on-crime or "mano dura" policies and electoral incentives (Downs 1957; Holland 2013; Krause 2014; Laterzo 2024; Przeworski, Stokes, and Manin 1999; Ventura, Ley, and Cantú 2024; Visconti 2020) and expand work on restraint by non-state armed groups (Stanton 2016) to state actors. Crop eradication is an example of a repressive approach to crime that may sometimes be ineffective at its stated goals (Blair and Weintraub 2023) but nevertheless can be implemented strategically for electoral gains (Chevigny 2003; Holland 2013; Romero, Magaloni, and Díaz-Cayeros 2016).

I also build on the literature on how organized crime groups influence politics (Barnes 2017). This study makes a novel contribution in characterizing the circumstances by which the state is more or less likely to leverage or sideline the influence of these groups using legal enforcement strategies as a tool (Siddiqui 2022). This, in turn, bridges the political economy framework of law enforcement (Dewey, Woll, and Ronconi 2021; Holland 2017) to cases where the state is not the

only actor who can control violence.

Further, the uneven implementation of law enforcement through counternarcotics can be considered to be a form of non-material redistribution. In doing so, I contribute to research studying intergovernmental transfers (Bonilla-Mejía and Higuera-Mendieta 2017; Dixit and Londregan 1998), acknowledging the role armed brokers play in changing central government strategy.

Most broadly, my approach addresses core questions of state-building by separating the state from its constituent governments or regimes: a particular *government* can benefit from the selective enforcement of its monopoly on violence even as extralegal armed actors threaten the *state's* monopoly on violence.

2 The politics of supply-side counternarcotics

I conceptualize supply-side counternarcotics efforts (e.g., crop eradication, interdiction, or law enforcement operations like the targeting of high-level dealers) as a resource allocation problem that can be affected by political considerations. Crucially, the enforcement of counternarcotics policies typically falls under the jurisdiction of national-level actors but assigns costs and benefits differentially across space. In short, national-level actors reap the national and international benefits sown by enforcing such policies. By contrast, local-level actors bear the burden—the direct and indirect costs created by enforcement. Spatial variation in enforcement will reflect this asymmetry.[6]

National-level actors—who earn utility from achieving their policy preferences and reelection where applicable—accrue benefits for supply-side counternarcotics through (1) the international politics of the global drug prohibition regime, especially U.S. bilateral aid, which is typically conditional on cooperation in anti-narcotics enforcement, and (2) broad domestic electoral benefits among the majority of crime-sensitive voters who are not harmed by supply-side policies. The former allows for greater resources to be spent in counternarcotics (if the politician is intrinsically mo-

6. In this sense, counternarcotics is similar to other policies with asymmetrical costs and benefits studied by the "fiscal federalism" literature (Dixit and Londregan 1998). For example, central government transfers to local governments (Bonilla-Mejía and Higuera-Mendieta 2017; Brollo and Nannicini 2012) or environmental policies like designating protected areas (Mangonnet, Kopas, and Urpelainen 2022).

tivated by enforcement) or for other issue areas. For example, U.S. aid allowed Uribe to strengthen the military broadly, a key aspect of his appeal as a hardline candidate who took tough, uncompromising stances on security issues, including counternarcotics. The latter increases reelection probability when security issues are important to the majority of voters in a national constituency who see repressive approaches as the most viable solution to drug-related-issues, a reasonable assumption during the period of study, though this is changing over time (Bewley-Taylor 2012). Politicians can curry favor with crime-sensitive voters because supply-side efforts against illicit drugs are quite visible and concrete—in the case of crop eradication or interdiction, it is easy to quantify the number of illicit crops eradicated.[7] That said, while international and national electoral incentives encourage the implementation of counternarcotics actions as a whole, they do not necessarily shape their geographic implementation because their benefits are diffuse.[8]

Thus, subnational variation in enforcement reflects benefits and costs to the central government that are realized at the local level. Local-level actors generally bear the net costs of counternarcotics enforcement and can attribute these costs to the central government given the high clarity of responsibility surrounding the issue.[9] Neither local citizens nor politicians are particularly concerned with the international considerations that national-level actors have to keep in mind—these are simply too far removed from their day-to-day lives. Furthermore, the direct costs of enforcement policies are geographically concentrated at the point of the intervention. Aerial eradication has localized environmental (Rincón-Ruiz et al. 2016), health (Camacho and Mejía 2017), human

7. This is also why the U.S. uses these as evaluative metrics of effort put into counternarcotics enforcement. Note that demand-side counternarcotics policies do not share this same characteristic, so they are excluded from the scope of the theory.

8. While the U.S. may also have preferences to target particular armed groups such as left-leaning guerrilla groups (Tate 2015), I assume that these preferences are constant over the post-Cold War period of study. To my knowledge, no public information substantiates the idea that the distribution of eradication efforts influenced U.S. evaluation of cooperation. Available evidence suggests that the U.S. used absolute metrics of hectares of crops eradicated and tons of drugs seized to assess cooperation (Grover 2018) and did not consider subnational variation. Still, since my empirical strategy leverages changes in the Colombian government, the results cannot be entirely explained through a U.S.-centric lens.

9. This will be particularly the case in more centralized systems like Colombia. By contrast, Ley (2017) provides evidence from Mexico that suggests that voters are most likely to hold politicians accountable for criminal violence when local and federal governments are politically aligned. However, counternarcotics enforcement is more likely to be associated with central governments given its international dimension.

capital, economic (Rozo 2014), and political (Ramírez 2011) costs.[10] Drug seizures can spark violent backlash among drug traffickers (Castillo and Kronick 2020; Dell 2015) and citizens could blame politicians for the resulting violence (Marshall 2024; Pocasangre 2022). A similar dynamic occurs with other law enforcement operations, such as missions that attempt to "behead" criminal organizations by arresting or killing leaders of their networks (Calderón et al. 2015; Phillips 2015), which also create violence and instability. Disruptions to trafficking activities from intensified enforcement from the national government can jeopardize fragile non-violent equilibria between criminal groups at the local level (Lucas, Marshall, and Riaz 2020; Trejo and Ley 2020).

Therefore, it is unlikely that those who bear the brunt of the enforcement arm of the state will react positively to said enforcement. Affected citizens may respond with formal backlash through anti-incumbent voting or protests, or they may react by disengaging with the state and electoral process. As Figure 1a stylizes, when repressive enforcement creates a backlash, this incentivizes the government to refrain from enforcing to swing voters (Holland 2017). When repressive enforcement reduces turnout among affected populations, the government has incentives to target swing voters (Robinson and Torvik 2009) or core opposition voters with intensified enforcement. Violent, repressive law enforcement that removes voters from the electorate—directly by killing or displacing them or indirectly by causing them to become disengaged with the electoral process—makes it fruitful to enforce intensely to swing voters. In sum, the incentives to practice forbearance *on voters* are conditional on the electoral consequences of enforcement.

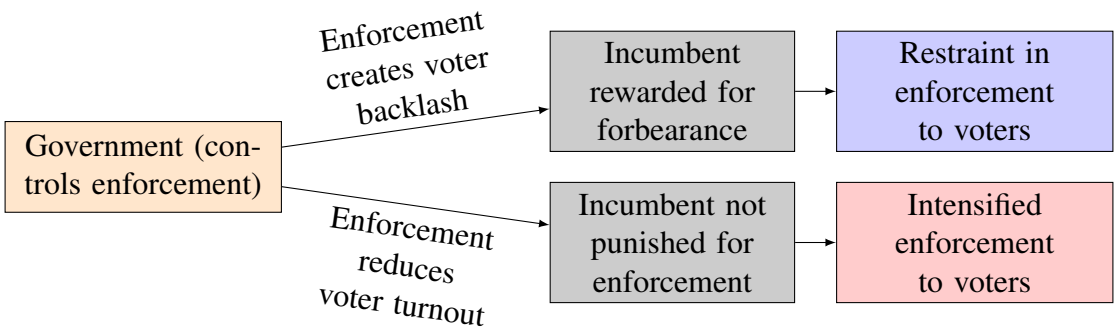
In either case, however, the presence of electoral brokers—here, non-state armed groups who influence elections—severs this link by making the broker the crucial actor in the process (Mares and Young 2016), as shown in Figure 1b. Now, the government is incentivized to forbear or intensify enforcement based on the preferences of the broker (the armed actor), not the voters (Acemoglu, Robinson, and Santos 2013).[11] Existing research shows that armed groups can influence

10. Political costs could become nationalized if opposition to eradication becomes a movement with national prominence. However, this generally has not been the case in Colombia relative to Bolivia or Peru.

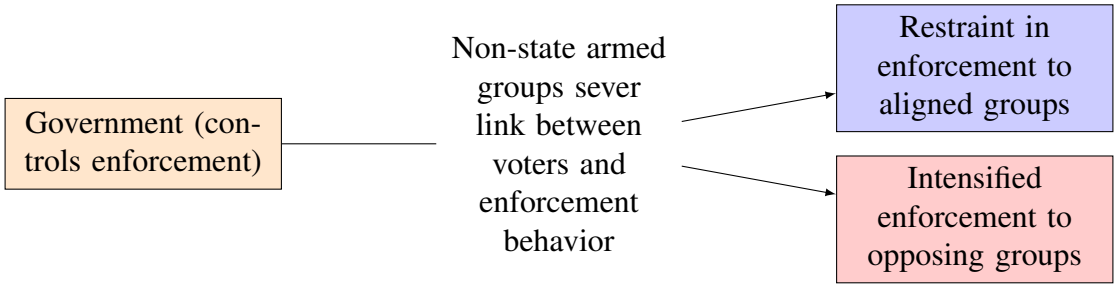
11. Illicit markets are particularly susceptible to attracting non-state armed groups because, by definition, illegal markets cannot use the state to secure their property rights. Violence is the contract enforcement mechanism in illegal markets (Reuter 2009), and non-state armed groups have a comparative advantage in using extralegal force.

Figure 1: Diverging incentives for intensification or restraint of enforcement.

(a) Enforcement incentives absent non-state armed actors.



(b) Enforcement incentives with non-state armed actors.



electoral behavior and outcomes, molding election results to align with their preferences (Hidalgo and Lessing 2019; Staniland 2015), including in Colombia (Ch et al. 2018; Uribe 2023).

Under these circumstances, the presence and influence of these groups over their territory create locally differential costs and benefits in the enforcement of supply-side drug policies. When an armed group's preferences align with those of the incumbent government, it may be in the best interests of a government that wants to maximize its probability of reelection and pursue its policy goals to allow the armed group to persist even if the armed group challenges its rule (Acemoglu, Robinson, and Santos 2013). This persistence can be attributed to restraint in enforcement against aligned armed groups. By contrast, opposition armed groups incentivize the intensification of enforcement for parallel reasons. These insights lead to the first hypothesis:

Hypothesis 1 (H1)**.** *Governments will be less (more) likely to enforce or reduce (intensify) counternarcotics enforcement in areas influenced by non-state armed groups that share aligned (opposing) political preferences.*

If electoral pressures drive these incentives, then one should expect these differential enforcement patterns to be especially salient in areas where armed groups have most influenced electoral behavior, which I will operationalize by testing the interaction between electoral overperformance and historical armed group presence to predict eradication under Uribe's terms, and by testing the relationship between municipalities that experienced recent electoral violence and restraint in eradication. In each case, I expect electoral overperformance and electoral violence to be associated with more forbearance in enforcement. This logic motivates the second hypothesis:

Hypothesis 2 (H2)**.** *Political forbearance and intensification of counternarcotics enforcement will be greater in areas where the central government gained the most from non-state armed group electoral influence.*

3 Context: aerial coca crop eradication in Colombia

From 1998-2010, more than 1,700,000 hectares of coca crops were eradicated in Colombia, an area almost the size of the U.S. state of New Jersey or the Colombian department of Huila (each measuring approximately 1,900,000 hectares). Figure 2 shows the number of coca hectares cultivated and eradicated each year during this time.[12] This nationwide intensification of eradication came in large part due to the passing of Plan Colombia, the bilateral U.S. aid initiative designed to end the armed conflict in Colombia and create a robust counternarcotics strategy, with Colombia becoming the second-largest receiver of U.S. military aid after Israel during these years.

Forced crop eradication can occur in two forms: aerial and manual. Aerial eradication is undertaken by planes or helicopters spraying herbicides, most commonly glyphosate, to destroy coca crops.[13] Manual eradication, meanwhile, involves teams directly on the ground pulling out or fumigating the crop at the root, typically with police or military escorts. Forced eradication in all forms is a paradigmatic case of the dynamics described in Section 2: it is controlled by the *central*

12. The number of hectares eradicated can be greater than the number of hectares cultivated because cultivation is measured net of eradication at the end of each year. See Section 4 for more details.

13. Aerial eradication has been halted in Colombia since 2015 because of evidence of its harmful health consequences.

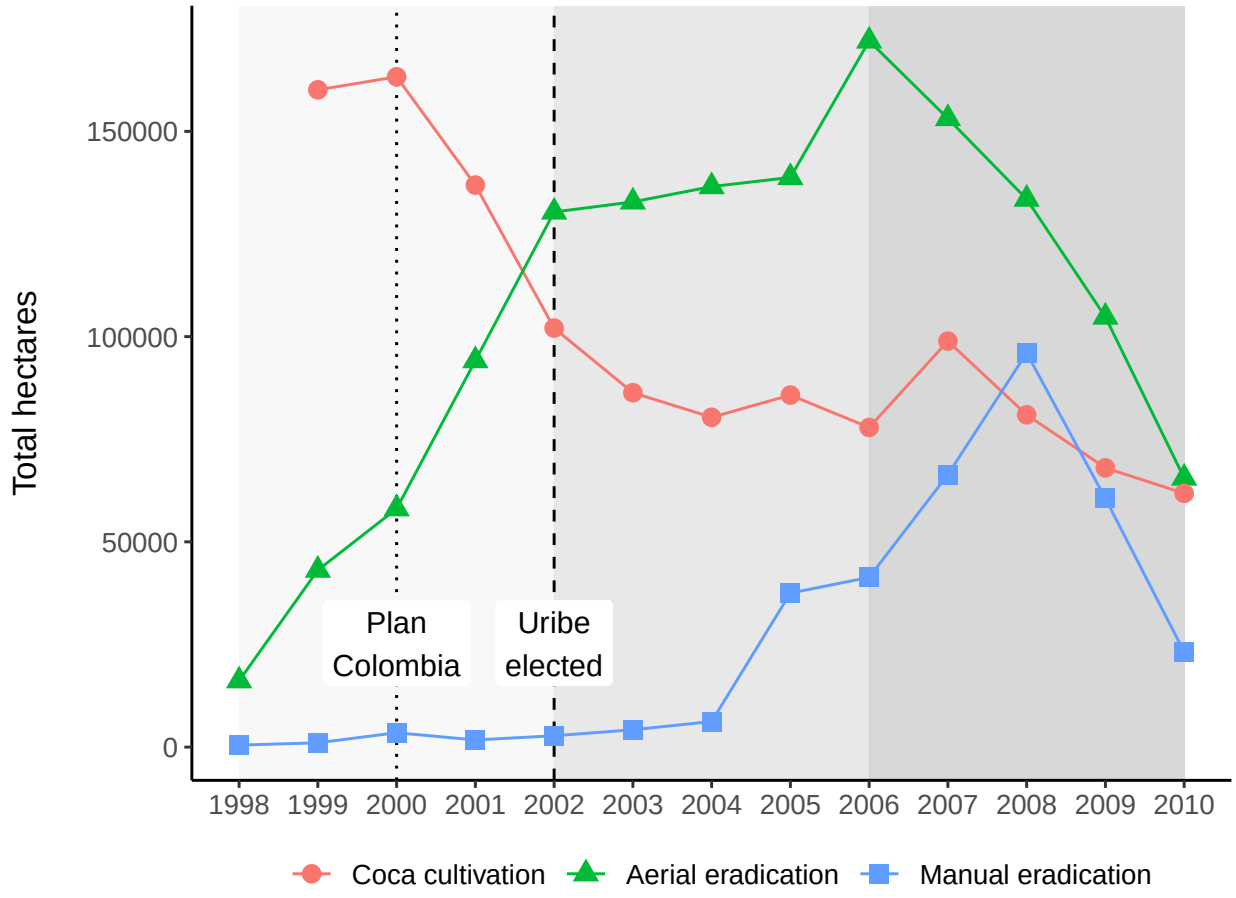
government in Colombia, overseen by the executive branch, and executed by the national police or the military. However, this paper focuses on aerial eradication, which has characteristics that make the study of its variation more credible. Considering aerial eradication alone reduces any disparities in implementation between the national police and military, as it is a more indiscriminate form of enforcement than manual eradication and involves a greater distance between enforcers and those affected by enforcement.[14] Second, aerial eradication is less likely to be affected by other time-varying factors that influence variation in manual eradication, such as organized peasant resistance[15] and safety considerations. Manual eradication is more limited by safety and contemporary military control. In contrast, aerial eradication is more affected by exogenous factors such as the weather (Reyes 2014), although armed actors present some danger to both forms of eradication. Finally, the effects of aerial eradication on local populations are much stronger than the effects of manual eradication. The indiscriminate nature of aerial eradication makes it particularly undesirable for those affected: I interviewed social leaders and coca growers who described how herbicides spilled over onto licit crops, affected water sources, and generated other health and economic consequences. Even though the presence of armed forces that accompany manual eradication teams could cause abuses of power, coca-growing communities particularly despise aerial fumigation (Ramírez 2011). Despite these negative consequences, Figure 2 shows that eradication was an essential part of the the Colombian counternarcotics strategy from 1998-2010. Foreign aid and electoral benefits that accrue to national-level politicians generate incentives to implement eradication in general.

International benefits include the U.S. aid initiative known as Plan Colombia, which began in 2000 and provided over US$1.2 billion in foreign assistance (Dube and Naidu 2015) with the expectation of extensive coca crop eradication. The looming threat of reduction of aid also played a role in incentivizing cooperation in counternarcotics among central government officials: a previous official U.S. decertification of Colombia's noncompliance with counternarcotics efforts in 1996

14. I conducted interviews with politicians and military, police, and government officials that suggest the two bodies operate similarly, but the data I use does not disaggregate between implementing actor (see Section 4 for more details).

15. I conducted interviews with social leaders that suggest that sufficiently organized coca growers can sometimes prevent manual eradication but not necessarily aerial eradication.

Figure 2: Number of coca hectares cultivated and eradicated, 1998-2010.



resulted in the cancellation or delay of US$35 million in assistance to Colombia (Crandall 2002), the suspension of trade preferences for Colombian exports, and vetoes from the U.S. of Colombian requests for funding from international financial institutions, among other consequences (Ramírez 2011). Decertification's stakes were even higher during the period of Plan Colombia.

Electorally, in Colombia, drug-related issues are particularly salient to voters given the long history of violence in the country and the involvement of armed groups in the drug trade. Appendix Figure A1 uses AmericasBarometer data to show that in most years from 2004-2021, a plurality of respondents considered issues that could be classified as related to drugs, crime, and security as the most crucial issue facing the country, with some exceptions like the years after the Great Financial Crisis, the years after the successful peace negotiations with the FARC in

2016, and the COVID-19 pandemic. Further, I conducted an original online survey of around 1,100 respondents—which oversampled coca-growing municipalities—between the first and second round of the 2022 Colombian presidential election. The results, presented in Appendix Table A1, show that right-wing respondents are much more likely to support aerial eradication—though not manual eradication—approve of the right-wing incumbent Duque of Uribe's Democratic Center (*Centro Demócratico*) party, while being more likely to report that they voted for or intend to vote for right-wing presidential candidates, including Federico "Fico" Guttierez of the same Democratic Center party of Duque and Uribe, as well as the right-wing populist who made it to the second round, Rodolfo Hernández. This suggests that politicians can use eradication as a political issue to cultivate a constituency among crime-sensitive voters.[16]

Although these data do not cover the period of the early 2000s, qualitatively, Uribe's 2002 presidential campaign focused on security issues. The election came in the wake of failed peace negotiations with guerrillas by former president Pastrana (1998-2002), so Uribe's campaign focused on a robust military strategy against insurgent groups with heavy use of force. This strategy proved successful as Uribe became the first-ever Colombian president elected to office without needing a second round: Uribe won 53% of the vote in 2002, a 21-percentage point margin over his closest challenger. On the day of his inauguration, mortar attacks on the presidential palace—which left about a dozen civilians wounded—helped Uribe further justify his approach: in the subsequent years, Uribe expanded the power of the military. Counternarcotics played an essential role in these counterinsurgency operations, given the blurred lines between these two objectives (Dube and Naidu 2015). Moreover, crop eradication was explicitly part of Uribe's "democratic security" policy, so results in this area were necessary to keep campaign promises. This approach was generally successful: the level of violence throughout the country decreased, and the government earned vital victories in its battles against the guerrilla groups. Midway through his term, the legislature passed a change in the reelection law, supported by Uribe. He ran for president

16. Despite being banned by the Colombian Supreme Court in 2015, aerial fumigation was a salient issue in the 2022 election because of an increase in coca cultivation after the ban. Incumbent president Iván Duque flirted with attempting to reinstate aerial fumigation unsuccessfully.

again in 2006 and won again in the first round: his 62% of the vote made for the largest victory for a presidential candidate in Colombian history. Uribe's electoral successes came not despite but rather because of his intense militarized approach to the conflict and counternarcotics. These observations echo research on the electoral success of violent victors (Daly 2022b).

Meanwhile, the costs—both practical and political—of implementing eradication are low for the central government. Estimates suggest that the cost of spraying one hectare of coca crops with glyphosate is approximately US$2,400 (Mejía 2016).[17] The ecological (Rincón-Ruiz et al. 2016), public health (Camacho and Mejía 2017), and economic consequences (Rozo 2014) of crop eradication are geographically concentrated. Moreover, coca crops, especially extensive plantations, are relatively easy to identify using satellite imagery (Reyes 2014).

As a result of Colombia's centralized process for eradication, the blame for eradication is easily attributable to the national government for the rural farmers, *campesinos*, who are the primary individuals engaged in coca cultivation in Colombia. Interviews with *campesinos* and social leaders reveal that those affected by eradication attribute blame enforcement and its consequences entirely on national-level governments (and the U.S.).[18] Thus, these peripheral communities and the weak state presence in the areas they live in are particularly susceptible to capture, influence, or coercion by non-state armed groups, which function at the more lucrative refinement and transport stages of the cocaine supply chain (Bergman 2018) or by taxing growers directly.

In particular, the Colombian context carries the dynamic of various non-state armed groups with varying political preferences. The conflict originates with the formation of several guerrilla groups in the aftermath of *La Violencia*, a civil war fought between the historically dominant Conservative and Liberal Parties. The 1958 arrangement that brought an official end to *La Violencia* did not end the violence in the countryside. In 1964, the left-wing Revolutionary Armed Forces of Colombia (*Fuerzas Armadas Revolucionarias de Colombia*, FARC) formed as a guerrilla group

17. Manual eradication is more expensive since it requires higher levels of capacity and effort, as do voluntary substitution efforts (Ladino, Saavedra, and Wiesner 2021).

18. These communities have few interactions with the state otherwise. Because of this, national politicians cannot necessarily influence voters' perceptions of local politicians with counternarcotics enforcement. The fieldwork interviews also suggest that affected populations see local politicians like mayors and department governors as impotent to the imposition of the central state.

to contest the state. Additional left-wing insurgent groups, such as the National Liberation Army (*Ejército Nacional de Liberación*, ELN), soon followed (Arjona 2016). Paramilitary groups such as the AUC emerged to combat these insurgencies (Daly 2016). During the period of the study—from the late 1990s through the 2000s—all of these different groups experienced periods of ascendancy and decline (Ch et al. 2018), and each of these groups became involved with the drug trade and influenced politics.

Paramilitary groups such as the AUC explicitly favored Uribe. The AUC's greatest strength coincided with the period just before the election of Uribe in 2002, and there was extensive coercion and vote rigging in this election in areas with paramilitary presence (Nieto-Matiz 2019). Moreover, politicians who supported Uribe's term limit removal were more likely to be arrested for ties to paramilitaries and more likely to support laws that favored paramilitary groups (Acemoglu, Robinson, and Santos 2013). Afterward, Uribe's government negotiated a favorable paramilitary demobilization, providing amnesty to most members and limited sentences that could be served on private property, among other conditions including the ability for demobilized members to keep profits from criminal activities.

On the other hand, guerrilla groups opposed Uribe's government and socialized the populations in their influence into their ideology (Hirschel-Burns 2021). Fergusson et al. (2021) show that paramilitary violence increases in response to the election of a left-wing mayor as a function of traditional elite backlash to threats to de facto political power. Eradication can function as a form of legitimized violence for crackdowns on guerrillas.

In the context of Colombia, H1 implies that after the election of Uribe—who faced reelection incentives and had strong policy preferences for intensified enforcement—one should expect restraint in or forbearance of eradication efforts in municipalities with historically high levels of paramilitary violence. Conversely, H1 also implies that one should expect greater incidence and intensity of eradication from 2002-2010 in municipalities with historical guerrilla violence. H2 implies that these dynamics for paramilitaries should be exacerbated in areas where Uribe gained the most from non-state armed group electoral influence, measured as municipalities where Uribe

overperformed electoral expectations and municipalities that experienced recent electoral violence likely undertaken by paramilitaries in favor of Uribe.

4 Data

To test H1 and H2, I constructed a monthly panel from August 1998 to July 2010, covering the Pastrana and Uribe administrations, Plan Colombia's incidence, paramilitary groups' demobilization, and two presidential elections.

4.1 Outcome variable: crop eradication

I sourced data on the outcome measure of interest, crop eradication, via an information request to the Colombian Ministry of Justice (*Ministerio de Justicia*) from the Colombian Ministry of National Defense (*Ministerio de Defensa Nacional*). Their reports of aerial eradication aggregate the monthly number of hectares fumigated in each municipality. The starting point of data collection, March 1994, is before the beginning of the period of study, which corresponds to the inauguration of Pastrana in August 1998. I choose to use metrics of eradication that are reported by the Colombian government not only because it is standard in the literature (Mejia and Restrepo 2016; Prem, Vargas, and Mejía 2023) but also because any reporting biases that favor a lack of a relationship between political factors and eradication will drive the estimates downward.

4.2 Predictor variables: previous armed group violence

The key predictor variables of interest are measures of guerrilla and paramilitary presence across municipalities as proxied by aggregating violence over time, which follows the empirical literature on the Colombian conflict (Acemoglu, Robinson, and Santos 2013; Ch et al. 2018). Aggregating violence over many years ensures idiosyncratic year-to-year fluctuations in the conflict do not drive the results and that the results are not entirely a function of the mechanical or contemporary effects of armed group presence on eradication based on safety considerations. While violence-

based measures may not necessarily capture territorial control by armed groups in general (Arjona and Otálora 2011; Kalyvas 2006), recent research on Colombia finds by contrast that areas controlled by a sole armed actor—as measured qualitatively—experience high levels of violence (Aponte González, Hirschel-Burns, and Uribe 2024). Further, I argue that historical violence is a prerequisite for presence and influence, in line with the existing literature (Ch et al. 2018).

The primary source of the violence data comes from Restrepo, Spagat, and Vargas (2003), a database[19] which counts paramilitary and guerrilla violence from the Center for Research and Popular Education or *Centro de Investigacion y Educacion Popular* (CINEP)'s *Noche y Niebla* records. CINEP is a Colombian NGO that uses validated media reports, victim testimony, and other sources to construct detailed violence records. Each record is manually classified based on the perpetrating armed group. The raw number of violence in each municipality over several years is summed together, divided by the total number of months of the time window used, which is then divided by the average of the municipality's population from the National Administrative Department of Statistics of Colombia throughout the time period, and multiplied by 100,000 to create the variable used in the regression models. Thus, the attacks refer to the average number of monthly violence by each type of armed group in each municipality per 100,000 population. Appendix Figure A2 maps the variation in violence by plotting the logged values for each armed group.[20] I also construct a binary measure by taking the municipalities in the top quartile of violence for each armed group for the specified time period.

I group historical violence conducted by paramilitary organizations, primarily the AUC, into a single category of paramilitary violence. Similarly, I group historical violence by different guerrilla groups, such as the FARC or ELN, into a single measure of guerrilla violence. Municipalities in the sample vary cross-sectionally along these two dimensions. Historical violence by one group of armed actors is not exclusive to historical violence by another. On the contrary, many paramilitaries formed primarily to contest the gains of guerrilla groups in the earlier days of the conflict. That

19. The dataset has been extended by the Universidad del Rosario through 2014.

20. I use the logged values in the map to facilitate visual interpretation and the raw values per 100,000 population in the main specifications to facilitate written interpretation, but the results are robust to the use of either.

said, there are also municipalities where only a single group of armed actors committed violence in the period I used to generate the predictors. Further, a paramilitary group may have dominated one area of a municipality, while a guerrilla group may dominate another. To account for potential threats to inference generated by this dynamic, in each model, I include measures of the intensity of historical violence by each type of group, assuming that both can affect eradication behavior instead of estimating each relationship separately. In the appendix, I probe the robustness of the results to various other measurement strategies. Section 5 details these additional specifications.

4.3 Additional variables

In certain specifications, I control for the yearly net hectares cultivated of coca crops in a particular municipality. The source of these data is the Integrated Monitoring System of Illicit Crops (*Sistema Integrado de Monitoreo de Cultivos Ilícitos*, SIMCI) of the United Nations Office on Drugs and Crime (UNODC). On an annual basis since 1999, SIMCI detects areas of coca cultivation using satellite imagery. Helicopter flights take high-definition photographs to confirm the detection. Usefully, since these data come from the UNODC, they are generally independent of the Colombian political system. Appendix Section A.2 describes these data in further detail. The coca cultivation and eradication data are combined to construct the sample of municipalities used in the study. I use as an estimation sample the 318 (out of 1,122) municipalities in Colombia with *any* aerial eradication or cultivation from 1998-2010. Appendix Figure A3 uses a map to highlight the variation in cultivation and aerial eradication: any municipalities with positive values for either of these variables are included in the sample, covering a wide swath of the Colombian territory.

To test mechanisms, I add electoral data from Pachón, Sánchez Torres, et al. (2014) to the panel. For each municipality, I use each presidential candidate's first-round vote share in the 1994, 1998, 2002, and 2006 elections.[21] I additionally include data on electoral violence from the Electoral Observation Mission (*Misión de Observación Electoral*, MOE), an NGO (Nieto-Matiz 2019).

21. Colombia uses a two-round system for its presidential elections. If a candidate receives a majority (more than 50%) of the national vote in the first round, they are elected outright. Otherwise, the top two candidates proceed to the second round, where the candidate who receives the most votes in the second round wins the election.

5 Forbearance and intensification of eradication

5.1 Empirical strategy

I adopt a difference-in-differences design to test H1, leveraging cross-sectional variation in historical armed group presence alongside temporal variation in the incentives for the government to forbear or intensify enforcement against certain armed groups over others.

The design relies on the changes in incentives for the government of Uribe to use eradication against one group of armed actors over the others. The baseline category is eradication behavior during Pastrana's term (1998-2002). I opt for Pastrana's term as the baseline since Plan Colombia was enacted within this period, substantially enhancing the Colombian government's eradication capabilities. Simultaneously, the passing of Plan Colombia coincided with Pastrana's constitutional ineligibility for seeking reelection. After his presidency, Pastrana did not hold any further political office except for a brief tenure as Ambassador to the U.S. in 2005. Therefore, Pastrana's government would have been less incentivized to leverage or sideline the influence of armed actors through the strategic use of eradication.

After the election of Uribe, however, these incentives were much more potent. Uribe successfully lobbied the Colombian Congress to allow him to run for a second term, so he faced reelection incentives. Uribe even attempted to lobby for a change so that he could run for a third term, though this effort was thwarted by the Constitutional Court of Colombia in the waning months of his second term. As Section 3 describes, senators elected by votes in high paramilitary areas disproportionately voted in favor of removing his term limit, and paramilitaries delivered votes via coercion to politicians with preferences relatively close to theirs in executive and legislative elections, favoring Uribe and his allies (Acemoglu, Robinson, and Santos 2013). As for guerrilla groups, incentives to enforce also changed after the election of Uribe. Though these groups have historically opposed the Colombian government, Pastrana was involved in peace negotiations with the FARC. The collapse of those negotiations partly led to Uribe's successful hardline campaign. So, I expect enforcement to intensify in areas of guerrilla influence during Uribe's term relative

Table 1: Summary of design.

	Pastrana, 1998-2002 ($T=0$)	Uribe, 2002-2010 ($T=1$)
High paramilitary violence ($P_i=1$)	$\mathbb{E}[Y_{i0}(0)\|P_i=1]$	$\mathbb{E}[Y_{i1}(1)\|P_i=1]$
Low paramilitary violence ($P_i=0$)	$\mathbb{E}[Y_{i0}(0)\|P_i=0]$	$\mathbb{E}[Y_{i1}(0)\|P_i=0]$
High guerrilla violence ($G_i=1$)	$\mathbb{E}[Y_{i0}(0)\|G_i=1]$	$\mathbb{E}[Y_{i1}(1)\|G_i=1]$
Low guerrilla violence ($G_i=0$)	$\mathbb{E}[Y_{i0}(0)\|G_i=0]$	$\mathbb{E}[Y_{i1}(0)\|G_i=0]$

to Pastrana. The design can thus be conceptualized as two separate difference-in-differences, stylized using the potential outcomes framework with binary predictors in Table 1, where i indexes municipalities and Y_t represents eradication outcomes in time t. Municipalities are grouped cross-sectionally by their levels of historical armed group knowledge, while temporal variation results from the election of Uribe. While this stylized table treats the violence measures as binary for exposition, in Section 5, I present results using continuous and binary measures of historical armed group violence.

For estimation, I use the following specification to predict the intensity and incidence of aerial coca eradication across Colombian municipalities where coca could plausibly be grown and aerially eradicated:

$$\begin{aligned} Eradication_{i,t} = \beta_1 P_i \times \mathbb{1}[\text{2002-2006}] + \beta_2 P_i \times \mathbb{1}[\text{2006-2010}] + \\ \beta_3 G_i \times \mathbb{1}[\text{2002-2006}] + \beta_4 G_i \times \mathbb{1}[\text{2006-2010}] + \\ \gamma_i + \delta_t + \varepsilon_{i,t}, \end{aligned} \tag{1}$$

where $Eradication_{i,t}$ is a measure of eradication in municipality i in year-month t. P_i is a time-invariant metric of paramilitary violence in municipality i, with G_i being the analogous metric for guerrilla attacks. These two variables are interacted with indicators for the months of Uribe's first presidential term (2002-2006) and Uribe's second presidential term (2006-2010), such that Pastrana's term (1998-2002) is the omitted category.[22] Municipality fixed effects γ_i account for any time-invariant confounding municipality characteristics—notably, agroclimatic suitability for

22. Presidential terms begin in August and end in July.

the cultivation of coca crops and the size of each municipality—while year-month δ_t fixed effects guard against long-term and seasonal national-level trends. I report robust standard errors clustered at the municipality level.

The key coefficients of interest are the interaction between measures of different armed groups' historical violence and presidential term indicators. Here, β_1, β_2, β_3, and β_4 represent differential growth or decline in eradication behavior across municipalities with variation in guerrilla and paramilitary presence during the 2002-2006 and 2006-2010 presidential terms relative to baseline—Pastrana's term. Based on H1, I expect β_1 and β_2 to be negative, representing less eradication in areas of historical paramilitary violence during Uribe's two terms relative to Pastrana. Conversely, I expect β_3 and β_4 to be positive, representing more eradication in areas of historical paramilitary violence during Uribe's two terms relative to Pastrana.[23]

5.2 Results

The results from estimating Equation 1 using continuous measures of historical armed group violence are reported in Table 2, while Table 3 uses binary measures. Within these tables, I use three different outcome measures across columns to show that the results are not sensitive to the distribution of the raw outcome variable, which is particularly right-skewed. Column 1 uses hectares of coca crops eradicated. Next, Column 2 takes the natural log of crop eradication, adding a value of 1 to account for the municipalities with no eradication.[24] Finally, Column 3 evaluates the extensive margin, as the outcome is a binary measure of crop eradication in a municipality. Panel A of each table reports results from the baseline specification described in Equation 1. In contrast, Panel B reports results from a specification that also controls for the sum of coca hectares detected during Pastrana's term (1999-2001) interacted with the indicators for Uribe's two administrations. This approach exploits variation across municipalities with similar levels of fixed baseline cultivation.

23. The constituent terms of the interactions are not present in Equation 1 because the municipality fixed effects absorb the time-invariant variables for paramilitary and guerrilla violence; the year-month fixed effects absorb the indicators for presidential terms.

24. Interpret the results from this column as percentage effects with caution, since Chen and Roth (2024) show how these transformations depend arbitrarily on the units of the outcome when the treatment affects the extensive margin.

Table 2: Temporal and geographic variation in the intensity and extent of aerial eradication using continuous measures of historical armed group violence (1988-2001).

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-22.799***	-0.111**	-0.016**
	(7.502)	(0.044)	(0.007)
Paramilitary violence × 2006-2010	-18.603**	-0.169***	-0.031***
	(7.218)	(0.056)	(0.010)
Guerrilla violence × 2002-2006	5.702	0.057***	0.009***
	(4.281)	(0.020)	(0.003)
Guerrilla violence × 2006-2010	0.032	0.042*	0.009**
	(2.575)	(0.022)	(0.004)
R^2	0.12	0.22	0.21
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-18.678**	-0.091**	-0.014*
	(7.586)	(0.043)	(0.007)
Paramilitary violence × 2006-2010	-20.305**	-0.159***	-0.029***
	(7.908)	(0.055)	(0.010)
Guerrilla violence × 2002-2006	3.690	0.047**	0.008**
	(4.069)	(0.019)	(0.003)
Guerrilla violence × 2006-2010	0.863	0.037*	0.008*
	(2.278)	(0.022)	(0.004)
R^2	0.12	0.23	0.21
Observations	45,792	45,792	45,792
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	30.11	0.29	0.05
Outcome std. dev.	258.83	1.27	0.22
Paramilitary violence range	[0-2.95]	[0-2.95]	[0-2.95]
Paramilitary violence mean	0.50	0.50	0.50
Paramilitary violence std. dev.	0.55	0.55	0.55
Guerrilla violence range	[0-8.39]	[0-8.39]	[0-8.39]
Guerrilla violence mean	1.15	1.15	1.15
Guerrilla violence std. dev.	1.36	1.36	1.36

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Temporal and geographic variation in the intensity and extent of aerial eradication using binary measures of historical armed group violence (1988-2001).

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-21.194**	-0.123**	-0.020**
	(10.084)	(0.050)	(0.008)
Paramilitary violence × 2006-2010	-13.776	-0.145**	-0.027**
	(8.499)	(0.072)	(0.013)
Guerrilla violence × 2002-2006	10.710	0.127**	0.021**
	(11.413)	(0.053)	(0.009)
Guerrilla violence × 2006-2010	-1.345	0.114	0.024*
	(8.997)	(0.076)	(0.013)
R^2	0.12	0.22	0.21
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-13.419	-0.088**	-0.016**
	(8.162)	(0.044)	(0.008)
Paramilitary violence × 2006-2010	-17.170*	-0.130*	-0.024*
	(9.686)	(0.072)	(0.013)
Guerrilla violence × 2002-2006	1.206	0.084*	0.016*
	(8.977)	(0.048)	(0.008)
Guerrilla violence × 2006-2010	2.805	0.095	0.020
	(8.671)	(0.077)	(0.014)
R^2	0.12	0.22	0.21
Observations	45,792	45,792	45,792
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	30.11	0.29	0.05
Outcome std. dev.	258.83	1.27	0.22
Paramilitary violence range	{0,1}	{0,1}	{0,1}
Paramilitary violence mean	0.35	0.35	0.35
Paramilitary violence std. dev.	0.48	0.48	0.48
Guerrilla violence range	{0,1}	{0,1}	{0,1}
Guerrilla violence mean	0.40	0.40	0.40
Guerrilla violence std. dev.	0.49	0.49	0.49

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Supporting H1, the results show that relative to Pastrana's term, there was a decrease in aerial eradication in municipalities with high levels of historical paramilitary activity and an increase in eradication in municipalities with high levels of historical guerrilla activity during Uribe's presidential terms, even conditional on time-invariant factors that may explain eradication. For a given municipality, a standard deviation increase in historical paramilitary attacks per 100,000 population is associated with about 10 fewer hectares of aerial eradication per month, translating to approximately 500 fewer hectares fumigated over a 4-year term. Considering the extensive margin, a standard deviation increase in historical paramilitary attacks per 100,000 population is associated with a 1.3 percentage point decrease in the probability of any aerial eradication. For any given month of Uribe's first or second term, a standard deviation increase in historical guerrilla attacks per 100,000 population is associated with about a 1.2 percentage point increase in the probability of any aerial eradication. The results are of comparable magnitude when using a binary—top quartile) measure of historical armed group violence by each group type.

5.3 Validation tests and robustness checks

The validity of the difference-in-differences design rests on whether the untreated units of each group are appropriate counterfactuals for treated units, which could be threatened as a result of divergence from parallel trends, or the presence of unobserved time-varying confounders.[25]

To test the plausibility of the parallel trends assumption, I first test for divergence in pre-trends by dropping the two Uribe administrations from the sample and leading the treatment structure by 1 and 2 years. This probes whether differences in eradication behavior begin not with Uribe's administration but rather an earlier event—the implementation of Plan Colombia. The results, presented in Appendix Table A2, show that during Pastrana's term, there are few differences in eradication behavior across areas of historically high paramilitary and guerrilla violence after July 2000 or July 2001: the coefficients are imprecisely estimated and substantively small. Second, I

25. Since all units are treated simultaneously, there is no threat to inference from heterogeneous treatment effects over time (Callaway and Sant'Anna 2021; De Chaisemartin and d'Haultfoeuille 2020; Goodman-Bacon 2021; Sun and Abraham 2021).

estimate event-study models that regress coca eradication on historical paramilitary and guerrilla violence measures interacted with indicators for each year between 1999 and 2010, using 2002 as the reference category. I present the results in Appendix Figures A4 and A5. Across each of the different outcomes, there is a weak relationship between paramilitary and guerrilla violence until after 2002, providing support for the identifying assumptions of the design and H1.

Given concerns of potential time-varying unmeasured confounding, I flexibly interact the year-month fixed effects with department fixed effects, municipality area, coca suitability, altitude, and distance to Bogotá, as well as measures of the pre-violence right/left lean of the municipality as proxied by the 1986 vote share of Álvaro Gómez Hurtado—a conservative presidential candidate later assassinated by the FARC in 1995—and Jaime Pardo Leal—the candidate of the unofficial political wing of the FARC in this election in Appendix Tables A3 and A4. Though the inclusion of the latter vote share variables reduces the sample size, the results are similar to the main results.

One possible alternative explanation for the results is that municipalities that experienced differential armed group violence by paramilitaries or guerrillas have different coca cultivation habits, and variation in coca cultivation explains variation in eradication. However, the results are robust to conditioning on differential coca cultivation across municipalities that vary in their experiences of historical armed group violence. Panel B of Tables 2 and 3 control for baseline coca cultivation interacted by Uribe's presidential terms, but I also estimate two additional specifications that account for coca cultivation in different ways. Instead of controlling for baseline levels of coca cultivation, I control for yearly lags of coca cultivation in Appendix Table A5. The results here are larger than the main results, though they should be treated with caution since levels of cultivation each year are endogenous to eradication. In Appendix Table A6, I define the outcome as the proportion of coca hectares cultivated in year $t-1$ that were eradicated in year t. In this case, construct a yearly panel instead of year-month panel. These results are similar to the main results.

Alternatively, forbearance and intensification of aerial eradication may result from the alignment or misalignment of local politicians with the executive (Bonilla-Mejía and Higuera-Mendieta 2017). To assess whether the observed variation in eradication reflects direct responses to armed

group presence rather than local political alignment per se, I conduct a robustness check using the regression discontinuity design from Fergusson et al. (2021). This approach compares eradication outcomes across municipalities where left- or right-wing mayoral candidates narrowly won or lost elections.[26] I find no significant differences in eradication intensity following close victories by either partisan alignment, as reported in Appendix Table A7. These results suggest that the central government does not systematically adjust eradication policy solely in response to the partisan identity of local mayors in close elections, supporting the interpretation that enforcement decisions are shaped by the strategic importance of armed groups themselves—even if those groups influence local political outcomes—rather than by the partisanship of local officials.

An important challenge for my research design is the difficulty of accurately measuring armed group violence. To address this, I demonstrate that the results are consistent across various measurement strategies. First, I assess the sensitivity of the binary results to the use of the other cutoffs of top quartiles with historical armed group violence. Figure A6 shows the results using the top tercile or quintile as indicators. Second, violence may be related to influence in complex, nonlinear ways. To ensure the results are not driven by the imposition of a linear functional form when using continuous predictors, I also fit models that transform these predictor variables by $\ln+1$. Appendix Table A8 accounts for the right skewness of the historical violence data (Ch et al. 2018) by applying this natural log transformation. This set of results is comparable to the main results. Similarly, squaring the continuous violence measures suggests the relationship is reasonably monotonic, as Appendix Table A9 shows. Tables A10 and A11 interact the violence by both armed groups. Though the triple differences are noisily estimated, the estimates of the constituent terms are consistent with the theory. I also generate the predictor variables based on aggregated attacks from the 1988-1997 period instead of the 1988-2001 period. I use the 1988-2001 period in the baseline specification because this range of years includes both eras of paramilitary and guerrilla ascendancy. In particular, the 1998-2001 years include the leadup to the Santa Fe de Ralito pact, where the paramilitary umbrella organization, the AUC, met with nearly 1,000 politicians to

26. By contrast, Fergusson et al. (2021) use this design to examine the effect of narrowly elected left-wing mayors on future violence, finding that such victories increase paramilitary violence.

strategize a concerted effort to support Uribe's candidacy for presidency in 2002 (Ch et al. 2018). However, while this 1988-2001 range is still measured before the point where Uribe enters office, it is also measured during Pastrana's term. Nevertheless, the results, in Appendix Tables A12 and A13, are robust to these changes.

Finally, while Equation 1 leverages *changes* in eradication behavior across presidential terms, I also assess the cross-sectional relationship between historical armed group violence and eradication in Appendix Tables A14 and A15. The former table reports results from Pastrana's term, finding limited to no evidence of a relationship between violence and eradication during his administration. The latter table shows that absolute levels of eradication from 2002-2010 also show patterns of forbearance and intensification in enforcement based on armed group violence.

6 Mechanisms

The theory described in Section 2 posits that when armed groups act as electoral brokers, government enforcement patterns will depend on the alignment between the government and the armed groups, not necessarily on voters. The results in Section 5 provide evidence governments hold back on enforcement to favorable armed groups. H2 posits that this forbearance should result from electoral incentives. To test H2, I hone in on the 2002-2010 years and assess variation in paramilitary electoral influence. I focus on paramilitary influence since paramilitaries affected national elections most directly (Acemoglu, Robinson, and Santos 2013).

6.1 Electoral overperformance

If the logic of restraint to paramilitary areas during Uribe's terms is correct, then H2 suggests that these results should be driven by municipalities where Uribe overperformed expectations, especially those with high paramilitary presence. In other words, paramilitaries deliver votes the incumbent would not have otherwise received they receive relief from repression as a reward. To test this implication of the theory, I define Δ_i^{2002} as the difference between Pastrana's 1998 vote share

and Uribe's 2002 vote share in municipality i. Pastrana was the conservative presidential candidate in the 1998 presidential election; therefore, his vote share is a relevant proxy for Uribe's anticipated vote share in 2002. Similarly, I define Δ_i^{2006} as the difference between Uribe's 2006 vote share and Uribe's 2002 vote share in municipality i. Higher levels of Δ_i correspond to municipalities where Uribe overperformed relative to expectations, likely because of paramilitary influence. I predict eradication based on Δ_i and armed group presence, as well as their interaction, using the following specification:

$$Eradication_{i,t} = \beta_1 P_i \times \Delta_i + \mathbf{X}_i + \zeta_d + \delta_t + \varepsilon_{i,t}. \tag{2}$$

Here, $\mathbf{X}$ is a vector of controls to account for the cross-sectional nature of the model: coca suitability, municipality area, and population (measured each year) in an attempt to account for the lack of municipality fixed effects—the inclusion of coca suitability drops some municipalities from the analysis. The guerrilla attacks variable G_i is also included in $\mathbf{X}$. Instead of municipality fixed effects, ζ_d represents department fixed effects. As in Equation 1, δ_t represents year $\times$ month fixed effects.

The results are presented in Table 4; estimated separately for the 2002-2006 presidential term (Panels A and B) and the 2006-2010 presidential term (Panels C and D). These results suggest that from 2002-2006, the differential decrease in aerial eradication in areas with high levels of historical paramilitary violence was concentrated in municipalities where Uribe overperformed expectations in the 2002 election. Absent historical paramilitary violence, the relationship between Uribe's electoral overperformance in 2002 and subsequent eradication from 2002-2006 is positive, perhaps suggesting leeway to eradicate more strongly in areas where Uribe overperformed. However, as historical paramilitary violence increases, this relationship reverses: municipalities where Uribe overperformed relative to Pastrana experienced *less* subsequent eradication. From 2006-2010, after paramilitary demobilization, there are no large or statistically detectable differences between Uribe's overperformance in 2006, historical paramilitary violence, and subsequent eradication.

Table 4: Cross-sectional geographic variation in the intensity and extent of aerial eradication based on historical paramilitary violence (1988-2001) and Uribe's electoral overperformance.

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication (2002-2006)			
Δ^{2002}	101.357*	0.379*	0.053
	(51.862)	(0.219)	(0.035)
Paramilitary violence	2.046	-0.081	-0.014
	(9.854)	(0.058)	(0.010)
Δ^{2002} × Paramilitary violence	-100.955*	-0.419*	-0.066*
	(58.727)	(0.233)	(0.037)
R^2	0.04	0.11	0.10
Panel B: Aerial eradication, controlling for baseline coca cultivation (2002-2006)			
Δ^{2002}	109.153**	0.413**	0.058*
	(50.491)	(0.208)	(0.033)
Paramilitary violence	4.861	-0.069	-0.013
	(8.854)	(0.052)	(0.009)
Δ^{2002} × Paramilitary violence	-107.950*	-0.450**	-0.071**
	(57.550)	(0.219)	(0.034)
R^2	0.06	0.13	0.12
Panel C: Aerial eradication (2006-2010)			
Δ^{2006}	-59.226	-0.470	-0.087
	(43.030)	(0.336)	(0.058)
Paramilitary violence	-12.783	-0.184*	-0.036**
	(10.127)	(0.095)	(0.017)
Δ^{2006} × Paramilitary violence	-1.333	-0.113	-0.018
	(38.009)	(0.428)	(0.079)
R^2	0.05	0.10	0.10
Panel D: Aerial eradication, controlling for baseline coca cultivation (2006-2010)			
Δ^{2006}	-58.188	-0.464	-0.086
	(41.164)	(0.327)	(0.057)
Paramilitary violence	-15.619	-0.199**	-0.038**
	(9.487)	(0.087)	(0.016)
Δ^{2006} × Paramilitary violence	33.891	0.072	0.009
	(32.446)	(0.391)	(0.074)
R^2	0.07	0.11	0.10
Observations	13,680	13,680	13,680
Municipalities	285	285	285
Outcome (2002-2006) range	[0-17,101]	[0-9.75]	{0,1}
Outcome (2002-2006) mean	36.35	0.29	0.05
Outcome (2002-2006) std. dev.	329.54	1.28	0.22
Outcome (2006-2010) range	[0-7,131]	[0-8.87]	{0,1}
Outcome (2006-2010) mean	34.40	0.40	0.07
Outcome (2006-2010) std. dev.	219.95	1.46	0.26

Notes: All specifications are estimated using OLS and include department and year × month fixed effects. Δ^{2002} ranges from -0.79 to 0.74 with a mean of -0.01 and a std. dev. of 0.24. Δ^{2006} ranges from -0.37 to 0.86 with a mean of 0.16 and a std. dev. of 0.19. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.2 Electoral violence

I next use electoral violence—reports of threats to use armed violence against voters, as a way to assess the relationship between paramilitary influence on elections and subsequent eradication behavior by the central government. Electoral violence data is sourced from the Electoral Observation Mission (*Misión de Observación Electoral*, MOE), a Colombian NGO (Nieto-Matiz 2019).

If a government is incentivized to hold back on eradication to favorable armed groups because aligned groups help the incumbent in elections, then electoral violence by favorable groups should also be associated with forbearance. Unfortunately, the electoral violence data is not disaggregated by the armed actor who committed the electoral violence. However, prior to the 2002 election, paramilitaries were at their highest strength, having signed a pact to support Uribe's candidacy with the goal of the government taking a hardline stance against the guerrillas, and paramilitaries committed most of the instances of electoral violence in this election (Acemoglu, Robinson, and Santos 2013). To assess the relationship between electoral violence and eradication, I fit:

$$Eradication_{i,t} = \beta_1 \text{Electoral Violence}_i + \mathbf{X}_i + \zeta_d + \delta_t + \varepsilon_{i,t}, \tag{3}$$

where historical paramilitary and guerrilla violence is included in the vector of controls $\mathbf{X}_i$ described in Equation 2, with results presented in Table 5. I do not interact electoral violence with the historical time-invariant measures of paramilitary presence because, as a measure of short-term violence, electoral violence is unlikely to reflect consolidated influence (Kalyvas 2006). Municipalities with strong paramilitary influence could experience electoral violence, but strong paramilitary influence could lead to tampering with election results in other, less violent ways, such as ballot stuffing.

Similarly to Table 4, Table 5 shows a negative relationship between electoral violence in 2002 and eradication in the 2002-2006 term—before the demobilization of the paramilitaries. This relationship is attenuated when using electoral violence in 2006—after paramilitary demobilization—to predict eradication from 2006-2010.

Table 5: Cross-sectional geographic variation in the intensity and extent of aerial eradication based on electoral violence.

Outcome:	Hectares (1)	Hectares (ln+1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication (2002-2006)			
Electoral violence (2002)	-42.044	-0.233**	-0.036***
	(30.487)	(0.092)	(0.014)
R^2	0.05	0.12	0.12
Panel B: Aerial eradication, controlling for baseline coca cultivation (2002-2006)			
Electoral violence (2002)	-38.423	-0.218**	-0.034**
	(29.394)	(0.088)	(0.013)
R^2	0.06	0.14	0.13
Panel C: Aerial eradication (2006-2010)			
Electoral violence (2006)	-5.241	0.008	0.007
	(4.610)	(0.051)	(0.010)
R^2	0.05	0.10	0.11
Panel D: Aerial eradication, controlling for baseline coca cultivation (2006-2010)			
Electoral violence (2006)	-5.052	0.009	0.007
	(4.399)	(0.050)	(0.010)
R^2	0.07	0.11	0.11
Observations	14,208	14,208	14,208
Municipalities	296	296	296
Outcome (2002-2006) range	[0-17,101]	[0-9.75]	{0,1}
Outcome (2002-2006) mean	40.37	0.31	0.05
Outcome (2002-2006) std. dev.	339.22	1.34	0.23
Outcome (2006-2010) range	[0-7,131]	[0-8.87]	{0,1}
Outcome (2006-2010) mean	36.39	0.42	0.08
Outcome (2006-2010) std. dev.	223.87	1.50	0.27

Notes: All specifications are estimated using OLS and include department and year $\times$ month fixed effects. Electoral violence (2002) ranges from {0-3} with a mean of 0.03 and a std. dev. of 0.24. Electoral violence (2006) ranges from {0-4} with a mean of 0.07 and a std. dev. of 0.37. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

7 Conclusion

This paper shows that political incentives influenced the spatial allocation of law enforcement in Colombia. In the wake of extensive foreign aid investments motivated by a desire to reduce coca cultivation, aerial eradication was not implemented apolitically. Using historical violence by armed groups to measure variation in political incentives to enforce, I show that areas with historically high paramilitary violence experienced differential decreases in eradication after 2002. By contrast, areas with historically high guerrilla violence experienced increases in eradication after 2002. Differences in political alignment explain this differential treatment because Uribe benefited from paramilitary help and built his political image around fighting the guerrillas. The national government used counternarcotics policies to reward aligned armed groups and punish opposition armed groups because the presence of non-state armed actors as electoral brokers reduces the need for the government to cater to voters.

Retrospective vote share considerations partially drive this relationship: during Uribe's first term, there was less eradication in areas with high paramilitary presence where he overperformed relative to expectations; after the official demobilization of the paramilitaries, these relationships are attenuated. Likewise, the relationship between electoral violence in the previous election and subsequent eradication is negative in 2002—prior to paramilitary demobilization—and small in 2006—after paramilitary demobilization. These results suggest that the preferential treatment of paramilitaries was partly motivated by their capacity to influence electoral outcomes. The findings help shape our understanding of state-building, development, electoral accountability, peacebuilding, and the rule of law. State consolidation reflects not only capacity constraints but also willingness: the persistence of armed groups that challenge the monopoly over the use of force can be electorally beneficial.

Indeed, when the Colombian government and the AUC signed an agreement for the latter's demobilization, the very first line of the document reads: "the purpose of this process is achieving national peace through the strengthening of democratic governance and the restoration of the monopoly on violence to the State." Despite these goals, weakened enforcement against elec-

torally beneficial non-state armed groups damages prospects for peace, democratic accountability, and outsources violence to groups outside of the state. Building on the contribution of Acemoglu, Robinson, and Santos (2013), who show that paramilitaries themselves were allowed to persist in areas where they were electorally beneficial, this paper measures how persistence plays out by providing evidence of differential law enforcement practices.

In terms of policy, this paper shows that the agency of elected leaders matters for understanding drug enforcement: de facto enforcement can shift significantly across governments even as the letter of the law remains unchanged. Further, expanding capacity is insufficient for achieving particular policy outcomes: leaders' incentives must also be taken into consideration.

Considering external validity, it is true that Colombia is a particular case in many ways given its powerful armed groups with programmatic platforms and ties to national politicians. Despite this, the broader theory should also apply across counternarcotics—and other nationally-driven forms of law enforcement—in different countries. For example, Mexico is an interesting contrasting case: enforcement strategies are decentralized across varying levels of government, making accountability for counternarcotics difficult. At the same time, its criminal actors are strong but more focused on state capture than programmatic platforms. National-level enforcement strategies should reflect strategic demobilization, with the additional complications implied by local-federal dynamics (Trejo and Ley 2020).

Future research should also study demand-side approaches. In building the theory, I chose to focus on supply-side approaches because these approaches have historically been dominant in producer countries in the context of the global drug prohibition regime. Demand-side approaches focus on the root causes of drug abuse and addiction in consumer countries through prevention, treatment, and education.[27] Because of this, demand-side policies display neither the asymmetrical costs and benefits across jurisdictions nor the more apparent clarity of responsibility characteristic of supply-side policies that are necessary conditions for the theory. A different supply-side approach I scope out of the theory is crop substitution. Interviews with National Integrated Illicit

27. Over time, as the use of drugs becomes less stigmatized, the incentives that push governments to conduct harsh enforcement strategies may also lessen, but this falls beyond the scope of this paper.

Crop Substitution Program (*Programa Nacional Integral de Sustitucion de Cultivos Ilicitos*) officials confirmed that there is little coordination across forced eradication and substitution since they are implemented by different agencies with very different membership and mandates. Nevertheless, the politics of alternative approaches—and the reasons why they have historically been eschewed—are worthy of future study.

The Colombian constitution enshrines equal protection under the law as a human right. As with many other countries, the lofty ideals of this document fail to live up to practice. Beyond the normative desirability of equal protection, differential enforcement creates variation with significant short-term and long-term consequences (Trudeau 2022). In the short run, aerial crop fumigation causes serious health, environmental, and economic damage. Counternarcotics enforcement can also decrease government trust (Torreblanca 2024). In the long run, this lack of confidence in institutions and the persistence of non-state armed groups that influence elections can break typical citizen-politician linkages (Kitschelt 2000; Stokes, Dunning, and Nazareno 2013), and the state might find itself unable to eliminate these threats to its monopoly of violence once the armed groups are no longer electorally useful (Hidalgo and Lessing 2019). Politicians influenced by armed groups may spend less on public goods and social programs in favor of security (Daly 2022a; Nieto-Matiz 2023). For a region that already experiences the most criminal violence in the world, forbearance in enforcement can propagate conflict, violence, and development traps that will further lag social, political, and economic progress in Latin America.

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Appendix

Supplementary material for *Unequal Before the Law: Political Incentives and Selective Drug Enforcement in Colombia*

Contents

A.1 Public opinion toward security and drugs

The AmericasBarometer question asks respondents what they perceive to be the country's most important problem. Survey enumerators classify their open-ended responses into one of many categories. I group these issues into four categories, and Figure A1 records the proportion of respondents who listed one of the issues within these four categories as the top issue facing the country. I classify problems such as inflation, unemployment, and poverty as economic issues; protests, corruption, and problems with service provision as political issues; and issues related to drug trafficking, the armed conflict, and crime are security-related. While the armed conflict might appear to be more all-encompassing than issues of drugs themselves, it is impossible to disentangle the armed conflict from drug trafficking given the involvement of armed groups in the drug trade in Colombia.

Table A1 reports results from an original survey of the relationship between ideology and support for eradication policies as well as praticular candidates in the 2022 Colombian presidential election.

Figure A1: Proportion of respondents who indicated an issue falling into the issue grouping as the most important problem facing the country, 2004-2021.

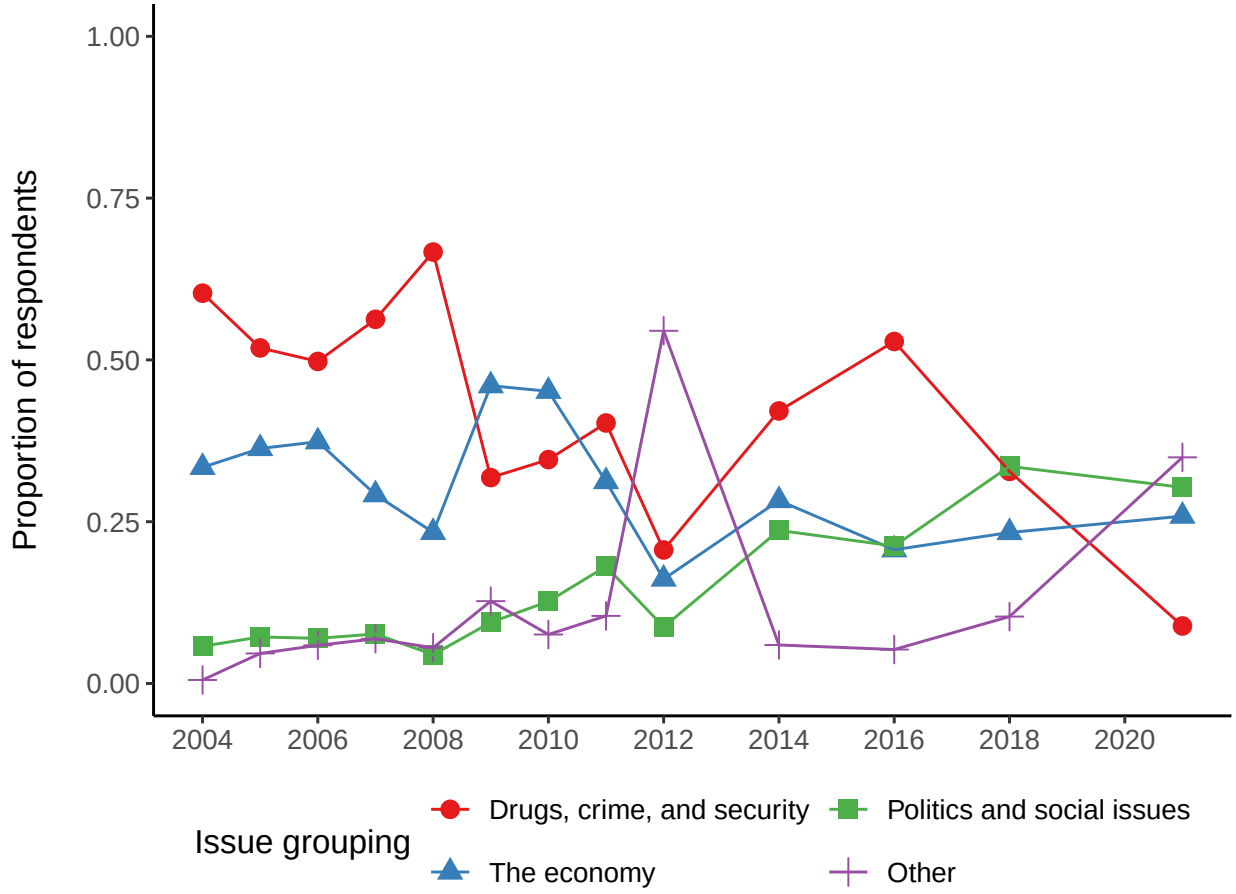


Table A1: Relationship between left-right ideology and opinions on eradication and voting behavior.

Outcome:	Supports eradication			Approval	Self-reported vote: Round 1			Vote intention: Round 2	
	Aerial	Manual	Any	Duque *Right (Incumbent)*	Petro *Left*	Fico *Right*	Hernández *Right*	Petro *Left*	Hernández *Right*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ideology is respondent self-reported left-right scale placement, range: {0,1,2,3,4,5,6,7,8,9,10}									
Ideology	0.036***	0.004	0.036***	0.219***	-0.104***	0.055***	0.030***	-0.106***	0.086***
	(0.005)	(0.005)	(0.006)	(0.016)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
R^2	0.05	0.001	0.03	0.17	0.22	0.13	0.03	0.23	0.19
Observations	1,124	1,124	1,124	1,132	966	966	966	1,128	1,128
Outcome range	{0,1}	{0,1}	{0,1}	{0,1,2,3,4}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Outcome mean	0.17	0.20	0.33	1.22	0.50	0.14	0.17	0.53	0.27
Outcome std. dev.	0.37	0.40	0.47	1.19	0.34	0.50	0.38	0.50	0.44
Ideology mean	4.46	4.46	4.46	4.45	4.42	4.42	4.42	4.45	4.45
Ideology std. dev.	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24

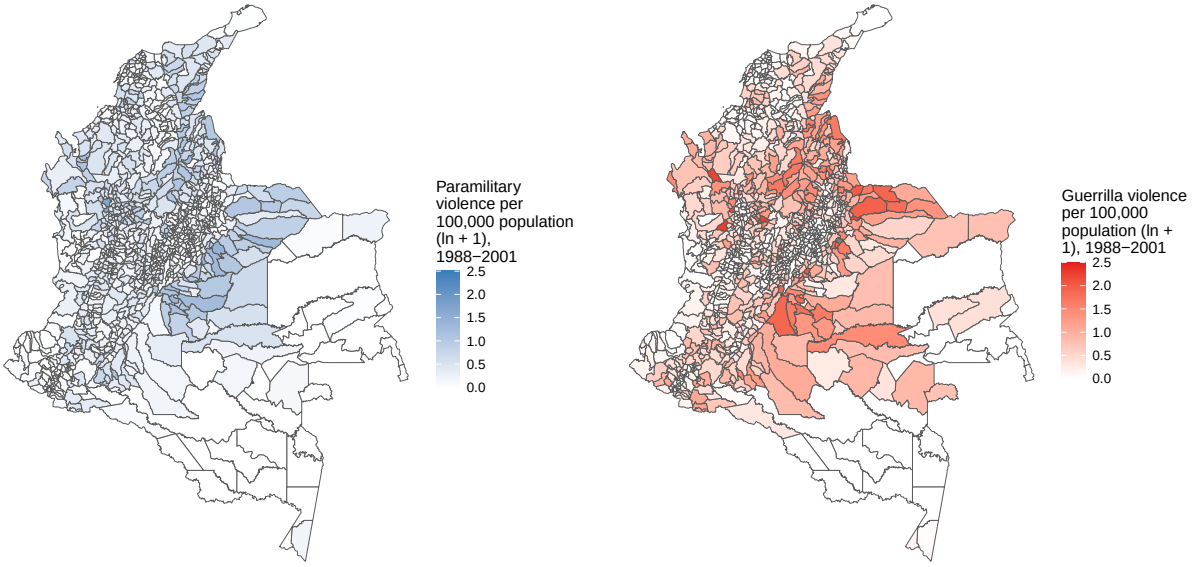
Notes: All specifications are estimated using OLS. Heteroskedasticity-robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.2 Detailed description of coca cultivation data

SIMCI's estimations correspond to the nominal date of December 31st—however, the inputs are collected several months around this date, usually between November and February. The measures across years correspond to *net* changes in coca cultivation. Consider, for example, a report of 1,000 hectares of coca crops detected in a particular municipality in year t. In the following year, $t+1$, 500 hectares could be eradicated, but another 1,000 hectares of coca may be planted. The estimated coca cultivation for that municipality in year $t+1$ is thus 1,500 hectares, even though there may have been as many as 2,000 hectares of crops in that municipality at one point. Similarly, it is possible for, say, 1,000 hectares to have been detected in year t and *more than* 1,000 hectares to have been eradicated during year $t+1$, since new cultivation areas can appear during the year. Coca takes approximately 6 months to go from initial planting to initial harvest. Subsequent harvests can occur around every 3 months after the initial harvest. Coca is a crop resilient to eradication; even after fumigation, coca cultivation areas can regrow the crop in a time frame ranging from 6 to 12 months.

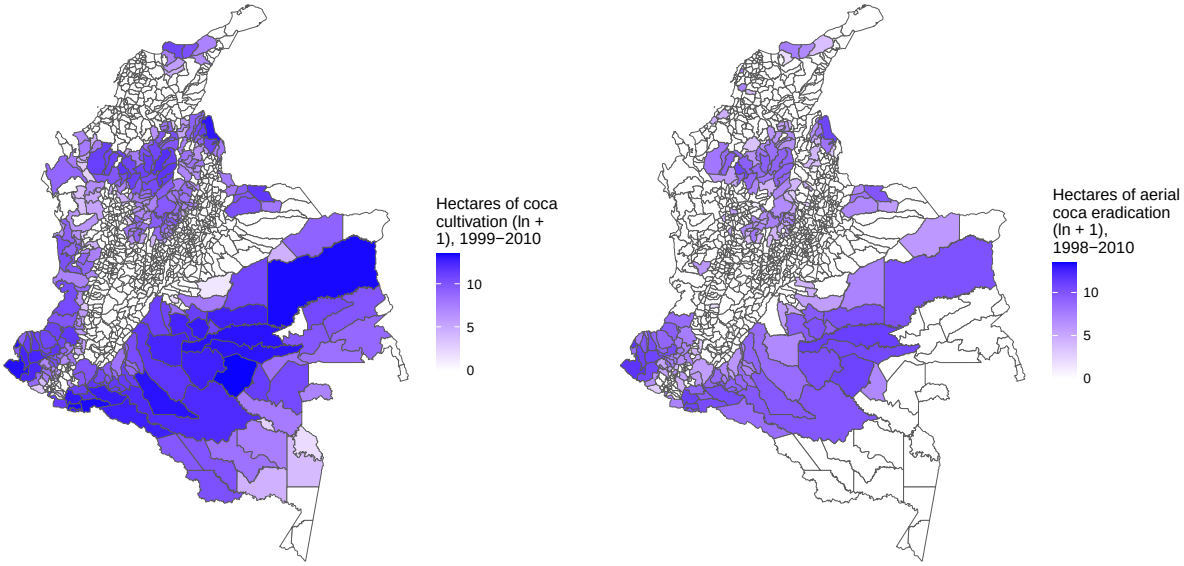
A.3 Variation in historical armed group presence

Figure A2: Paramilitary and guerrilla violence per 100,000 population from 1988-2001.



A.4 Variation in coca cultivation and eradication

Figure A3: Coca cultivation and eradication.



A.5 Difference-in-differences validation checks

A.5.1 Testing parallel trends

To test parallel trends, I fit a model similar to the one described by Equation 1, except I replace the indicators for Uribe's two presidential terms with placebo "Plan Colombia" treatment indicators for July 2001-July 2002 (Panels A and C) and July 2000-July 2002 (Panels B and D) and subset the sample to the year-months of Pastrana's term.

Table A2: Testing whether eradication during Pastrana's term changed with Plan Colombia.

Outcome:	Hectares	Hectares (ln+1)	Hectares (> 0)
	(1)	(2)	(3)
Panel A: Aerial eradication, July 2001 placebo, continuous violence measure			
Paramilitary violence × 2001-2002	-7.338	-0.009	0.001
	(6.032)	(0.036)	(0.007)
Guerrilla violence × 2001-2002	3.021	0.007	0.000
	(2.545)	(0.013)	(0.003)
R^2	0.10	0.28	0.29
Panel B: Aerial eradication, July 2000 placebo, continuous violence measure			
Paramilitary violence × 2000-2002	-4.924	0.017	0.004
	(7.258)	(0.038)	(0.007)
Guerrilla violence × 2000-2002	6.046*	0.013	0.001
	(3.564)	(0.017)	(0.003)
R^2	0.10	0.28	0.29
Panel C: Aerial eradication, July 2001 placebo, binary violence measure			
Paramilitary violence × 2001-2002	-11.016	-0.062	-0.009
	(8.266)	(0.054)	(0.010)
Guerrilla violence × 2001-2002	11.620	0.049	0.006
	(9.549)	(0.061)	(0.011)
R^2	0.10	0.28	0.29
Panel D: Aerial eradication, July 2000 placebo, binary violence measure			
Paramilitary violence × 2000-2002	-16.232	-0.038	-0.006
	(13.359)	(0.063)	(0.012)
Guerrilla violence × 2000-2002	23.066	0.047	0.005
	(15.523)	(0.070)	(0.012)
R^2	0.10	0.28	0.29
Observations	15,264	15,264	15,264
Municipalities	318	318	318
Outcome range	[0-9,650]	[0-9.17]	{0,1}
Outcome mean	17.90	0.16	0.03
Outcome std. dev.	215.45	0.95	0.17

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Continuous measure of paramilitary violence ranges from 0 to 2.95 with a mean of 0.50 and a std. dev. of 0.55. Continuous measure of guerrilla violence ranges from 0 to 8.39 with a mean of 1.15 and a std. dev. of 1.36. Binary measure of paramilitary attacks has a mean of 0.35 and a std. dev. of 0.48. Binary measure of guerrilla attacks has a mean of 0.40 and a std. dev. of 0.49. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.5.2 Event study specification

To generate the event study plots I fit regressions of the following form:

$$Eradication_{i,t} = \sum_{j \neq 2002} \beta_j P_i \times \mathbb{1}[y = j] + \sum_{j \neq 2002} \zeta_j G_i \times \mathbb{1}[y = j] + \gamma_i + \delta_t + \varepsilon_{i,t}, \tag{4}$$

where $Eradication_{i,t}$ represents eradication in municipality i in year-month t, and P_i and G_i are variables for historical paramilitary and guerrilla violence. I interact the variables for historical paramilitary and guerrilla violence P_i and G_i with indicators for each year $y \in 1998, 1999, \ldots, 2010$ except for 2002, which is the reference category and corresponds to Uribe's election. I also include municipality fixed effects γ_i and year $\times$ month fixed effects δ_t. Figures A4 and A5 present the results of these regressions separately for aerial eradication outcomes measured in hectares, ln +1 hectares, and as a binary indicator, plotting estimates of β_j and ζ_j and 95% confidence intervals. I expect β_j—the coefficients associated with the interaction of the year indicators and historical paramilitary violence—to be negative after 2002, reflecting forbearance in eradication, and ζ_j—the coefficients associated with the interaction of the year indicators and historical guerrilla violence—to be positive after 2002.

Figure A4: Event study plots, using continuous measures of historical armed group violence.

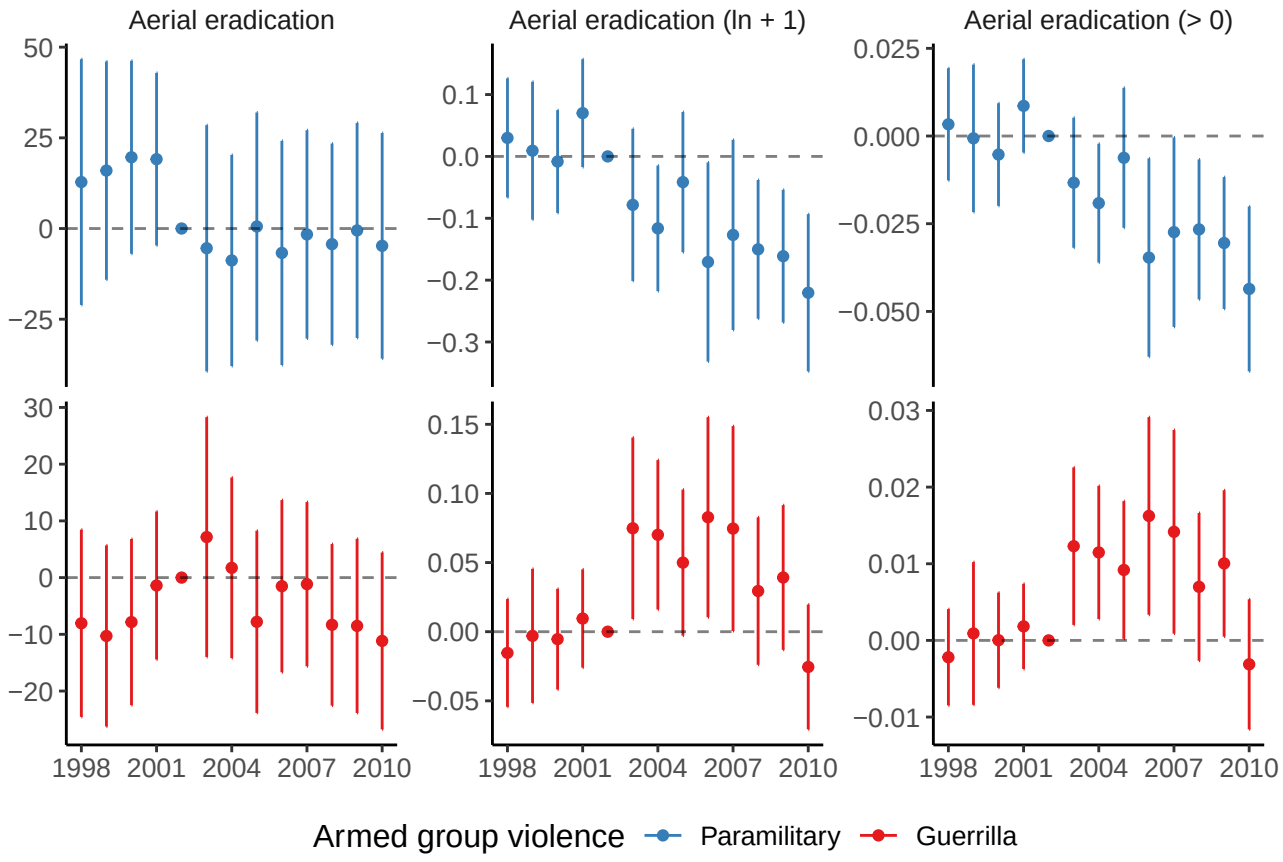
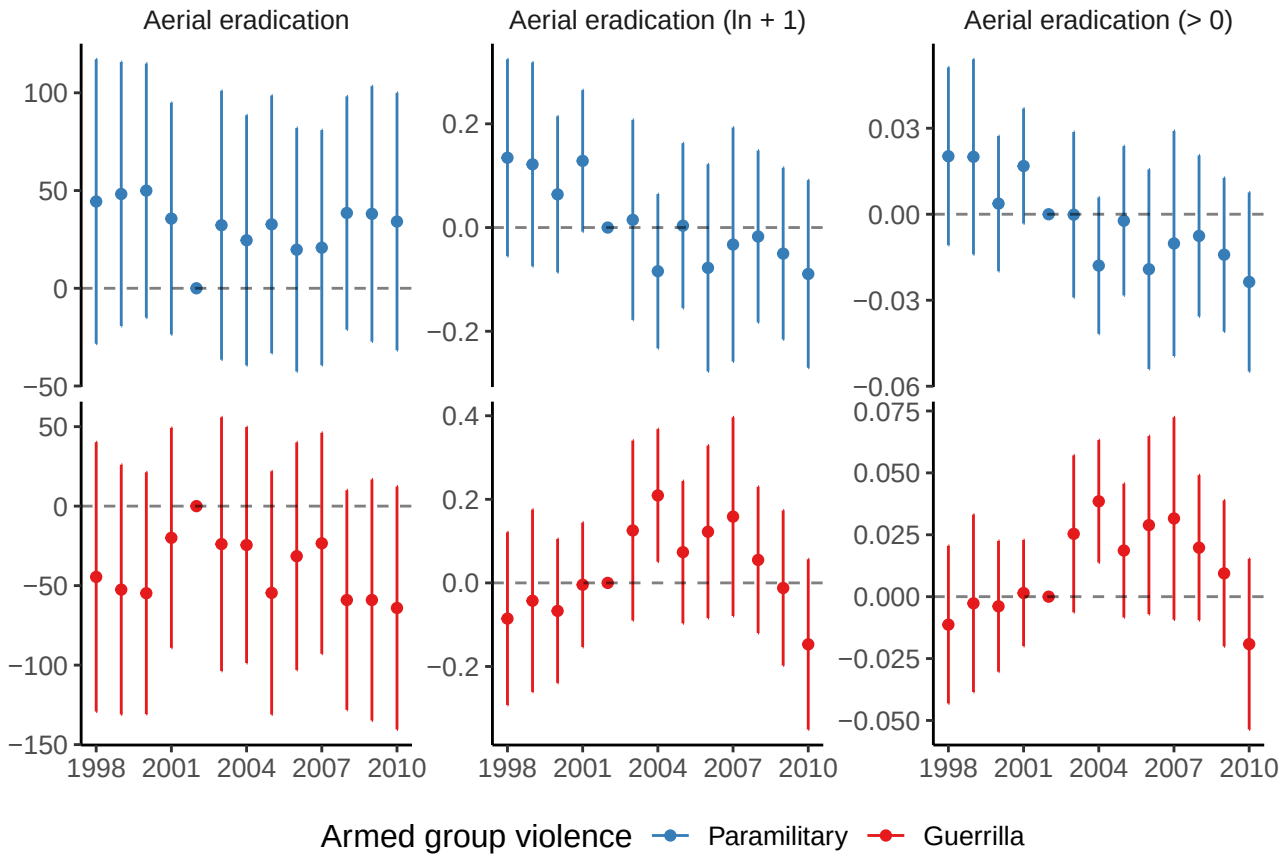


Figure A5: Event study plots, using binary measures of historical armed group violence.



A.6 Robustness checks and alternative explanations

The following set of tables present the results of the robustness tests and alternative explanations described in Section 5.

Tables A3 and A4 flexibly interact the year-month fixed effects with department fixed effects, municipality area, coca suitability, altitude, and distance to Bogotá, as well as measures of the latent right/left lean of the municipality.

Table A5 uses coca cultivation values from $t-1$ as controls. Table A6 uses as an outcome the proportion of yearly coca cultivated that was aerially eradicated.

In Table A7, I use a regression discontinuity design around close mayoral elections in Colombia to predict average eradication undertaken by the central government in a particular municipality over the course of the mayor's term depending on the close election of a left-wing or right-wing mayor. Only the 2003 and 2007 mayoral elections are included. This extends Fergusson et al. (2021), who compare municipalities which were barely won by a left-wing (right-wing) mayor to those where the left-wing (right-wing) mayor barely lost to understand the relationship between local elections and armed group violence in response to shifts in local power.

Figure A6 probes the sensitivity of the main binary results based on the cutoff for municipalities with high levels of historical paramilitary or guerrilla violence. Table A8 uses the natural log of attacks to account for the right-skewness of this variable's distribution, adding a value of one such that violence values in municipalities that did not experience violence are well-defined. Table A9 squares the violence results to further assess sensitivity to linearity. Tables A10 and A11 interact each group's violence measures with each other.

Tables A12 and A13 use violence data that is always prior to the beginning of Pastrana's term even though it excludes the crucial 1997-2001 period of paramilitary ascendancy (Ch et al. 2018).

Finally, Tables A14 and A15 estimate cross-sectional results.

A.6.1 Flexibly interacting time-invariant characteristics with time

Table A3: Temporal and geographic variation in the intensity and extent of aerial eradication using additional covariates interacted with time, using continuous measures of historical armed group violence (1988-2001).

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-23.606***	-0.135***	-0.021***
	(8.867)	(0.043)	(0.007)
Paramilitary violence × 2006-2010	-36.155***	-0.310***	-0.055***
	(12.078)	(0.080)	(0.014)
Guerrilla violence × 2002-2006	3.231	0.041**	0.007**
	(3.053)	(0.020)	(0.003)
Guerrilla violence × 2006-2010	3.452	0.071**	0.014**
	(3.489)	(0.032)	(0.006)
R^2	0.30	0.45	0.43
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-21.005*	-0.124***	-0.019***
	(11.039)	(0.043)	(0.007)
Paramilitary violence × 2006-2010	-38.132***	-0.309***	-0.055***
	(12.402)	(0.080)	(0.014)
Guerrilla violence × 2002-2006	3.326	0.041**	0.007**
	(3.207)	(0.019)	(0.003)
Guerrilla violence × 2006-2010	3.380	0.071**	0.014**
	(3.322)	(0.031)	(0.006)
R^2	0.30	0.45	0.44
Observations	37,584	37,584	37,584
Municipalities	261	261	261
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	27.17	0.25	0.05
Outcome std. dev.	253.83	1.19	0.21
Paramilitary violence range	[0-2.95]	[0-2.95]	[0-2.95]
Paramilitary violence mean	0.56	0.56	0.56
Paramilitary violence std. dev.	0.57	0.57	0.57
Guerrilla violence range	[0-8.39]	[0-8.39]	[0-8.39]
Guerrilla violence mean	1.23	1.23	1.23
Guerrilla violence std. dev.	1.36	1.36	1.36

Notes: All specifications are estimated using OLS and include municipality fixed effects and year × month fixed effects interacted with department fixed effects, latent right and left-wing municipality electoral preferences, municipality area, altitude, coca suitability, and distance from Bogotá. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Temporal and geographic variation in the intensity and extent of aerial eradication using additional covariates interacted with time, using binary measures of historical armed group violence (1988-2001).

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-24.157**	-0.153***	-0.026***
	(9.733)	(0.050)	(0.009)
Paramilitary violence × 2006-2010	-24.124**	-0.226***	-0.040***
	(10.898)	(0.086)	(0.015)
Guerrilla violence × 2002-2006	13.725	0.135**	0.025**
	(10.164)	(0.061)	(0.011)
Guerrilla violence × 2006-2010	16.384**	0.232***	0.045***
	(7.756)	(0.080)	(0.014)
R^2	0.30	0.45	0.43
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-17.145	-0.125**	-0.022**
	(11.111)	(0.049)	(0.009)
Paramilitary violence × 2006-2010	-30.413**	-0.229***	-0.040***
	(13.086)	(0.086)	(0.015)
Guerrilla violence × 2002-2006	10.343	0.122**	0.023**
	(9.213)	(0.058)	(0.010)
Guerrilla violence × 2006-2010	19.416**	0.233***	0.045***
	(8.487)	(0.080)	(0.014)
R^2	0.30	0.45	0.43
Observations	37,584	37,584	37,584
Municipalities	261	261	261
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	27.17	0.25	0.05
Outcome std. dev.	253.83	1.19	0.21
Paramilitary violence range	{0,1}	{0,1}	{0,1}
Paramilitary violence mean	0.39	0.39	0.39
Paramilitary violence std. dev.	0.49	0.49	0.49
Guerrilla violence range	{0,1}	{0,1}	{0,1}
Guerrilla violence mean	0.44	0.44	0.44
Guerrilla violence std. dev.	0.50	0.50	0.50

Notes: All specifications are estimated using OLS and include municipality fixed effects and year × month fixed effects interacted with department fixed effects, latent right and left-wing municipality electoral preferences, municipality area, altitude, coca suitability, and distance from Bogotá. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.6.2 Accounting for lagged coca cultivation

Table A5: Temporal and geographic variation in the intensity and extent of aerial eradication controlling for lagged coca cultivation.

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication, continuous violence measure			
Paramilitary violence × 2002-2006	-32.397***	-0.137***	-0.020***
	(8.928)	(0.043)	(0.007)
Paramilitary violence × 2006-2010	-28.949***	-0.197***	-0.034***
	(7.989)	(0.054)	(0.010)
Guerrilla violence × 2002-2006	8.448*	0.066***	0.011***
	(4.438)	(0.020)	(0.003)
Guerrilla violence × 2006-2010	4.734*	0.057**	0.011**
	(2.819)	(0.024)	(0.004)
R^2	0.14	0.23	0.22
Paramilitary violence range	[0-2.95]	[0-2.95]	[0-2.95]
Paramilitary violence mean	0.50	0.50	0.50
Paramilitary violence std. dev.	0.55	0.55	0.55
Guerrilla violence range	[0-8.39]	[0-8.39]	[0-8.39]
Guerrilla violence mean	1.15	1.15	1.15
Guerrilla violence std. dev.	1.36	1.36	1.36
Panel B: Aerial eradication, binary violence measure			
Paramilitary violence × 2002-2006	-43.105***	-0.174***	-0.025***
	(14.630)	(0.052)	(0.008)
Paramilitary violence × 2006-2010	-37.845***	-0.203***	-0.033***
	(11.173)	(0.071)	(0.012)
Guerrilla violence × 2002-2006	35.197**	0.200***	0.031***
	(15.653)	(0.056)	(0.009)
Guerrilla violence × 2006-2010	30.189***	0.207***	0.036***
	(10.888)	(0.076)	(0.013)
R^2	0.14	0.23	0.22
Paramilitary violence range	{0,1}	{0,1}	{0,1}
Paramilitary violence mean	0.35	0.35	0.35
Paramilitary violence std. dev.	0.48	0.48	0.48
Guerrilla violence range	{0,1}	{0,1}	{0,1}
Guerrilla violence mean	0.40	0.40	0.40
Guerrilla violence std. dev.	0.49	0.49	0.49
Observations	40,386	40,386	40,386
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	32.68	0.30	0.06
Outcome std. dev.	272.57	1.30	0.23

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects, and control for coca cultivation in the previous year. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.6.3 Accounting for proportion of detected coca eradicated

Table A6: Temporal and geographic variation in the proportion of yearly hectares aerially eradicated.

Outcome: proportion of cultivated coca hectares aerially eradicated				
	Continuous violence measure		Binary violence measure	
	(1)	(2)	(3)	(4)
Paramilitary violence × 2003-2006	-0.066**		-0.032	
	(0.026)		(0.031)	
Paramilitary violence × 2007-2010	-0.070***		-0.044	
	(0.026)		(0.033)	
Guerrilla violence × 2003-2006	0.044***		0.091***	
	(0.015)		(0.031)	
Guerrilla violence × 2007-2010	0.027**		0.072**	
	(0.012)		(0.034)	
Paramilitary violence × 2002-2005		-0.053**		-0.038
		(0.023)		(0.029)
Paramilitary violence × 2006-2009		-0.087***		-0.057
		(0.032)		(0.038)
Guerrilla violence × 2002-2005		0.033***		0.079***
		(0.013)		(0.030)
Guerrilla violence × 2006-2009		0.042***		0.097**
		(0.015)		(0.038)
R^2	0.55	0.56	0.55	0.56
Observations	3,498	3,180	3,498	3,180
Municipalities	318	318	318	318
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}
Outcome mean	0.19	0.19	0.19	0.19
Outcome std. dev.	0.37	0.37	0.37	0.37
Paramilitary violence range	[0-2.95]	[0-2.95]	{0,1}	{0,1}
Paramilitary violence mean	0.50	0.50	0.35	0.35
Paramilitary violence std. dev.	0.55	0.55	0.48	0.48
Guerrilla violence range	[0-8.39]	[0-8.39]	{0,1}	{0,1}
Guerrilla violence mean	1.15	1.15	0.40	0.40
Guerrilla violence std. dev.	1.36	1.36	0.49	0.49

Notes: All specifications are estimated using OLS and include municipality and year fixed effects. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.6.4 Fergusson et al. (2021) extension with eradication as outcome

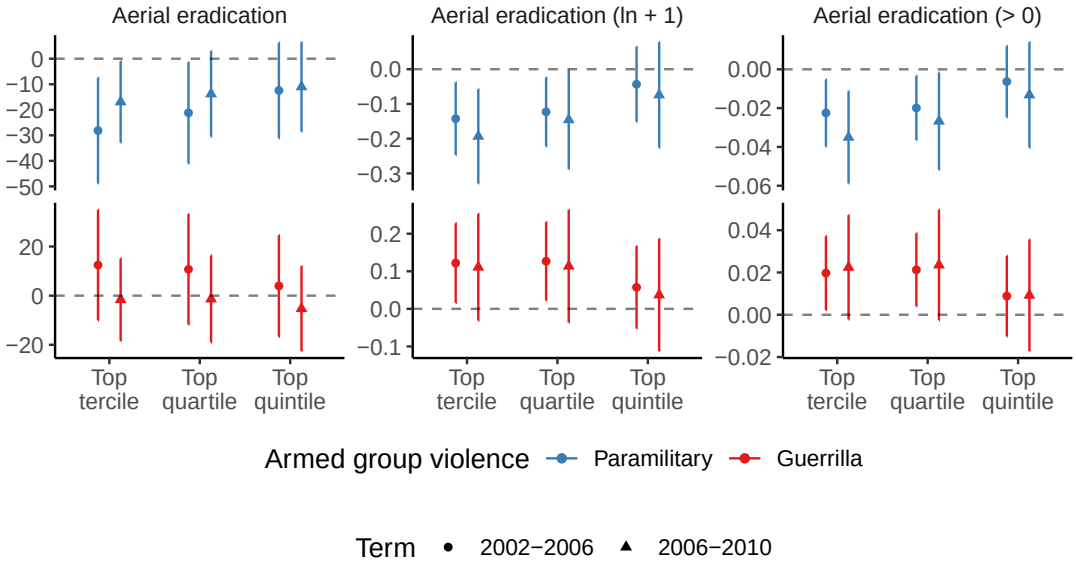
Table A7: Regression discontinuity design: election of right-wing and left-wing mayors on eradication.

Outcome:	Avg. yearly aerial eradication hectares (1)	Avg. yearly aerial eradication hectares (ln +1) (2)	Avg. yearly aerial eradication hectares (> 0) (3)
Panel A: Right-wing mayor			
Mayor elected	2.952	0.188	0.049
	(18.430)	(0.406)	(0.087)
Observations	187, 172	187, 172	187, 172
Effective Observations	93, 86	102, 93	95, 88
Bandwidth	0.067, 0.067	0.076, 0.076	0.07, 0.07
Panel B: Left-wing mayor			
Mayor elected	414.558	-0.532	-0.175*
	(577.374)	(1.062)	(0.141)
Observations	41, 44	41, 44	41, 44
Effective Observations	13, 21	12, 20	10, 20
Bandwidth	0.06, 0.06	0.055, 0.055	0.049, 0.049

Notes: Standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.6.5 Using alternative cutoffs for binary measures of historical violence

Figure A6: Sensitivity of the binary main results to different cutoffs for high historical paramilitary and guerrilla violence.



A.6.6 Log-transformed violence data

Table A8: Temporal and geographic variation in the intensity and extent of aerial eradication using ln +1 measures of historical armed group violence.

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-43.377***	-0.233***	-0.035**
	(13.969)	(0.086)	(0.014)
Paramilitary violence × 2006-2010	-33.269**	-0.354***	-0.066***
	(13.498)	(0.112)	(0.020)
Guerrilla violence × 2002-2006	16.915	0.175***	0.028***
	(11.820)	(0.054)	(0.009)
Guerrilla violence × 2006-2010	0.030	0.152**	0.032**
	(8.079)	(0.070)	(0.013)
R^2	0.12	0.22	0.21
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-33.357**	-0.186**	-0.029**
	(14.027)	(0.083)	(0.014)
Paramilitary violence × 2006-2010	-37.474**	-0.332***	-0.062***
	(15.104)	(0.110)	(0.020)
Guerrilla violence × 2002-2006	9.191	0.139**	0.024***
	(11.054)	(0.054)	(0.009)
Guerrilla violence × 2006-2010	3.271	0.136*	0.030**
	(7.679)	(0.071)	(0.013)
R^2	0.12	0.23	0.21
Observations	45,792	45,792	45,792
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	30.11	0.29	0.05
Outcome std. dev.	258.83	1.27	0.22
Paramilitary violence range	[0-1.37]	[0-1.37]	[0-1.37]
Paramilitary violence mean	0.35	0.35	0.35
Paramilitary violence std. dev.	0.32	0.32	0.32
Guerrilla violence range	[0-2.24]	[0-2.24]	[0-2.24]
Guerrilla violence mean	0.62	0.62	0.62
Guerrilla violence std. dev.	0.51	0.51	0.51

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Violence measures are transformed by ln +1. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.6.7 Squaring continuous violence measures

Table A9: Temporal and geographic variation in the intensity and extent of aerial eradication using continuous measures of historical armed group violence and violence squared.

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-39.628**	-0.227*	-0.033
	(17.874)	(0.123)	(0.021)
Paramilitary violence^2 × 2002-2006	7.634	0.049	0.007
	(6.825)	(0.046)	(0.008)
Paramilitary violence × 2006-2010	-30.790*	-0.351**	-0.065**
	(17.423)	(0.169)	(0.030)
Paramilitary violence^2 × 2006-2010	5.924	0.076	0.014
	(6.837)	(0.063)	(0.011)
Guerrilla violence × 2002-2006	10.238	0.115***	0.019***
	(8.610)	(0.041)	(0.007)
Guerrilla violence^2 × 2002-2006	-0.697	-0.010*	-0.002
	(1.169)	(0.006)	(0.001)
Guerrilla violence × 2006-2010	0.759	0.131**	0.028***
	(6.609)	(0.058)	(0.010)
Guerrilla violence^2 × 2006-2010	-0.045	-0.015*	-0.003**
	(0.816)	(0.008)	(0.001)
R^2	0.12	0.22	0.21
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-29.748*	-0.181	-0.027
	(17.958)	(0.123)	(0.021)
Paramilitary violence^2 × 2002-2006	5.526	0.039	0.006
	(6.915)	(0.045)	(0.008)
Paramilitary violence × 2006-2010	-35.017**	-0.332**	-0.062**
	(17.023)	(0.168)	(0.029)
Paramilitary violence^2 × 2006-2010	6.826	0.072	0.013
	(6.437)	(0.062)	(0.011)
Guerrilla violence × 2002-2006	3.423	0.083**	0.015**
	(7.644)	(0.041)	(0.007)
Guerrilla violence^2 × 2002-2006	0.125	-0.006	-0.001
	(1.066)	(0.006)	(0.001)
Guerrilla violence × 2006-2010	3.675	0.118**	0.026**
	(6.390)	(0.059)	(0.011)
Guerrilla violence^2 × 2006-2010	-0.397	-0.013*	-0.003**
	(0.854)	(0.008)	(0.001)
R^2	0.12	0.23	0.21
Observations	45,792	45,792	45,792
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	30.11	0.29	0.05
Outcome std. dev.	258.83	1.27	0.22
Paramilitary violence range	[0-2.95]	[0-2.95]	[0-2.95]
Paramilitary violence mean	0.50	0.50	0.50
Paramilitary violence std. dev.	0.55	0.55	0.55
Guerrilla violence range	[0-8.39]	[0-8.39]	[0-8.39]
Guerrilla violence mean	1.15	1.15	1.15
Guerrilla violence std. dev.	1.36	1.36	1.36

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.6.8 Interacting violence measures

Table A10: Temporal and geographic variation in the intensity and extent of aerial eradication using continuous measures of historical armed group violence interacted with each other.

Outcome:	Hectares (1)	Hectares (ln+1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-23.064**	-0.115*	-0.016
	(10.456)	(0.062)	(0.010)
Paramilitary violence × 2006-2010	-19.332**	-0.191**	-0.034**
	(9.403)	(0.083)	(0.014)
Guerrilla violence × 2002-2006	5.557	0.054	0.009*
	(7.305)	(0.034)	(0.005)
Guerrilla violence × 2006-2010	-0.368	0.030	0.007
	(5.069)	(0.045)	(0.008)
Paramilitary violence × guerrilla violence × 2002-2006	0.165	0.003	0.000
	(4.798)	(0.025)	(0.004)
Paramilitary violence × guerrilla violence × 2006-2010	0.454	0.013	0.002
	(5.330)	(0.035)	(0.006)
R^2	0.12	0.22	0.21
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-20.365*	-0.102*	-0.015
	(10.359)	(0.062)	(0.010)
Paramilitary violence × 2006-2010	-20.444**	-0.184**	-0.033**
	(9.147)	(0.083)	(0.014)
Guerrilla violence × 2002-2006	2.754	0.041	0.008
	(7.044)	(0.033)	(0.005)
Guerrilla violence × 2006-2010	0.786	0.023	0.006
	(5.680)	(0.044)	(0.008)
Paramilitary violence × guerrilla violence × 2002-2006	1.056	0.007	0.000
	(4.924)	(0.024)	(0.004)
Paramilitary violence × guerrilla violence × 2006-2010	0.087	0.016	0.002
	(5.464)	(0.035)	(0.006)
R^2	0.12	0.23	0.21
Observations	45,792	45,792	45,792
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	30.11	0.29	0.05
Outcome std. dev.	258.83	1.27	0.22
Paramilitary violence range	[0-2.95]	[0-2.95]	[0-2.95]
Paramilitary violence mean	0.50	0.50	0.50
Paramilitary violence std. dev.	0.55	0.55	0.55
Guerrilla violence range	[0-8.39]	[0-8.39]	[0-8.39]
Guerrilla violence mean	1.15	1.15	1.15
Guerrilla violence std. dev.	1.36	1.36	1.36

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A11: Temporal and geographic variation in the intensity and extent of aerial eradication using binary measures of historical armed group violence interacted with each other.

Outcome:	Hectares (1)	Hectares (ln+1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-21.722**	-0.096**	-0.014*
	(9.091)	(0.045)	(0.008)
Paramilitary violence × 2006-2010	-15.636*	-0.169*	-0.033**
	(8.523)	(0.086)	(0.015)
Guerrilla violence × 2002-2006	10.341	0.146*	0.026**
	(17.549)	(0.077)	(0.013)
Guerrilla violence × 2006-2010	-2.648	0.097	0.019
	(13.074)	(0.109)	(0.019)
Paramilitary violence × guerrilla violence × 2002-2006	0.988	-0.051	-0.012
	(19.403)	(0.097)	(0.016)
Paramilitary violence × guerrilla violence × 2006-2010	3.484	0.044	0.011
	(16.451)	(0.142)	(0.025)
R^2	0.12	0.22	0.21
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-19.627**	-0.086*	-0.012
	(8.846)	(0.044)	(0.008)
Paramilitary violence × 2006-2010	-16.534*	-0.164*	-0.032**
	(8.486)	(0.085)	(0.015)
Guerrilla violence × 2002-2006	-3.485	0.085	0.019
	(14.689)	(0.072)	(0.012)
Guerrilla violence × 2006-2010	3.286	0.069	0.015
	(14.405)	(0.114)	(0.020)
Paramilitary violence × guerrilla violence × 2002-2006	11.962	-0.003	-0.006
	(17.935)	(0.095)	(0.016)
Paramilitary violence × guerrilla violence × 2006-2010	-1.226	0.066	0.015
	(18.671)	(0.146)	(0.026)
R^2	0.12	0.22	0.21
Observations	45,792	45,792	45,792
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	30.11	0.29	0.05
Outcome std. dev.	258.83	1.27	0.22
Paramilitary violence range	{0,1}	{0,1}	{0,1}
Paramilitary violence mean	0.35	0.35	0.35
Paramilitary violence std. dev.	0.48	0.48	0.48
Guerrilla violence range	{0,1}	{0,1}	{0,1}
Guerrilla violence mean	0.40	0.40	0.40
Guerrilla violence std. dev.	0.49	0.49	0.49

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.6.9 Pre-baseline violence data (1988-1997)

Table A12: Temporal and geographic variation in the intensity and extent of aerial eradication using pre-baseline violence data (1988-1997), using continuous measures of historical armed group violence.

Outcome:	Hectares	Hectares (ln +1)	Hectares (> 0)
	(1)	(2)	(3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-13.389**	-0.100**	-0.016**
	(5.472)	(0.045)	(0.008)
Paramilitary violence × 2006-2010	-9.315*	-0.131***	-0.025***
	(5.364)	(0.050)	(0.009)
Guerrilla violence × 2002-2006	3.198	0.040**	0.007**
	(3.909)	(0.019)	(0.003)
Guerrilla violence × 2006-2010	-1.079	0.029	0.006
	(3.389)	(0.024)	(0.004)
R^2	0.12	0.22	0.21
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-9.536*	-0.082*	-0.014*
	(5.205)	(0.046)	(0.008)
Paramilitary violence × 2006-2010	-10.853**	-0.122**	-0.023***
	(4.953)	(0.050)	(0.009)
Guerrilla violence × 2002-2006	1.659	0.033*	0.006*
	(3.768)	(0.019)	(0.003)
Guerrilla violence × 2006-2010	-0.464	0.025	0.006
	(2.970)	(0.023)	(0.004)
R^2	0.12	0.22	0.21
Observations	45,792	45,792	45,792
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	30.11	0.29	0.05
Outcome std. dev.	258.83	1.27	0.22
Paramilitary violence range	[0-3.41]	[0-3.41]	[0-3.41]
Paramilitary violence mean	0.45	0.45	0.45
Paramilitary violence std. dev.	0.61	0.61	0.61
Guerrilla violence range	[0-7.60]	[0-7.60]	[0-7.60]
Guerrilla violence mean	1.06	1.06	1.06
Guerrilla violence std. dev.	1.39	1.39	1.39

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Violence measures from 1988-1997. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A13: Temporal and geographic variation in the intensity and extent of aerial eradication using pre-baseline violence data (1988-1997), using binary measures of historical armed group violence.

Outcome:	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication			
Paramilitary violence × 2002-2006	-22.646**	-0.110**	-0.017*
	(10.248)	(0.053)	(0.009)
Paramilitary violence × 2006-2010	-17.451**	-0.172**	-0.031***
	(8.161)	(0.067)	(0.012)
Guerrilla violence × 2002-2006	11.146	0.081	0.013
	(11.610)	(0.058)	(0.010)
Guerrilla violence × 2006-2010	2.345	0.106	0.022*
	(8.857)	(0.073)	(0.013)
R^2	0.12	0.22	0.21
Panel B: Aerial eradication, controlling for baseline coca cultivation			
Paramilitary violence × 2002-2006	-14.986*	-0.073	-0.012
	(8.152)	(0.046)	(0.008)
Paramilitary violence × 2006-2010	-21.044**	-0.156**	-0.029**
	(9.365)	(0.065)	(0.012)
Guerrilla violence × 2002-2006	3.081	0.041	0.008
	(9.008)	(0.052)	(0.009)
Guerrilla violence × 2006-2010	6.128	0.090	0.019
	(8.415)	(0.073)	(0.013)
R^2	0.12	0.22	0.21
Observations	45,792	45,792	45,792
Municipalities	318	318	318
Outcome range	[0-17,101]	[0-9.75]	{0,1}
Outcome mean	30.11	0.29	0.05
Outcome std. dev.	258.83	1.27	0.22
Paramilitary violence range	{0,1}	{0,1}	{0,1}
Paramilitary violence mean	0.34	0.34	0.34
Paramilitary violence std. dev.	0.47	0.47	0.47
Guerrilla violence range	{0,1}	{0,1}	{0,1}
Guerrilla violence mean	0.39	0.39	0.39
Guerrilla violence std. dev.	0.49	0.49	0.49

Notes: All specifications are estimated using OLS and include municipality and year × month fixed effects. Violence measures from 1988-1997. Baseline category is Pastrana's term from 1998-2002. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.6.10 Cross-sectional results

Table A14: Cross-sectional geographic variation in the intensity and extent of aerial eradication, 1998-2002.

	Hectares (1)	Hectares (ln +1) (2)	Hectares (> 0) (3)
Panel A: Aerial eradication, continuous violence measure			
Paramilitary violence	8.198	-0.017	-0.005
	(10.150)	(0.047)	(0.008)
Guerrilla violence	4.503	0.005	0.000
	(3.162)	(0.013)	(0.002)
R^2	0.04	0.16	0.18
Panel B: Aerial eradication, continuous violence measure (controlling for baseline coca cultivation)			
Paramilitary violence	10.327	-0.011	-0.004
	(7.164)	(0.043)	(0.008)
Guerrilla violence	0.978	-0.005	-0.001
	(1.585)	(0.012)	(0.002)
R^2	0.06	0.17	0.18
Panel C: Aerial eradication, binary violence measure			
Paramilitary violence	-4.265	-0.012	-0.001
	(7.947)	(0.050)	(0.009)
Guerrilla violence	12.651*	0.007	-0.002
	(6.675)	(0.047)	(0.008)
R^2	0.04	0.16	0.18
Panel D: Aerial eradication, binary violence measure (controlling for baseline coca cultivation)			
Paramilitary violence	10.664	0.031	0.005
	(7.171)	(0.045)	(0.008)
Guerrilla violence	-3.841	-0.041	-0.009
	(4.613)	(0.045)	(0.008)
Observations	14,208	14,208	14,208
Municipalities	296	296	296
Outcome range	[0-9,650]	[0-9.17]	{0,1}
Outcome mean	18.39	0.16	0.03
Outcome std. dev.	222.22	0.95	0.16

Notes: All specifications are estimated using OLS and include department and year × month fixed effects as well as the municipality-level controls described in Equations 2 and 3. Continuous measure of paramilitary violence ranges from 0 to 2.95 with a mean of 0.53 and a std. dev. of 0.56. Continuous measure of guerrilla violence ranges from 0 to 8.39 with a mean of 1.21 and a std. dev. of 1.37. Binary measure of paramilitary attacks has a mean of 0.37 and a std. dev. of 0.48. Binary measure of guerrilla attacks has a mean of 0.43 and a std. dev. of 0.49. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A15: Cross-sectional geographic variation in the intensity and extent of aerial eradication, 2002-2010.

	Hectares	Hectares (ln+1)	Hectares (> 0)
	(1)	(2)	(3)
Panel A: Aerial eradication, continuous violence measure			
Paramilitary violence	-7.419	-0.142**	-0.027**
	(7.537)	(0.069)	(0.012)
Guerrilla violence	5.202	0.034	0.005
	(3.169)	(0.026)	(0.005)
R^2	0.04	0.11	0.11
Panel B: Aerial eradication, continuous violence measure (controlling for baseline coca cultivation)			
Paramilitary violence	-5.344	-0.133**	-0.026**
	(6.352)	(0.064)	(0.012)
Guerrilla violence	1.770	0.019	0.003
	(2.510)	(0.024)	(0.004)
R^2	0.06	0.12	0.12
Panel C: Aerial eradication, binary violence measure			
Paramilitary violence	-16.023	-0.132*	-0.023*
	(10.522)	(0.073)	(0.013)
Guerrilla violence	19.604**	0.133**	0.021*
	(9.552)	(0.063)	(0.011)
R^2	0.04	0.11	0.11
Panel D: Aerial eradication, binary violence measure (controlling for baseline coca cultivation)			
Paramilitary violence	-1.907	-0.073	-0.014
	(9.319)	(0.068)	(0.012)
Guerrilla violence	4.008	0.068	0.012
	(8.069)	(0.060)	(0.011)
Observations	28,416	28,416	28,416
Municipalities	296	296	296
Outcome range	[0-9,650]	[0-9.17]	{0,1}
Outcome mean	18.39	0.16	0.03
Outcome std. dev.	222.22	0.95	0.16

Notes: All specifications are estimated using OLS and include department and year × month fixed effects as well as the municipality-level controls described in Equations 2 and 3. Continuous measure of paramilitary violence ranges from 0 to 2.95 with a mean of 0.53 and a std. dev. of 0.56. Continuous measure of guerrilla violence ranges from 0 to 8.39 with a mean of 1.21 and a std. dev. of 1.37. Binary measure of paramilitary attacks has a mean of 0.37 and a std. dev. of 0.48. Binary measure of guerrilla attacks has a mean of 0.43 and a std. dev. of 0.49. Robust standard errors clustered by municipality are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.