



**THE EFFECT OF CONFLICT ON ELECTORAL COMPETITION: EVIDENCE
FROM A DECREASE IN THE COLOMBIAN CONFLICT.**

Autor

Nelson Felipe Coy Combita

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Santiago Saavedra

Department of Economics

Universidad del Rosario

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THE EFFECT OF CONFLICT ON ELECTORAL COMPETITION: EVIDENCE FROM A DECREASE IN THE COLOMBIAN CONFLICT.

FELIPE COY[†]

ABSTRACT. The electoral competition is fragile in politically driven conflicts. Scholars have pointed out that armed groups use their *de facto* power to influence elections. Consequently, would a reduction in conflict intensity foster competition? Using a difference-in-differences design, I study this question in the context of a significant decrease in conflict after 2003 in Colombia. I find that municipalities more affected by the previous conflict experienced a 6% increase in electoral competition after the conflict decreased. I suggest this effect is mainly driven by an investment of local elites in *de jure* power as a trade-off for the demobilization of allied armed groups.

Keywords: Electoral competition, conflict, voting, elites.

JEL codes: D74, D78, P48.

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[†]Department of Economics, Universidad del Rosario. email: nelsonf.coy@urosario.edu.co.

1 INTRODUCTION

Electoral competition is at the core of the definition of democracy (Strom, 1992). The effective change opportunity of governing officials importantly depends on guaranteeing real parties alternatives. Thus, political competition could increase incumbents' accountability, leading to a better provision of public goods (Diamond and Morlino, 2004). However, electoral competition may be fragile in conflict contexts. Even if a conflict has ended, negative effects could persist over time if the damage to democratic institutions is profound (Cervellati et al., 2014). On one side, political groups that used violence as a strategy to win elections during the conflict could move to compete in elections to sustain their electoral power (Dunning, 2011; Dresden, 2017). Conversely, the suppression of competitors during conflict could be devastating enough to affect competition even after this has ended. Thus, it is uncertain whether a decrease in conflict has immediate and long-standing benefits on electoral competition.

On that account, would an important reduction in conflict foster electoral competition? I study if that is the case for a large decrease in Colombian conflict in the last decades: From 2003 to 2007, the conflict occurrences decreased about 80% (CNMH, 2021). Two events are possibly related to the decrease, at least. First, Colombia received US\$ 5 billion of military aid from the US government from 2000 to 2005 to end the armed conflict. To a great extent, this money was spent by the right-wing government of Alvaro Uribe (2002-2010) in combating left-extremist guerillas with a renewed military technology (Dube and Naidu, 2015). Second, the same government of Alvaro Uribe made a demobilization agreement with the paramilitaries (the right-wing extremist group) in 2003. By 2007, more than 30,000 paramilitaries combatants demobilized (CNMH, 2019).

Relying on a difference-in-differences strategy, I use this setting to compare electoral outcomes of formerly more exposed to conflict municipalities against less exposed municipalities before and after the decrease. To that end, I used data from the Memory and Conflict Observatory in Colombia (OMC, by its Spanish Acronym) of the National Center for Historical

Memory (CNMH, by its Spanish Acronym). Also, I leverage local elections information from the Center for Economic Development Studies (CEDE, by its Spanish acronym).

Overall, I find that electoral competition in council elections improved after the conflict decreased in intensity. Specifically, municipalities more exposed to the conflict had around a 6% increase in the inverse of the Herfindahl and Hirschman Index (HHI). This increase in competition results from both an increase in the number of parties and a change in the distribution of votes. I found that the average number of parties in the election increased by 13%. Also, using the *Probability Ratio Index* suggested by [Chakravarty et al. 2020](#), I find that the distribution of votes increased by 4%, and the winner share decreased by 5%.

My results are robust in different dimensions. First, I found that my findings extrapolate to mayoralty elections. Moreover, the DiD estimates are not driven for any specific observation neither in the treated nor the control group, and they hold to alternative definitions of the treatment. Also, I found no evidence of serial correlation in my outcomes nor a different electoral competition between high and low-exposed municipalities before the decrease. Following recent literature of *difference in differences* sensitivity analysis ([Rambachan and Roth, 2021](#)), I found that my results are robust to deviations from the parallel trends assumption.

Finally, I found suggestive evidence that my results are driven mainly by an increase in the investment of local elites in *de jure* power in previously highly exposed-to-conflict municipalities. Since local right-wing elites possibly lost some of their *de facto* power because of the demobilization of paramilitaries, I suggest that they reacted to this loss by investing in their *de jure* power (e.g., creating parties and supporting political campaigns), particularly in territories where they retain less *de jure* power or territories more dependent on their *de facto* power before the decrease.

I find that the effect on competition in highly exposed-to-conflict municipalities is less intense in right-wing-oriented municipalities and is more salient in leftist ones. Moreover, I find that, for highly exposed-to-conflict municipalities, there is an attenuated effect on competition in

places with more selective politicians' killings before the decrease. I suggest that, in these municipalities, local elites had a relative higher *de jure* power due to the paramilitaries' suppressive strategies before the decrease since eliminating political rivals directly diminishes their rivals' power. Finally, I find that for municipalities more exposed to conflict in the past, having less state presence exacerbated the differential effect on the electoral competition after the decrease. I suggest that this evidence indicates that local elites had to invest more in municipalities that were more dependent on their *de facto* power since paramilitaries substituted government presence in those places.

This paper contributes to many strands of the literature. First, although the literature has found a negative relationship between conflict and electoral competition (Caro, 2013; Gallego, 2018; Ponce, 2019), it is still uncertain if the damage can be reversed. I fill this gap by providing evidence about the recovery of the electoral competition after a decrease in the Colombian conflict. Second, scholars have studied the long-term effects of past conflict on the turnout of ex-combatants (Blattman, 2009) and direct victims (Bautista et al., 2019; Bellows and Miguel, 2009; Lupu and Peisakhin, 2017). This paper provides a competition dimension to this analysis at the municipality level. Third, I contribute to the literature regarding the strategic use of violence to influence elections (Acemoglu et al., 2013a; Collier and Vicente, 2012; De Feo and De Luca, 2017; Fergusson et al., 2021; Robinson and Torvik, 2009). In particular, I contribute with suggestive empirical evidence about how elites behave after a loss in *de facto* power. Finally, this research contributes to the literature studying the effects of partial peace in the Colombian conflict (Ladino et al., 2019; Perilla et al., 2021; Prem et al., 2020, 2021a,b). Particularly, I offer evidence from an alternative setting mostly driven by the paramilitaries demobilization.

2 CONTEXT

2.1 Political violence. To some extent, the Colombian conflict has been fueled by political motivations (Fergusson et al., 2021; Acemoglu et al., 2013b). According to the National Center for Historical Memory (CNMH by its Spanish acronym) databases, armed groups

killed 100 mayors, 321 councilors and more than 120 candidates in Colombia during the '90s. Although all armed groups seek to increase their political control over territories, their strategies differ.

Leftist guerrillas originated in the '60s, disbelieving in the legitimacy of the democratic institutions in the country. Thus, their strategies consisted of sabotage, primarily by preventing people from voting or impeding elections in the territories they controlled (Gallego, 2018). Also, they kidnapped and killed politicians of different political spectrums. On the other hand, paramilitaries were a radical right-wing group that originated in the '70s to combat guerrillas. They allied with local elites to preserve political control, using their *de facto* power to win elections. Thus, they relied on suppressing strategies (e.g., selective killings) against political competitors, especially those of left-wing orientation, that were considered a subversive threat.

2.2 A decrease in a politically driven conflict. The Colombian conflict had a peak of violence between 1998 and 2003. Afterward, it vastly decreased. From 2003 and 2007, conflict events were reduced by about 80%. As some authors pointed out, this decrease was driven mainly by a reduction in political-related crimes (Fergusson et al., 2021), in particular, selective killings and massacres (see Figure A1). Anecdotally, these crimes were a crucial part of the paramilitaries' activities (CNMH, 2021), and these vastly decreased after a demobilization agreement of the Colombian government with the umbrella organization that covered all paramilitaries groups (AUC, by its Spanish acronym)

In particular, the radical right-wing candidate Alvaro Uribe won elections in 2002 and changed the government's strategy to face guerrillas and paramilitaries. On the one hand, he classified guerrillas as terrorist groups instead of recognizing them as political actors in the intern conflict. Therefore, he aimed to military defeat the guerrillas instead of seeking a peace agreement with them. On the other hand, he started conversations with AUC in 2003 to reach a demobilization agreement. In November 2003, the first paramilitary group demobilized. By 2006 more than 30.000 paramilitaries, among combatants and leaders, had

demobilized (CNMH, 2017). Although some residual groups remained, they focused more on drug-trafficking activities than political-related crimes.

As a result, part of the politically driven conflict vastly decreased after 2003. Before the drop, although guerrillas and paramilitaries were different in strategies and political motives, both affected elections and other political outcomes through sabotage, selective killings, and massacres with a higher intensity.

2.3 Political competition in local elections. In Colombia, councils are elected by universal suffrage. Councils represent the legislative power at the municipality level, so their role consists of serving as a counterbalance for mayors¹. In a council election, each party presents a list of candidates. A party vote share must exceed a threshold defined by the law for the party to have seats. The number of seats assigned to each party depends proportionally on each party's vote share that exceeds the threshold. Which candidate obtains the seat within each party depends on whether the party decided on a priority order the list of candidates before the election or if the party allows its candidates to compete against each other in the seats. The total number of seats in a municipality depends on its population.

Finally, elections for councils occurred on the same day that elections for mayors. Elections have been held every four years since 2003 and every three years before 2003. Therefore, we have information for seven council elections since 1994. Importantly, councils can be reelected immediately in the next period, but mayors do not (they have to wait for one period at least).

3 DATA

3.1 Conflict events. I use information from the Memory and Conflict Observatory (OMC, by its Spanish Acronym) of the National Center for Historical Memory (CNMH, by its Spanish Acronym). The databases provided by the CNMH contain information on all types of

¹For example, councils are in charge of discussing, modifying, and approving the plan of government that will guide mayors during their four years in office

conflict events between 1958-2018 by municipality and year. Mainly, I use three exclusive sets of conflict events containing all types of crimes during the Colombian conflict. They are *military actions*, which consisted of clashes between armed groups. *Selective killings* refers to killings of three or fewer people who are unarmed and unable to combat. And *Massacres*, which are killings of more than three people, also unarmed and unable to combat. As explained, these are sets of events that cannot be double-counted like other types of crimes (e.g., enforced disappearances or kidnappings can occur during a military action).

I add these events for the period between 1998-2002 by municipality and year. Then, I calculate the rate per 10,000 inhabitants. For my main specification, I define formerly high exposed to conflict municipalities (i.e., treated municipalities), as municipalities above the median during the period just mentioned. For robustness analysis of my results, I broaden the exposure period and use different percentiles to define the treated group.

3.2 Elections. The electoral database I use is provided by the Center for Economic Development Studies (CEDE, by its Spanish acronym). They provide the votes obtained for each party in council elections since 1994 at the municipality level. I use local elections since competition in national elections does not vary between municipalities. Also, my main analysis relies on council elections because of two reasons. First, mayor elections are not available for years before 1997. Second, only 834 out of 1090² municipalities have information for all elections between 1997 and 2015. However, in robustness checks of my results I report my analysis using mayoral elections as later explain.

For council elections, I have data from 944 municipalities for seven elections between 1994 and 2015. Using this dataset, I construct four outcomes of electoral competition at the party level. First, I use the inverse of the Herfindahl and Hirschman Index (HHI), also known as the effective number of parties. This index takes values between 0 and 1. The closer it is to 0, the less competitive an election is. A caveat of this index is that an election with more

²I exclude municipalities with a population greater than 140,000 inhabitants in 1994. That is 32 Colombian municipalities. This allows excluding large cities that are more urbanized and less exposed to conflict. See Prem et al. 2021b for a further discussion.

parties is more competitive than an election with fewer parties, even if votes are equally distributed among parties in both elections. Therefore, this index is affected by the number of parties and the distribution of vote shares across parties running in the election. To disentangle both channels, I use the number of parties running, and, as distribution measures, the party’s winner share and the Probability Ratio Index (PRI) suggested by [Chakravarty et al. 2020](#). This index purely measures the distribution of the vote share among parties, disregarding the number of parties running in the election. It takes also values from 0 to 1. 0 if a all parties have an equal vote share, and 1 if a party has all the votes in the election³

3.3 Other variables. I use a database from the CEDE to obtain general information about each municipality in the study. Principally, I use the population, the income received from royalties and the expenditure in bureaucracy before 2003. Also, I use a battalions database by municipality, kindly provided by professor Juan Vargas at Rosario University. This database contains the distance from the closest battalion to each municipality. Finally I calculate deforestation using the Colombian Climate Institution (IDEAM by its Spanish acronym) rasters database.

4 EMPIRICAL STRATEGY

4.1 Estimating equation. I exploit a sharp decrease in the Colombian conflict after 2003 to compare, before and after the decrease, the electoral competition of formerly high-exposed to conflict municipalities against low-exposed municipalities. Figure 1 shows the dynamics of conflict events of municipalities that were highly exposed to conflict prior to the decrease (gray line) against municipalities that were low exposed (black line). Blue dotted line represents council elections before the decline of conflict, and black dotted line elections afterwards. Particularly, I have 4 elections before the decrease and 3 elections after the decrease. As figure 1 presents, conflict vastly decreased between the last election before the decrease (in 2003) and the first election after the decrease (in 2007).

³The Inverse of the HHI index is calculates as $1 - \sum_{i=1}^n share_i^2$, where $share_j$ is the vote share of party j in the election. The PRI is calculated as $\frac{|N|}{|N|-1} \left[1 - \sum_{i=1}^n share_i^2 \right]$, where N is the total number of parties running in the election.

Therefore, I rely on a *difference in differences* strategy to estimate the causal impact of the decrease in conflict on the electoral competition. I define high exposed municipalities, represented as municipalities above the median of conflict events between 1998 and 2002. Therefore, I estimate the following equation:

$$(4.1) \quad Y_{mt} = \alpha_m + \delta_t + \beta(Decrease_t \times HighConflict_m) + \epsilon_{mt}$$

According to equation 4.1, Y_{mt} is a measure of electoral competition for an election held in municipality m and year t . $Decrease_t$ is a dummy that indicates if an election occurred after 2003. $HighConflict_m$ is a dummy that indicates if a municipality m is above the median of conflict events before the decrease. Finally, α_m and δ_t are municipality and year fixed effects, respectively. Therefore, β captures the differential effect of a decrease in conflict on electoral competition of formerly high exposed municipalities to conflict.

4.2 Identifying assumption. The primary identifying assumption to causally estimate β is that, in the absence of the decrease in conflict, the electoral competition in formerly high exposed to conflict municipalities would have followed a similar trajectory than low exposed municipalities. Although testing directly this Parallel Trends (PT) assumption is not feasible, I follow some approaches to indirectly test it. First, as equation 4.2 shows, I estimate the leads and lags of the treatment effect β . I hypothesize that the differential effect in competition between high and low exposed municipalities should be zero for elections before the decrease. In other words, the treatment effect before the decrease should be statistically equal to zero (i.e., 1994, 1997 2000 and 2003 elections). Therefore, this would be an indicator that the trajectories in competition of both groups were similar before the decrease, suggesting that parallel trends would hold in the absence of the decrease.

$$(4.2) \quad Y_{mt} = \alpha_m + \delta_t + \sum_{t \in Before} \beta_t(\delta_t * HighConflict_m) + \sum_{t \in After} \beta_t(\delta_t * HighConflict_m) + \epsilon_{mt}$$

However, passing a pretrends test is neither necessary nor sufficient for parallel trends to hold. First, even if pretrends are not significantly different from zero, there could be undetected differential pretrends that may bias the results. Second, even if there is a differential pretrend between high-exposed and low-exposed municipalities, I could still estimate β by including it. I use the approaches suggested by [Rambachan and Roth 2021](#) and [Roth 2021](#) to tackle these issues. Thus, I relaxed the parallel trends assumption to test the robustness of β by including a linear differential trend and deviations from it. Appendix B further explains these exercises.

4.3 Possible mechanisms. To explore possible mechanisms and heterogenous effects I estimate equation 4.3. In this equation I include municipality characteristics Z_m . Thus, β_1 would estimate the differential effect of the treatment effect on high exposed municipalities prior to the decrease with the characteristic Z_m .

$$(4.3) \quad Y_{mt} = \alpha_m + \delta t + \beta_1(Z_m \times Decrease_t \times HighConflict_m) + \beta_2(Z_m \times Decrease_t) + \beta_3(Decrease_t \times HighConflict_m) + \epsilon_{mt}$$

5 RESULTS

5.1 Main findings. In table 1, I report the estimates as explained in equation 4.1. Panel A reports the estimates of electoral competition with no controls. Panel B includes as controls the royalties assigned to the municipality⁴, the population logarithm, and the municipality's expenditure on bureaucracy. Controls are the average for each municipality between 1997 and 2002 and interacted with time to be flexibly included. I include population to control that the number of parties is expected to be positively correlated with population. Additionally, royalties and the expenditure in bureaucracy could incentivize parties and candidates to participate in elections because there is a higher stake in terms of money. These controls are expected to help reduce the point estimates' standard errors. Finally, all columns present clustered standard errors at the municipality level.

⁴I use royalties assigned to the municipality disregarding their production.

Columns 1 present the estimates for the inverse of HHI. I observe that competition differentially increased in municipalities more exposed to conflict prior to the decrease. The point estimate is 0.033, which corresponds to a variation of 6% compared with the mean for control municipalities before the decrease. As I explained in section 3 the HHI inverse is affected by the number of parties and the change in the distribution of the votes. Therefore, in columns 2 to 4, I try to disentangle both effects. In column 2, I observe that the PRI also significantly increased for treated municipalities after the decrease, indicating a significant increase in the distribution of votes. The point estimate (0.028) corresponds to an increase of 4% compared with the mean of control municipalities prior to the decrease. Also, the number of parties in the election increased, on average, by 0.717. This result represents an increase in 13% compared to the mean. Finally, the winner share decreased in 0.031, which is a decrease of 5% compared to the mean. All these results are significant at the 99%.

Overall, these results indicate that competition, on average, differentially increased in municipalities formerly more affected by conflict. Moreover, the percentage change in the number of parties is greater than the change in the PRI and the winner share compared to their means. This fact suggests that the increase in competition is mostly led by an increase in the number of parties. Finally, table A2 presents a treatment decomposition for the three types of conflict events used. Using the inverse of HHI as the dependent variable, I found that my results are mostly driven for high exposure to selective killings prior to the decrease.

5.2 Robustness. My results are robust in many aspects. First, in table A3 and figure A5 I show for mayor elections the point estimates of electoral competition. Overall, the effects are similar to those found in council elections in terms of significance and magnitude. Second, in figure A4 I find that my results hold using the 25 percentile as threshold instead of the median. This is another common way of defining conflict affected municipalities in the literature (Prem et al., 2021b). Third, my results are not driven by any specific observation. In panel A of figure A3 I exclude one department at a time and plot the point estimates of the inverse of HHI. My results remain positive and significant at the 95%. In panel B and C I randomly exclude a 5% of control and treated municipalities, respectively. I repeat this

process 100 times and reported the estimates of the inverse of HHI for each time. I found that my results hold in terms of magnitude and significance at the 95%.

In table A4 I perform some additional robustness checks. Using the inverse of HHI as the dependent variable, in column 1 I collapse the periods before and after the decrease as suggested by (Bertrand et al., 2004). I found that the point estimate of the decrease of conflict on electoral competition remains in terms of magnitude and significance, suggesting that the dependent variable has no major issues of serial correlation. I use LASSO selected controls in column 2, finding no major changes in my results. In column 3, I take only the elections before the decrease, and define the treatment variable to take the value of one for 2003 elections. The point estimate is no significant and close to zero, suggesting no differential effects of competition before the decrease for high expose to conflict municipalities. Column 4 broadens the period for the definition of high conflict exposure to 1994 (the first year of government of Ernesto Samper), finding no important changes in the point estimate and its significance. Finally, table A6 presents my results including cities above 140.000 inhabitants. Again, my results are robust in terms of magnitude and significance.

5.3 Identifying assumption. In figure 2, I present the event study point estimates as presented in equation 4.2. Taking elections in 2003 as the comparison year, all coefficients before the decrease are not statistically different from zero. There is an exception for the number of parties in elections held in 2000. However, these estimates show that, in general, the electoral competition was not evolving statistically different for high and low-exposed municipalities before the decrease. This fact suggests that competition would have followed similar paths for both groups in the absence of a decrease.

Nevertheless, as explained in section 4.2, insignificant pretrends are not enough to prove parallel trends. Besides, pretesting itself could bias my results (Roth, 2021). First, following Roth 2021, I present table A5. Column 1 presents the DID estimates of competition. For each competition measure, column 2 presents the size of the slope that a differential trend should have to be detected a 50% times in a pretest. Here, I found that the slope is between

13% and 42% of the point estimates. This result suggests that I have good statistical power to detect differential pretrends between treated and control groups in case they exist. Column 3 shows my results' bias in the case of a differential pretrend. Column 4 also shows this bias, but adjusting for passing the pretest. Column 5 takes the percentage change between columns 3 and 4. Here, the message is twofold. First, I found that the bias is generally smaller than the point estimate and that the additional bias calculated in column 5 is less than 33% for all outcomes. Therefore, comparing with the cases revised by Roth 2021 and their suggestions, I find that pretesting in my case is not largely distorting my estimates and that the bias from a differential pretrend is small.

Finally, following Rambachan and Roth 2021, I test how sensitive my findings are to deviations of the parallel trends assumption. As figure 2 shows, there seems to be a secular negative differential pretrend between treated and control groups. Although it is generally no different from zero, I include in figure 3 a negative differential linear trend and deviations from it. In general, the point estimates remain similar to the original (plotted to the left of zero), when including the decreasing differential trend and deviations from it. Finally, I repeat the same analysis but include a positive linear differential trend. The intuition of this linear trend is to assess the sensitivity of my findings to simultaneous events to the decrease that could positively affect competition in treated municipalities. I find that my results are moderately robust to the inclusion of this trend and deviations from it. Altogether, both figures show that my results are at least moderately robust even if relaxing the parallel trends assumption.

6 POSSIBLE MECHANISMS

So far, I have shown that the decrease in conflict differentially increased electoral competition in previously more affected municipalities. I recognize at least three possible mechanisms behind these results. First, the increase in the electoral competition was possibly led by a trade-off between a loss in *de facto* power and investment in *de jure* power. Since the demobilization of paramilitaries possibly implied a loss in the *de facto* power of local elites,

they could compensate for that loss by investing in *de jure* power. Second, results could be led by an increase in the government's military presence, possibly resulting in a loss of guerrillas' territorial control. Particularly, the military aid provided by the US government could empower the Colombian government (Dube and Naidu, 2015), which improved the political environment in territories controlled by guerrillas, fostering competition after the decrease. Finally, it is possible that the decrease in conflict by itself, with no strategic behavior of elites, would have improved competition due to improved conditions. Overall, I find suggestive evidence that supports the elites' investment mechanism.

Table 2 presents heterogeneous effects by political characteristics of the municipalities, using the inverse of HHI. In column 1, I find that, for high exposed-to conflict municipalities, an increase in one standard deviation in the share of votes for the extreme right-wing candidate Alvaro Uribe in 2002 (its first presidential election) is associated with a drop of 0.024 in competition units after the decrease. Although not significantly different from zero, coefficients are also negative for the conservative party and the right-wing parties (as classified by made by Fergusson et al. 2021) for high exposed-to-conflict municipalities. Thus, I suggest that the positive differential effect on competition in high exposed municipalities after the decrease, was attenuated in right-wing oriented municipalities. Finally, in column 4, I find that, for high exposed-to-conflict municipalities, an increase in one standard deviation of the vote share for left parties in a high exposed-to-conflict municipality is associated with an increase in 0.017 units of the HHI inverse after the decrease. Notice, however, that for low exposed-to-conflict municipalities the differential effect is positive after the decrease (an larger in terms of magnitude). Altogether, I suggests that left-wing-oriented municipalities that were high exposed-to-conflict in the past had an exacerbated effect on competition after the decrease.

Table 3 presents heterogeneous effects by other municipality characteristics previous to the decrease, using the inverse of the HHI again as a dependent variable. In column 1, I find that, for high exposed-to-conflict municipalities, having more politicians killed attenuated

the competition effect after the decrease. Specifically, an increase in one standard deviation of politicians killed in the past is associated with a fall in the electoral competition of 0.064 after the decrease in high exposed-to-conflict municipalities. Notice that, for low exposed-to-conflict municipalities, this effect is positive and equivalent in terms of magnitude. Moreover, I find that for high exposed-to-conflict municipalities, being more distant from battalions and its department's capital exacerbated the competition effect after the decrease. Specifically, I find that one standard deviation increase in the municipality distance to a battalion is associated with an increase of 0.025 and 0.023 units of the inverse of HHI after the decrease, respectively. Again, notice that for the distance to army battalions, the effect on low exposed-to-conflict municipalities is negative and smaller in magnitude.

Taking the above results, I suggest that the previous findings support the trade-off mechanism. Since the decrease possibly was associated, at least partially, with the demobilization of paramilitaries, it is expected that right-wing elites react to this loss of political control by substituting *de facto* power by *de jure* power. Then, it is expected that in previously high exposed-to-conflict municipalities (where there is supposed to be greater use of *de facto* methods), right-wing elites invest in *de jure* power only if needed. Thus, consistently with this hypothesis, in high exposed-to-conflict municipalities already supporting right-wing parties, elites had no need to invest much in *de jure* power after the decrease (given that their interests are already being supported in those municipalities). Similarly, previously conflict-affected territories where violent suppressive strategies effectively eliminated political rivals of local elites are less likely to receive *de jure* investments from elites after the decrease. Mainly because elites possibly had no competition in those places because they eliminated them before the demobilization, which is consistent with the use of political violence from paramilitaries (see figure A6 and Acemoglu et al. 2013b; Dube and Naidu 2015; Fergusson et al. 2021).

On the contrary, creating parties or making a political campaign to gain votes after the decrease in conflict are more plausible investments for local elites in previously high-conflict territories where they had less relative control before the decrease (i.e., in more political

disputed territories). In particular, in those territories, it is expected that elites were still more dependent on their *de facto* methods when compared with high-exposed territories with higher political control (i.e., in less political disputed territories). Under this hypothesis, it makes sense that the effect of a decrease in conflict on high exposed-to-conflict municipalities exacerbates in more leftist-oriented municipalities. The same reasoning works for the exacerbated effect on competition in high exposed-to-conflict zones where the government does not have a strong presence. In territories far away from army battalions and where it is more difficult to have government public goods provision, paramilitaries are expected to substitute the government presence. Thus, in those places, the incentives to increase their *de jure* power after the decrease is more considerable (because those places could be more disputed after demobilization).

These results speak to the anecdotal evidence about the demobilization agreement. For instance, [Vargas et al. 2022](#) classify parties closely related with paramilitaries. In their classification, they use parties in which at least one-third of their congress members were prosecuted or accused of having links with paramilitaries in the past (in the so-called *parapolítica* scandal). Interestingly, almost half of these parties were created after 2003. The CNMH institutions point out that the *parapolítica* resulted from the agreement between paramilitaries leaders, elites, and government ([CNMH, 2015](#)). While combatants were expected to demobilize and reinsert into civilian life, elites sought to increase their influence in politics ([López et al., 2020](#)).

7 CONCLUSIONS

Exploiting a large decrease in the Colombian conflict intensity, I find that, afterward, electoral competition improved in municipalities previously more affected by conflict. This result is driven by an increase in the number of parties and the vote distribution. Moreover, I find suggestive evidence that this improvement resulted from local elites investing in *de jure* power. Particularly, the demobilization of paramilitaries between 2003 and 2006 possibly represented a loss in the *de facto* power of right-wing elites. I state that these elites tried to

compensate for this loss by increasing their stakes in elections.

These results imply an important lesson. A decrease in conflict does not necessarily imply the immediate recovery of politically affected groups. Even if elites withdraw violent methods, they still have alternatives to maintain and increase their political power. Therefore, demobilization and peace agreements are an opportunity to compensate political groups affected in the past. For example, governments could assign specific seats to political minorities victims of conflict in the municipality. Although it is usual in national elections, local elections could be overlooked.

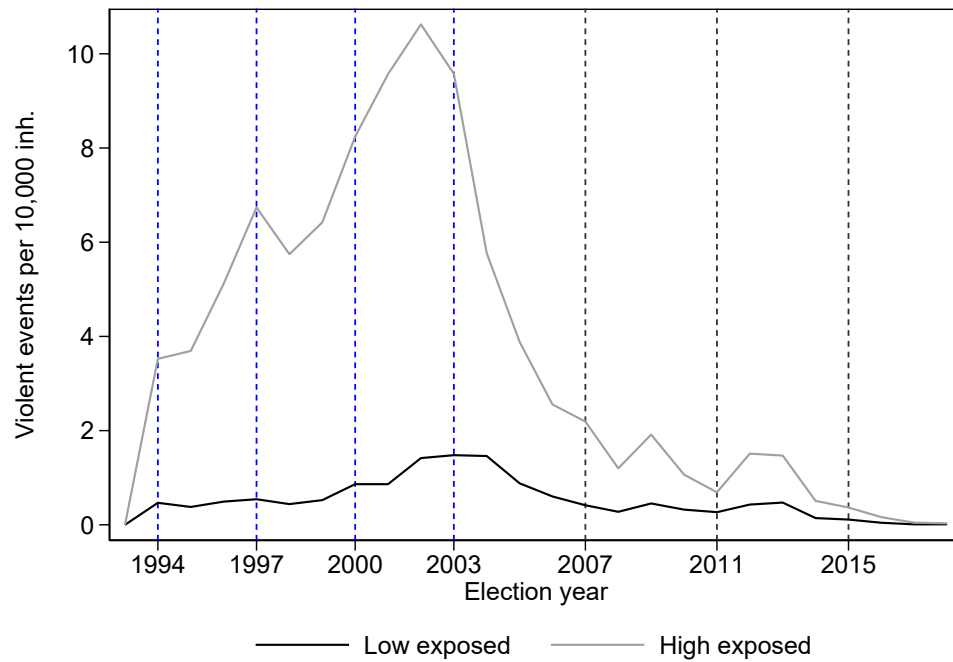
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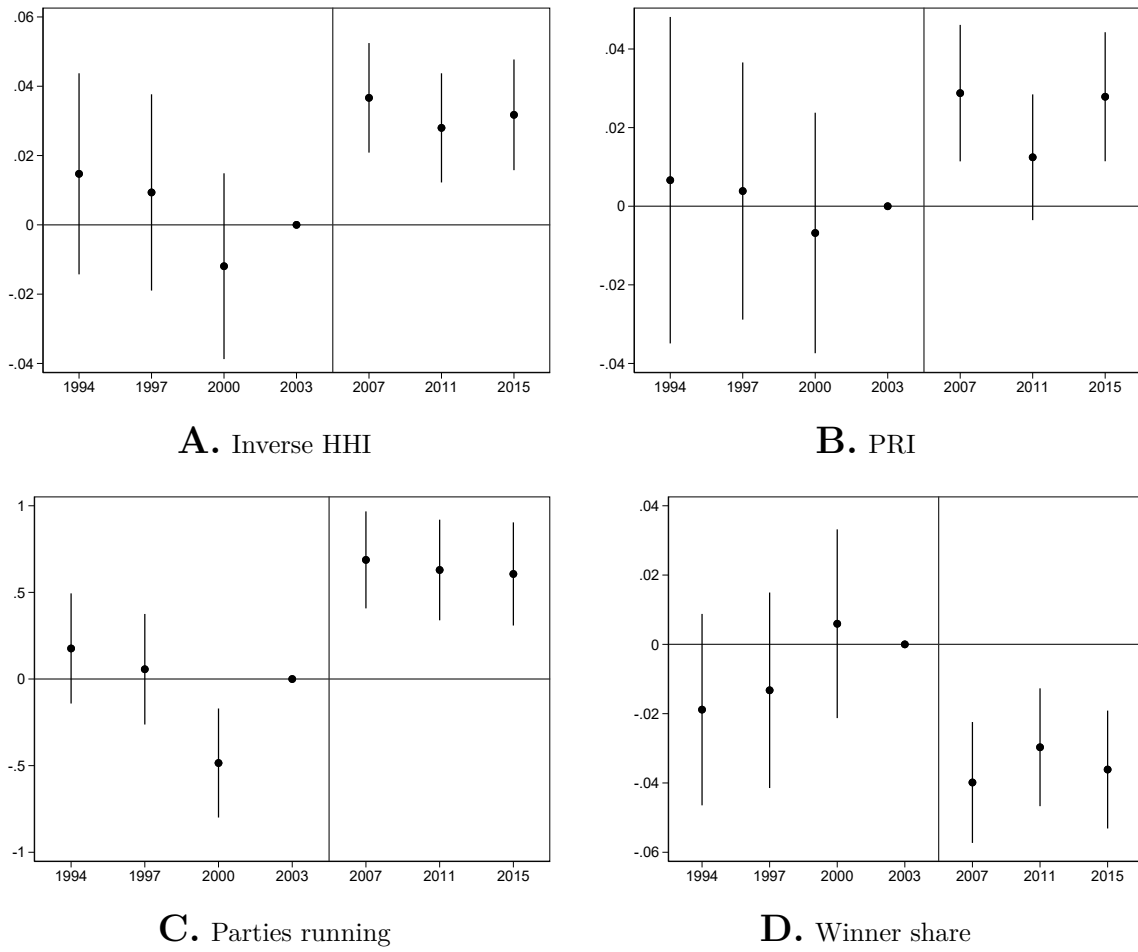
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FIGURE 1. Identification strategy



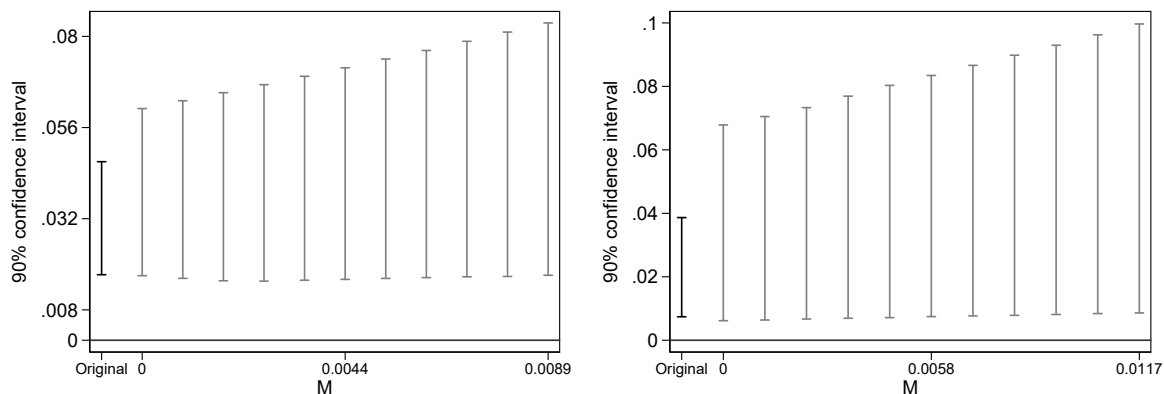
Notes: This figure presents the evolution of violent events per 10.000 inhabitants. The gray solid line presents the evolution of conflict for high exposed municipalities. That is municipalities that were above the median of conflict events between 1998 and 2002. The black line presents the events for low exposed municipalities. That is municipalities equal or below the median. Blue dotted line indicate the council elections held before the decrease in conflict. Gray dotted line indicates the elections held afterward.

FIGURE 2. Dynamic DiD for competition measures



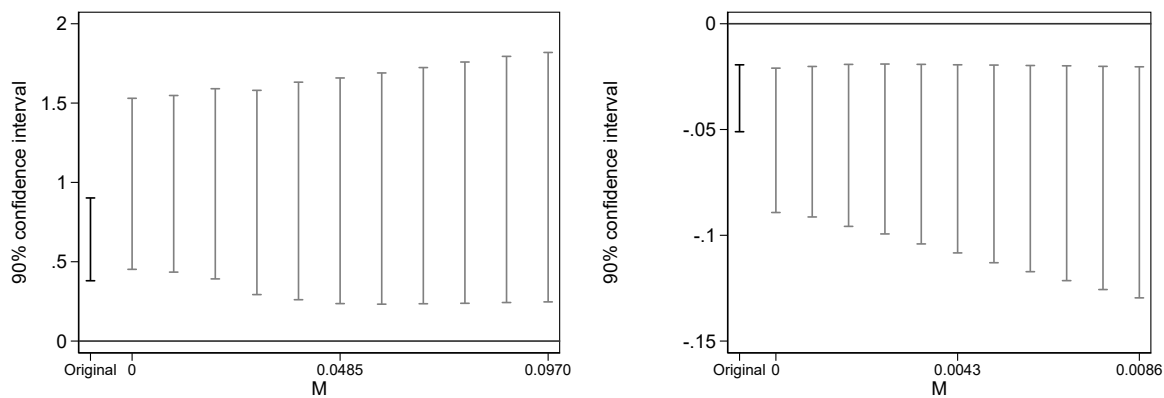
Notes: This figure presents the event study coefficients estimated from equation 4.2. The x-axis line between 2003 and 2007 divides elections before and after the decrease. Point estimates are presented as well as their 95% confidence intervals.

FIGURE 3. Relaxing PT assumption: Deviations from a decreasing trend in competition



A. Inverse HHI

B. PRI



C. Parties running

D. Winner share

Notes: This figure presents the sensitivity analysis of DiD estimates as proposed by [Rambachan and Roth 2021](#). M equal to zero shows the point estimate with the inclusion of a differential decreasing linear trend. $M > 0$ are deviations from this linear trend. I restrict the maximum value of M to the size of the slope that can be detected a 50% of times (as shown in table A5). I plot the original DiD estimates to the left of $M=0$ for comparison. Finally, the y-axis shows the size of the point estimate and 90% confidence intervals.

TABLE 1. Competition and the decrease in conflict

	(1) Herfindahl Inverse	(2) PRI	(3) Parties running	(4) Winner Share
Panel A: No controls				
Decrease \times HighConflict	0.033*** [0.016, 0.050]	0.028*** [0.008, 0.048]	0.717*** [0.505, 0.928]	-0.031*** [-0.047, -0.014]
Panel B: Adding controls				
Decrease \times HighConflict	0.033*** [0.016, 0.050]	0.028*** [0.008, 0.047]	0.711*** [0.496, 0.927]	-0.029*** [-0.046, -0.012]
Observations	6608	6608	6608	6608
Municipalities	944	944	944	944
Mean Dep. Var	0.55	0.71	5.47	0.57

Notes: This table presents the DiD estimation of electoral competition from equation 4.1. *Decrease* is a dummy that indicates the election years after the decrease. *HighConflict* is a dummy that indicates if the municipality had a high level of conflict previous to the decrease in conflict. In column 1 the dependent variable is the inverse of HHI. In column 2 the dependent variable is the Probability Ratio Index suggested by Chakravarty et al. 2020. Columns 3 and 4 use as dependent variables the number of parties competing and the winner share, respectively. In panel A, I include no controls. I include, in Panel B, the logarithm of population, the expenditure of the local government in bureaucracy and the royalties assigned by the National Government. All controls are at the municipality level and interacted with time. In square brackets are presented the 95% confidence intervals. Standard errors are clustered at the municipality level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 2. Electoral competition and political dominance

	(1)	(2)	(3)	(4)	(5)
	Z: Uribe share	Traditional parties		Ideology	
		Z: Liberals	Z: Conservatives	Z: Left	Z: Right
HighConflict \times Decrease \times Z	-0.024** (0.010)	-0.006 (0.009)	-0.016 (0.010)	0.017* (0.009)	-0.005 (0.009)
HighConflict \times Decrease	0.032*** (0.009)	0.034*** (0.009)	0.031*** (0.009)	0.034*** (0.009)	0.037*** (0.009)
Decrease \times Z	-0.005 (0.007)	0.014** (0.006)	0.004 (0.007)	-0.023*** (0.006)	-0.011 (0.008)
Observations	6608	6608	6608	6608	6608
Municipalities	944	944	944	944	944
Mean Dep. Var	0.55	0.55	0.55	0.55	0.55
Mean Z (original)	0.44	0.32	0.14	0.04	0.03

Notes: This table presents the heterogeneous effects calculated from equation 4.3. *Decrease* is a dummy that indicates the election years after the decrease. *HighConflict* is a dummy that indicates if the municipality had a high level of conflict previous to the decrease in conflict. The dependent variable is the inverse of HHI. Each column presents the municipality characteristic Z_m used to test heterogeneity. Columns 1 and 2 use as Z the share of votes obtained by the liberal and conservative parties in the municipality in elections previous to the decrease. Columns 2 and 3 use the share for left and right parties as classified by Fergusson et al. 2021. Finally, column 5 uses the share of votes obtained in the municipality by Alvaro Uribe in the 2002 presidential elections. In brackets are presented the standard errors clustered at the municipality level. All Z_m variables are standardized by their respective means and standard deviations to ease interpretation. In brackets are presented the standard errors clustered at the municipality level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

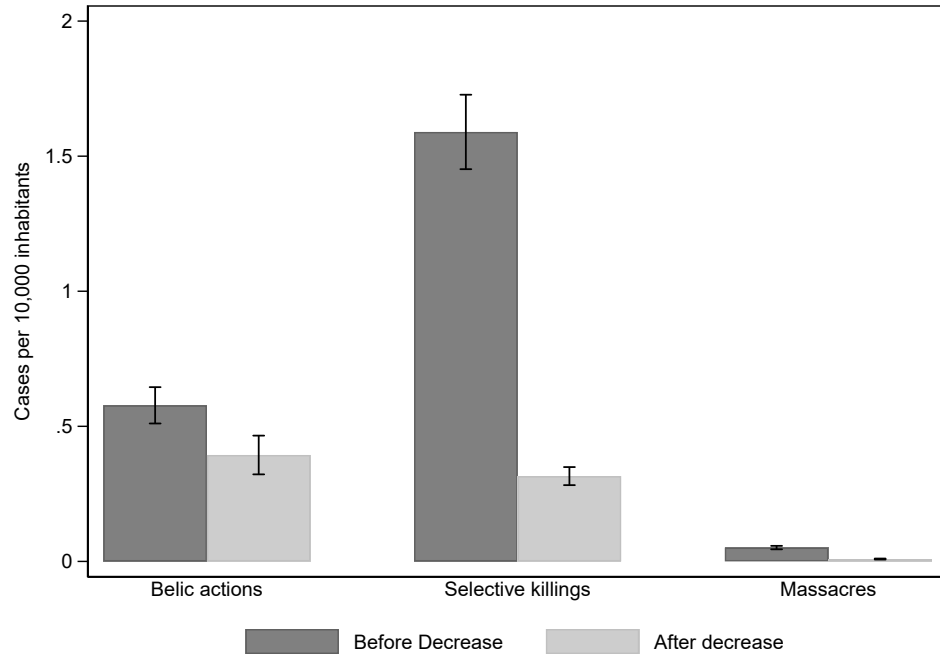
TABLE 3. Additional heterogeneous effects

	(1)	(2)	(3)	(4)	(5)	(6)
	Strategic killings		Local activities		State presence	
	Z: Politicians	Z: Community Leaders	Z: Deforestation	Z: Coca	Z: Distance to battalion	Z: Distance to Dept. Capital
HighConflict \times Decrease \times Z	-0.064*** (0.023)	-0.018 (0.011)	0.010 (0.011)	-0.004 (0.010)	0.025*** (0.008)	0.021** (0.008)
HighConflict \times Decrease	0.030*** (0.009)	0.033*** (0.009)	0.032*** (0.009)	0.029*** (0.009)	0.032*** (0.009)	0.028*** (0.009)
Decrease \times Z	0.065*** (0.022)	0.023*** (0.008)	-0.018* (0.011)	0.008 (0.006)	-0.018*** (0.005)	0.009 (0.006)
Observations	6608	6608	6608	6608	6608	6608
Municipalities	944	944	944	944	944	944
Mean Dep. Var	0.55	0.55	0.55	0.55	0.55	0.55
Mean Z (original)	35.27	30.87	1.34	-0.02	34.13	77.78

Notes: This table presents the heterogeneous effects calculated from equation 4.3. *Decrease* is a dummy that indicates the election years after the decrease. *HighConflict* is a dummy that indicates if the municipality had a high level of conflict previous to the decrease in conflict. The dependent variable is the inverse of HHI. Each column presents the municipality characteristic Z_m used to test heterogeneity. Columns 1 and 2 use the number of politicians killed before 2003. Column 3 use as Z_m the deforestation in the municipality. It is calculated as $-1 \times$ the percentage change in forest cover between 1990 and 2000. Column 4 uses coca suitability of municipality m . Column 5 is the euclidean distance from the municipality centroid to its closest battalion. Finally, column 6 is the euclidean distance from the municipality centroid to the department (state) capital. All Z_m variables are standardized by their mean and standard deviation to ease interpretation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

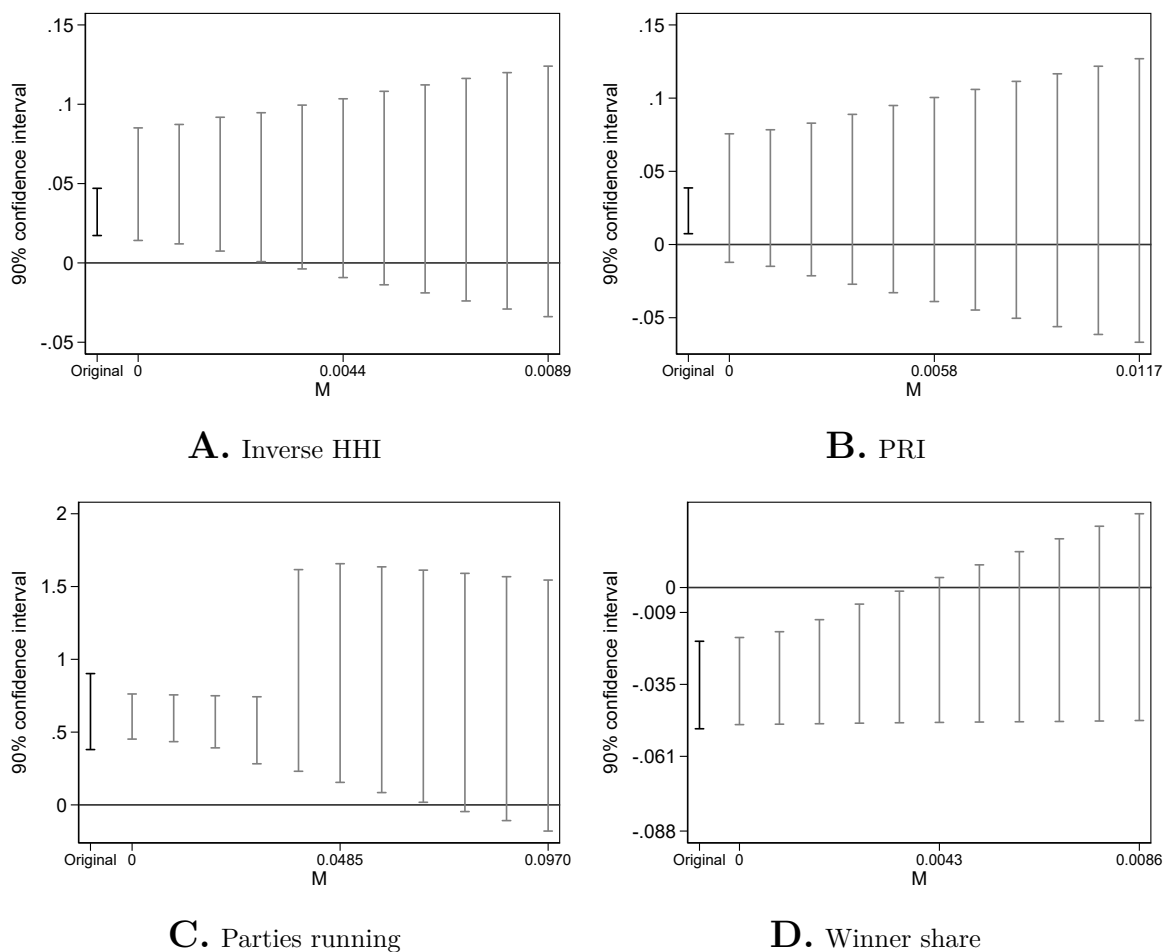
APPENDIX

FIGURE A1. Decrease in conflict by type of event



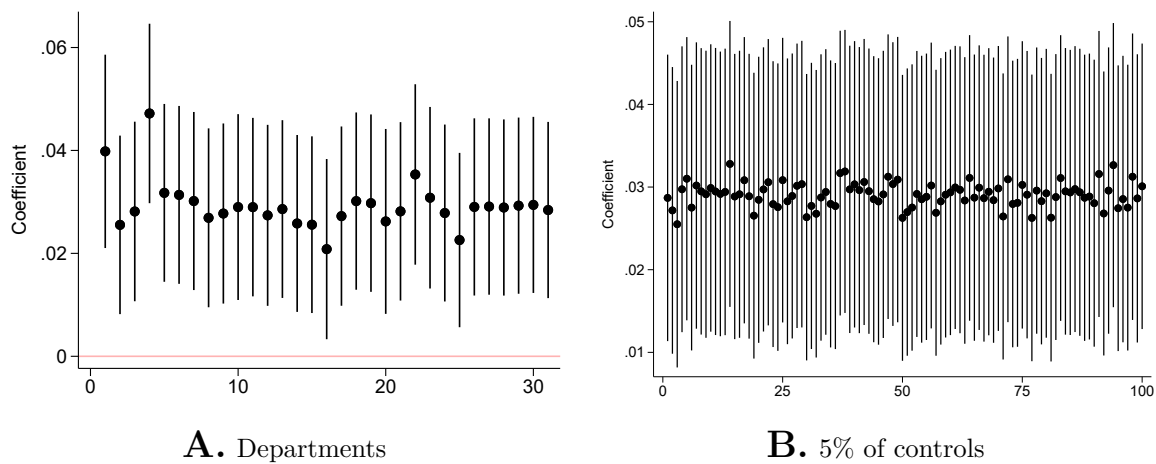
Notes: This figure presents the mean and standard errors by type of conflict event before and after the decrease.

FIGURE A2. **Relaxing PT assumption: Deviations from an increasing trend in competition**



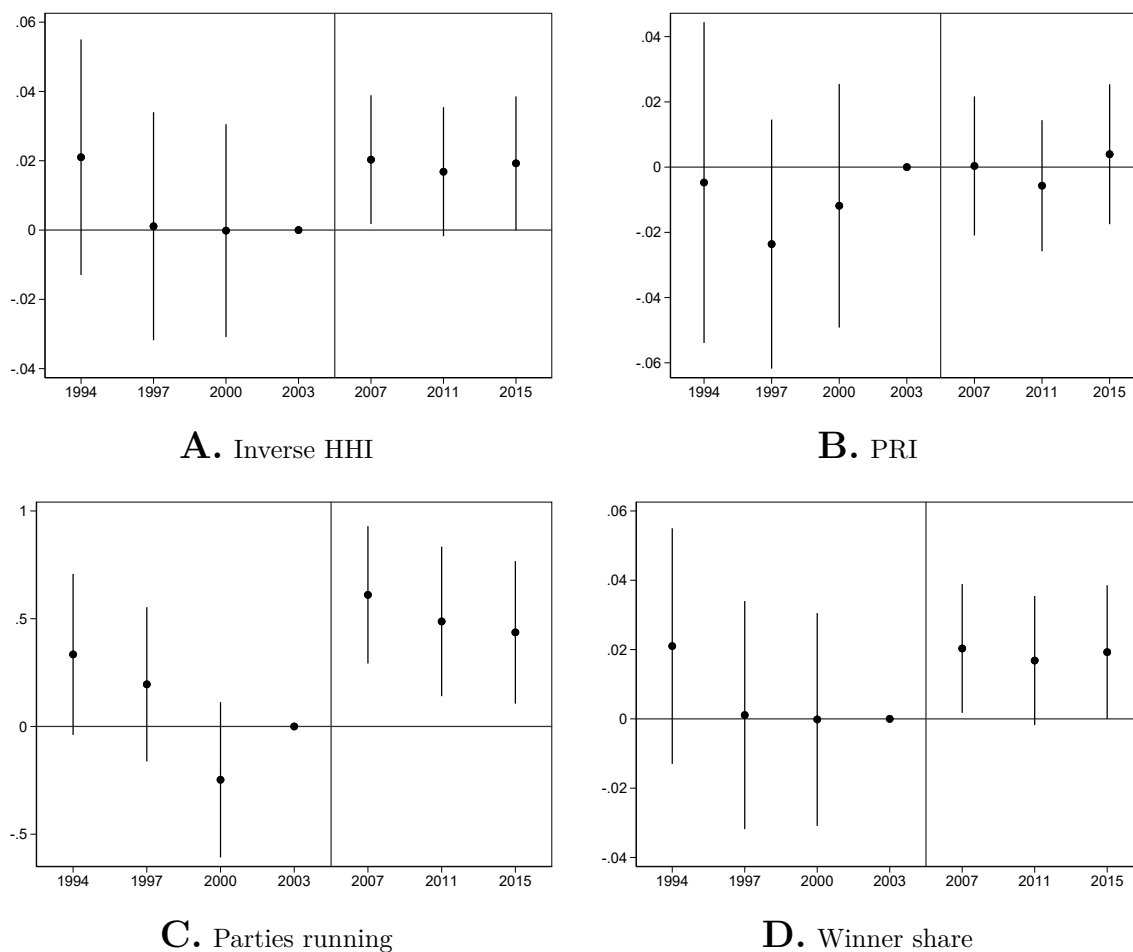
Notes: This figure presents the sensitivity analysis of DiD estimates as proposed by [Rambachan and Roth 2021](#). M equal to zero shows the point estimate before the inclusion of a differential increasing trend. $M > 0$ are deviations from this linear trend. I restrict the maximum value of M to the size of the slope that can be detected a 50% of times (as shown in table A5). Thus, in between 0 and the maximum value of M , the x-axis shows 10% fractions of this value. I plot the original DiD estimates to the left of $M=0$ for comparison. Finally, the y-axis shows the size of the point estimate and 90% confidence intervals.

FIGURE A3. Outliers: excluding observations



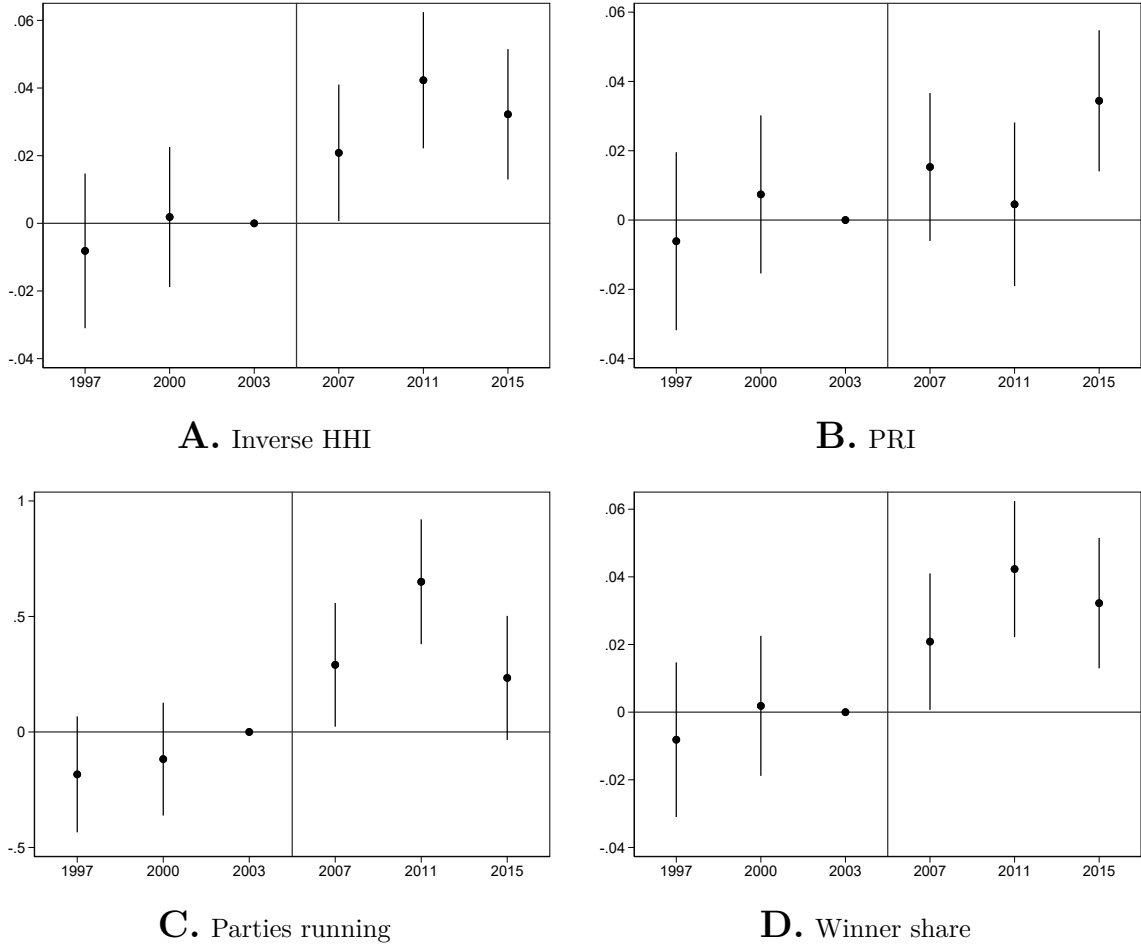
Notes: This figure presents the the point estimates of the inverse of HHI excluding observations. In panel A, I exclude one department and a time and plot the point estimate. In panel B, I randomly select a 5% of controls and plotted the point estimate, repeating the process 100 times. In panel C, I repeat the same process by using the treated municipalities.

FIGURE A4. Dynamic DiD for competition measures: *HighConflict* is above 25%



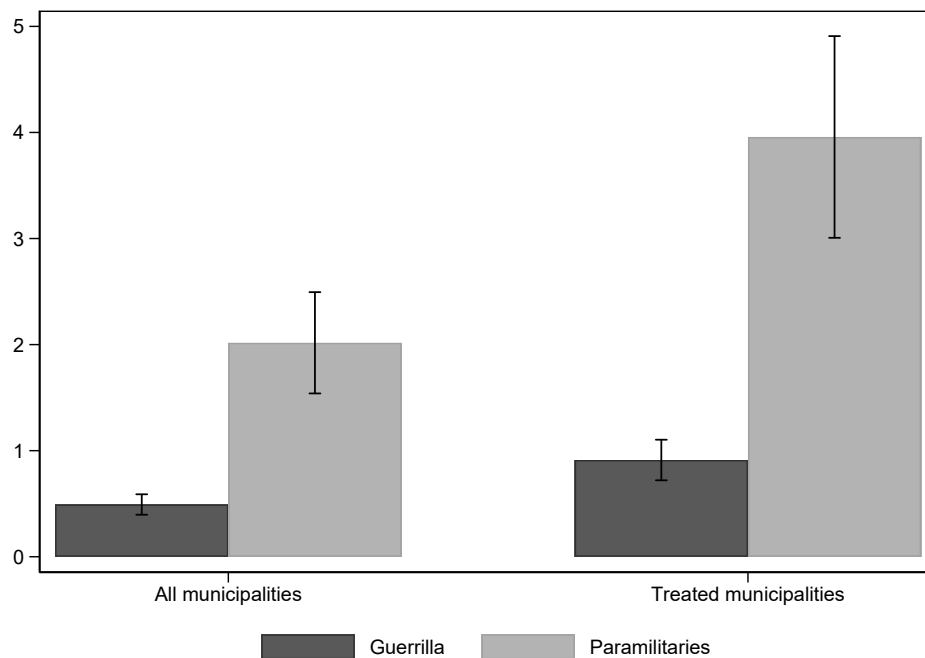
Notes: This figure presents the event study coefficients estimated from equation 4.2. The x-axis line between 2003 and 2007 divides elections before and after the decrease. Point estimates are presented as well as their 95% confidence intervals. Here, *HighConflict* is define as municipalities above the percentile 25.

FIGURE A5. Dynamic DiD for competition measures in Mayor elections



Notes: This figure presents the event study coefficients estimated from equation 4.2. The x-axis line between 2003 and 2007 divides elections before and after the decrease. In this figure I use mayor elections. Point estimates are presented as well as their 95% confidence intervals.

FIGURE A6. Politicians killed by type of armed group



Notes: This table presents the means and 95% confidence intervals of politicians killed by guerrillas and paramilitaries before 2003.

TABLE A1. Summary statistics by treatment status

	(1)	(2)
	Treatment status	
	Low Conflict	High Conflict
Panel A: Outcomes		
PRI	0.71 (0.24)	0.68 (0.26)
Inverse HHI	0.55 (0.21)	0.53 (0.22)
Parties running	5.47 (3.11)	5.23 (2.81)
Winner share	0.57 (0.20)	0.59 (0.21)
Total votes	5,277.78 (6,413.59)	4,450.84 (4,740.72)
Panel B: Municipality characteristics		
Population	19,294.85 (22,851.00)	20,181.41 (19,818.53)
Violent events	4.35 (3.56)	41.18 (32.86)
Total income pc	241.57 (131.87)	251.92 (189.06)
Total expenditure pc	248.01 (139.39)	256.13 (202.10)
Royalties assigned pc	261.49 (152.10)	253.62 (158.25)
Coca suitability	-0.31 (1.02)	0.27 (0.91)
Deforestation	0.41 (1.14)	0.28 (2.30)
Municipalities	463	481

Notes: This table presents descriptive statistics of the principal variables used. Panel A presents variables used as outcomes, and Panel B variables used as controls. All variables are before 2003 and presented for low conflict and high conflict municipalities (columns 1 and 2, respectively). Means and standard errors in squares are presented.

TABLE A2. **Treatment decomposition**

	(1)	(2)	(3)
	HighConflict decomposition		
	Selective Killings	Military Actions	Massacres
Decrease \times HighConflict	0.034*** (0.009)	0.003 (0.009)	0.009 (0.009)
Observations	6608	6608	6608
Municipalities ' ,	944	944	944
Controls	No	No	No
Mean Dep. Var	0.55	0.55	0.55

Notes: This table presents the DiD estimation of electoral competition as explained in equation ?? . *Decrease* is a dummy that indicates the election years after the decrease. *HighConflict* is a dummy that indicates if the municipality had a high level of conflict previous to the decrease in conflict. The dependent variable is the inverse of Herfindahl index as define in section ?? . Column 1 and 3 do not include controls. In column 2 and 4, I include the logartihm of population, the expenditure of the local goverment in bureacracy and the royalties assigned by the National Government. All controls are at the municipality level and interacted with time. In round brackets are presented clustered robust standard errors at the municipality level. In square brackets are presented the 95% confidence intervals. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE A3. Competition and the decrease in conflict: Mayor election

	(1) Herfindahl Inverse	(2) PRI	(3) Parties running	(4) Winner Share
Panel A: No controls				
Decrease \times HighConflict	0.034*** [0.022, 0.046]	0.018*** [0.005, 0.031]	0.492*** [0.322, 0.661]	-0.037*** [-0.050, -0.025]
Panel B: Adding controls				
Decrease \times HighConflict	0.033*** [0.021, 0.045]	0.019*** [0.005, 0.032]	0.453*** [0.285, 0.621]	-0.037*** [-0.050, -0.024]
Observations	5004	5004	5004	5004
Municipalities	834	834	834	834
Mean Dep. Var	0.56	0.73	4.44	0.53

Notes: This table presents the DiD estimation of electoral competition from equation 4.1 for mayor elections. *Decrease* is a dummy that indicates the election years after the decrease. *HighConflict* is a dummy that indicates if the municipality had a high level of conflict previous to the decrease in conflict. In column 1 the dependent variable is the inverse of HHI. In column 2 the dependent variable is the Probability Ratio Index suggested by Chakravarty et al. 2020. Columns 3 and 4 use as dependent variables the number of parties competing and the winner share, respectively. In panel A, I include no controls. I include, in Panel B, the logarithm of population, the expenditure of the local government in bureaucracy and the royalties assigned by the National Government. All controls are at the municipality level and interacted with time. In square brackets are presented the 95% confidence intervals. Standard errors are clustered at the municipality level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE A4. **Additional robustness checks**

	(1)	(2)	(3)	(4)
	Collapsed	LASSO	Placebo	HighConflict Samper
Decrease \times HighConflict	0.033*** (0.009)	0.027*** (0.008)	0.003 (0.013)	0.029*** (0.009)
Observations	1888	6608	3776	6608
Municipalities	944	944	944	944
Controls	No	Yes	No	No
Mean Dep. Var	0.55	0.55	0.50	0.55

Notes: This table decomposed the treatment variable *HighConflict* into the three types of conflict events used. Therefore, I estimated equation 4.1. However, in column 1, I define the high exposure of the municipality m if its exposure to Selective Killings was above the median. In column 2, I use the exposure to military actions and in column 3 the exposure to Massacres.

TABLE A5. **Conditional and unconditional bias**

	(1)	(2)	(3)	(4)	(5)
	Beta	Slope	Unconditional	Conditional	Additional
	estimated	50%	Bias	Bias	Bias (%)
Inverse HHI	0.033	0.009	0.018	0.020	14.065
PRI	0.028	0.012	0.023	0.026	11.011
Parties running	0.717	0.097	0.194	0.257	32.581
Winner share	-0.031	0.009	0.017	0.020	16.640

Notes: This table presents the results of the analysis suggested by Roth 2021. Column 1 presents the DID estimates of competition for all outcomes. For each competition measure, column 2 presents the size of the slope that a differential trend should have to be detected a 50% times in a pretest. Column 3 shows the bias in the case of a differential pretrend. Column 4 also shows this bias, but adjusting for passing the pretest. Column 5 takes the percentage change between columns 3 and 4.

TABLE A6. **Competition and the decrease in conflict: Including big cities**

	(1) Herfindahl Inverse	(2) PRI	(3) Parties running	(4) Winner Share
Panel A: No controls				
Decrease × HighConflict	0.034*** [0.017, 0.051]	0.028*** [0.009, 0.047]	0.923*** [0.658, 1.188]	-0.031*** [-0.048, -0.015]
Panel B: Adding controls				
Decrease × HighConflict	0.037*** [0.020, 0.053]	0.029*** [0.010, 0.048]	1.065*** [0.766, 1.364]	-0.032*** [-0.049, -0.016]
Observations	6818	6818	6818	6818
Municipalities	974	974	974	974
Controls	No	No	No	No
Mean Dep. Var	0.56	0.71	6.00	0.56

Notes: This table presents the DiD estimation of electoral competition from equation 4.1 including big cities (population above 140,000). *Decrease* is a dummy that indicates the election years after the decrease. *HighConflict* is a dummy that indicates if the municipality had a high level of conflict previous to the decrease in conflict. In column 1 the dependent variable is the inverse of HHI. In column 2 the dependent variable is the Probability Ratio Index suggested by Chakravarty et al. 2020. Columns 3 and 4 use as dependent variables the number of parties competing and the winner share, respectively. In panel A, I include no controls. I include, in Panel B, the logarithm of population, the expenditure of the local government in bureaucracy and the royalties assigned by the National Government. All controls are at the municipality level and interacted with time. In square brackets are presented the 95% confidence intervals. Standard errors are clustered at the municipality level. *** p<0.01, ** p<0.05, * p<0.1.