The Monopoly of Peace: Gang Criminality and Political Elections in El Salvador

Eleno Castro[1] Randy Kotti[2]

February 12, 2022

Abstract

Despite the growing body of qualitative evidence suggesting collusion between gangs and political parties in El Salvador, little has been done systematically at the national level. This paper studies the extent to which gangs affect political elections across El Salvador. Using police data and voting results, we also find that homicides in gang-controlled neighborhoods tend to decrease during electoral seasons along with an increase in electoral participation. These effects are especially significant in the neighborhoods where political parties have a strong voting base. Consistent with the interviews we conducted, this suggests that parties negotiate with gangs to foster electoral participation in the areas where they are more likely to receive electoral support and thus increase their chances of winning. To conduct our analysis, we geolocated the homicides reported daily in the registry of the National Civil Police from 2005 to 2019 in relation to electoral results reported at the polling-station level. We used the 2012 truce as an exogenous shock in crime revealing gangs' presence and used penitentiary data from the General Directorate of Prisons for robustness measures. We also interviewed six journalists and former campaign directors.

[1]Harvard Kennedy School
[2]CREST - Ecole Polytechnique & Harvard Kennedy School
We would like to thank Rema Hanna, Gautam Nair, Pierre Boyer, and Vincent Pons for their valuable advice throughout this work, and add a mention of appreciation for the special support of Micaela Sviatschi and Carlos Schmidt-Padilla who shared gang and incarceration data with us. We also thank the interviewees who dedicated their time to share their experience and knowledge. Last, we are thankful to the CREST seminar participants for their insightful feedback.

1 Introduction

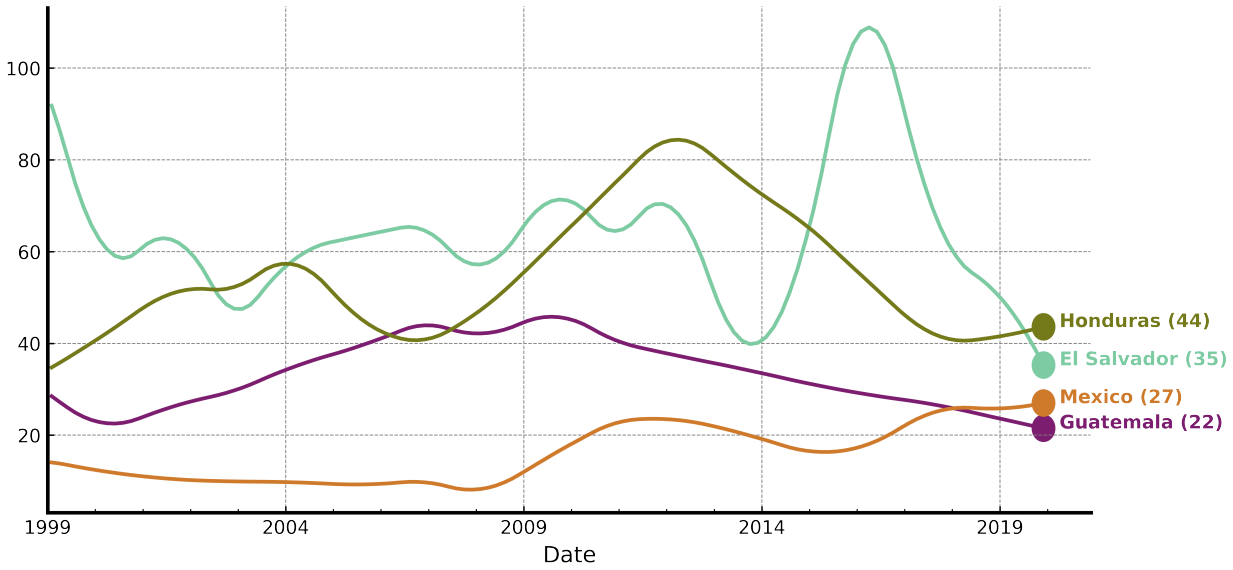
Criminal structures in El Salvador influence the country's democratic processes, affecting the electoral results of the neighborhoods they control, which endangers democracy and affects the development of institutions in the country. El Salvador has been characterized as one of the most violent countries in Latin American. The economic costs as a percentage of GDP has been estaimated between 6.5% and 16% (Jaitman et al., 2017; Peñate et al., 2016). The gangs are mainly responsible for the high level of crime. However, the influence of gangs in elections has been little studied, and neither has it been addressed as a public policy problem.

The main gangs in El Salvador are Barrio 18 (B-18) and Mara Salvatrucha 13 (MS-13), formed by Latin American migrants in Los Angeles. The gangs arose in poor neighborhoods with high rates of violence. During 1996, the US Illegal Immigration Responsibility Act substantially increased the number of deportations of these groups. Between 1998 and 2010, approximately 300,000 people with crime reports were deported to Central America. The massive deportations produced the spread of these criminal groups throughout Central America, with El Salvador being one of the most affected countries (Sviatschi, 2020). There are currently 9,000 and 100,000 gang members in the United States and Central America, respectively.

High crime due to gangs seriously affects Salvadorans. El Salvador has one of the highest homicide rates in the region (see Figure 1). In 2015, the country reached a maximum peak that exceeded 100 homicides per 100,000 inhabitants, five times higher than the average for Latin America. According to data from the National Police, a third of homicides are due to gangs. Households in gang neighborhoods are seriously affected, a recent study reveals that they have lower income, education, and quality of homes, these differences did not exist before the consolidation of gangs in those areas (Melnikov, Schmidt-Padilla and Sviatschi, 2020). The gangs impose their own rules in the neighborhoods and limit the freedom of residents.

Gangs can jeopardize the democratic institutions that the country has built. El Salvador has managed to consolidate democracy after the civil war that ended in 1992. After the conflict, a two-party system was consolidated: the left-wing, the FMLN party, and the right-wing, the ARENA party. According to Freedom House, the country was considered democratically free until 2019 (currently it is considered partially free), contrary to neighboring countries

Figure 1: International homicide rate (per 100,000 people)



Source: Own elaboration based on data from the World Bank and InsightCrime

such as Nicaragua, Guatemala, and Honduras and even surpassing other countries with better economic development such as Mexico, Ecuador, and Colombia in the index.

In 2012, the government facilitated a highly criticized truce dialogue between the main gang leaders in prisons. Journalistic investigations affirm that the government offered better conditions in the jails and less repression by the police in exchange to incentivize gang leaders to strike a truce among themselves. The truce became effective after the March 2012 elections and led to a 48% decrease in murders within a month. Despite the significant drop, the public opinion remained mostly opposed to the truce. The government was blamed for giving political legitimacy to the gangs by engaging with them and indirectly reinforcing gangs' control over some territories by reducing police enforcement. Although murders reduced, petty crimes, extortions, and drug trafficking kept increasing (Lohmuller, 2015).

The truce was reversed starting 2014 after the victory of the FMLN at the presidential elections. In 2014, Salvador Sánchez Cerén from the left-wing party FMLN won the presidential elections by 6,364 votes only. Shortly after his election, his administration started backing up from the 2012 truce. Gang leaders were transferred again to maximum security prisons in January 2015, battalions of Special Forces were deployed in May 2015 to combat the gangs, and in August 2015, the two main gangs in El Salvador were declared "terrorist groups" by the Supreme Court. Criminality reached a new peak, with about 110 murders

per 100,000 inhabitants reported in 2015, almost 1.5 times higher than pre-truce levels.

Despite the country's substantial democratic advances, politics has been implicated with gangs on multiple occasions, especially after the truce. Before the 2014 elections, a newspaper launched an investigation accusing political leaders of buying votes from gang leaders. Recently, two former mayors of San Salvador from the right-wing party were presented with arrest warrants for alleged negotiations with gangs. Freedom House also reports that gangs try to affect voters' behavior.

The truce consolidated the gangs' political agenda. In 2015, the two main gangs in El Salvador released a joint statement claiming that the FMLN almost lost the presidential elections because the party did not have the gangs' support (Gagne, 2015). In another joint statement, the gangs claimed that they would be open to negotiating a truce with the government (Reuters, 2015). In 2021, investigations by the U.S. Department of the Treasury (2021) indicate that the Government of Nayib Bukele has had negotiations with gangs to win elections. In other words, the truce shifted the conflict from between gangs competition to politically motivated violence.

This paper studies the extent to which gangs affect political elections across El Salvador by identifying gang-controlled neighborhoods and focusing on homicides during electoral seasons as an influencing mechanism. Using Two-Way Fixed-Effect estimations, our results show a decrease in murders at the time of elections specifically in gang-controlled areas. We also find little to no effect of gang control on turnover. This suggests that gangs in El Salvador instrumentalize peace and not violence, if any instrument, to seek advantages. Based on a preliminary Geographic Regression Discontinuity in San Salvador, the capital city, we also find that gangs directly affect parties' electoral outcomes.

2 Literature review

The ability for organized groups to sway political elections and policies by instrumenting violence has been demonstrated in many contexts across the literature. Dal Bó and Di Tella (2003) built a model within which 'nasty' groups can harass policymakers into implementing policies that benefit their interests instead of society's. Building on these findings, Dal Bó and Di Tella (2006, 2007), show how a combination of money incentives ("plata") and punishments ("plomo") can reduce the quality of policymakers and increase corruption in weak judiciary systems.

In the south of Italy, Mafia violence appears to be the continuation of politics by other means. Consistent with Dal Bó and Di Tella (2003), Daniele and Dipoppa (2017) rely on media data to show that violence against local politicians increase in high organized crime regions mostly after elections, not before, especially when there is a change in local government. This suggests that mafia groups target newly elected politicians at the beginning of their mandate. Still in the context of Italy, Pinotti (2012) and Alesina, Piccolo and Pinotti (2019) find on the contrary that violence against politicians increase before national elections in those regions where organized crime exerts high influence. Political competition is also reduced in those regions and pre-election periods are even more violent when the outcome of an election is uncertain. This tends to prove that Mafia groups focus their action primarily before elections by deterring inconvenient politicians from running for office in the first place.

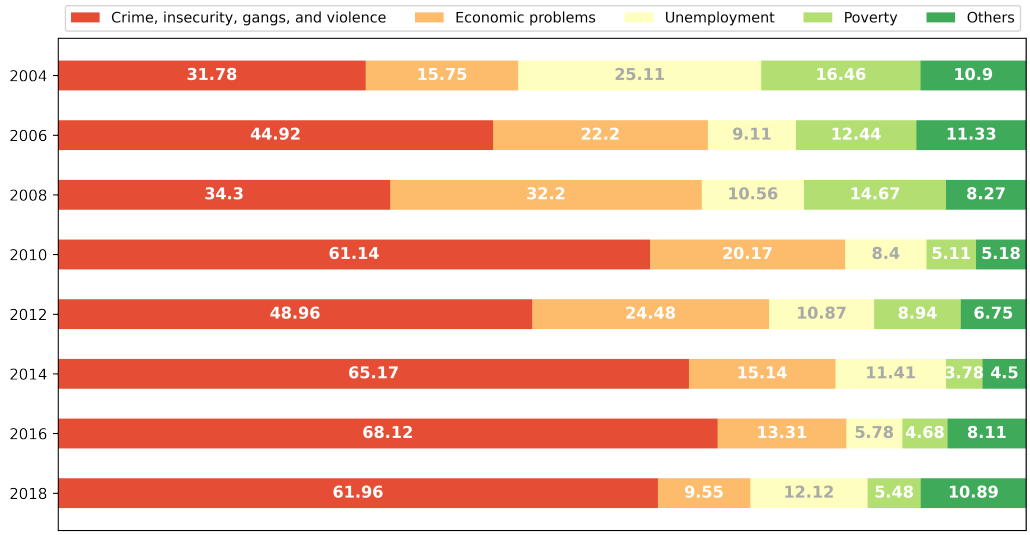
In Brazil, not only does organized crime stifle political competition, it also artificially increases participation from a coerced margin of the population. Bullock (2021) conducted interviews and analyzed blog posts to identify the effect of criminal dominance in favelas on local elections. He found that politicians may strike alliances with criminal groups, who will tilt the elections in their favors through two mechanisms: mobilizing voters they control (corralling) and preventing rival candidates from campaigning (gatekeeping). In areas controlled by organized crime, this translates into higher (coerced) participation and lower political competition. Blattman (2009) has also found that in Uganda greater exposure to violence increases electoral participation, although the mechanisms are quite different. He points out that traumatic effects could boost personal growth and foster political activity. Bateson (2012) found that these results can be generalized to different geographic context, especially in Latin America.

3 Mechanism

3.1 Crime and voter preferences

According to *The AmericasBarometer by the Latin American Public Opinion Project (LAPOP)* (2004 - 2018), since 2004, Salvadorans report that the most severe problem in the country is crime, insecurity, gangs, and violence. This concern has increased since 2004, from 31.78% to 61.96% in 2018. Crime and insecurity seem to have remained the main problem for the country, even in times of economic recession. Hence, voters will tend to favor politicians who are able to reduce criminality.

Figure 2: Voters' main concerns in El Salvador



Source: The AmericasBarometer by the Latin American Public Opinion Project (LAPOP). 1,500 Salvadorans participate in the survey each year. The surveys are nationally representative.

3.2 Newspapers and official investigations

Given that crime remains the primary concern of Salvadoran voters, secretly negotiating with gangs to reduce homicides, probably the most high profile crimes, could be an effective strategy to attract voters. In 2012 indeed, the Government of El Salvador secretely facilitated a truce process between gang leaders. The truce was highly effective in reducing

the high homicide rates: in just one month, homicides fell by 48%, an unprecedented drop in the country's recent history. In return, the Government agreed to improve prison conditions for gang leaders and reduced police control in some areas. The truce made it possible to recognize the gangs and legitimize power in their territories (Lohmuller, 2015).

The truce also proved to politicians that dialogue with gangs can be a solution to the high levels of criminality in the country. After the truce, in 2014, the former mayors of San Salvador, Norman Quijano and Ernesto Muyshondt, were accused of negotiating electoral favors with gang leaders (*Avanza causa penal contra políticos por pacto con pandillas en El Salvador*, 2020; Caceres, 2020). According to journalists from *El Faro*, former Mayor Norma Quijano offered to eliminate the anti-gang law and reduce police control in certain areas in exchange for support in the 2014 presidential elections.

According to investigation journalists, Martinez (2020) and Roberto Valencia, the actual number of negotiations between gangs and political leaders remains unknown. Using videos and audio leaks by gang members, journalist have been able to reveal many negotiations between politicians and gangs. In 2016, the leader of the Barrio 18 gang assured that all the parties engaged negotiations with gangs (Martinez, 2016) for the 2014 presidential election. This was also confirmed by the former mayor of San Salvador Ernesto Muyshondt in public statements (Labrador and Martinez, 2016).

More recently, the U.S. Department of the Treasury (2021) revealed that Osiris Luna, Vice Minister of Justice of the Nayib Bukele Government, had held secret negotiations with MS-13 and Barrio 18 gang leaders. According to the Treasury, in 2020, the Government offered financial incentives for the gangs to keep the number of homicides low and support the Nuevas Ideas party in the legislative and municipal elections of 2021. In addition, the Government of El Salvador offered special privileges to leaders in prisons such as cell phones and prostitutes. This is not the first time that members of the Nuevas Ideas party have been accused of negotiating with gangs. Martinez (2018) revealed that in 2015, delegates from Nayib Bukele offered money to gang leaders not to disturb his candidacy.

Candidates also seem to be interested in the vote of gang members themselves. The exact number of gang members is currently unknown, but some estimates points toward 60,000 members and 500,000 support base (relatives and collaborators), which would represent 8 percent of the population of El Salvador (Zaidi, 2019; Raderstorf and Meléndez Sánchez, 2015; International Crisis Group, 2017). This number is significant, especially when considering that there was only 5,000 votes separating the winner from the defeated candidate

at the 2014 presidential election.

3.3 Authors' interviews

To complement these reports, we conducted interviews with journalists and campaign managers. From these discussions, we understand that gangs seem to affect electoral results through (1) voters' preferences and (2) electoral participation. The following is based on what our interviewees have experienced or observed themselves on the field. This enables us to formulate hypotheses that we test quantitatively in the next section.

(1) Voters' preferences

   (a) Incumbent candidates can ask gang leaders to reduce homicides prior to the elections to improve the perception that voters' have of them.

   (b) Gangs can prevent specific parties to campaign within the neighborhoods they control. Politicians need to negotiate safe access.

   (c) Gang leaders usually offer their members' votes to the candidates in exchange for several advantages (cash, in-kind favors, reduced police enforcement). Gangs can also ask their relatives to support a specific party.

(2) Electoral participation

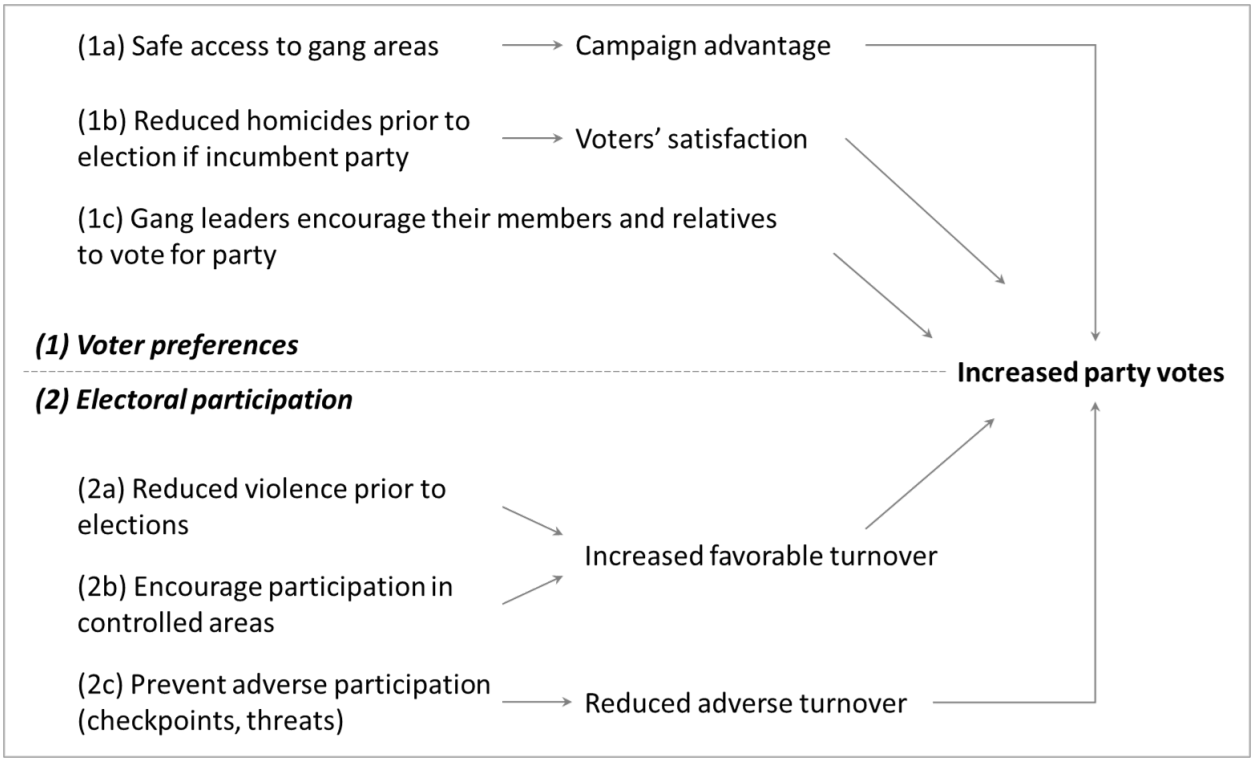
   (a) Gangs can increase violence prior to the elections to prevent people from voting. Conversely, they can also reduce violence to make people feel safer to vote.

   (b) Gang members may be collecting identity cards prior to the elections to prevent certain people from voting. They can also announce that they will check hands to verify that these people did not go to vote (voting centers mark voters' hands with ink to prevent multiple voting).

   (c) Gang members could prevent the movement of people on election day to the polling stations (using checkpoints for instance).

These mechanisms are also summarised below on Figure 3.

Figure 3: Gangs and political elections: potential mechanisms of action



4 Data

Table 1 below summarises the data sources we use in this paper.

Table 1: Data Summary

Source	Description	Geographic Unit	Time Span
Electoral Supreme Court	Electoral results	262 municipalities	1994 - 2019
Electoral Supreme Court	Electoral results	1500 voting centers	2012 - 2019
National Civil Police	Daily murders	262 municipalities	2005 - 2019
National Civil Police	Daily murders	1500 voting centers	2011 - 2019
Newspapers (elfaro.com)	Gang-controlled areas	Neighborhood	2014 & 2018
General Directorate of Prisons	Convicts' data	Neighborhood	2000 - 2020

4.1 Electoral results

4.1.1 Municipality level

To analyze the elections, we use municipal level results for the number of votes cast for each party. Based on these data, we created different measures of political outcome, such as electoral participation, votes for left and right parties, and whether incumbent parties stay in power. We also computed competitiveness indicators (see Appendix A). The data available includes all municipalities in El Salvador (262 units) and covers elections from 1994 to 2019.

4.1.2 Voting-center level

As a complement to the election results at the municipal level, we also use the electoral results for each voting center within El Salvador from 2012 to 2019 (1500 units per year, with their geographic locations and associated areas). This data allows us to create the similar indicators as those mentioned above at a more granular level.

4.2 Criminality data

4.2.1 Registry of the National Civil Police

We measure criminality based on the homicides reported at the municipal level in the daily registry of the National Civil Police (NPC). From this registry, the homicide rates are calculated at the municipal level for specific periods (weeks); non-culpable homicides have been excluded from this rate. The database was cross-verified with other sources of information such as the health system homicide data.

To match the homicide data with the voting centers, we counted the number of homicides that occurred within the neighborhoods (polygons) that must vote in each voting center.

We georeferenced a database of homicides since 2011 at the neighborhood level from the address text. We obtained a database of all the neighborhoods in El Salvador and their coordinates from the General Directorate of Statistics and Census. We couldn't use google to georeference the addresses because many of the neighborhoods aren't found on google yet.

4.2.2 General Directorate of Prisons

To validate and complement the analysis of the presence of gangs, we use data from the prisons. This data enables us to identify the main neighborhoods where convicted gang members lived before going to prison. We use the same methodology that we use for homicides to georeference the addresses of this base.

4.2.3 Gang-controlled areas in San Salvador

We obtained the controlled areas of the city of San Salvador and other surrounding municipalities for the years 2014 and 2018. In 2014, the digital newspaper El Faro published the area of some gang-controlled neighborhoods in San Salvador, the capital city of El Salvador. The 2018 maps were created from reports from the National Civil Police. This data was used to run regression discontinuities by crossing gang-controlled areas and voting center locations.

5 Methodology

5.1 Identifying gang-controlled municipalities

5.1.1 Gang-related homicides

Along with the homicides and their approximate location, the daily registry of homicides made available by the National Police Committee also reports victims' occupations. Based on this, we identified gang-related murders by looking for victims either directly categorized as gang members or involved in extortion and drug trafficking. We also included murders committed against the police as markers of gang violence.

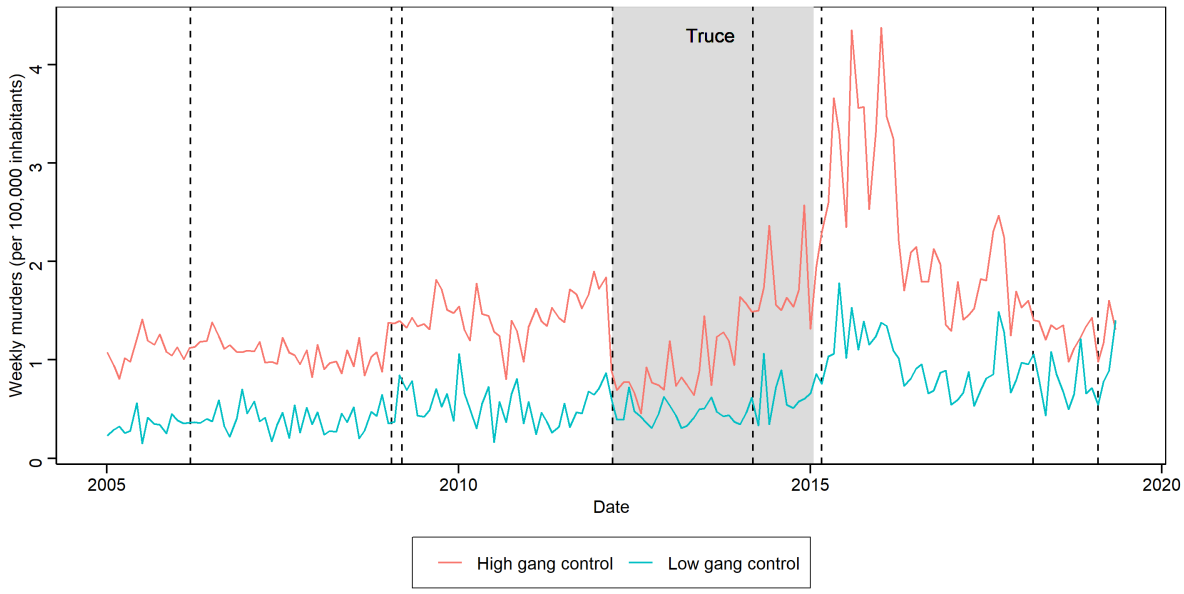
However, this measure of gang violence may present two problems. First, gang-related murders reported by the police may be a sign of gang weakness rather than gang control. In the municipalities where they wield enough influence, gangs might be able to act so that the homicides they commit don't get linked to them, or don't get reported altogether. High gang violence could also be the result of gangs struggling to keep their power over certain localities. Second, gang-related homicides are strongly correlated with the measure of homicides in general (correlation at $.51$). This poses endogeneity concerns when it comes to analyzing criminality in gang-controlled areas as measured through gang-related criminality.

5.1.2 The 2012 truce: an exogenous shock revealing gang control

To mitigate these identification concerns, we consider the variation in criminality brought by the 2012 truce. The government and gangs endeavoured to keep the negotiation process secret as long as they could. Gangs agreed to split some territories and committed to reducing violence. In exchange, the government conceded a reduction in police violence and economic stimuli for some designated localities (Lohmuller, 2015). As soon as the agreement was reached on March 9, 2012, national gang leaders, most of them from prisons, sent orders to their members. This led to a sudden and exogenous variation in criminality, especially so in locations where gangs had an influence (see Figure 4).

This exogenous shock in criminality enables us to identify the municipalities and voting

Figure 4: Murder rate evolution: gang-controlled areas compared to non-gang-controlled areas



Source: own elaboration based on police data (PNC) at the municipality level.

centers where gangs had control in 2012. More specifically, we define gang-controlled locations as those where the relative decrease in murder rates, measured over a one-year period before and after the truce, was above the median.

5.1.3 Gang-control and truce: validity check

To verify the relevance of our indicator of gang-control, we associated the variation of criminality induced by the truce in 2012 with the number of gang-related murders before the truce since 2005 at the municipal level. Results are reported in Table 2.

All estimates are positive and statistically significant, meaning that the municipalities where the criminality rate reduced the most following the truce are also those municipalities where gang-related murders where high before the truce. This correlation holds both looking at short-term (column (1)) and longer-term decreases (columns (2) and (3)).

These results tend to validate the two hypotheses that, first, the variation in criminality during the truce reveals gang-control at the time of the truce; second, that gang-related murders signify more the presence of gangs than their weakness.

Table 2: Criminality Reduction at the Truce and Gang-Related Murders in El Salvador

	Dependent variable		
	Gang-Related Murder Rate (2005-2012)		
	(1)	(2)	(3)
6-month decrease in crime at the truce	2.021*		
	(1.139)		
1-year decrease in crime at the truce		2.848***	
		(.703)	
2-year decrease in crime at the truce			3.217***
			(.780)
Observations	197	212	228
R^2	.010	.040	.046
Adjusted R^2	.005	.035	.042

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between gang-related criminality prior to the truce (between 2005 and 2012) and the variation in murder rates due to the truce in 2012, measured over a 6-month, 1-year and 2-year window.

5.1.4 Alternative measures of gang presence and gang heterogeneity

Using the data we georeferenced based on the General Directorate of Prisons, we are able to identify the neighborhoods where gang members were sent to jail. This provides another metric of gang-presence that we use for robustness: neighborhoods where the number of convicted gang-members is above median.

We were also able to identify 51 gang leaders and their neighborhoods of origin among convicted gang members. We use this as a last robustness metric of gang-control: neighborhoods where at least one gang leader was living before being convicted.

To avoid bringing gang wars from the streets to the prisons, prior to the truce, gang members used to be incarcerated in different penitentiaries based on their gang affiliation (Barrio-18 or MS-13). For this purpose, gang affiliation was systematically gathered in the data, which allows us to distinguish neighborhoods with a higher MS-13/Barrio-18 control.

5.2 Regression models

5.2.1 Two Way Fixed Effect Estimations

Our main estimation rely on a two way fixed effect strategy at the voting center level where we use cumulatively year (v_t), week (w_t), and voting center (f_n) fixed effects. This allows us to identify variations in criminality independently from the expected level of criminality at a given time in a given place and better isolate the effect of electoral seasons and gang-control.

$$\begin{aligned} \text{Murder Rate}_{n,t} = \alpha\ &\text{Electoral Season}_t \\ &+ \beta\ \text{Electoral Season}_t \times \text{Gang Control}_n \\ &+ \gamma\ v_t + \sigma\ w_t + \tau\ f_n + \epsilon_{n,t} \end{aligned} \tag{1}$$

In the estimation above, the term Gang Control$_n$ alone is absorbed in the voting center fixed effect f_n. We also extend Equation 1 to identify the patterns of criminality during electoral seasons in gang-controlled neighborhoods where political competition is low (meaning that a given party has a strong base). To prevent endogeneous results, we measure political competition as given by the 2012 election, which is before the support of our sample at the voting center level.

$$\begin{aligned} \text{Murder Rate}_{n,t} = \alpha\ &\text{Electoral Season}_t \\ &+ \delta\ \text{Electoral Season}_t \times\ \text{Low Competition}_n \\ &+ \beta\ \text{Electoral Season}_t \times \text{Gang Control}_n \\ &+ \psi\ \text{Electoral Season}_t \times \text{Gang Control}_n \times\ \text{Low Competition}_n \\ &+ \gamma\ v_t + \sigma\ w_t + \tau\ f_n + \epsilon_{n,t} \end{aligned} \tag{2}$$

For robustness check, we also use a more complex model where we define Low Competition dynamically in time by looking at competition during the preceding election.

$$
\begin{aligned}
\text{Murder Rate}_{n,t} = \alpha\ & \text{Electoral Season}_t \\
& + \omega\ \text{Low Competition}_{n,t-1} \\
& + \delta\ \text{Electoral Season}_t \times\ \text{Low Competition}_{n,t-1} \\
& + \beta\ \text{Electoral Season}_t \times \text{Gang Control}_n \\
& + \phi\ \text{Gang Control}_n \times \text{Low Competition}_{n,t-1} \\
& + \psi\ \text{Electoral Season}_t \times \text{Gang Control}_n \times\ \text{Low Competition}_{n,t-1} \\
& + \gamma\ v_t + \sigma\ w_t + \tau\ f_n + \epsilon_{n,t}
\end{aligned} \tag{3}
$$

In order to identify the distinctive effect of gang-control on outcomes such as political participation and specific parties' vote shares ($\text{Y}_{n,t}$), we use a variation of Equation 1, where the voting center fixed effect becomes a municipality fixed effect $\tilde{f_m}$:

$$
\text{Y}_{n,t} = \alpha\ \text{Gang Control}_n + \gamma\ y_t + \sigma\ w_t + \tau\ \tilde{f_m} + \epsilon_{n,t} \tag{4}
$$

This estimation allows us to identify the specific effect of gang-control while controlling for location confounders at the municipality level. This does not allow for a proper inference but should at least eliminate a significant fraction of the omitted bias. Similarly as before, we use a variation of Equation 4 allowing for an heterogeneous effect in Low Competition neighborhoods.

$$
\begin{aligned}
\text{Y}_{n,t} = \beta\ & \text{Low Competition}_{n,t-1} \\
& + \delta\ \text{Low Competition}_{n,t-1} \times \text{Gang Control}_n \\
& + \gamma\ y_t + \sigma\ w_t + \tau\ f_n + \epsilon_{n,t}
\end{aligned} \tag{5}
$$

For all estimations, we use robust standard errors clustered either at the voting center or the municipality level.

5.2.2 Geographic Regression Discontinuity

We use the maps of the areas controlled by gangs in 2014 and 2018 in San Salvador to identify whether the fact that voters have to vote in a gang-controlled area affects political

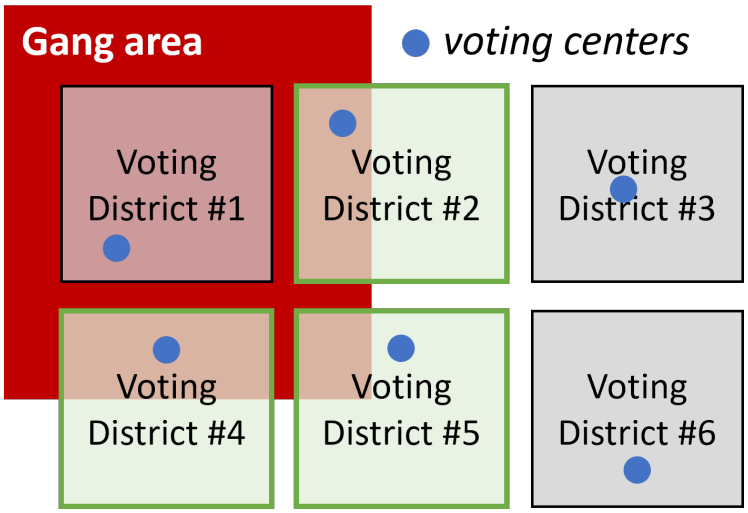
outcomes at the voting center level. We use the same geographic regression discontinuity framework as Melnikov, Schmidt-Padilla and Sviatschi (2020).

$$\begin{aligned} \text{Y}_n = \alpha + \beta\ \mathbb{1}[\text{DistanceToGang} > 0]_n + \delta\ \text{DistanceToGang}_n \\ + \rho\ \text{DistanceToGang}_n \times \mathbb{1}[\text{DistanceToGang} > 0]_n + \epsilon_n \end{aligned} \tag{6}$$

The independent variable belongs to the range of electoral outcomes such as participation, parties' vote share, and political competition indicators outlined in Appendix A (gap between the first and second most voted party, HH index, PCI). The Calonico et al. (2017) model was used to identify the optimal bandwidth in each regression, with a degree of polynomial 2 and with a triangular kernel. Other variations were considered to strengthen the analysis.

We focus more specifically on voting areas that overlap with gang-controlled territories, without being fully inside these territories (e.g., voting centers #2, #4, and #5 on Figure 5, but not voting center #1). This enables us to pool together voters who live inside gang territories, and may have specific characteristics and preferences, with voters living outside of gang-controlled areas. By doing so, we can isolate the effect of voting centers being inside gang-controlled areas.[1]

Figure 5: Qualifying Voting Centers in the Regression Discontinuity Design



[1]We are not able to display the detailed maps of gang-control for confidentiality reasons.

6 Quantitative Results

6.1 Party preferences in gang-controlled areas

Whether gang leaders only encourage their members and relatives to vote for a given party, or if they directly coerce voters, we expect to observe a difference in voting patterns in gang-controlled areas. To verify this, we relate the impact of gang-control at the voting center level on FMLN and ARENA's vote shares and control for municipality fixed effects (see Equation 4). Each municipality encompasses on average 6 voting centers. Given that gangs' support for specific parties has changed overtime, we considered the different elections separately.

The results are reported in Table 3. We observe that gang-controlled areas have voted significantly more for FMLN (left wing) in 2014 (column (1)) and against in 2019 (column (3)). Areas under gang influence have voted consistently against ARENA (right wing) across the period (columns (4) to (6)). The direction of the estimates is consistent with the claims that FMLN managed to outbid ARENA for gang support in 2014 and that N.Bukele's Nuevas Ideas party relied on gangs for the 2019 election against both FMLN and ARENA (see section 3.2).

The magnitude of the effects is rather large, between 0.9 and 2.5 percentage points, especially considering that FMLN won the 2014 election by 5,000 votes only. Appendix E shows that these results are consistent using alternative measures of gang-control. Even descriptive, these results support the broader hypothesis that gang influence may affect electoral results in some ways, whether legally or not. In the next sections, we verify some of the mechanisms that could explain this.

6.2 Buying peace: gang criminality during electoral seasons

The first step to assess gang influence on political elections is to study criminality patterns during electoral seasons. For this, we use the Two Way Fixed Effect estimation described in section 5.2.1 (Equation 1). We relate the weekly murder rate per 100,000 inhabitants to an indicator variable equal to 1 during electoral seasons. We define electoral seasons as the period starting 3 months prior to the elections and ending 3 months after, 3 months being

Table 3: Party Preferences in Gang-Controlled Areas

	Dependent variable					
	FMLN (2014)	FMLN (2018)	FMLN (2019)	ARENA (2014)	ARENA (2018)	ARENA (2019)
	(1)	(2)	(3)	(4)	(5)	(6)
Gang-Control	1.518**	.906	−1.369**	−1.277**	−.985	−2.508***
	(.666)	(.692)	(.604)	(.624)	(.648)	(.594)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations Mean	48.7	28	17.8	43.9	39.6	29.4
Observations	2,854	1,428	1,422	2,854	1,428	1,422
R^2	.475	.764	.663	.366	.763	.486
Adjusted R^2	.425	.715	.592	.307	.714	.378

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between gang contol and party specific votes in the 2014, 2018, and 2019 elections at the voting center level. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. We added municipality fixed effects and clustered the standard errors by municipality.

the typical campaign duration in El Salvador. We also verify the robustness of our results using different time windows (see Appendix D).

We excluded the 2012 and 2015 elections from this analysis to ensure that our estimates would not be biased by the particular events that unravelled these years. Indeed, the 2012 truce was struck three days before the elections and mechanically led to a strong reduction in criminality. Conversely, the FMLN government announced drastic measures against gangs two weeks before the 2015 elections, including the return to maximum security prisons for gang leaders and the deployment of special forces in gang areas. This was effectively the end of the truce, and the beginning of a new era of high crime (see Figure 4).

Table 4 reports the results we obtained following this specification. Columns (1) and (2) show that homicides tend to increase both before and after elections across El Salvador. In gang-controlled areas however, the homicide rate significantly reduces when compared to non gang-controlled areas (column (3)) by about 0.27 mean. We observe a similar pattern for gang-related murders (column (4)) with a differential decrease of about 0.41 mean. These rather large reduction in criminality in gang-controlled areas confirms the hypothesis that gangs use peace rather than violence itself to weigh on political elections in El Salvador.

Table 5 reports the same analysis conducted with our alternative measures of gang-control: neighborhoods with a high number of convicted gang members (High-Prisoners), and gang leaders' neighborhoods of origin (Gang-Leaders). We observe similar results: criminality reduces in gang-controlled areas during elections. We also introduced gang-heterogeneity

Table 4: Criminality in Gang-Controlled Areas during Electoral Seasons

	Dependent variable			
	Homicide Rate (per 100,000 inhabitants)			Gang-Related
	(1)	(2)	(3)	(4)
Electoral Season	.209***			
	(.060)			
Before Election		.270***	.437***	.193***
		(.068)	(.088)	(.049)
After Election		.120	.304***	.123**
		(.081)	(.103)	(.057)
Before Election × Gang-Control			−.347***	−.107*
			(.107)	(.056)
After Election × Gang-Control			−.381***	−.188**
			(.126)	(.078)
Time and Voting Center FE	Yes	Yes	Yes	Yes
Observations Mean	1.42	1.42	1.42	0.45
Observations	415,224	415,224	415,224	415,224
R^2	.055	.055	.055	.023
Adjusted R^2	.052	.052	.052	.019

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between criminality and electoral season, specifically in gang-controlled areas between 2012 and 2019. Electoral season is an indicator variable equal to one 12 weeks before and after an election. The homicide rate is measured weekly and annualized per 100,000 inhabitants. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. Robust standard errors clustered by voting center are reported between parenthesis. The 2012 and 2015 elections were removed from the sample because of outside events affecting the depending variable (resp. truce and end of truce)

(columns (4) and (5)) and observe that this reduction in criminality is particularly significant in neighborhoods controlled by MS-13, less so in neighborhoods controlled by B-18. MS-13's leadership is known to have a tighter control on its members (Lohmuller, 2015) as compared to B-18 which suffers more internal divisions. Hence, MS-13 could be better positioned to negotiate agreements with parties themselves, especially during national elections.

Table 5: Criminality in Gang-Controlled Areas during Electoral Seasons (robustness to gang control)

	Dependent variable				
	Homicide Rate (per 100,000 inhabitants)				
	(1)	(2)	(3)	(4)	(5)
Election	.382***	.283***	.222***	.236***	.283***
	(.078)	(.069)	(.061)	(.069)	(.069)
Election × Gang-Control	−.358***				
	(.090)				
Election × High-Prisoners		−.597***			
		(.207)			
Election × Gang-Leaders			−.655*		
			(.380)		
Election × B-18				−.211	
				(.199)	
Election × MS-13					−.584***
					(.201)
Time and Voting Center FE	Yes	Yes	Yes	Yes	Yes
Observations Mean	1.42	1.42	1.42	1.42	1.42
Observations	415,224	415,224	415,224	415,224	415,224
R^2	.055	.055	.055	.055	.055
Adjusted R^2	.052	.052	.052	.052	.052

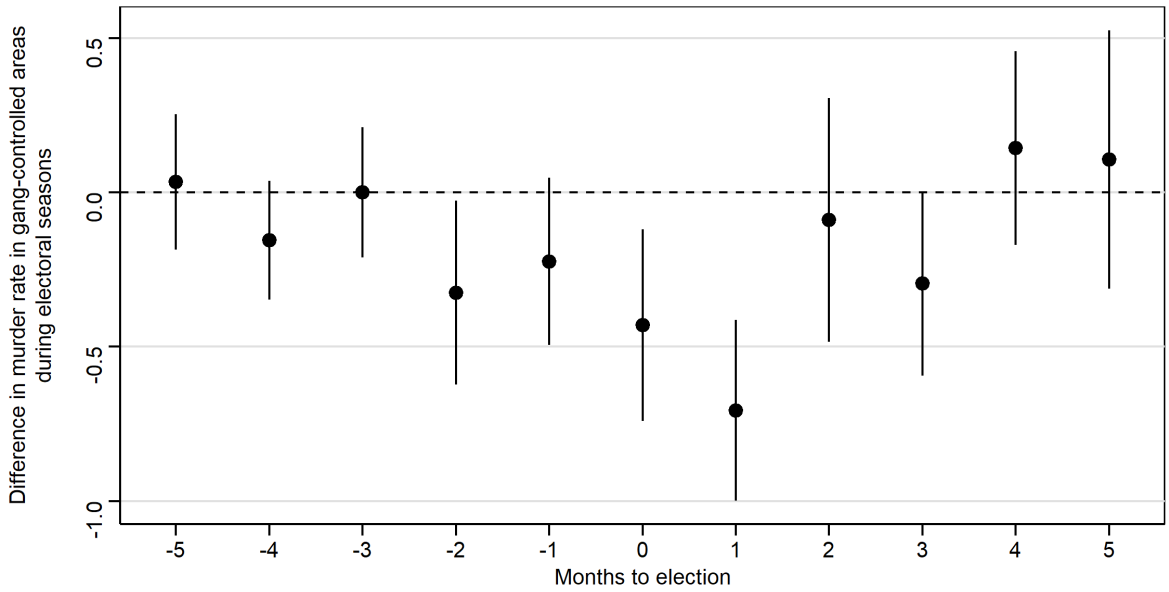
*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between criminality and electoral season, specifically in gang-controlled areas between 2012 and 2019. Electoral season is an indicator variable equal to one 12 weeks before and after an election. The homicide rate is measured weekly and annualized per 100,000 inhabitants. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. High-Prisoners represents the neighborhood where the number of convicted gang members was above average. B-18 and MS-13 are constructed similarly based on B-18 and MS-13 convicts. Gang-Leaders represents the neighborhoods of origins of convicted gang leaders. Robust standard errors clustered by voting center are reported between parenthesis. The 2012 and 2015 elections were removed from the sample because of outside events affecting the depending variable (resp. truce and end of truce)

Figure 6 plots the differential effect of gang-control on criminality over time during electoral

seasons. The reduction in criminality during electoral seasons in gang-controlled areas seems particularly strong in the 2 months preceding and the month following an election.

Figure 6: Difference in Homicide Rate in Gang-Controlled Areas during Electoral Seasons



Source: own elaboration based on police data (PNC) at the voting center level.

6.3 Crime reduction and participation increase

The reduction in criminality that we established in the previous section is consistent with the results of our interviews, according to which parties negotiate safe access to gang-controlled territories in order to campaign. Whether directly because of the overall reduction in criminality, or because parties are better able to campaign in safer neighborhoods, we expect to see an increase in political participation during elections as a result of the decrease in crime.

To test this hypothesis, we analyzed the association between homicides prior to elections to the electoral participation. We used year and voting center fixed effect to control for the expected turnover in specific locations in specific years. Table 6 shows that higher homicide rates prior to elections are indeed associated with less turnover.

Table 6: Electoral Participation and Crime

	Dependent variable			
	Electoral Participation			
	(1)	(2)	(3)	(4)
6-month Homicide Rate Prior to Election	$-.003^{***}$			
	(.001)			
3-month Homicide Rate Prior to Election		$-.002^{***}$		
		(.001)		
6-month Gang Homicide Rate Prior to Election			$-.004^{*}$	
			(.002)	
3-month Gang Homicide Rate Prior to Election				$-.005^{***}$
				(.001)
Election and Voting Center FE	Yes	Yes	Yes	Yes
Observations Mean	52.5	52.5	52.5	52.5
Observations	5,234	5,234	5,234	5,234
R^2	.645	.646	.645	.646
Adjusted R^2	.526	.527	.526	.527

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between criminality 6 months and 3 months prior to elections and voters' turnout. The homicide rate is measured weekly and annualized per 100,000 inhabitants. We added election and voting center fixed effects and clustered the standard errors by voting center.

Building further on these results, and knowing that criminality reduces on average in gang-controlled areas during electoral season, we expect to see an increase in electoral participation in gang controlled areas. Using the same framework as Equation 2, column (1) of Table 7 reports a statistically significant and positive effect of gang-control on voters' participation. The estimate is rather large: a 2.75 percentage point increase in participation in gang controlled areas. Alternative measures of gang-control lead to consistent estimates, although less statistically significant (columns (2) and (3)). Hence, potentially related to the reduction in criminality that we observe during electoral seasons, gang influence seems to be geared toward encouraging participation in the territories they control.

These results are consistent with LAPOP survey data between 2010 and 2018. Respondents declaring that they lived in a neighborhood where gangs had a significant influence reported on average 5.1 percent points more often that they participated during the previous election. The estimate increases to 5.4 percentage points when controlling for socio-economic indicators and adding time and location fixed effects (columns (1) and (3) of Table 15 in Appendix 14).

Table 7: Electoral Participation in Gang-Controlled Areas

	Dependent variable		
	Electoral Participation		
	(1)	(2)	(3)
Previous Participation	.119	.125	.125
	(.231)	(.233)	(.233)
Gang-Control	2.752**		
	(.870)		
High-Prisoners		1.440	
		(.926)	
High-Leaders			1.456*
			(.709)
Election and Municipality FE	Yes	Yes	Yes
Observations Mean	52.5	52.5	52.5
Observations	6,834	6,834	6,834
R^2	.383	.376	.375
Adjusted R^2	.359	.352	.351

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between gang control and voters' turnout. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. High-Prisoners represents the neighborhood where the number of convicted gang members was above average. Gang-Leaders represents the neighborhoods of origins of convicted gang leaders. We added election and municipality fixed effects and clustered the standard errors by municipality.

6.4 Low competition neighborhoods: increasing favorable turnover

It seems that gangs are able to favorably affect political turnover, either by their direct influence, or by reducing violence. Nonetheless, since negotiating with gangs is costly, parties need to have some certainty that an increase in turnover can translate into more votes in their favor. This is more likely to be the case in neighborhoods where parties know, historically, that they have a strong voting base in the first place. Following this reasoning, we expect to see stronger effects in the voting centers where political competition is low.

Using the model delineated in Equation 2, we first look at the criminality patterns around electoral seasons. To measure political competitiveness in any election, we use the results of the 2012 election, which comes before the starting date of our sample. We define Low-Competition either as the lowest quartile of the Herfindahl Hirschman Index (HHI) distribution or as those voting centers where the vote gap between first and second was above 15%. Results are reported in Table 8. The estimates of interest are shown in the last two lines. Both using HHI and Vote Gap, we observe that criminality reduces significantly during electoral seasons in gang controlled areas particularly in places where political competition was low. We obtain statistically significant results for the measure of competition using the vote gap. Indeed, parties and gangs seem to focus their action in places where parties have more certainty about their electoral base.

We also conducted this analysis using a dynamic definition of political competition, where for any election, we use the competitiveness of the previous election. The results are consistent and reported in Table 13 of Appendix D.

On participation, we use Equation 5 to analyze the differential effect of gang-control on voter turnout in low competition neighborhoods. Results are reported in Table 9. Both column (1) and (2) show that participation tends to increase in Low-Competition places, but even more so in gang-controlled areas. Related to the reduction in crime we observe, participation seems also to matter most to gangs in the places where voters' preferences are more homogeneous.

Figure 7 summarises graphically our findings. The left regions of the graphs represent high competition (low vote gap between first and second), whereas the right regions designate low competition neighborhoods. In gang-controlled areas (red lines), compared to non gang areas (blue lines), participation increases more in low-competition voting centers and criminality reduces more. This supports the claim that parties may be colluding with gangs

Table 8: Criminality in Gang-Controlled Areas during Electoral Seasons

	Dependent variable			
	Homicide Rate		Gang-Related	
	(1)	(2)	(3)	(4)
Electoral Season	.372***	.226*	.104	.038
	(.124)	(.133)	(.068)	(.071)
Electoral Season × Low-Competition (HHI)	−.099		−.031	
	(.165)		(.089)	
Electoral Season × Low-Competition (Vote Gap)		.231		.112
		(.150)		(.081)
Electoral Season × Gang-Control	−.240	−.070	−.066	.036
	(.153)	(.187)	(.086)	(.105)
Electoral Season × Gang-Control × Low-Competition (HHI)	−.194		−.155	
	(.234)		(.141)	
Electoral Season × Gang-Control × Low-Competition (Vote Gap)		−.436*		−.286**
		(.244)		(.139)
Time and Voting Center FE	Yes	Yes	Yes	Yes
Observations Mean	1.42	1.42	0.45	0.45
Observations	203,188	203,188	203,188	203,188
R^2	.029	.029	.013	.013
Adjusted R^2	.025	.025	.010	.010

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between criminality and electoral season, specifically in low-competition gang-controlled areas between 2012 and 2019. Electoral season is an indicator variable equal to one 12 weeks before and after an election. The homicide rate is measured weekly and annualized per 100,000 inhabitants. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. Low competition is measured using the Herfindahl Hirschman Index (HHI) and the vote gap between first and second candidates. Robust standard errors clustered by voting center are reported between parenthesis. The 2012 and 2015 elections were removed from the sample because of outside events affecting the depending variable (resp. truce and end of truce)

Table 9: Electoral Participation in Low-Competition Gang-Controlled Areas

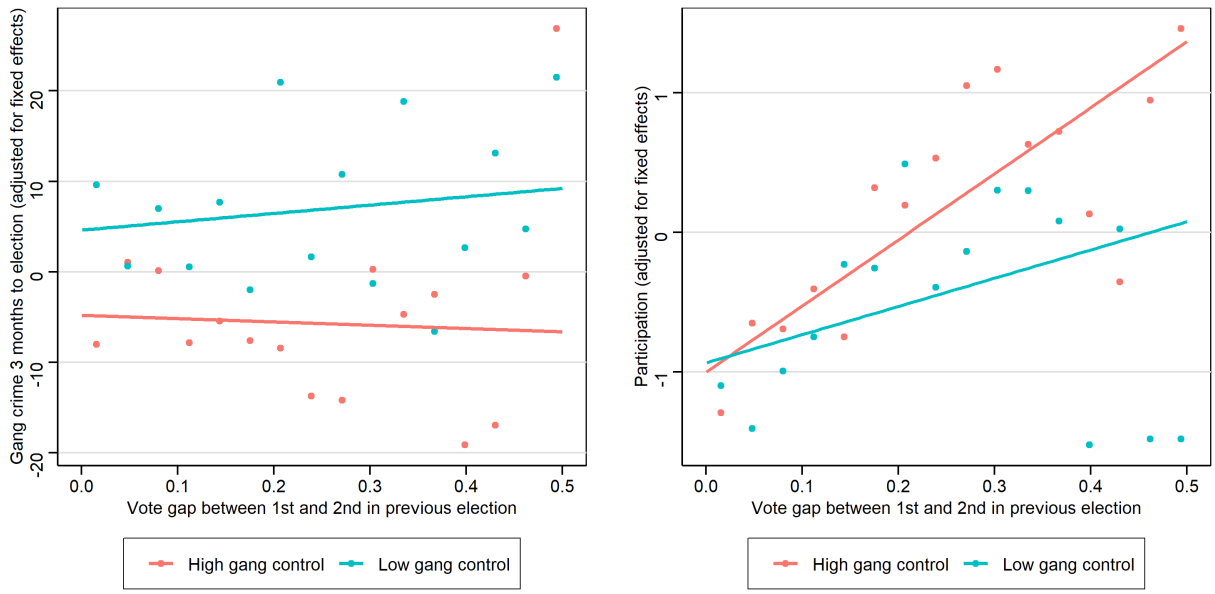
	Dependent variable	
	Electoral Participation	
	(1)	(2)
Previous Participation	$-.373^{***}$	$-.372^{***}$
	(.012)	(.012)
Low-Competition (HHI)	$.905^{***}$	
	(.343)	
Low-Competition (HHI) $\times$ Gang-Control	$.904^{*}$	
	(.498)	
Low-Competition (Vote Gap)		$.713^{**}$
		(.307)
Low-Competition (Vote Gap) $\times$ Gang-Control		1.451^{***}
		(.441)
Election and Voting Center FE	Yes	Yes
Observations Mean	52.5	52.5
Observations	7,955	7,955
R^2	.765	.766
Adjusted R^2	.688	.690

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between gang control and voters' turnout in neighborhoods where political competition was low during the previous election. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. Low competition is measured using the Herfindahl Hirschman Index (HHI) and the vote gap between first and second candidates. We added election and voting center fixed effects and clustered the standard errors by voting center

especially in the neighborhoods where they have more voters. By increasing safety, and fostering known to be favorable political participation, parties may collude with gangs to increase their overall vote share.

Figure 7: Competitive districts, gang criminality, and participation



Source: own elaboration based on police data (PNC) and electoral results by the Electoral Supreme Court at the voting center level.

These findings are also supported by the fact that there doesn't seem to be any trend difference between gang-controlled areas and non gang areas when looking at the 2012 elections, before that gangs and political parties started colluding according to journalistic investigations (see Figure 8 in Appendix F).

6.5 Geographic regression discontinuity

In order to present more causal evidence, we rely on the regression discontinuity model outlined in section 5.2.2. For this analysis, we use the maps of gang-controlled areas available for San Salvador in 2014 and 2018 along with the election results at the voting center level. In 2014, none of the candidates reached the 50% vote share required to win. For this reason, a second round was held, which we also took into account in the estimations.

We were not able to identify any difference in participation, whether voting centers are located inside or outside gang-controlled territories (see Table 16 in Appendix G). Nonetheless, Tables 10 and 11 show that voting centers inside gang-controlled territories present a significant distortion in political competition as compared to voting centers outside of gang-controlled areas, even if they pool voters both from inside and outside these areas. In 2014 and 2018, the vote gap between candidates ranked first and second in these voting centers was lower by 0.70 and 0.10 points respectively (columns (2)). These results are also illustrated graphically in Appendix G.

The differences in vote gap between first and second candidates are not significant for other years using the same maps (columns (1) and (3)). One explanation could be that gang territories' borders may have shifted over time. Prior to 2014, according to journalists, gang members were able to strengthen control of their territory thanks to the truce. After 2015 however, the Government launched a new Security Plan that may have modified gangs' territories.

According to interviews, in 2014, the gangs tried to strongly affect the electoral results because a project called Sanctuary Municipalities had been suspended. This project had the objective of investing in infrastructure and increasing employment in specific municipalities where the gangs were. The suspension caused the gangs to be against the municipal party; this forced Norma Quijano (candidate for the presidency in those elections and Mayor of San Salvador) to negotiate with the gangs between the first and second round of voting. Subsequently, the gangs leak audio and video of the negotiations to the press.

Tables 17 and 18 in Appendix G present the results obtained using other measures of competitiveness (HH - Index and Political index). The results in 2014 remain significant, but not in 2018. The number of observations is quite low and could limit the correct interpretation of the results.

Table 10: Gang-Control Effect on Gap First-Second in 2014 (RD)

	(1) Before 2014	(2) 2014	(3) After 2014
Gang Control Area - 2014 map	-0.018	-0.711***	-0.046
	(0.178)	(0.161)	(0.103)
Robust 95% CI	[-.73 ; .341]	[-1.062 ; -.269]	[-.252 ; .301]
Kernel Type	Triangular	Triangular	Triangular
BW Type	mserd	mserd	mserd
Observations	41	94	170
Conventional p-value	0.922	0.000	0.653
Robust p-value	0.476	0.001	0.860
Order Loc. Poly. (p)	2	2	2
Order Bias (q)	3	3	3
BW est. (h)	98.9	90.5	97.7
BW bias (b)	132.8	138.8	151.8

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Gang-Control Effect on Gap First-Second in 2018 (RD)

	(1) Before 2018	(2) 2018	(3) After 2018
Gang Control Area - 2018 map	0.008	-0.109**	0.043
	(0.024)	(0.050)	(0.061)
Robust 95% CI	[-.037 ; .067]	[-.21 ; .006]	[-.09 ; .176]
Kernel Type	Triangular	Triangular	Triangular
BW Type	mserd	mserd	mserd
Observations	760	222	432
Conventional p-value	0.726	0.030	0.484
Robust p-value	0.573	0.065	0.526
Order Loc. Poly. (p)	2	2	2
Order Bias (q)	3	3	3
BW est. (h)	1246.2	1484.7	1653.6
BW bias (b)	2011.6	2145.5	2255.8

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

7 Conclusions

Based on our interviews and quantitative analysis, it appears that the main leverage that gangs use to influence elections is peace, or the absence of violence. Homicides in gang-controlled neighborhoods tend to decrease during electoral seasons along with an increase in electoral participation. These effects are especially significant in the neighborhoods where political parties have a strong voting base. This suggests that parties negotiate with gangs to foster electoral participation in the areas where they are more likely to receive electoral support and increase their chances of winning.

Gangs also affect the quality of campaigns in the neighborhoods they control. According to interviews, the parties must ask for permission and give something in return to the gangs to enter those neighborhoods. Permission is usually granted through a party member in the community. This scheme could be depleting parties' campaign resources and hurting small parties that don't have as many members in all neighborhoods.

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Appendices

A Measuring political competition

Effectively measuring political competition has proved to be controversial due to the different alternatives used. Previous researchers have operationalized this concept in a variety of ways, with the empirical results often hinging on which measure is used (Aistrup, 2014). Based on a literature review, three main indicators stood out. The first (1) simply calculates the gap competition (difference in percentage points) of the first (F_{it}) and second place (S_{it}) in the elections (t) for each municipality (i).

$$(1)\ X_{it} = F_{it} - S_{it}$$

The second competitive indicator (2) considered is the Herfindahl-Hirschman index (HHI) that is usually used to measure the market concentration or level of competitiveness in an industry. In this case, when the indicator is closer to one then a single political party has monopolized the share of votes in the municipality; when it is close to zero, then the share of votes is similar between many political parties. The indicator is calculated as the sum of the square of the share (S_j) of each party(N).

$$(2)\ X_{it} = \sum_{j=1}^{N} {S_j}^2$$

The third indicator (3) was defined by Chakravarty et al. (2020), which measures the probability that randomly chosen voters have voted for different parties. In a municipality with perfect competition, each voter has the same probability of voting for any party and the indicator would have a value of zero, whereas it will be close to one when voters choose the same party.

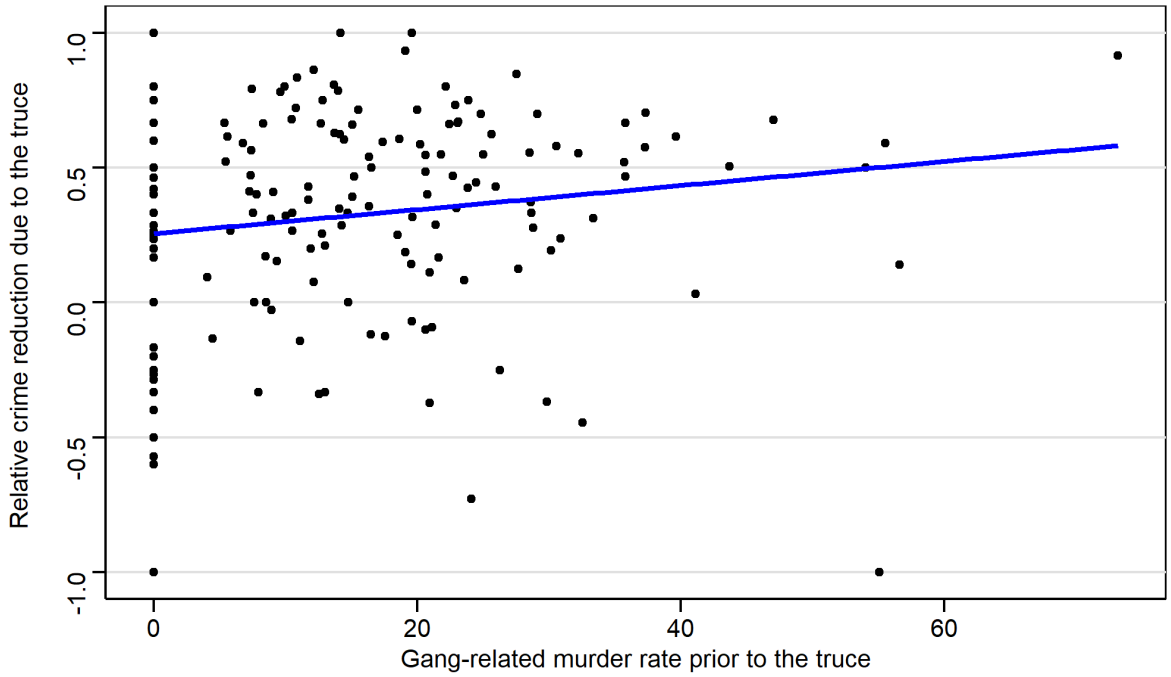
$$(3)\, C_{it} = \frac{|N|}{|N|-1}\left[1 - \sum_{j=1}^{N} {S_j}^2\right]$$

The advantage of this indicator is that it allows comparing the competitiveness of elections

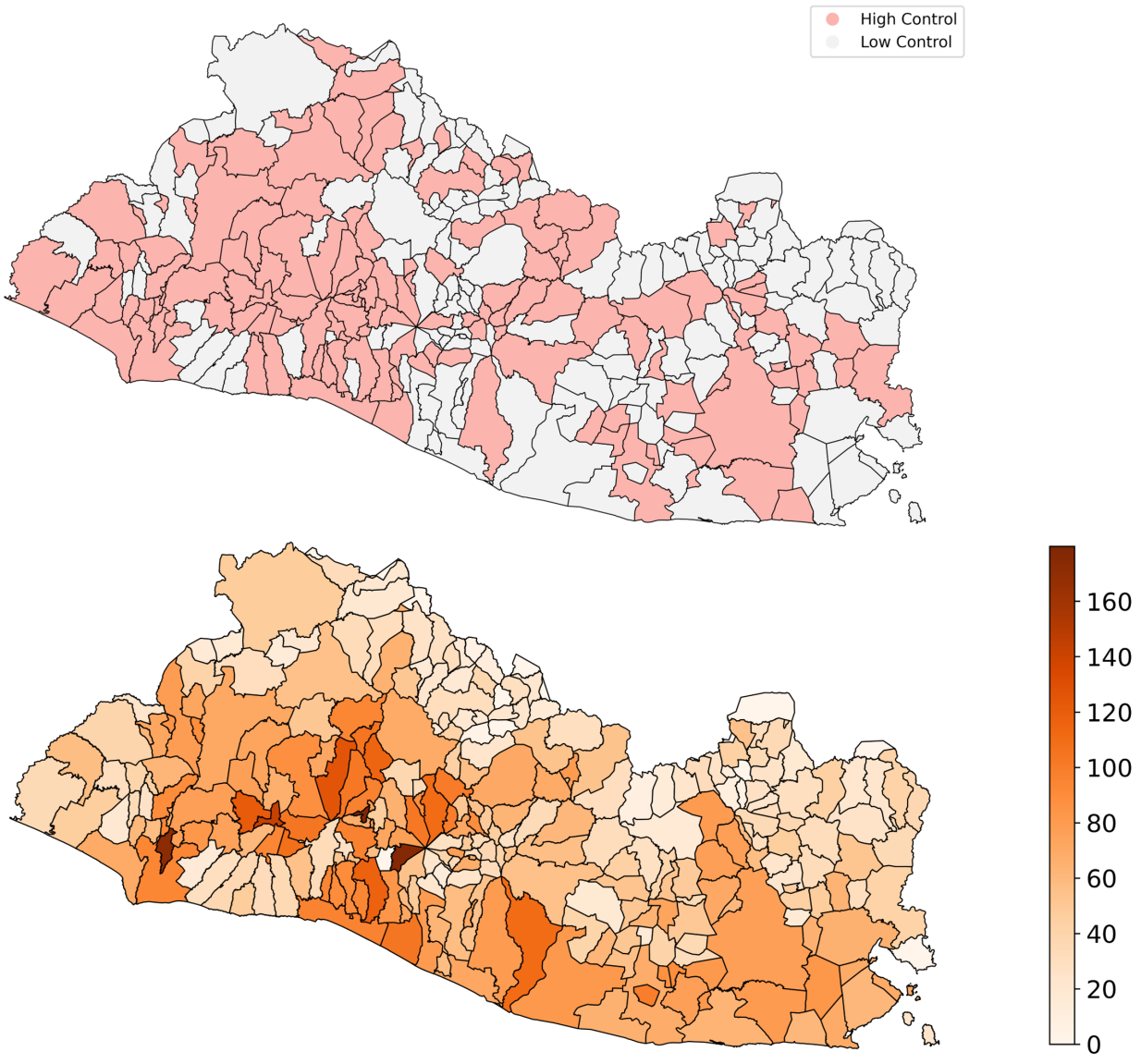
with different numbers of parties, which is convenient for the study since the number of parties has varied over time and across municipalities; hereafter referred to as the political competition index (PCI).

B Truce and gang-control

Murder rate variation during the truce compared to prior gang-related murder rates.



C Gang-controlled areas



D Gang criminality during electoral seasons

Table 12: Criminality in Gang-Controlled Areas during Electoral Seasons (robustness to electoral season)

	Dependent variable			
	Homicide Rate (per 100,000 inhabitants)			
	(1)	(2)	(3)	(4)
Election (4 weeks)	.115			
	(.109)			
Election (4 weeks) × Gang-Control	−.378***			
	(.132)			
Election (8 weeks)		.158*		
		(.087)		
Election (8 weeks) × Gang-Control		−.349***		
		(.104)		
Election (12 weeks)			.382***	
			(.078)	
Election (12 weeks) × Gang-Control			−.358***	
			(.090)	
Election (16 weeks)				.449***
				(.071)
Election (16 weeks) × Gang-Control				−.232***
				(.077)
Time and Voting Center FE	Yes	Yes	Yes	Yes
Observations Mean	1.42	1.42	1.42	1.42
Observations	415,224	415,224	415,224	415,224
R^2	.055	.055	.055	.055
Adjusted R^2	.052	.052	.052	.052

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between criminality and electoral season, specifically in gang-controlled areas between 2012 and 2019. Electoral season is an indicator variable equal to one 12 weeks before and after an election. The homicide rate is measured weekly and annualized per 100,000 inhabitants. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. Robust standard errors clustered by voting center are reported between parenthesis. The 2012 and 2015 elections were removed from the sample because of outside events affecting the depending variable (resp. truce and end of truce)

Table 13: Criminality in Gang-Controlled Areas during Electoral Seasons

	Dependent variable			
	Homicide Rate		Gang-Related	
	(1)	(2)	(3)	(4)
Electoral Season	.243**	.179	.037	.015
	(.110)	(.120)	(.061)	(.068)
Low-Competition (HHI)	.099		.052	
	(.118)		(.067)	
Low-Competition (HHI) × Gang-Control	.551**		.281**	
	(.259)		(.141)	
Electoral Season × Low-Competition (HHI)	.125		.071	
	(.144)		(.080)	
Low-Competition (Vote Gap)		−.165		−.094
		(.112)		(.059)
Low-Competition (Vote Gap) × Gang-Control		.275		.086
		(.187)		(.105)
Electoral Season × Low-Competition (Vote Gap)		.187		.077
		(.134)		(.072)
Electoral Season × Gang-Control	−.169	−.043	.048	.097
	(.126)	(.151)	(.065)	(.083)
Electoral Season × Gang-Control × Low-Competition (HHI)	−.291		−.280**	
	(.222)		(.123)	
Electoral Season × Gang-Control × Low-Competition (Vote Gap)		−.397*		−.227**
		(.212)		(.112)
Time and Voting Center FE	Yes	Yes	Yes	Yes
Observations Mean	1.42	1.42	0.45	0.45
Observations	249,866	249,866	249,866	249,866
R^2	.043	.043	.019	.019
Adjusted R^2	.038	.038	.013	.013

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between criminality and electoral season, specifically in low-competition gang-controlled areas between 2012 and 2019. Electoral season is an indicator variable equal to one 12 weeks before and after an election. The homicide rate is measured weekly and annualized per 100,000 inhabitants. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. Low competition is measured using the Herfindahl Hirschman Index (HHI) and the vote gap between first and second candidates. Robust standard errors clustered by voting center are reported between parenthesis. The 2012 and 2015 elections were removed from the sample because of outside events affecting the depending variable (resp. truce and end of truce)

E Party votes in gang-controlled areas

Table 14: Party Preferences in Gang-Controlled Areas

	Dependent variable					
	FMLN (2014)			FMLN (2019)		
	(1)	(2)	(3)	(4)	(5)	(6)
Gang Control	1.518**			−1.369**		
	(.666)			(.604)		
High-Prisoners		1.579**			−1.730**	
		(.681)			(.757)	
High-Leaders			1.874			−1.634**
			(1.324)			(.769)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations Mean	48.7	48.7	48.7	17.8	17.8	17.8
Observations	2,854	2,854	2,854	1,422	1,422	1,422
R^2	.475	.474	.473	.663	.662	.661
Adjusted R^2	.425	.424	.423	.592	.592	.591

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between gang contol and party specific votes in the 2014, 2018, and 2019 elections at the voting center level. Gang control is defined as the neighborhoods where the decrease in homicides due to the 2012 truce was above median. High-Prisoners represents the neighborhood where the number of convicted gang members was above average. Gang-Leaders represents the neighborhoods of origins of convicted gang leaders. We added municipality fixed effects and clustered the standard errors by municipality.

Table 15: Participation in Gang-Controlled Areas (LAPOP survey)

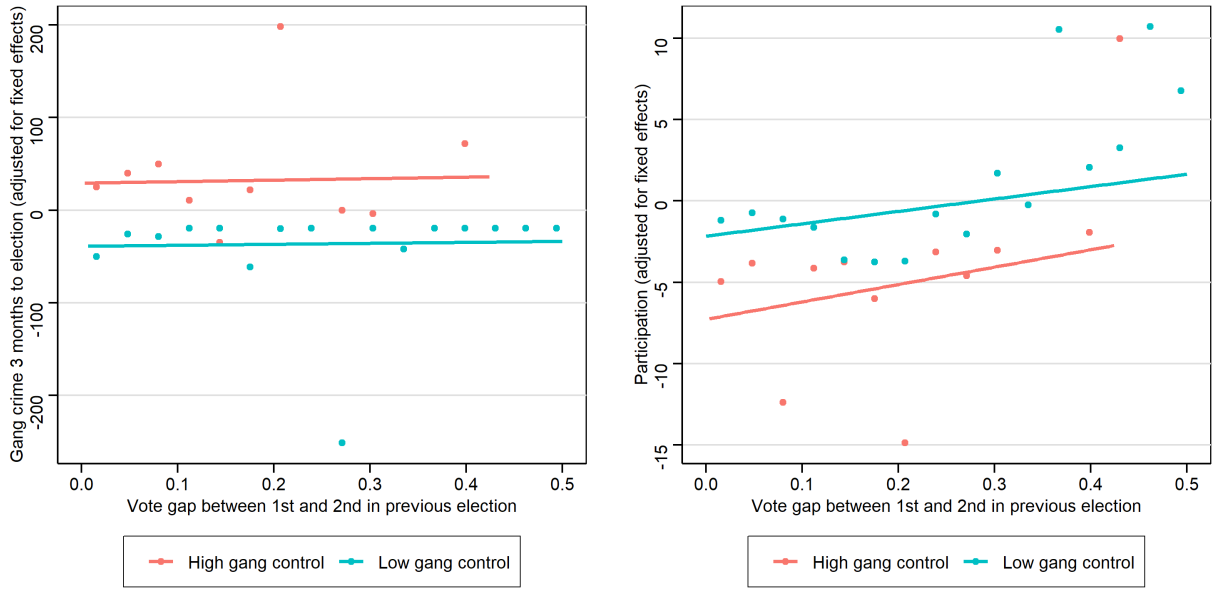
	Dependent variable		
	Electoral Participation		
	(1)	(2)	(3)
Gang-Control (Survey)	5.052***	6.763***	5.434***
	(1.072)	(1.867)	(1.757)
Years of Education		.972***	1.053***
		(.153)	(.173)
Urban		−4.586***	−3.539**
		(1.522)	(1.564)
Gender		1.030	1.218
		(1.926)	(1.960)
Age		4.303***	4.326***
		(.180)	(.189)
Age^2		−.037***	−.038***
		(.002)	(.002)
Income Category FE	No	Yes	Yes
Time and Province FE	No	No	Yes
Observations Mean	72.3	72.3	72.3
Observations	7,573	3,950	3,950
R^2	.002	.174	.179
Adjusted R^2	.001	.169	.171

*p<0.1; **p<0.05; ***p<0.01

Notes: This table reports the association between gang control and participation using LAPOP survey data between 2010 and 2018. Respondents were asked whether they thought that their neighborhoods was affected by gangs. Gang-control is an indicator variable equal to 1 when respondants replied "a lot". Robust standard errors clustered by province are reported between parenthesis.

F Low competition neighborhoods

Figure 8: Competitive districts, gang criminality, and participation (2012 election)



Source: own elaboration based on police data (PNC) and electoral results by the Electoral Supreme Court at the voting center level.

G RDD - Results

Results of the discontinuous regression in 2014 - multiple degrees

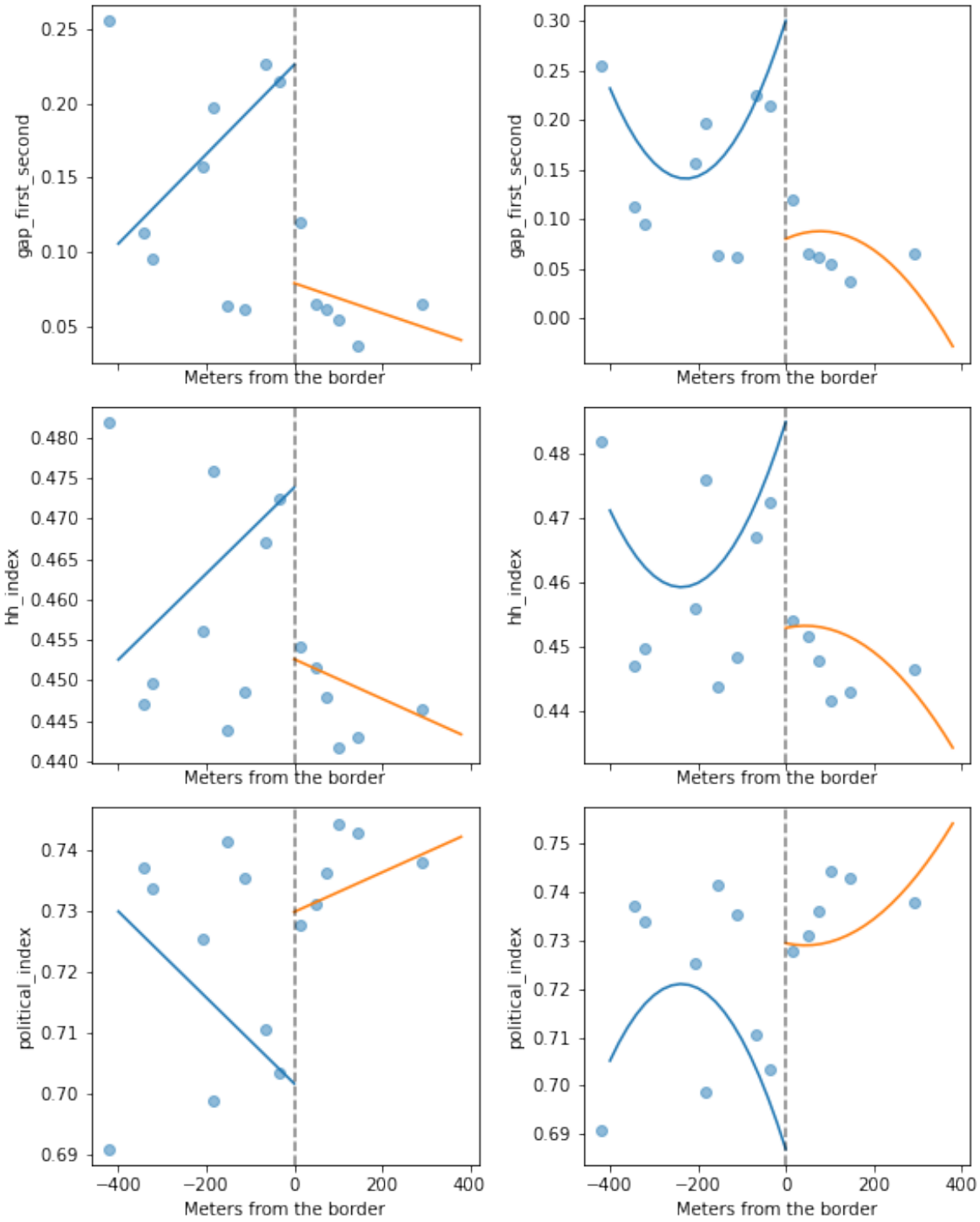


Table 16: Gang-Control Effect on Participation in 2014 and 2018 (RD)

	(1) Participation 2014	(2) Participation 2018
Gang Control Area	-0.021	0.006
	(0.025)	(0.026)
Robust 95% CI	[-.086 ; .031]	[-.044 ; .075]
Kernel Type	Triangular	Triangular
BW Type	mserd	mserd
Observations	94	209
Conventional p-value	0.399	0.825
Robust p-value	0.359	0.605
Order Loc. Poly. (p)	1	1
Order Bias (q)	2	2
BW est. (h)	149.5	933.1
BW bias (b)	220.9	1561.6

$^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$

Table 17: Results of the discontinuous regression - Validation 2014

	(1) Gap First-Second	(2) HH index	(3) Political index
Gang Control Area	-0.711***	-0.115***	0.153***
	(0.161)	(0.028)	(0.038)
Robust 95% CI	[-1.062 ; -.269]	[-.193 ; -.051]	[.068 ; .257]
Kernel Type	Triangular	Triangular	Triangular
BW Type	mserd	mserd	mserd
Observations	94	94	94
Conventional p-value	0.000	0.000	0.000
Robust p-value	0.001	0.001	0.001
Order Loc. Poly. (p)	2	2	2
Order Bias (q)	3	3	3
BW est. (h)	90.5	93.6	93.6
BW bias (b)	138.8	135.0	135.0

$^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$

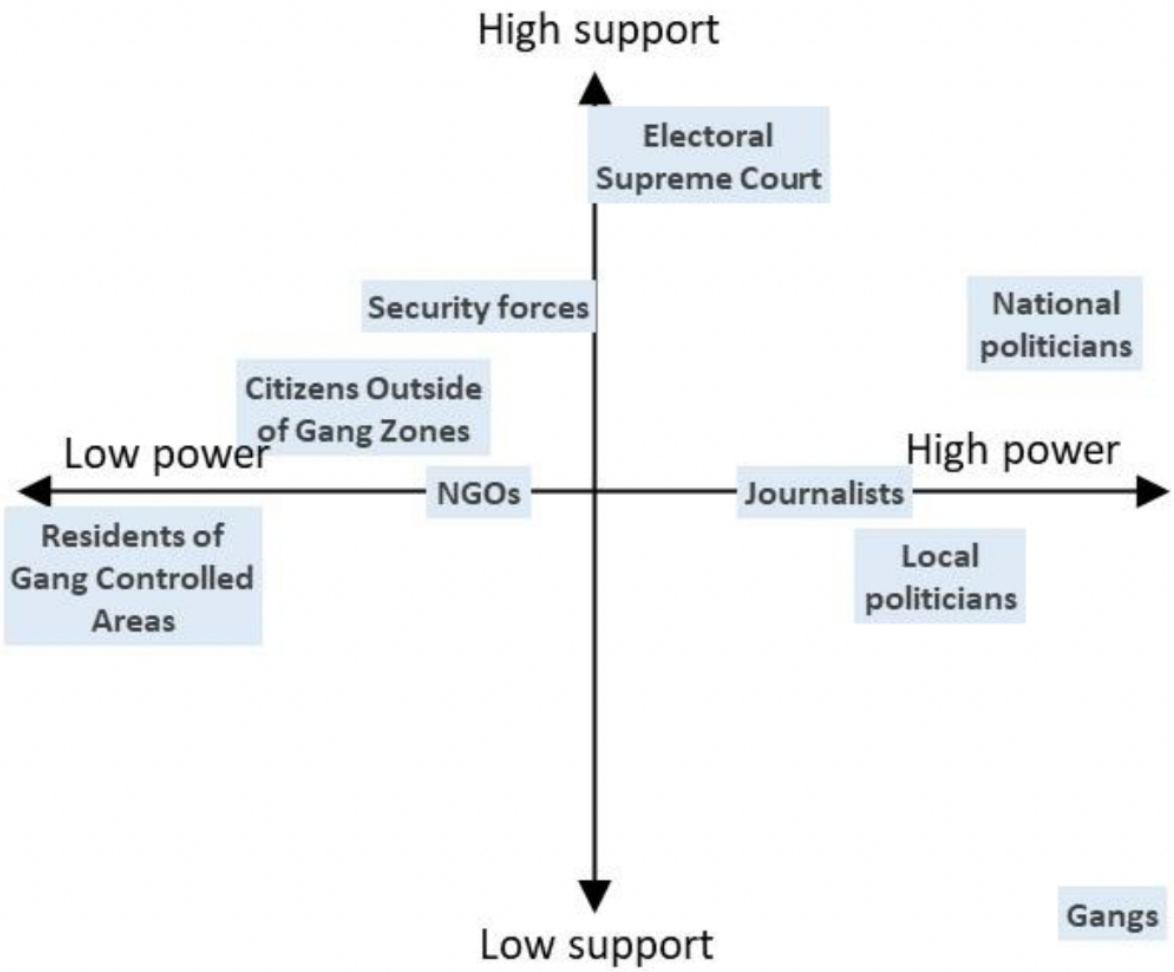
Table 18: Results of the discontinuous regression - Validation 2018

	(1) Gap First-Second	(2) HH index	(3) Political index
Gang Control Area	-0.109**	-0.024	0.026
	(0.050)	(0.027)	(0.029)
Robust 95% CI	[-.21 ; .006]	[-.074 ; .039]	[-.042 ; .081]
Kernel Type	Triangular	Triangular	Triangular
BW Type	mserd	mserd	mserd
Observations	222	222	222
Conventional p-value	0.030	0.376	0.376
Robust p-value	0.065	0.541	0.541
Order Loc. Poly. (p)	2	2	2
Order Bias (q)	3	3	3
BW est. (h)	1484.7	1363.7	1363.7
BW bias (b)	2145.5	1983.1	1983.1

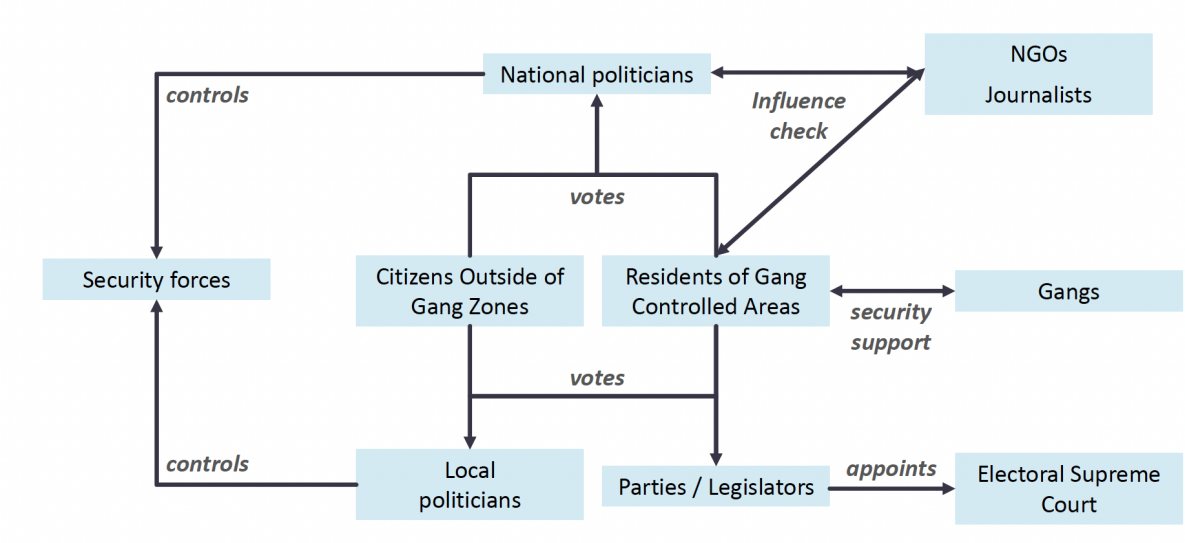
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

H Stakeholders

Stakeholder Analysis: Power vs Support)



Stakeholder Analysis: Relations between Groups)


National politicians
NGOs
Journalists
controls
Influence
check
votes
Security forces
Citizens Outside of
Gang Zones
Residents of Gang
Controlled Areas
Gangs
security
support
votes
controls
Local
politicians
Parties / Legislators
appoints
Electoral Supreme
Court