CAF - WORKING PAPER #2024/09
First version: September 26, 2024
This version: September 26, 2024

Political Alignment and Inter-jurisdictional Cooperation in a Fragmented Political Landscape: Evidence from Mexico

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We investigate the relationship between neighboring municipal authorities' shared party affiliation and inter-jurisdictional cooperation agreements in Mexico. Exploiting a Regression Discontinuity Design in close municipal elections, we show that political alignment with neighboring municipalities translates into higher levels of inter-jurisdictional cooperation. Focusing particularly on crime prevention, we then document that cooperation has observable returns (homicide rates decline significantly) and that the difference in the probability of observing a cooperation agreement between same and different party mayors is larger when the returns to cooperation are higher.

KEYWORDS
Cooperation, Public Good Provision, Public Safety, Crime, Elections

CAF - DOCUMENTO DE TRABAJO #2024/09
Esta versión: 26 de septiembre de 2024

Alineación Política y Cooperación Interjurisdiccional en un Período de Alta Fragmentación Política: Evidencia del Caso Mexicano

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Este trabajo estudia la relación entre la afiliación partidista compartida por autoridades municipales vecinas y los acuerdos de cooperación interjurisdiccional en México. Basaso en un Diseño de Regresión Discontinua en elecciones municipales reñidas, se demuestra que la alineación política con municipios vecinos se traduce en mayores niveles de cooperación interjurisdiccional. Para el caso particular de prevención del crimen, se documenta que la cooperación tiene retornos observables (las tasas de homicidio disminuyen significativamente) y que la diferencia en la probabilidad de observar un acuerdo de cooperación entre alcaldes del mismo partido es mayor cuando los retornos de la cooperación son relativamente altos.

KEYWORDS
Palabra clave 1, palabra clave 2, palabra clave 3

1 | INTRODUCTION

The literature on federalism has traditionally focused on the fundamental trade-off between the capacity of a decentralized system to tailor policies to local preferences, and that of a centralized one to properly internalize inter-jurisdictional spillovers (Oates, 1977, 1999; Gonzalez-Navarro, 2013; Knight, 2011).[1]

One aspect that could potentially alter the terms of this trade-off concerns the possible synergies from *horizontal* inter-jurisdictional cooperation, that is, between jurisdictions of the same administrative level. When spatial spillovers are present, systematic cooperation among local authorities can make local provision of public goods more effective, whereas the lack of it can exacerbate the inefficiencies associated with decentralization.

In competitive democracies, however, party loyalty may bias politicians' actions towards those that concentrate their benefits on the their own party's constituents. When opportunities to provide public goods whose benefits extend to other jurisdictions arise, leaders from competing parties may fail to cooperate, leading to under-provision of such public goods. One area in which this aspect is particularly relevant is law enforcement: in the context of a fragmented public security system, better coordination and information sharing among local police forces can favor effective crime reduction efforts. In a country like Mexico (the focus of this paper), where the need to contain violence has been a top priority for citizens' in the last three decades, the lack of cooperation among mayors from competing political parties can have chilling consequences. The potential benefit from inter-jurisdictional cooperation, and the implications for the efficient organization of the administration of justice, have been extensively discussed in both the criminal justice and the public administration literature (McDavid, 1974; Ostrom et al., 1978; Parks, 2009), but have been largely disregarded by economists. One noticeable exception is represented by Loeper's theoretical contribution on inter-jurisdictional coordination in federal systems (2011).[2]

In this paper we investigate the relationship between shared party alignment between neighboring jurisdictions and inter-jurisdictional cooperation. We then document that horizontal cooperation in law enforcement was more likely to arise among same-party neighbors during a period of increasing crime, and that it was effective at containing homicide rates in Mexico, where crime incidence has steadily increased over the past decade, and an animated debate over the need for better coordination among local police forces is ongoing.

Studying the effect of shared party-alingment in neighboring jurisdictions, its relationship with inter-jurisdictional cooperation and its potential consequences is challenging because this is likely to be correlated with various unobservable factors. We overcome the identification challenge in a spatial context by adapting standard regression discontinuity techniques to the problem at hand. More specifically, we exploit quasi-random variation in the level of political alignment between mayors of neighboring municipalities.

In particular, using a Regression Discontinuity Design (RDD) with close elections, we compare the evolution of cooperation in several domains, particularly in law enforcement, and of violent crime (i.e., homicides) between municipalities where the candidate of the party governing the majority of neighboring jurisdictions won and lost by a small margin. The key idea is that, if effective cooperation is more likely to emerge between municipalities governed

[1] For a thorough discussion of alternative models of federalism, of the concept of federal governance and its relation with economic performance see respectively Inman and Rubinfeld (1997) and Inman (2007).

[2] While Loeper's argument refers to the case of a pure coordination game and focuses on the external cost for a jurisdiction to choose a policy different from that chosen by others, his framework does not allow for actual cooperation and does not take into account the spatial dimension of it, that is, that cooperation with neighbors may be more valuable than cooperation with non-neighbors.

by mayors of the same party than between mayors of competing parties, particularly in a highly polarized political environment like Mexico, such cooperation may be instrumental in reducing violent crime. As any other regression discontinuity analysis, our identification strategy relies on the assumption that, if random factors, such as unexpected breaking news, weather conditions on election day, etc., have an (even small) impact on electoral outcomes, the victory of the candidate of the party that governs the majority of neighboring municipalities would mimic random assignment in elections decided by a narrow margin. Such RDD set-up therefore delivers a (local) source of exogenous variation in political alignment with neighbors.

Applying the RDD approach described above, and exploiting variation from close elections between 2000 and 2012, we find that municipalities where the candidate of the party in power in the majority of neighboring municipalities won by a small margin experienced significantly higher cooperation with politically-allied neighbors, than those where that party barely lost. This effect is remarkably larger for agreements on public safety once homicide rates skyrocketed in 2006. Indeed, these municipalities are more likely to have agreements with allies for the provision of public services in general and particularly in public safety, garbage collection and water management. The impact of political alignment with the majority is large: for instance, the likelihood of cooperation in any domain with a a politically aligned municipality increases by 38 percentage points when a municipality gets aligned with its neighbors after a close election.

Heterogeneity analyses based on different dimensions of integration, specifically vertical integration with the State or Federal government, uncover significant complementarities and substitutabilities in cooperation. While lacking vertical integration (with either the State or National government) promotes overall cooperation among a local majority, the absence of this vertical integration encourages agreements with politically aligned neighboring municipalities, especially in the realm of public safety. Using the same RDD approach we then study close elections that took place between 2005 and 2012, and show that municipalities where the candidate of the party in power in the majority of neighboring municipalities won by a small margin have significantly lower homicide rates during that mayor's mandate than comparable municipalities in which the majoritarian party barely lost. The effect on crime reduction is sizeable: the close election of a candidate politically aligned with most of the neighboring mayors is associated with a decrease in homicide rate of around 24%. This represents a reduction of crime rates of 15 crimes per 100,000 people (12.5% and 30% of the mean and standard deviation of crime rates in our sample, respectively). Furthermore, the effect is robust to the use of different specifications, to the approach defining a close election (i.e., the bandwidth in our regression discontinuity design), to alternative definitions of our metric of majority, and to controlling for a battery of covariates potentially explaining crime rates or different measures of crime. Reassuringly, political alignment with neighbors is not correlated with a range of other socioeconomic outcomes, including crime incidence prior to the election. Finally, that the result is driven by improved horizontal cooperation is further corroborated by the fact that the reduction in crime (as well as the higher likelihood of cooperation) is more pronounced the larger the share of same-party neighbors, is independent of the party's identity, and is not accounted for by political alignment with state or federal authorities.

Our research relates to various streams of literature. First and foremost, our work contributes to the literature on decentralization in federal systems by providing novel evidence that, in the presence of geographical spillovers, inter-jurisdictional cooperation can lead to more effective provision of local public goods. Although our findings are specific to the area of law enforcement and public security, we believe that some of the insights from our analysis can apply to other areas of public policy involving inter-jurisdictional spillovers.

In this respect, our contribution relates to recent work by Acemoglu et al. (2013) on the effect of local state capacity in the context of Colombia, which highlights the importance of using a network approach to study spillovers effects on public good provision and economic development.

Our contribution is also related to the literature on the role of coordination in the implementation of crime-reducing policies. While previous contributions have focused on coordination between local and federal police (Dell, 2015), or between different police forces at the federal level (Soares and Viveiros, 2017), we focus on horizontal coordination between local police forces operating in geographically distinct (but adjacent) locations, an aspect which economists have largely disregarded or examined only indirectly (Wheaton, 2006).

Our work also relates to previous studies on the importance of political alignment (Dell, 2015; Brollo and Nannicini, 2011). While these contributions focus on the impact of shared party affiliation between local and central authorities - on drug-related crime deterrence in Mexico and on federal transfers to municipal government in Brazil respectively - evidence that political alignment can mitigate coordination problems between jurisdictions at the same administrative level is very scant. In this respect, the closest contribution to ours is probably the one Lipscomb and Mobarak (2015) who, looking at the impact of decentralization on pollution spillovers in Brazil, document lower cross-border pollution when neighboring counties share party affiliation.

Finally, from a methodological perspective, our work relates to numerous studies that have exploited close elections to identify the impact of party affiliation on a variety of political and economic outcomes[3]. A novelty of our approach is the use of an RDD setup to examine the spatial dimension of cooperation in a rather parsimonious and intuitive fashion.[4]

The remainder of the paper is organized as follows. Section 2 provides background information on the Mexican political and institutional system. Section 3 describes the data used in the empirical analysis. Section 4 illustrates the empirical strategy and presents the main findings. Section 5 concludes.

2 | BACKGROUND ON MEXICO

The Mexican context is particularly well-suited for an empirical analysis of the impact of cooperation among local police forces on violent crime. Indeed, during the period analyzed in this paper, homicide rates in Mexico sharply increased. As depicted in Figure A.1 - which shows the evolution of the number of monthly homicides recorded in the country since 2000 - while until 2006 the incidence of homicides remained relatively constant (around 1,000/month), since 2007 the number of homicides steadily increases, reaching more than 2,000/month by the end of 2010. This unprecedented surge in violent crime in Mexico has made the object of a growing literature in social sciences to which this paper attempts to contribute.

[3]Examples include: Lee (2001); Lee et al. (2004); DiNardo and Lee (2004); Pettersson-Lidbom (2008); Dal Bó et al. (2009); Eggers and Hainmueller (2009); Ferreira and Gyourko (2007); Cellini et al. (2010); Gerber and Hopkins (2011); Boas and Hidalgo (2011); Folke and Snyder (2012); Gagliarducci and Paserman (2011)

[4]Recent contributions have questioned the use of RDD based on close elections documenting that, in some cases, even victory in very close elections can be significantly correlated with observable attributes of one of the candidates, such as incumbency status or political alignment with officials in charge of monitoring the elections (Snyder, 2005; Caughey and Sekhon, 2011a; Grimmer et al., 2012). However, a recent study by Eggers et al. (2015) - which combines data from 40,000 close elections in ten countries - shows that this type of concern is specific to races for the U.S. House in the post-war period, and does not generalize to other type of races or to other countries, including Mexico.

Most observers view the increase in homicides as a direct consequence of the federal government's strategy against drug-related organized crime, which has been primarily focused on neutralizing drug cartel leaders, resulting in increased violent conflict among factions for the control of the territory (Guerrero-Gutiérrez, 2010; Dell, 2015). In this paper we do not attempt to identify the causes of the observed increase in violent crime; rather, we try to shed light on whether better coordination among local polices can be instrumental to its containment.

Indeed, poor coordination can be especially problematic in the context of Mexico's highly fragmented security apparatus, in which, as estimated by Sabet (2012), over 3,000 police forces coexist. Municipal polices, in particular, play a central role in this system and account for over 40% of Mexican total law enforcement officers (Guerrero-Gutiérrez, 2010). According to a report by the Directorate General for the Coordination and Development of State and Municipal Polices - a division of the Federal Ministry for Public Security - leaked to the press in 2010, as of that year 2008 of Mexico's 2445 municipalities had a local police force.[5] The Mexican Constitution (as amended in 1983 and 1999) establishes that responsibilities in the domain of public safety are shared between the federal government, states, and municipalities "within their competences", and explicitly indicates "preventive policing" as one of competences of municipal governments. As head of the municipal government the mayor is the highest authority in the domain of public security. The mayor nominates and can remove all top public security officials - including the chief of the local police and the director of the municipal prison system - and presides over all agreements of cooperation with other municipalities. Indeed, the Constitution explicitly acknowledges the possibility for municipal governments to cooperate with each other to improve the provision of local public goods, including law enforcement. Cooperation between different municipalities in the area of law enforcement usually operates through the creation of inter-municipal councils in which officials from all municipalities share information and discuss how to best coordinate their efforts. While in some states the creation and functioning of these councils is explicitly regulated by the law, in others councils have emerged spontaneously and operate according to mostly informal procedures.

As suggested by anecdotal evidence, the mayor's party affiliation can have a considerable impact on the functioning, priorities, and policing style of municipal forces.[6] More importantly, in the context of Mexico's highly polarized political landscape, political divisions between mayors of neighboring municipalities, and the tensions that may derive from them, may further hinder inter-jurisdictional cooperation and have, in some cases, even resulted in actual confrontation between different local police forces Davis (2006); Tapia (a,b). In our empirical section we present evidence that differences in party affiliation between

[5] Of the 417 municipalities with no municipal police 362 were located in the state of Oaxaca, while the remaining ones were distributed among 17 other states. Since municipalities from the state of Oaxaca are excluded from our sample for other reasons (discussed below), almost all the municipalities we look at had a local police force in the period of interest.

[6] A curios example of how the mayor's party affiliation can impact even the most basic aspects of local police organization - such as equipment purchases - is reported by Sabet (2012): "PAN administrations argue that police the world over wear blue uniforms and therefore issue uniforms and vehicles in blue. However, blue happens to be the color of the PAN party, and PRI governments have tried to emphasize other colors. When PRI Hank Rhon came to office in Tijuana in 2004 after fifteen years of PAN rule, he gave the police new black uniforms, repainted the police cruisers black, and created a new emblem for the police. Hank Rhon sold the action as symbolic of a new police force that was making a break from the past and reinventing itself, but the partisan undertone was unmistakable. When the PAN returned to office in 2007, they reversed the previous administration's changes, issued new blue uniforms, painted the patrol cars blue, and returned to the old police emblem. Mexicali's PAN administration repainted the city's black-and white cruisers blue when it came into office in 2007. Hermosillo's new PRI government, on the other hand, chose to paint the formerly blue police cars orange, a color they argued is the color of Hermosillo and not of any political party."

neighbors are indeed associated with lower cooperation in various areas of policy making, particularly in the area of law enforcement.

In light of the fragmentation and scarce coordination of Mexican police forces, it is not surprising that an animated debate on the opportunity of reforming the current organization of the Mexican security apparatus has emerged among Mexican policy-makers, including at the highest level. In October 2010, for example, the then president Felipe Calderón Hinojosa proposed a bill for the creation of a single-command national police force, motivated by the need to foster coordination and increase homogeneity in the operation of local police forces. A similar reform was proposed by his successor, president Enrique Peña Nieto. With a similar motivation, since 2011 the National Conference of Mexican Governors (CONAGO, a periodic summit of Mexican State governors) has implemented regular cooperative efforts aimed at reinforcing information sharing among local police forces engaged in operations against crime. Andrés Manuel López Obrador's strategy for combatting organized crime was the creation of the National Guard, a national-level security force. While these initiatives have not yet been rigorously evaluated, they indicate that local authorities recognize the need for better coordination as an instrument to combat crime in a more effective way.

Recent academic contributions on violence in Mexico have also discussed the importance of cooperation among police forces. In particular, Dell (2015) presents evidence on the impact of improved coordination between federal and local police on drug-related crime and finds that improved opportunities for cooperation between local and federal governments (proxied by the degree of political alignment) result in a *higher* number of drug-related homicides. However, to the best of our knowledge, no previous empirical study has attempted to measure the impact of improved horizontal cooperation among local police forces.

Before moving to the empirical analysis we provide additional details on the Mexican institutional and political context during the time period we examine. Mexico is a multi-party competitive democracy in which, until recently, three major political parties disputed most of the positions at stake in local and federal elections: the Institutional Revolutionary Party (PRI), the National Action Party (PAN), and the Party of the Democratic Revolution (PRD).[7] With regard to the parties' ideological position, while PAN is right-to-center and PRD left-to-center, PRI is generally considered as centrist. While federal and state elections are held every six years, municipal elections are held every three years with all the municipalities in a state voting at the same time. During the time period analyzed, in both local and federal elections the three major parties - particularly PRI and PRD - generally formed coalitions with smaller parties, although in the vast majority of these cases, the coalition candidate was drawn from the major party. It was hence very likely that when the coalition led by one of the major parties prevailed in two neighboring municipalities, the elected mayors would belong to the same party. In addition, regular elections for mayor are only held in 146 of the 570 municipalities in the state of Oaxaca. In this state, characterized by the highest concentration of indigenous population in Mexico, local leaders in most municipalities are selected according to traditional mechanisms that differ considerably from conventional electoral processes and that largely exclude national political parties from local political competition.[8] For this reason, we also exclude municipalities in the state of Oaxaca from

[7]The Mexican political landscape changed substantially in 2012 when former PRD presidential candidate, Andrés Manuel López Obrador, left the PRD to form a new political party, the National Regeneration Movement (*Movimiento Regeneración Nacional*, MORENA). The creation of this party implied an important reconfiguration of the political landscape in the country, including important (not easily observed) changes in local politicians' loyalties. In the 2018 federal elections MORENA would emerge as the country's most voted party paving the way for the election of López Obrador as president.

[8]More information on these systems, defined as "Usos y Costumbres" (Uses and Customs) in the 1995 state constitution, is available from Benton (2011) and Anaya (2006).

our sample.

3 | DATA

The data used in our empirical analysis come from a variety of sources. Detailed geographic information on Mexico's administrative divisions is available from the Mexican Institute for Statistics and Geography (INEGI). We use these data to identify, for each municipality, the set of neighbors, defined as those municipalities with which the municipality shares at least one boundary.

To examine the relationship between mayors' shared party affiliation and inter-municipal cooperation, we use data from two surveys: (1) the National Survey of Municipal Governments (Encuesta Nacional de Gobiernos Municipales, ENGM) conducted by the Ministry for Social Development (Secretaría de Desarrollo Social, SEDESOL) in 2004 and (2) the National Survey of Municipal Government, Public Safety and Justice (ENGSPJM) in 2009. Both surveys aimed to gather information about the management and performance of municipal institutions and surveyed all mayors who were in office at the time of the survey. Crucially for the purpose of our analysis, the survey contains information on whether each municipality participates in any cooperation agreement with other municipalities the year before the interview, with which ones, and in what policy domain (e.g. public safety, water management, schooling, etc.).

Electoral data for elections held between 2000 and 2012 is available from the Mexican Research Center for Development (CIDAC). This data is used to identify the party affiliation of the mayors of each municipality. As mentioned, Mexican municipalities hold elections every three years to renew their local authorities. While all municipalities in a state vote in the same year, municipalities in different states may hold elections in different years. Table A.1 reports, for each state, the election years for which electoral data are used (i.e., those in which the party that won or came second ruled the majority of neighboring municipalities) and the number of close elections (those with less than five percent margin). For each municipality in each year, the data include the total number of votes cast, and those attributed to each party. For every election we identify the two parties with most votes and compute the gap in vote share between the winner and the loser. Additionally, from the outcome of the previous elections, we identify the incumbent's party affiliation.

Figure 1 represents, for example, the distribution of the ruling party across Mexican municipalities in 2008. While some areas are largely controlled by a single party, there is considerable spatial heterogeneity in party's influence both across and within regions. Using this information, we compute, for each municipality, the share of neighboring municipalities controlled by each of the three main parties at the time the mayor took office. While for neighboring municipalities within the same state we consider the party of the mayor elected in the same electoral cycle, for out-of-state neighbors which did not hold elections in the same year, we consider the party in power at the time of the election.

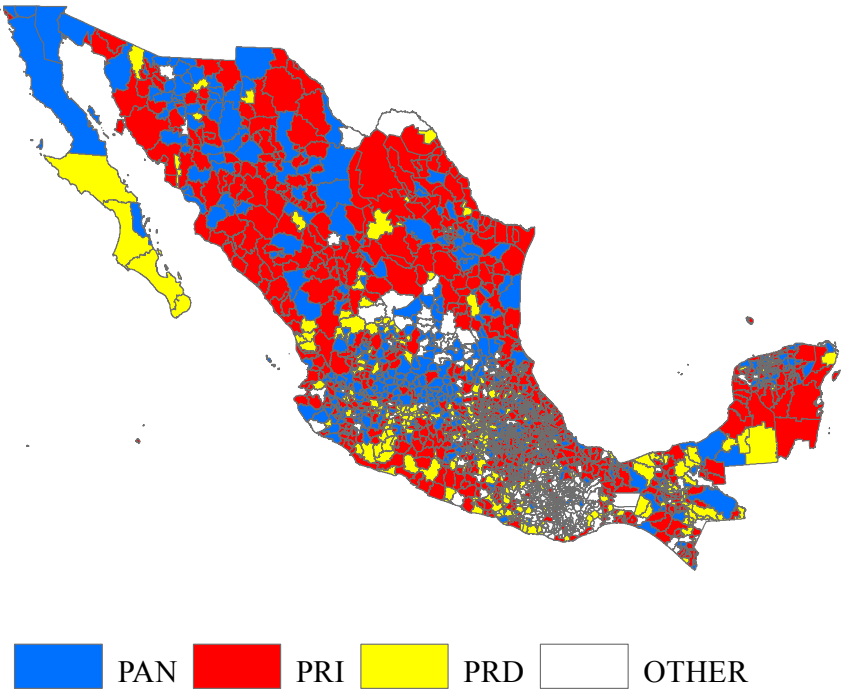


FIGURE 1 Municipalities by Mayor's Party Affiliation (2008) *Notes:* The figure shows the party affiliation of mayors in Mexican municipalities as of 2008. Data from the Mexican Research Center for Development (CIDAC).

To measure the incidence of violent crime, we consider the number of homicides in each municipality in the years following the relevant election. Homicide statistics, available from INEGI, are derived from demographic administrative records and include the total number of homicides recorded each year in each municipality between 2000 and 2015. Statistics of total population, annual deaths and area for each municipality, were also obtained from INEGI. Additionally, we use INEGI judicial administrative records to obtain data about prosecutions for homicides and homicides sentences. Finally, we use data on a variety of socio-economic at the municipal level which we include as controls in our regressions. These are (all of them measured in pre-treatment periods): human development index, available from the United Nations Development Program, and share of households with access to sewage, electricity and running water, available from the Marginalization Index conducted by the National Council of Population (Consejo Nacional de la Población, CONAPO).

4 | EMPIRICAL RESULTS

Our goal is to empirically investigate the relationship between political alignment, on the one hand, and inter-jurisdictional cooperation and crime reduction, on the other. We discuss how, to overcome possible identification challenges, we exploit exogenous variation in party alignment due to close elections for a restricted sample of municipalities.

4.1 | Empirical Strategy

A naive OLS regression is unlikely to provide an unbiased estimate of the causal impact of political alignment on cooperation and the prevention of violent crime. One source of bias, for example, derives from the fact that voters' political preferences, and hence electoral

outcomes, may be influenced by the ability of mayors to reach cooperation agreements with other municipalities or the level of violent crime in the municipality. An alternative possibility is that third factors, such as the presence of drug cartels, may affect both the incidence of violent crime, and the electoral prospects of different candidates. To better isolate the causal impact of political alignment on both cooperation and violence, we use a regression discontinuity design (Imbens and Lemieux, 2008; Lee and Lemieux, 2009). In particular, following previous studies on the impact of party identity on socio-economic outcomes (Dell, 2015; Lee et al., 2004), we exploit the arguably exogenous discontinuity in the identity of the ruling party in a municipality given by its victory in a close election.

Since we are interested in the degree of political alignment between a given municipality and *all* of its neighbors, we look at those municipalities for which more than 50% of the neighboring municipalities were governed by the same party, and, among these, focus specifically on those municipalities in which the party governing the majority of neighbors won or lost by a small margin. Indeed around the discontinuity municipalities in which the party ruling in most of the neighbors barely won would experience an exogenous shock in their capacity of cooperating with neighbors. Figure 2 illustrates the basic intuition behind our identification strategy by means of an example. The figure depicts two municipalities in the state of Veracruz holding local elections in 2007: Samahil (shaded red area) and Timucuy (shaded blue area). Both municipalities share a border with five other municipalities, three of which were governed by the PRI, one by the PAN, and one by a minor party. However, while in Timucuy the PAN won over the PRI by a small margin, in Samahil the PAN lost to the PRI by a similarly small margin. Our identification strategy is based on the comparison of post-election outcomes between ex-ante similar municipalities some of which - like Samahil - became politically aligned with the majority of their neighbors and others - like Timucuy - that did not. Noteworthy, we define neighborhood majority as having 50% or more of neighboring municipalities governed by the same party. This definition assigns an equal weight to each neighbor and follows the concept of simple majority. Below we explore the significance of this 50% threshold, as well as alternative weights based on neighboring population and the extent of shared borders.

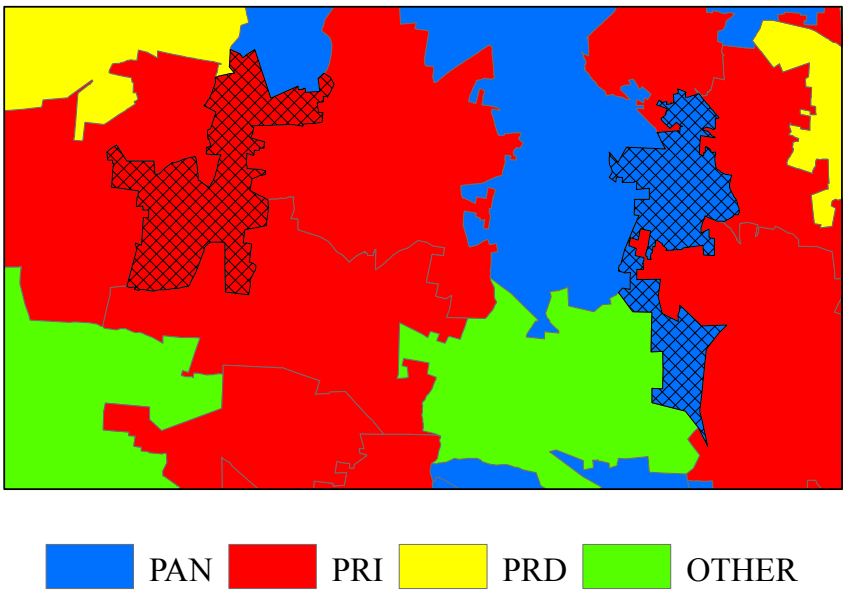


FIGURE 2 Example of Political Alignment with Neighboring Municipalities *Notes:* The figure shows the party affiliation of mayors in some municipalities of the State of Veracruz 2007. Samahil and Timucuy are respectively the red and blue shaded areas. Data from the Mexican Research Center for Development (CIDAC).

Since our data on cooperation agreements is for 2008 and 2003 (from surveys carried in the years 2004 and 2009), we only use close elections held on the immediately previous three years (i.e., from 2000 to 2003 and from 2005 to 2008) when looking at the relationship between political alignment and inter-jurisdictional cooperation. When looking at violent crime, instead, we use all close elections from 2005 and 2012 so as to exploit variation from a larger sample during a period of increasing crime (Nonetheless we are going to also analyse the role of those elections taking place before 2005).[9]

We estimate a non-parametric local linear regression focusing on the sample of municipalities with at least 50% of neighbors governed by the same party, and in which that party won or lost the election by a small margin. We follow two approaches to define a small margin (i.e., the bandwidth in our regression discontinuity design). First, we optimally choose bandwidth following a data-driven selection algorithm (i.e., mean-square-error selection) (Calonico et al., 2019). Second, following the related literature of close elections, we choose an ad-hoc bandwidth of 0.05. The following equation summarizes our empirical strategy:

[9] A natural question is whether the municipalities included in our close election samples are substantially different from the ones excluded. In Table A.2 we report descriptive statistics for the municipalities in our restricted samples in the two RDD analyses (i.e., close elections). Following the related literature, we define as close election a municipal election with a vote margin below 5 percent. Top Panel focuses in the comparison between municipalities in our cooperation sample (495 close elections) and municipalities not included in this sample. In bottom panel we do the same comparison with focus on municipalities used in the crime analysis (591 close elections). Notably, there are no difference in crime rates between our sample and the excluded municipalities. While in both panels in Table A.2 we find statistical differences in some variables, suggesting that places where election are especially competitive may differ from the rest of Mexican municipalities in some dimensions, these differences does not seem large and do not point to a particular direction that may question the external validity of the estimates presented below. Noteworthy, municipalities in our sample are between 5 and 6 p.p. less likely to have a PRI affiliated governor and have a lower percentage of households with sewage as well as slightly lower levels of HDI.

$$y_{ist} = \alpha_0 + \alpha_1 NPwin_{is} + F(Sp_{is}) + \delta X_{is} + \gamma_{st} + \varepsilon_{is} \quad (1)$$

where the subscript ist indicates municipality i located in state s during election year t; y_{ist} is the outcome of interest, i.e., a dummy variable for whether municipality i is part of an agreement with any of its neighbors, or homicide rates in the three years after the election; $NPwin_{is}$ is a dummy variable for whether the party governing 50% or more of i's neighbors won the election in municipality i; $F(\cdot)$ is a flexible function of Sp_{is} which is the difference between this party's vote share and that of its closer competitor; finally, X_{is} is a vector of characteristics of municipality i in state s, including a range of socio-economic characteristics described above (i.e., demographic controls and state capacity indicators)[10]. In all regressions we include state-election year fixed-effects (γ_{st}), and cluster standard errors at the state-year level.

For our empirical strategy to correctly estimate the causal effect of political alignment two key assumption must be satisfied: i) the outcomes of interest must vary smoothly with respect to the margin of victory (or loss) of the party governing most of the municipality's neighbors, ii) only the treatment - that party's victory - must have an effect on the outcome of interest at the discontinuity (Caughey and Sekhon, 2011b). To shed light on this aspect, in Table 1 we report the differences in means between observations on each side of the discontinuity for all control variables included in the regressions and an extended set of political variables, and also present the results of simple regression discontinuity analyses (adjusting a linear trend on each side of the discontinuity for the relationship between each outcome and the vote spread) using each of the aforementioned variables as dependent variable. The fact that no statistically significant difference in any but one of these characteristics is observed between municipalities in which the party ruling the majority of neighbors barely won or lost the election is reassuring of the fact that the municipalities in the two groups were not dissimilar *ex ante*.[11] Notably, no statistically significant differences emerge in homicide rates recorded in the three years prior to the election, which in principle should not be affected by the posterior political shock. This suggests that political alignment is unrelated to pre-existing crime patterns. [12] Finally, in Figure A.2 we plot two kernel density functions for the margin of victory and a manipulation test using local polynomial density estimation for all municipalities with with crime data (left figure) and cooperation data (right figure). It shows no evidence of manipulation, self-selection or nonrandom sorting of municipalities into control and treatment status in any of our samples (p-values of 0.87 and 0.33, respectively).

[10]The set of demographic controls includes population density, human development index, death rates, total number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. All the set of time-varying controls are measured in pre-treatment periods (i..e, before the relevant election takes place)

[11]When looking at the regression discontinuity estimates in column 5 of Table 1, the only exemptions for statistically significant differences are a lower probability of the majority of neighbor governed by PAN and a slightly larger number of neighbors and death rates in pre-treatment period in the cooperation sample. Notably, no such statistical differences emerge in our crime sample. In any event, while these differences seem to be economically small, in all regressions presented below we control for the entire set of pre-treatment characteristics, though their inclusion does not affect our results.

[12]Figures A.3 and A.4 show the RDD plots for the residualized covariates (i.e., after controlling for state x year fixed effect to approximate our main specification) discussed in both panels of Table 1 on vote margin using a quadratic polynomial to approximate the population conditional expectation functions for control and treated municipalities.

TABLE 1 Political Alignment, Cooperation and Crime: Sample Statistics

Panel A: Cooperation Sample

	Party ruling majority of neighbors won by less than 5 (1)	Party ruling majority of neighbors lost by less than 5 (2)	Difference (3)	t-stats on Mean Differences (4)	RD Estimate (5)	Std. Errors RD Estimate (6)
Homicide Rates Previous Mandate (per 100,000)	29.743	31.937	2.194	0.514	8.059	[9.617]
PAN affiliated governor	0.238	0.265	0.027	0.702	-0.114	[0.133]
PRI affiliated governor	0.602	0.611	0.01	0.217	0.051	[0.158]
PRD affiliated governor	0.192	0.154	-0.038	-1.105	0.066	[0.120]
Majority of Neighbors PAN	0.13	0.103	-0.028	-0.956	-0.135*	[0.075]
Majority of Neighbors PRI	0.759	0.833	0.075*	2.056	0.063	[0.104]
Majority of Neighbors PRD	0.107	0.064	-0.043	-1.704	0.061	[0.079]
PAN affiliated incumbent	0.238	0.218	-0.02	-0.518	-0.079	[0.084]
PRI affiliated incumbent	0.648	0.62	-0.028	-0.641	0.071	[0.105]
PRD affiliated incumbent	0.103	0.154	0.05	1.681	0.022	[0.069]
Area (sq km)	940.972	1031.983	91.011	0.471	-530.048	[371.170]
Number of Neighboring Municipalities	5.854	5.761	-0.094	-0.523	0.883**	[0.346]
Population Density	152.901	236.38	83.48	1.454	-143.696	[192.902]
Death Rate	408.586	401.428	-7.158	-0.469	70.383**	[34.212]
Human Development Index	0.724	0.727	0.003	0.367	-0.031	[0.022]
Percentage of HH with no sewage	17.337	16.513	-0.824	-0.551	2.094	[3.658]
Percentage of HH with no electricity	7.304	7.911	0.608	0.684	-0.885	[1.885]
Percentage of HH with no water	17.876	18.106	0.23	0.128	0.251	[4.073]
Observations	261	234	495			

Panel B: Crime Sample

	Party ruling majority of neighbors won by less than 5 (1)	Party ruling majority of neighbors lost by less than 5 (2)	Difference (3)	t-stats on Mean Differences (4)	RD Estimate (5)	Std. Errors RD Estimate (6)
Homicide Rates Previous Mandate (per 100,000)	36.878	43.054	6.176	-0.907	21.071	[15.329]
PAN affiliated governor	0.235	0.211	-0.024	-0.684	-0.002	[0.139]
PRI affiliated governor	0.622	0.656	0.034	-0.854	-0.07	[0.153]
PRD affiliated governor	0.192	0.203	0.011	-0.333	0.02	[0.135]
Majority of Neighbors PAN	0.173	0.115	-0.058*	-1.972	0.028	[0.080]
Majority of Neighbors PRI	0.742	0.805	0.062	-1.785	-0.079	[0.092]
Majority of Neighbors PRD	0.082	0.08	-0.001	-0.06	0.042	[0.070]
PAN affiliated incumbent	0.279	0.264	-0.014	-0.39	0.054	[0.091]
PRI affiliated incumbent	0.564	0.517	-0.046	-1.124	-0.033	[0.096]
PRD affiliated incumbent	0.13	0.176	0.046	-1.551	-0.052	[0.072]
Area (sq km)	1170.79	1466.779	295.989	-1.083	-372.83	[513.056]
Number of Neighboring Municipalities	5.661	5.709	0.048	-0.29	0.284	[0.382]
Population Density	214.344	151.226	-63.117	-1.257	64.291	[86.208]
Death Rate	422.36	412.086	-10.273	-0.684	27.094	[34.479]
Human Development Index	0.761	0.762	0.001	-0.197	-0.015	[0.015]
Percentage of HH with no sewage	13.356	13.307	-0.049	-0.038	4.551	[4.294]
Percentage of HH with no electricity	4.65	5.492	0.842	-1.344	2.263*	[1.289]
Percentage of HH with no water	16.961	15.83	-1.13	-0.701	8.626	[5.250]
Observations	330	261	591			

Note: This table reports mean values for the variables used in the analyses respectively for municipalities in which the party ruling the majority of neighboring municipalities won and lost by a small margin, i.e. Bandwidth (columns 1 and 2). It also reports the t-stat on the difference in the means of each variable between the two samples (column 4), the respective regression discontinuity estimates (column 5) and the corresponding standard errors clustered at the state-year level (column 6). The RD estimate (local linear regression) is the coefficient of the Majority Wins variable in a regression of the variable listed at the left. Panel A shows the results for the sample of the main analysis of cooperation, which includes all municipal close elections (i.e less than five percent margin) between 2005 and 2008 in which the party that won or came second ruled the majority of neighboring municipalities (495 observations). Panel B presents the results for the sample for our crime main analysis. This sample considers all the municipal close elections (i.e less than five percent margin) in which the party that won or came second ruled the majority of neighboring municipalities (591 observations). *** p<0.01, ** p<0.05, * p<0.1.

4.2 | Political alignment and inter-jurisdictional cooperation

We start by examining whether mayors affiliated to the same party are indeed more prone to encourage cooperative behavior when they are part of a local majority. We pay special attention to the case of public security agreements and information-sharing by their respective municipal police departments. This could be due to closer personal connections between fellow party members operating in the same area, or to shared views regarding crime-

reduction strategies and priorities. Party discipline is also likely to play a role particularly in a country like Mexico where politicians cannot run for re-election and have strong incentives to earn the support of party leaders who influence future nominations and appointments for higher offices (Sabet, 2012; Guillén López, 2006).To test the relationship between political alignment and horizontal cooperation we combine data on mayors' party affiliation and on the existence of cooperation agreements between neighboring municipalities.

Our analysis proceeds as follows. Based on the mayors' responses to the ENGM's survey in 2004 and the ENGSPJM's survey in 2009, we construct indicator variables for the existence of bilateral cooperation between each municipality and its neighboring municipalities. We identify agreements with any neighbor and with any neighbor of the same party (so-called "aligned municipality"). We also identify the existence of agreements with any municipality regardless of geographical proximity. Further, we classified agreements by domain (i.e., any domain, public safety, water services, etc). Table 2 shows estimates of equation 1 using as dependent variables different measures for both the extensive and intensive margin of cooperation agreements. In columns 2 to 3, we focus on a dummy variable that takes the value of one if the municipality reported at least one cooperation agreement in any domain with any municipality (regardless of geographical proximity), with any neighboring municipality, and with any aligned neighboring municipality, respectively. Focusing only in neighboring municipalities, in columns 4 to 7 we look at the number of municipalities (even columns) and the share of neighbors (odd columns) with cooperation agreements in any domain. Panel A shows the results using a data-driven optimal bandwidth selection whereas Panel B shows the one for a 0.05 ad-hoc bandwidth. In Panel A we also report robust bias-corrected p-values accounting for the bias involved in the estimation of the optimal bandwidth used.[13]

TABLE 2 Party Alignment and Inter-Municipal Cooperation

	Extensive Margin of Cooperation			Intensive Margin of Cooperation			
	Dummy=1 if there is a cooperation agreement with			Any Neighbor		Aligned Municipality	
	Any Municipality (Mean: 0.32)	Any Neighbor (Mean: 0.29)	Aligned Municipality (Mean: 0.2)	Count (Mean: 0.57)	Share of Neighbors (Mean: 10.4)	Count (Mean: 0.33)	Share of Neighbors (Mean: 6.1)
Panel A: Optimal Bandwidth	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Majority Wins	0.113**	0.178***	0.283***	0.358***	8.164***	0.553***	10.02***
	(0.0508)	(0.0537)	(0.0469)	(0.119)	(2.625)	(0.0840)	(1.676)
Robust bias-corrected p-values	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Opt Bandwidth	0.0834	0.0695	0.0720	0.0771	0.0749	0.0808	0.114
effective number observations left	343	304	302	333	323	329	438
effective number observations right	433	370	374	406	392	421	565
Panel B: Ad Hoc Bandwidth 0.05	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Majority Wins	0.155**	0.191***	0.302***	0.396***	8.734***	0.660***	14.23***
	(0.0630)	(0.0611)	(0.0551)	(0.153)	(3.159)	(0.0911)	(2.393)
effective number observations left	234	234	225	234	234	225	225
effective number observations right	261	261	259	261	261	259	259
Observations	1,850	1,850	1,815	1,850	1,850	1,815	1,815
State x Year FE	Y	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y	Y

Note: This table shows the results for the RDD exercises that study the relation between political alignment and inter-municipal agreements in 2003 and 2008. The sample for this analysis includes municipalities that had elections taking place within 3 years before 2003 or 2008 and in which the party ruling the majority of neighboring municipalities won and lost by small margin (i.e. Bandwidth). Majority wins is a dummy for whether the candidate of the party that governs the majority of neighboring municipalities is elected mayor. The dependent variables are different measures of the intensive and extensive margin of agreement of certain type as reported in the two surveys. Columns 1 to 3 presents the results for a dummy that equals one when the municipality reported an agreement for cooperation in any domain with any municipality, a neighboring municipality, and a politically-allied neighbor, respectively. Focusing only on neighboring municipalities, in columns 4 to 7 we look at the number of municipalities (even columns) and the share of neighbors (odd columns) with cooperation agreements in any domain. Panel A and Panel B present the results of the estimations using an Optimal Bandwidth and an Ad Hoc Bandwidth of 0.05, respectively. Robust standard errors clustered at the state x year level in brackets. The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. *** p<0.01, ** p<0.05, * p<0.1. When using optimal bandwidth selection, significance levels are based on the reported robust bias-corrected p-values.

[13] Since the optimal bandwidths in Panel A are estimated separately for each outcome, the number of observations may vary depending on the outcome under study.

Several patterns emerge from the results in Table 2. First, our main qualitatively results are virtually unaffected by the approach followed for the definition of small margin (i.e., bandwidth). Second, for all the different definitions of the dependent variable we find that political alignment with neighbors' majority displays a positive effect on both the likelihood of having an agreement and the intensity of cooperation. Third, political alignment with the majority of neighbors increases the likelihood of cooperation regardless of geographical proximity (column 2) or the political affiliation of the involved neighboring municipalities (column 3). However, it is worth noting that the majority of agreements occur between neighboring municipalities, specially between municipalities of the same party (column 3). Point estimate in column 2 of Panel A in Table 2 suggests that the likelihood that a municipality will participate in a cooperation agreement with its neighbors in any domain increases by approximately 18 percentage points when the municipality aligns politically with the majority of its neighbors. Fourth, the impact of political alignment with the majority is stronger, and more precisely estimated, for cooperation agreements with politically aligned municipalities (columns 3). In particular, the likelihood of cooperation in any domain with a politically aligned municipality increases between 28 and 30 percentage points when a municipality gets aligned with the majority of its neighbors after a close election. Fifth, We find a similar pattern when we look at the number of neighbors with whom agreements are made or the fraction of these compared to the total number of neighbors. Specifically, political alignment with the majority of neighbors increases between 8 and 14 percentage points the prevalence of agreements with neighbors (see columns 5 and 7 in both panels).[14]

TABLE 3 Party Alignment and Inter-Municipal Cooperation by Type of Agreement

	Dependent variable: Dummy=1 if there is a cooperation agreement with a neighboring municipality							
	Public Safety		Garbage Collection		Road Maintenance		Water Services	
	Any Municipality (Mean: 0.07)	Aligned Municipality (Mean: 0.05)	Any Municipality (Mean: 0.05)	Aligned Municipality (Mean: 0.03)	Any Municipality (Mean: 0.01)	Aligned Municipality (Mean: 0.01)	Any Municipality (Mean: 0.02)	Aligned Municipality (Mean: 0.01)
Panel A: Optimal Bandwidth	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Majority Wins	0.0299	0.0783***	0.0635**	0.0599***	0.0164**	0.00806**	0.0307***	0.0174**
	(0.0323)	(0.0294)	(0.0316)	(0.0226)	(0.00817)	(0.00408)	(0.0116)	(0.00775)
Robust bias-corrected p-values	0.41	0.02	0.04	0.01	0.07	0.07	0.01	0.04
Opt Bandwidth	0.108	0.0835	0.0675	0.0763	0.0792	0.164	0.108	0.154
effective number observations left	410	326	279	312	322	521	410	512
effective number observations right	517	412	340	383	397	724	517	698
Panel B: Ad Hoc Bandwidth 0.05	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Majority Wins	0.0714	0.111***	0.0632*	0.0584**	0.00786	0.00456	0.0621**	0.0318
	(0.0479)	(0.0349)	(0.0368)	(0.0264)	(0.00956)	(0.00947)	(0.0258)	(0.0194)
effective number observations left	220	220	220	220	220	220	220	220
effective number observations right	250	250	250	250	250	250	250	250
Observations	1,745	1,745	1,745	1,745	1,745	1,745	1,745	1,745
State x Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y	Y	Y

Note: This table shows the results for the RDD exercises that study the relation between political alignment and inter-municipal agreements in 2003 and 2008 by type of agreement. The sample for this analysis includes municipalities that had elections taking place within 3 years before 2003 or 2008 and in which the party ruling the majority of neighboring municipalities won and lost by small margin (i.e. Bandwidth). Majority wins is a dummy for whether the candidate of the party that governs the majority of neighboring municipalities is elected mayor. The dependent variables are different dummies that equal one if at least on agreement of certain type was reported in surveys. Panel A and Panel B present the results of the estimations using an Optimal Bandwidth and an Ad Hoc Bandwidth of 0.05, respectively. Robust standard errors clustered at the state x year level in brackets. The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. *** p<0.01, ** p<0.05, * p<0.1. When using optimal bandwidth selection, significance levels are based on the reported robust bias-corrected p-values.

In Table 3 we focus on the extensive margin of cooperation by type of agreement focusing in any neighbor (odd columns) and politically aligned neighbors (even columns).[15] For most

[14] As neighboring municipalities belonging to different states may have elections at different times, there is a possibility that the party of the majority of neighbors at the time of the election may be different from the majority party at the time the agreements are declared. It is not clear to us, however, what kind of bias this potential measurement error could introduce in the estimation of our point estimate. Nevertheless, in the Table A.3, we show that our main results from Table 2 remain when we exclude from our sample all municipalities that have neighbors in other states.

[15] For completeness, Table A.4 shows results from simple OLS regressions of cooperation agreements on a

of the agreements the impacts are sizeable. For instance, the likelihood that a municipality will participate in a cooperation agreement with its neighbors in the area of law enforcement and public safety increases between 8 and 11 percentage points (columns 2 in Panel A and B, respectively) when it is governed by the same party as the majority of them. This probability increase represents between 150% and 200% of the mean value of prevalence of cooperation agreements in public safety. However, an interesting result emerges when we look at public safety agreements with any municipality regardless of the political alignment with the neighbor: in this case the effect of politically aligning with the majority of neighbors is significantly smaller than that observed for agreements with aligned neighbors. The results in columns 1 and 2 are consistent with the possibility that politically aligning with neighbors could negatively affect the likelihood of cooperation with non-aligned neighbors. Note that this dichotomy does not occur when we look at other types of agreements in areas in which cooperation is more common, i.e., garbage collection (columns 3-4), road maintenance (columns 5-6), and water management (column 7-8): cooperation with neighbors increases when a municipality is governed by the same party as the majority of neighbors. Taking together, these results suggest that, by making coordination and information sharing less costly, shared party affiliation between mayors can facilitates inter-municipal cooperation, in general, and specifically in the area of public safety and law enforcement. Figure A.5 shows RDD point estimates for different combinations of the set of controls in equation 1 and reassures that the exclusion of these controls affects remarkably little our results. Further, Table A.5 shows that our main result do not qualitatively depend on the election of the degree of the polynomial used to construct the main point estimator. Importantly, Figure A.6 presents RDD point estimates for several specifications using different sets of fixed effects at the party level. The figure demonstrates that neither the party of the winner, the incumbent, nor the majority of the neighboring municipality can explain our main results. Indeed, point estimates suggest that our results are not driven by the presence of a particular party.

We next analyze whether the cooperation pattern changes over time by conducting separate analyses for each round of the cooperation surveys. We argue that the incentives for cooperation, particularly for public safety agreements, vary significantly between surveys. This is due to the significant increase in homicide rates that coincided with the implementation of a federal government strategy against drug-related organized crime in late 2006, which affected the benefits of cooperation due to potential inter-jurisdictional externalities. The raw data confirms that cooperation has indeed increased between surveys. For example, the unconditional prevalence of cooperation with neighboring municipalities (regardless of political alignment) increased from 31% to 53% between 2003 and 2008. The increase between surveys is even more pronounced for agreements with politically aligned neighbors. The probability of cooperation with neighboring municipalities ruled by the same party doubled for agreements in any domain, and it increased fourfold for agreements on public safety. In Table 4 we empirically test whether the impact of politically alignment neighboring majority on cooperation changed over time. Results in Panel A suggests that the differential increase in the likelihood of cooperation with politically aligned neighbors due to political alignment with the majority is three times larger in 2008 than in 2003 (i.e., the main RDD estimate increased from 0.16 in column 3 to 0.41 in column 4). The changes in the point estimates were even more pronounced for public safety agreements. Our main point estimate was not statistically different from zero in 2003 (column 5 in both panels). However, when a municipality was governed in 2008 by the same party as the majority of

dummy indicating political alignment with the majority of neighbors while controlling for the full set of controls in equation 1. OLS results suggest a positive correlation between political alignment with majority and cooperation with politically aligned neighbors.

TABLE 4 Party Alignment and Inter-Municipal Cooperation by Period

	Dependent variable: Dummy=1 if there is a cooperation agreement with a neighboring municipality					
	Any Municipality		Aligned Municipality			
	Any Domain		Any Domain		Public Safety	
	(Mean: 0.31)	(Mean: 0.53)	(Mean: 0.19)	(Mean: 0.39)	(Mean: 0.02)	(Mean: 0.09)
Panel A: Optimal Bandwidth	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.157**	0.175***	0.160***	0.410***	0.0189	0.144***
	(0.0766)	(0.0657)	(0.0603)	(0.0685)	(0.0280)	(0.0461)
Robust bias-corrected p-values	0.06	0.01	0.02	0.00	0.73	0.00
Opt Bandwidth	0.0765	0.0764	0.0849	0.0679	0.0806	0.0742
effective number observations left	210	119	215	99	213	103
effective number observations right	219	183	238	155	227	157
Panel B: Ad Hoc Bandwidth 0.05	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.240***	0.141	0.254***	0.365***	0.0439	0.161***
	(0.0787)	(0.0947)	(0.0720)	(0.0816)	(0.0309)	(0.0546)
effective number observations left	149	85	148	77	147	73
effective number observations right	148	113	148	111	147	103
Year of Survey	2004	2009	2004	2009	2004	2009
Observations	1,028	822	1,020	795	1,012	733
State x Year FE	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y

Note: This table shows the results for the RDD exercises that study the relation between political alignment and inter-municipal agreements by survey's year. The sample for this analysis includes municipalities that had elections (within 3 years before the survey) in which the party ruling the majority of neighboring municipalities won and lost by small margin (i.e. Bandwidth). Majority wins is a dummy for whether the candidate of the party that governs the majority of neighboring municipalities is elected mayor. The dependent variables are different dummies that equal one if at least on agreement of certain type was reported in surveys. Columns 1 and 2 present the results for a dummy that equals one when the municipality reported an agreement for cooperation in any domain with a neighbor. Columns 3 and 4 show the results for a dummy that identify if there was an agreement, in any domain, with a politically-allied neighbor. Columns 5 and 6 present the results for agreements in public safety with politically-allied neighbors. Panel A and Panel B present the results of the estimations using an Optimal Bandwidth and an Ad Hoc Bandwidth of 0.05, respectively. Robust standard errors clustered at the state x year level in brackets. The set of demographic controls includes population density, human development index , death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. *** p<0.01, ** p<0.05, * p<0.1. When using optimal bandwidth selection, significance levels are based on the reported robust bias-corrected p-values.

its politically aligned neighbors, the likelihood that it would participate in a cooperation agreement with them in the area of law enforcement and public safety increased by 14.4 percentage points (column 6 in Panel A). Figure A.7 confirms our previous analysis: cooperation due to political alignment is substantially more prevalent in 2008 vis-á-vis 2003, especially when agreements are with neighboring municipalities ruled by the same party.[16]

We next explore the role of our definition of majority. So far, we applied the principle of simple majority (i.e., 50% or more) and each neighboring municipality was given the same weight to compute this metric of majority. However, it is worth examining the importance of the 50% threshold and considering alternative weighting methods based on neighboring population or shared border length. Figure 3 depicts estimations of our main coefficient for the impact of political alignment with neighborhood majority on the likelihood of having a cooperation agreement with a politically aligned neighbor for three different weighting schemes and at varying threshold levels defining majority.[17] Before

[16] A natural question is how long it takes for an agreement to be reached once political alignment has been achieved, as well as the specific content of these agreements and the extent to which they have been implemented. Unfortunately, none of the waves of the National Survey of Municipal Government provides information on the date of finalization of these agreements or their content.

[17] Figures A.8 and A.9 present the same analysis for the cases for any cooperation agreement with any neighbor

commenting on the main results in the aforementioned figure, it is worth noting that samples underlying each estimation may differ from each other (thus affecting the computation of the optimal bandwidth). Particularly, as the threshold defining majority increases, sample size decreases (as well as the effective number of observations at both side of the discontinuity).[18] Two key patterns emerge from Figure 3: First, our results are qualitatively robust to the weighting scheme employed in the analysis. Second, the size of the main point estimate is monotonically increasing on the threshold chosen. This result is consistent with the idea that the election of a mayor from a given party in a municipality is more likely to boost inter-jurisdictional cooperation (particularly with municipalities of the same political color) the larger the share of neighboring mayors that belong to that party.

and public safety agreements with politically aligned neighbors, repectively.

[18] To give a sense of these changes in sample size: point estimate for the case of 50% threshold effectively employs approximately 800 observations (see Column 3, Panel A in Table 2) while the case of 90% threshold employs approximately 100 observations.

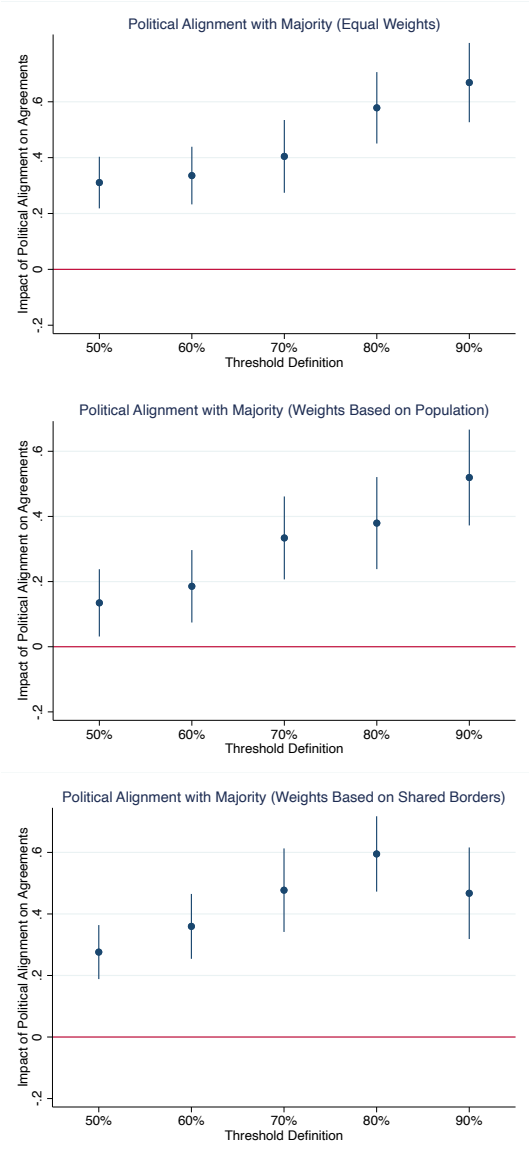


FIGURE 3 Alternative Metrics to Define Majority *Notes:* Figures plot the RDD coefficients and the 95% confidence intervals from separate regressions using different treatment definitions (thus also different samples) based on two dimensions: the weights assigned to each neighboring municipality and the threshold defining majority. Top panel assigns equal weight to each neighboring municipality (as in Table 2), middle panel assigns weights based on neighboring population whereas in bottom panel is based on shared borders. The dependent variable in each regression is a dummy that equals one when there was at least one agreement in any domain with a politically aligned neighbor. Estimations use an optimal bandwidth.

We next analyse potential sources of heterogeneity in Table 5 by rerunning our RDD estimations of equation 1 for different samples defined along a set of characteristics. Specifically, we are interested in understanding the role of vertical integration and incumbency status of the elected major. In panel A we focus on cooperation agreements with any municipality as dependent variable. In Panel B we focus on any agreement with politically aligned neighbor. Finally, in Panel C we focus on public safety agreements with politically aligned neighbors. To ease comparison with previous results, each first column in each Panel shows the baseline results with our main sample. The results in columns 1 and 2 of the three panels

highlight heterogeneity arising from alignment with the state government, based on the type of cooperation and neighbor. In cases where neighboring municipalities do not align themselves with the state government, cooperation with any neighbor, regardless of political affiliation, becomes more challenging even when becoming majority (column 2, Panel A). This indicates that the state government can facilitate agreements in areas where its party holds a significant number of municipal seats. On the other hand, in the absence of vertical alignment with the National government, the probability of cooperation with any neighbor remains identical to the baseline case (column 3, Panel A). In relation to cooperation with neighbors of the same party, the results in columns 2 and 3 of Panel B suggest that neither vertical integration with the State nor National government individually remarkably affects the probability of cooperation when becoming the majority (albeit that for the case of no alignment with national government we observe a point estimate 35% larger than for the baseline). However, when a municipality aligns with the majority of its neighbors but is not vertically integrated with any supra government in column 3, the impact of this local alignment on cooperation is substantially larger than in the general case (note however that sample size is substantially reduced for this specification). In the area of public safety, municipalities are more likely to cooperate with those ruled by the same party, even if they are not vertically aligned with the state government. Moreover, the increase in cooperation is twice as large when this vertical integration is absent (column 2 in Panel C) and almost three time as large when not being politically aligned with the National government (column 3). These findings suggest that vertical and horizontal cooperation can be substitutes in certain areas where the benefits of cooperation are clear (e.g., public safety during times of high homicide rates). More importantly, our main findings do not rely entirely on political alignment with the ruling party at the federal level or a particular party in several dimensions (see discussion of Figure A.6). This further confirmes the importance of horizontal over vertical cooperation as well as the existence of some degree of complementarities between these two dimensions of political alignment.[19]

4.3 | Political alignment and crime

Having established that political alignment incentivizes intramunicipal cooperation, particularly in public safety, we now analyze whether this also helps to reduce crime.[20] Table 6 shows different estimations of equation 1 for different transformations of homicides rates (i.e., total homicides per 100,000 people). For all the homicide variables we consider the number of homicides in each municipality in the three years following the relevant election. We weight our regressions by municipal population.[21] All specifications include state-election year fixed effects and the full set of controls.[22] Eve columns also include as controls our measures of crime in the previous mandate.

Table 6 reports the results for homicide rates.[23] In all specifications political alignment

[19] As shown in Table A.6 the approach followed for the definition of small margin does not play a crucial role for our results in this heterogeneity analysis.

[20] We focus exclusively on violent crime as a potential outcome of cooperation for two reasons. Firstly, as mentioned in the introduction, our period of analysis coincides with a significant increase in violent crimes in Mexico generating strong incentives for cooperation. Secondly, crime data is accessible and of high quality. To the best of our knowledge, there are no available data to measure activities directly related to the provision of other public goods such as garbage collection, road maintenance, and water services.

[21] As discussed in Dell (2015) measurement error in homicide rates is likely to be more important in smaller municipalities. Therefore, weighting the regressions is a standard approach followed in the crime literature. In any case, unweighted regressions deliver slightly larger estimates.

[22] The exclusion of the set of controls affects remarkably little our results. Figure A.10 in the appendix show the point estimates for different permutation of the set of controls.

[23] For completeness, Table A.7 shows point estimate from simple OLS regressions of crime on a dummy indicating

TABLE 5 Party Alignment and Cooperation: Heterogeneity

Dependent Variable: dummy=1 if there is a Cooperation Agreement

Panel A: Cooperation with Any Neighboring Municipality, Any Domain

		Not Vertically Aligned			Incumbency	
	Baseline	with State Gov.	with National Gov.	None	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.178***	0.0511	0.178***	0.0615	0.288***	0.125**
	(0.0537)	(0.0820)	(0.0690)	(0.0661)	(0.0913)	(0.0572)
Robust bias-corrected p-values	0.00	0.35	0.00	0.25	0.00	0.03
Opt Bandwidth	0.0695	0.0480	0.0640	0.0622	0.0579	0.0610
effective number observations left	304	79	115	43	105	169
effective number observations right	370	76	161	45	135	183

Panel B: Cooperation with Politically Aligned Neighboring Municipality, Any Domain

		Not Vertically Aligned			Incumbency	
	Baseline	with State Gov.	with National Gov.	None	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.283***	0.249***	0.376***	0.446***	0.372***	0.210***
	(0.0469)	(0.0905)	(0.0575)	(0.0837)	(0.0935)	(0.0507)
Robust bias-corrected p-values	0.00	0.00	0.00	0.00	0.00	0.00
Opt Bandwidth	0.0720	0.0572	0.0689	0.0607	0.0651	0.0772
effective number observations left	302	96	116	41	102	202
effective number observations right	374	90	170	44	154	227

Panel C: Cooperation with Politically Aligned Neighboring Municipality, Public Safety

		Not Vertically Aligned			Incumbency	
	Baseline	with State Gov.	with National Gov.	None	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.0783***	0.133**	0.193***	0.292***	0.133**	0.0411
	(0.0294)	(0.0517)	(0.0502)	(0.0850)	(0.0657)	(0.0332)
Robust bias-corrected p-values	0.02	0.01	0.02	0.02	0.07	0.28
Opt Bandwidth	0.0835	0.0620	0.0666	0.0653	0.0929	0.0638
effective number observations left	326	95	110	42	139	166
effective number observations right	412	97	155	45	196	182
State x Year FE	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y

Note: The table shows the results for the RDD exercises that analyze heterogeneity in the effects of political alignment on cooperation. The dependent variable is a dummy that equals one when the municipality reported that there was at least one cooperation agreement, in any domain with any neighboring municipality (Panel A), with a politically-allied neighbor in any domain (Panel B) or in Public Safety (Panel C). Column 1 shows our baseline result (i.e., using the whole sample). Column 2 to 4 shows the main effect for the sample of municipalities for which the majoritarian party was not the party (1) governing the state, (2) governing the federal government (i.e., PRI before 2007 and PAN after 2006), and (3) was neither aligned with the State government nor the National government, respectively. In columns 5 and 6 present respectively the results of estimations of the effect in municipalities in which the majoritarian party was and was not, at the moment of election, the incumbent party. The sample includes municipalities that had elections in which the party ruling the majority of neighboring municipalities won and lost by small margin (i.e. Bandwidth).The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. Robust standard errors clustered at the state x year level in brackets *** p<0.01, ** p<0.05, * p<0.1. Significance levels are based on the reported robust bias-corrected p-values.

with neighbors displays a negative effect on homicide rate (always significant at least at the 1% level). Furthermore, the size of the coefficient remains quite stable regardless the bandwidth used in the estimation. In columns 1 and 2 we use the log of homicide rates + 1 as our dependent variable. This semi-log specification facilitates the interpretation of the point estimate for α_1 in equation 1 as a standard semi-elasticity, i.e. being politically aligned with the majority of neighboring municipalities has an effect of (exp($\hat{\alpha_1}$)-1)% on homicide rates. Point estimate from column 1 in Panel A suggests that municipalities that are politically aligned with their neighbors experience a 24% reduction in homicide rates. Additionally, point estimates in columns 4 and 6 show that our main results hold when we either use an hyperbolic sine inverse transformation of the dependent variable or no transformation at all, respectively. Remarkably, when we look at homicide rates in levels (column 6) shows that political alignment reduces crime rates by 15 crimes per 100,000 people. This represents 12.5% and 30% of the mean and standard deviation of crime rates in

political alignment with the majority of neighbors while controlling for the full set of controls in equation 1. All specifications deliver coefficients that are not statistically different from zero.

TABLE 6 Party Alignment and Crime

	Dep Variable: Homicide Rates during Mandate							
Panel A: Optimal Bandwidth	in logarithms		IHS Trans		Levels		1 if > National Median	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Majority Wins	-0.301***	-0.276***	-0.326***	-0.300***	-17.67***	-15.02***	-0.123***	-0.0960***
	(0.0697)	(0.0618)	(0.0766)	(0.0684)	(3.767)	(3.355)	(0.0369)	(0.0328)
Robust bias-corrected p-values	0.000	0.000	0.00	0.000	0.000	0.000	0.001	0.002
Opt Bandwidth	0.0423	0.0408	0.0431	0.0417	0.0452	0.0376	0.0367	0.0365
effective number observations left	228	222	230	225	238	204	203	202
effective number observations right	278	274	282	277	296	254	249	247
Panel B: Ad Hoc Bandwidth 0.05	in logarithms		IHS Trans		Levels		1 if > National Median	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Majority Wins	-0.269***	-0.244***	-0.292***	-0.267***	-15.90***	-11.38***	-0.165***	-0.121***
	(0.0669)	(0.0586)	(0.0738)	(0.0651)	(3.591)	(3.005)	(0.0360)	(0.0335)
effective number observations left	261	261	261	261	261	261	261	261
effective number observations right	330	330	330	330	330	330	330	330
State x Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y	Y	Y
Crime in Previous Mandate	N	Y	N	Y	N	Y	N	Y

Note: The table shows the results for the RDD exercises that study the relation between political alignment and homicides at the municipal level. Majority wins is a dummy for whether the candidate of the party that governs the majority of neighboring municipalities is elected mayor. The dependent variables are variations of the homicide rates during the mandate (total homicides per 100,000 people). The dependent variable for the first two columns is the homicide rate during mandate in logarithms. Columns 3 and 4 present the results for estimations using as dependent variable an IHS transformation of the homicide rate, while columns 5 and 6 show the results for regressions when the variable of interest is the homicide rate without any transformation. Finally, in columns 7 and 8 the dependent variable is a dummy that takes value equal to one, when the homicide rate of the municipality is above the national median. Panel A and Panel B present the results of the estimations using an Optimal Bandwidth and an Ad Hoc Bandwidth of 0.05, respectively. The sample includes municipalities where the party ruling the majority of neighboring municipalities won or lost by small margin (i.e. Bandwidth). We consider all elections for the period 2005-2012. The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. Specifications in even columns include previous mandate's dependent variable as control. Robust standard errors clustered at the state x year level in brackets *** p<0.01, ** p<0.05, * p<0.1. When using optimal bandwidth selection, significance levels are based on the reported robust bias-corrected p-values. Regressions are weighted by municipal population.

our sample, respectively. Finally, point estimate in column 8 suggests that municipalities that are politically aligned with their neighbors are approximately 10% less likely to experience above-(national)median homicide rates than municipalities that are not. Finally, comparison between specification with and without controlling for previous levels of crime (i.e., even versus odd columns) show that the inclusion of these controls affect little our results (albeit point estimates when controlling for crime in a previous mandate are slightly smaller). Figure 4 shows the RDD graphs when we focus in two different sample periods: before and during Felipe Calderon's presidency. Regardless of the measure of crime we look at, the larger effect of political alignment on crime reduction seems to occur mainly after 2005. To rule out the possibility that political alignment might be related to pre-existing crime patterns, in Figure A.11 we replicate the analysis looking at the effect of political alignment on the homicide rate recorded in the three years prior to the election, which in principle should not be affected by the posterior political shock. Indeed, we find no evidence of a relationship between pre-election homicide rate and post-election political alignment.

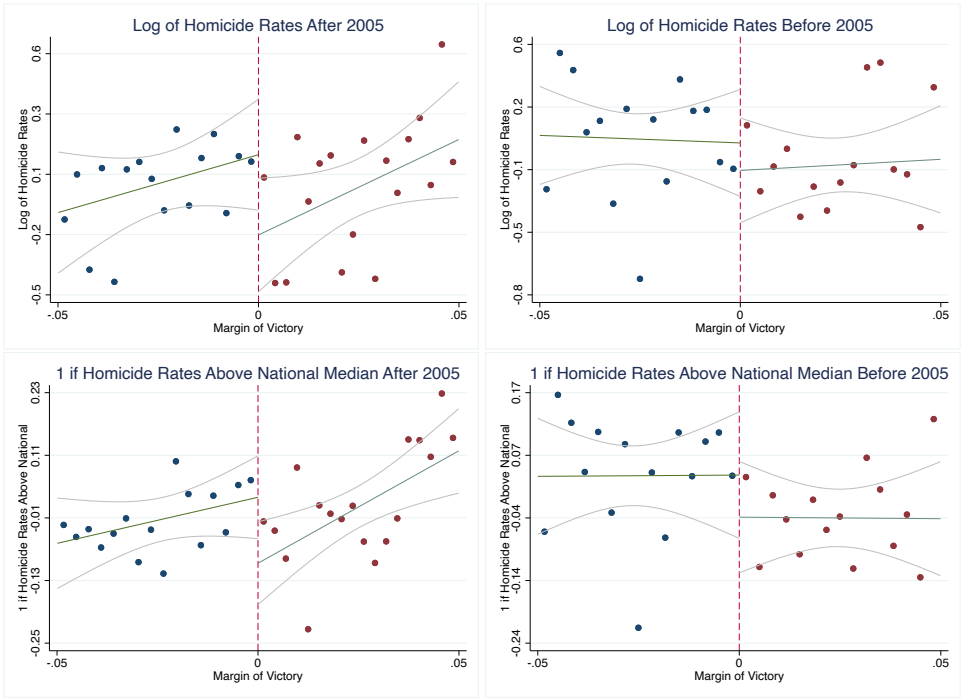


FIGURE 4 RDD Graphical Analysis: Political Alignment and Crime *Notes:* The figures represent RDD plots of homicides measures during mandate on vote margin. Top panel focuses on homicide rate in logarithms for the periods 2005-2012 (left) and 2000-2004 (right). Bottom panel focuses on a dummy indicating whether homicide rate in the municipality was above the national median for the periods 2005-2012 (left) and 2000-2004 (right). The set of controls from the main specification in the paper has been partialed out. The sample used is the same as in Table 6.

We next present further robustness checks. Figure A.10 shows RDD point estimates for different combinations of the set of controls in Table 6 and reassures that the exclusion of these controls affects remarkably little our results. Further, Table A.8 depicts the fact that our main result on homicide rates do not qualitatively depend on the election of the degree of the polynomial used to construct the main point estimator. Importantly, Figure A.12 presents RDD point estimates for several specifications using different sets of fixed effects at the party level. This is an important check since one may argue that the close election of a mayor from a specific party may have an impact on crime prevention in a municipality for reasons other than better coordination with same-party neighboring mayors, e.g. because crime prevention is a priority for that party, or because it supports more effective anti-crime policies. The figure shows that our results do not depend on the political affiliation of either the incumbent at the moment of the election, the mayor that wins the relevant election or the majoritarian party in neighboring municipalities.[24]

When analysing the role played by our definition of neighboring majority we find similar results to those found in our analysis of cooperation. Indeed, Figure 5 suggests that our results are qualitatively robust to the weighting scheme employed in our analysis, and that the size of the main point estimate for political alignment with neighboring majority is

[24]That the effect of political alignment with neighbors remains qualitatively unchanged regardless the majority party being the PRI is especially reassuring. Indeed, since PRI mayors account for about two thirds of our sample, one potential concern is that political alignment with neighbors might be simply picking up the effect of having a mayor affiliated with the PRI. Our findings suggest, instead, that political alignment with neighbors is associated with a reduction in crime regardless the identity of the party governing the majority.

monotonically increasing on the threshold chosen (i.e., the larger the degree of political alignment, the larger the reduction in crime).

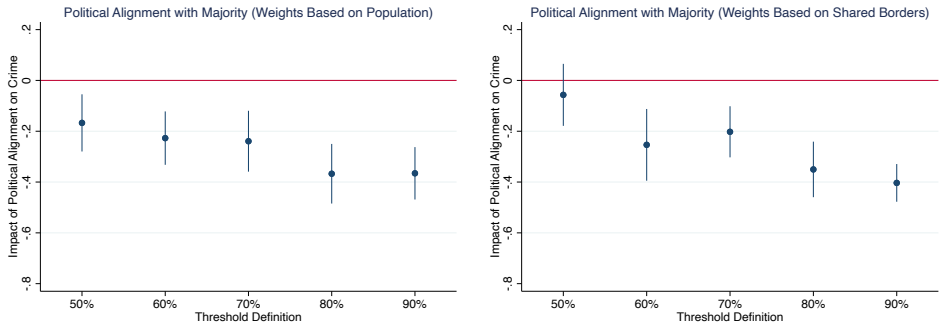


FIGURE 5 RDD Graphical Analysis: Political Alignment and Cooperation *Notes:* Figures plot the RDD coefficients and the 95% confidence intervals from separate regressions using different treatment definitions (thus also different samples) based on two dimensions: the weights assigned to each neighboring municipality and the threshold defining majority. Left panel assigns weights based on neighboring population whereas in right panel is based on shared borders. The dependent variable in each regression is homicide rates during mandate in logarithms. Estimations use an optimal bandwidth.

Finally, in Table A.9 we explore two additional dimensions on the impact of political alignment on crime and cooperation in law enforcement and public safety: identities of the victims and judicial outcomes. We interpret these outcomes as alternative measures to understand the phenomenon under study. In column 1 to 3 we focus our analysis on crime by gender of the victim. Point estimates show that most of the reduction on homicide rates is explained by less men, specially young men (column 2) which are more prone to engage in criminal activities, getting killed. We do not find any evidence that political alignment affects female homicide (column 3) or domestic violence (column 4), a type of crime that is hardly affected by better cooperation between municipalities and not affected by spill-over effects. We next show that political alignment positively affect the proportion of guilty-verdict homicide sentences over the total number of homicides (column 5) as well as the fraction of sentences reaches on homicide cases (column 6). These results may arguably point to an improvement in judicial performance when opportunities for inter-jurisdictional cooperation increase.

The results presented thus far indicate that municipalities that become politically aligned with their neighbors experience significantly lower murder rates than those that do not. Although this pattern may be explained by the improved cooperation among local police forces when mayors of neighboring municipalities belong to the same party - documented above - it is also consistent with alternative explanations. For instance, if the party ruling most of a municipality's neighbors is also the incumbent, lower homicide rates may be due to more effective crime deterrence efforts by more experienced mayors rather than to improved cooperation. Note however that our results in Table A.6 suggested quite the opposite: it is when a new party is elected and gets politically aligned with its neighbor that we see an increase in the likelihood of cooperation in public safety. Alternatively, if the party that governs most of a municipality's neighbors is also in power at the state or at the federal level, lower crime might result from improved vertical cooperation of municipal police with state or federal authorities (as examined by Dell, 2015) rather than with municipal polices in neighboring jurisdictions.

In order to rule out these alternative explanations we repeat the heterogeneity analysis

implemented above for the case of cooperation agreements using homicide rates as dependent variable instead. Table 7 summarizes the results of this analysis. To ease comparison, column 1 presents our main estimate using the baseline sample. Result 2 suggest that the negative impact of political alignment on crime is smaller for municipalities not vertically aligned with the state government. This would suggest that cooperation with the state police can be key to effectively preventing violent crime.

An intriguing pattern emerges when considering whether the party governing the majority of neighbors is not vertically aligned with the Federal government. It is noteworthy that during the initial phase of our sample analysis period, the Federal government was governed by the PRI, transitioning to PAN control starting in 2007. This shift in Federal government party introduces additional heterogeneity within this subset due to the distinct crime management approaches of each party. The results in column 3 indicate that crime reduction is even more pronounced for municipalities politically aligned with their neighbors when there is no vertical alignment with the National government. This can be attributed to the cost of violence incurred by municipalities aligned with the PAN post-2006. Our findings align with previous research (Dell, 2015), which highlighted an increase in drug-related violence following PAN victories in 2007-2008. We observe that post-2006, crime rates rise in municipalities where the PAN gains the majority, reflecting the nuanced impact of the PAN on crime levels in neighboring municipalities (results not shown). While these results underscore the potential differential effect of the PAN on crime in areas surrounded by PAN-affiliated municipalities, it is essential to highlight that these findings are derived from a limited sample size. Furthermore, our main crime-related conclusions remain consistent, irrespective of the winning party, the incumbent, or the dominant party in neighboring municipalities, as demonstrated in the extended sample analysis (refer to the discussion of Figure A.12).

Building on our previous observations that winning challengers aligned with the majority of neighbors are more inclined to establish cooperation agreements in public safety, we reveal that the adverse impact on crime resulting from political alignment is driven by these successful challengers, rather than the incumbents retaining power (columns 5 and 6).

TABLE 7 Party Alignment and Crime: Heterogeneity

	Dependent Variable: Homicide Rates during Mandate (in logarithms)					
		Not Vertically Aligned			Incumbency	
	Baseline	with State Gov.	with National Gov.	None	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	-0.276***	-0.0693	-0.598***	-0.577***	-0.478***	0.126
	(0.0618)	(0.159)	(0.0542)	(0.219)	(0.0539)	(0.0775)
Robust bias-corrected p-values	0.00	0.50	0.00	0.00	0.00	0.19
Opt Bandwidth	0.0408	0.0578	0.0504	0.0532	0.0414	0.0494
effective number observations left	222	104	98	37	109	129
effective number observations right	274	130	135	31	131	174
State x Year FE	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y

Note: The table shows the results for the RDD exercises that analyze heterogeneity in the effects of political alignment on cooperation. The dependent variable is a dummy that equals one when the municipality reported that there was at least one cooperation agreement, in any domain with any neighboring municipality (Panel A), with a politically-allied neighbor in any domain (Panel B) or in Public Safety (Panel C). Column 1 shows our baseline result (i.e., using the whole sample). Column 2 to 4 shows the main effect for the sample of municipalities for which (1) the majoritarian party was not the party governing the state, (2) PAN (The party in the National Government) was not the party ruling the majority of the neighborhood, and (3) the majoritarian party was neither aligned with the State government nor the National government, respectively. In columns 5 and 6 present respectively the results of estimations of the effect in municipalities in which the majoritarian party was and was not, at the moment of election, the incumbent party. The sample includes municipalities that had elections in which the party ruling the majority of neighboring municipalities won and lost by small margin (i.e. Bandwidth).The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. Robust standard errors clustered at the state x year level in brackets *** p<0.01, ** p<0.05, * p<0.1. Significance levels are based on the reported robust bias-corrected p-values.

5 | CONCLUSION

To what extent should policy-making be decentralized in a federal system? And what are the contrasting forces that should be considered when determining the optimal degree of decentralization? The academic debate around these crucial questions has been traditionally dominated by the fundamental trade-off between the necessity to adapt policies to local preferences, and the need to minimize possible inter-jurisdictional externalities (Oates, 1977). Any evaluation of the performance of a decentralized system, however, should also take into account how inter-jurisdictional cooperation - or the lack of it thereof - can make the local provision of public goods more or less effective. This aspect, however, has been largely disregarded in the literature.

This paper attempts to fill this gap by investigating the impact of horizontal inter-jurisdictional cooperation in the provision of public goods that are likely to be affected by spill-over effects. We pay special attention to one policy area in which this aspect is especially important: law-enforcement. Specifically, we examine the context of Mexico and utilize a Regression Discontinuity Design (RDD) to investigate whether enhanced opportunities for cooperation, represented by the level of political alignment between mayors, impact the enforcement of agreements in public goods provision. We focus on determining if cooperation plays a role in preventing crime among neighboring municipalities and facilitates crime deterrence, leading to reduced crime rates in the end. Our empirical strategy exploits the arguably exogenous discontinuity in the identity of the ruling party in a municipality given by its victory in a close election. To estimate the causal effect of political alignment, we compare both the prevalence of agreements and the evolution of crime rates in municipalities where the party governing most of the municipality's neighbors won the election by a small margin to those in which it lost by a small margin. We find that municipalities that are politically aligned with their neighbors tend to cooperate more in several domain (30% pp increase), but particularly in public safety (approximately 10% pp increase during 2003-2009, or 15% pp increase if we focus on the period with high crime rates) and experience significantly lower homicide rates in the years following the election. This effect is sizeable - approximately 25% reduction in murder rates - robust to various specifications and, crucially, appears to be independent from the identity of the party in power in the neighboring municipalities. Furthermore, political alignment appears to have no impact on murder rates prior to the election, confirming that the treatment variable is not correlated with pre-election crime incidence. Finally, our results are not driven by political alignment with the ruling party at the state or federal levels, further confirming the importance of horizontal over vertical cooperation. However, our analysis uncovers significant insights into the dynamics of cooperation, highlighting both complementarities and substitutabilities based on the presence of vertical integration and the specific domain of the agreements. Specifically, while vertical integration with either the state or national government promotes overall cooperation among municipalities forming a local majority, in the context of public safety, the lack of vertical integration actually encourages more agreements.

Our research contributes to the economic literature on crime by providing novel evidence that the effectiveness of decentralized law enforcement systems may crucially depend on the degree of inter-jurisdictional cooperation that can be supported under decentralization, and by emphasizing how this aspect can be crucial to determine whether a single state or national police force may be preferable to multiple uncoordinated local ones.

The evidence presented above also contributes to the broader debate on decentralization by raising awareness that a thorough evaluation of the costs and benefits of decentralization should not only take into account the potential inefficiencies due to the presence of

geographic spillover effects, but also those related to the potential lack of horizontal cooperation. Indeed, our findings suggest that, unless proper instruments to foster horizontal inter-jurisdictional cooperation are put in place, a (non-cooperative) decentralized system might be inferior to a centralized one. To this regard, our contribution exemplifies the importance of using a network-based approach to study public good provision in decentralized systems (Acemoglu et al., 2013).

Finally, our research provides new insights with regard to the role of political parties in democratic systems by documenting how, in certain cases, by favoring coordination between local policy-makers, party discipline can contribute to mitigate the inefficiencies of poorly designed decentralized systems.

ACKNOWLEDGEMENTS

We thank Pedro Dal Bó, Gustavo Fajardo, Ray Fisman, Roberto Galbiati, Emeric Henry, Brian Knight, Jens Ludwig, Cesar Martinelli, Daniel Mejía, Mushfiq Mobarak and seminar participants at CAF, Sciences Po, Los Andes, ITAM, Universidad de Montevideo, Universidad Adolfo Ibanez, CEA Universidad de Chile, Udesa, UTDT, PUC-Chile as well as participants at the LACEA America Latina Crime and Policy Network and the Annual SECHI 2022 for helpful discussion. We are grateful to Patrick Signoret, Carlos Farah, Etienne Fize, and especially Iván Torre, José Ramón Enríquez, Antonio Mahana, and Pedro Skorin for outstanding research assistance. Emilio Gutierrez is grateful to the the Asociación Méxicana de Cultura (AMC) for financial support. We also thanks CAF for financial support.

REFERENCES

Acemoglu, D., García-Jimeno, C. and Robinson, J. A. (2013) State capacity and economic development: A network approach. *Tech. rep.*, Working paper.

Anaya, A. (2006) *Autonomía indígena, gobernabilidad y legitimidad en México: la legalización de los usos y costumbres electorales en Oaxaca*. Universidad Iberoamericana.

Benton, A. (2011) *The Origins of Mexico's Municipal Usos y Costumbres Regimes: Supporting Local Political Participation or Local Authoritarian Control?* Centro de Investigación y Docencia Económicas, División de Estudiós Políticos.

Boas, T. C. and Hidalgo, F. D. (2011) Controlling the airwaves: Incumbency advantage and community radio in brazil. *American Journal of Political Science*, **55**, 869–885.

Brollo, F. and Nannicini, T. (2011) Tying your enemy's hands in close races: The politics of federal transfers in brazil. *IZA Discussion Paper No. 5698*.

Calonico, S., Cattaneo, M. D. and Farrell, M. H. (2019) Optimal bandwidth choice for robust bias-corrected inference in regression discontinuity designs. *The Econometrics Journal*, **23**, 192–210. URL: https://doi.org/10.1093/ectj/utz022.

Caughey, D. and Sekhon, J. S. (2011a) Elections and the regression discontinuity design: Lessons from close us house races, 1942–2008. *Political Analysis*, **19**, 385–408.

— (2011b) Elections and the regression discontinuity design: Lessons from close us house races, 1942–2008. *Political Analysis*, **19**, 385–408.

Cellini, S. R., Ferreira, F. and Rothstein, J. (2010) The value of school facility investments: Evidence from a dynamic regression discontinuity design. *The Quarterly Journal of Economics*, **125**, 215–261.

Dal Bó, E., Dal Bó, P. and Snyder, J. (2009) Political dynasties. *Review of Economic Studies*, **76**, 115–142.

Davis, D. E. (2006) Undermining the rule of law: Democratization and the dark side of police reform in mexico. *Latin American Politics and Society*, **48**, 55–86.

Dell, M. (2015) Trafficking networks and the mexican drug war. *American Economic Review*, **105**, 1738–1779. .

DiNardo, J. and Lee, D. S. (2004) Economic impacts of new unionization on private sector employers: 1984-2001. *The Quarterly Journal of Economics*, **119**, 1383–1441.

Eggers, A. C., Fowler, A., Hainmueller, J., Hall, A. B. and Snyder, J. M. (2015) On the validity of the regression discontinuity design for estimating electoral effects: New evidence from over 40,000 close races. *American Journal of Political Science*, **59**, 259–274. URL: http://dx.doi.org/10.1111/ajps.12127.

Eggers, A. C. and Hainmueller, J. (2009) Mps for sale? returns to office in postwar british politics. *American Political Science Review*, **103**, 513–533.

Ferreira, F. and Gyourko, J. (2007) Do political parties matter? evidence from us cities. *Tech. rep.*, National Bureau of Economic Research.

Folke, O. and Snyder, J. M. (2012) Gubernatorial midterm slumps. *American Journal of Political Science*, **56**, 931–948.

Gagliarducci, S. and Paserman, M. D. (2011) Gender interactions within hierarchies: evidence from the political arena. *The Review of Economic Studies*, rdr046.

Gerber, E. R. and Hopkins, D. J. (2011) When mayors matter: estimating the impact of mayoral partisanship on city policy. *American Journal of Political Science*, **55**, 326–339.

Gonzalez-Navarro, M. (2013) Deterrence and geographical externalities in auto theft. *American Economic Journal: Applied Economics*, **5**, 92–110. URL: https://www.aeaweb.org/articles?id=10.1257/app.5.4.92.

Grimmer, J., Hersh, E., Feinstein, B. and Carpenter, D. (2012) Are close elections random? *Working Paper*.

Guerrero-Gutiérrez, E. (2010) Security, drugs and violence in mexico: A survey. In *San Miguel de Allende. Prepared for the Sixth North American Forum*.

Guillén López, T. (2006) Democracia representativa y participativa en los municipios de méxico: Procesos en tensión. *Andrew W. Selee and Leticia Santín del Río. Democracia y Ciudadanía: Participación Ciudadana y Deliberación Pública en Gobiernos Locales Mexicanos. Washington DC: Woodrow Wilson International Center for Scholars*.

Imbens, G. and Lemieux, T. (2008) Regression discontinuity designs: A guide to practice. *Journal of Econometrics*, **142**, 615–635.

Inman, R. P. (2007) Federalism's values and the value of federalism. *CESifo Economic Studies*, **53**, 522–560.

Inman, R. P. and Rubinfeld, D. L. (1997) Rethinking federalism. *The Journal of Economic Perspectives*, **11**, 43–64.

Knight, B. (2011) State gun policy and cross-state externalities: Evidence from crime gun tracing. *Tech. rep.*, National Bureau of Economic Research.

Lee, D. and Lemieux, T. (2009) Regression discontinuity designs in economics. *Tech. rep.*, National Bureau of Economic Research.

Lee, D., Moretti, E. and Butler, M. (2004) Do voters affect or elect policies? evidence from the us house. *The Quarterly Journal of Economics*, **119**, 807–859.

Lee, D. S. (2001) The electoral advantage to incumbency and voters' valuation of politicians' experience: A regression discontinuity analysis of elections to the us. *Working Paper 8441*, National Bureau of Economic Research.

Lipscomb, M. and Mobarak, A. M. (2015) Decentralization and pollution spillovers: Evidence from the re-drawing of county boundaries in brazil. *Review of Economic Studies*, **forthcoming**.

Loeper, A. (2011) Coordination in heterogeneous federal systems. *Journal of Public Economics*.

McDavid, J. C. (1974) Interjurisdictional cooperation among police departments in the st. louis metropolitan area. *Publius*, **4**, pp. 35–58. URL: http://www.jstor.org/stable/3329478.

Oates, W. (1977) *The political economy of fiscal federalism*. Lexington Books.

— (1999) An essay on fiscal federalism. *Journal of economic literature*, **37**, 1120–1149.

Ostrom, E., Parks, R. and Whitaker, G. (1978) *Patterns of metropolitan policing*. Ballinger Publishing Company.

Parks, R. (2009) Metropolitan organization and police. *The Practice of Constitutional Development, eds. FilippoSabetti, BarbaraAllen, and MarkSproule-Jones. Lanham, MD: Lexington Books*, 183–201.

Pettersson-Lidbom, P. (2008) Do parties matter for economic outcomes? a regression-discontinuity approach. *Journal of the European Economic Association*, **6**, 1037–1056.

Sabet, D. (2012) *Police reform in Mexico: informal politics and the challenge of institutional change*. Stanford University Press.

Snyder, J. (2005) Detecting manipulation in us house elections. *Working Paper*.

Soares, R. R. and Viveiros, I. (2017) Organization and Information in the Fight against Crime: The Integration of Police Forces in the State of Minas Gerais, Brazil. *Economía Journal*, **0**, 29–63. URL: https://ideas.repec.org/a/col/000425/015504.html.

Tapia, J. (a) Policías desquician calles de monterrey. *El Universal*.

— (b) Policías se corrompen por miedo y unas monedas. *El Universal*.

Wheaton, W. (2006) Metropolitan fragmentation, law enforcement effort and urban crime. *Journal of Urban Economics*, **60**, 1–14.

A | ADDITIONAL TABLES AND FIGURES

TABLE A.1 Years of elections by state

STATE	Year of Election	Number of Municipalities with Majority	Number of Close Elections	STATE	Year of Election	Number of Municipalities with Majority	Number of Close Elections
AGUASCALIENTES	2001	6	1	MORELOS	2003	12	5
	2004	9	3		2006	10	5
	2007	5	3		2009	17	3
	2010	11	2	NAYARIT	2002	16	2
BAJA CALIFORNIA	2001	5	2		2005	20	5
	2004	4	3		2008	15	2
	2007	5	3		2011	14	3
	2010	5	1	NUEVO LEON	2003	47	8
BAJA CALIFORNIA SUR	2002	2	0		2006	44	5
	2005	4	0		2009	43	18
	2008	5	0	PUEBLA	2001	153	45
	2011	1	1		2004	121	35
CAMPECHE	2003	7	4		2007	158	36
	2006	5	2		2010	76	32
	2009	8	5	QUERETARO	2003	8	2
COAHUILA	2002	31	7		2006	8	1
	2005	71	14		2009	10	1
	2009	36	4	QUINTANA ROO	2002	6	1
COLIMA	2003	3	0		2005	5	1
	2006	8	5		2008	6	1
	2009	7	1		2010	3	1
CHIAPAS	2001	78	21	SAN LUIS POTOSI	2003	34	7
	2004	56	14		2006	25	6
	2007	42	16		2009	19	3
	2010	25	7	SINALOA	2001	14	1
CHIHUAHUA	2001	57	14		2004	14	2
	2002	1	1		2007	17	4
	2004	44	12		2010	10	2
	2007	55	19	SONORA	2003	40	12
	2010	47	15		2006	38	14
CIUDAD DE MEXICO	2003	13	1		2009	43	17
	2006	15	0	TABASCO	2003	12	4
	2009	8	0		2006	8	4
DURANGO	2001	30	9		2009	9	2
	2004	22	6	TAMAULIPAS	2001	37	5
	2007	36	8		2004	43	3
	2010	17	5		2007	39	8
GUANAJUATO	2003	20	5		2010	36	5
	2006	27	5	TLAXCALA	2001	28	12
	2009	24	5		2002	1	0
GUERRERO	2002	48	14		2004	14	4
	2005	50	22		2007	10	1
	2008	32	10		2010	12	6
	2012	44	16	VERACRUZ	2000	107	43
HIDALGO	2002	54	14		2004	66	28
	2005	41	14		2007	158	28
	2008	53	9		2010	84	23
	2011	36	11	YUCATAN	2001	89	26
JALISCO	2003	58	16		2004	78	28
	2006	71	18		2007	68	20
	2009	58	24		2010	78	27
MEXICO	2003	65	20	ZACATECAS	2001	24	8
	2006	45	11		2004	19	9
	2009	103	17		2007	19	5
MICHOACAN	2001	60	21		2010	15	2
	2004	58	21				
	2007	43	16				
	2011	40	11				

The table shows the set of elections that we study for the municipalities of each state. Oaxaca is excluded from the analysis. The samples for our main analyses are conformed by a subset of these municipal elections, i.e. those in which the party that won or came second ruled the majority of neighboring municipalities (the number of such elections by state is reported in the column labeled as number of municipalities with majority).

TABLE A.2 Political Alignment, Cooperation and Crime: Sample and Non Sample comparison

Panel A: Cooperation Sample

	Mean Sample (1)	Mean Non Sample (2)	Difference (3)	t -stat on Mean Differences (4)
Homicide Rates Previous Mandate (per 100,000)	30.78	31.24	0.46	-0.196
Homicide Rates During Mandate (per 100,000)	32.553	36.213	3.66	-1.16
Logs of Homicide Rates Previous Mandate (per 100,000)	2.481	2.604	0.123	-1.544
Logs of Homicide Rates During Mandate (per 100,000)	2.538	2.633	0.095	-1.161
1 if homicide rates in previous mandate >national median in previous mandate	0.448	0.49	0.042	-1.64
1 if homicide rates during mandate >national median during mandate	0.497	0.486	-0.011	-0.424
PAN affiliated governor	0.253	0.241	-0.012	-0.541
PRI affiliated governor	0.603	0.654	0.051*	-2.085
PRD affiliated governor	0.175	0.142	-0.034	-1.848
Majority of Neighbors PAN	0.117	0.12	0.003	-0.163
Majority of Neighbors PRI	0.794	0.806	0.012	-0.618
Majority of Neighbors PRD	0.087	0.073	-0.014	-1.062
PAN affiliated incumbent	0.228	0.235	0.007	-0.323
PRI affiliated incumbent	0.628	0.592	-0.036	-1.457
PRD affiliated incumbent	0.125	0.137	0.012	-0.695
Area (sq km)	983.995	1244.144	260.149	-1.832
Number of Neighboring Municipalities	5.81	5.791	-0.019	-0.186
Population Density	192.364	360.36	167.996*	-2.238
Death Rate	405.202	405.943	0.741	-0.08
Human Development Index	0.726	0.741	0.015**	-3.117
Percentage of HH with no sewage	16.947	15.243	-1.705*	-2.062
Percentage of HH with no electricity	7.591	7.47	-0.121	-0.219
Percentage of HH with no water	17.984	16.603	-1.381	-1.431
Observations	495	1777	2272	

Panel B: Crime Sample

	Mean Sample (1)	Mean Non Sample (2)	Difference (3)	t -stat on Mean Differences (4)
Homicide Rates Previous Mandate (per 100,000)	39.606	35.208	-4.398	-1.417
Homicide Rates During Mandate (per 100,000)	67.938	64.276	-3.662	-0.491
Logs of Homicide Rates Previous Mandate (per 100,000)	2.574	2.657	0.083	-1.08
Logs of Homicide Rates During Mandate (per 100,000)	3.009	3.037	0.029	-0.351
1 if homicide rates in previous mandate >national median in previous mandate	0.504	0.526	0.022	-0.924
1 if homicide rates during mandate >national median during mandate	0.536	0.538	0.002	-0.079
PAN affiliated governor	0.224	0.175	-0.050**	-2.626
PRI affiliated governor	0.637	0.701	0.064**	-2.859
PRD affiliated governor	0.197	0.157	-0.040*	-2.21
Majority of Neighbors PAN	0.147	0.158	0.011	-0.647
Majority of Neighbors PRI	0.77	0.773	0.003	-0.162
Majority of Neighbors PRD	0.081	0.066	-0.015	-1.25
PAN affiliated incumbent	0.272	0.264	-0.008	-0.389
PRI affiliated incumbent	0.543	0.53	-0.013	-0.542
PRD affiliated incumbent	0.151	0.145	-0.005	-0.303
Area (sq km)	1301.506	1280.465	-21.042	-0.146
Number of Neighboring Municipalities	5.682	5.791	0.109	-1.139
Population Density	186.469	370.279	183.810**	-2.824
Death Rate	417.823	408.344	-9.479	-1.074
Human Development Index	0.762	0.771	0.009**	-2.862
Percentage of HH with no sewage	13.334	10.983	-2.352***	-3.45
Percentage of HH with no electricity	5.022	5.026	0.004	-0.011
Percentage of HH with no water	16.462	15.602	-0.86	-0.961
Observations	591	1609	2200	

Note: This table reports mean values for the used variables both for the sample of our main analysis (Column 1, Mean Sample) and for the rest of the municipalities in which the party that won or came second in the election ruled the majority of neighboring municipalities (Column 2, Mean Non Sample). It also reports the difference in the means of each variable between these two groups and the t-stat on this difference (Column 3 and 4 respectively). Panel A shows the results for the sample used in our analysis of cooperation, which includes all municipal close elections (i.e less than five percent margin) between 2005 and 2008 in which the party that won or came second ruled the majority of neighboring municipalities (495 observations). Panel B reports the values obtained for the sample used in our crime analysis, which considers all the municipal close elections during the period 2005-2012 (i.e less than five percent margin) in which the party that won or came second ruled the majority of neighboring municipalities (591 observations). *** p<0.01, ** p<0.05, * p<0.1.

TABLE A.3 Party Alignment and Inter-Municipal Cooperation (Excluding Border Municipalities

	Extensive Margin of Cooperation			Intensive Margin of Cooperation			
	Dummy=1 if there is a cooperation agreement with			Any Neighbor		Aligned Municipality	
	Any Municipality (Mean: 0.32)	Any Neighbor (Mean: 0.29)	Aligned Municipality (Mean: 0.2)	Count (Mean: 0.57)	Share of Neighbors (Mean: 10.4)	Count (Mean: 0.33)	Share of Neighbors (Mean: 6.1)
Panel A: Optimal Bandwidth	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Majority Wins	0.160***	0.217***	0.243*	6.624**	0.316***	0.515***	12.27***
	(0.0587)	(0.0578)	(0.135)	(3.240)	(0.0530)	(0.0997)	(2.577)
Robust bias-corrected p-values	0.01	0.00	0.09	0.05	0.00	0.00	0.00
Opt Bandwidth	0.0822	0.0671	0.0894	0.0817	0.0744	0.0863	0.0802
effective number observations left	223	193	237	223	202	219	213
effective number observations right	284	230	305	283	254	295	278
Panel B: Ad Hoc Bandwidth 0.05	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Majority Wins	0.186***	0.205***	0.312*	6.949*	0.334***	0.628***	14.28***
	(0.0624)	(0.0603)	(0.182)	(3.970)	(0.0627)	(0.124)	(3.121)
effective number observations left	160	160	160	160	154	154	154
effective number observations right	173	173	173	173	171	171	171
Observations	1,166	1,166	1,166	1,166	1,143	1,143	1,143
State x Year FE	Y	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y	Y

Note: This table shows the results for the RDD exercises that study the relation between political alignment and inter-municipal agreements in 2003 and 2008 when excluding municipalities with neighbors in other states. The sample for this analysis includes municipalities that had elections taking place within 3 years before 2003 or 2008 and in which the party ruling the majority of neighboring municipalities won and lost by small margin (i.e. Bandwidth). Majority wins is a dummy for whether the candidate of the party that governs the majority of neighboring municipalities is elected mayor. The dependent variables are different measures of the intensive and extensive margin of agreement of certain type as reported in the two surveys. Columns 1 to 3 presents the results for a dummy that equals one when the municipality reported an agreement for cooperation in any domain with any municipality, a neighboring municipality, and a politically-allied neighbor, respectively. Focusing only on neighboring municipalities, in columns 4 to 7 we look at the number of municipalities (odd columns) and the share of neighbors (eve columns) with cooperation agreements in any domain. Panel A and Panel B present the results of the estimations using an Optimal Bandwidth and an Ad Hoc Bandwidth of 0.05, respectively. Robust standard errors clustered at the state x year level in brackets. The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. *** p<0.01, ** p<0.05, * p<0.1. When using optimal bandwidth selection, significance levels are based on the reported robust bias-corrected p-values.

TABLE A.4 Party Alignment and Inter-Municipal Cooperation: OLS regressions

	Dependent variable: Dummy=1 if there is an agreement with a neighbor					
	Any Domain Any Neighbor	Any Domain Aligned	Public Safety Aligned	Water Services Aligned	Road Paving Aligned	Garbage Collection Aligned
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.0126	0.154***	0.0396***	0.0156**	0.00837**	0.0126
	(0.0192)	(0.0236)	(0.0117)	(0.00675)	(0.00338)	(0.00987)
R-squared	0.229	0.227	0.156	0.073	0.032	0.097
Observations	1,848	1,812	1,742	1,742	1,742	1,742
State x Year FE	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y

Note: The table shows the results for the OLS regressions that study the effect of political alignment in cooperation between municipalities during 2008 and 2003. The sample includes all the elections between 2000 and 2008 - excluding Municipalities from the State of Oaxaca. Majority wins is a dummy for whether the candidate of the party that governs the majority of neighboring municipalities is elected mayor. The dependent variables are different dummies that equal one if at least on agreement of certain type was reported for 2008. Column 1 presents the results for a dummy that equals one when the municipality reported an agreement for cooperation in any domain with a neighbor. Column 2 shows the results for a dummy that identify if there was an agreement, in any domain, with a politically-allied neighbor. Column 3, 4, 5 and 6 present the results for agreements in specific public services with politically-allied neighbors. The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. Robust standard errors clustered at the state x year level in brackets *** p<0.01, ** p<0.05, * p<0.1.

TABLE A.5 Party Alignment and Inter-Municipal Cooperation: Different Polynomial Degrees

	Dependent variable: Dummy=1 if there is an agreement with a neighbor								
	Any Neighbor Any Domain			Politically Aligned, Any Domain			Politically Aligned, Public Safety		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Majority Wins	0.178***	0.156**	0.181**	0.283***	0.250***	0.264***	0.0783***	0.0841**	0.0969**
	(0.0537)	(0.0620)	(0.0856)	(0.0469)	(0.0539)	(0.0664)	(0.0294)	(0.0385)	(0.0458)
Robust bias-corrected p-values	0.00	0.02	0.05	0.00	0.00	0.00	0.02	0.04	0.03
Opt Bandwidth	0.0695	0.136	0.141	0.0720	0.136	0.176	0.0835	0.137	0.167
Polynomial degree	1	2	3	1	2	3	1	2	3
effective number observations left	304	508	512	302	493	543	326	486	522
effective number observations right	370	653	676	374	647	800	412	619	734
State x Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y

Note: The table shows the results for the RDD exercises on cooperation when using different polynomial degrees to approximate the population conditional expectation functions for control and treated municipalities. The set of demographic controls includes population density, human development index in 2005, death rates in 2003, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. Robust standard errors clustered at the state x year level in brackets *** p<0.01, ** p<0.05, * p<0.1. Significance levels are based on the reported robust bias-corrected p-values.

TABLE A.6 Party Alignment and Cooperation: Heterogeneity (0.05 Ad Hoc Bandwidth)

Dependent Variable: dummy=1 if there is a Cooperation Agreement

Panel A: Cooperation with Any Neighboring Municipality, Any Domain

		Not Vertically Aligned			Incumbency	
	Baseline	with State Gov.	with National Gov.	None	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.191***	0.0528	0.160**	0.252***	0.244**	0.147**
	(0.0611)	(0.0809)	(0.0786)	(0.0727)	(0.0990)	(0.0611)
effective number observations left	234	86	90	35	97	137
effective number observations right	261	79	121	34	111	150

Panel B: Cooperation with Politically Aligned Neighboring Municipality, Any Domain

		Not Vertically Aligned			Incumbency	
	Baseline	with State Gov.	with National Gov.	None	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.302***	0.262***	0.356***	0.579***	0.351***	0.271***
	(0.0551)	(0.0970)	(0.0614)	(0.0783)	(0.103)	(0.0696)
effective number observations left	225	83	84	33	92	133
effective number observations right	259	78	119	33	110	149

Panel C: Cooperation with Politically Aligned Neighboring Municipality, Public Safety

		Not Vertically Aligned			Incumbency	
	Baseline	with State Gov.	with National Gov.	None	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	0.111***	0.192***	0.240***	0.403***	0.149*	0.0618*
	(0.0349)	(0.0554)	(0.0524)	(0.0750)	(0.0815)	(0.0368)
effective number observations left	220	79	83	32	90	130
effective number observations right	250	75	113	31	105	145
State x Year FE	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y

Note: The table shows the results for the RDD exercises that analyze heterogeneity in the effects of political alignment on cooperation. The dependent variable is a dummy that equals one when the municipality reported that there was at least one cooperation agreement, in any domain with any neighboring municipality (Panel A), with a politically-allied neighbor in any domain (Panel B) or in Public Safety (Panel C). Column 1 shows our baseline result (i.e., using the whole sample). Column 2 to 4 shows the main effect for the sample of municipalities for which the majoritarian party was not the party (1) governing the state, (2) governing the federal government (i.e., PRI before 2007 and PAN after 2006), and (3) was neither aligned with the State government nor the National government, respectively. In columns 5 and 6 present respectively the results of estimations of the effect in municipalities in which the majoritarian party was and was not, at the moment of election, the incumbent party. The sample includes municipalities that had elections in which the party ruling the majority of neighboring municipalities won and lost by small margin (i.e. Bandwidth).The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. Robust standard errors clustered at the state x year level in brackets *** p<0.01, ** p<0.05, * p<0.1. Significance levels are based on the reported robust bias-corrected p-values.

TABLE A.7 Party Alignment and Crime: OLS

	Dependent Variable: Homicide Rates during Mandate							
	in logarithms		IHS Trans		Levels		1 if > National Median	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Majority Wins majority_rules	0.0624	0.0175	0.0684	0.0225	12.68*	8.755	-0.0487	-0.0510
	(0.0648)	(0.0469)	(0.0690)	(0.0515)	(6.750)	(5.671)	(0.0362)	(0.0334)
State x Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y	Y	Y
Crime in Previous Mandate	N	Y	N	Y	N	Y	N	Y

Note: The table shows the results for the OLS regressions that study the effect of political alignment on crime. Majority wins is a dummy for whether the candidate of the party that governs the majority of neighboring municipalities is elected mayor. The dependent variables are variations of the homicide rates during the mandate (total homicides per 100,000 people). The dependent variable for the first four columns is the homicide rate during mandate in logarithms. Column 5 presents the results for estimations using as dependent variable an IHS transformation of the homicide rate, while column 6 shows the results for regressions when the variable of interest is the homicide rate without any transformation. Finally, in column 7 the dependent variable is a dummy that takes value equal to one, when the homicide rate of the municipality is above the national median. The sample of analysis is a subset of all municipal elections between 2005 and 2010, i.e. those in which the party that won or came second ruled the majority of neighboring municipalities. Municipalities from the State of Oaxaca are excluded. The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. Robust standard errors clustered at the state x year level in brackets *** p<0.01, ** p<0.05, * p<0.1. Regressions are weighted by municipal population.

TABLE A.8 Party Alignment and Crime: Different Polynomial Degrees

	Dependent variable: Homicide Rates during Mandate								
	in logarithms			Levels			1 if > National Median		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Majority Wins	-0.276***	-0.382***	-0.374***	-15.02***	-18.60***	-21.98***	-0.0960***	-0.137**	-0.145*
	(0.0618)	(0.0753)	(0.0914)	(3.355)	(5.650)	(7.376)	(0.0328)	(0.0494)	(0.0650)
Robust bias-corrected p-values	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
Opt Bandwidth	0.0408	0.0843	0.117	0.0376	0.0648	0.0891	0.0365	0.0670	0.0899
Polynomial degree	1	2	3	1	2	3	1	2	3
effective number observations left	222	385	515	204	316	407	202	323	412
effective number observations right	274	530	713	254	426	558	247	437	567
State x Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Previous Mandate Crime	Y	Y	Y	Y	Y	Y	Y	Y	Y

Note: The table shows the results for the RDD exercises on crime when using different polynomial degrees to approximate the population conditional expectation functions for control and treated municipalities. The set of demographic controls includes population density, human development index, death rates, number of neighboring municipalities, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. Robust standard errors clustered at the state x year level in brackets *** p<0.01, ** p<0.05, * p<0.1. Significance levels are based on the reported robust bias-corrected p-values. Regressions are weighted by municipal population.

TABLE A.9 Party Alignment and Crime: victims and sentences

	Homicide rates in logarithms				Guilty Sentences	Sentences
	Young Men	Men	Women	Domestic Violence	per Homicides	per prosecutions
Panel A: Optimal Bandwidth	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	-0.302***	-0.316***	0.00163	-0.0498	0.218***	0.253***
	(0.0780)	(0.0771)	(0.0639)	(0.118)	(0.0417)	(0.0406)
Robust bias-corrected p-values	0.00	0.00	0.98	0.42	0.00	0.00
Opt Bandwidth	0.0408	0.0375	0.0610	0.0469	0.0857	0.0520
effective number observations left	222	204	305	244	390	184
effective number observations right	274	253	400	305	539	246
Panel B: Ad Hoc Bandwidth 0.05	(1)	(2)	(3)	(4)	(5)	(6)
Majority Wins	-0.292***	-0.290***	0.0986	-0.0877	0.208***	0.255***
	(0.0758)	(0.0722)	(0.0663)	(0.125)	(0.0416)	(0.0403)
effective number observations left	261	261	261	261	261	181
effective number observations right	330	330	330	330	330	232
State x Year FE	Y	Y	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y	Y	Y
State Capacity Controls	Y	Y	Y	Y	Y	Y

Note: This table shows the results for the exercises that study the effect of political alignment on specific types of homicides and on the judicial process of homicides. The first three columns of Panel A present respectively the effect of alignment in the rates of homicides in which the victim was a young man, a man of any age and a woman. The dependent variables for these columns is the pertinent homicide rate in logarithms. The fourth column shows the effect of alignment in the rate of homicides with domestic violence (in logarithms). Finally, columns five and six respectively show the effect of alignment on the number of guilty-verdict homicide sentences divided by the total number of homicides, and on the number of homicides sentences divided by the number of homicide prosecutions. Panel B presents the results for an Ad Hoc Bandwidth of 0.05. Robust standard errors clustered at the state x year level in brackets. The sample includes municipalities where the party ruling the majority of neighboring municipalities won or lost by small margin (i.e. Bandwidth). The set of demographic controls includes population density, human development index , death rates, and total area of municipality. State capacity controls represent the shares of households with no access to sewage, electricity, and water. *** p< 0.01, ** p< 0.05, * p< 0.1. When using optimal bandwidth selection, significance levels are based on the reported robust bias-corrected p-values. Regressions are weighted by municipal population.

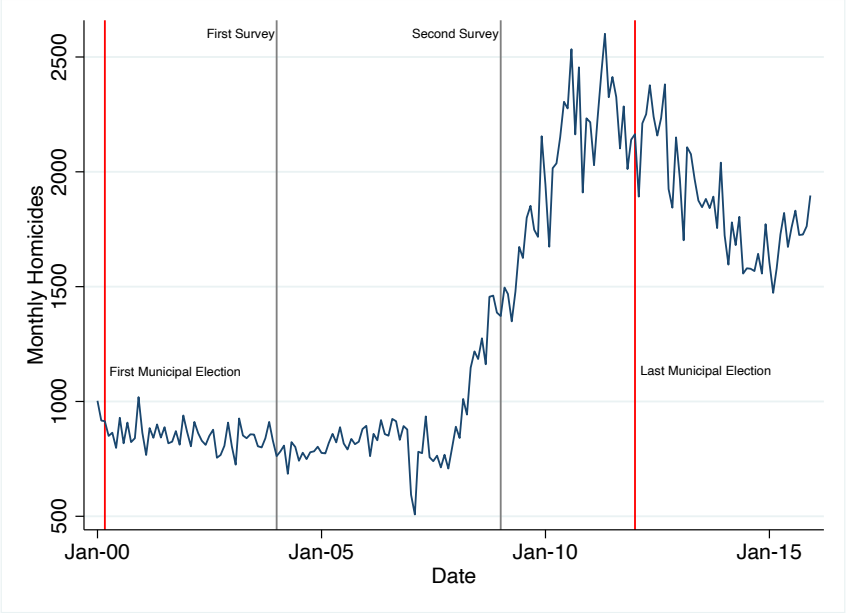


FIGURE A.1 Total Monthly Homicides in Mexico (2000-2015) *Notes:* The figure depicts the evolution of the monthly number of homicides recorded in Mexico for the period 2000-2015. Vertical red bars denote the timing of the first and last municipal election used in our analysis. Vertical black lines denote the timing of the surveys on municipal cooperation we used in our analysis. Data from the Mexican Institute for Statistics and Geography (INEGI).

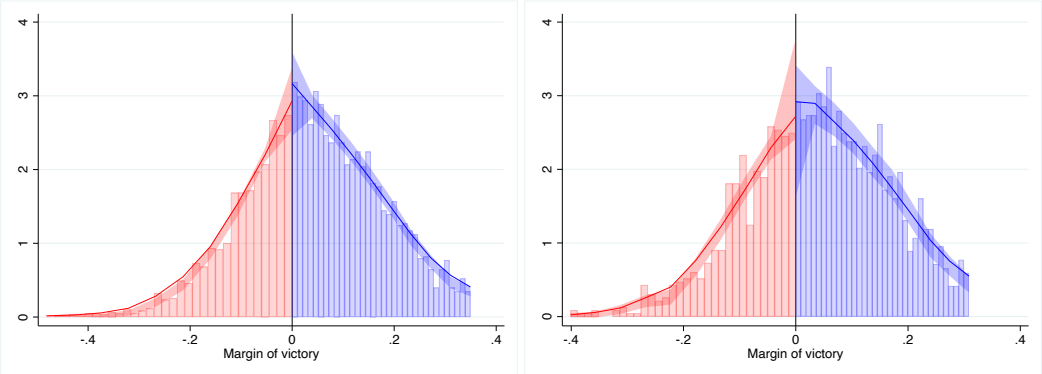
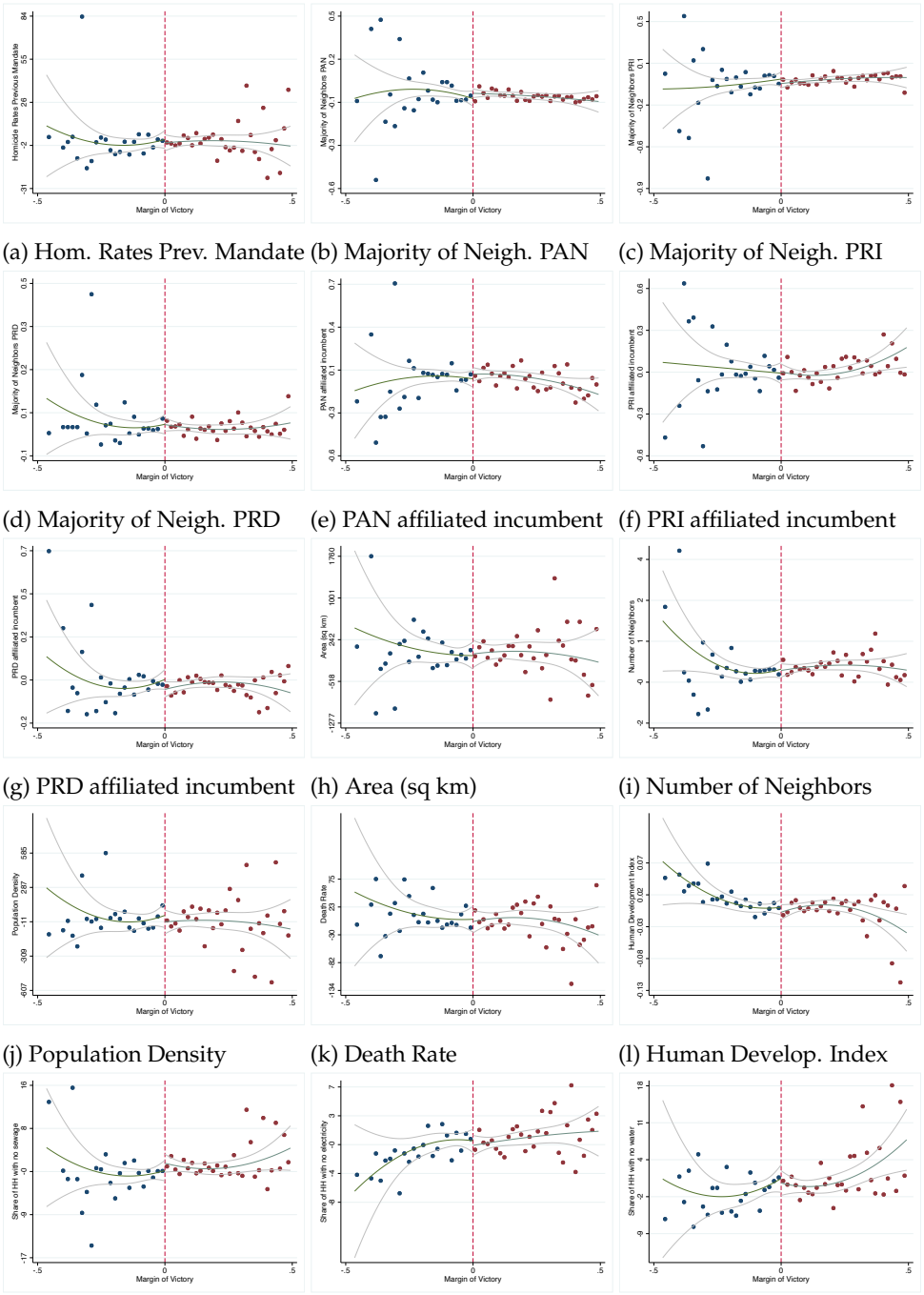


FIGURE A.2 Manipulation Tests *Notes:* The figures plots the kernel density functions for margin of victory and manipulation testing using local polynomial density estimation. The sample includes all municipal elections in which the party that won or came second ruled the majority of neighboring municipalities. Left Figure uses 3909 observations for which crime data is available. Right Figure uses 1854 observations for which cooperation agreement data is available. Data from the Mexican Research Center for Development (CIDAC).



(a) Hom. Rates Prev. Mandate (b) Majority of Neigh. PAN (c) Majority of Neigh. PRI

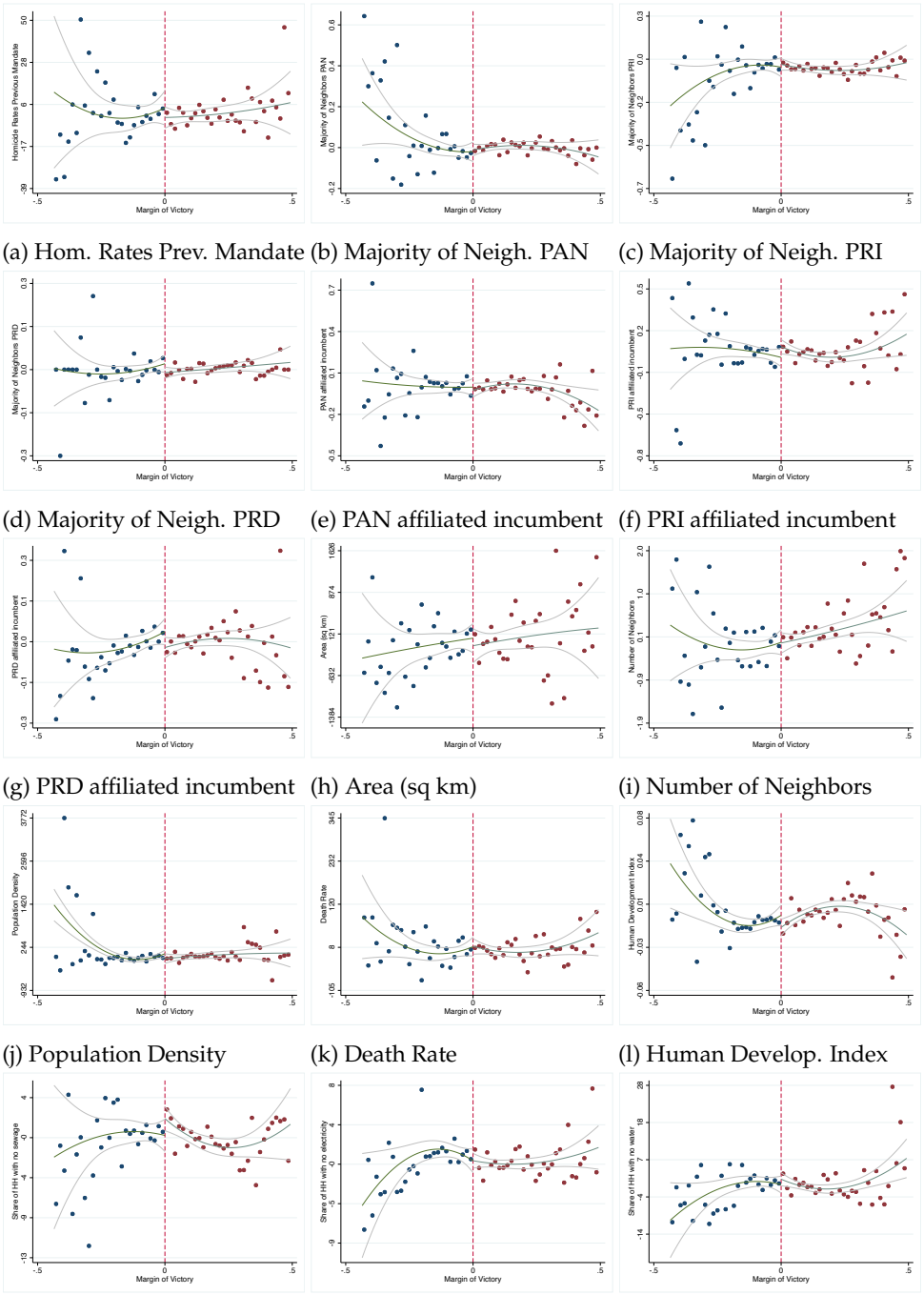
(d) Majority of Neigh. PRD (e) PAN affiliated incumbent (f) PRI affiliated incumbent

(g) PRD affiliated incumbent (h) Area (sq km) (i) Number of Neighbors

(j) Population Density (k) Death Rate (l) Human Develop. Index

(m) % of HH with no sewage (n) % of HH with no electrictiy (o) % of HH with no water

FIGURE A.3 RDD Figures for Covariates: Cooperation Sample *Notes:* The figures represent RDD plots of a set of different covariates (listed on the figure and residualized from state x year fixed effects to approximate the specification in the main empirical analysis) on vote margin using a quadratic polynomial to approximate the population conditional expectation functions for control and treated units.This sample includes 1810 municipalities, with elections between 2000 and 2008 in which the party that won or came second ruled the majority of neighboring municipalities.



(a) Hom. Rates Prev. Mandate (b) Majority of Neigh. PAN (c) Majority of Neigh. PRI

(d) Majority of Neigh. PRD (e) PAN affiliated incumbent (f) PRI affiliated incumbent

(g) PRD affiliated incumbent (h) Area (sq km) (i) Number of Neighbors

(j) Population Density (k) Death Rate (l) Human Develop. Index

(m) % of HH with no sewage (n) % of HH with no electrictiy (o) % of HH with no water

FIGURE A.4 RDD Figures for Covariates: Crimen Sample *Notes:* The figures represent RDD plots of a set of different covariates (listed on the figure and residualized from state x year fixed effects to approximate the specification in the main empirical analysis) on vote margin using a quadratic polynomial to approximate the population conditional expectation functions for control and treated units. This sample includes 3134 municipalities, with elections between 2000 and 2012 in which the party that won or came second ruled the majority of neighboring municipalities.

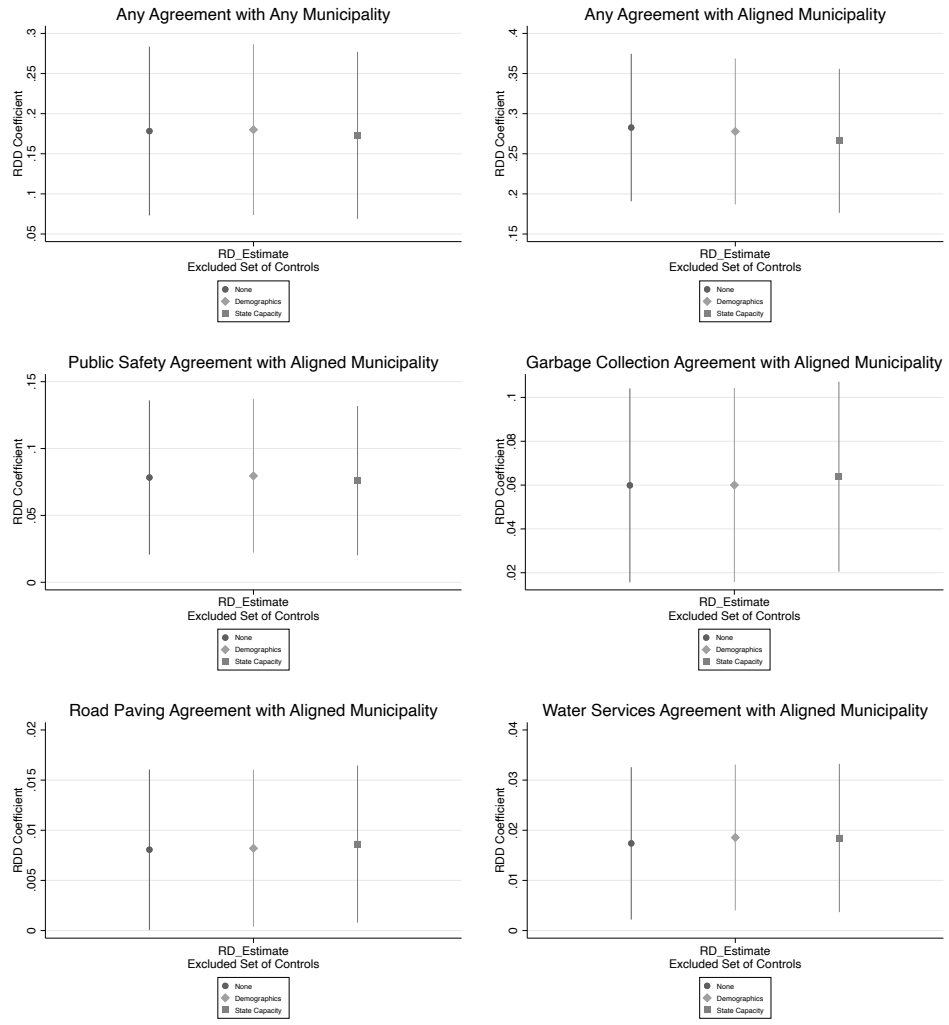


FIGURE A.5 Robustness to Exclusion of Controls (Cooperation) *Notes:* Figures plot the RDD coefficients and the 95% confidence intervals from separate regressions when omitting one set of controls at a time for our cooperation analysis. Estimations use an optimal bandwidth. Each figure shows the robustness analysis for a different outcome variable

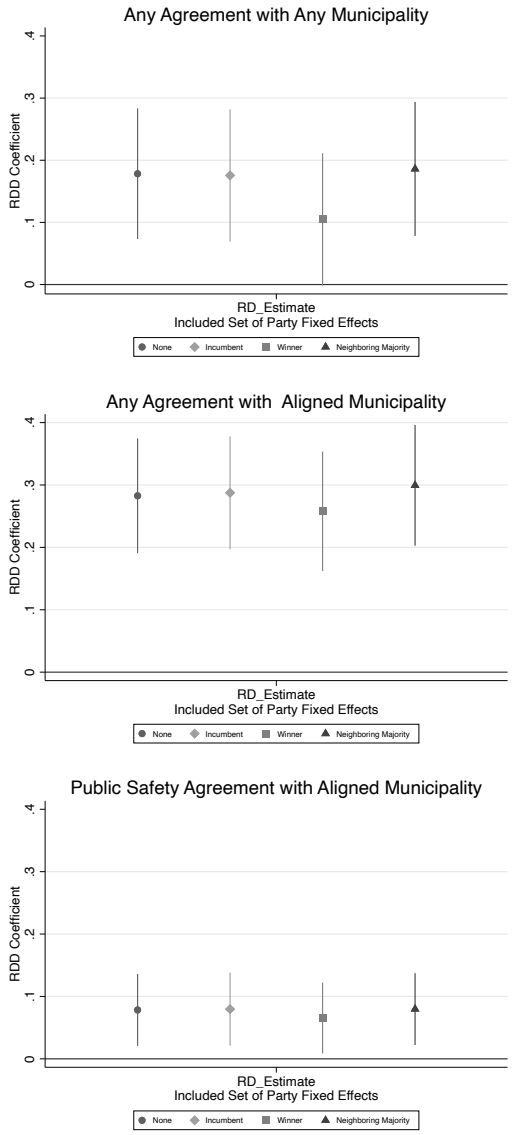


FIGURE A.6 Robustness to Party Fixed Effects (Cooperation) Manipulation Tests *Notes:* Figures plot the RDD coefficients and the 95% confidence intervals from separate regressions when using a different set of Fixed Effects in our cooperation analysis. The sample used is the same as in Table **??**.

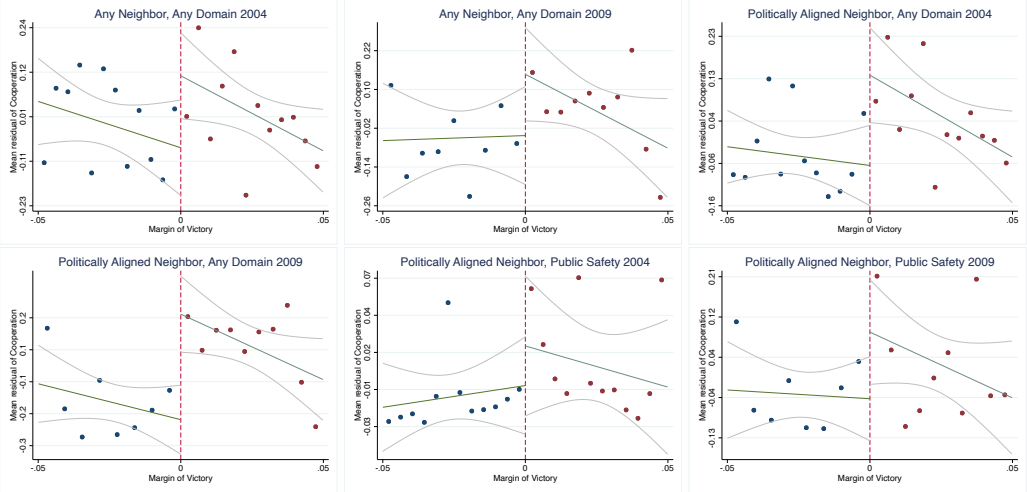


FIGURE A.7 RDD Graphical Analysis: Political Alignment and Cooperation *Notes:* The figures represent RDD plots of the probability of cooperation agreement with neighboring municipalities on vote margin. Each figure focuses on a different cooperation measure as dependent variable based on the type of neighbor (e.g., Any or Politically Aligned), type of agreement (Any Domain or Public Safety), and the year in which the agreement was in place (2004 vs 2009). The set of controls from the main specification in the paper has been partialed out. The sample used is the same as in Table 2.

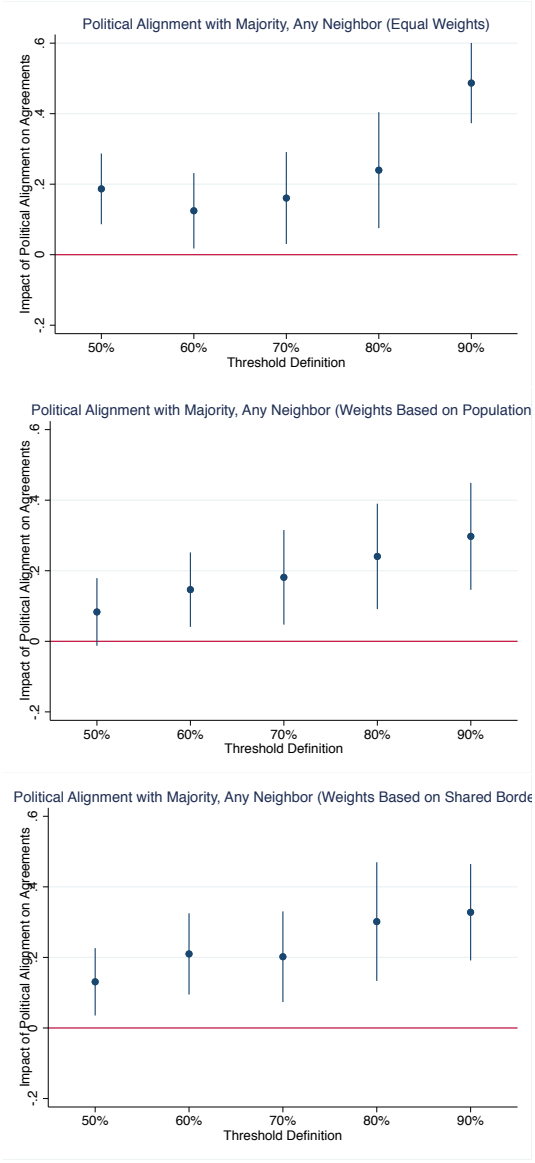


FIGURE A.8 Alternative Metrics to Define Majority (Any Domain, Any Neighbor) *Notes:* Figures plot the RDD coefficients and the 95% confidence intervals from separate regressions using different treatment definitions (thus also different samples) based on two dimensions: the weights assigned to each neighboring municipality and the threshold defining majority. Top panel assigns equal weight to each neighboring municipality (as in Table **??**), middle panel assigns weights based on neighboring population whereas in bottom panel is based on shared borders. The dependent variable in each regression is a dummy that equals one when there was at least one agreement in any domain with any neighbor (regardless of political alignment). Estimations use an optimal bandwidth.

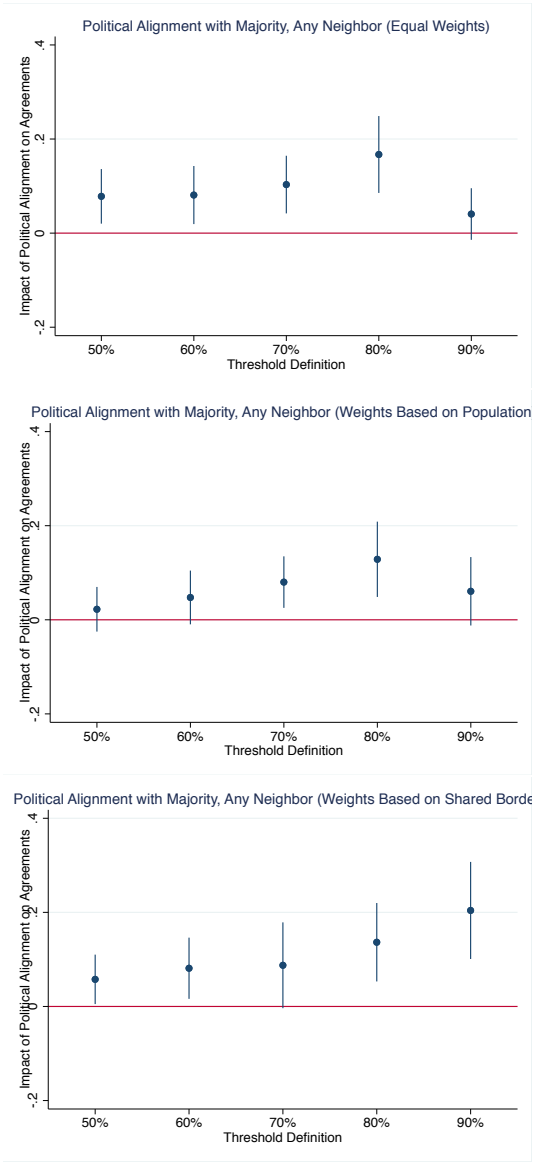


FIGURE A.9 Alternative Metrics to Define Majority (Public Safety) *Notes:* Figures plot the RDD coefficients and the 95% confidence intervals from separate regressions using different treatment definitions (thus also different samples) based on two dimensions: the weights assigned to each neighboring municipality and the threshold defining majority. Top panel assigns equal weight to each neighboring municipality (as in Table **??**), middle panel assigns weights based on neighboring population whereas in bottom panel is based on shared borders. The dependent variable in each regression is a dummy that equals one when there was at least one agreement in any domain with any neighbor (regardless of political alignment). Estimations use an optimal bandwidth.

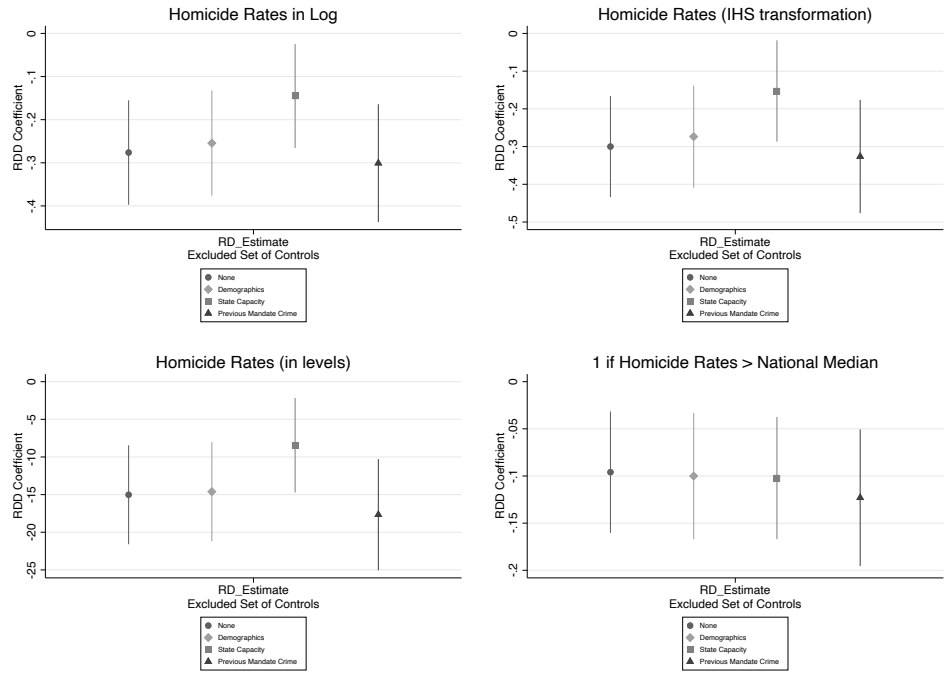


FIGURE A.10 Robustness to Exclusion of Controls (Crime) *Notes:* Figures plot the RDD coefficients and the 95% confidence intervals from separate regressions when omitting one set of controls at a time for our crime analysis. Estimations use an optimal bandwidth. Each figure shows the robustness analysis for a different outcome variable.

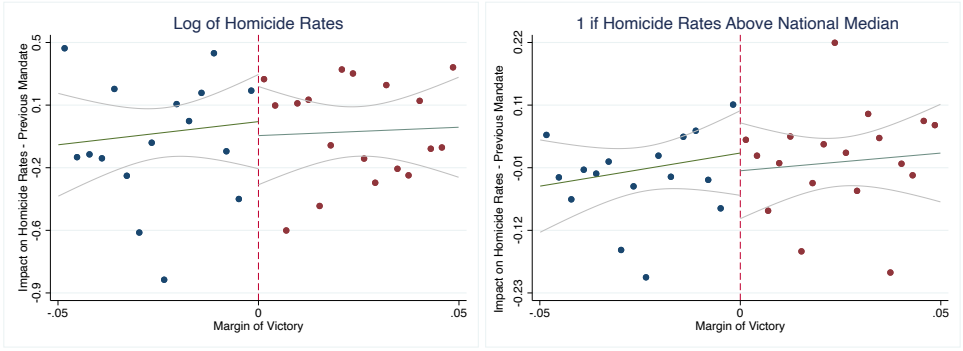


FIGURE A.11 Impact on Previous Mandate Crime Rates *Notes:* The figures represent RDD plots of homicides measures during previous mandate (i.e., 3 years-preiod before the treatment)on vote margin. Left panel focuses on homicide rate in logarithms while right panel focuses on a dummy indicating whether homicide rate in the municipality was above the national median. The set of controls from the main specification in the paper has been partialed out.

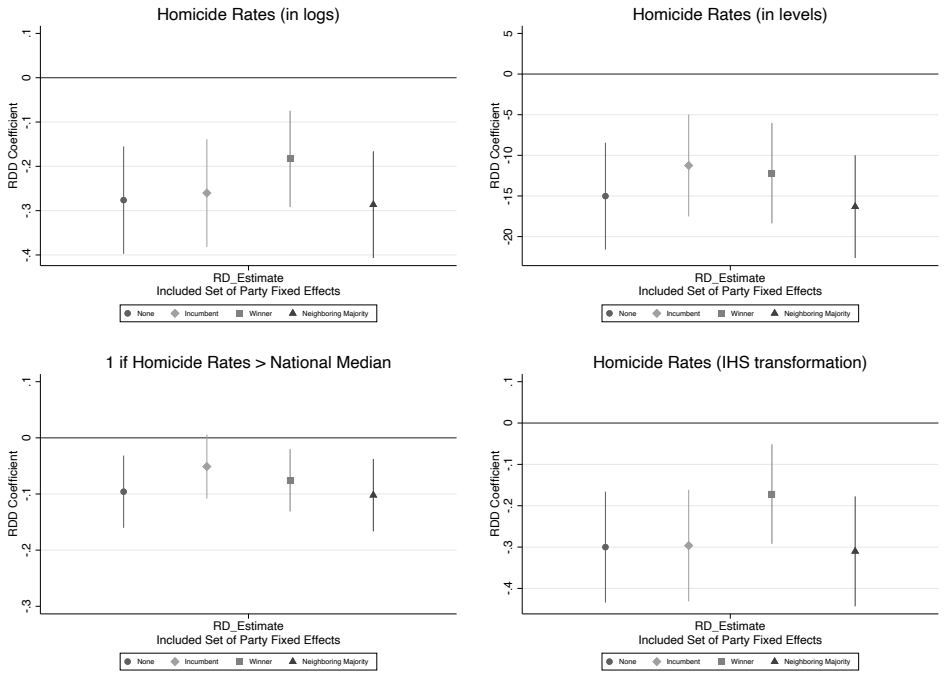


FIGURE A.12 Robustness to Party Fixed Effects (Crime) *Notes:* Figures plot the RDD coefficients and the 95% confidence intervals from separate regressions when using a different set of Fixed Effects in our crime analysis. Estimations use an optimal bandwidth. The sample used is the same as in Table 6