Criminal Dynamics and Violence Against Government Officials in Mexico

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Abstract

Mexican cartels threaten, attack, or assassinate hundreds of government officials each year. The literature contends that electoral incentives, political vulnerability, and government crackdowns account for these killings. We propose an additional explanation: that the radical transformation of Mexican cartels starting in the mid-2000s play a fundamental role in explaining where and when they use violence against government officials. Specifically, that criminal wars, cartel geographic expansion, and cartel fragmentation incentivized cartels to attack the state. We test our hypotheses by triangulating evidence from novel datasets on criminal dynamics and violence against government officials. Results show that criminal wars are the key drivers of violence against government officials and that large cartels are the main perpetrators, though smaller and more localized cartels are especially prone to assassinate politicians in territories with lucrative and geographically-fixed illicit markets. We find little evidence that cartel geographic expansion leads to assassinations.

Keywords: drug cartels, criminal dynamics, political assassinations, political violence, Mexico

Introduction

In 2001, a group of men dressed in black approached María de los Ángeles Tamés Pérez, councilmember of the Atizapán de Zaragoza municipal government in the State of Mexico, in her car and opened fire (*Redacción* 2002). Authorities declared her dead by the impact of at least four bullets fired at no more than a meter distance. Investigations soon revealed that Tamés Pérez was planning on providing evidence to government authorities about bribes accepted by the mayor from drug traffickers. This event made national and international headlines, as violence against state officials by criminal organizations (COs), also known as "cartels" in Mexico,[1] was practically unheard of in 2001. However, since then, the killing of politicians has become surprisingly common – during the 2018 electoral cycle alone, cartels murdered over 150 mayors, mayoral candidates, and former mayors, making the homicide rate for this position greater than that of the general population (Calderón 2018). This alarming rise in a uniquely brazen form of political violence by cartels poses significant challenges to Mexico's democracy and rule of law.

This phenomenon is both distressing and underexplained. COs are economic actors that do not covet state power, and therefore do not seek to overthrow the government or establish monopoly or *de facto* control over territories vis-à-vis the state (Lessing 2017, 2021). Yet recent scholarship highlights that COs cannot survive or operate without some degree of state protection, cooperation, or collusion (Arias 2017; Trejo and Ley 2021; Durán-Martínez 2017), and thus obtaining protection from politicians is necessary. Under certain conditions, the pursuit to gain this protection can turn violent. Existing studies identify three primary political factors that create the conditions for COs to violently target government officials: election cycles (Trejo and Ley 2021; Blume 2017; Daniele and Dipoppa 2017; Alesina, Piccolo and Pinotti 2018), intergovernmental party politics (Trejo and Ley 2021), and government crackdowns (Lessing 2017). However, these explanations fall short in explaining the prevalence of violence against government officials in Mexico. First, despite powerful cartels

[1] We use the term "cartel" to denote criminal organizations in Mexico.

operating in the country for decades and subnational democratic elections and party alternation existing since the 1990s, violence against government officials did not escalate until 2008. Second, if cartels were killing those politicians responsible for government crackdowns they would be targeting the state officials in charge of the crackdown. Yet, while the surge in killings in Mexico coincides with the onset of the 2007 *federal* crackdown against cartels, 88% of political assassinations since 2000 have been of *local* politicians.[2]

We contend that the literature has overlooked a key factor as a potential explanation for this violence: the transformation of Mexico's criminal underworld over the past two decades. Mexico went from being ruled by a handful of large and powerful cartels that specialized in drug trafficking and operated in specific regions key to the drug trade in the early 2000s, to a highly contested environment where dozens of large and small cartels operate across the country and are involved in a diverse set of illicit activities. Although this criminal metamorphosis coincides with the increase in violence against government officials, this relationship has been largely overlooked by existing research. We thus pose the following question: what role do criminal dynamics have in explaining when and where COs assassinate government officials?

By criminal dynamics, we mean how the presence, structure, evolution, and relationships of groups may influence cartels' propensity to target government officials. We contend that three criminal dynamics unfolding *at the local level* play a fundamental role in explaining when and where COs use violence against government officials – criminal wars, geographic expansion, and fragmentation. We further contend that lucrative geographically-fixed illicit markets may intensify the incentives to use violence against the state triggered by these criminal dynamics. However, a key limitation of existing studies is the lack of data on COs and criminal dynamics, which has led scholars to rely on proxy or aggregated measures when accounting for criminal dynamics. Analyses often rely on state-level measures that cannot capture local municipal dynamics (Calderón 2018; Blume 2017), assess disjointed

[2]See Data section for details.

time periods by evaluating political assassinations in 2017 and 2018 using data on cartel presence from 2010 (Hernàndez Huerta 2020), or simply do not use data on cartel presence or dynamics and instead rely on proxy measures (Hernàndez Huerta 2020; Trejo and Ley 2021). While these measures are justifiable given data constraints, they do not directly measure various criminal dynamics or assess them at the local level or in the appropriate time period. Thus, this article makes an empirical contribution to the study of political violence by using local-level data on both political assassinations and cartel dynamics in Mexican municipalities across 19 years.

To test our theoretical conjectures, we triangulate evidence from two datasets on violence against state officials. The first is from Trejo and Ley (2021) (we herein use "TL" when referring to this dataset), which measures *lethal and non-lethal attacks* against government officials, political candidates, and party activists between 2007 and 2011. This dataset covers the years where violence against state officials began to increase and cartels were beginning to change but had not yet fully transformed. The second is an original dataset on all *assassinated* politicians in Mexico from 2000 to 2018, which significantly extends the time period being covered. Importantly, this data captures both the period before drug cartels and criminal dynamics changed fundamentally, and after 2010, which is when the transformation was in full effect. By using both datasets, we can explore high-profile attacks in the crucial period when they began to increase substantially, and also politician assassinations across 19 years to explore how changes in criminal dynamics *within* municipalities led to this type of violence. To measure local criminal dynamics, we use municipal-level data on the geographic presence of cartels between 2000 to 2018 (Sobrino 2023) from the Mapping Criminal Organizations in Mexico (MCO) project (Signoret et al. 2021) and combine them with both datasets on political violence.

Using this data, we conduct two analyses – first, we replicate Trejo and Ley's (2021) study for the years 2007 to 2011 but include our measures of criminal dynamics; second, we extend the analysis for the years 2000 to 2018 using our unique data. Results from a

series of two-way fixed effects regression models find that criminal wars at the *local* level drive violence against government officials, both between 2007 and 2011 and the extended period between 2000 and 2018. However, while between 2007 and 2011 criminal wars are the only criminal dynamic that predicts high-profile attacks, this changes once we look at the extended dataset that includes years after the full transformation of cartels. Looking at 2000 to 2018, we additionally find that the presence of large cartels is strongly associated with more assassinations, but not that of smaller more localized cartels emerging from fragmentation. However, in territories with lucrative, geographically-fixed illicit markets, small cartels are most likely to kill politicians, with some evidence that large cartels do as well, suggesting that these territories are especially valuable to cartels. Finally, we find nearly no evidence that cartels entering new political jurisdictions affects violence against politicians in the short term.

This article makes both theoretical and empirical contributions. First, we explicitly theorize the role of criminal dynamics in the use of violence against government officials. While existing studies highlight that criminal wars can impact the use of violence against state officials, we present new dynamics, including criminal expansion, fragmentation, and the structure of illicit markets, and delineate how they matter for political violence. Second, we contribute empirically by using novel data on criminal dynamics and political assassinations that both extends the time periods explored in existing studies and quantifies previously unmeasured concepts. Ultimately, these data innovations provide rigorous empirical evidence analyzing the effects of organized crime dynamics on violence against government officials.

Existing Explanations

The increase in violence against government officials by COs over the last two decades in Mexico is both alarming and puzzling given existing explanations. Not only do COs not seek state power (Lessing 2017), but the use of violence against government officials in

Mexico is a relatively new phenomenon despite powerful cartels operating in the country for decades. This brazen form of violence defies common views that COs using violence against the state is extremely costly and should therefore be uncommon (Gambetta 1993; Bailey and Taylor 2009; Durán-Martínez 2017). Moreover, if COs can credibly threaten the use of coercion against state officials, violence should be rare. Why, then, would cartels begin perpetrating violent attacks against government officials and why has the prevalence of these attacks increased? Existing literature identifies three political factors that create incentives for COs to use violence against government officials: electoral cycles, political vulnerability, and government crackdowns.

Election Cycles

Election cycles can present key periods of political opportunity in which COs can use coercion to their advantage. For example, studies on the mafia in Italy find that COs can either use coercion before elections to influence electoral outcomes in favor of their preferred candidate (Alesina, Piccolo and Pinotti 2018) or following elections to influence the behavior of elected politicians (Daniele and Dipoppa 2017). In Mexico, anecdotal accounts suggest that both of these motives are present. For example, during the 2021 pre-electoral campaign period, unidentified attackers shot Abel Murrieta, an opposition candidate for mayor of Ciudad Obregon in the state of Sonora, allegedly for pledging to "clean up" the municipality of drug crimes (Blust 2021). Alternatively, in a campaign to control town halls and local resources in the town of Temixco in the state of Guerrero, members of Los Rojos killed mayor Gisela Mota the day after she was elected in 2016 (Lakhani 2016).

However, distinguishing between the pre- and post-electoral explanations is challenging. We may observe COs use violence against a recently elected politician, though this may be a result of unsuccessful attempts at influencing political selection before the elections, for example, through failed pre-election assassination attempts. Empirically, it is difficult untangling the two motivations, and they are likely both present. More generally, whether

it is pre- or post-election, Trejo and Ley (2021) find that attacks in Mexico intensify around subnational election cycles and argue that it is a result of COs seeking to establish criminal governance. Thus, regardless of the timing, COs seem to exploit election periods given electoral incentives to entrench their power.

Political Vulnerability

A leading explanation for the proliferation of violence against government officials by COs in Mexico is that the decentralization and political polarization prompted by democratization during the 1990s drove party alternation, making security coordination across levels of government increasingly difficult and politicized. These factors ultimately left certain municipalities vulnerable to organized crime when there were no co-partisans in higher levels of government to protect them (Rios 2015; Shirk and Wallman 2015; Trejo and Ley 2020; Blume 2017; Durán-Martínez 2017).

Specifically, Trejo and Ley (2016, 2020) argue that under the rule of the conservative PAN party during Calderón's presidency from 2006 to 2012, attacks against politicians by criminal groups were more likely when local politicians were members of a rival party, particularly the leftist PRD party. The authors contend that the ruling PAN party had political incentives to provide effective protection to municipalities ruled by co-partisans while allowing violence to flare up in municipalities with mayors from rival parties. Thus, federal forces left local politicians unprotected when they were from rival political parties, thereby making them vulnerable to attacks as COs sought to take over local resources and establish criminal governance. Blume (2017) similarly argues that political vulnerability explains CO violence, though instead contends that party polarization between state governments and municipal governments – as opposed to federal and municipal polarization – may have left municipalities from opposition parties vulnerable to attacks.

These arguments suggest that municipalities controlled by mayors that are co-partisans with their governor or the president are better protected than municipalities ruled by rival

party members. Therefore, protected mayors may prove more difficult to attack, while municipalities left vulnerable by higher levels of government could prove easier to attack.

Government Crackdowns

In December 2006, President Calderón declared war against drug trafficking and began deploying the military to combat drug cartels. As Trejo and Ley (2020) show, federal and state forces, not municipal police, spearheaded this effort. Using evidence from Mexico, Brazil, and Colombia, Lessing (2017) argues that unconditional government crackdowns may inadvertently cause COs to use violence against the state as they fight back against increased state enforcement.

Given this theory, we should expect to see Mexican cartels targeting primarily federal- and state-level politicians. Yet the vast majority of assassinated politicians in Mexico are *local* officials with no say in the creation or implementation of the top-down crackdown. Thus, while the crackdown in Mexico may explain violence against some higher-level officials and driving or accelerating macro-level changes in cartels and their use of violence, it falls short in explaining both *local* dynamics and the systematic killing of *local* politicians.

Criminal Dynamics and Violence Against Politicians

In this study, we highlight the drastic transformation of Mexico's criminal underworld that coincided with the increase in cartel violence against government officials, but which has been largely overlooked as an explanation for political violence in existing studies. Mexico went from being ruled by a handful of large and powerful cartels that specialized in drug trafficking and operated in specific regions key to the drug trade in the early 2000s, to a highly contested environment where dozens of large and small cartels operate across the country and are involved in a diverse set of illicit activities. We claim that criminal dynamics likely play a fundamental role in explaining when and where cartels target government officials.

Specifically, we argue that three key interrelated developments – criminal wars, geographic expansion, and fragmentation – create incentives for COs to use violence against the state. While these developments are interconnected, we contend that each exerts independent effects since they create their own unique incentives. Moreover, we contend that lucrative geographically-fixed illicit markets may intensify the incentives to use violence against the state triggered by these criminal dynamics.

Criminal Wars

The criminal dynamic that scholars have highlighted as playing an important role in explaining violence against the state is criminal wars (Rios 2012; Blume 2017; Hernàndez Huerta 2020; Calderón 2018). Rios (2012), for example, notes the correlation between CO-related homicides and the murder of 33 mayors between 2007 and 2011, though provides no theory to explain this empirical observation. Blume (2017), on the other hand, argues that a primary reason for politicians falling victim to CO-perpetrated violence is when they cooperate with one cartel, thus making them vulnerable to being targeted by its rivals. Hernàndez Huerta (2020) finds some evidence that this is likely the case in the states of Puebla and Guerrero. However, existing studies cannot explain why Mexican cartels did not use systematic violence against government officials until the mid-2000s given that criminal wars between the major drug cartels in Mexico began in the early 1990s (Trejo and Ley 2020).

We build on existing theories by proposing that three additional factors changed the incentives of criminal wars and resulted in COs increasingly targeting government officials, especially local politicians. First, democratization through the 1990s and 2000s made protection pacts that COs forged with federal and state authorities uncertain, especially when there was party turnover. To counteract the increasing uncertainty over high-level state protection, cartels may have increasingly turned to local authorities for protection. Criminal wars therefore meant cartels began fighting over *local* state protection.

Second, cartels began to fragment increasingly around 2010, leading to a growing number

of cartels. Fragmentation not only resulted in an increasing number of cartels, but also the proliferation in the number *of wars* between these cartels. Thus, if a few wars between a few cartels in specific regions had resulted in some violence against the state before the late 2000s, dozens of wars throughout the country after the late 2000s meant increasing violence against the state.

Third, cartels went from being large-scale drug traffickers – a federal crime – prior to 2007 to diversified criminal enterprises after 2007 (Alcocer 2022; Herrera and Martinez-Alvarez 2022), with many of their new activities being more local in nature, such as extorting local businesses, drug dealing to local consumers, property theft, and stealing oil from pipelines. Thus, criminal wars transformed from being fought over drug trafficking – which federal and state authorities largely oversee – to wars over *local* illicit markets that *local* authorities have jurisdiction over. Criminal wars over activities regulated by local government officials as opposed to state or federal authorities likely made local officials more important targets.

The expectation is thus that we should observe more violence in territories where two or more cartels are actively contesting a territory.

Criminal Expansion

Another major transformation in Mexico's underworld over the past 15 years has been the significant expansion of cartels beyond their historical strongholds. Mexican cartels went from operating in about 7% of the country's municipalities prior to 2007 to over 34% of municipalities by 2018.[3] This dramatic geographic expansion has been shown to have been partially driven by diversification (Alcocer 2022), increased demand for opioids in the United States (Sobrino 2023), and criminal wars (Trejo and Ley 2020).

The expansion of organized crime meant that cartels began entering states and municipalities where they had not previously operated and thus did not have pre-existing protection pacts with government officials. Entering new territories, especially when expanding to across

[3]See Data section for details.

state lines beyond a captured governor's protection, likely made capturing local governments especially valuable. State-level agreements are likely more costly, harder to negotiate, and require more resources and time than capturing local politicians. Moreover, the political class in territories where cartels had never operated were likely unaccustomed to dealing with these groups. In these territories, some government officials likely refuse to work for cartels, or they might agree and later back out, betray them, or fall out of favor.

Thus, the need for state protection and may have turned its pursuit violent. Cartel expansion into new territories could create incentives for COs to violently confront local politicians in these jurisdictions, making local politicians especially vulnerable to attacks.

Alternatively, however, entering new territories is likely difficult and costly for COs, presenting major challenges. Lacking any pre-existing state protection means that COs cannot perpetrate violence with the same degree of impunity as in territories where they do have protection. Rival groups that are better established could also fight them more easily, and communities may resist their entrance. Entering a new territory also implies limited local knowledge about which politicians are most influential, which stand against CO interests, and how they can be located. Thus, new entrants might initially prioritize building alliances or establishing control over lucrative markets rather than engaging in high-profile violence.

Criminal Fragmentation

Although a handful of large drug cartels dominated the Mexican underworld through the 1990s and early 2000s, starting in late 2006 and increasingly after 2009, they began to fragment into an ever-increasing number of COs. Driven largely by the government's kingpin strategy that intensified following the 2007 crackdown on cartels (Calderón et al. 2015; Phillips 2015; Atuesta and Ponce 2017), cartel fragmentation resulted in the proliferation of at least 70 powerful organizations by 2018 of all different sizes (Signoret et al. 2021).

Blume (2017) finds that assassinations are more likely in Mexican states where there is criminal fragmentation. However, the author attributes the effects to territories being

contested by an increasing number of cartels; that is, to the logic of criminal wars. We instead propose that criminal fragmentation may help explain political violence independently of criminal wars because it created different *types* of cartels: large cartels with significant power and smaller, more localized cartels with fewer financial and coercive capabilities.[4]

We follow Sánchez Valdés (2014) in arguing that differences in the sizes of COs may shape their strategic behavior by constraining their possible actions, and consequently, influence their propensity to use violence against government officials. However, our theoretical priors about the relation between cartel size and their use of violence are uncertain.

For one, small cartels may not have the financial means to capture government officials through bribes, especially state and federal officials, and may thus have to rely on local politicians and firepower when seeking political protection. This would make smaller cartels more prone to violence. At the same time, large cartels can likely rely on state and federal protection more frequently and have more coercive capabilities and financial resources, meaning that larger COs can more credibly threaten agents of the state, reducing their need to use violence.[5]

Yet, it could also be that large cartels with greater coercive capacity can more easily kill politicians with impunity due to their capabilities to evade, bribe, or intimidate law enforcement and judicial agencies. Smaller cartels could also be more cautious when contemplating the use of violence because they have fewer capabilities to deal with the backlash that such violence may cause from state forces or the military.

[4]There exist other dimensions along which Mexican cartels differ, which we do not analyze here. For example, Blume (2017) classifies them depending on whether they experienced *narco-corporatism* under the PRI. Farfán-Méndez (2019) considers whether their structure is hierarchical or network-based.

[5]Blume (2017) offers a different interpretation by arguing that older COs relied on the corporativist model for protection from the PRI party, making them less prone to violence than newer COs. Yet, this explanation does not explain the turn to the local, and overlooks that new COs were often a result of fragmentation where members of "older" cartels defected and organized their own cartels.

Criminal Markets

A final factor that may shed light on *where* we are more likely to observe political assassinations is the structure of illicit markets that cartels are involved in. Though we argue here that COs should be seen as *political* actors given their interactions with the state, they are fundamentally *economically-motivated* actors that seek to monopolize illicit markets for economic gain. We specifically argue that illicit markets may intensify the incentives of criminal dynamics to use violence against the state.

Prominent research in conflict studies explore how lootable versus non-lootable resources influences civil war violence (Collier and Hoeffler 1998; Ross 2004; Fearon 2004). Albarracin (2018) extends the logic of how lootable versus non-lootable resources impacts violence by arguing that the type of illicit activities COs are involved in shape their relationship with the state. While this author differentiates how CO involvement in extractive or non-extractive activities shapes strategies to influence voter behavior, we extend the logic to argue that valuable geographically-fixed markets shape incentives to use violence against politicians.

Specifically, we note that certain lucrative illicit activities cartels are involved in are more geographically restricted and entail the need to control and hold very specific territories. Centrally, the drug market remains the most profitable illicit market in Mexico by far despite cartels diversifying their portfolios. Certain parts of the drug trade are incredibly lucrative and geographically fixed. For example, U.S. border crossings, ports, and main drug cultivating regions are stable across time and controlling these territories is invaluable. We argue that these types of geographically-fixed markets create incentives for cartels to defend them at all costs, including perpetrating violence against politicians.

The geographic rigidity of these lucrative markets intensifies the strategic importance of territorial control, thereby exacerbating cartel competition, fueling expansion efforts, and heightening the stakes of political influence. When a CO seeks to dominate a geographically-fixed illicit market – such as a key smuggling corridor or a major drug production zone – it must not only fend off rival organizations but also secure protection from state actors who

can either facilitate or hinder their operations. This necessity amplifies the incentives for all types of COs – large or small – to use violence against the state amid criminal wars, expansion to new territories, or even without contestation as CO may be more willing to incur the costs of violence to defend or seize particularly lucrative and strategic locations. In other words, the value of controlling territories with lucrative geographically-fixed illicit markets likely intensifies the incentives created by criminal dynamics to violently attack the state.

Alternatively, less geographically-restrictive activities, such as drug trafficking routes, extortion, theft, kidnapping, and drug dealing, can be perpetrated nearly anywhere and thus do not create the same intense incentives for cartels to control territories and obtain and maintain state protection to the same degree. That is, if cartels lose state protection or face intense competition from a rival cartel in a territory without geographically-fixed lucrative markets, they can simply move and perpetrate these activities in other territories.

Empirical Strategy

To assess our theoretical conjectures, we triangulate evidence from two different datasets: the TL data measuring high-profile attacks between 2007 and 2011 and our data on politician assassinations covering 2000 to 2018. First, we replicate the main results from TL while including our variables measuring criminal dynamics. Second, we analyze our original extended dataset using the following variables on criminal dynamics and political assassinations.

Data

A key limitation of existing studies is the lack of data. Data on COs and criminal dynamics is wanting, compelling scholars to rely on proxy or aggregated measures of criminal dynamics. For example, Calderón (2018) and Blume (2017) rely on highly aggregated state-level data on cartel presence that does not capture local dynamics, and Hernàndez Huerta (2020)

analyzes political assassinations in 2017 and 2018 using data on cartel presence from 2010. Other studies simply do not use data on cartel presence or dynamics and instead rely on proxy measures, such as approximating criminal competition using drug-related homicides (Hernàndez Huerta 2020; Trejo and Ley 2021). While these measures are justifiable given data constraints, they do not directly measure various criminal dynamics and, for those that do use CO data, do not measure them at the local level or in the appropriate time period. Thus, beyond proposing that criminal dynamics matter for understanding political violence, this article makes an empirical contribution to the study of political violence by using local-level data on cartel dynamics in Mexican municipalities.

Independent Variable: Criminal Dynamics

To measure criminal dynamics, we use the data from the MCO project (Signoret et al. 2021) on the geolocation of over 40 COs in Mexico between 2000 and 2018 (Sobrino 2023). This panel dataset tracks each cartel and identifies which municipalities they operated in each year. The authors create this dataset by scraping Google and Google News for articles mentioning each CO and using natural language processing to identify where these articles report each cartel to have operated in a given year.

We operationalize *criminal wars* by identifying which municipalities are contested; that is, municipalities with two or more cartels operating in them each year. We recognize that this measure is imperfect, as more than one group operating in a territory does not necessarily imply that they are actively contesting it. However, in the absence of dyadic data, we believe this measure serves as a good proxy, particularly since two cartels operating in the same territory without enmity is rare.

We operationalize *criminal expansion* by creating a dummy variable that takes a value of 1 for municipalities that experienced new cartel presence in a given year. This measure captures the entry of a new cartel into a political jurisdiction each year.

We operationalize *criminal fragmentation* by classifying the types of cartels that result

from fragmentation events. We classify each cartel as "large" or "small" and identify which type each municipality had each year through qualitative research. We broadly define large cartels as those that operated before fragmentation began and their continuations, which typically operate in large sections of the country; we define small cartels as those that fragmented from large cartels, which usually operate in more limited regions.[6]

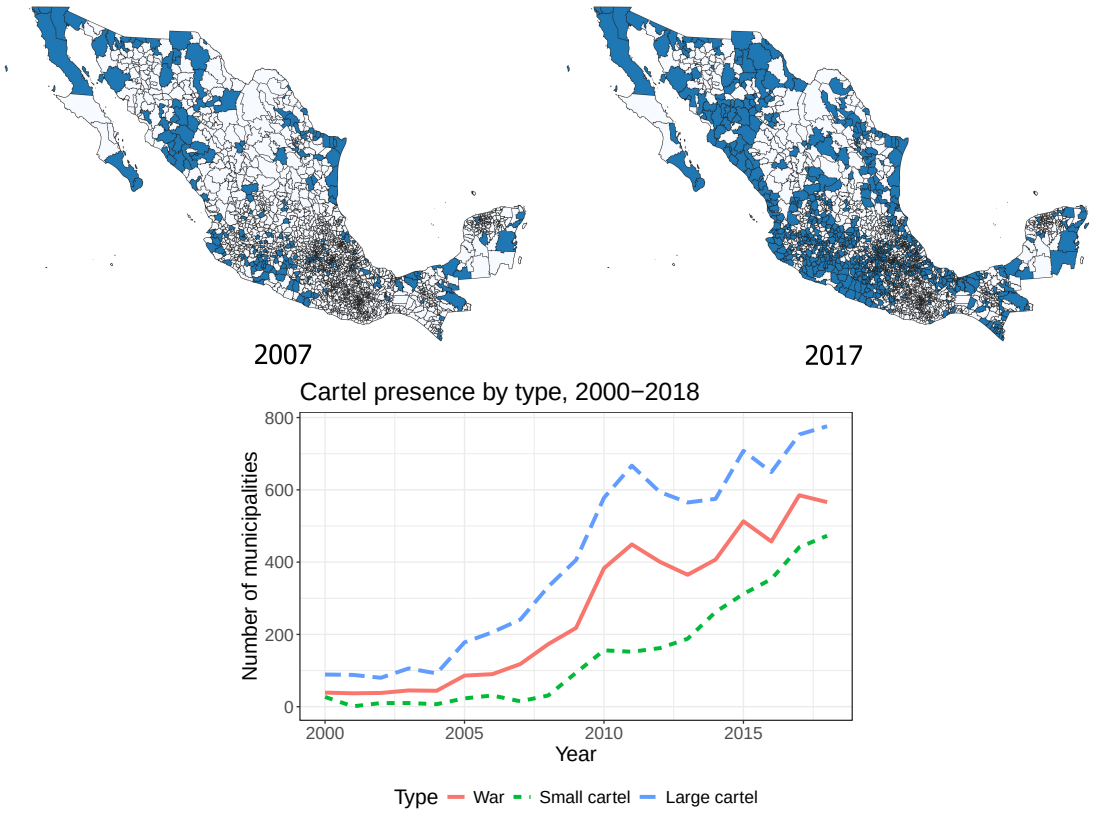

Figure 1: Geographic distribution of different types of cartel presence and number of municipalities with different types of cartel presence.

We operationalize *criminal markets* by using data from Mexico's Statistical Agency (*INEGI*) and Army (*SEDENA*) to find municipalities with geographically-fixed lucrative markets. Since drug trafficking is the most lucrative illicit market in Mexico, we consider municipalities that are geographically key to the drug trade as those that may produce strong

[6]See Online Appendix for the full list of small and large cartels.

incentives for COs to use violence to defend. Following existing research, we define these as those municipalities that have a port, are on the U.S.–Mexico border, or are key for poppy cultivation.[7] While poppy cultivation is not necessarily geographically fixed, it does require certain geographic characteristics that make it very sticky. Moreover, these tend to be municipalities that have historically cultivated poppy, which also creates some degree of path dependence.

In Figure 1, we show (1) the geographic distribution of cartel presence in 2007 and 2017 to highlight its evolution, and (2) the number of municipalities with different types of cartel presence to illustrate the extent of cartel presence and evolution of criminal dynamics in Mexico across time.

Dependent Variable: Politician Assassinations, 2000–2018

Data on violence against state officials remains disjointed, covering different periods, types of events, and targets. Trejo and Ley (2021) measures lethal and non-lethal attacks against government officials, political candidates, and party activists between 2007 and 2011; Blume (2017) measures assassinations of politicians from 2005 to 2015 aggregated to state level; Rios (2012) covers assassination of *mayors* between 2007 and 2011; Hernàndez Huerta (2020) examines the assassination of *political candidates* during the 2017-2018 electoral cycle. This article contributes to this effort by significantly extending the time period covered and creating a single and uniform measure for all politician assassinations across 19 years. This allows us to measure violence against politicians from when it was nearly non-existent, track its growth across time, and observe it when it became much more common. It also allows us to track the evolution of organized crime, which coincided with the increase in violence against politicians.

To understand violence against government officials, we create an original national-level

[7]We use data on hectares of poppy eradication between 2000 and 2018 from the Mexican military, and define municipalities as key for poppy cultivation as those with above average eradication. During this period, 913 municipalities experienced poppy eradication, with the mean being 221.8 hectares, and 79 municipalities having above average poppy eradication. We consider these as those fundamental for poppy cultivation.

dataset on assassinated politicians between 2000 and 2018.[8] Specifically, this dataset includes all murdered politicians that have run for or held elected office at any level of government in Mexico from 2000 to 2018, including federal legislators, state legislators, governors, mayors, and municipal councilmembers. The dataset includes 466 documented assassinations and information on: name of politician, position held or running for, party affiliation, date of assassination, municipality where the assassination occurred, municipality where they worked,[9] and a brief description of the assassination. Like Trejo and Ley (2021), we only include assassinations that had indications that cartels may have been involved. These indications include the use of high-caliber weapons, dozens of bullets being used, ambushes, multiple armed men, and had previously been linked to, threatened, or attacked by cartels, among others.

That said, to capture *political assassinations*, our main variable identifies the municipality where the politician worked when they were killed if they were local politicians. Due to a lack of information on many of the assassinations, we created two measures – a less conservative measure and a more conservative measure that required a higher degree of certainty that an assassination was linked to cartels. Main results use the more conservative measure ($n = 415$) but we also use the less conservative measure ($n = 437$) for robustness. Because some politicians were killed in municipalities where they did not work, we additionally create and use a third measure – the municipality where the politician was killed, for which we use the conservative specification. We assume politicians are killed due to their work, but include this alternative measure for robustness.

Figure 2 shows the geographic distribution of these assassinations between 2000 to 2018. This figure shows how assassinations are geographically disperse, occurring in 29 of the 32 states – we see no assassinations during this period in Aguascalientes, Campeche, and Queretaro.

[8]Further data collection details are included in the Online Appendix.

[9]Some local politicians are assassinated in a municipality where they did not run for or held office. In the main results we assume politicians were killed due to where they worked. We include results using the place where they were killed for robustness.

Figure 3 shows the temporal distribution of murders by level of government (municipal, state, and federal), office and positions, and affiliations to main national political parties. The data shows that assassinations were nearly non-existent until 2004 when they increase slightly, until 2008 when they suddenly increase again. Yet in 2016 this phenomenon increases exponentially. The data also shows that most victims are affiliated with the three largest political parties during this time period, with the centrist PRI party having the most, then the center-left PRD, then the center-right PAN. While these are absolute numbers and are not normalized to the number of positions held by each party, it suggests that cartels are not ideological and instead they target parties across the political spectrum. Finally, Morena, the party holding the presidency and most governorships by 2025, was only registered as a political party in July 2014 and participated in federal elections in 2015 for the first time, so we only capture its first three years. The figure also shows the positions of each victim, with the vast majority being candidates or officeholders in local governments, especially mayors and councilmembers.[10]

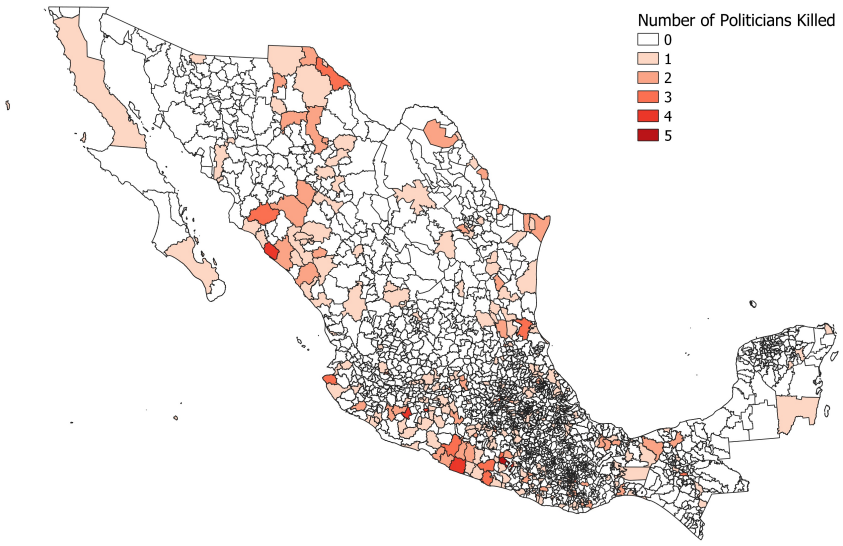

Figure 2: Geographic distribution of political assassinations in Mexico between 2000–2018. Original data by authors.

[10]Regidores and síndicos.

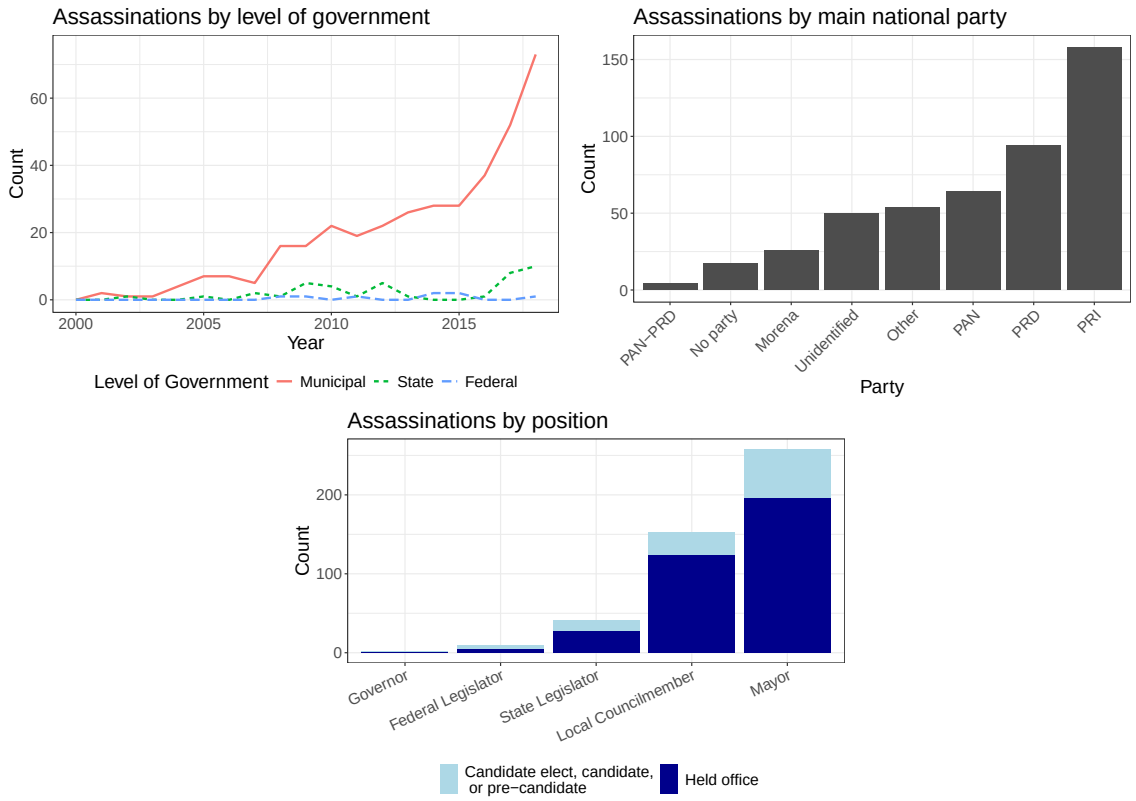

Figure 3: Number of political assassinations by level of government, office and position, and main national political party in Mexico between 2000–2018. Original data by authors.

This data has three main strengths – it significantly extends the time periods existing research explore by covering 19 years in total, it accounts for all Mexican municipalities, and it only measures assassinations to avoid measurement bias present in any data that includes attacks and threats. However, it does have an important limitation – it only includes murders and not other forms of violence. Nevertheless, using only assassinations is standard in the literature on violence against politicians (Rios 2012; Blume 2017; Daniele and Dipoppa 2017; Alesina, Piccolo and Pinotti 2018), law enforcement officials (Lessing 2017), and journalists (Holland and Rios 2017; Bartman 2018; Carey and Gohdes 2021).

Covariates, 2000–2018

For the models analyzing the extended period, 2000–2018, we control for existing alternative explanations using data on elections, political vulnerability, government crackdowns, and

other important covariates.

To capture *electoral incentives*, we adopt conventions used by existing studies and use election data from Magar (2018) to create a dummy variable that takes a value of 1 for years that a municipality has a local election. Municipalities have elections every three years and are staggered in time across states. Some existing studies also include measures of electoral competition, but if killing a candidate or politician influences electoral competition, then these are endogenous to the use of violence. In other words, we would be controlling for a post-treatment variable. This endogeneity likely biases the results, so we choose to omit them from this analysis. Moreover, year fixed effects also control for electoral factors that affect all municipalities the same year, such as federal elections.

To capture *political vulnerability*, we draw on data from several sources. Trejo and Ley (2020) use a set of nine dummies to consider the political vulnerability hypothesis, with each dummy corresponding to a different federal-state-municipality configuration between the three major parties. They also use these configurations to create a juxtaposition index. We use these for the analysis on high-profile attacks between 2007 and 2011. However, the party landscape has become far more complex since 2011, with four major national parties and the proliferation of dozens of state and local parties. To extend the concept of local political vulnerability, we use election data from Magar (2018) to classify municipalities into four categories depending on whether the mayor: (1) does not share party affiliation with either the governor or the president; (2) shares party affiliation with the governor but not the president; (3) shares party affiliation with the president but not the governor; and (4) shares party affiliation with both the governor and the president. We create three dummy variables for (1) to (3) and use (4) as the baseline category.

To capture *federal crackdown*, which began in December 2006 and was spearheaded by the military, we would ideally have information on the precise location of military deployments and operations. This data does not exist. Yet, we do have data from the military on the number of confrontations with organized crime between December 2006 and December of

2018 per municipality. We use this data to create a variable measuring the federal crackdown at the municipality level. Specifically, our variable measures the number of confrontations between the military and armed civilians per municipality per year.

Finally, we include measures to capture *state capacity*. Studies on Italy underscore the role that state absence has on the emergence of mafia-style COs (Gambetta 1996; Buonanno et al. 2015; Dimico, Isopi and Olsson 2017; Bandiera 2003). While current scholarship tends to agree that this is a simplified misconception, as COs frequently operate in the same spaces as the state and in regions with strong state capacity (e.g., Arias 2006; Durán-Martínez 2017; Trejo and Ley 2020; Lessing 2021), state capacity is nevertheless a factor that shapes how criminal groups and states interact (e.g., Moncada 2016; Durán-Martínez 2017; Yashar 2018; Moncada 2022). Thus, while state capacity may not be sufficient to prevent political violence by organized crime, it could still play some role in increasing the costs of such actions. To operationalize state capacity, we follow Trejo and Ley (2021), and measure the number of prosecutors per municipality using official data from the National Census of Justice Prosecution (*Censo Nacional de Procuración de Justicia*). This information is only available starting in 2011. We thus use the 2011 measure to impute pre-2011 years, and then use updated data for each municipality-year until 2018.

Table 1 shows the summary statistics for the variables used for the 2000-2018 analysis.

Estimation

We rely on two-way fixed effects (TWFE) regression models to estimate our main results. We believe this approach has at least three main strengths over other approaches used in this literature. First, fixed effects do not assume that unobserved heterogeneity is uncorrelated with the observed explanatory variables like the random effects models (Wooldridge 2006) used by Trejo and Ley (2021), making fixed effects consistent. We have strong substantive reasons to believe this assumption is violated in this case. For example, if local geographic factors matter for where criminal groups operate and why they fight (e.g., poppy-cultivating

Table 1: Summary statistics, politician assassinations in Mexico, 2000-2018.

	N	Mean	St. Dev.	Min	Max
Politicians killed (where worked)	46,665	0.009	0.099	0	3
Politicians killed (where worked, less conservative)	46,665	0.009	0.103	0	3
Politicians killed (where killed)	46,665	0.009	0.101	0	3
Cartel war	46,627	0.108	0.310	0	1
New cartel presence	46,627	0.160	0.366	0	1
Large cartel presence	46,627	0.165	0.371	0	1
Small cartel presence	46,627	0.059	0.236	0	1
State pol. vulnerability	46,665	0.348	0.476	0	1
Federal pol. vulnerability	46,665	0.504	0.500	0	1
State and federal pol. vul.	46,665	0.224	0.417	0	1
Local election	46,665	0.284	0.451	0	1
CO-state confrontations	46,665	0.096	1.308	0	122
Log(Prosecutors + 1)	46,665	0.599	1.336	0	8.472
Valuable territory	46,665	0.054	0.226	0	1

regions, territories with oil pipelines, cities with U.S.-Mexico border crossings), and these variables are not included in the random effects regression but are correlated with the independent variables in the regression, such as population or fiscal revenue, then the assumption is violated and coefficients will be biased. Empirically, as is standard practice, we test the random effects assumption using a Hausman specification test (Hausman 1978) and find that we must reject the null hypothesis that random effects are appropriate in this case ($p < 0.00$).

Second, unlike random effects and the count and logistic models used by Blume (2017) and Hernàndez Huerta (2020), fixed effects allow us to exploit within-unit variation. That is, unit fixed effects estimate how criminal and political changes *within* each municipality affect violence against government officials, which we believe is a more appropriate comparison rather than pooling observations and comparing differences *across* municipalities as the random effects and count models do. This is particularly important if municipalities that cartels covet and thus attract intense criminal dynamics are systematically different than municipalities that cartels do not cover and fight over. We strongly believe this is the case, meaning that tracking changes in criminal dynamics within each municipality is a more appropriate approach.

Third, unit fixed effects control for any unit-specific time-invariant omitted variable and the time fixed effects control for any common shocks that affects all municipalities, allowing them to account for some important omitted variables.

Our main analyses for the effects of criminal wars, criminal expansion, and criminal fragmentation follows the form:

$$\begin{aligned} y_{it} = & \delta_1 small\ cartel_{it} + \delta_2 large\ cartel_{it} + \delta_3 criminal\ war_{it} + \\ & \delta_3 new\ presence_{it} + \beta X_{it} + \tau + \mu + \epsilon_{it} \end{aligned} \tag{1}$$

where y_{it} denotes the number of violent attacks against government officials, $small\ cartel_{it}$ is a dummy variable indicating whether a small cartel is present in a municipality at time t, $large\ cartel_{it}$ is a dummy variable indicating whether a large cartel is present in a municipality at time t, war_{it} is a dummy variable indicating whether there is more than one cartel operating in a municipality, $new\ presence_{it}$ is a dummy variable measuring whether municipality i experienced a new cartel enter its territory at time t, X_{it} is a matrix of control variables, and τ and μ are time and unit fixed effects, respectively.

To test the effect of criminal markets, we run additional models. Specifically, to test whether lucrative geographically-fixed markets intensify the incentives that criminal dynamics create to use violence against politicians, we interact our $valuable\ territory_i$ dummy variable – which takes the value of 1 if the municipality is central for drug trafficking – with each criminal dynamic, both sequentially and in all in a single model.

Results

Given the novelty of the topic and the data, we triangulate evidence from two analyses to gain leverage over the concepts and measures of interest. First, we replicate the TL study from 2007 to 2011 and include our measures for criminal dynamics. We assess the extent to which variables such as electoral incentives and political vulnerability matter when

also accounting for criminal wars, criminal expansion, and criminal fragmentation. Second, we then extend the analysis to the 2000 to 2018 period by using our own unique data on criminal dynamics and political assassinations. This analysis allows us to account for local CO dynamics spanning a longer time frame, thereby capturing the true extent of what explains the killing of local politicians.

Criminal Dynamics and High-Profile Attacks, 2007-2011

We first replicate Trejo and Ley (2021), adding our measures of criminal dynamics using TWFE regression models. This data analyzes high-profile attacks between 2007 and 2011. The authors control for fiscal revenue, political variables, and geographic regions (see Trejo and Ley 2021, 13). Table 2 shows the results replicating the TL results when adding variables on criminal dynamics.

Our main finding is that cartel wars are positively associated with an increase in the number of attacks and this effect is statistically significant. Moreover, this effect is substantively large, as coefficients for models (2) and (4) signify nearly twice the mean of attacks in the sample, or a 0.24 standard deviation increase. These results make substantive sense, as fragmentation took off in 2010 and this sample only covers up to 2011. We find no evidence that new cartel presence, small cartels, or large cartel presence are associated with criminal attacks during this time period. Once accounting for criminal dynamics and focusing on changes *within* municipalities, the coefficients for local political vulnerabilities in the form of vertical political alignment and juxtaposition index become small and lose their statistical significance, with the exception of the specific PAN-PRD-PRD configuration in the model without covariates. Years with local elections continue to be associated with high-profile attacks, highlighting the importance of local electoral incentives. Results do not indicate that local state capacity or attacks in neighboring municipalities are associated with attacks.

Table 2: Criminal dynamics and high-profile attacks, Mexico, 2007-2011.

	High-Profile Attacks			
	(1)	(2)	(3)	(4)
Cartel war	0.038***	0.043***	0.039***	0.044***
	(0.013)	(0.015)	(0.013)	(0.015)
New cartel presence	−0.016	−0.017	−0.016	−0.017
	(0.019)	(0.021)	(0.020)	(0.022)
Large cartel	0.023	0.028	0.023	0.029
	(0.019)	(0.022)	(0.020)	(0.022)
Small cartel	−0.005	−0.009	−0.005	−0.009
	(0.017)	(0.019)	(0.017)	(0.019)
PAN-PAN-PRI	0.002	−0.002		
	(0.006)	(0.008)		
PAN-PAN-PRD	0.007	−0.004		
	(0.007)	(0.011)		
PAN-PRI-PAN	0.006	0.004		
	(0.006)	(0.009)		
PAN-PRI-PRI	0.007	0.003		
	(0.005)	(0.008)		
PAN-PRI-PRD	0.007	0.005		
	(0.006)	(0.009)		
PAN-PRD-PAN	0.019	0.024		
	(0.020)	(0.026)		
PAN-PRD-PRI	0.021	0.024		
	(0.017)	(0.026)		
PAN-PRD-PRD	0.030*	0.037		
	(0.017)	(0.026)		
Juxtaposition index			0.002	0.002
			(0.001)	(0.002)
Local election		0.024***		0.024***
		(0.006)		(0.006)
Federal election		−0.038***		−0.037***
		(0.010)		(0.010)
Attacks in neighbors t-1		−0.002		−0.004
		(0.009)		(0.009)
Fiscal revenue		−0.001		−0.001
		(0.002)		(0.002)
Prosecutor offices		−0.006		−0.012
		(0.066)		(0.066)
Mun. alternation		0.006		0.006
		(0.005)		(0.005)
St. alternation		−0.015		−0.014
		(0.009)		(0.010)
Mun. electoral competition		0.003		0.003
		(0.003)		(0.003)
St. electoral competition		0.061***		0.056***
		(0.017)		(0.016)
Year FE	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
Geographic regions FE	Yes	Yes	Yes	Yes
Num.Obs.	12 096	9843	11 917	9698
R2 Adj.	0.105	0.115	0.104	0.114

* p <0.1, ** p <0.05, *** p <0.01
Standard errors clustered at the municipality level.

Criminal Dynamics and Politician Assassinations, 2000-2018

Our extended analysis expands the 2007 to 2011 period of the TL study to cover 19 years by creating an original data on assassinations of politicians between 2000 and 2018 and using data on criminal dynamics that also cover this period. Table 3 shows the results using the national data on the assassination of politicians by cartels between 2000 and 2018. Columns correspond to our main regression models without covariates (model 1) and with covariates (model 2), alternative modeling strategies using a fixed effect Poisson model (model 3), and alternative dependent variables using the less conservative outcome measure of whether assassinations were related to cartels (model 4) and outcome data on where the politicians were killed rather than where they worked (model 5). Results across models and alternative measurements are consistent.

Centrally, we find that the assassination of politicians is driven by cartel wars. The effect is substantively large, using model (2), the coefficient suggests that cartel wars are associated with over 50% more killings than the average municipality, which corresponds to a 0.14 standard deviation increase. We find little evidence that new cartel presence is associated with more killings except for in the fixed effects Poisson model. Across models, however, we find that the coefficient for large cartels is positive and statistically significant, perhaps suggesting that large cartels began using violence against government officials even in the absence of cartel wars. The coefficient from model (2) suggests that large cartel presence is associated with a 0.10 standard deviation increase in assassinations. Finally, we find inconclusive evidence of small cartels and assassinations. While the coefficient size is fairly similar across models, it is only statistically significant in two models at the 10% level. This perhaps suggest that small cartels were beginning to partake in this form of violence, and perhaps would be statistically significant across models if we used more recent data.

Like the TL replication, all models find null results for the political vulnerability variables. These results counter existing findings and conventional wisdom. Moreover, unlike the existing studies, this analysis does not find that local elections are associated with more

Table 3: Criminal dynamics and political assassinations of elected officials in Mexico, 2000-2018.

	Politician assassinations				
	Main models		Alternative model: FE Poisson	Alternative DV: Less conservative measure	Alternative DV: Place killed
	(1)	(2)	(3)	(4)	(5)
Cartel war	0.014***	0.014***	0.359*	0.014***	0.014***
	(0.004)	(0.004)	(0.194)	(0.004)	(0.004)
New cartel presence	0.002	0.002	0.294	0.003	0.000
	(0.005)	(0.005)	(0.317)	(0.005)	(0.006)
Large cartel	0.010*	0.010*	0.696**	0.009*	0.011**
	(0.005)	(0.005)	(0.341)	(0.005)	(0.006)
Small cartel	0.009*	0.008	−0.276	0.007	0.010*
	(0.005)	(0.005)	(0.182)	(0.005)	(0.006)
CO-military confrontations		0.001	0.006	0.001	0.003**
		(0.001)	(0.017)	(0.001)	(0.001)
State pol. vulnerability		0.000	−0.200	−0.001	−0.002
		(0.002)	(0.185)	(0.002)	(0.002)
Federal pol. vulnerability		0.001	0.239	0.001	0.001
		(0.002)	(0.165)	(0.002)	(0.002)
State & fed. pol. vulnerability		0.000	−0.002	0.000	0.000
		(0.003)	(0.266)	(0.003)	(0.003)
Local election		0.002	0.114	0.002	0.001
		(0.001)	(0.125)	(0.001)	(0.001)
Log(Prosecutors+1)		0.007**	0.099	0.007**	0.009**
		(0.003)	(0.067)	(0.003)	(0.004)
Year FE	Yes	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes	Yes
Num.Obs.	46 627	46 627	46 627	46 627	46 627
R2 Adj.	0.029	0.030		0.030	0.038
Log-Likelihood			−1291.2		
BIC			29 263.7		

* p <0.1, ** p <0.05, *** p <0.01
Cluster robust standard errors.

attacks. Given that the data used here includes more years, particularly after 2012, these results may suggest that assassinations are occurring more frequently outside of election cycles as they have become more prevalent. We find weak evidence that the crackdown is associated with assassinations, but state capacity seems to be positively correlated, perhaps

suggesting that killings happen more in urban municipalities.

To assess the extent to which illicit markets intensify these effects, Figure 4 shows the results for the interaction between criminal dynamics and valuable territories. The results show the coefficients and 90% and 95% confidence intervals for the model with full interactions. Full results are included in the Online Appendix. While the models interacting each criminal dynamic individually finds positive and statistically significant results for each interaction, the analysis interacting all criminal dynamics with the valuable territory dummy shows positive effects for large and small cartels, though only those for small cartels is statistically significant.

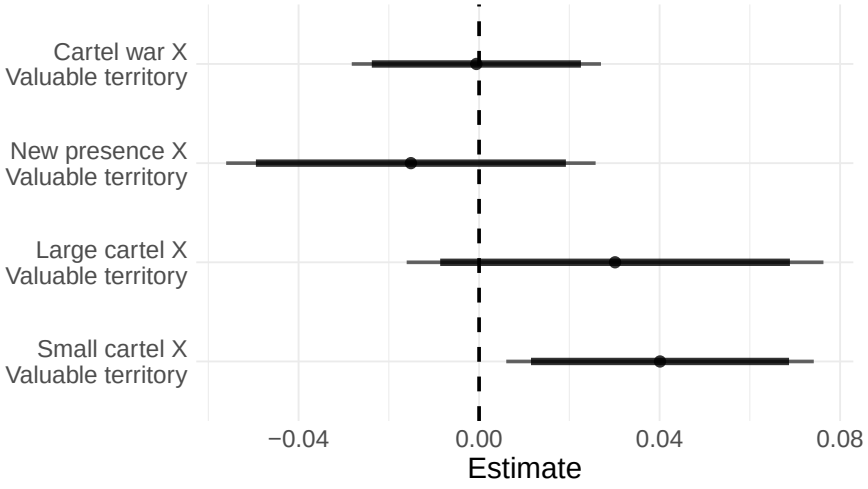

Figure 4: Valuable territories, criminal dynamics, and politician assassinations, 2000-2018. Results from interaction model. Dots represent coefficient, thick and thin lines denote 90% and 95% confidence intervals.

These results suggest that criminal wars drive assassinations regardless of the local illicit market characteristics, but small cartels in particular are most prone to violently defend valuable territories. The effects are very large, with the interaction suggesting that small cartels in municipalities with valuable territories are four times more likely to assassinate politicians than the average municipality. This suggests that smaller cartels who depend most on these valuable geographically-fixed markets and who may find moving very costly

are the ones with the greatest incentives to defend these territories at all cost.

Triangulating Results

Taken together, the evidence clearly shows that criminal dynamics are the main factor driving violence against politicians. More specifically, the results suggest at least four key conclusions. First, criminal wars drive political assassinations. Second, we find nearly no evidence that cartels entering new territories is associated with more violence against government officials in the short term. Third, taking criminal wars into account, large cartels appear to be the ones perpetrating this violence. However, in territories with lucrative, geographically-fixed illicit markets, small cartels are the ones driving the violence. Taken together, these results underscore the importance of cartels transforming in nature in the late 2000s by showing that it was not only an evolution of the underworld, but that it had real consequences on how these cartels violently engaged with the state.

Other findings, while not our main focus, are worth noting. First, once criminal dynamics are accounted for, we find no evidence supporting the hypothesis that political vulnerability, driven by party polarization and party politics, is an important factor for understanding when and where cartels attack politicians. This finding counters prominent arguments about political vulnerability and inter-governmental cooperation explaining CO violence. Second, when using data that extends beyond 2011 and accounting for criminal dynamics, we also find no evidence that local election cycles are associated with more violence against politicians, perhaps suggesting that as this type of violence has become more prevalent it has extended beyond election cycles.

Conclusion

Violence against government officials, including assassinations, is one of the most perverse and destabilizing threats that non-state actors can pose to the state. While scholars have

extensively studied political violence by rebel groups and terrorist organizations, the role of COs in targeting state officials remains understudied. This article advances this emerging literature by demonstrating how criminal dynamics – particularly criminal wars, geographic expansion, fragmentation, and illicit market structures – shape when and where COs resort to political assassinations, an explanation that has been largely overlooked by existing research.

Our findings have important implications as we seek to understand Mexico's ongoing security crisis and its consequences for democratic governance. If we are to effectively counteract violence, understanding its drivers is crucial. As cartels continue to evolve and fragment, the persistent targeting of local politicians threatens not only electoral competition but also the state's capacity to govern at the subnational level. Recognizing the role of criminal dynamics in shaping this violence is essential for designing more effective policies to protect public officials and curb criminal influence over political institutions. For instance, evidence suggests that the kingpin strategy, an integral part of Mexico's militarized crackdown on organized crime, contributed to the criminal fragmentation and competition that fuels political assassinations. This raises pressing questions about the unintended consequences of hard-line security policies and underscores the need for alternative approaches to mitigating cartel violence.

Beyond identifying the causes of this violence, future research should explore its far-reaching consequences. The assassination of politicians by COs has profound implications for democracy, governance, and state capacity, potentially weakening institutions, fostering corruption, and eroding public trust. If COs can determine who governs and who does not, their influence extends beyond the underworld and into the very fabric of political power. Understanding and addressing this form of political violence is therefore not only a security imperative but a fundamental challenge for democratic resilience and the rule of law.

Ultimately, beyond advancing our understanding of political assassinations in Mexico, this study has broader implications for other countries where criminal organizations engage in political violence. From Brazil and Ecuador's prison gangs to mafias in Italy and insurgent-

criminal networks in Colombia, armed groups around the world selectively kill politicians to secure territorial and economic interests. Our findings suggest that transformations in the criminal underworld – rather than just state repression or electoral cycles – may be key to understanding when and where these attacks occur. This insight speaks to broader debates on the relationship between organized crime and state actors, the political economy of violence, and the conditions under which non-state actors resort to selective versus indiscriminate coercion. By demonstrating how criminal dynamics shape violence against government officials, this study contributes to scholarship on political violence, state-crime relations, and subnational governance, offering a framework that may be applicable beyond Mexico's context.

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