

Organized Crime Dynamics and Violence Against Government Officials in Mexico

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Abstract

Mexican cartels have attacked or assassinated thousands of government officials. The literature contends that electoral incentives, political vulnerability, and government crackdowns account for these killings. We argue that the radical transformation of Mexican cartels and their dynamics starting in the mid-2000s play a fundamental role in explaining where and when criminal organizations use violence against government officials. Triangulating evidence from novel national and subnational datasets on criminal dynamics and violence against government officials and a series of fixed effects models, we find that criminal wars are a key driver of violence against government officials, that cartel geographic expansion sometimes leads to violence, larger cartels initially used this type of violence more but fragmentation led to smaller cartels also using this violence, and these attacks are most prevalent in territories with lucrative geographically-fixed illicit markets, particularly when cartels are well-established. Political effects fade when accounting for these dynamics.

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1 Introduction

In 2001, a group of men dressed in black approached María de los Angeles Tamez Pérez in her car and opened fire (*Por La Redacciñ*, 2002). Authorities declared her dead by the impact of at least four bullets fired at no more than a meter distance. Tames Pérez was a councilor of the Atizapán de Zaragoza City Council in the State of Mexico. Because of the nature of the killing – the perpetrators did not take the car nor money or other valuables – authorities claimed that opportunity for robbery was not a motive for the killing. Instead, they eventually discovered that members of a criminal organization (CO), also known as “cartels” in Mexico, assassinated Tames Pérez because she uncovered how the group engaged in acts of corruption and manipulation of the municipal government. Since this killing, there has been an alarming increase in political violence by cartels in Mexico, a uniquely brazen and rampant form of violence for a democracy. By the 2018 electoral cycle, 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 phenomenon is puzzling given common understandings of COs as profit-maximizing actors that do not covet political 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). At the same time, attention to politics is key for COs, for they cannot survive or operate without some degree of state protection, cooperation, or collusion (Trejo and Ley, 2021; Durán-Martínez, 2017; Arias, 2017). State protection creates a permissive environment for COs to establish criminal governance over territories for the purpose of controlling illicit markets for economic gain and protecting these gains from rival COs. In many instances, COs and government officials can negotiate quid pro quo deals based on benefits where both actors win, for example, COs providing votes to certain politicians in return for protection when they take office (Buonanno et al., 2016; De Feo and De Luca, 2017; Arias, 2017; Albaracín, 2018). And while scholars have argued that these peaceful deals are often made under the implicit or explicit threat of violence (Dal Bó et al., 2006; Lessing, 2017), no violence is

used or observed. Yet, under certain conditions, the need for COs to obtain or retain state protection can, and does, turn violent.

Existing studies identify three primary political factors that create the conditions for COs to violently target government officials. First, electoral cycles provide windows of opportunity for attacks because COs can use violence to intimidate, punish, or remove certain politicians (Trejo and Ley, 2021; Blume, 2017; Daniele and Dipoppa, 2017; Alesina et al., 2018). Second, party politics can leave certain local government officials vulnerable to attacks when higher levels of government leave them unprotected for political reasons or because it makes inter-government security coordination difficult (Trejo and Ley, 2021; Rios, 2015). Third, intensified government crackdowns against COs can incite these groups to retaliate and attack the government officials in charge of the crackdown (Lessing, 2017).

However, these explanations do not seem to fully account for the prevalence of violence against government officials in the case of Mexico. First, despite powerful cartels operating in the country for decades and subnational democratic elections and intergovernmental party politics existing since the 1990s, violence against government officials only began in the early-2000s and escalated after 2007. Second, while the surge in killings coincides with the start of the 2007 federal crackdown against cartels that was spearheaded by federal and state forces, 88% of political assassinations since 2000 have been of *local* politicians, those not in charge of the crackdown.¹

We argue 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 regions key to the drug trade, to a highly contested environment where dozens of cartels operate across the country and are involved in a diverse set of illicit activities. Although this evolution in criminal dynamics coincides with the increase in violence against government officials, this relationship has been largely

¹See Data section for details.

overlooked by existing research, largely due to empirical constraints. We thus pose the following question: What role do criminal dynamics have in explaining when and where COs assassinate government officials?

We claim that four key criminal dynamics play a fundamental role in explaining when and where COs use violence against government officials: criminal wars, criminal expansion, criminal fragmentation, and criminal markets. First, we follow prominent explanations provided by Blume (2017), Huerta (2020), and Calderón (2018), who argue that criminal competition over territories can create incentives for cartels to target local politicians colluding with rival groups or those that refuse to protect them from rival cartels. We thus expect that areas that are actively contested by two or more cartels will experience more violence against government officials than territories under monopoly control. Second, Mexican cartels went from operating in about 5% of municipalities before 2007 to over 25% by 2018.² This territorial expansion may create incentives for cartels to use violence against government officials when entering new territories in an attempt to gain political protection and establish their operations. Third, Alcocer (2022) shows that Mexico went from having six major cartels before 2007 to over 70 by 2018 through a process of fragmentation that exploded starting in 2010. While large cartels continued to operate, fragmentation fueled the proliferation of smaller, more localized cartels with fewer means to bribe or capture government officials. We therefore expect that smaller, more localized cartels that depend more on local state protection are more likely to use violence against local government officials. Fourth, we argue that the increasing number of cartels and wars between them over lucrative markets means that territories with valuable and geographically-fixed markets became especially coveted and contested. We thus hypothesize that these territories will likely experience more assassinations than territories without valuable, geographically-fixed markets. We note that these criminal dynamics are all local in nature and thus offer a better theoretical explanation for why most violence by cartels against government officials targets

²See Data section for details.

local politicians.

A key barrier to testing the effects of criminal dynamics in the literature has been the lack of data to capture this phenomenon. For example, Rios (2012) and Trejo and Ley (2021) do not use data on cartels when investigating violence against politicians, and Blume (2017) uses highly aggregated data that does not capture local dynamics. We overcome this shortcoming by constructing a series of datasets on criminal dynamics and assassinations of government officials. First, to measure violence against government officials, we create original datasets on all assassinated politicians in Mexico from 2000 to 2018 and all assassinated government officials in the state of Guanajuato from 2000 to 2021. We additionally use the data from Trejo and Ley (2021) (we herein use “TL” when referring to this dataset) measuring lethal and non-lethal attacks against government officials, political candidates, and party activists between 2007 and 2011. Second, to measure criminal dynamics, we use municipal-level data on the geographic presence of cartels between 2000 to 2018 from the Mapping COs in Mexico (MCO) project Signoret et al. (2021) and original fine-grained datasets on cartels in the state of Guanajuato that more accurately measure local criminal dynamics.

To test our conjectures, we triangulate evidence from the TL dataset, our extended national dataset, and the Guanajuato dataset. We leverage all three datasets because each offers its own advantages, including covering different time periods as well as exploiting different measurements for variables of interest, thereby providing more rigor and validity to our findings. Results from a series of two-way fixed effects regressions find that criminal wars drive violence against government officials, particularly when at least one of the cartels is well-established in the territory they are fighting over. We find some evidence that cartels entering new territories is associated with more violence against government officials in the short term. Moreover, while this type of violence was primarily a strategy used by larger cartels soon after the 2007 government crackdown, smaller fragmented cartels seem to have adopted the strategy after 2010 when they began proliferating. It is also a strategy used in territories where cartels are well established rather than where they have a weak presence.

Finally, violence against government officials is more prevalent in territories with lucrative and geographically-fixed illicit markets.

The main contribution of this article is thus twofold – theoretical and empirical. First, we explicitly theorize the role of criminal dynamics in the use of violence against government officials in Mexico. While existing studies highlight that criminal wars can impact the use of violence, we present new dynamics, including criminal expansion, criminal fragmentation, and criminal markets, and theorize how they matter for understanding political violence by COs. 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 variables. Ultimately, these data innovations provide rigorous empirical evidence analyzing the effects of organized crime dynamics on violence against government officials.

2 Existing Explanations

The increase in violence against government officials by COs over the last two decades in Mexico is both alarming and puzzling. Not only do COs not seek political 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. 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 incentives, political vulnerability, and government crackdowns.

2.1 Electoral Incentives

Election cycles can present key periods of political opportunity where COs can use coercion to their benefit. 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 et al., 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 may be present as well. For example, unidentified attackers shot Abel Murrieta, an opposition candidate campaigning for mayor of Ciudad Obregon in the Mexican state of Sonora in the 2021 midterm elections, 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 not straightforward. 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 attempts to use violence against politicians beforehand. 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 cartel attacks in Mexico intensify around subnational election cycles and argue that it is a result of COs seeking state capture. That is, cartels exploit election periods to establish criminal governance and entrench their power.

2.2 Political Vulnerability

A leading explanation for the proliferation of violence against government officials by COs in Mexico is that 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 (2020) argue that under the left-right party polarization during Calderón’s presidency, 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 argue that this is due to state and/or federal forces leaving local politicians vulnerable when they were from different 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 claims 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 political factors arguably intensified following the government crackdown of 2007. Trejo and Ley (2016) argue that during the right-wing presidency of Felipe Calderón from 2006 to 2012, the ruling PAN party had incentives to provide effective protection to municipalities ruled by co-partisans while allowing violence to flare up in municipalities with mayors from rival parties, specifically the leftist PRD party. This in turn allowed the conservative PAN party to blame rival parties for not addressing public security concerns.

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.

2.3 Government Crackdowns

In December 2006, President Calderón declared war against drug cartels and began deploying the military to combat these organizations. 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 government crackdowns may cause COs to use violence against the state in order to fight back and reduce the intensity of the crackdown.

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-level officials.

We offer an alternative reason for why the federal crackdown may have pushed COs to use violence against local government officials. We suggest that the federal government crackdown likely increased the cost of capturing state- and federal-level government officials. Under the low enforcement policy in place before December 2006, the price of buying political protection from state and federal-level government officials was likely relatively low. However, directives from above to fight organized crime probably made protection more valuable and provided additional leverage to federal and state-level government officials, increasing the price they could demand from COs to provide protection. This shock that increased cost of capturing federal and state-level government officials may have driven COs to instead seek political protection from local government officials, increasing violence against them.

3 Organized Crime Dynamics and Violence Against Politicians

In this study, we highlight a factor that has been overlooked in existing studies – the drastic transformation of Mexico’s criminal underworld, which coincided temporally with the increase in cartel violence against government officials. Mexico went from having a handful of powerful drug trafficking organizations that mainly operated in regions key to the drug trade in the early 2000s, to a highly fragmented and contested environment where dozens of COs involved in various illicit markets operate across the country.

While the literature has commonly argued that wars between COs help explain the use of violence against the state, we claim that criminal dynamics more broadly play a fundamental role in explaining why cartels target government officials. By criminal dynamics, we mean how the presence, structure, evolution, and relationships of groups may influence cartels’

propensity to target government officials. Specifically, we argue that four key developments – criminal wars, criminal expansion, criminal fragmentation, and criminal market structure – shape the incentives for COs to use violence against the state.

3.1 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; 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. 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 when criminal wars between the major drug cartels in Mexico began in the 1990s, as Trejo and Ley (2020) document.

We build on existing theories by proposing that three other factors changed the incentives of criminal wars and resulted in COs 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 this uncertainty over high-level state protection, cartels arguably increasingly turned to local authorities. Criminal wars thus meant cartels began fighting over local state protection, that is, local state officials. Second, cartels began to fragment increasingly around 2010, leading to a growing number of cartels. Fragmentation not only resulted in an increasing number of wars between cartels, but also between smaller, more localized yet powerful cartels that were more dependent on local state protection. The incentives of criminal wars that drive them to use violence against the state may have been

especially acute for these smaller cartels that depend heavily on protection from local state officials. Third, cartels began diversifying beyond drug trafficking in 2007 (Alcocer, 2022), and many of the activities they began to undertake were more local in nature such as extorting local businesses, drug dealing to local consumers, and stealing oil from pipelines. 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 compared to territories where a cartel holds monopoly control.

Hypothesis 1 (H1): *Territories actively contested by two or more COs will experience more violence against politicians than territories under monopoly control.*

3.2 Criminal Expansion

Another major transformation in Mexico's underworld over the past 15 years is that Mexican cartels went from operating in about 5% of the country's municipalities prior to 2007 to over 25% of municipalities by 2018.³ This dramatic expansion has been shown to have been partially driven by diversification (Alcocer, 2022), increased demand for opioids in the United States (Signoret et al., 2021), and criminal wars (Trejo and Ley, 2020). Consequently, COs managed to maintain a presence in an ever-increasing percentage of the Mexican territory.

The expansion of organized crime meant that an increasing number of political jurisdictions began to experience cartel incursions. This also 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 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.

³See Data section for details on data source.

Moreover, the political class in territories where cartels had never operated were likely unaccustomed to dealing with these groups. Thus, cartel expansion into new territories where they were not well established likely made local politicians especially valuable to attacks.

Additionally, COs also began to expand to territories controlled by rival organizations. Expanding into territories where a rival CO had a protection pact with state level politicians likely made local level protection valuable to the invading CO, thereby spurring justification to kill government officials in these territories. Some government officials will refuse to work for cartels, or they might agree and later back out, betray them, or fall out of favor. Therefore, cartels might kill more in new territories they enter as they are trying to establish themselves.

Hypothesis 2 (H2): *COs are more likely to kill government officials in territories where they have recently expanded.*

3.3 Criminal Fragmentation

Following the breakup of the Guadalajara Cartel in the 1980s, a handful of powerful COs dominated the Mexican underworld until 2006. However, starting in late 2006 and increasingly after 2009, the large Mexican drug cartels 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 (Signoret et al., 2021).

Blume (2017) finds that assassinations are more likely in Mexican states where there is criminal fragmentation, implying that the pluralization of COs in recent years has created the conditions for political assassinations. However, the author attributes the mechanisms to territories being contested by an increasing number of cartels; that is, to the logic of criminal wars. We instead propose that criminal fragmentation, beyond fostering an increasing number of criminal conflicts, 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 capabilities. We argue that the differences in capabilities likely shape their strategies and consequently, their propensity to use violence against government officials.

However, our theoretical priors in terms of predicting the likelihood of more violence stemming from large groups or small groups are uncertain. For one, small cartels may at times 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. 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.⁴ Yet, it could also be the case that large cartels with greater coercive capacity could more easily be able to kill politicians and maintain impunity due to their capabilities to evade, bribe, or intimidate state enforcement, including law enforcement or judicial agencies. Smaller cartels could also be more cautious when contemplating the use of violence because they have fewer capabilities to deal with the reaction that such violence may cause from state forces or the military.

Hypothesis 3 (H3): *Small, more localized COs are more likely to kill politicians than larger COs.*

3.4 Criminal Markets

A final dynamic that may shed light on the variation of political assassinations is the type of market that cartels are involved in. While Mexico’s underworld was historically composed of specialized drug trafficking organizations, over the past two decades they have diversified

⁴Blume (2017) offers a different interpretation by arguing that COs that emerged during the authoritarian period that had relied on the corporativist model for protection from the PRI party meant they were less prone to use violence than newer COs. Yet, this explanation does not explain the turn to the local, and it overlooks that new COs were not “new” at all, but rather a result of fragmentation, that is, members of these older cartels breaking off and establishing their own independent cartels.

and entered new markets such as extortion, kidnapping, drug dealing, oil theft, migrant smuggling and trafficking, looting mines, natural gas theft, and illegal logging (Alcocer, 2022).

We follow Albarracin (2018), who argues that the type of illicit activities COs are involved in shape their relationship with the state. However, while this author differentiates COs based on whether they are involved in extractive or non-extractive activities, which shapes their strategies to influence voter behavior,⁵ we argue that valuable and geographically-fixed markets shape incentives to use violence against politicians.

More specifically, we argue that some of the very lucrative activities cartels are involved in are more geographically restricted and entail needing to control and hold very specific territories – including U.S. border crossings, ports, municipalities with oil pipelines, and drug cultivating regions. This creates incentives for cartels to defend them at all costs. 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 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. However, if the lucrative market necessitates the control of a specific territory, cartels may face incentives to utilize violence to gain and retain state protection in that specific territory.

Hypothesis 4 (H4): *Territories with valuable and geographically-fixed markets are likely to experience more violence against politicians than territories with geographically-flexible markets.*

⁵The author highlights extractive versus non-extractive activities and argues that those involved in extractive activities can monitor voters and influence elections through the (de)mobilization of these voters. Those that rely on non-extractive activities do not have the capacity to monitor voters and instead relies on regulating which politicians enter a territory.

4 Data

A key limitation of existing studies is the lack of data on COs and criminal dynamics, which has led scholars to rely on measures that do not adequately capture measures or test hypotheses related to criminal dynamics. For example, Calderón (2018) relies on state-level measures when defining cartel pluralization; similarly, Blume (2017) relies on highly aggregated data on cartel presence at the state level that does not capture local dynamics. Other studies do not use data on cartel presence or dynamics and instead rely on proxy measures, such as approximating criminal competition with drug-related homicides (Huerta, 2020; Trejo and Ley, 2021). Finally, others have had to analyze political assassinations in 2017 and 2018 using municipal-level data on cartel presence from 2010 (Huerta, 2020).

While these assumptions and 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 novel local-level data on cartel dynamics in Mexican municipalities.

Given the novelty of the topic and the data, we triangulate evidence from multiple datasets to gain leverage over the concepts and measures of interest. For our dependent variable, violence against government officials, we use three different datasets on political violence: (1) high-profile attacks against government officials between 2007 and 2011 from Trejo and Ley (2021); (2) a original data on assassinated politicians between 2000 and 2018; and (3) novel data on assassinated government officials from the state of Guanajuato between 2000 and 2021. For criminal dynamics, our independent variable, we use two different datasets: (1) data on cartel presence at the municipal level for all of Mexico from the MCO project (Signoret et al., 2021); and (2) detailed hand-coded data on cartel dynamics in the state of Guanajuato. We select this approach because each dataset has its strengths and limitations, and therefore results from analyzing all three complement each other and provide

more rigorous and robust results.

4.1 Dependent Variable: Violence Against Government Officials

Our dependent variable is *violence against government officials*. We use three separate datasets to gain leverage on this variable, including an existing dataset on high-profile attacks from 2007 to 2011 (Trejo and Ley, 2021), an original dataset on political assassinations covering all municipalities from 2000 to 2018, and a more fine-grained original dataset on high-profile assassinations in the state of Guanajuato from 2000 to 2021. To preview, Figure 1 uses our original data to show the temporal distribution of murders by level of government (municipal, state, and federal) in all Mexico from 2000 to 2018 and in Guanajuato from 2000 to 2021, and Figure 2 uses our original data to show the geographic distribution of these assassinations.

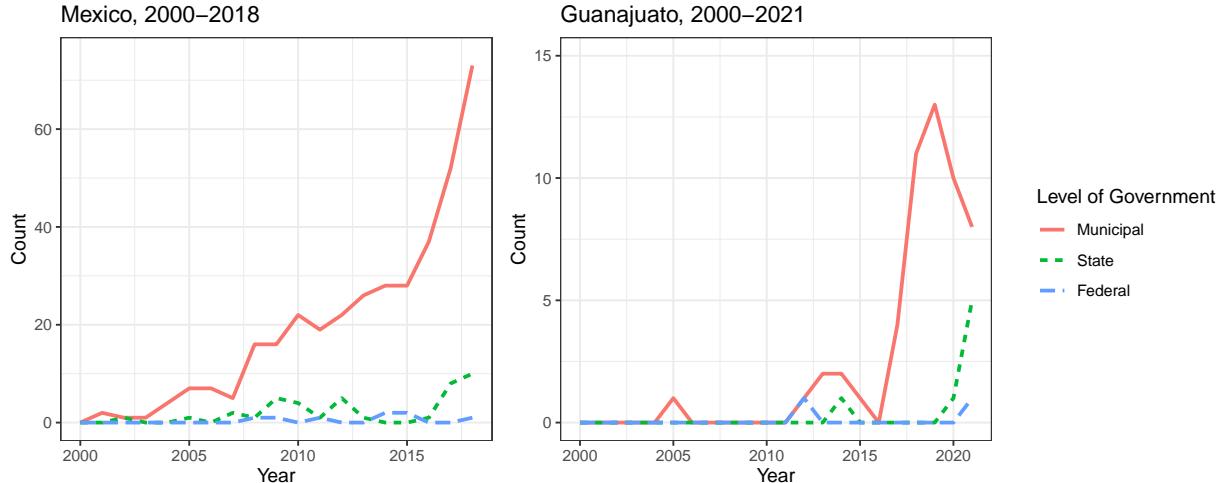


Figure 1: Number of political assassinations by level of government. Left plot shows assassination of politicians in all Mexico, 2000–2018. Right plot shows assassinations of government officials in Guanajuato, 2000–2021.

4.1.1 High-Profile Attacks, 2007–2011

We first use TL, the political violence data from Trejo and Ley (2021) that measures attacks (e.g., murders, kidnappings, and public threats) against government officials, political candi-

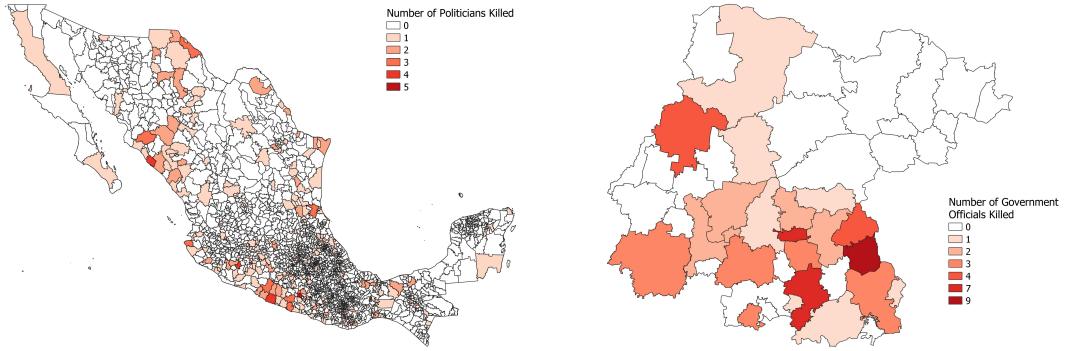


Figure 2: Geographic distribution of political assassinations. Left plot shows assassination of politicians in all Mexico, 2000–2018. Right plot shows assassinations of government officials in Guanajuato, 2000-2021.

dates, and party activists between 2007 and 2011. A particular strength of this data is that it includes assassinations, successful attacks,⁶ and public threats, which captures different forms of political violence by cartels. As TL highlight, using only murders undercounts the actual prevalence of violence.

At the same time, this data faces at least three limitations. First, the data is temporally and geographically limited, covering only 81% of Mexico’s municipalities and five years, from 2007 to 2011. As can be seen in Figure 1, violence against politicians starts prior to 2007 and increases substantially after 2011. Second, measuring threats and attacks from national and regional newspapers, as TL do, may result in measurement bias due to many threats or attacks not being reported. This could be, for example, because cartels influence news reporting (Díaz-Cerveró et al., 2022; De León Vázquez and González Macías, 2020; Dorff et al., 2022), many attacks and threats are private and never disclosed or reported, only certain attacks or threats make regional or national newspapers, or certain cartels are more prone to use visible attacks and threats. Third, and of particular concern, this measure may be prone to endogeneity concerns if the bias in media coverage of threats and attacks is correlated with key explanatory variables. For example, Trejo and Ley (2016) claim that

⁶The authors only include reported attacks that resulted in: “(a) candidates withdrawing from the election, (b) parties being unable to put forth candidates, or (c) public authorities resigning to protect their lives.”

the PAN party, which held the presidency during the time period examined by TL, had incentives to conceal attacks and threats occurring in municipalities with PAN mayors and expose attacks in municipalities ruled by their rivals for political reasons. If this is true, then the outcome measure would be endogenous and result in biased regression coefficients.

4.1.2 Political Assassinations, 2000–2018

To mitigate some concerns from the TL data, we also use original national-level data on assassinated politicians between 2000 to 2018.⁷ 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 467 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,⁸ and a brief description of assassination. Like TL, we exclude any murders that were clearly not related to cartels.⁹ Figure 3 presents the distribution of assassinated officials based on party affiliation and position.

This sample has three main strengths – it significantly extends the five years TL explore by covering 19 years in total, it accounts for all Mexican municipalities, and it only measures assassinations to avoid potential measurement bias that may be present in TL. However, it does have an important limitation highlighted by TL – it only includes murders and not other forms of violence. Additionally, it only measures the assassinations of politicians in or

⁷See Appendix for details about how the data was collected.

⁸Some 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. In the Appendix we include results using the place where they were killed instead. All results hold and are consistent.

⁹We 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. Due to a lack of information on many of the assassinations, we created two measures: a regular 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, results using the regular measure are included in the Appendix. All results hold and are consistent.

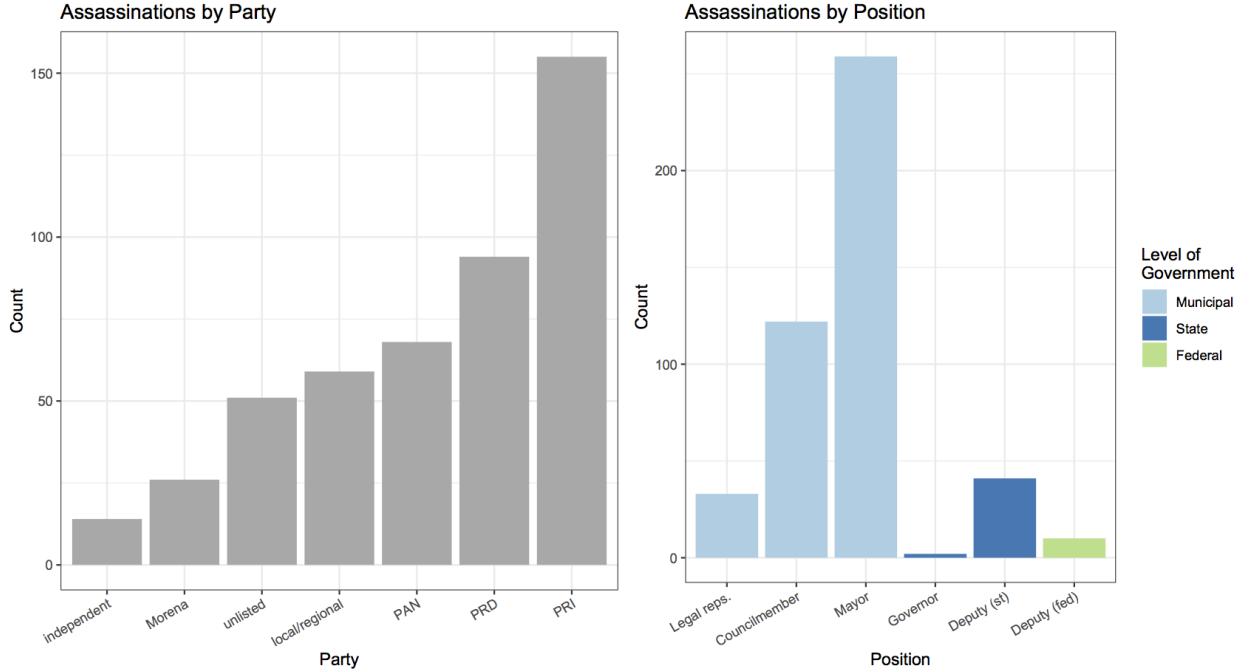


Figure 3: Left plot shows the distribution of assassinations by party. We include the four primary national parties (PAN, PRD, PRI, and Morena) and group the independent parties and local/regional parties, respectively. Some victims’ parties were unlisted. Right plot shows the distribution of killings by position, grouped by level of government. For these positions, we include those who were running, in office, and incumbents.

running for elected office and excludes party activists or other government officials.

4.1.3 High-Profile Assassinations in Guanajuato, 2000–2021

Finally, we focus in on the state of Guanajuato and use a novel data on all assassinated government officials, including elected politicians, party members, and public servants¹⁰ in the state between 2000 to 2021.¹¹ The dataset includes 63 assassinations with information on: victim name, date of killing, political party, position (e.g., mayor, councilmember, state legislator, governor, or federal legislator), whether they were candidates or in office, past political positions, the municipality in which they were killed, and whether evidence suggests a CO clearly did not commit the murder.

This data offers two primary strengths vis-á-vis the other two samples. First, like the TL

¹⁰This data does not include law enforcement officers.

¹¹See Appendix for details about how the data was collected.

sample, it includes the assassinations of all government officials, not only those in elected positions. Second, it does not suffer from the potential measurement bias that the TL sample does due to the rigorous data collection strategy. However, its most notable limitation is that it is geographically restricted to the 46 municipalities in the state of Guanajuato.

4.2 Independent Variable: Criminal Dynamics

Our independent variable is *criminal dynamics*, which includes criminal wars, criminal expansion, criminal fragmentation, and criminal markets. We rely on two datasets on COs in Mexico to measure criminal wars, expansion, and fragmentation, and geographic data to identify territories with lucrative illicit markets. Figure 4 shows the extent of evolving criminal dynamics in Mexico and Guanajuato by mapping the geographic distribution of cartels across time.

4.2.1 Criminal Dynamics in Mexico

First, 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. This panel dataset tracks each cartel and identifies which municipalities they operated in each year. The dataset was created 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.¹²

For H1, we operationalize criminal wars by identifying which municipalities are under monopoly control and those that are under contested control. Monopoly-controlled municipalities are those with only one cartel operating in it in a given year, and contested municipalities are those 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—an issue we address with the more

¹²More detailed information on data collection could be found at: <https://www.mexicocrimemaps.org/>.

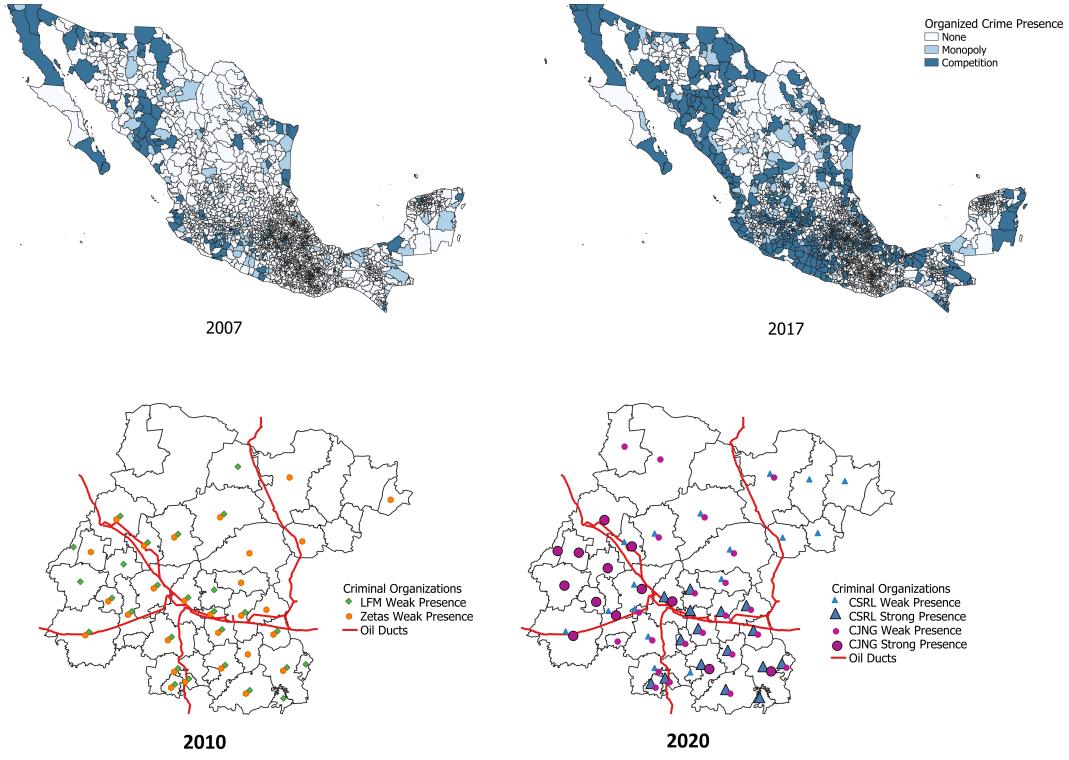


Figure 4: Geographic distribution of cartel presence. Top plots shows the geographic distribution of cartel monopoly and competition in Mexico in 2007 and 2017. Bottom plots show the location of valuable territories and the geographic presence and strength of presence of cartels in Guanajuato in 2000 and 2020. LFM = La Familia Michoacana; CSRL = Cartel Santa Rosa de Lima; CJNG = Cartel Jalisco Nueva Generacion.

fine-grained Guanajuato dataset.

For H2, we operationalize criminal expansion as a dummy variable that takes a value of 1 for municipalities that experienced new cartel presence in a given year.

For H3, we operationalize cartel types that resulted from criminal fragmentation by classifying each cartel as “large” or “small” and identifying which type each municipality had each year. 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.¹³

¹³**Large cartels:** Sinaloa Cartel, Beltran Leyva Organization, Gulf Cartel, Zetas Cartel, Northeast Cartel, Michoacana Family Cartel, Knight’s Templar Cartel, Tijuana Cartel, Juarez Cartel, Milenio Cartel, and

Table 1: Descriptive statistics for national data.

Variable	Min	Max	Mean	SD
Politician assassinations	0	3	0.009	0.099
Number of cartels	0	39	0.549	1.830
Cartel monopoly	0	1	0.066	0.248
Cartel war	0	1	0.108	0.310
Large cartel	0	1	0.164	0.370
Small cartel	0	1	0.066	0.250
New cartel presence	0	1	0.160	0.366
Valuable territory	0	1	0.174	0.379

For H4, 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,¹⁴ we consider municipalities that are geographically key to the drug trade as those that may produce strong 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.¹⁵

The resulting municipality-month national dataset has 46,664 observations. Table 1 presents the descriptive statistics for the national dataset, highlighting the dependent variables and the primary independent variables we examine.

Jalisco New Generation Cartel. **Small cartels:** Aztecas, Barbie, CIDA, CTNG, Cartel Nueva Plaza, Cartel Nuevo Imperio, Cartel de Cancun, Cartel de Colima, Cartel de Ensenada, Cartel de Oaxaca, CSRL, Cartel de Tepalcatepec, Cartel de Tlahuac, Cartel de la Sierra, Cartel del Poniente, Comando Suicida, Cartel del Centro, El Gallito, Fresitas, Fuerza Anti-Union, Grupo Bravo, Grupo Pantera, Grupo Sombra, Guardia Guerrerense, Guerreros Unidos, Jose Pineda, La Barredora, La Manos con Ojos, La Resistencia, La Tercera Hermandad, Union Insurgentes, Union de Leon, Maras, Las Moicas, Los Ardillos, Los Chamorros, Los Damasos, Los Dragones, Los Epotacio, Los Erres, Los Gilos, Los Granados, Los Mazos, Los Metros, Los Pelones, Los Rojos, Los Tena, Los Teos, Los Tequileros, Los Viagras, Los Mazatlecos, Los H2, Los Ciclones, Sangre Nueva Guerrerense, Sangre Nueva Zeta, Los Talibanes, Union Tepito, and Vieja Escuela.

¹⁴Conservative estimates place the value of the drug trafficking market in Mexico at \$10 billion USD per year (Rizzo, 2019).

¹⁵We 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 poppy eradication. While poppy cultivation is not geographically fixed, it does require certain geographic characteristics that make it very sticky. Moreover, these are municipalities that have historically cultivated poppy and is part of the communities. 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.

4.2.2 Criminal Dynamics in Guanajuato

In addition to the national dataset based on machine learning, we also use fine-grained hand-coded data on criminal dynamics in the state of Guanajuato.¹⁶ We use this dataset to complement the national dataset because it has at least three clear measurement advantages: (1) much more precise measurement of the geographic presence of cartels; (2) dyadic data measuring the relationships between all cartels (e.g., neutral, allied, rivals) in the state across time; and (3) how well-established each cartel was in each municipality they operated in each year. These advantages allow us to more precisely measure criminal dynamics, which are salient in Guanajuato and appear to be consequential in understanding the killing of government officials. Thus, if the dynamics we predict are true and play out in this case, we can accept that our theoretical priors are valid; alternatively, if the dynamics we predict are not present in the case, we can reject our theoretical priors.

First, for H1 examining the effects of criminal wars, the Guanajuato dataset allows us to determine which municipalities have cartels operating in them without active conflict – such as those with only one cartel, with two or more cartels that were neutral, or with two or more cartels in an alliance – and which were being actively contested by two or more cartels. We operationalize monopoly-controlled municipalities as those where there is either one cartel in operation or more than one cartel though they are not at war with one another. We operationalize contested municipalities as those whether two or more cartels are actively fighting in a municipality. This nuance allows us to overcome measurement challenges from our national dataset for criminal wars.

Second, for H2 examining the effects of cartel expansion, we create an indicator measuring whether a municipality experienced a cartel enter its territory that had not operated there the year prior.

Third, for H3 examining how different types of cartels use violence, we use data on how well-established cartels are in a given municipality. Indeed, the size of cartels is not the only

¹⁶See Appendix for detailed description of data collection.

relevant consequence of fragmentation, but the strength of these cartels in municipalities is also a key outcome of fragmentation. In other words, small or large cartels can both be well entrenched or have minimal but still important presence in a territory. At the local level, whether a cartel is well established or not as well established is more important for local dynamics than whether the cartel is "small" or "large" in general. A strength of the hand-coded Guanajuato dataset is that for each municipality, it measures the type of cartel presence: no presence, cell presence, weak presence, and strong presence.¹⁷ This measure is superior at measuring cartel types because it relies on local measures rather than assuming all cartels are of equal strength, as we do with the national data.

Finally, for H4 examining the effects of criminal markets, we leverage data on the georeferenced location of oil pipelines. As Alcocer (2022) shows, following the government crackdown declared on December 2006, cartels diversified to oil theft, which entails stealing refined oil products such as gasoline and diesel from oil pipelines. While oil theft is not nearly as lucrative as drug trafficking,¹⁸ certain states have become central for oil theft. Guanajuato does not have any territories that are key for drug trafficking, but cartels entering the oil theft market suddenly made the 14 of its 46 municipalities with oil pipelines incredibly valuable for cartels Alcocer (2022).

The resulting municipality-month dataset for Guanajuato has 1,012 observations. Table 2 presents the descriptive statistics for the Guanajuato dataset, highlighting the dependent variables and the primary independent variables we examine.

4.3 Alternative Explanations

To control for existing alternative explanations, we collect data on elections, political vulnerability, and government crackdowns, as well as other important covariates.

¹⁷See Appendix for details about this coding.

¹⁸Government estimates places the upper value of the illicit oil theft market at \$1.84 USD in 2018 (Pérez, 2017; Solís, 2018).

Table 2: Descriptive statistics for Guanajuato data.

Variable	Min	Max	Mean	SD
Government official assassinations	0	4	0.060	0.323
Number of cartels	0	7	0.953	1.202
Cartel presence strength	0	3	1.104	1.181
Number of cartel cells	0	4	0.250	0.564
Number of weak cartels	0	4	0.537	0.783
Number of strong cartels	0	2	0.166	0.413
Cartel war	0	1	0.269	0.444
New cartel presence	0	1	0.281	0.450
Oil pipeline	0	1	0.435	0.496

4.3.1 Elections

To capture the incentives to use violence created by election cycles, we 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. TL also use additional election variables as controls in their regression models, including party alternation and electoral competition at the local level. However, we choose to exclude these two control variables because they are likely endogenous to the outcome. That is, if cartels are using violence against government officials, particularly assassinations, to influence electoral outcomes and who is in power, then party alternation and especially electoral results are endogenous to the use of violence against government officials. This endogeneity concern could bias the results, which is why we exclude them.

4.3.2 Political Vulnerability

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. However, since 2011, the last year in the sample of Trejo and Ley (2020), the party landscape has become far more complex with the proliferation of four major national parties and 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: (1) a mayor does not share party affiliation with either the governor or the president; (2) a mayor shares party affiliation with the governor but not the president; (3) a mayor shares party affiliation with the president but not the governor; and (4) a mayor shares party affiliation with both the governor and the president.

However, we note the need to be careful when interpreting the regression coefficients of these variables because the measures are likely endogenous. If, as we claim in accordance with Trejo and Ley (2020), cartels can influence electoral outcomes by using violence against specific politicians, then the party in power at the local level could be a result of this violence and a strategic choice of cartels.

4.3.3 Government Crackdown

To measure the federal crackdown that began in December 2006, we would ideally have information on the location of military and federal police deployments. However, that data does not exist. Instead, we use official documents from the Secretariat of National Defense (SEDENA) and the executive branch to identify when operations against drug trafficking began in each state as part of the national-level crackdown. This measure is a dummy variable that takes a value of 1 for municipalities once operations began in their state and remain a 1 thereafter. Operations began in December 2006 and up to 2011. Operations varied in how they were implemented, from being directly led by federal troops to regional commands where federal forces coordinated efforts with state and local level governments. However, in general, these operations were designed to target specific states, making our measure appropriate.

4.3.4 Covariates

Studies on Italy underscore the role that state absence has on the emergence of mafia-style COs (Gambetta, 1996; Buonanno et al., 2015; Dimico et al., 2017; Bandiera, 2003). In Latin

America, state weakness was also traditionally seen as one of the primary reasons behind the proliferation of criminality (O'Donnell 1993). 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 (Arias, 2006; Trejo and Ley, 2020; Lessing, 2021; Durán-Martínez, 2017), state capacity is still understood as a factor that shapes how criminal groups and states interact (Yashar, 2018; Durán-Martínez, 2017; Moncada, 2016, 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 use a continuous measure by using total municipal government expenditure made available by *INEGI*, which gives a municipal government's total expenditure per year. Since spending could be endogenous – COs can influence how much municipalities spend – we use pre-treatment data, 2000 to 2006, to control for state capacity. Given the long tail distribution of this variable, we use the log expenditure. However, this data is missing for about 4.7% to 17% of observations during this time period. Given that a municipality's population has a 0.92 correlation coefficient with its expenditure during the 2000 to 2006 period, so we also use data on municipality population from 2000 as a proxy for state capacity.

5 Empirical Strategy

To assess our hypotheses, we triangulate evidence from three different datasets: national data from TL covering 2007 to 2011, extended national data covering 2000 to 2018, and data on Guanajuato covering 2000 to 2021.

Empirically, Trejo and Ley (2021) rely on a random effects model when analyzing violence against politicians. However, in panel data, random effects assume that unit effects, or unit heterogeneity, are uncorrelated with all independent variables included in the regression model (Wooldridge, 2006). In other words, any unit-specific variable omitted from

the regression that affects the outcome and is correlated with observed regressors would violate this assumption and create endogeneity issues, resulting in biased coefficients. 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 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 now standard practice, the random effects assumption can be tested using a Hausman specification test, which tests whether there is a correlation between the unit-specific errors and the explanatory variables included in the model (Hausman, 1978). We perform this test and find that we must reject the null hypothesis that random effects are appropriate in this case ($p < 0.00$).

For this reason, we use two-way fixed effects (TWFE) to estimate our main results using the TL data, our extended national-level data, and the Guanajuato data. We believe this approach has at least three strengths. First, fixed effects do not assume that unobserved heterogeneity is uncorrelated with the observed explanatory variables, making fixed effects consistent. Second, unlike random effects, 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 than pooling observations and comparing differences *across* municipalities as the random effects model does. 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. Nevertheless, Appendix Table A1 replicates the TL random effects models adding our independent variables, with the results being consistent with TWFE results.

Our first regression analysis focuses on criminal wars and follows the form:

$$y_{it} = \delta_1 monopoly_{it} + \delta_2 war_{it} + \beta X_{it} + \tau + \mu + \epsilon_{it} \quad (1)$$

where y_{it} denotes the number of violent attacks against government officials, $monopoly_{it}$ is a dummy variable indicating whether there is only one cartel operating in a municipality (for the Guanajuato sample this indicates whether there is only one cartel or more than one cartel but they not at war), war_{it} is a dummy variable indicating whether there is more than one cartel operating in a municipality (for the Guanajuato sample this indicates whether two or more cartels are actively fighting in a municipality), X_{it} is a matrix of control variables that includes the political factors, and τ and μ are time and unit fixed effects, respectively.

For the analysis of Guanajuato, we not only have data on geographic presence, but also on the strength of that presence at the local level. We can therefore test whether, at the local level, criminal wars between cartels that are not well established and criminal wars between well-established cartels have differential effects. To test this, we estimate:

$$y_{it} = \delta_4 (strength_{it} \times war_{it}) + \beta X_{it} + \tau + \mu + \epsilon_{it} \quad (2)$$

where $strength_{it}$ denotes the strongest presence of a cartel (i.e., 0 for no presence, 1 for cell presence, 2 for weak presence, and 3 for strong presence) in municipality i and time t .

To analyze the effect of criminal expansion, we estimate:

$$y_{it} = \delta (cartel number_{it} \times new\ presence_{it}) + \beta X_{it} + \tau + \mu + \epsilon_{it} \quad (3)$$

where y_{it} denotes the number of violent attacks against government officials, $cartel\ number_{it}$ denotes the number of cartels operating in a municipality (for the Guanajuato sample this indicates the strongest presence of a cartel), $new\ presence_{it}$ 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 that includes the political factors, and τ and μ are time and unit fixed effects, respectively.

To investigate whether different types of cartels driven by fragmentation use violence against the state deferentially, we estimate the following:

$$y_{it} = \gamma_1 \text{small cartel}_{it} + \gamma_2 \text{large cartel}_{it} + \beta X_{it} + \tau + \mu + \epsilon_{it} \quad (4)$$

where small cartel_{it} is a dummy variable indicating whether a small cartel is present in a municipality and large cartel_{it} is a dummy variable indicating whether a large cartel is present in a municipality.

Finally, to test whether violence against politicians is more prevalent in territories central to illicit markets we estimate the following regression:

$$y_{it} = \psi_1(\text{cartel}_{it} \times \text{valuable territory}_i) + \beta X_{it} + \tau + \mu + \epsilon_{it} \quad (5)$$

where large cartel_{it} is a dummy variable measuring whether a municipality has cartel presence (for the Guanajuato sample this measures the strongest presence of a cartel in a municipality), and $\text{valuable territory}_i$ is a dummy variable which takes the value of 1 if the municipality is central for drug trafficking (for the Guanajuato sample it takes the value of 1 if a municipality has oil pipelines) and 0 otherwise.

6 Results

6.1 High-Profile Attacks, 2007-2011

Table 3 shows the results using the data from TL. First, we find that the effects of political vulnerability become null in all models once criminal dynamics are considered. However, as mentioned previously, if cartels are influencing which party wins the mayorship, these measures are endogenous, so it is unclear how to interpret the results. Nevertheless, FE results show no statistically significant results for political vulnerability leading to more

Table 3: Criminal dynamics and high-profile attacks, Mexico, 2007-2011. Column (1) shows effects of criminal wars and criminal expansion. Column (2) shows effects of cartel size. Column (3) shows effects in key territories for drug trafficking.

	Dependent variable:			
	High-Profile Attacks			
	(1)	(2)	(3)	(4)
Cartel monopoly	0.013 (0.010)			
Cartel war		0.054*** (0.013)		
New cartel presence			0.010 (0.010)	
Large cartel				0.031*** (0.009)
Small cartel				0.004 (0.016)
Cartel dummy			0.053** (0.025)	0.023*** (0.008)
Cartel dummy X New cartel presence			-0.009 (0.028)	
Cartel dummy X Valuable territory				0.089* (0.052)
PAN-PAN-PRI	-0.001 (0.008)	-0.001 (0.008)	0.000 (0.008)	0.001 (0.008)
PAN-PAN-PRD	0.001 (0.010)	0.001 (0.010)	0.002 (0.010)	0.003 (0.010)
PAN-PRI-PAN	0.005 (0.008)	0.005 (0.008)	0.005 (0.008)	0.006 (0.008)
PAN-PRI-PRI	0.004 (0.007)	0.004 (0.007)	0.004 (0.007)	0.005 (0.007)
PAN-PRI-PRD	0.007 (0.008)	0.007 (0.008)	0.007 (0.008)	0.009 (0.008)
PAN-PRD-PAN	0.007 (0.024)	0.006 (0.024)	0.002 (0.024)	0.001 (0.024)
PAN-PRD-PRI	0.002 (0.023)	0.002 (0.023)	-0.001 (0.023)	-0.003 (0.023)
PAN-PRD-PRD	0.012 (0.023)	0.012 (0.023)	0.010 (0.024)	0.008 (0.023)
Local election	0.026*** (0.006)	0.026*** (0.006)	0.026*** (0.006)	0.026*** (0.006)
Federal election	-0.041*** (0.010)	-0.041*** (0.010)	-0.041*** (0.010)	-0.041*** (0.010)
Attacks in neighbors t-1	-0.001 (0.009)	-0.001 (0.009)	-0.001 (0.009)	-0.002 (0.009)
Fiscal revenue	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
Prosecutor offices	-0.007 (0.066)	-0.008 (0.066)	-0.004 (0.066)	-0.006 (0.066)
Regional Dummies	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Num.Obs.	9854	9854	9854	9854

Standard errors clustered at the municipality level.

attacks.¹⁹ Like existing studies, we also find that years with local elections are associated with more attacks.

Centrally, we find that cartel wars lead to a 0.29 standard deviation (SD) increase in the number of attacks. We find no evidence that new cartel presence is associated with criminal attacks in the short term. This suggests that cartels may need time to establish themselves in a new territory before being able to attack the state. Interestingly, column (3) finds that large cartels are the ones driving this violence between 2007 and 2011, with small cartels having a positive but statistically insignificant effect. This makes substantive sense, as fragmentation took off in 2010 and this sample only covers up to 2011, meaning that violence during this period was primarily driven by large cartels. Finally, column (4) shows that high-profile criminal attacks are far more likely (a 0.48 SD increase) in territories that are key for drug trafficking with geographically-fixed characteristics.

6.2 Politician Assassinations, 2000-2018

Extending the time period analyzed yields interesting results. Table 4 shows the results using the national data on the assassination of politicians by cartels between 2000 and 2018. First, like the previous results using the TL data, all models in this extended analysis also find null results for political vulnerability explaining political violence. However, unlike the previous results, this extended analysis does not find that local elections are associated with more attacks, perhaps suggesting that these attacks are occurring more frequently outside of election cycles as they have become more prevalent.

Looking at criminal dynamics, column (1) shows that the assassination of politicians is driven by cartel wars (associated with a 0.29 SD increase). Unlike the TL sample, the coefficient for monopoly control statistically significant, perhaps suggesting that cartels began using violence against government officials even in the absence of cartel wars after 2011.

¹⁹ Appendix Table A1 replicate these results using the negative binomial random effects models that TL use. Like Trejo and Ley (2021), RE models show that states with leftist PRD governors and to a lesser degree municipalities whose mayors *and* governors are from the PRI experience more high-profile criminal attacks.

Table 4: Criminal dynamics and political assassinations of elected officials in Mexico, 2000-2018. Column (1) shows effects of criminal wars and criminal expansion. Column (2) shows effects of cartel size. Column (3) shows effects in key territories for drug trafficking.

	<i>Dependent variable:</i>			
	Politician Assassinations			
	(1)	(2)	(3)	(4)
Cartel monopoly	0.010*** (0.003)			
Cartel war	0.029*** (0.004)			
Cartel dummy		0.010* (0.005)		0.017*** (0.003)
New cartel presence		0.011*** (0.003)		
Large cartel			0.018*** (0.003)	
Small cartel			0.014*** (0.005)	
Cartel dummy X New cartel presence	0.009 (0.007)			
Cartel dummy X Valuable territory				0.029** (0.012)
State pol. vulnerability	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)
Federal pol. vulnerability	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.001 (0.002)
State and federal pol. vulnerability	0.000 (0.003)	0.000 (0.003)	0.001 (0.003)	0.000 (0.003)
Local election	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)
Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Num.Obs.	38 678	38 678	38 678	38 678

Standard errors clustered at the municipality level.

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

Another interesting difference is that the coefficient for new cartel presence is positive and statistically significant—it is associated with a 0.11 SD increase in assassinations—though only when there is no pre-existing cartel presence in a municipality. One interpretation is that politicians in territories where a cartel already operates have already implemented precautions against cartels or because the incumbent cartel protects the politician they have already captured. Looking at the types of cartels, column (3) shows that both small and large cartels are associated with killing politicians. And while the coefficient for large cartels is slightly larger than small cartels, we cannot conclude that they are statistically different from each other. These results make sense substantively: cartel fragmentation increases significantly starting 2010, so this extended sample is capturing the effects smaller fragments once they started proliferating. Lastly, as in the TL results, we find that cartels are more likely to assassinate politicians in key drug trafficking territories with geographically-fixed characteristics (associated with a 0.29 SD increase).

6.3 State Official Assassinations in Guanajuato, 2000-2021

Narrowing in on Guanajuato where criminal dynamics are far better measured gives us a more nuanced understanding of their effects of violence against government officials. Table 5 shows the results of this analysis. As with the TL and the extended national sample, all coefficients for political vulnerability are statistically insignificant. This provides additional evidence that political vulnerability is not a central explanation in understanding criminal attacks against the state. Since elections happen at the same time in Guanajuato, the year fixed effects absorb the effect of election cycles.

Perhaps most interesting is that, unlike the other samples, criminal wars (column 1) have a positive but statistically insignificant effect on assassinations of government officials. However, column (2) provides a more nuanced explanation. Criminal wars by cartels that are well-established in a territory does explain these assassinations and are associated with a 0.486 SD increase in assassinations. The results suggest that criminal wars by themselves

Table 5: Criminal dynamics and political assassinations of elected officials in Guanajuato, Mexico, 2000-2021. Column (1) shows effects of criminal wars and criminal expansion. Column (2) shows effects of criminal wars depending on the strength of cartel presence. Column (3) shows effects of the strength of cartel presence in a territory. Column (4) shows effects in key territories.

	<i>Dependent variable:</i>				
	Government Official Assassinations				
	(1)	(2)	(3)	(4)	(5)
Cartel monopoly	0.102 (0.109)				
Cartel war	0.015 (0.043)	-0.326** (0.161)			
New cartel presence			-0.103 (0.125)		
Cartel presence strength			-0.005 (0.018)	0.004 (0.018)	-0.015 (0.019)
Cartel presence strength X Cartel war			0.157** (0.077)		
Cartel presence strength X Oil pipeline					0.057* (0.032)
Cell presence					0.063* (0.032)
Weak presence					-0.057 (0.039)
Strong presence					0.123* (0.061)
State pol. vulnerability	0.042 (0.104)	0.041 (0.104)	0.042 (0.093)	0.046 (0.099)	0.029 (0.099)
Federal pol. vulnerability	0.012 (0.081)	0.016 (0.078)	0.014 (0.075)	0.011 (0.079)	0.003 (0.082)
State and federal pol. vulnerability	-0.044 (0.171)	-0.057 (0.169)	-0.048 (0.158)	-0.059 (0.166)	-0.032 (0.168)
Controls	Yes	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Num.Obs.	1012	1012	1012	1012	1012

Standard errors clustered at the municipality level.

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

are not sufficient to explain this violence, but that they need to be between cartels that are well-established in a territory. This is consistent with the TL and extended national results showing that large cartels are more likely to perpetrate this type of violence. In Guanajuato, column (4) further supports this interpretation by showing that it is cartels with a strong presence in territories that are most associated with political assassinations. Like the TL sample and unlike the extended national sample, column (3) finds no evidence that new cartel presence leads to assassinations. Finally, as with the other two samples, we find that political assassinations are most likely in territories with illicit markets that are geographically fixed.

6.4 Triangulating Results

Taken together, the evidence suggests at least four key conclusions. First, criminal wars drive political assassinations, particularly when at least one of the cartels is well-established in the territory where they are fighting. Second, we find mixed evidence that cartels entering new territories is associated with more violence against government officials in the short term. Third, while violence against politicians was primarily a strategy used by larger cartels soon after the 2007 government crackdown, it seems to have then been adopted by cartel fragments that proliferated starting in 2010. It is also a strategy used in territories where cartels are well established, not where they have weak presence. Finally, political violence by cartels is more prevalent in territories with lucrative and geographically-fixed illicit markets.

Other results, 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.

7 Conclusion

Violence against government officials, and particularly assassinating them, is one of the most perverse actions that can be taken by any non-state actor, be it rebel groups, terrorist organizations, or COs. However, little attention has been given to the role that COs play in perpetrating political violence. We contribute to this literature by exploring how criminal dynamics influence the incentives of COs to use violence against government officials.

In this article, we analyze the role criminal dynamics play in driving COs to assassinate government officials. In shedding light on this empirical puzzle, we offer both a theoretical and data innovation. First, we theorize the role that criminal dynamics play in political violence. Moreover, the primary limitation in evaluating the impact of these dynamics has been the lack of data to analyze where, where, and how COs operate. We test the effect of these variables by using original data on criminal dynamics and political assassinations in Mexico, our second innovation.

Through a series of two-way fixed effect regressions, we lend credence to the commonly held assumption that criminal wars drive political violence, in this case, cartel violence against government officials. We find some evidence that cartels entering new territories leads to more violence against state officials, though only when they enter territories without pre-existing cartel presence. Moreover, we find that such violence appears to be a strategy that was initially carried out by larger cartels but was subsequently also used by smaller cartels that emerged as a result of criminal fragmentation. This violence is also more prevalent in territories in which cartels are well-established rather than territories in which they have weaker presence. Finally, cartel violence against government officials is most prevalent in particular areas are where there are lucrative and geographically-fixed rather

than geographically-flexible illicit markets.

Through these results, this study contributes to the growing body of literature highlighting that even though COs do not have political ambitions, seek to topple the government or establish monopoly control over territories vis-à-vis the state, they are nevertheless very important *political*, and not just economic, actors. Understanding when, where, and why COs use violence against government officials is imperative, as it has fundamental implications for democracy, governance, the rule of law, and state capacity. While this study focuses on the drivers of this violence, future research would benefit from exploring the consequences that it has on various outcomes of interest.

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Appendix

A Measuring Political Violence

A.1 Political Assassinations, 2000-2018

To create this dataset, we first rely on three existing datasets on assassinated mayors: Perez Esparza and De Paz Mancera (2018) collect data on assassinated mayors between July 8, 2004 and March 1, 2018, Rodriguez (n.d.) collects data on mayoral assassinations from 2005 to 2016, and the Association of Local Authorities of Mexico collects data on assassinated mayors from November 16, 2006 to April 15, 2018.²⁰ We first validate these datasets by researching each murder, and in the process we collect additional information on each event.

We then extend this compiled dataset to include elected positions beyond mayors and expand the time frame to include January 1, 2000 - December 31, 2018. To do this we first carried out qualitative research to identify the total number of assassinated politicians per state each year. For most states we found articles containing lists of the politicians killed within the state during some time period. We then independently investigated each mention. To complement these lists, we then conducted systematic online searches using key Spanish phrases²¹ per state per year per elected position (mayor, regidor, sindico, diputado local, diputado federal, senador, and gobernador). Importantly, our scope covers 2000 to 2018 and we include all elected positions, thereby expanding the time period and types of politicians that existing datasets include. Finally, we validate a subset of the dataset using data provided by Blume (2017), which does not include individual assassinations but does identify the number of politicians assassinated per state per year between 2005 and 2015.

For each observation, we then code whether the assassination was related to cartels or

²⁰The raw datasets from TL and Calderon (2018) are not publicly available so could not be used, and the dataset from Blume (2017) is provides counts but is aggregated to the state-year. We use the latter for validating total numbers but could not be used at the data collection stage.

²¹Such as "matan alcalde", "asesinan alcalde", "muere alcalde" for each elected position: regidor, sindico, alcalde/presidente municipal, senador, diputado, and gobernador. For each search we restricted Google and Bing results to four month time intervals.

not based on the information available about the assassination. We created two different measurements from this variable, a regular measure and a more conservative measure, the latter which we use in the main paper and the former in the appendix. In short, the regular measure asked: Is there evidence that finds that an assassination is clearly not related to organized crime? This measure attempts to filter out any assassinations that were clearly not perpetrated by cartels and includes assassinations that cannot be clearly attributed to a perpetrator. The conservative measure asked: Is there information that indicates that the assassination was linked to cartels? This measure attempts to only include assassinations that we can clearly attribute to cartels. This includes evidence such as links between the politician and cartels, a narco message being left by the body, the attack being carried out by a group of armed men, high-caliber guns being used (e.g., machine guns), was the politician ambushed, were dozens of bullets used, or something similar.

This procedure gives us a municipality-year dataset for all of Mexico, identifying 467 assassinated politicians with detailed information for each observation.

A.2 High-Profile Assassinations in Guanajuato, 2000-2021

We create this dataset through systematic online searches. First, we searched for all reports mentioning the total number of assassinations of government officials either per year or per municipality in the state. This process gave us an approximation of the total number of assassinations per year in the state. We then had research assistants (RAs) systematically search for assassinations per position per municipality in four month intervals (e.g., searching for "assassinated councilmember in Leon" and having results shown for January 1, 2015 to April 31, 2015.). The RAs conducted systematic online searches using key Spanish phrases, for example, "Guanajuato matan alcalde", "Guanajuato asesinan alcalde", and "Guanajuato muere alcalde" for the following government positions: regidor, sindico, alcalde/presidente municipal, senador, diputado, gobernador, partidista, funcionario/servidor publico. For each search we restricted Google results to four month time intervals. The RAs then searched for

assassinations per position in each of the 46 municipalities.

For each event, the RAs recorded the following information: victim name, date of killing, political party, position (e.g., mayor, councilmember, state legislator, governor, or federal legislator), whether they were candidates or in office, past political positions, the municipality in which they were killed, whether evidence suggests a CO clearly did not commit the murder, and a link to the sources of the information (we asked the RAs to include at least two different sources).

B Criminal Dynamics in Guanajuato

The data on cartel dynamics in Guanajuato come from the Mapping Criminal Organizations in Guanajuato project by Alcocer (2022). The datasets, codebook, and methodology document can be found in the Harvard Dataverse at ([ENTER LINK](#)). This section provides a short description of the dataset, with details found on the Harvard Dataverse.

Mapping COs in Guanajuato is composed of three separate datasets:

1. Cartel group histories.

- Background information on all cartels that have operated in Guanajuato between January 2000 and December 2021.

2. Cartel geographic presence and strength of presence.

- Municipality-year panel dataset of all cartels in Guanajuato, 2000-2021.

3. Cartel relations.

- Tracks the relationships (rival, ally, neutral) between all cartels operating in Guanajuato between January 2000 and December 2021.

B.1 Methodology

MCO Guanajuato is based on extensive qualitative research. The datasets were created using the following protocol:

Conducting extensive qualitative research to create a list of the population of cartels operating in the state of Guanajuato between 2000 and 2021. researching each cartel in depth through systematic online searches, with each piece of information being processed into a long-form document summarizing the information per month, per year, per cartel. Sources and information include news articles, investigative journalistic articles, books, academic articles, Mexican government reports, US government reports, and expert reports, among others. Overall, over 1,000 unique pieces of evidence were processed. This document was used to understand which municipalities each cartel was operating in each year and what that presence looked like.

The document was then complemented by fieldwork undertaken in the state of Guanajuato between June and September of 2021 by Alcocer and included interviews with current and former municipal and state government officials, local academics and journalists, local civil society groups, and local security analysts.

This document fed:

- A spreadsheet in which the presence and strength of presence of each cartel was tracked by municipality by year.
- A document identifying the different relations between cartel across time.
- A document summarizing the information about each cartel.

B.2 Definitions and measurement: Presence and strength of presence

“Cartel presence”

Presence is defined as a CO having continuous (permanent or semi-permanent) operations in a given municipality. This can include having safehouses, members, illicit activities, etc. in a municipality for a period of time that is not transient. This excludes intermittent presence, such as attacks against police officers/rival criminals by a CO in a municipality where it does not have established operations.

”Strength of presence”

After intensive research, three “levels” or “strength” of “presence” were decided on: (1) Cell presence, (2) weak presence, (3) and strong presence. This is due to the particular history and dynamics of COs in Guanajuato and the type and quality of information available. Each level of presence is described below.

Cell presence: presence of criminal groups that are not “large cartels”. These are powerful yet localized COs, which include: Los Durango, Los Pelones, the cells that operated in Leon prior to them uniting and forming Cartel Union Leon, remnants or fragments of larger drug cartels that remain active once the large group ceases to exist, and cells sent by the Sinaloa Cartel to fight CJNG starting in late 2020. Although the latter belong to a ”large cartel”, and a powerful one at that, CDS’ presence in Guanajuato during this time period has not been to establish any criminal activity. CDS only deployed a small group of soldiers from one of its armed militias (Gente Nueva Salazar) to the state with the sole purpose of fighting CJNG.

Weak presence: Strong and weak presence are reserved for “large cartels” operating in a territory. Weak presence measures a CO having active operations in a given municipality (not only intermittent presence) but when this criminal group is not strongly established in the municipality—it is not a stronghold for that CO.

Strong presence: When a CO has established its operations in a given municipality, and the municipality serves as a stronghold for that CO.

Cell versus weak versus strong presence: This categorical measure is trying to measure an underlying latent level of presence that, at least theoretically, is likely continuous. In

practical terms, it is sometimes difficult to establish whether an organization has weak or strong presence. In these cases, I code conservatively as weak presence.

C Additional Results

C.1 High-Profile Attacks: 2007-2011

Here we replicate the results from Trejo and Ley (2021) using the method they use, random effects, but we add data on criminal dynamics.

Table A1: Cartel Dynamics and Political Violence, 2007-2011. Replication of Trejo and Ley (2021) using random effects with data on cartel dynamics. Column (1) shows effects of criminal wars .Column (2) shows effects of criminal expansion. Column (3) shows effects of cartel size. Column (4) shows effects in key territories for drug trafficking.

	Random Effects			
	High-Profile Attacks			
	(1)	(2)	(3)	(4)
Cartel monopoly	1.153*** (0.222)			
Cartel competition		2.031*** (0.171)		
Cartel Dummy			1.833*** (0.319)	1.671*** (0.182)
New cartel presence			1.094*** (0.235)	
Cartel Dummy X New cartel presence			-0.907** (0.384)	
Large cartel				1.655*** (0.168)
Small cartel				0.362** (0.183)
Valuable territory				1.359*** (0.349)
Cartel Dummy X Valuable territory				-0.539 (0.383)
PAN-PAN-PRI	0.253 (0.456)	0.261 (0.456)	0.290 (0.457)	0.318 (0.457)
PAN-PAN-PRD	-0.127 (1.066)	-0.126 (1.067)	-0.116 (1.067)	-0.050 (1.065)
PAN-PRI-PAN	0.550 (0.402)	0.553 (0.403)	0.548 (0.406)	0.606 (0.403)
PAN-PRI-PRI	0.805** (0.368)	0.797** (0.369)	0.817** (0.372)	0.830** (0.371)
PAN-PRI-PRD	0.535 (0.506)	0.520 (0.507)	0.541 (0.510)	0.595 (0.509)
PAN-PRD-PAN	1.300*** (0.505)	1.268** (0.506)	1.265** (0.508)	1.379*** (0.510)
PAN-PRD-PRI	1.476*** (0.417)	1.478*** (0.417)	1.486*** (0.417)	1.543*** (0.420)
PAN-PRD-PRD	1.571*** (0.415)	1.571*** (0.415)	1.611*** (0.414)	1.646*** (0.416)
Local election	0.444*** (0.138)	0.459*** (0.138)	0.476*** (0.138)	0.455*** (0.138)
Federal election	-0.488** (0.231)	-0.482** (0.231)	-0.494** (0.232)	-0.408* (0.231)
Attacks in neighbors t-1	0.220*** (0.068)	0.219*** (0.069)	0.235*** (0.068)	0.211*** (0.069)
Fiscal revenue	0.008 (0.012)	0.009 (0.012)	0.013 (0.012)	0.012 (0.012)
Prosecutor offices	-0.230 (1.423)	-0.230 (1.425)	0.140 (1.391)	-0.217 (1.442)
Regional Dummies	Yes	Yes	Yes	Yes
Observations	9854	9854	9854	9854
Log-likelihood	-993.788	-993.913	-1001.146	-992.211
BIC	2208.272	2217.717	2222.986	2214.314

Prosecutor offices per 1,000 inhabitants.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

C.2 Assassinations in Mexico: 2000-2018

This section provides results with alternative measures of political assassinations, including using the less conservative measure of whether an assassination was related to cartels and using data on where the politicians were killed, not where they worked.

Table A2: Criminal dynamics and political assassinations of elected officials in Mexico, 2000–2018. Results use alternative measure of cartel-related assassinations.

	<i>Dependent variable:</i>			
	Politician Assassinations			
	(1)	(2)	(3)	(4)
Cartel monopoly	0.010*** (0.003)			
Cartel war	0.030*** (0.004)			
Number of cartels		0.006** (0.003)		
New cartel presence		0.013*** (0.003)		
Large cartel			0.019*** (0.003)	
Small cartel			0.013*** (0.005)	
Cartel dummy				0.017** (0.003)
Cartel number X New cartel presence		−0.002 (0.003)		
Cartel dummy X Valuable territory				0.031** (0.012)
State pol. vulnerability	−0.001 (0.002)	−0.001 (0.002)	−0.001 (0.002)	−0.001 (0.002)
Federal pol. vulnerability	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.001 (0.002)
State and federal pol. vulnerability	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.000 (0.003)
Local election	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)
Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Num.Obs.	38 678	38 678	38 678	38 678

Standard errors clustered at the municipality level.

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

Table A3: Criminal dynamics and political assassinations of elected officials in Mexico, 2000-2018. Results use location where politicians were killed, not where they worked.

	<i>Dependent variable:</i>			
	Politician Assassinations			
	(1)	(2)	(3)	(4)
Cartel monopoly	0.009*** (0.003)			
Cartel war	0.029*** (0.004)			
Number of cartels		0.008** (0.003)		
New cartel presence		0.009*** (0.003)		
Large cartel			0.017*** (0.003)	
Small cartel			0.017*** (0.005)	
Cartel dummy				0.016*** (0.002)
Cartel number X New cartel presence		−0.003 (0.004)		
Cartel dummy X Valuable territory				0.032** (0.016)
State pol. vulnerability	−0.002 (0.002)	−0.002 (0.002)	−0.002 (0.002)	−0.002 (0.002)
Federal pol. vulnerability	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)
State and federal pol. vulnerability	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.000 (0.003)
Local election	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Num.Obs.	38 678	38 678	38 678	38 678

Standard errors clustered at the municipality level.

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

Table A4: Criminal dynamics and political assassinations of elected officials in Mexico, 2000-2018. Results use location where politicians were killed, not where they worked, and use less conservative measure of whether an assassination was cartel related.

	<i>Dependent variable:</i>			
	Politician Assassinations			
	(1)	(2)	(3)	(4)
Cartel monopoly	0.009*** (0.003)			
Cartel war	0.030*** (0.004)			
Number of cartels		0.008** (0.003)		
New cartel presence		0.009*** (0.003)		
Large cartel			0.018*** (0.003)	
Small cartel			0.018*** (0.005)	
Cartel dummy				0.017*** (0.003)
Cartel number X New cartel presence		−0.003 (0.004)		
Cartel dummy X Valuable territory				0.033** (0.016)
State pol. vulnerability	−0.002 (0.002)	−0.003 (0.002)	−0.003 (0.002)	−0.002 (0.002)
Federal pol. vulnerability	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.001 (0.002)
State and federal pol. vulnerability	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.000 (0.003)
Local election	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Num.Obs.	38 678	38 678	38 678	38 678

Standard errors clustered at the municipality level.

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

C.3 High-Profile Assassinations in Guanajuato: 2000-2021

This section provides results with the alternative measure of where political assassinations occurred, that is, where the politicians were killed, not where they worked.

Table A5: Criminal dynamics and political assassinations of elected officials in Guanajuato, Mexico, 2000-2021. Alternative measure of location of assassination.

	<i>Dependent variable:</i>				
	Government Official Assassinations				
	(1)	(2)	(3)	(4)	(5)
Cartel monopoly	0.131 (0.109)				
Cartel war	0.043 (0.039)		-0.412** (0.155)		
New cartel presence		-0.123 (0.125)			
Cartel presence strength		0.012 (0.017)	-0.008 (0.016)		-0.012 (0.018)
Cartel presence strength X Cartel war			0.210*** (0.072)		
Cartel presence strength X Oil pipeline					0.065** (0.029)
Cell presence				0.103*** (0.034)	
Weak presence				-0.051 (0.041)	
Strong presence				0.146** (0.060)	
State pol. vulnerability	0.065 (0.103)	0.076 (0.093)	0.064 (0.103)	0.073 (0.095)	0.058 (0.093)
Federal pol. vulnerability	0.047 (0.075)	0.057 (0.068)	0.053 (0.071)	0.047 (0.070)	0.042 (0.072)
State and federal pol. vulnerability	-0.096 (0.161)	-0.114 (0.148)	-0.112 (0.158)	-0.117 (0.152)	-0.091 (0.152)
Controls	Yes	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Num.Obs.	1012	1012	1012	1012	1012

Standard errors clustered at the municipality level.

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