

Informally Governing Information: How Criminal Rivalry Leads to Violence against the Press in Mexico

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Abstract

A well-functioning press is crucial for sustaining a healthy democracy. While attacks on journalists occur regularly in many developing countries, previous work has largely ignored where and why journalists are attacked. Focusing on violence by criminal organizations (COs) in Mexico, we offer the first systematic, micro-level analysis of the conditions under which journalists are more likely to be violently targeted. Contrary to popular belief, our evidence reveals that the presence of large, profitable COs does not necessarily lead to fatal attacks against the press. Rather, the likelihood of journalists being killed only increases when rival criminal groups inhabit territories. Rivalry inhibits COs' ability to control information leaks to the press, instead creating incentives for such leaks to be used as weapons to intensify official enforcement operations against rivals. Without the capacity to informally govern press content, rival criminals affected by such press coverage are more likely to target journalists.

Keywords

drug trafficking, media, conflict, political economy, Mexico

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A free and vibrant press is crucial for sustaining a healthy democracy. In order for citizens to effectively participate in political life, they must have access to independent sources of information from which to better understand issues and form opinions (Dahl 1998). In this light, violence against journalists is particularly troubling: such violence not only threatens the lives of those who serve to inform the public but can also inculcate an environment of fear that inhibits general freedom of expression. Over 1,000 journalists have been killed as a result of their work since 1992 worldwide (Committee to Protect Journalists [CPJ] 2014), and violence against the press is so pervasive in some developing countries that independent media are virtually nonexistent (Karlekar and Dunham 2013).

Despite the vital role of the press in maintaining a functioning democracy, as well as persistent violence against journalists in many developing and consolidated democracies, we know very little about the patterns in violence against the press. While one recent study examines country-level differences in the use of violence against the press by governments (see vonDoepp and Young 2013), to our knowledge there have been no studies analyzing violence perpetrated by non-state organizations and no analysis of the local determinants of violence against the press. Given that nearly a quarter of all killings of journalists can be attributed to non-state actors and that non-state actors make up the vast majority of culprits in many of the most dangerous countries to practice journalism, limiting analysis to cases of state violence leaves us with an incomplete understanding of violence against journalists.¹ Additionally, there have been no rigorous studies of differences or patterns in violence against journalist within countries across space. Even in the most dangerous countries to practice journalism, violence is typically not evenly distributed throughout the territory; overlooking micro-level variation within countries inhibits a complete understanding of the local processes driving violence against the press.

In this article, we address these gaps by developing and testing a theory of violence against the press in Mexico. We focus our analysis on Mexico because it is a consolidated democracy that since 2004 has been among the most dangerous countries in the world to practice journalism (CPJ 2010). Despite increasing media attention to violence against journalists in the country, the patterns of such violence have eluded systematic empirical study. By examining criminal organizations (COs), the actors responsible for the majority of killings of members of the press in Mexico, as armed groups informally governing flows of information, we clarify not only the patterns through which Mexican COs employ violence against the press, but also their varying ability to create informal institutions to peacefully govern the information that reaches the public. In doing so, we advance our understanding of the impact of drug trafficking on the quality of democracy in Mexico as well as our general knowledge on the ways in which powerful armed actors use their authority to impact flows of information.

Our central theoretical claim focuses on the relative ability of COs to informally govern the information flowing to and from the press. Because journalists typically

rely on insider informants when reporting on illicit activities, COs have the ability to control at least a portion of the information on their own illegal activities and the activities of their peers that reaches the press. They may thus have the capacity to peacefully govern the content of the press by deciding what information to leak to journalists or by bribing and/or threatening them to withhold certain information. However, this capacity to peacefully govern information is more likely to break down when rival organizations operate in a single environment. Rivalry turns information leaks into effective weapons by drawing the attention of authorities to the activities of enemies. In such contexts, because information leaks are an effective way to increase the probability of authorities cracking down on rivals, journalists are more likely to be provided with and report on information that triggers violent repercussion.

Empirically, we examine our foundational theory using micro-level data on the industrial organization of illegal business in Mexico, along with a data on events of violence against journalists obtained from files of journalist assassinations gathered, classified, and analyzed by the CPJ. The CPJ has gathered the most extensive and reliable data set tracking journalists who have been assassinated as a result of their journalistic activities, classifying each of these cases according to the type of actor that committed the crime. Our findings are consistent with the proposed theory: territories inhabited by COs that are in conflict have been significantly more likely to experience fatal violence against the press.

Overall, the evidence presented in this article challenges existing assumptions on the relationship between potentially violent COs and the press. Contrary to popular belief, which points to the increased strength of COs as the cause of violence toward journalists, we show that violence against the press is actually more likely when rival COs cohabit a given area and compete to control public information. Powerful COs that dominate a locality have the ability to maintain secure control of information and thus are less likely to employ violence against journalists. In contrast, organizations that compete for local dominance are less able to establish such institutions of control and are thus more likely resort to violence against the press. In this context, it is troubling to note that journalists are in the most danger when they face competing COs that are more likely to provide a robust and less biased supply of information on which to report.

The rest of the article is structured as follows. First, we briefly review relevant literature on armed groups' attempts to control flows of information. Second, we provide background information on Mexico's COs, pointing to their increased ability to govern local behavior as well as their increased propensity for violence against the press. In the third section, we develop a theory to explain differences in the use of violence against the press by COs in Mexico, pointing to the relationship of mutual dependence that exists between criminals and journalists. The fourth section then outlines the data, methods, and results of our quantitative analysis. Finally, we briefly conclude by discussing the implications of our findings from academic and policy standpoints.

Governing Information and the Press

This article fits within a broader scholarly literature that addresses the ways in which armed organizations govern the dissemination of information. We define governance in terms of the exercise of authority. The authority of an armed organization is at least partially backed by the capacity for violence. We are specifically interested in the ways in which groups use such authority to influence the way in which information is spread, framed, or publicized through the press.

Given the critical role of the press in the provision of public information and the shaping of public opinion (Zaller 1992; Baum 2003), a number of studies have examined attempts by organizations, armed or otherwise, to influence press coverage. Many of these studies focus on efforts by actors operating under the world's preeminent armed organization—the state. For example, some scholars focus on the ability of state actors to put pressure on members of the press to influence coverage (Schudson 2003; Whitten-Woodring and James 2012). Other studies examine the ability of the government to influence information reported by the press through its ownership media outlets or providing incentives for certain types of coverage (Djankov et al. 2003). While work in this field has examined differences in the degree of hostility toward the press under different types of political regimes (Egorov, Guriev, and Sonin 2009), as well as the type of public information that is likely to be censored (King, Pan, and Roberts 2013), we know much less on what drives the different methods (violent or nonviolent) that are employed to influence press reporting. One recent study investigates the country-level political variables that make governments more likely to attack members of the media (see VonDoepp and Young 2013). Although this work represents a push in a helpful direction in understanding dynamics of violence toward the media, ignoring within-country spatial variation in patterns of violence is likely to obscure important processes driving such attacks. Additionally, this literature focuses mainly on governance of public information by political actors in a dominant state apparatus, ignoring the impact of lower-level armed organizations.

Ignoring non-state armed organizations leaves a significant gap in our understanding of the ways in which actors outside the state influence flows of information through the press. Even within relatively well-functioning states, there often remain powerful groups that, without being officially part of the state, hold the capacity to systematically influence the spread of information in order to impact social behavior and government policy. For example, in the context of civil war, armed state and non-state groups have been shown to place great importance on the spread of information on their own activities to rivals and vice versa; in this context, the ability of a combatant to govern the dissemination of information is crucial in determining the violence it employs against residents (Kalyvas 2006). Additionally, terrorist organizations attempt to govern information in a manner that facilitates communication between members while avoiding the flow of information to authorities (Enders and Su 2007). Similarly, armed criminal groups often have strong incentives to prevent

the dissemination of information on their activities to police, using their capacity for violent retribution as a disincentive to potential informants (Reuter 1983). However, while this literature highlights the efforts of non-state organizations to informally govern the spread of information, it largely overlooks the ways in which such actors may use their capacity for violence to impact the spread of information through the press.

Although in some cases state actors may be complicit in the operations of COs in Mexico, COs typically do not seek formal political authority. By examining the processes underlying their violence against the press, this article serves as a bridge between literature on influencing the press, which typically focuses on more formal political actors, and literature on the governance of information by armed non-state actors, which typically ignores the role of the press. In doing so, we provide what is, to our knowledge, the first micro-level systematic analysis of the varying methods through which armed organizations attempt to govern information disseminated through the press. This provides insight not only into general processes of control of information but also contributes to a better understanding of the dynamics of violence against journalists in Mexico, a country in which practicing journalism has become increasingly dangerous.

COs, Violence, and Informal Governance in Mexico

COs in Mexico have received increased attention in the international media in recent years due to massive increases in violent competition for territory and the brutal methods they often employ against enemies. While Mexican COs coexisted relatively peacefully through the 1990s, between 2006 and 2011, homicides linked to COs increased by an average of 80.47 percent (Sistema Nacional de Seguridad Publica [SNSP] 2011). Although substantial increases in violence began in the mid-2000s, the process through which COs became heavily armed can be traced to changes in Mexico's political institutions beginning in the 1990s, when COs increasingly gained incentives to arm and protect themselves rather than outsourcing protection to corrupt state institutions (Rios 2015; Snyder and Duran-Martinez 2009; Corchado 2013).² These incentives combined with an increased profit share from cocaine trafficking for Mexican COs at the expense of weakened Colombian organizations led Mexican COs to develop high capacities for violence, often adding distinct armed wings to their organizational structures (Rios 2015).

While most academic and popular literature examining these increasingly well-armed Mexican COs focuses on the tendency for groups to violently confront one another, it is also clear that COs have used their increased capacity for violence to exert often massive levels of authority over behavior in the territories in which they operate. We label the use of such authority as informal governance. Such governance is typically backed by the explicit or implicit threat of violence and is used to shape behavior by attaching a cost to particular actions (Kalyvas 2006).

The exercise of this informal governance can take many forms. In some cases, COs have been shown to act as informal police of their territories, defining behavior they deem socially acceptable, and doling out punishment to those who violate these informal rules. For example, in Michoacán, COs have been shown to pursue and punish residents who rape, steal, engage in prostitution, or become addicted to drugs (Kostelnik and Skarbek 2013). Likewise, in Veracruz, a criminal group called “Mata-zetas” is well known for torturing and beheading rapists, extortionists, and kidnapers, leaving messages next to their bodies. For example, a note left next to the body of a man killed in the state in 2010 warned, “this happened to me because I raped a 4-year-old girl” (*Al calor político* 2010).³ Throughout many areas of the country, from northern states bordering the US border like Nuevo Laredo (*Soy periodista* 2010) to southern states bordering Belize like Quintana Roo (*El Universal* 2007), COs use often extremely violent methods to informally govern local behavior.

Additionally, COs sometimes also use positive inducements to impact local behavior through the distribution of public goods and club goods to residents of the territories in which they operate (Diaz-Cayeros et al. 2011; Kostelnik and Skarbek 2013). The informal authority of drug traffickers is so strong in some areas that 40 percent of middle-class survey respondents reported having turned to drug traffickers for help with an issue (Diaz-Cayeros et al. 2011).

The Mexican press is not immune to attempts by COs to informally govern local behavior. Such efforts have at times resulted in violence, with journalists often facing increasingly hostile and fearsome environments. On the whole, Mexico has become the most dangerous country in the Western Hemisphere to practice journalism, with various sources reporting between 85 and 100 journalists having been killed or disappeared since 2000 (Edmonds-Poli 2013). In many recent years, journalists in Mexico have faced levels of danger comparable to countries in war like Iraq and Pakistan (CPJ 2010). In fact, in 2010 and 2011, more journalists were assassinated in Mexico than in any other country in the world, except Pakistan (CPJ 2010). Although incidences of violence toward the press account for only a small fraction of the total drug-related violence in the country, the specific context of the killings and the resulting fear that they spread are particularly concerning for the prospects of democracy in Mexico and thus warrant specific attention.

The Political Economy of Violence against the Press in Mexico

While the high level of violence against press in Mexico is alarming, it is important to note that such violence is not uniformly distributed throughout the country. Even when limiting our attention to the areas of the country in which drug traffickers operate, it is clear that the likelihood of a journalist being fatally attacked is far greater in some areas of the country than others. Despite the increased strength of COs in nearly all areas of the country with high levels of drug trafficking, not a single

journalist was killed in 61 percent of the municipalities in which the media regularly covered drug trafficking activity over the last ten years. This means that in places like Nogales, Mazatlán, and Agua Prieta, where there is significant coverage of strong COs, COs refrained from fatally attacking members of the press. Even when just considering municipalities where COs are generally violent, some municipalities have not experienced violence toward journalists. For example, journalists have not been victims of homicide in municipalities like Santiago Amoltepec and San Jacinto Tlacotepec, despite homicide rates comparable to municipalities like Juarez and El Oro, where journalists have been more frequently victimized. To better understand this variation, in this section we develop a theory of CO informal governance of the press.

The press in Mexico plays a critical role in providing information about illegal activity in the country. For this reason, organized criminals have enormous incentives to attempt to informally govern the information disseminated through the press. Drug trafficking in Mexico is a multibillion dollar-per-year industry that relies on high levels of secrecy to secure profits; these profits are thus permanently susceptible to destruction by information leaks. Individual traffickers have strong incentives to not be publicly identified, as such identification increases the chances of pursuit and prosecution by the federal government. Additionally, press coverage that provides specific names, photos, and/or hints on operational details can be used by both governmental enforcement agents and rivals to disrupt the business of a given CO. For example, COs often invest vast amounts of money to bribe local officials in order to prevent pursuit by local authorities and even provide information on and protection from potential rivals; press coverage on these corrupt ties has the potential to not only attract the attention of federal authorities but also negates the investment of cultivating the reliable allies who are crucial to continued profits (Corchado 2013).

Even coverage that does not present specific identifying information has the potential to bring unwanted federal attention to local illicit drug markets. Traffickers refer to the increase in federal attention as “heating up the plaza [drug territory]” (Moore 2011). Agents at the federal level, who must strategically decide where to deploy resources to combat criminals, may receive increased pressure to use these resources to combat crime in the areas where the press thoroughly covers criminal activity. Press coverage of general illicit activities alerts citizens of crime in their community, which in turn puts pressure on the federal government to attempt to intervene; a “hot” territory thus creates additional obstacles to running a successful enterprise and has the potential to disrupt the flow of illicit profits (CPJ 2010).

Press coverage thus plays a critical role both in how COs are publicly perceived and what specific information on illegal activity becomes available to the public and law enforcement. Given these dynamics, it is perhaps not surprising that drug traffickers are responsible for the majority of killings of journalists in Mexico (Edmonds-Poli 2013). Violence is indeed a quite powerful mechanism to silence the press. It does so directly by assassinating the journalist who had access to the most

information and/or indirectly by reducing incentives for other journalists to gather information about the subject. A brief survey of cases from various areas throughout the country demonstrates the potential effectiveness of violence in influencing press coverage. For example, after the killing of a journalist in the state of Durango, local in-depth reporting on crime essentially stopped (CPJ 2010). Similarly, after the killing of one journalist, the disappearance of another, and a threat on the life of its director, in 2013 the editorial board of one of the most important newspapers in the state of Coahuila proclaimed that the paper would stop publishing information related to organized crime (*El Pais* 2011). Such examples of self-censorship in the face of violence are far from uncommon. In Ciudad Juarez, a major city across the border from El Paso, Texas, violence against the press became so pervasive that the city's main newspaper published an editorial titled, "What do you want from us?" asking the various COs operating in the city what they expected out of a news outlet in order to avoid future violence (*El Diario de Juarez* 2010).

However, although such informal governance of the press through violence and fear may be effective in impacting the content and/or amount of press coverage, it is also likely to have costs for traffickers. One potential cost to violence against the press is that it may lead to increased federal attention and enforcement on local illicit activity. In other words, while COs may have incentives to govern the information presented in the press in order to prevent the "heating up of the plaza," violence against the press itself can potentially lead to a "hotter" territory. Although acts of violence against the press may make local press and residents fear pointing out the specific perpetrators, such events have the potential to receive high levels of national attention; indeed, cases of violence against journalists have often led to protests imploring the federal government to take action. However, to date, such costs have rarely materialized. Nongovernmental organizations and the press itself note the environment of near impunity for acts of violence against the press in Mexico, where over 90 percent of cases go unsolved and often uninvestigated (CPJ 2010).⁴

Rather than repercussions from the federal government for violence against journalists, the most acute cost to COs for violence against journalists have stemmed from opportunity costs. While killing a journalist permanently silences the particular journalist and is likely to lead her organization to self-censor and/or remain silent on issues pertaining to drug trafficking, the CO also forgoes a potentially valuable opportunity to build relationships with and use the press as a *de facto* mouthpiece. As further elaborated below, given the ever-present threat of competitor encroachment, maintaining this resource can be very valuable in future territorial disputes. COs are thus likely to prefer to informally govern press coverage peacefully, rather than resorting to violence.

The potential for traffickers to peacefully govern press information is buoyed by the fact that in many ways the two worlds are codependent. While traffickers are strongly impacted by press coverage, journalists obtain a good share of the information on which they report through the use of informants who have access to prime knowledge through their direct or indirect involvement in the criminal world.⁵ There

are several types of such informants, from criminals inside an organization who decide to leak information as a form of revenge or sabotage, to contractors of COs who want to inhibit some operations in order to increase costs or create scarcity. Thus, journalists often navigate between the legal and illegal worlds. Although in some circumstances this entails journalists wittingly taking bribes to report, not report, or slant their coverage of certain events, in other cases journalists are unaware that the information provided by informants is being dictated directly by CO leadership (Balderrama 2009; CPJ 2010). Whether or not they are aware that their informants are criminals may be ethically relevant but is ultimately irrelevant for the outcomes that such relationships represent for the illegal businesses.

Given this dynamic of codependency, the ability of a CO to peacefully govern information disseminated through the press is dependent on its ability to control informants and dictate the content of potential leaks to journalists. In circumstances in which a CO is able to do so, it restricts the market for information supplied to the press, helping to ensure that press coverage does not harm its interests. In such circumstances, Mexican COs often even utilize public relations liaisons to more explicitly dictate press coverage.⁶ For example, in the state of Tamaulipas, the Zetas organization uses an “official” spokeswoman who communicates to newspapers which stories about crime can run in the next morning’s newspapers (Corchado 2013). The Gulf Cartel even sponsors a website that relays which stories on crime it approves for press coverage (CPJ 2010). When a CO is able to control the insider information that reaches the press while clearly setting and enforcing the bounds for what it deems appropriate to report, it can forgo violence against the press, since coverage is unlikely to be detrimental to its profits or longevity.

In contrast, when a given CO is unable to control leaks to the press, the supply of information to journalists may no longer be restricted to content that is innocuous to its illicit business interests. Press coverage in this context is more likely to adversely affect illicit operations, making COs more likely to resort to violence. While they may prefer peaceful governance of information over violence *ceteris paribus*, if COs are unable to control information leaks and subsequent harmful press coverage, they are more likely to resort to violence against journalists to prevent and/or discourage such coverage in the future.

We thus expect the decision to informally govern the press peacefully or through violence to be a function of the ability of COs to control the information that reaches journalists through informants. COs are more likely to opt to peacefully govern the press when they are able to control information flowing to the press or by enforcing censorship, with a mixture of threats and bribery, and more likely to resort to violence when they are unable to do so.

Given this logic, our key hypothesis posits a relationship between the local industrial organization of illicit markets and the type (violent vs. peaceful) of governance employed by COs to govern information disseminated through the press. More specifically, all else equal, we expect the ability of a CO to control press leaks to be a function of illicit market coordination. By illicit market coordination, we

refer specifically to the extent to which the incentives of actors operating in illegal markets in a given locality are aligned such that they cooperate toward shared goals. Coordinated illicit markets are typically characterized by high levels of organization, often under a monopolistic CO. In contrast, uncoordinated markets are inhabited by dispersed and competing actors and organizations and are often characterized by high levels of conflict.

We expect higher levels of market coordination to lead to an increased ability to control the supply of information to the press and thus be less likely to result in violence against journalists. In environments in which illicit markets are coordinated under a monopolistic CO, COs are better able to control informants and leaks through a mixture of loyalty and fear. In such contexts, criminals within a given CO are more likely to be loyal and less likely to leak detrimental information, given the dearth of other options for operating in criminal markets. Additionally, criminals, contractors, and even normal citizens who happen to observe illegal operations will be deterred from leaking detrimental information out of the increased fear of repercussions; indeed, it is quite common for Mexican COs to assassinate information leakers publicly, leaving messages next to their tortured bodies directing others to keep sensitive information to themselves. For example, one such message in Michoacán was directed at, “those who are thinking on opening your mouths,” while in the state of Colima in 2009, a message next to corpses exclaimed that “this happened to us for being gossipers and calling 911 [066]” (*El Heraldo de Chihuahua* 2011). When traffickers operate in a coordinated market, they can devote fewer resources to fighting local territorial disputes, thus making their commitments to punish leakers more credible. Thus, in the context of illicit market coordination, a CO can maintain a firm grip on the information that reaches the press both from insiders and outsiders.

In contrast, in environments in which COs are in direct competition with rival organizations, they are likely to be less able to control the content that flows to the press through informants and leaks. When rival organizations operate in a local territory, disgruntled members of a given CO may leak detrimental information to the press and turn to rival COs for protection and/or employment. Additionally, rival organizations typically hold intelligence on the operations of local competitors and can utilize the press to leverage this information as a weapon. Leaking information on the activities of a competitor through the press can trigger targeted enforcement operations against that competitor, thus debilitating it in battles to control the territory. Traffickers refer to this tactic as “burning” an enemy in the press and believe it plays an important role in advantaging or disadvantaging COs competing to control a given territory (Balderrama 2009). Such “burning” in the press has often involved leaking information on corrupt links between a rival CO and local governing officials, thus forcing the rival to invest in new corrupt links (CPJ 2010). Competing COs may also bribe and/or threaten members of the local press into serving as an unofficial mouthpiece for a given CO, pressuring members of the press to ignore the COs’ own violence while focusing coverage on the violence perpetrated by

competing COs (Balderrama 2009). In this context, the CO that is being debilitated by press coverage, unable to peacefully govern such information, has incentive to resort to violence against the press to discourage such coverage.

We thus expect violence against the press in Mexico to be driven by the local industrial organization of illicit markets, with violence more likely in areas where COs compete for market dominance. When traffickers cooperate under a cohesive and monopolistic organization, they have incentives to peacefully govern information disseminated by the press. However, when traffickers compete for local dominance, they are less likely to be able to peacefully govern the flow of information to and from the press; in this context, they are more likely to resort to violence to discourage unfavorable coverage.⁷

On the whole, our theory challenges popular belief on the causes of violence toward the press in Mexico, which typically points to the increased strength of drug traffickers. In contrast, we argue that it is when COs fail to maintain local market dominance that journalists are likely to be violently targeted. In contrast to competing theories, our theory can account for the puzzling time and geographical variation in cases of journalist assassinations in Mexico. While a small number of recent studies have posited potential explanations for such variation (e.g., see Edmonds-Poli 2013), these explanations have yet to be rigorously tested. In the next section, we discuss the data, methods, and results to our empirical analysis on the drivers of violence toward the press in Mexico, specifically focusing on whether violence against the press is linked to the general strength of COs, as most traditional narratives argue, or to the existence of illicit market competition. We find strong evidence supporting our theory: fatal violence against the press increases when rival COs compete locally.

Empirical Strategy and Results

To better understand the drivers of violence against the press in Mexico, we utilize municipality-year-level data between 2007 and 2010. We use data collected by the CPJ on homicides committed against journalists to measure our main dependent variable. While there are alternative sources that collect data on violence against the press, we work with CPJ data because it uses the strictest coding mechanism to identify press attacks and because it is the largest worldwide time series of cases of journalists' assassinations available. Some have argued that the CPJ's figures underestimate the number of cases of violence against the press because they only account for cases in which the victim was formally a journalist (not accounting for instances in which victims were working "as journalists" even if they were doing so in an informal way), and because they do not account for instances in which journalists were nonfatally victimized (i.e., injured, threatened, kidnapped, extorted, etc.). We consider CPJ to be the best source available for academic purposes precisely because by being so restrictive, it is less prone to coding errors, making its data more accurate and comparable over time and space. CPJ maintains and updates two separate lists: a list of confirmed cases

where there is reasonable certainty that the journalist was murdered in direct reprisal for his or her work and a list of cases in which this motive has not been confirmed but is being investigated. While including cases from this second list may introduce the possibility of some measurement error (i.e., including cases in which journalists were killed for motives not related to their work), we use both databases in order to expand the sample to allow for analysis.⁸ Besides counting cases of fatal attacks on journalists, the data include variables specific to each case of violence, such as the full name of the journalist, nationality, organization, the municipality where he was victimized, and the outcome of judicial investigations.

We use a dichotomous measure of homicides against journalists based on the CPJ data, with municipality-years that experienced a homicide of a journalist in a given year assigned one, and municipality-years in which no journalists were killed assigned a zero. Because of both the restrictive coding scheme employed in CPJ data collection and the general rarity of journalist homicides relative to general homicides, we are left with thirty municipality-years experiencing journalist homicides between 2007 and 2010. Despite its relative rarity, from a theoretical standpoint, this outcome is still worth examining for a number of reasons. First, homicides against journalists typically result in fear that specifically hinders future freedom of expression; the killing of even one journalist in an area can have a widespread and long-lasting impact on the likelihood of others practicing journalism, thus having a disproportionately large impact on the quality of democracy. Second, although homicides against journalists represent the extreme end of violence against the press, they are also likely to be indicative of wider-spread patterns of violence against the press in a given locality. Homicides against journalists are typically preceded by threats and/or nonlethal violence and can thus serve as a measurement of the general climate of violence toward journalists in a municipality.

Our primary models use this dichotomous measure of fatal violence because our theory focuses mainly on the factors that lead a CO to use violence to control information disseminated through the press (rather than the degree of such violence). Dichotomizing this variable does not lead to a substantial loss of information, as only five of the thirty municipalities (during our years of study) experienced more than one journalist assassination in the same year. However, we also conducted Poisson regressions using a count measure to check the robustness of these the primary findings.

While homicides against members of the press are an outcome worth analyzing from a theoretical standpoint, the rarity of the event presents challenges from a practical and analytical standpoint. As King and Zeng (2001) point out, typical logistic regression using data with far fewer ones than zeroes often produces biased results underestimating the probability of the event. To correct for this potential bias in our data, we use the rare events logistic regression (relogit) strategy developed in King and Zeng, combined with robust standard errors to control for the excess of zeroes in our data.

Our theory points to the industrial organization of illicit markets as a key factor in explaining attacks against journalists, expecting lower levels of coordination

between traffickers to increase the likelihood of homicide against a journalist. Measuring this explanatory variable can be difficult. Criminal operations are generally conducted with high levels of secrecy, without public records on who operates in a particular area. Even less is known about whether those criminals who operate in an area cooperate or compete for profits. As a result, we typically only get to know about criminal rivalries when localized ethnographic studies have been conducted or when rivalry is strong enough as to affect general rates of violence. Both cases are problematic. On one hand, local ethnographic studies are difficult to systematize and cannot be coded into a reliable data series for quantitative testing. On the other, even if we have access to murder statistics at the local level, we generally lack information on whether a victim was killed due to criminal rivalry or due to many other circumstances that may trigger retaliation or violence but are not specifically related to COs.

To overcome these challenges, we employ two measurement strategies for identifying competition between COs. First we exploit a particularity of Mexico's criminal statistics to specifically identify areas in which COs are competing locally. More specifically, we use data on violence specifically tied to criminal *rivalry*. Unlike most other countries, Mexico's Ministry of the Interior keeps a database (fed monthly by criminal investigations conducted at each of thirty-two state-level prosecutors' offices) of murders that were specifically caused by "criminal rivalry."⁹ The data set is far from perfect and is only publicly available for December 2006 to September 2011. However, it was explicitly constructed and used by the Ministry of the Interior in order to locate areas where rival COs compete and allows us to identify geographical areas where we can determine with a high degree of certainty that illicit markets are marred by competitive rivalry. We expect journalists to be more likely to be victims of homicide in municipalities with higher levels of violent competition between COs.

While data on the level of violence tied to criminal rivalry are a good place to start in capturing the varying industrial organization of criminal markets between municipalities, using these data presents two challenges in analyzing the theory. First, although measures of homicides tied to criminal rivalry can show us where COs are in conflict, they cannot show us where traffickers cooperate rather than violently compete. Without data on where traffickers operate without conflict, we are unable to analyze if differences are driven by criminal rivalry or simply by the presence of COs. We thus use a data set compiled using methods first developed in Coscia and Rios (2012). The data collection strategy exploits reliable online sources such as newspapers and blogs, using unambiguous query terms to identify the different COs operating in a municipality in a given year.¹⁰ With these data, we have measures not only for the municipalities in which drug traffickers operate but also for which and how many COs are operating in a specific municipality in a specific year.

Additionally, using these data on the COs operating in a municipality in a given year also allows us to address a second challenge to USE the rivalry homicide data to operationalize locally competitive markets. Our theoretical framework points to the

important role of criminal rivalry in driving violence toward the press. While criminal rivalry may be a necessary condition leading to violence between COs, it is possible that in the context of rivalry, unmeasured variables might determine whether or not this competition turns violent. To account for this possibility, we include robustness checks that use an alternative measure of rivalry that is agnostic to violence between COs. More specifically, we include models that operationalize the presence of criminal rivalry using dummy variables capturing whether a municipality was home to only one CO, multiple COs that may or may not be rivals, or multiple COs that were likely to be rivals.¹¹ If our theory holds, we would expect the likelihood of fatal violence to be higher in places in which multiple COs inhabit a given territory, compared to places where one CO has monopolistic control. Additionally, we would expect this likelihood to be even higher in municipalities where there is greater certainty that these multiple COs are indeed rivals.

If our theory is correct, we would expect municipalities with higher levels of conflict between drug traffickers to be more likely to experience fatal violence against journalists. Table 1 presents the results of five relogit model specifications testing the factors that are correlated with a journalist being assassinated in a particular municipality in a particular year. Each model contains variables controlling for the population, poverty, and inequality in a given municipality, as well as fixed effects for the presence of each of Mexico's major COs. The logic for including a control for population is fairly self-evident—municipalities with more people are likely to have a more expanded press industry with a higher rate of journalist per population. It is also reasonable to suppose that bigger municipalities are likely to have more diverse news organizations competing that could make controlling information through bribery harder or more expensive for the COs. We include the poverty variable because it might affect the outcome in different ways: poorer municipalities may have fewer resources with which to protect journalists, but they may also have fewer resources that attract operators in illicit markets who may use violence toward journalists. We include a measure of inequality because more unequal municipalities are known to have stronger local demand for drugs (i.e., they contain a larger portion of the population with disposable income). Because the operations necessary for distributing drugs locally differ greatly from operations geared at export abroad, it is possible that illicit market operators in more unequal municipalities have to establish different types of connections with local populations, and might thus have a different relationship with the local press. We also control for each major CO in order to see whether the presence of specific COs is more likely to lead to violence against journalists, and dummy variables for key rivalries between COs to analyze whether certain rivalries are more likely to lead to violence against the press.

Model 1 simply tests the effect of the overall homicide rate on journalist assassinations, finding a statistically significant positive relationship. However, this model tells us less about the specific impact of rivalry between COs, since this coefficient could be driven either by homicides stemming from drug trafficking or general disorder. Model 2 thus disaggregates homicides into cases that are specifically tied

Table 1. Rare Events Logistic Regression.

	Dependent variable					
	(1)	(2)	(3)	(4)	(5)	(6)
	Journalist assassination (dummy)					
Total homicide rate	0.005*** (0.002)					
Rivalry homicide rate		0.006*** (0.002)	0.007*** (0.002)			
Non-rivalry homicide rate		0.002 (0.005)	0.003 (0.004)			
Multiple rival COs dummy				1.941*** (0.427)	2.031* (1.186)	2.573*** (0.928)
Multiple COs dummy					1.276 (1.049)	1.966** (0.904)
One CO dummy					0.646 (0.744)	0.249 (0.725)
Population	0.131** (0.060)	0.131** (0.060)	0.150*** (0.052)	0.160*** (0.046)	0.150** (0.060)	0.137*** (0.050)
Poverty	-0.399 (0.297)	-0.398 (0.296)	-0.664** (0.283)	-0.593** (0.272)	-0.268 (0.292)	-0.369 (0.276)
Inequality	14.083*** (5.061)	14.101*** (5.069)	15.802*** (4.482)	15.496*** (4.451)	13.300** (5.189)	15.073*** (4.886)
Sinaloa	0.669 (0.495)	0.648 (0.495)			0.209 (0.549)	
Sinaloa faction	1.764*** (0.491)	1.752*** (0.490)			1.744*** (0.496)	
Familia	0.896** (0.424)	0.879** (0.424)			0.415 (0.506)	
Beltran faction	0.475 (0.596)	0.501 (0.597)			0.429 (0.595)	
Beltran	-0.375 (0.543)	-0.413 (0.544)			-0.560 (0.561)	
Tijuana	-0.923 (0.839)	-0.947 (0.837)			-0.842 (0.821)	
Juarez	1.044* (0.589)	0.960 (0.598)			0.923 (0.604)	
Golfo	1.124** (0.449)	1.139** (0.449)			0.951** (0.470)	
Zetas	0.968** (0.464)	0.924** (0.468)			0.400 (0.529)	
Other CO	-0.148 (1.079)	-0.122 (1.079)			-0.280 (1.094)	
Golfo-Zetas			0.887** (0.445)			0.508 (0.455)
Familia-Zetas			1.748*** (0.466)			0.985* (0.544)
Sinaloa-Zetas			1.974*** (0.636)			1.393** (0.658)
Tijuana-Sinaloa			-0.131 (0.867)			0.116 (0.789)
Beltran-Sinaloa			-0.873 (0.909)			-0.680 (0.811)

(continued)

Table 1. (continued)

	Dependent variable					
	Journalist assassination (dummy)					
	(1)	(2)	(3)	(4)	(5)	(6)
Beltran-Beltran faction			1.754** (0.817)			1.183 (0.791)
Constant	-13.395*** (2.286)	-13.342*** (2.288)	-13.696*** (2.037)	-13.454*** (2.014)	-13.543*** (2.388)	-14.336*** (2.289)
Observations	9,806	9,806	9,806	9,806	9,806	9,806
Log likelihood	-138.327	-138.337	-148.923	-156.077	-137.651	-145.391
Akaike information criterion	306.655	308.673	321.845	322.154	309.302	316.782

Note: CO = criminal organization.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

to drug trafficking rivalry and cases that are not. If the relationship between homicide rates and violence against journalists is being driven by drug homicides, we would expect the rivalry variable to be positive and significant. We find rivalry between COs to be positively correlated with violence against journalists at the .01 *p* level, while homicide related to general disorder is not statistically significant. Substantively, while the effect is relatively small, we can interpret this coefficient as telling us that the probability of a journalist being assassinated in a municipality with 500 rivalry homicides in a given year (at the high end of the spectrum) is .23 higher than a municipality with only one rivalry homicide. The significance of these results holds in model 3, where we control for specific rivalries between COs.

Models 4 to 6 are presented as robustness tests using the same specifications but with an alternative measure of rivalry using dummy variables for municipalities with one dominant CO, multiple COs, and multiple COs that are likely to be rivals. The above results hold and are consistent with our theory. Municipalities with two or more rival COs are consistently statistically significant and more likely to experience violence against the press than municipalities with only CO. Likewise, the dummy variable capturing municipalities where multiple COs operate but there is less certainty on whether they are rivals is statistically significant and positive, but the positive relationship is not as strong; this is likely due to the fact that this dummy variable includes municipalities in which multiple COs have peacefully coordinated their operations. Models 7 and 8 present in Table 2 then present a robustness check using Poisson regression, finding no substantive differences when using a count measure of violence against journalists.

The rates of both general homicide and homicides related to drug trafficking are skewed between municipalities, with most municipalities experiencing very low rates, and a relatively small amount of municipalities experiencing very high rates. Models 9 to 11 in Table 3 use different strategies to test the robustness of the relationship between CO rivalry and the assassination of journalists. The results hold in model 9, which removes outliers with rates of rivalry homicide higher than 1,000. The results also hold in model 10, in which we remove the same outliers and test the relationship only on municipalities that experienced at least one rivalry homicide in a given year. In model 11, we use the logged values of both rivalry and non-rivalry homicide rates; rivalry remains a significant indicator of journalist assassination at the .01 level, and while non-rivalry homicide also becomes significant, its impact is smaller.

Finally, the models in Table 4 present a final robustness check using nonparametric nearest neighbor matching as a preprocessing tool to check for possible model dependence. The goal of this preprocessing technique is to adjust the data prior to analysis so that the relationship between the treatment (in this case whether a municipality exhibits CO rivalry) and other measurable factors that might impact the assassination of journalists is close to zero (see Ho et al. 2007). In other words, we trim the data prior to analysis so that it is more balanced, thus allowing for the analysis to compare units that are alike on other variables but differ in their presence

Table 2. Poisson Regression.

	Dependent variable	
	Journalist assassination (count)	
	(7)	(8)
Total homicide rate	0.004*** (0.002)	
Rivalry homicide rate		0.004*** (0.002)
Non-rivalry homicide rate		0.004 (0.003)
Population	0.142*** (0.053)	0.143*** (0.053)
Poverty	-0.290 (0.252)	-0.290 (0.252)
Inequality	14.075*** (4.332)	14.071*** (4.337)
Sinaloa	0.709 (0.435)	0.709 (0.435)
Sinaloa faction	1.517*** (0.438)	1.517*** (0.438)
Familia	0.480 (0.393)	0.480 (0.393)
Beltran faction	0.441 (0.512)	0.441 (0.514)
Beltran	-0.342 (0.468)	-0.343 (0.470)
Tijuana	-1.286* (0.765)	-1.286* (0.768)
Juarez	0.792 (0.537)	0.792 (0.543)
Golfo	1.539*** (0.420)	1.539*** (0.420)
Zetas	0.607 (0.415)	0.607 (0.418)
Other CO	-0.670 (1.044)	-0.671 (1.045)
Constant	-13.162*** (1.955)	-13.160*** (1.956)
Observations	9,806	9,806
Log likelihood	-172.622	-172.642
Akaike information criterion	375.245	377.284

Note: CO = criminal organization.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

of criminal rivalry. Models 13 and 14 show that when running the analysis with a matched data set, criminal rivalry remains a significant indicator of violence against journalists at the .1 p level.

On the whole, the analysis presented here strongly supports our theory. In all of the models, criminal rivalry remains a significant predictor of fatal violence against the press.

Conclusion

This article argues that violence against journalists in Mexico reflects CO strategies to control public information. We find that municipalities that are marred by competition over drug markets are more likely to exhibit fatal violence against the press, even when compared to municipalities dominated by strong and monopolistic COs. In municipalities where traffickers peacefully coordinate market competition, COs have a stronger capacity to peacefully govern the content of the press by deciding

Table 3. Rare Events Logistic Regression, Robust to Outliers.

	Dependent variable		
	Journalist assassination (dummy)		
	(9)	(10)	(11)
Rivalry homicide rate	0.006*** (0.002)	0.008*** (0.004)	
Non-rivalry homicide rate	0.005 (0.005)	-0.008 (0.009)	
Log rivalry homicide rate			1.723*** (0.310)
Log non-rivalry homicide rate			0.940*** (0.351)
Population	0.130*** (0.060)	0.177 (0.109)	0.193*** (0.065)
Poverty	-0.396 (0.297)	-0.015 (0.525)	-0.544* (0.305)
Inequality	13.886*** (5.071)	12.408 (10.663)	15.138*** (5.299)
Sinaloa	0.673 (0.496)	0.505 (0.915)	0.347 (0.495)
Sinaloa faction	1.757*** (0.491)	1.576* (0.874)	1.522*** (0.511)
Familia	0.894*** (0.424)	0.619 (0.775)	0.685 (0.432)
Beltran faction	0.471 (0.598)	0.492 (1.085)	0.197 (0.626)
Beltran	-0.381 (0.545)	-0.336 (0.979)	-0.779 (0.584)
Tijuana	-0.927 (0.838)	-0.551 (1.477)	-1.888** (0.957)
Juarez	1.036* (0.601)	0.782 (1.076)	0.503 (0.607)
Golfo	1.128** (0.449)	1.093 (0.829)	1.283*** (0.449)
Zetas	0.958** (0.469)	0.393 (0.862)	0.621 (0.470)
Other CO	-0.146 (1.080)	1.039 (2.055)	-0.072 (1.083)
Constant	-13.280*** (2.288)	-12.156** (4.890)	-15.675*** (2.548)
Observations	9,806	2,597	9,809
Akaike information criterion	308.664	47.612	277.492

Note: CO = criminal organization.

*p < .10.

**p < .05.

***p < .01.

what information to leak to journalists and by bribing and/or threatening journalists. Violence against the press is therefore less necessary and carries opportunity costs. However, this capacity to peacefully govern information is more likely to break down in municipalities where rival organizations compete for local dominance. Rivalry creates incentives for information leaks to be used as weapons to intensify official enforcement operations against competitors, leading the press to publish stories that are damaging to COs, and leading these COs to respond with violence.

These findings have implications for our understanding of the micro-dynamics of violence against the press in Mexico. Contrary to popular belief, it is not the strength of COs that drives the killing of journalists but rather their control (or lack of control) over territorial markets. While violent cartels like the *Zetas* have grown in strength in recent years and have been notorious for their violence against combatants and non-combatants alike, they are actually more likely to target the press when they have a less firm grip over a given territory and thus compete for local dominance.

Table 4. Rare Events Logistic Regression, Matched Data Set.

	Dependent variable		
	Journalist assassination (dummy)		
	(12)	(13)	(14)
Total homicide rate	0.004 (0.003)		
Rivalry homicide rate		0.005* (0.003)	0.006* (0.003)
Non-rivalry homicide rate		-2 (0.004)	-0.001 (0.004)
Population	0.124 (0.077)	0.125 (0.077)	0.107 (0.069)
Poverty	0.096 (0.407)	0.165 (0.410)	0.102 (0.392)
Inequality	7.338 (7.449)	7.023 (7.461)	8.475 (6.899)
Sinaloa	0.342 (0.631)	0.251 (0.633)	
Sinaloa faction	1.461** (0.626)	1.431** (0.627)	
Familia	0.443 (0.564)	0.370 (0.565)	
Beltran faction	0.406 (0.762)	0.426 (0.761)	
Beltran	-0.509 (0.697)	-0.609 (0.699)	
Tijuana	-0.628 (1.019)	-0.631 (1.020)	
Juarez	0.848 (0.748)	0.641 (0.756)	
Golfo	0.818 (0.579)	0.802 (0.580)	
Zetas	0.469 (0.611)	0.340 (0.615)	
Other CO	0.185 (1.435)	0.231 (1.434)	
Golfo-Zetas			0.461 (0.564)
Familia-Zetas			1.013* (0.600)
Sinaloa-Juarez			1.138 (0.807)
Tijuana-Sinaloa			0.254 (1.013)
Beltran-Sinaloa			-0.495 (1.048)
Beltran-Beltran faction			1.032 (1.011)
Distance	3.241* (1.894)	3.648* (1.926)	4.205** (1.809)
Constant	-11.938*** (3.332)	-11.869*** (3.337)	-12.689*** (3.197)
Observations	5,264	5,264	5,264
Akaike information criterion	307.513	309.449	314.005

Note: CO = criminal organization.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

This leaves difficult questions in terms of strategies for combatting COs. For example, a key component of enforcement strategy against drug trafficking has been to target high-level members of powerful COs, attempting to disrupt drug markets by “cutting off the head” of trafficking organizations. On the one hand, pursuing the leaders of powerful local criminal monopolies may successfully disrupt illicit markets, leading, at least in the short run, to weaker COs in a given territory. But on the other hand, if such targeted enforcement leads to greater levels of competition between criminals attempting to fill the subsequent power vacuum, then it may also indirectly put journalists at risk.

Lastly, these findings also provide a more general insight into the processes underlying attacks against the press by violent organizations. Scholars in recent years have increasingly focused on patterns of violence against “civilians” by armed groups, often pointing to the important role of territorial competition in driving violent behavior (e.g., see Kalyvas 2006). In contexts in which the strength or longevity of such groups can be impacted by local coverage by the press, our findings suggest that examining patterns of local rivalry and competition can also help to understand where and why violent organizations are likely to target members of the press. When armed groups like COs compete for local territory, journalists are more likely to be caught in precarious situations in which their coverage is detrimental to one side or another, increasing the likelihood that they are subject to violent attacks.

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Notes

1. In the case of Mexico, the line between the state and the “non-state” criminal organizations (COs) that we examine in this article is in many cases blurry, with members of the state complicit in COs and vice versa. While it is important not to overstate the distinction between “state” and “non-state” in this case, by examining organizations whose motivations are typically not overtly political, we can gain insight into the processes underlying these understudied forms of violence against the press.
2. These incentives can be traced to the decreased levels of coordination between different levels of Mexico’s government following democratization.
3. It is important to note that the blurred line that exists between punishment of socially unacceptable behavior and the pursuit of enemies competing for territory. While COs do often punish deviant behavior, they also often rationalize the killing of enemies as punishment for such transgressions *ex post*.
4. However, as Corchado (2013) points out, traffickers are likely to clearly perceive costs related to increased enforcement in the event of violence against foreign and particularly American journalists. The case of Gilberto Ontiveros Lucero, aka *El Greñas* is well known in Mexico’s criminal underworld. Lucero ruled over Juarez’s drug trafficking for

- years in the 1980s with impunity, until he tortured and killed an American photojournalist, after which the federal government quickly apprehended the kingpin (*El Pais* 1986).
5. Corchado (2013) provides an excellent account of the use of criminal informants in providing information directly to the press about drug traffickers' strategies.
 6. For a firsthand account of one journalists interactions with a cartel press liaison, see Balderrama (2009).
 7. An alternative mechanism linking pluralistic markets to violence might point to competitive COs engaging in general violence in order to intimidate rivals, which then increases the likelihood that journalists, as well as the broader population, are victims of violence. However, even in the context of rivalry, COs attempt to maintain working relations with certain members of the press in attempts to also garner favorable coverage and subsequent advantage in battles to control markets. It is thus likely that any attempts to more broadly use violence as a form of intimidation would be aimed at members of the press who publish information favoring rivals and thus coupled with goals of controlling the information that is disseminated through the press.
 8. The Committee to Protect Journalists classifies "confirmed" cases as those in which there is reasonable certainty that the killing was related to the victim's journalistic work. Cases are classified as "motive unconfirmed" if the motive for the killing is unclear, but there is reason to believe that it was related to the journalist's profession. Because the vast majority of cases of violence against the press in Mexico go unsolved and even uninvestigated by the authorities, it can be difficult to determine with certainty the motive of a given murder. However, because the subsequent analysis accounts for general homicide rates, there is little reason to believe that any error introduced by including "unconfirmed" cases of more typical homicides (i.e., cases in which the motive was in fact unrelated to the victim's work as a journalist) would systematically bias the results in favor of our theory. In contrast, limiting the analysis only to "confirmed" cases might introduce bias if the level of investigation (and thus likelihood of confirming a motive) was associated with local levels and/or structures of criminal rivalry.
 9. One of the coauthors was employed with the Ministry of Interior when the rivalry homicide data were collected. These cases were initially labeled by the government as murders thought to be caused by COs but were in 2011 relabeled as murders thought to be caused by criminal rivalry. This name change did not reflect a change in criteria used to include cases but was rather an attempt to more accurately describe the data being collected. The internally used data include a line in each case indicating which COs were confronting each other, and while these specifics are not publicized, senior members of the Ministry claimed at the time of data collection that the data were capturing where COs confront one another.
 10. For more details on these data collection process, labeled Making Order using Google as an Oracle (MOGO), see Coscia and Rios (2012). Given our theory, one potential concern for using data based at least partially on newspaper reports is that the data will be biased, underestimating the COs operating peacefully in municipalities. If traffickers in coordinated markets are able to govern what the press reports on them, then they are less likely to be identified in local media. While this is a valid concern, we believe these data are still

useful for two reasons. First, while local traffickers may be able to prevent coverage by local media, their ability to influence national media, which is also included in the data, is less apparent. Second, MOGO also utilizes blog posts in identifying where traffickers operate. While there is evidence that traffickers have begun attempting to punish people who spread information through blogs and social media, censorship of this forum is less effective to this point. Finally, while there may be potential for issues of data bias, this is the only measure we currently have for a complex and intentionally opaque phenomenon, and these data give us a rough estimate of which to work.

11. We use these measures as a robustness check, rather than the primary operationalization of rivalry because of the way they were built. Since the algorithm records the municipal presence of COs in the national and local media, the identification is related to the size of the media in the municipality and the coverage of drug trafficking. Thus, smaller municipalities may be measured as having only one COs using this measure, while actually have high amounts of violent conflict related to drug trafficking. We thus use the government's measure of drug competition (rivalry homicides) in our main specifications and use this alternative measure as evidence that the results are in fact being driven by rivalry itself, and not some factor that is specific to violent rivalry. In this robustness check, to determine which COs were likely to be rivals, we examined a novel set of *narco mensajes*. These are public messages written by drug traffickers, often after killing a victim. COs were labeled as rivals if they publicly stated their rivalry in a message in any location during the study period. While not a perfect indicator, the roughly 1,000 messages nationwide provide us with some indication of which COs were more likely to be in conflict with one another.

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