Dynamic and Structural Determinants of Drug Violence in Mexico

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Abstract

What explains the escalation and diffusion of drug violence in the Mexican war on drugs? This paper advances a theoretical framework integrating dynamic and structural determinants of drug violence. The central argument indicates that the implementation of a non-selective punitive campaign against Drug Trafficking Organizations (DTOs) triggered different mechanisms of violence—imposition, contestation, competition and succession—which tend to cluster around strategic territories—for the production, reception, retail and wholesale distribution of illegal drugs. The empirical assessment relies on a novel database of daily events of drug violence at the municipal level between 2000 and 2010. The database, comprising roughly 9.8 million observations, was generated using automated coding of event data, and provides detailed information on who did what to whom, when and where in the Mexican war on drugs.

INTRODUCTION

The term "war on drugs" is far from rhetoric in Mexico. In December 2006, the Mexican President Felipe Calderón launched a full-fledged military campaign against all drug-trafficking organizations (DTOs) within the state´s territory. The war on drugs in Mexico has killed more than 40,000 people in four years and a half (Presidencia de la República, 2011; Poiré 2010). The lethality of this conflict surpasses that of other forms of intense political violence such as civil wars. The Mexican war on drugs is approximately 40 times deadlier than the standard threshold of 1,000 casualties used to define the onset of a civil war (Sambanis 2004) and has already killed about four times more people than the median civil war death toll of 10,500 casualties (Lacina 2006).

Large scale drug smuggling from Mexico to the United States can be traced back to the 1950s (Astorga 2000). For decades, drug cartels conducted their illegal activities in a relatively peaceful way. Organized criminals occasionally relied on the use of violence as a way to either enforce agreements in markets not regulated by legal protections (Reuter 1989, 2009) or to ensure their territorial dominance (Gambetta 1993; Volkov 2002). However, the use force was not used in an overt large-scale manner. Currently, it is not rare to find events of heavily armed death squads engaging in fierce confrontations against law enforcement agents or against rival cartels in urban settings. What explains the recent spike of drug-related violence? Although aggregated estimates reveal a dramatic escalation of violence, the intensity of conflict is not uniform across the country. States such as Chihuahua have experienced unprecedented levels of violence and concentrate about 29% of drug-related homicides. In contrast, states such as Tlaxcala tally about 1% of drug homicides (Poiré, 2010). This paper focuses on understanding why are some places more violent than others? In other words, what explains the sub-national variation of drug violence cross time and space in the Mexican war on drugs?

This research disentangles the wave of drug violence by identifying the dynamics of conflict

between the State and DTOs and among competing DTOs. The theoretical argument integrates micro-level explanations of violence with structural determinants of conflict to explain variation in levels of drug violence. The central argument indicates that the escalation of drug violence is caused by the implementation of a non-selective punitive campaign against DTOs that triggered different mechanisms of violence—imposition, contestation, competition and succession—which tend to cluster around drug-valuable territories—for the production, reception, retail and wholesale distribution of illegal drugs. In this sense, a generalized repressive campaign against all criminal organizations unleashed a turf war fought in several fronts.

To test this argument, I rely on the first geo-referenced database of daily events of drug violence at the municipal level in Mexico between 2000 and 2010. The database was generated using automated coding of event data from newspaper reports. This large time-series cross-sectional database, comprising roughly 9.8 million observations, provides detailed information on who did what to whom, when and where in the Mexican war on drugs.

The paper is structured in five sections. The first part reviews literature on state repression, civil wars, social movements and criminology to identify key determinants of drug violence. The second part outlines the theoretical explanation. The third section describes the database and the different types of drug violence. The fourth part presents the statistical evaluation of dynamic and structural determinants of violence. Finally, the conclusion summarizes the main findings.

STRUCTURAL AND DYNAMIC DETERMINANTS OF VIOLENCE

The central role of the state is to impose order (Hobbes 1651) and the process of state formation has been inherently connected to violence as states try to monopolize the legitimate use of violence (Tilly

1985; Weber 1978). However, weak states usually have limited presence and control of their territory, and often lack a monopoly of coercion (Bates 2008; O'Donnell 1993; Scott 2009). Such is the case in several Latin American countries where the lack of state capacity to provide security against rampant criminality is becoming a central concern for the political stability (Arias & Goldstein 2010; Bergman & Whitehead 2009; Keefer & Loayza 2010; Thuomi 2001). As stated by Reuter (2009), illegal drug markets are generally peaceable. However, occasionally some markets experience high levels of violence. This literature review surveys different areas of knowledge in order to identify the key structural and dynamic determinants of the escalation and diffusion of drug-related violence.

Structural factors

In large-scale conflicts, violence does not spread evenly. Scholars have identified territorial and structural factors to explain this variation. Research on organized crime emphasizes the territorial specificity of illegal markets as criminal organizations compete for controlling territories (Gambetta 1993; Reuter 2009b). Kalyvas (2006) has also addressed the centrality of territorial control for explaining large scale violence in civil wars. Cross-national research on civil wars has generated a broad consensus that violence concentrates around areas with abundant lootable resources–oil, diamonds, timber or drugs–as they serve for motivating and sustaining long campaigns of violence (Collier 2004; Fearon 2005; Humphreys 2005; Ross 2006). Poverty is another key determinant of violence as it motivates challengers and facilitates recruitment in large scale conflicts (Fearon 2005; Fearon & Laitin 2003; Gurr 1970; Collier 2004; Weinstein 2007). Sociological and economic theories of criminology also attribute broad credit to poverty as a crucial determinant of individual´s engagement in criminal behavior (e.g., von Lampe 2009).

In addition, research on the sub-national determinants of conflict shows that variation of structural factors and geographic characteristics within the borders of the state are fundamental for

understanding the location of violence (Buhaug et al. 2009; Buhaug & Ketil Rod 2006). Based on existing knowledge about macro-level determinants of conflict, it is possible to expect higher levels of drug related violence in poor areas. Drug-strategic territories providing large profits for criminal organizations are also likely to experience more violence than those with low-profit characteristics. The spatial variation of these previous factors is also likely to explain the spread of violence.

Dynamic factors

Despite the valuable contributions of research focused on the structural determinants of conflict, these slow-changing factors prove limited leverage for explaining the frantic dynamics of conflict. Analysis on the cycles of violence indicate that macro explanatory variables are usually not well correlated with the high variation of criminal violence, and suggest the need to analyze internal dynamics of conflict (Caulkins, Feichtinger, & Veliov 2007). Research on social movements, state repression, criminality and counter-insurgency provide valuable insights for understanding the dynamics of drug violence.

Scholars within the field of state repression invariably find that governments use coercion against challengers (Davenport 2007; Goldstein 2001). The "Law of Coercive Responsiveness" indicates that government authorities generally employ some sort of responsive action to counter or eliminate a challenger threatening the status quo (Davenport 2007). Therefore, we can expect the state to engage in violence against organized crime in an effort to secure its monopoly of violence. In contrast to the consistency of the state´s repressive response against dissident behavior, research finds mixed results for the challengers´ reaction to state repression (Lichbach 1987; Eckstein 1980; Zimerman 1980). Some authors indicate that state repression favors the escalation of violence (Gurr 1970; Tilly 1978; Eckstein 1965), whereas others argue that state repression is an effective deterrent of conflict (Hibbs 1973; Snyder & Tilly 1972).

Research on resource mobilization indicates that the availability of human and material resources is crucial for explaining the emergence, growth and decline of contentious activity (Gamson 1975; McCarthy & Zald 1977). Groups with better capabilities to mobilize resources are more likely to attain collective action. In contrast to the scarcity of resources that make social movements vulnerable to state repression, illegal markets provide DTOs with abundant resources to support violence (Fearon 2005). State coercion is not likely to have an immediate deterrent effect on such powerful opponents. Therefore, state coercion is likely to generate an increase of violent reactions from criminal groups.

Research on organized crime generally portrays crime syndicates as firms competing to control revenues from illegal markets (Reuter 1989) using force to secure a monopoly of violence over a territory (Schelling 1967, 1971; Gambetta 1993; Volkov 2002; Skaperdas 2002). Therefore, organized criminals are expected to use violence to compete against each other. Theories on corporate demography of social movements suggest that increasing concentration of organizations in a specific sector generates more intense competition among social organizations (Carroll & Hannan 2000; Davis et al. 2005). In this sense, we can expect higher levels of violence in areas occupied by a large number of drug trafficking organizations.

Finally, research on leadership targeting and organizational vacancies provides mixed findings. Most authors argue that leadership decapitation is an ineffective counter-insurgency tactic (Hosmer 2001; Pape 1996). Criminologists indicate that high-profile detentions may be counterproductive as lower ranks often use violence for ascending in the organizational ladder (Friman 2004). However, critics argue that targeting leaders weakens insurgent organizations and makes them more likely to be defeated (Johnston 2009).

Despite the contributions of these bodies of research, their findings have not been integrated into an encompassing theoretical framework. Studies focusing exclusively on a single actor (either the

state or the challenger) are likely to suffer problems of omitted variable bias, that may generate misleading conclusions (King, Keohane, & Verba 1994). Recent advances on domestic conflict indicate the need for generating dynamic explanations of conflict that integrate the simultaneous actions and reactions of different actors (Davenport et al. 2005; Hoover & Kowalewski 1992; Shellman 2003).

THEORETICAL FRAMEWORK

The theoretical model advanced in this paper integrates dynamic and structural factors to account for the temporal and spatial variation of large-scale drug-related violence. This explanation departs from six basic assumptions: (i) the central objective of all actors is to control a territory;[1] (ii) members of criminal organizations are primarily rent seekers;[2] (iii) at least one DTO exists within the borders of the state before the conflict starts;[3] (iv) the decision of state authorities to launch a large-scale campaign against DTOs is exogenous;[4] (v) DTOs are the most relevant type of criminal organization as compared

1 The centrality of territorial control and the use of violence has been recognized in several explanations of state formation (e.g. Bates 2008; Olson 2000; Scott 2009; Tilly 1985; Weber 1978). In addition, there is a broad consensus in the literature on organized crime about the territorial specificity of criminal organizations (e.g., Gambetta 1993; Reuter 1989, 2009; Schelling 1967, 1971; Skaperdas 2001, 2002). Organized criminals rely on violence—or the threat of using it—to secure the economic benefits derived from controlling specific territories.

2 In contrast to the ideological or political motivations of social movements or insurgencies, the main orientation of criminal organizations is not to overthrow the government and change the political orientation of the state. Instead, they are mainly concerned with maximizing economic benefits extracted from illegal markets (Schelling 1967, 1971; . This does not exclude the possibility of DOTs trying to capture, co-opt or corrupt government authorities. However, they would do so as an instrumental strategy for neutralizing the state´s repressive efforts and for securing the economic benefits derived from illegal markets (Garay et al. 2008; López 2010).

3 Scholars of state formation have already stated the relationship of state making and organized crime (Olson 2000; Tilly 1985). However, this theory assumes the emergence of criminal organizations as an exogenous process. Therefore it considers that criminal organizations are present within the territory of a state and coexist with government authorities.

4 Research on civil wars has identified different causal factors for explaining the onset (e.g., Fearon & Laitin 2003; Hegre & Sambanis 2006; Sambanis 2004), the lethality (e.g., Lacina, 2006) and the duration of domestic conflict (e.g., Collier, Hoeffler, & Soderbom 2004; Hegre 2004; Walter 2004). In a similar way, this research considers that the onset, dynamics and termination of wars on drugs constitute interrelated yet different objects of analysis that should be addressed separately. For that reason, this research exclusively focuses on the dynamics of drug violence and assumes the onset of the war on drugs as an exogenous factor. There are several reasons why government authorities may decide to confront drug trafficking organizations. Paul Gootenberg (2011) addresses the relevance of international factors, in particular the United State's anti-narcotics foreign policy. The assassination of the Colombian Minister of Justice, Rodrigo Lara Bonilla, suggests that the onset of large-scale campaigns against DTOs can also constitute a state reaction against high-impact violence perpetrated by DTOs (Thuomi 1995, 2001). In the Mexican case, it is possible to set a clear date for the beginning of the

with other types of criminal groups;[5] (vi) finally, DTOs primarily focus their activities on drug-trafficking activities.[6]

Following Kalyvas (2006), violence is defined as the deliberate infliction of material or physical harm on people that can be used either strategically—to deter certain type of behavior—or tactically—to eliminate a specific target. I refer to drug-related violence as the material or physical harm intentionally perpetrated either by drug trafficking organizations or by the state's coercive apparatus. In particular, this research considers large scale organized crime violence as the aggregated levels of violence caused by the fight between the state and DTOs, among rival DTOs and within DTOs.

The main argument holds that the wave of drug violence is caused by the implementation of a generalized punitive campaign that unleashes different mechanisms of violence—imposition, contestation, competition and succession—which tend to cluster around drug-valuable territories—for the production, reception, retail and wholesale distribution of illegal drugs. As presented in Figure 1, this theoretical explanation disentangles the different components of drug related violence and integrates them into a dynamic framework influenced by structural determinants.

[Insert Figure 1 here]

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war on drugs on December 11th, 2006, when President Calderón announced the beginning of a campaign against criminal organizations. However, this theory does not problematize the external or internal factors that motivated Calderón for launching the war on drugs.

5 Drug-trafficking activities demand large organizations capable of participating in the production, transformation, transportation and distribution of illegal drugs across borders. These activities require a high degree of organizational, logistical, financial and protection capabilities. Criminal organizations focused on other types of illegal markets such as racketeering require less organizational sophistication. Drug-trafficking activities demand large organizations capable of participating in the production, transformation, transportation and distribution of illegal drugs across borders. These activities require a high degree of organizational, logistical, financial and protection capabilities. Criminal organizations focused on other types of illegal markets such as racketeering require less organizational sophistication.

6 DTO´s concentration on drug trafficking does not exclude engagement other activities such as extortion, money laundering, kidnapping and arms contraband. However, these activities are considered secondary as they seek to facilitate, reinforce or complement drug-trafficking activities.

The term imposition refers to the state's use of violence against organized criminals. In this mechanism, government authorities use a variety of coercive tactics in an effort to impose order and maintain the state´s legitimate monopoly of violence. State authorities usually resort to a variety of mobilization structures such as the military, police forces or the "intelligence" apparatus to impose order.[7] The main objective of the state is to neutralize or eliminate potential the threat that criminal organizations pose to the state´s legitimate monopoly of violence. Authorities can achieve this goal by decimating the human, material and financial resources that criminal organizations use for violence.

Contestation refers to the set of violent actions perpetrated by DTOs against the state. According to the assumption of rent-maximizing criminals, DTOs are merely interested in preserving the parallel power structure that allow them to secure economic benefits. In this sense, DTOs do not use violence to overthrow government authorities and control the state. Instead, organized criminals resort to violence as a retaliation tactic against the incursions of law enforcers. The main objective of contestation is to undermine the authorities´ willingness and capability to fight DTOs in an effort to consolidate the state´s monopoly of violence.

Competition reflects inter-cartel violence as rival DTOs fight each other to monopolize strategic territories. Consider two hypothetical DTOs (DTO1 and DTO2) coexisting with the state in a specific territory. The initial attack of the state against DTO1—through the imposition mechanism—undermines DTO1's resources for violence. The weakening of DTO1 may be interpreted by a competing cartel, DTO2, as a sign of vulnerability and diminished capability of DTO1 to defend its territory. The perceived possibility of conquering DTO1's territory and enjoy its economic benefits may motivate DTO2 to launch an attack against DTO1. In this sense, the imposition of the state against a

7 Although government authorities generally rely on traditional security forces, they can also allow—or actively promote—the emergence of paramilitary groups, death squads and other types of armed non-state actors to fight against drug trafficking organizations.

drug cartel may serve as a window of opportunity indicating favorable conditions for conquering the territory of a weakened cartel. As a reaction to the invasion of a rival cartel, DTO1 may launch a counterattack against DTO2 to protect its territory and prevent its expansion. The initial repressive actions of the state may trigger fierce competition among criminal organizations as they they fight each other for controlling valuable territories.

Finally, succession reflects violence within DTOs. State's imposition and competition among DTOs are likely to generate leadership vacancies within criminal organizations. Drug cartels, as any other type of organization, may vary in the strength of their hierarchical structure and degree of internal cohesion. In loosely organized groups, the succession line and chain of command may be challenged by lower ranks seeking to enjoy the economic benefits of higher positions. Furthermore, lower ranks may resort to violence as they make their way up in the organization. As a reaction, high-level criminals may also use violence against lower ranks as a way to enforce discipline within the organization. Disputes between higher and lower ranks may cause the split of the organization, which leads them to the competition mechanism.

In addition, the theoretical model argues that the dynamic mechanisms of drug related violence are embedded within structural factors. In particular, the spread of conflict is strongly influenced by the geo-strategic value of some territories. Following the assumption of rent-seeking criminals, DTOs are more likely to concentrate their financial, material and human resources for protecting—or challenging—their control of highly valuable territories. In this sense, violence is likely to cluster around territories of production and reception of illegal drugs, as well as in local retail markets and territories of international wholesale distribution of drugs.

Production territories refer to areas where DTOs grow crops or illegal drugs—such as poppy or marijuana—or build laboratories to produce synthetic drugs. Given the international nature of drug

trafficking, reception areas refer to territories where DTOs receive large shipments of illegal drugs from abroad. Organized criminals are also likely to render high value to retail markets where they sale drugs to local consumers. Finally, border territories are also highly profitable as they serve as the exit points of wholesale distribution for international markets.

In sum, the interaction between the state's coercive apparatus and criminal organizations is explained by the imposition and contestation mechanisms of violence. Conflict between the state and criminal organizations also triggers territorial competition among rival criminal groups. Internal vacancies generated by the turf war also spark succession violence within criminal organizations. In this sense, the escalation of drug related violence is explained by the reciprocal interaction between the State and drug cartels, as well as between and within criminal organizations. In addition, the dynamics of violence tend to concentrate around highly profitable territories of production, reception, local retail and wholesale distribution.

This explanation argues that dynamic factors are embedded within structural determinants. Based on the assumption of rent-seeking criminals, it is plausible to expect a higher density of DTOs clustering around highly profitable areas. Valuable territories concentrating a larger number of criminal organizations are more prone to experience different mechanisms of drug-related violence. If the state launches a selective punitive campaign in a specific area, it is possible to expect a localized spike of violence through the mechanisms of imposition, contestation, competition and succession. However, if state authorities lack a defined strategy for selectively confronting specific criminal organizations and simultaneously engage against all DTOs in their territory, it is likely to expect a massive escalation of drug related violence. A generalized campaign against all DTOs simultaneously opens several fronts of imposition and contestation. The interactions between the State and various DTOs trigger several efforts of territorial expansion. Occupation attempts unleash an avalanche of retaliation actions against

transgressors, thus generating a wave of territorial competition among rival drug cartels around various drug-profitable areas. Generalized conflict is likely to generate several vacancies within criminal organizations which may lead to secessionist violence or splits of drug organizations. In consequence, the theoretical model indicates that a generalized punitive campaign of the state against all drug cartels in its territory is likely to generate a Hobbesian war of all-against-all.

EMPIRICAL STRATEGY

To test the argument, the empirical strategy of this paper relies on a large database containing events of drug related violence on a daily basis at municipal level. Following successful research on international conflict using computerized coding to identify events of violence (e.g., Bond et al. 2003; Schrodt et al. 2010), this research uses Text Analysis by Augmented Replacement Instructions (TABARI) (Schrodt 2009) for identifying events of drug related violence from news reports. TABARI codes violent events by identifying three key pieces of information: the source, which refers to the actor undertaking an action; the target, which indicates the actor receiving the action; and the action itself.[8] In consequence, a violent event consists of a source actor conducting violence against a target (e.g. the police arrests a drug dealer, the army repels an attack from organized criminals). The unit of analysis is a municipality-day. The database contains information for all Mexican municipalities (N=2,456) between January 1st, 2000 to December 31st, 2010[9] (T=4,017) for a total (NxT) of 9,866,5752 observations. This large time-

8 TABARI draws on dictionaries of *actors* and *verbs* developed by the researcher to identify the source, action and target of violent events in textual information. For example, consider an hypothetical *actors* dictionary assigning the code (101) to "organized criminal" and (202) to "police officer", and a *verbs* dictionary assigning the code (333) to "kill". Based on this information, TABARI would read the sentence "a squad of organized criminals killed two police officers" to generate the following output: <101> <333> <202>. This numerical information can then be used as data for statistical analysis.

9 A few recent studies begin their analysis of drug violence on December 2006 (Guerrero 2010, 2011; Poiré 2010). However, drug related violence did not begin when Calderón took office at the end of 2006. This research goes back to 2000 in order to trace the dynamic and structural determinants of drug violence in Mexico. By considering a long time span, this research eliminates the problem of temporal truncation in the dependent and independent variables that may lead to

series cross-sectional dataset provides detailed information on who did what to whom, when and where in the war on drugs in Mexico.

To minimize concerns of bias caused by uneven coverage in newspaper-generated databases (Davenport & Ball 2002; Shellman et al. 2007), this research considers press releases from five Mexican government agencies and daily news reports from eleven national newspapers between 2000 and 2010.[10] The information gathering criteria consisted on considering press releases or news reports explicitly informing about violent actions undertaken by state authorities or organized criminals. This included a wide variety of events such as arrests, seizures, shootings, kidnappings, homicides, confrontations, attacks, discovery of death bodies and money laundering among other events. News reports often do not provide complete information about the specific criminal group undertaking a violent action. In those cases, news reports were considered if they included information about the traditional modus operandi of organized criminals such as the use of high-caliber weapons or explosives; violence was perpetrated by groups of armed men; convoys of vehicles were used; there were multiple victims; bodies presented multiple shootings, signs of torture or mutilation and messages where left nearby the victims. The information criteria considered excluding reports of ordinary crime (e.g. robberies or passionate crimes) and violent actions perpetrated by guerrilla groups or other insurgent organizations with political demands (e.g. Ejército Zapatista de Liberación Nacional, EZLN, or Ejército Popular Revolucionario, EPR). Most importantly, the selection criteria considered excluding

erroneous conclusions (Geddes 2003; King, Keohane & Verba 1994).

10 This research considers press releases from the Army (*Secretaría de Defensa Nacional, SEDENA*), the Navy (*Secretaría de Marina Armada de México, SEMAR*), the Federal Police (*Secretaría de Seguridad Pública Federal, SSP*), the Office of the Attorney-General at Federal Level (*Procuraduría General de la República, PGR*) and all the offices of Attorney-Generals at state level (*Procuradurías Estatales de Justicia*). The national level newspapers considered in this research are *La Crónica de Hoy, El Economista, El Universal, Excélsior, Reforma, La Jornada, El Sol de México, Milenio Diario, Proceso, Notimex-Nacional* and *El Finaniero.* To minimize problems of under-reporting in national newspaperes, I am currently gathering news reports from 47 local newspapers. I expect to incorporate subnational reports in future version of this paper.

discourses, statements, opinions, editorials and reports of activities related with the war on drugs. The entire corpus of text used for automated coding consists of 31,924 documents.[11]

Automated coding has several advantages over manual coding as it substantially reduces the costs and time for conducting a research project, and eliminates concerns of coder's fatigue and judgment bias. One of the key advantages is that the coding rules are transparent, and researchers can easily reproduce and update entire coding projects (Schrodt & Gerner 1994; Schrodt 2009; Shellman 2008). However, machine coding of event data has some shortcomings. Due to the complex grammatical construction of news reports of violence in Spanish, the coding protocol used in this research is not capable of identifying the specific outcomes of violent events. For example, in the sentence "a group of armed men killed three police officers" TABARI would identify the homicide as a single event, without considering the outcome of three casualties. For example, the measure of killings used in this research only represents the number of events where at least a person got killed, but it does not constitute a precise count of the number of people killed in such event.

Quantitative scholars of intra-state violence tend to generate databases focusing exclusively on the number of casualties generated in a conflict (e.g. Lacina 2006). These researchers aim to consider that the loss of a human life is the ultimate consequence of violence (Kalyvas 2006). However, focusing exclusively on the number of casualties fails to consider a wide variety of forms that violence may take. Databases consisting of body-counts, such as the one presented by the Mexican government in 2011 (Presidencia De La República 2011), only provide information about the number of people killed in drug related violence, but do not provide information about how people died. For instances, this type of database would equally count as a casualty a person found death next to the river, a person

11 Considering various sources of information often times results in multiple reports of a single event. However, after using TABARI for coding events from the entire set of documents, duplicates are identified and excluded through standard statistical techniques.

killed in an armed confrontation, or a person kidnapped and then beheaded. The exclusive focus on casualties would also fail to provide information about who is the perpetrator of a violent action, nor who is the victim.

To overcome the limitations of a unidimensional approach to violence, this research acknowledges that violence is much more than a dead body. Instead, it advances a multidimensional conceptualization of violence. According to this perspective, a single episode of conflict can comprise many different events of violence. For example, consider the following event: "a group of hit-men ambushed a military convoy, which turned into an armed confrontation where two criminals died and one soldier got injured; after the clash, soldiers arrested three surviving criminals and seized their guns, drugs, money and vehicles". In this example, the unidimensional approach would only count the number of people killed. In contrast, the multidimensional perspective would consider a variety of events such as the ambush, the confrontation, the people killed and injured, and the seizures. In addition, it would also identify the actors involved in these actions. In consequence, this approach provides more detailed information about the complexities of violence than the unidimensional perspective.

Measures and hypotheses

This multidimensional approach is used for analyzing three dependent variables outlined in the theoretical section. The variable DTO-vs-DTO is the main indicator of competition among rival drug cartels. This variable comprises the daily sum of events of kidnapping, shootings, attacks, clashes, injuries, killings, torture and mutilation perpetrated by members of a criminal organization against another criminal group at municipal level. Competition is also measured by the number of drug cartels detected in the country. The variable DTOs-vs-State measures contestation from criminal organizations against the state. This variable comprises the daily sum of events of kidnapping, shootings, attacks,

clashes, injuries, killings, torture and mutilation perpetrated by DTOs against state authorities at municipal level. Finally, the variable State-vs-DTO serves as the main proxy for the imposition mechanism. This measure considers the daily sum of shootings, attacks, clashes, injuries, killings and torture perpetrated by the state's coercive apparatus against organized criminals at municipal level. Imposition is also measured with complementary indicators such as the number of arrests of low rank criminals and seizures of drugs, arms, money and properties of criminal organizations.

For illustrative purposes, Figure 2 presents the disaggregated characteristics of violence between rival DTOs, as well as violence perpetrated by DTOs against the State, and repressive actions undertaken by the State towards DTOs. This graph indicates that organized criminals use a similar proportion of kidnapping and torture against rival organizations as against state authorities. In contrast, criminal organizations engage in overt confrontations against the state much more frequently than against rival criminal groups. However, the analysis of the number of killings indicates that criminal organizations are much more lethal against competing groups than against the state. It is important to clarify that variables of DTO-vs-DTO, DTOs-vs-State and State-vs-DTO only constitute additive indexes of the number of different kinds of violent events. These variables do not consider weights associated with the lethality or intensity of such actions. In consequence, the dependent variables considered in this research consist of event counts taking positive integer values.

[Insert Figure 2]

Figures 3-5 present the temporal evolution of drug related violence between January 1st 2000 and December 31st 2010. The red line in these three graphs indicates the date when President Calderón launched the war against organized crime in Mexico. Figure 3 presents the daily number of confrontations between drug cartels. This graph shows that competition among rival DTOs experienced an increase at the beginning of 2005 and violence among criminal organizations has not declined after

the onset of the war on drugs. The average number of violent events between DTOs increased from 0.31 daily events before the onset of the war on drugs to 1.48 events after that date. This change represents an increase of 477% in confrontations among DTOs.

[Insert Figure 3 here]

Figure 4 shows the daily number of attacks perpetrated by criminal organizations against the state. This figure indicates that drug cartels were not systematically challenging state authorities before December 2006. However, organized criminals began targeting the state after Calderón launched the full-fledged punitive strategy. The average number of daily criminal attacks against the state increased from 0.26 events before the onset of the war on drugs to 1.96 daily events after that date. This change represents an increase of 758% of attacks perpetrated by drug cartels against state authorities.

[Insert Figure 4 here]

Finally, Figure 5 shows the daily number of violent repressive actions undertaken by the state against DTOs. This graph indicates that the state conducted a few isolated repressive actions against drug cartels between 2000 and 2006. In contrast, the figure shows a dramatic increase of state violence against criminal organizations after December 2006. The average number of attacks from the state against DTOs increased from 0.09 daily events before the onset of the war on drugs to a mean of 0.83 daily events after that date. This change represents an increase of 922% in the actions undertaken by the government against drug trafficking organizations.

[Insert Figure 5 here]

Among the three different types of violence presented in Figures 3-5, the one that experienced the largest increase is the violence perpetrated by the state against DTOs. This generalized wave of state repression reflects the change from a localized strategy of drug enforcement to a generalized war

against drugs. When questioned in a press conference about selective targeting, President Calderón declared that:

> "[...] I can assure that this government has indiscriminately attacked all criminal groups in Mexico; we acted in order to preserve citizen´s security in every part of the country without any considerations for so or so cartels […] We have fought them all. We have caused severe damage to their operational, financial and leadership structures [...]" (Presidencia De La República 2010).[12]

Based on the theoretical explanation advanced in this paper, the empirical analysis considers the reciprocal interaction between three key variables, which interchangeably serve as dependent or independent variables for one another. In order to evaluate the dynamic determinants of drug violence, this paper considers the following hypotheses:

H1a: Increasing state imposition against DTOs aggravates competition among rival DTOs.

H1b: Increasing contestation from DTOs against the state increase the expected number of confrontations between competing DTOs.

H2a: Increasing state imposition against DTOs is likely to generate contestation of DTOs against the state.

H2b: Increasing competition among DTOs augments the expected number of attacks from DTOs against the state.

H3a: Increasing contestation from DTOs against the state is likely to trigger repression from the state against DTOs.

H3b: Increasing competition between rival DTOs favor repressive actions from the state against DTOs.

12 The original text in Spanish reads: "*[...] puedo asegurar que este gobierno ha atacado indiscriminadamente a todos los grupos criminales en México; que hemos actuado por preservar la seguridad de los ciudadanos en cualquier punto de la República Mexicana sin tener en consideración si se trata del cártel de fulano o de zutano [...] A todos hemos combatido. A todos les hemos causado golpes importantes en su estructura operacional, financiera y de liderazgo [...]*". Elglish translation by the author.

The structural determinants of drug violence refer to the strategic value of different types of drug territories. Production areas are measured by two ordinal variables for the number of marijuana and poppy crops detected at municipal level on a daily basis.[13] To measure local retail markets, the variable large cities take the value of 1 for those municipalities with more than 700,000 habitants as a proxy for domestic consumption,[14] and the variable tourist spot comprises the annual number of foreign tourists at municipal as a proxy for drug consumption by non-residents within the country.[15] To measure territories of reception of illegal drugs, I used Geographic Information Systems (GIS) to identify municipalities bordering the coastline and two additional sets of contiguous municipalities inland. This procedure was used to generate the variable Pacific taking the value of 1 for the belt of municipalities along the Pacific ocean, and 0 otherwise; and the variable Gulf for municipalities along the Gulf of Mexico.[16] Finally, to measure territories of wholesale distribution, the variable Border takes the value of 1 for the belt of municipalities along the border with the United Sates, and 0 otherwise.[17] These territorial variables are expected to have a positive impact on the levels of conflict generated by the different mechanisms outlined in the theoretical model. For this reason, the empirical analysis evaluates the following territorial hypotheses:

13 The *marijuana* and *poppy* variables take the value of 0 if no illegal crops were detected in a municipality-day; they take the value of 1 if the number of detected crops is below the mean; the value of 2 if the number of crops is below one standard deviation above the mean; and the value of 3 the number of daily detected crops excede two standard deviations above the mean. Data for this variable comes from information provided by SEDENA. To aviod endogeneity between production areas and the *State-vs-DTO* variable, events of eradication of illegal crops where excluded from the latter.

14 Data from this variable comes from the national census of 2000, 2005 and 2010 generated by the *Instituo Nacional de Estadística, Geografía e Informática* (INEGI). The statistical model considered alternative thresholds at 900,000 and 500,000 habitants but the results were highly stable.

15 This measure considers the log of the annual number of foreign tourists at municipal level. Data for this variable comes from the *Banco de Información Económica*, (BIE) generated by INEGI (2011).

16 These variables serve as proxy for reception spots of international shipments of drugs. Illegal shipments comming from the Caribbean route arrive to the Gulf of Mexico and shipments from South America arrive to the Pacific shore.

17 Cartographic data comes from *Marco Geoestadístico Nacional* generated by INEGI (2011b).

H4: Local retail markets are likely to experience high levels of (**H4a**) competition between DTOs, (**H4b**) criminal attacks towards the state, and (**H4c**) state coercion against drug cartels.

H5: Territories of production of illicit drugs increase (**H5a**) violence between rival DTOs, (**H5b**) contestation from DTOs against the government authorities, and (**H5c**) state repression against criminal organizations.

H6: Areas of reception of illegal drugs along the Pacific and Gulf coastlines increase (**H6a**) competition between DTOs, (**H6b**) criminal attacks towards the state, and (**H6c**) state coercion against drug cartels.

H7: Territories for international wholesale distribution of drugs suffer high levels of (**H7a**) competition between DTOs, (**H7b**) criminal attacks towards the state, and (**H7c**) state coercion against drug cartels.

In addition, the variable Calderón serves as a proxy for the President´s decision to start the war against organized criminals; it takes the value of 0 before December 11th, 2006, and the value of 1 from that date onwards. Finally, the empirical analysis also incorporates a set of controls. To assess economic determinants of conflict, the statistical analysis includes the log of the Gross Domestic Product (GDP) measured on a quarterly basis and GDP change to consider national economic variations.[18] Negative variations in GDP serve as a proxy for economic hardship. Literacy measures the percentage of the population at municipal level that knows how to read, and serves as a proxy for poverty. Finally, Population reflects the log of total population at municipal level.[19]

STATISTICAL ANALYSIS

The dependent variables DTO-vs-DTO, State-vs-DTO, DTOs-vs-State measure the daily number of violent events at municipal level. In consequence, count models constitute the appropriate statistical

18 Information for these variables is reported on a quarterly basis at the national level. Data comes from the *Sistema Estatal y Municipal de Bases de Datos* (SIMBAD) generated by INEGI (2011c).

19 Annual data for alphabetization and population comes from SIMBAD generated by INEGI (2011c).

tool for analyzing this kind of dependent variables. In particular, the presence of hyper-dispersion indicates the need for using negative binomial count models. This section presents the statistical analysis using negative binomial regression models with random effects for time-series cross-sectional data. This statistical approach allows to simultaneously assess the impact of different covariates on the expected number of drug violence events across time and space.

Table 1 reports the determinants of violent competition between drug trafficking organizations. In general, the model provides strong support for both dynamic and territorial explanations of drug related violence. For ease of interpretation, this section reports the statistical results in a more intuitive way by raising the negative binomial coefficients to the e power—originally, regression coefficients are expressed in terms of the log difference of expected counts. Model 1 focuses on the dynamic determinants of drug violence while controlling for structural variables. The model provides strong support for the effect of contestation on competition. Violent events perpetrated by DTOs against the state also increase the expected number of confrontations between rival criminal organizations by 1.89 events. This suggests that drug cartels engaging in violence against government authorities also perpetrate violence against rival organizations. The model also indicates that increasing numbers of drug cartels generate 0.15 more events of violent competition among DTOs.

[Insert Table 1 here]

The analysis of dynamic determinants provides mixed results for the relation between imposition and contestation. State repression against DTOs reduces the expected number of confrontations between rival criminal organizations by 0.55 events. This suggests that coercive actions are relatively successful in reducing the capability or motivation of organized criminals to fight rival cartels. Relevant detentions of drug-lords do not seem to have an effect on violence between DTOs. In contrast, increasing confiscations of drugs, arms, money and properties as well as arrests of low-rank

criminals increase confrontations between DTOs by 0.4 and 0.49 events respectively. These results suggest contradictory effects of law enforcement activities against drug trafficking organizations. Finally, the variable Calderón indicating the onset of the war on drugs increases the number of confrontations between DTOs by 0.7 events.

Model 2 evaluates the geo-strategic determinants of drug-related violence among drug cartels. The statistical analysis indicates that local retail markets tend to be contested by DTOs. Large urban areas expect 0.86 more violent confrontations among criminal organizations than smaller cities. In addition, increasing number of foreign tourists is associated with an increase of 0.05 events in inter-cartel violence. The hypothesis of production areas finds mixed support in the statistical analysis. Poppy production municipalities tend to experience 0.18 less events of inter-cartel violence than municipalities where no poppy is cultivated. In contrast, Marijuana production municipalities are likely to witness 0.55 more confrontations between DTOs than municipalities free of marijuana crops. Violence between drug cartels is also affected by reception territories, particularly in the Mexican Gulf where the expected number of confrontations between DTOs increase by 0.46 events. The statistical analysis indicates that areas of wholesale distribution in the border with the United States substantially increase confrontations between drug cartels by 2.77 events. Finally, the President's decision to launch a full-fledged campaign against DTOS increase the expected count of confrontations by 2.39 events.

Model 3 integrates both dynamic and territorial explanations of competition between groups of organized criminals. The direction and statistical significance of all covariates remains highly stable. In particular, dynamic factors show that indiscriminate law enforcement focusing on arrests and seizures favor the escalation of competition between drug cartels, while selective detentions and staggering use of force deter inter-cartel violence. In addition, territorial components indicate that clashes between rival DTOs tend to cluster around areas of local consumption of illegal drugs,

marijuana production areas, reception spots in the Mexican Gulf and border towns for wholesale distribution. The full model also indicates that the onset of the punitive campaign against drug cartels increase by 0.98 the number of events.

Table 2 presents the determinants of violence perpetrated by drug trafficking organizations against the state. In general, the results show strong support for the effect of competition and imposition on contestation. Model 4 presents the dynamic determinants of violence from DTOs against state authorities. Increasing events of violence between rival drug cartels increase the expected number of criminal attacks towards the state by 0.79 events. In addition, the emergence of one additional criminal organization generates 0.13 more criminal attacks against the state. There could be two mechanisms linking the effect of competition on contestation. Due to the high levels of corruption in Mexican law enforcement institutions, corrupt state authorities working for a DTO may be targeted by a rival DTO as part of the dynamics of inter-cartel violence. The second possibility suggests that highly-aggressive DTOs trying to monopolize the use of violence in a territory are also willing to fight against rival DTOs as against state authorities. The model also shows strong support for indicators of imposition. Increasing state violence directed towards DTOs increase the expected number of retaliation attacks from criminal organizations against the state by 2.85 events. This shows that violent interaction between the state and drug cartels is a key component to explain the escalation of drug related violence. In addition, increasing seizures and detentions respectively generate 0.25 and 0.7 more attacks against the state. Finally, Calderón's decision to launch the war on drugs generates 2.24 more criminal attacks towards state authorities.

[Insert Table 2 here]

Model 5 shows strong support for the expected effect of geo-strategic factors on violence perpetrated by DTOs against the state. Large cities are likely to experience 1.27 more attacks against

state authorities than smaller cities. Violence directed towards the state is expected to increase by 0.04 as the number of foreign tourists increases. Contestation is also likely to cluster around drug production areas. Particularly, marijuana producing municipalities increase the number of attacks against the state by 0.33 events. However, poppy producing municipalities do not seem to have an effect on contestation. The model also suggests that it is plausible to expect an increase of 0.83 attacks against the state in municipalities along the Gulf coastline. The number of criminal attacks towards the state increase by 1.5 events along the border with the United States. In addition, the onset of the war on drugs generates 5.13 more attacks against the state than before the beginning of the conflict.

Model 6 presents the statistical analysis of the full regression integrating the dynamic and territorial explanations of attacks perpetrated by criminal organizations against the government authorities. In general, the model provides strong empirical support for the dynamic and structural explanations of drug violence outlined in the theoretical model. The statistical results indicate that confrontations between rival DTOs and drug law enforcement increase the number of attacks against the state. Government authorities are more likely to be targets of criminal organizations in local retail markets, marijuana production zones, drug reception areas and in spots of international wholesale distribution. In addition, the full model indicates that launching a massive campaign against all DTOs in the state's territory increases the expected number of attacks against the state by 2.62 events.

Finally, Table 3 analyzes the determinants of imposition violence from the state against drug cartels. In general, the statistical analysis provides strong support for the dynamic effects of competition and contestation mechanisms on imposition, and for the structural explanations of state repression against criminal organizations. Model 7 evaluates the reciprocal interaction of different mechanisms of drug related violence. The model indicates that increasing violence among rival drug cartels is likely to trigger 0.21 more repressive actions from the state. In addition, as the number of

drug trafficking organizations increases, it is plausible to expect 0.24 more violent actions from the state against DTOs. The model also suggests that attacks perpetrated by organized criminals against government authorities increase violent responses from the state by 1.81 events. The statistical analysis indicates that increasing confiscations reduce the expected number of attacks from the state against DTOs by 0.07 events. In contrast, arrests of low-rank organized criminals generate an increase of repressive actions against DTOs by 0.96 events. The variable Calderón indicates that the onset of the punitive strategy against DTOs increase by 2.06 the expected number of coercive events.

[Insert Table 3 here]

Model 8 analyzes the effect of structural determinants on state repression. The statistical analysis indicates that state authorities are likely to use 0.83 more repressive actions against DTOs in large cities. In addition, increasing numbers of foreign visitors in touristic spots generate 0.07 more events of violence from the state towards criminal organizations. Areas of marijuana production increase the expected number of violent repressive actions by 0.32 incidents. In addition, reception areas along the Gulf increase the number of coercive actions against DTOs by 0.93 events, and reception areas in the Pacific generate 0.4 more incidents of repression. The state is likely to increase the use of violence by 1.5 events in areas of wholesale distribution along the northern international border. In addition, the background condition for the onset of the war on drugs increases by 7.92 events the number of repressive actions against criminal organizations.

Finally, Model 9 integrates the dynamic and structural explanations of state imposition against drug trafficking organizations. This model shows that increasing competition between rival criminal organizations triggers more violent interventions from the state against such organizations. In addition, criminal attacks directed towards state authorities increase violent retaliation from the state's coercive apparatus. The statistical analysis also shows mixed effects of non-violent drug enforcement. As the

number of seizures increase, the state is less likely to use violence against drug cartels. However, non-selective detentions of organized criminals increase the number of events of state repression. Regarding the geo-strategic determinants, this model also shows that the state is more likely to use violence in touristic spots. Areas of marijuana production increase state repression but areas of poppy production decrease coercion. Regions of reception of illegal drugs along both the Pacific and Gulf coastlines increase instances of state violence against DTOs. Areas of international wholesale distribution along the border with the United States experience higher state imposition against DTOs. Finally, the full model indicates that launching the war on drugs increases by 2.22 the number of repressive actions towards criminal organizations.

In general, the statistical assessment provides robust support for the dynamic and territorial explanations of drug-related violence. The results presented in Tables 1-3 indicate that the escalation of violence is caused by the reciprocal effects of contestation, imposition and competition on one another. The background condition for Calderón's decision to launch the war on drugs is a strong predictor of violence in all models. The empirical analysis also indicates that the highly volatile dynamics of violence are constrained by territorial characteristics. In particular, drug violence tends to be more intense around local retail markets of illegal drugs, zones of marijuana production, reception areas along the Pacific and Gulf coastlines and in areas of international wholesale distribution along the border.

CONCLUSIONS

The study of intra-state violence imposes a dual challenge of disaggregation and integration. In order to understand the rapidly changing characteristics of conflict it is necessary to disentangle the bulk of

violence into its different components. This requires identifying who is doing what to whom, when and where. These fragmented components of violence have to be integrated in an encompassing framework capable of explaining the reciprocal interactions among key actors. In addition, micro-mechanisms of violence have to be contextualized within macro-level factors that influence the dynamics of violence. This dual effort of disaggregation and integration has to be conducted both at the theoretical and methodological levels.

This research argues that the escalation and diffusion of drug violence is caused by the implementation of a non-selective punitive campaign against DTOs that triggered different mechanisms of violence—imposition, contestation, competition and succession—which tend to cluster around drug-valuable territories—for the production, reception, retail and wholesale distribution of illegal drugs. In this way, the theoretical framework identifies the dynamic interactions between the State and drug cartels and among competing criminal organizations. In addition, the theoretical argument identifies the structural effects of drug-valuable territories on the dynamics of violence.

The empirical assessment relies on a highly detailed database providing daily information of drug-related violence. This database was generated using automated coding for event data from a variety of news sources. The spatial and temporal scope of this dataset provides a solid empirical basis for analyzing the escalation and spread of conflict. The statistical assessment provides strong support for the theoretical model accounting for the dynamic and territorial determinants of drug-related violence. Results indicate that imposition, contestation and competition have strong reciprocal effects on one another. In addition, these different forms of violence tend to be more intense around areas of production, reception, retail and distribution of illegal drugs. In general, this rigorous empirical evaluation provides robust evidence that the implementation of a full-fledged campaign against drug cartels unleashed a Hobbesian war of all-against-all.

This research contributes to the ongoing debate about the pertinence of implementing punitive anti-drug strategies (e.g., Gaviria & Mejía 2011; Keefer & Loayza 2010; Latin American Initiative On Drugs And Democracy 2009; The Vienna Declaration 2010). Far from ideological positions, the theoretical explanation and systematic empirical analysis of this research provide strong evidence of the deleterious consequences of a large-scale non-selective campaign against drug cartels. The war on drugs has imposed extremely high human, social and material costs, and represents a severe threat for political stability in Mexico. In order to check this unprecedented escalation of violence, it is crucial to understand its volatile characteristics as well as its root causes.

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Figure 1. Theoretical model of drug related violence

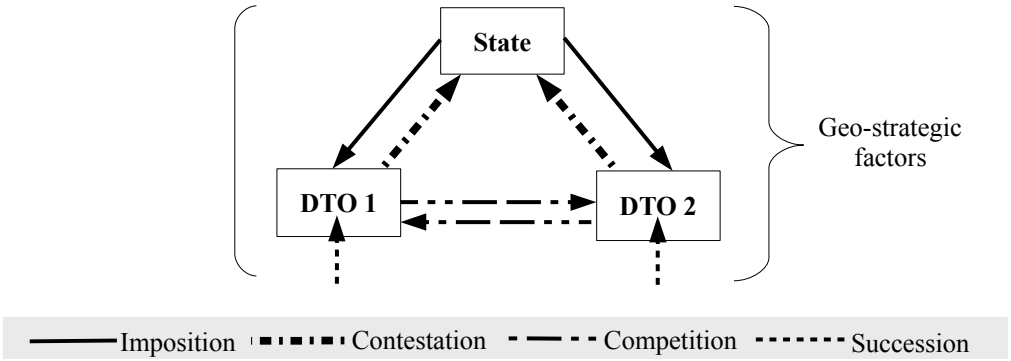

Figure 2. Different types of violent actions associated with the war on drugs

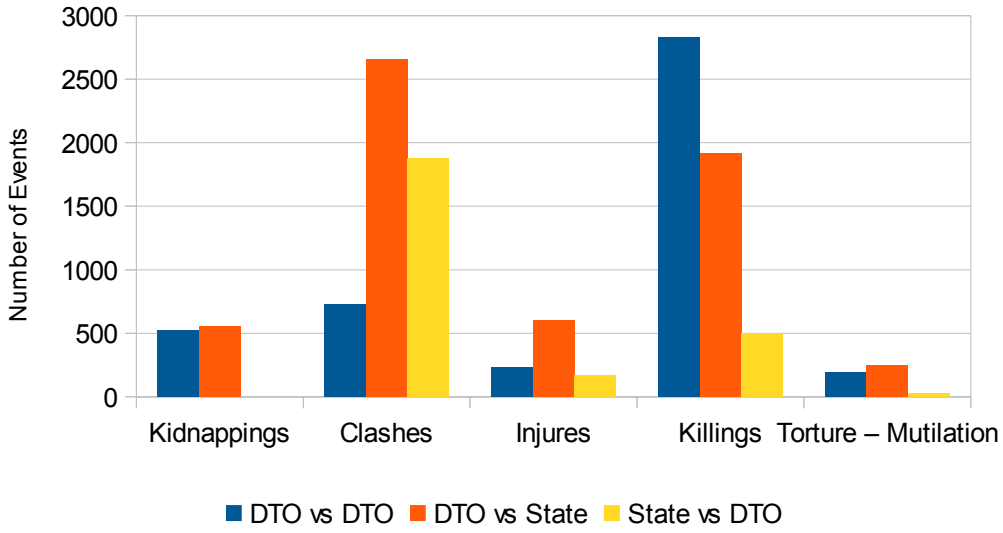

Figure 3. Events of violent competition among rival DTOs

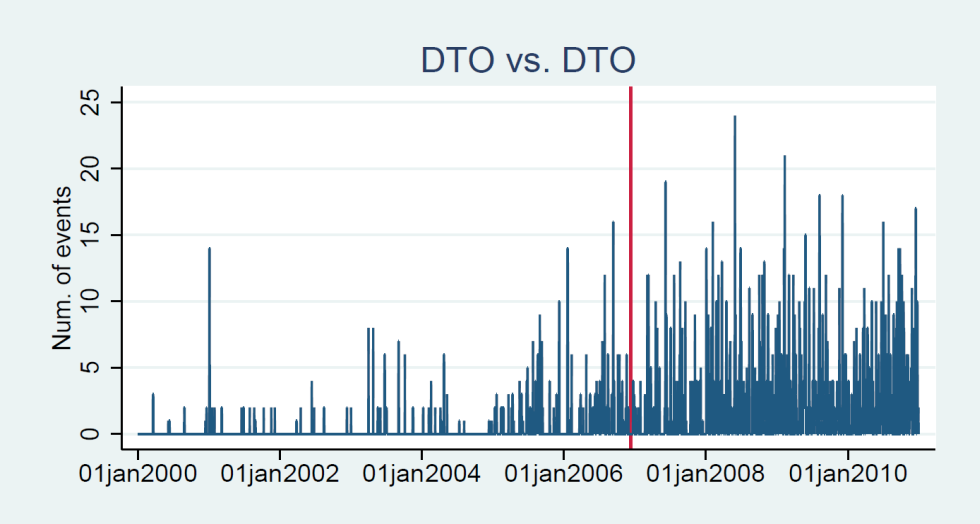

Figure 4. Events of violent contestation from DTOs against state authorities

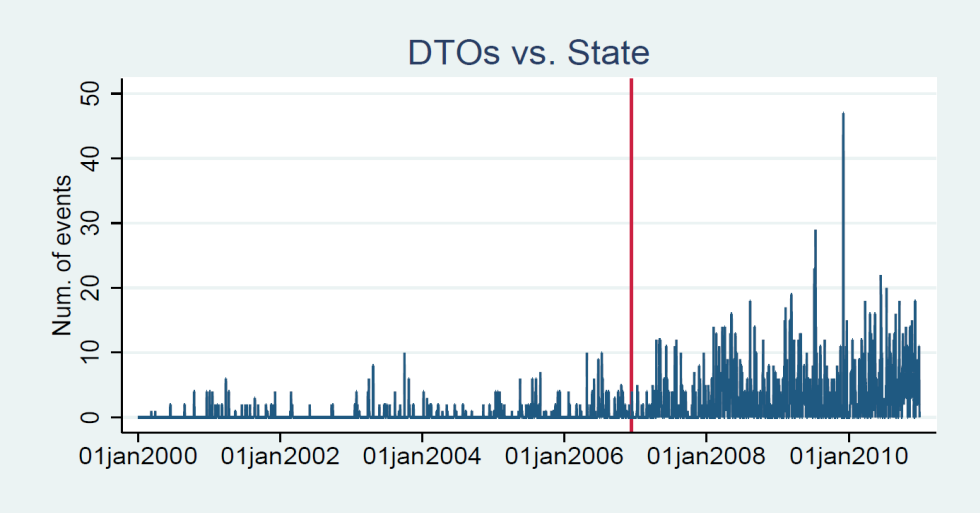

Figure 5. Events of violent imposition from the state against DTOs

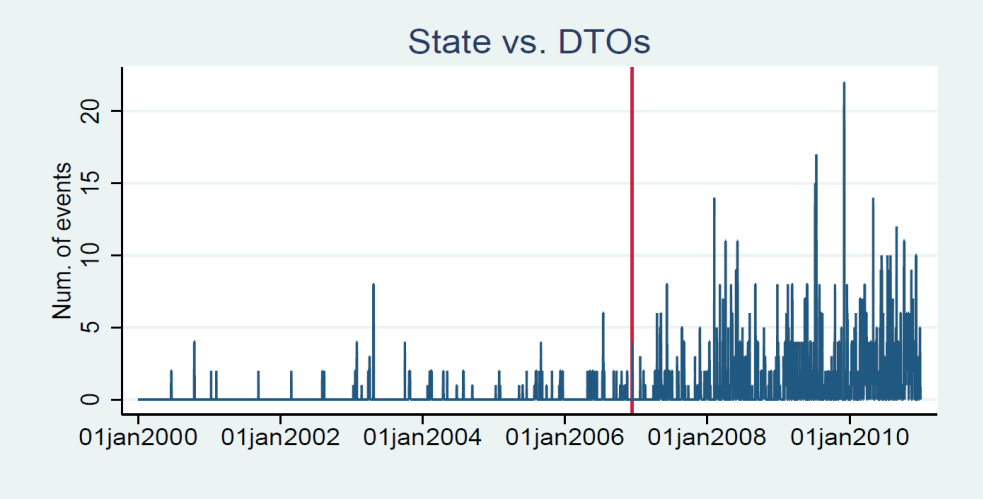

Table 1. Determinants of Competition among rival Drug Trafficking Organizations

Hypotheses	Variables	Model 1	Model 2	Model 3
Contestation	DTO vs State	1.060***		1.025***
		(0.02)		(0.02)
Competition	Number of DTOs	0.143***		0.114***
		(0.01)		(0.01)
Imposition	State vs DTO	-0.790***		-0.742***
		(0.06)		(0.06)
	Seizures	0.334***		0.331***
		(0.02)		(0.02)
	Arrests	0.402***		0.372***
		(0.02)		(0.03)
Local retail	Large city (+700K)		0.623***	0.319**
			(0.11)	(0.11)
	Foreign Tourists (log)		0.052***	0.042***
			(0.01)	(0.01)
Production	Poppy prod. mun.		-0.196**	-0.183**
			(0.07)	(0.07)
	Marijuana prod. mun.		0.436***	0.355***
			(0.05)	(0.05)
Reception	Gulf municipality		0.380**	0.252*
			(0.12)	(0.11)
	Pacific municipality		-0.115	-0.086
			(0.09)	(0.09)
Wholesale	Border municipality		1.327***	1.100***
			(0.08)	(0.08)
Onset	Calderón	0.529***	1.220***	0.684***
		(0.08)	(0.07)	(0.08)
Controls	Alphabetization	-0.376***	-0.064	-0.186**
		(0.06)	(0.06)	(0.06)
	Population (log)	0.355***	0.066*	0.164***
		(0.02)	(0.03)	(0.03)
	GDP (log)	5.268***	5.900***	4.883***
		(0.55)	(0.55)	(0.55)
	GDP change (log)	0.189	0.001	0.224
		(0.26)	(0.26)	(0.26)
	Constant	-126.633***	-142.053***	-118.905***
		(12.57)	(12.65)	(12.64)
	Observations	9,868,176	9,868,176	9,868,176

* p<0.05, ** p<0.01, *** p<0.001

Table 2. Determinants of Contestation of Drug Trafficking Organizations against the State

Hypotheses	Variables	Model 4	Model 5	Model 6
Competition	DTO vs DTO	0.583***		0.567***
		(0.02)		(0.02)
	Number of DTOs	0.122***		0.103***
		(0.01)		(0.01)
Imposition	State vs DTO	1.349***		1.351***
		(0.01)		(0.01)
	Seizures	0.221***		0.218***
		(0.02)		(0.02)
	Arrests	0.529***		0.516***
		(0.02)		(0.02)
Local retail	Large city (+700K)		0.820***	0.244*
			(0.10)	(0.11)
	Foreign Tourists (log)		0.042***	0.043***
			(0.01)	(0.01)
Production	Poppy prod. mun.		-0.056	-0.122*
			(0.06)	(0.06)
	Marijuana prod. mun.		0.288***	0.247***
			(0.04)	(0.04)
Reception	Gulf municipality		0.602***	0.507***
			(0.09)	(0.10)
	Pacific municipality		0.094	0.203*
			(0.09)	(0.09)
Wholesale	Border municipality		0.916***	0.776***
			(0.07)	(0.08)
Onset	Calderón	1.175***	1.814***	1.287***
		(0.07)	(0.06)	(0.07)
Controls	Alphabetization	-0.209***	0.091	-0.041
		(0.06)	(0.06)	(0.06)
	Population (log)	0.236***	0.037	0.104***
		(0.02)	(0.02)	(0.02)
	GDP (log)	2.609***	2.464***	2.226***
		(0.48)	(0.47)	(0.48)
	GDP change (log)	-0.940***	-0.184	-0.897***
		(0.22)	(0.22)	(0.22)
	Constant	-66.653***	-65.249***	-59.336***
		(10.87)	(10.75)	(10.92)
	Observations	9,868,176	9,868,176	9,868,176

* p<0.05, ** p<0.01, *** p<0.001

Table 3. Determinants of Imposition from the State against Drug Trafficking Organizations

Hypotheses	Variables	Model 7	Model 8	Model 9
Competition	DTO vs DTO	0.193***		0.173***
		(0.03)		(0.03)
	Number of DTOs	0.218***		0.204***
		(0.01)		(0.01)
Contestation	DTO vs State	1.032***		1.030***
		(0.01)		(0.01)
Imposition	Seizures	-0.074*		-0.067*
		(0.03)		(0.03)
	Arrests	0.672***		0.663***
		(0.02)		(0.02)
Local Retail	Large city (+700K)		0.602***	-0.104
			(0.15)	(0.19)
	Foreign Tourists (log)		0.071***	0.053***
			(0.01)	(0.01)
Production	Poppy prod. mun.		-0.117	-0.207*
			(0.09)	(0.09)
	Marijuana prod. mun.		0.275***	0.315***
			(0.06)	(0.06)
Reception	Gulf municipality		0.655***	0.350*
			(0.13)	(0.15)
	Pacific municipality		0.336*	0.338*
			(0.15)	(0.15)
Wholesale	Border municipality		1.284***	1.250***
			(0.11)	(0.15)
Onset	Calderón	1.117***	2.188***	1.170***
		(0.11)	(0.10)	(0.11)
Controls	Alphabetization	-0.340***	0.223*	-0.113
		(0.09)	(0.09)	(0.09)
	Population (log)	0.329***	0.019	0.278***
		(0.03)	(0.03)	(0.04)
	GDP (log)	2.996***	2.603***	2.785***
		(0.67)	(0.66)	(0.67)
	GDP change (log)	-1.231***	-0.208	-1.138***
		(0.31)	(0.30)	(0.31)
	Constant	-75.349***	-70.499***	-73.869***
		(15.32)	(15.11)	(15.36)
	Observations	9,868,176	9,868,176	9,868,176

* p<0.05, ** p<0.01, *** p<0.001