Caught in the Crossfire: The Geography of Extortion and Police Corruption in Mexico

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1. Introduction

When Mexican president Felipe Calderón took office in December 2006 he declared a war on the nation’s drug traffic organizations (Ríos and Shirk, 2011). Violence escalated as criminal organizations became increasingly fragmented and disputed their territories (Killebrew and Bernal, 2010; Beittel, 2011). The main strategy followed by the federal government involved capturing leaders and lieutenants of criminal organizations (Calderón et al. forthcoming). This seemed to provoke even more violence, by making the competition over territorial control fiercer and providing incentives for many gangs to make extortion and protection fees (derecho de piso) an additional source of revenue (Guerrero-Gutiérrez, 2010). Given the absence of legal (and peaceful) rules and enforcement mechanisms for competitors in the illegal drug market, disagreements were usually solved violently. Under the pressure of the crackdown by the federal police, the navy and the army, contracts among criminal gangs were often disrupted, leading to even more violence.¹ Competition over the strategic routes towards the market in the United States was settled by literally eliminating rivals (Dell, 2012).

The wide availability of illegal guns crossing from the US border (Dube et al., 2013) turned firearm deaths into the main cause of death among young men in Mexico. Meanwhile, citizens became caught in the crossfire of rival drug cartels and extortion at the hands of criminal gangs. A highly visible example of this was the case of two students in the prestigious private university Tecnológico de Monterrey who were kidnapped by drug traffickers in 2010, but then killed by the military in a botched attempt to rescue them. The case became particularly controversial due to the excessive use of force by the army and their effort to cover up the case with planted evidence.²

During the late 1990s and early 2000s Mexico gradually changed from being a transit territory for drugs heading to the United States market to a place of increasing consumption (Castañeda and Aguilar, 2010). This transformation was partially driven by a change in the way that wholesale drug importers were paying for services; they switched from payments only in cash to payments with part of the same drug they were distributing (Grillo, 2011:80). The change from a transportation to a retail distribution business implied that drug cartels had to increase the number of personnel. Having a larger full-time workforce, the cartels could now count on small armies of salaried criminals at their disposal.

¹ Drug traffic organizations in Mexico often work on the basis of subcontracting transit agreements, in which an organization controlling a trade route or specific city (plaza) allows other criminal organizations to go through, provided they pay a transit fee. These arrangements became very unstable as federal and joint operations were expanded throughout the country.

The perfect complement to this new industrial organization was an easily corruptible police and judicial system at all levels of government. Increasingly fragmented criminal organizations began to diversify their illegal activities— to extortion of small businesses, kidnappings of middle-class individuals, racketeering and control of retail trade in their territories, and extortion of migrant workers—perhaps in associations with police departments. Although it is difficult to provide evidence on how much real progress has been made, there is no question that efforts at reforming the police forces in Mexico face a momentous challenge in such environment.

Although a new federal police force was created after 2006 and, in principle, all police had to comply with background checks and other administrative procedures, in fact, state and municipal police forces remain not just corrupt but also keep on using excessive force and violating human rights. This became patently clear in the case of the 43 Ayotzinapa missing students that in October of 2014 were detained by the municipal police of the city of Iguala, to be handed in to the killers of a drug traffic organization. The police forces of Iguala are not the only ones that are penetrated by organized crime and have failed to protect citizens.

This chapter explores the connection between police distrust, corruption and extortion. Despite the difficulty in measuring these phenomena through conventional public opinion polls and citizen or firm level surveys, much can be learned from the variation across geographic units in reported victimization and corruption. We use a list experiment collected through the Survey on Public Safety and Governance in Mexico (SPSGM), to study the practices of extortion by both police forces and criminal organizations. Using a Bayesian spatial estimation method, we provide a mapping of the geographic distribution of police extortion.

Our findings suggest that weak state institutions in vast regions within Mexico have become captured, through corruption, by competing drug traffic organizations. Extortion prevails either because police forces have become agents of criminal organizations or because criminals can engage in racketeering without any police intervention. We conclude with a discussion of the emergence of self-defense groups as a strategy for coping with extortion; a strategy that while effective at protecting citizens, may further undermine state capacity.

The chapter is not a direct test of the effect of police corruption on extortion and criminal violence, but it assembles evidence of how organized crime can prey on citizens with police complicity creating a generalized environment of fear. In some regions in Mexico the state has become so closely identified with criminal gangs and drug cartels that these criminal

4 List experiments provide better measures of the prevalence of extortion, mitigating potential biases emerging from social desirability and citizens fears of truthful revelation of information (Blair and Imai, 2012; Bullock et al., 2011; Imai, 2011; Glynn, 2013).
organizations do not need to corrupt the state—they essentially “are” part of the state. Our account by no means provides a full depiction of the relationship between organized crime, police corruption, and state power. But we provide at least some understanding of the way in which citizens can cease to be protected by the state when police forces are corrupt and penetrated by crime; and how fear and citizen distrust can make police action even less effective.

The embeddedness of criminal organizations in everyday life and the failure to provide public safety due to corruption explain why the current state of affairs is so difficult to change. In the words of one of Mexico’s most notorious drug traffickers, el Mayo Zambada, to the late journalist Julio Scherer, “Drug traffickers are in society, deep-rooted like corruption”. Our results are consistent with his view. But they also point to where solutions are more likely to succeed: if the connection between corrupt police forces and criminal organizations is broken, citizens are more likely to report crime and seek out the protection and help of legitimate public forces, rather than turning to self-defense groups and other forms of collective protection from crime and extortion.

The chapter is organized as follows. The next section provides an overview of the fight against drug cartels and organized crime in Mexico. We provide some evidence of the levels of victimization and distrust among both citizens and firms. We complement the analysis with an overview of the territorial variation in citizen perceptions of police corruption at various levels of government. The section is followed by a brief discussion the problem of social desirability bias and the design of list experiments in our survey. We present the stratification of the survey that was meant to ensure coverage in places of high levels of violence, as well as being able to differentiate between situations occurring in urban and rural localities. We then present the results of the list experiments measuring the extent of extortion by both the police and drug traffic organizations. A mapping of the territorial extent of extortion is also estimated. The final section concludes with some reflections on the industrial organization of extortion in Mexico.

2. Organized crime, violence and police distrust

a) Firm extortion

On May 25 and 26, 2012 a drug trafficking organization called the Knights Templar attacked several facilities of Sabritas, the Mexican subsidiary of Pepsico in the states of Michoacán and Guanajuato. The incident was notorious because it was a visible sign of how emboldened criminal organizations had become in the extortion business. Drug traffic organizations were known to commit killings of their enemies and even innocent bystanders. But by 2012 it was clear that they were involved in human trafficking, extortion and kidnapping in what can only be described as a diversified portfolio of criminal activities. The Sabritas incident was unusual in that private corporations in Mexico generally seem to be able to prevent such dramatic displays of force from taking place, most likely by regularly paying protection money in the form of what is usually referred to as “derecho de piso”.

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The challenge of doing business when organized crime has taken over vast areas of the country is not just that violence may disrupt economic activity (see Robles et al., 2013), but that criminal organizations begin controlling economic activity and collecting “taxes” from private businesses in the territories they control. The extortion situation gets compounded when police forces and bureaucrats also demand bribes or other payments. Within Mexico the Sabritas arson incident is perhaps the most notorious case of a company caught in a web of extortion. Note that it was not related to typical forms of extortion by, for example, public officials withholding the issuing of permits. Corruption watchers around the world have paid attention to the Walmart bribery case in Mexico because it exhibited a global company in its day-to-day business practices (Barstow, 2012 and Barstow and von Bertrab, 2012). Public officials were all too eager to extort money from the multinational corporation, while the company all too easily provided bribes to expedite the issuing of permits. But it is possible that the most important forms of off-the-book payments made by multinational corporations in Mexico are now in the form of protection fees paid to organized crime.

b) Fear and Victimization

Fear is perhaps the word that best describes Mexicans’ current mood. All opinion polls and surveys consistently show similar results. However, the proportion of self-reported victims in Mexico is not especially high by international standards, and has not changed much since the early 2000s (Bailey et al., 2011). But most Mexicans fear becoming victims of crime: According to the Survey on Public Safety and Governance in Mexico (SPSGM, discussed in more detail below) we collected in 2011, eight out of ten citizens are afraid of suffering various types of crime. A breakdown by specific crimes compared to actual victimization rates is provided in table 1.

[Insert table 1 around here]

Individuals’ estimation of their likelihood of becoming a victim seems to be independent of the victimization rate. For instance, citizens are equally afraid of being kidnapped as of being blackmailed over the phone, even though the prevalence of those two incidents is very different: according to the SPSGM survey, one percent of Mexicans have been kidnapped, and one out of every four has been extorted over the phone. If we suppose that the “objective” probability of being victim of a crime is related to the current victimization rate, then, the gap between the actual rate of victimization and the proportion of individuals who are afraid

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6 To give an example from the state of Michoacán, criminal organizations may control both illegal logging and legal lemon production.
7 Guerrero-Gutierrez (2011) reports the following data coming from surveys: 65 percent of people according to ICESI surveys do not feel safe in the state they inhabit. In a Buendía and Laredo poll from 2011 he reports that 76 percent of the respondents are worried about kidnapping, drug cartel violence and robbery. And he quotes a Consulta Mitofsky polls showing that since January 2010 the most worrisome topics for Mexicans have shifted from the economy to security issues.
of being a victim could be thought of as the “subjective” probability of becoming a victim. This large gap suggests that Mexicans feel afraid and vulnerable. Regardless of whether these perceptions match closely the actual victimization rates, the perception-based data is a real depiction of the prevalent climate of fear affecting Mexican society.

c) Distrust of the police

Mexico is organized as a federal system characterized by concurrent jurisdiction in most issue areas. Security is one of them. Although federal police have exclusive jurisdiction over organized crime, in practice, all police forces are involved in the fight against drug trafficking. From the point of view of citizens’ perceptions, security is provided jointly by the combined efforts of federal, state and municipal forces. The sentiment of fear discussed in the previous section is most likely fed by the lack of confidence in the work of state and municipal police forces. According to the above-mentioned survey, only 25 and 27 percent of citizens evaluate the performance of municipal and state police as “good”. Citizens feel caught in a crossfire: in addition to fearing criminals, according to the SPSGM survey almost half of the population fears being subject to abuse from municipal or state police. They have no one to ask for protection.

Further evidence on the perception of police forces is presented in table 2, drawing from the two largest national surveys collected by the Mexican national statistical office (Instituto Nacional de Estadistica, Geografia e Informatica, INEGI) reflecting two distinct targets of crime, firms and individual citizens.

[Insert table 2 around here]

These victimization surveys of the business community (ENVE for 2012 and 2014) and the general population (ENVIPE, most recent results for 2014) exhibit a remarkable degree of agreement regarding the corruption of various public safety forces. Local police forces are perceived to be the most corrupt, and the least corruption is presumably found in the military and the navy. Coercive forces from the state governments, including the state attorney (Ministerio Publico) are perceived at an intermediate level of corruption, but somewhat closer to local officials than to the federal ones.  

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8 The SPSGM survey also asked respondents to judge the corruption of different law enforcement agents and the army. According to the respondents, municipal police are perceived as the most corrupt, regardless of levels of violence. However, in high violence places, the federal police are perceived to be just as corrupt as the municipal police –45 and 48 percent evaluate the federal corps and the municipal police respectively as ”very corrupt” in high violence places. In contrast, only between 10 and 16 percent (in low and high violence areas respectively) perceive that the military is very corrupt. The data suggest that despite the fact that the military is not completely trusted by some segments of the population, it is perceived by far as the least corrupt option from the point of view of citizens. The army has a much better evaluation than all other coercive corporations: 68 percent believes that it is doing a good job in protecting citizens according to the SPSGM; but with an important caveat: four out of every ten respondents in that survey feared being
The National Survey on Victimization (ENVIPE) provides subnational evidence of the trust that is inspired by the police in each state.9 This level of trust varies according to the corporations being evaluated. A simple metric that summarizes citizen assessments of their police forces is the net difference between citizens that trust their police (a lot or some) minus those who distrust the security forces (a lot and some). This net police trust can be either negative or positive depending on whether a majority is on each side of the assessment. In Mexico virtually all levels of trust of police corporations are negative.

Figure 1 shows citizens’ assessment of local and state police forces. The horizontal axis is the degree of trust in municipal police forces (preventive, not traffic police); while the vertical one shows the level of trust in the state police. The size of each circle indicates the degree of insecurity in each state, proxied by the murder rate according to the state attorney offices for 2014 (until October) as provided by the Executive Secretariat of the National System of Public Safety.10

[Insert figure 1 around here]

It is clear that, except for the case of the small state of Colima, in most states a majority believes police are not to be trusted. The worst negative values (denoting distrust) are found in the states of Morelos, Veracruz, Tamaulipas and Mexico state. The distrust is higher for municipal corporations, but it is similar for state police forces, where only slightly more than a third of the states have positive values. But perhaps the most striking feature in the graph is the almost perfect alignment of citizen perceptions along a diagonal. This indicates that the distrust of each police corporation is highly correlated within each state.

It is possible that citizens may not quite understand under which command within the federal system of government each police force in their state falls, but there are many visible signs that exhibit the differences between corporations: the federal police usually has the best equipment, vehicles and distinctive uniforms; the state police follows in its display of high power firearms, although their uniforms are often worn out and their vehicles somewhat beaten down; while the municipal police are visibly ill-equipped. Citizens can distinguish between these police forces, but they nonetheless perceive that when their police forces are not to be trusted at the municipal level, they also have that perception at the state level.

In order to improve police performance in the country, both the Calderón and Enrique Peña Nieto administrations attempted to eliminate municipal police corporations.11 But the issue is

9 The sample is large enough and designed to ensure statistical significance at the state level.
10 Dataset available at: http://secretariadoejecutivo.gob.mx/incidencia-delictiva/incidencia-delictiva.php#
11 See the study prepared by the Chamber of Deputies for the initiative by President
not that Mexico ought to eliminate its municipal police forces in order to generate a trustworthy police, but rather that it needs to establish why some states have been able to achieve a much higher position along the diagonal line. The largest variation is not between corporations but among states.

d) Drug related violence

The war on drug traffic organizations unleashed violence of a new kind in Mexico. Although homicide rates had been declining steadily since the 1990s, the new forms of violence expressed themselves through gruesome killings where criminal organizations were not worried about displaying their behavior in public. In fact, the publicity of their actions was one of the ways in which they successfully instilled fear in and silent complicity from the civilian population.\textsuperscript{12} Since the beginning of the drug violence in 2007, Mexican newspapers kept track of the upsurge in violence and provided comprehensive information on the location of deaths. Reforma newspaper reports, in particular, have been used by the Trans-Border Institute (TBI), for example, to provide a general overview of state-level trends in violence.\textsuperscript{13} In 2011 the federal government released what has become the most analyzed dataset of drug related homicides, within the Sistema Nacional de Seguridad Publica.

[Insert figure 2 around here]

Figure 2 displays a visualization by means of a cartogram of homicides presumably related to rivalry between criminal organizations, across the Mexican territory, from 2008 to 2011 according to that source.\textsuperscript{14} A cartogram is a type of map that depicts municipalities proportionally to their relative size not in terms of land area, but according to the variable of interest, in this case deaths. The cartograms were prepared using the GeoDa software. The dots depict all the municipalities, shaded and sized according to the ranking in drug related violence. The cartogram depicts in grey municipalities where criminal organization murders are registered; but highlights in black those places where the murder rates are particularly high. White dots are the municipalities where drug related murders do not occur. The size of the circle denotes a ranking by number of deaths, where the largest dot in the North corresponds to Ciudad Juarez. Dots for each municipality are placed as close as possible to their geographic coordinates.

Most of the Mexican population is concentrated in the central highlands. Beyond the core areas around Mexico City and Guadalajara, the coastlines and the border region also

\textsuperscript{12} On the signaling effects of visible killings see Walter (2009).

\textsuperscript{13} For a comprehensive discussion of drug related homicide data and trends see the report prepared for the Trans-Border Institute (TBI) by Rios and Shirk (2011).

\textsuperscript{14} The data was downloaded from: http://www.cisen.gob.mx/espanol/base-datos-homicidios1.htm
have large urban concentrations. The North is sparsely populated. In terms of poverty, the vast majority of the poor in Mexico are concentrated in the Southern regions. The cartogram suggests that drug violence deaths have a unique pattern, which is not related to population or poverty, but rather to the entry and exit points of the drug trade and the logistics network for merchandise shipment.\footnote{See Guerrero-Gutierrez (2010) and Dell (forthcoming).}

This violence dataset possibly underestimates the true count of drug related deaths. Local newspapers might be more reliable sources than either the Reforma newspaper or this count; and the SNSP data may be biased downwards because it privileges counting deaths resulting from clashes between drug trafficking organizations.\footnote{We thank Guillermo Trejo for this insight.} The dataset does not include clandestine graves which might also contribute to undercounting. But the data do reflect the overall spatial pattern of violence related to drug trafficking. The vast majority of Mexican municipalities do not have drug violence. The phenomenon is concentrated in the Northeast, the border regions, and some of the corridors running from the port of Lazaro Cardenas on the Pacific Coast and along the Gulf of Mexico.

3. The geography of extortion

a) Motivation for list experiments

Elsewhere (Magaloni, et al., 2014) we have shown that fear and intimidation may generate tacit support for criminal organizations. In that paper we explore the ways in which Drug Traffic Organizations (DTOs) are present in society. These criminal organizations may not only provide employment (Rios, 2009), but also insure against hard times and provide public goods. Although we are unable to gauge the relative frequency with which Narcotraficantes (narcos, for short) may fix the local church or provide money for public services in small towns, some insight comes from the willingness of citizens to seek out their help, which is one of the issues we explore in that paper. We also explored how much citizens reported being extorted by narcos, and compared this extortion with the protection payment demands made by the police. In that research we assessed how narcos often operated unhindered across the Mexican territory. In short, we explored the presence of DTOs in society and the degree to which criminal organizations have become an integral part of Mexican society. Social integration includes both actions that intimidate citizens – like extortion or kidnapping – as well as actions that somehow assist citizens – such as lending money or providing protection from other DTOs. The greatest challenge in this research was to obtain truthful answers regarding questions that may be difficult to answer.

How best to elicit truthful responses from citizens when there are good reasons for them to lie because of fear or social desirability biases? Eliciting truthful responses from citizens for behavior that is not socially acceptable, or where there is a social norm of “proper” behavior is a challenge that has been faced in many contexts. List experiments are a device of indirect questioning in which sensitive issues can be mixed in with innocuous questions in order to protect respondents’ answers. Respondents need not admit to any specific behavior. Instead, they
consider a list and simply report how many they have done. The approach is called an experiment because the lists are randomized across respondents. A control group receives no sensitive questions. The treatment group receives the innocuous items plus the treatment. If randomization has succeeded, the differences in responses can be used as a proxy for the sensitive behavior, such as bribing a policeman.  

In the questionnaire of the SPSGM we embedded list experiments seeking to understand the prevalence of DTOs activity in Mexico. Individuals were randomly selected to create control and treatment groups. Since the selection of the individuals in the sample was done randomly, then there is no reason to suspect bias in the sub-samples in every group. The lists were directly read by the interviewee from cards given by the interviewer. Each interviewee received a total of three different cards. Table 3 describes the exact wording, and the cards that were given to the experimental group. The control group received all items listed in the first row. The treatment groups also received those items, plus the additional sensitive events of extortion from either the police or the narcos.

[Insert table 3 around here]

b) Survey sample

The SPSGM survey was made up of 2700 face to face interviews of adults 18 or older interviewed at their homes. A two-stage stratified sampling method was used on the basis of federal electoral precincts, as defined by the Federal Electoral Institute (IFE) in the last update of the voter registration (2010). The sample frame excluded the state of Tamaulipas, that was deemed unsafe for the enumerators. City, town or village blocks in each electoral section were chosen randomly starting from the address of the polling booth, selecting at random three homes in each block. Rejection rates were tallied by the enumerators. An adjustment of quotas was made to reflect the population by age and gender, according to official census data. The margin of error for the full sample is 1.89% at the 95 percent confidence interval.

The team collecting the survey was trained to understand how to ask the questions related to the list experiments. Questionnaires were randomized by polling point and enumerator, and lists were handed in to respondents as cards, so respondents could read them by themselves. The mechanics of handling cards and questionnaires were pretested before the survey. Several sensitive and control items in the lists were pretested in a nationally

17 For a discussion of methodological issues in list experiments see Blair and Imai (2011) and Glynn (2010)

18 There were three different types of questionnaires. Individuals in the sample were randomly assigned to each group; however the assignment in each polling point was not random. When selecting the subjects, the interviewers applied questionnaire 1 to the first individual selected at the polling point, questionnaire 2 to the second individual who was selected, and questionnaire 3 to the third subject; then, they began again with questionnaire 1 and so on. Balance tests were performed to check whether the compliance with randomization was achieved. All baseline sociodemographic variables were balanced between groups.
representative survey two weeks before the collection of the dataset. The survey was collected from July 9 to 17, 2011.

The SNSP dataset of drug related violence was used to construct three strata of municipalities according to their levels of violence in the first semester of 2011. The high violence strata is made up of the municipalities where drug related violence has been pervasive, with more than 75 drug related murders per year. The medium violence strata has had between 3 and 25 murders per year; while the low violence strata, where most of the municipalities in the country lie, had less than 12 drug related murders since December 2007. The states of Baja California Sur, Campeche, Yucatán and Quintana Roo ended up with no sample points, due to their relative small size and because the stratification had their municipalities fall in the low violence stratum.

The sample is also stratified by the size of the locality, because we wanted to know whether rural areas in high violence locations have a different pattern of interaction with DTOs than urban locations. The population stratification is done on the basis of the Federal Electoral Institute (IFE) distinction between urban electoral precincts and rural (plus semi-urban) ones. All the high violence polling points fell in only four municipalities: Chihuahua, Juarez, Durango and Acapulco. But it is important to note that half of those points fall in rural locations outside of the main urban conglomeration. Hence the survey has a small component of non-violent locations, and an oversampling of violent places.

c) Social desirability bias

The list experiments provide insight into the prevalence of drug related activities, extortion and citizen responses to them. Table 4 shows the difference in means between the treated and the control groups in our lists. A sizable 10 percent report being extorted by criminal organizations. The extortion rate is close to the one observed in the list experiment for police shakedowns, which is 11 percent. This is a rather disturbing figure, but it seems consistent with the daily life of many Mexicans.

The stratification in the sample allows for a breakdown of the responses to the treatments in the list experiments according to the level of violence in the municipality and the urban or non-urban character of the specific sampling point. Hence, we can gain some understanding about when criminal organizations are more likely to practice extortion vis-à-vis police forces. Table 5 reveals the patterns regarding citizen extortion by DTOs and the police. Narcos extortion seems to be more prevalent in high violence places (more than 20 percent), both urban and non-urban, and police extortion occurs in both high violence non-urban places (19 percent) and low violence urban places (17 percent). The results thus indicate that narcos prey on citizens more where violence is high. However, in low violence places the police preys on citizens.

The extent to which both sides prey on ordinary citizens, asking them for money in exchange for protection, is somewhat limited. Although narcos extort citizens the most in high violence regions and the police in low violence ones, an important question that emerges is whether police forces may be extorting on behalf of criminal organizations.
The generalized practice of extortion allows drug gangs to signal unambiguously that they are in control and will punish anyone who opposes them, while the police cannot credibly signal that they can regain control of the streets because they are often part of the extortion problem. In low violence regions it is possible that criminal organizations have successfully established a monopoly in their activity, so that police forces perform some of their coercive functions for them.

[Insert tables 4, 5 and 6 around here]

Table 6 disaggregates extortion by four occupation groups: “informal/self-employed,” “private” and “public” sectors, and “housewives.” According to the survey results, criminal organizations prey mostly on people in the public sector, followed by private sector workers and housewives. By contrast, the police prey mostly on the informal/self-employed sector, although they also target housewives.

d) Territoriality of police extortion

It is possible to reconstruct the geography of DTO activity across the Mexican territory making use of advances in geostatistics. In particular, we construct, on the basis of the spatial distribution of polling points in our survey, spatially smoothed surfaces that provide a glimpse at the most likely parts of the country where the embeddedness of drug activity is more prevalent.

The mapping exercise is similar to geospatial public health applications or geo-mining, seeking to leverage the spatial character of the data to generate smooth prevalence rates. In this case we seek to provide a smooth difference of means between the treated and the control groups in the experiments we conducted throughout Mexico. In order to do this we proceed in two steps. First, we use spatial proximity of contiguous data to create groups of individuals, calculating the average treatment effect of the list experiment.\(^{19}\) We weight individuals using a Bayesian model.

Following Anselin et al. (2003) we assume that the prior distribution is characterized by mean \(\theta\) and variance \(\varphi\). The Bayesian estimate for the difference of means is the weighted average of the raw difference of means, \(d_i\), and the prior, with weights inversely related to the variance. The difference of means in our survey can be calculated as:

\[
d_i = ((\sum_i l_i - \sum_i l_0)/P_t)
\]

\(^{19}\) The difference in means was calculated through an empirical Bayes estimator with an \(n\) of at least 42. In the most rural, sparsely populated polling points, we collected nine questionnaires, of which one third were randomly assigned to each of the treatment groups. Therefore, with 6 polling points * 3 treated individuals (plus 6 polling points * 3 control), in addition to the 6 observations from the polling point itself, the mean calculated at any point has at least 42 observations.
where $L_i$ is the sum of the items in the list experiment, for either the treated $t$ or the control $c$ groups; $i$ is a specific location of a polling point and $P$ is the total number of treated and control individuals in that survey point.

A standard empirical Bayesian estimator $\hat{\delta}_i$ is known to be:

$$\hat{\delta}_i = \omega_i d_i + (1 - \omega_i) \theta \quad (2)$$

where:

$$\omega_i = \phi \left[ \phi^+ (\theta/P_i) \right] \quad (3)$$

This means that when the population is large in the given polling point, most of the weight goes to the raw estimate of the difference in means. This Bayesian approach is _empirical_ because the priors are taken from the distribution of the data in the neighborhood of the point (i.e. the six closest polling locations). We calculated these rates for each polling point using GeoDA. The results are obviously sensitive to the choice of the reference region. In general, this approach means that for our survey, in densely populated areas of Central Mexico, the contiguous locations are within a 50 km radius, arguably close enough to think of them as regionally contiguous.

The second step which is meant to improve the visualization consists of generating a smooth interpolated difference in the unknown territory. We used the simplest interpolation technique, which is an Inverse Distance Weighted (IDW) method implemented through ArcGIS. Thus, we can think of this as a moving window that calculates the mean difference between treatment and control, already smoothed spatially in each data point, but that takes into account the distance as a discounting factor in the lower weight that far away observations take.

Figure 4 displays the spatial distribution of police extortion as estimated with our spatial smoothing method. The highest prevalence rates are observed in Southern Mexico, specifically in the state of Chiapas and Tabasco, and in a region bordering Michoacan and the Estado de Mexico. Surprisingly, in the Northern regions with large DTO violence and presence, our method indicates that there is a very low prevalence of police extortion.

Our findings suggest that— even though it may be necessary in the short-run given the absence of trustable police forces— public strategies emphasizing military action are not likely to affect the social embeddedness that protects drug gangs and criminal organizations. This is particularly true because the Mexican state cannot count on police forces that can offer an alternative over the _narco_s to ordinary citizens. The police lack citizen trust within communities because they engage in behavior similar to that of the drug gangs.

Furthermore, our list experiments demonstrate that the police prey on the most uneducated citizens. This is quite consistent with the findings of the creative experimental study of
corruption in Mexico by Fried et al. (2010), which demonstrates that bribery and extortion by traffic policemen is mediated by socioeconomic status. Richer offenders of traffic violations are more likely to get away with breaking the law while officers are more likely to prey on less well to do drivers, probably because officials do not fear any retaliatory response or defensive measures from the poor. Finally, linking the results with those presented in the previous section, our lists show that the states where the police were perceived to be the most corrupt are places where they are more likely to extort citizens.

As long as law enforcement agents are perceived as incapable and unwilling to protect their citizens because of corruption, citizens are likely to continue to live in fear and tacitly protect the *narcos*. A strategy for sustainable peace in the long-run requires strengthening the social fabric by enhancing citizens’ trust within communities and upgrading the reputation of police forces while improving the adjudication of justice.

4) Conclusions

This chapter has shown that citizens in Mexico are trapped in between two illegitimate forces—the drug cartels and the police who are in charge of protecting them. Our results demonstrate that the problem of extortion cannot be understood if it is not connected with the corruption and distrust that citizens perceive in the police forces.

The organization of extortion is a complex challenge for both participants and a government seeking to fight it. The issue can be understood in the context of a principal-agent framework. From the point of view of Mexican Drug Traffic Organizations, their core economic activity is logistics, namely moving drugs from the sites of production or the entry ports towards the US border. DTOs have a comparative advantage in the use of force, particularly when competition has pushed them towards a militarization of their organizations. This comparative advantage in using violence in a coherent and synchronized manner may be eroded when the federal government decapitates a criminal organization, but that does not reduce the comparative advantage of gangs and smaller criminal groups acting in local environments.

The investment of criminal organizations in violence potential can tempt them to use those inputs for other illegal activities, such as human trafficking, extortion or kidnapping. This temptation will be tempered by the risk that diversification may undermine the core competence of DTOs which is primarily in the control of territories for the shipment and transport of illegal merchandise. The alternative for DTOs, like any business firm, is to hire out the services of specialists in violence, particularly if these specialists can provide a reliable and credible use of force when required. The most obvious supplier of violence is a corrupt police force. This does not mean that all police forces will be penetrated by criminal organizations, but they are the most natural organizations that may provide violent services. The DTOs will compare the net benefits of hiring police forces to the costs and benefits of providing coercive resources internally to their organization. The greatest challenge for a criminal organization is that any external contracting process generates a principal-agent problem. The police forces may work for them, but they could also be co-opted by a competing organization or even start enforcing the laws or the federal strategy against DTOs. This means that the enforcement of extortion contract for criminal activity is in its own nature
quite unstable. That very instability could lead to an escalation of violence or more optimistically, could be an opening for the reform of the system of law enforcement and domestic security.

Some changes are already apparent, but they come from an unexpected source. In the last few years Mexico has witnessed the emergence of self-defense groups that are providing public safety. These self-defense groups substitute the police and directly face criminal organizations. In many indigenous regions with traditional communitarian arrangements, the self-defense groups have become an effective police and violence has been curbed. In other settings, self-defense groups might evolve in ways similar to Colombia, becoming paramilitary organizations or private militias. And in still other regions state and local governments are collaborating and incorporating these organizations to their efforts in policing. But none of these emerging organizations will be able to substitute, in the end, that Mexico needs to reform its state, municipal and federal police forces so that they may be trusted by citizens and actually defend them from criminals, while ensuring their respect of human rights and due process.
References


Dell, Melissa (Forthcoming). Trafficking Networks and the Mexican Drug War. American Economic Review.


Sistema Nacional de Seguridad Pública (2012). Base de Datos de Fallecimientos de Presunta Rivalidad Delincuencial. [http://calderon.presidencia.gob.mx/base-de-datos-de-fallecimientos/](http://calderon.presidencia.gob.mx/base-de-datos-de-fallecimientos/)


Cambridge: Cambridge University Press.
Table 1: Self-declared victimization and fear rates

<table>
<thead>
<tr>
<th></th>
<th>Actual victims</th>
<th>Afraid of being a victim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kidnapping</td>
<td>1.0</td>
<td>81.8</td>
</tr>
<tr>
<td>Kidnapping (express *)</td>
<td>1.3</td>
<td>82.8</td>
</tr>
<tr>
<td>Affected by criminals crossfire</td>
<td>3.1</td>
<td>83.4</td>
</tr>
<tr>
<td>Car robbery</td>
<td>5.8</td>
<td>68.6</td>
</tr>
<tr>
<td>Public transportation assault</td>
<td>7.4</td>
<td>80.6</td>
</tr>
<tr>
<td>House robbery</td>
<td>10.1</td>
<td>84.2</td>
</tr>
<tr>
<td>Street assault</td>
<td>10.8</td>
<td>83.0</td>
</tr>
<tr>
<td>Car accessories robbery</td>
<td>11.2</td>
<td>65.7</td>
</tr>
<tr>
<td>Phone extortion</td>
<td>25.7</td>
<td>81.3</td>
</tr>
</tbody>
</table>

Source: Survey on Public Safety and Governance in Mexico (2011).
* Note: Express Kidnapping refers to an all too common practice of detaining individuals for a few hours or overnight in order to get them to withdraw funds from ATMs after midnight.

Table 2: Percentage that perceives that (...) is corrupt

<table>
<thead>
<tr>
<th></th>
<th>Firms 2012</th>
<th>Firms 2014</th>
<th>Citizens 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic police</td>
<td>78.2</td>
<td>73.5</td>
<td>77.3</td>
</tr>
<tr>
<td>Municipal Police</td>
<td>70.1</td>
<td>66.2</td>
<td>66.3</td>
</tr>
<tr>
<td>Attorney General</td>
<td>66.8</td>
<td>64.6</td>
<td>57.2</td>
</tr>
<tr>
<td>Judicial Police (MP)</td>
<td>69.9</td>
<td>64.3</td>
<td>61.6</td>
</tr>
<tr>
<td>Judges</td>
<td>62.1</td>
<td>61.6</td>
<td>65.0</td>
</tr>
<tr>
<td>State Police</td>
<td>63.8</td>
<td>60.1</td>
<td>61.9</td>
</tr>
<tr>
<td>Federal Police</td>
<td>56.8</td>
<td>52.2</td>
<td>52.6</td>
</tr>
<tr>
<td>Army</td>
<td>23.1</td>
<td>17.6</td>
<td>20.3</td>
</tr>
<tr>
<td>Navy</td>
<td>15.0</td>
<td>13.2</td>
<td>13.7</td>
</tr>
</tbody>
</table>

Figure 1: Police Distrust by State

Source: Calculations based on INEGI ENVIPE 2014.
## Table 3: List experiment item design

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Please tell me how many of these things you have done in the past 6 months. We just want to know how many you have done, do not tell me which.</th>
</tr>
</thead>
</table>
| **Control Group**  
(n=900)  
3 ITEMS | • I have received benefits from the Oportunidades program  
• I have participated in a tanda*  
• I gave charity (limosna) in church or the street |
| **EXPERIMENT 1**  
Treatment Group  
(n=900)  
4 ITEMS | • I have received benefits from the Oportunidades program  
• I have participated in a tanda  
• **I have given money to the police so that they protect me**  
• I gave charity (limosna) in church or the street |
| **Control Group**  
(n=900)  
3 ITEMS | • I got drunk in a party I went to  
• I did some exercise outdoors  
• I attended church almost every Sunday |
| **EXPERIMENT 2**  
Treatment Group  
(n=900)  
4 ITEMS | • I got drunk in a party I went to  
• I did some exercise outdoors  
• **I have given money to drug or criminal organizations so that they do not harm me**  
• I attended church almost every Sunday |

Source: Survey on Public Safety and Governance in Mexico (2011).  
Note: The treatment item is NOT bold in the actual experiment. Here it is emphasized to highlight the experimental intervention. Respondents are randomly assigned to a flashcard of EITHER the control or the experimental treatment.  
* Tanda is a rotating savings and credit informal association.
Figure 2: Cartogram of Drug Related Violence in Mexican Municipalities

Source: Own calculations based on Base de Datos de Fallecimientos de Presunta Rivalidad Delincuencial.
Figure 3: Sample Polling Points

Sample Points for Survey on Public Safety and Governance in Mexico

Legend
- Not in Sample
- States

Source: Survey on Public Safety and Governance in Mexico (2011).
Table 4: Average Treatment on the Treated (test of means)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Average Effect</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTO Extortion</td>
<td>0.10</td>
<td>(0.04)***</td>
</tr>
<tr>
<td>Police Extortion</td>
<td>0.11</td>
<td>(0.04)***</td>
</tr>
</tbody>
</table>

Source: Survey on Public Safety and Governance in Mexico (2011).

Table 5: Extortion by Police and Narcos Treatment

<table>
<thead>
<tr>
<th>Level of Violence</th>
<th>Police Extortion</th>
<th>Narcos Extortion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Non-urban</td>
<td>Urban</td>
</tr>
<tr>
<td>High</td>
<td>0.11 (0.09)</td>
<td>0.19 (0.09)**</td>
</tr>
<tr>
<td>Medium</td>
<td>0.08 (0.09)</td>
<td>0.00 (0.10)</td>
</tr>
<tr>
<td>Low</td>
<td>0.17 (0.09)**</td>
<td>0.09 (0.09)</td>
</tr>
</tbody>
</table>

Source: Survey on Public Safety and Governance in Mexico (2011).

Table 6: Extortion by Occupation

<table>
<thead>
<tr>
<th>Informal/ Self-employed</th>
<th>Private Sector</th>
<th>Public Sector</th>
<th>Housewife</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extorted by Narcos</td>
<td>.10</td>
<td>.16**</td>
<td>.28**</td>
</tr>
<tr>
<td>Extorted by the Police</td>
<td>.22***</td>
<td>.08</td>
<td>.17</td>
</tr>
</tbody>
</table>

Source: Survey on Public Safety and Governance in Mexico (2011).
Figure 4: The Territorial Extent of Police Extortion

Source: Own calculations using data from the Survey on Public Safety and Governance in Mexico (2011).