

“Drug Cartels, Oil Rents, and Homicide – the Case of Mexico”

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This empirical study examines drug trafficking violence in Mexico and seeks to explain the exceedingly high homicide rates within the country. It utilizes a cross-sectional statistical model in order to accomplish this. It examines all 32 states within Mexico and is set out to undercover whether or not the presence of oil/gas fields & pipeline impacts the intensity of violence through cartel rent extraction as cartels might compete for oil rents therefore escalating the violence and homicide levels present throughout Mexican society. It provides a reconstruction of events that led up to the Mexican drug war and examines what the literature is saying on key determinants of violence and homicide in Mexico & Latin America at large. It provides a present context for the 2010 decade on the state of the cartels in Mexico and who the prime actors are. The empirical findings show that *oil rents/pipeline* due not contribute to a higher level of homicide nor does the interaction term between *Los Zetas* and *oil pipeline/gas& oil fields* experienced in the various 32 states within Mexico for which both variables are present. Finally, the study concludes with a discussion on the implications of the empirical findings and possible areas of research that remain unaccounted for that could help explain the exceedingly high homicide levels in Mexico in the presence of drug trafficking.

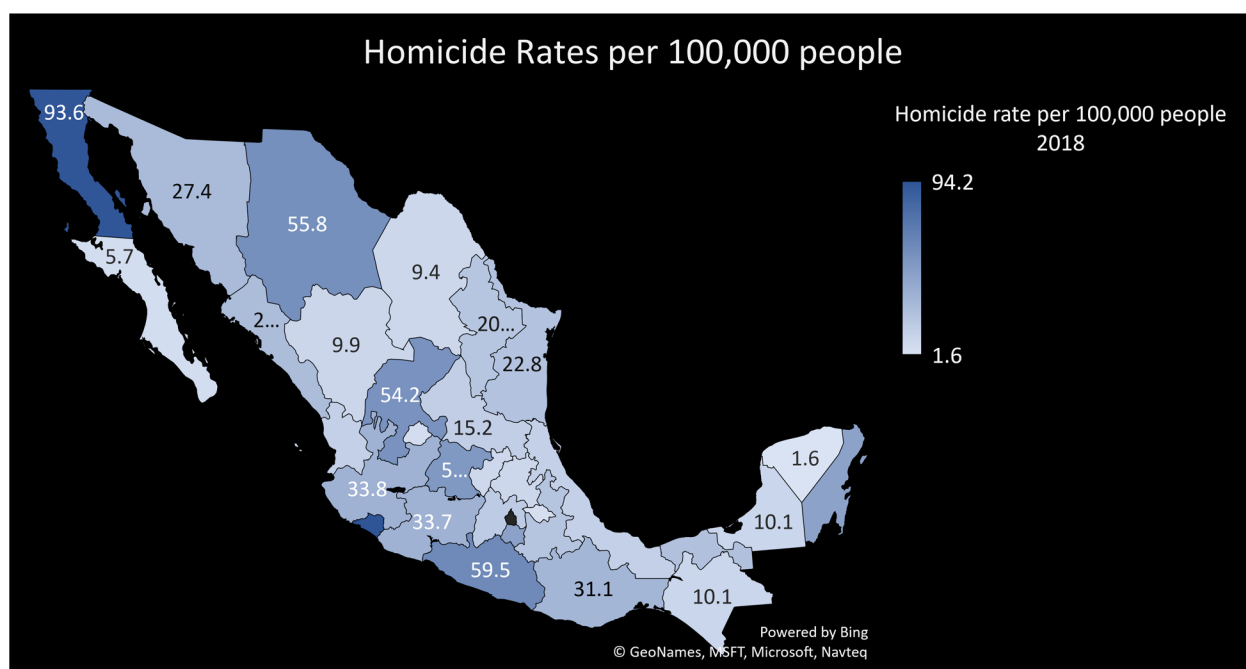
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Introduction

Why do natural resources tend to lead to conflict? Extensive literature has been written about the natural resource curse and its correlation with conflict or the stifling of economic development and good governance but much progress still needs to be made about the impact of natural resources and non-state actor involvement leading to an increase in homicide rates. We know that natural resources weaken the capacity of political institutions to peacefully resolve conflicts (Le Billon 2001). In the case of drug trafficking, we know too that the lack of solving commercial disputes using lawsuits or battle over market share via advertising is not possible in a black market. Thus, violence becomes a mechanism of solving these means. Therefore, if drug prohibition in the black market does reduce drug use, it will not necessarily decrease violence (Miron 2001). However, I have not found any studies that have acutely examined the link between higher homicide rates and oil rents sought by drug cartels solely in the case of Mexico. The results found by Neudorfer also conclude that the relationship between different kinds of resource wealth such as mineral, energy depletion, gas/oil and corruption require further exploration (2018). Phenomena of which have the possibility to lead to an escalation of violence and homicides. I examine this question utilizing the case of drug trafficking organizations (DTOs) accompanied by a large presence of oil/gas fields & pipeline in Mexico and if violence is higher in the regions in Mexico where oil is present and easily available for the drug cartels to extract rents from.

This article is motivated first and foremost in a personal manner as this study hits home to me as I served on the front line in the war on drugs with the U.S. Army in San Marcos, Guatemala in the summer of 2016 on the borderland with Mexico – the precise area where the

Sinaloa and Los Zetas cartel activity has been uncovered. Given my passion for the drug war and the pain I've seen that this war inflicted on this rural Guatemalan populace, I wanted to understand the underlying drivers behind the escalating violence and homicide rates especially given the revelation that Mexico was the 2nd leading country in deaths by homicide in 2016 peaking at roughly 23,000 falling only behind Syria.¹ This led me to examine Mexico and solely Mexico acutely. By the desire to understand that if drug cartel activity is omnipresent all throughout Mexican society as various cartels control different swaths of territory as evident by Appendix B at the end of this study, then what explained the variation in homicide rates throughout the various 32 states in Mexico as evident by image 1²:



As can be seen through qualitatively examining this image provided for by INEGI, the homicide rates are clearly higher on the border regions with the United States yet not in all border regions.

¹ <https://www.npr.org/sections/thetwo-way/2017/05/10/527794495/mexico-is-called-worlds-second-most-violent-country>

² <https://elcri.men/en/index.html>

Furthermore, the homicide rates are very erratic in nature all throughout the country ranging from the Yucatan peninsula to the Southwest of the country and even in the center of the country. States with high homicide rates were often situated right next to or between states with low homicide rates. We already know that poverty, income inequality, literacy rate, and alcohol consumption are established variables that contribute to a higher homicide rate (Chon 2011). But the homicide rate in Mexico has skyrocketed and there are other exogenous factors aside from those mentioned in the study by Chen (2011). Furthermore, there is little if any evidence nor studies completed that have helped to explain why the homicide rate in Mexico varies so drastically throughout these 32 states.

I argue that in taking into account the different types of DTOs operating within Mexico and their strategy relating to their business models whether it is a DTO that prefers to bribe officials or a DTO that utilizes violence to achieve its end goals, that rentier activity – specifically oil rents extracted from DTOs contribute to a further escalation of violence in states with oil/gas fields & pipeline located in them which may help to explain the variation in homicide seen within the 32 states of Mexico. I show that there is more profit to be gained alongside the primary enterprise of drug trafficking from cartels that also undertake further rent-seeking behavior from oil rents rather than legal economic activities as Neudorfer (2018) helps to elucidate. I extend the theoretical argument of Le Billon (2001) that argues resources, in the case of Mexico (oil) weaken the capacity of political institutions to peacefully resolve conflicts. The weak political institutional framework present within Mexico allows DTOs to easily bribe officials and commence in rentier activities such as the extraction of oil rents with the addition that such activities can already augment existing violence within Mexico by causing cartels to clash for the extra rents available from oil revenue.

My theory provides the foundations for my argument that oil rents within Mexico extracted by DTOs contribute to higher homicide rates and an already further escalation of violence as is seen in the present moment. By expanding on the findings that Beittel (2018) demonstrates that oil is a widely lootable resource in Mexico – especially if the Los Zetas cartel is present in an oil zone or area with oil infrastructure. I argue that competing cartel groups fight for control of territory in order to seek funds and extra resources to fund their illicit activities and expand their drug enterprise along with pay their employees. As Le Billon argues, armed conflict is manifesting into the means to meet individual commercial ends (2001). Cartels must compete violently in order to continue to scale their enterprises as the might of the United States drug war offensive seeks to derail Mexican drug trafficking organizations of their market share and ultimately defeat them. Finally, given the domestic circumstances Mexico confronts and exogenous force often militarized both via the US police apparatus and predatory economic actions on behalf of the United States and its puppet controlled multilateral lending institutions, the IMF and World Bank, that the introduction of SAPs and the deteriorating terms of trade in primary commodities has caused shadow economies to materialize on an omnipresent scale within Mexico which has led actors to find new sources of funding and they have found such funding from the trade in commodities such as drugs as Le Billon (2001) states. However, I take this argument by Le Billon (2001) one step further that the new sources of funding aside from drugs are also coming via oil rents extracted by Mexican DTOs and that this is contributing to the already soaring level of homicide rates.

To estimate the impact of oil rents on homicide rates in the presence of drug trafficking within Mexico, I construct a data set consisting of all 32 Mexican states with data for all variables primarily coming from 2014 with a few variables ranging from data between 2013-

2018 due to limitations in the data. The data primarily comes from INEGI – Mexico’s equivalent of the U.S. Census Bureau. Data not coming from INEGI is coded for manually in the form of dummy variables based off of visualized images relating to several variables from imagery constructed by a multitude of governmental agencies. The model is constructed in the form of a multiple linear regression model with homicide rates being the dependent variable with multiple regressands. The specific regressands of most interest are the dummy variables *oil pipeline/oil & gas fields* and an interaction term between *oil pipeline/oil & gas fields & Los Zetas cartel* – a cartel known for its rent seeking behavior relating to oil amongst other extractive rents like human extortion (Beitell 2018). Inconsistent with my theory, I find that the dummy variable *oil & gas fields/oil pipeline* along with the interaction term/dummy variable *oil & gas fields * Los Zetas Cartel presence* both produce a negative coefficient and are statistically insignificant suggesting that oil rents or the mere presence of oil/gas resources and pipeline in a state within Mexico doesn’t necessarily contribute to higher homicide rates. Even more startling, the coefficient for the interaction between *oil & gas fields * Los Zetas Cartel* is greater than solely the coefficient for the dummy variable *oil & gas fields* alone suggesting that the presence of Los Zetas Cartel extracting rents from oil doesn’t necessarily impact the homicide level. This article makes both theoretical and empirical contributions to research relating to the drug war and the variation in homicides within Mexico by expanding upon the theoretical findings by Beitell (2018) which found that Los Zetas cartel and oil rents in the presence of narco-trafficking contribute to more violence within Mexico by demonstrating that his results may not be as conclusive after all as this study presents a different finding that oil rents don’t necessarily contribute to higher homicide levels but it does concur that the presence of Los Zetas cartel within a particular state in Mexico does have an impact on homicide levels. It also contributes to

the empirical literature by solidifying the results of Contreras (2014) which demonstrated that the Northern region of Mexico does experience more violence and homicides as a result of the increased market and retail value of the drugs as they approach their most lucrative market – the United States, leading cartels to wage violence in this region in order to capture the market share for the most lucrative distributional channels of the trade.

The rest of the article proceeds as follows. In the next section, I provide an overview of the evolution of the War on Drugs and how it got so violent within Mexico today. I then discuss the literature relating to natural resources and conflict along with the determinants of homicide and several other themes that have paved the way for the drug war to drastically boom in the post 1990s era. Next, I present my theory as to why oil & gas fields/pipeline in the presence of DTOs leads to an escalation of violence – with an acute examination of the Los Zetas cartel with respect to oil & gas fields/pipeline. The current state of the cartels is then looked at. Then proceeds sections on the data, research design, and estimation strategy. Next, I report my results on the findings of what explains abnormally high homicidal rates within Mexico. The final section concludes and offers a discussion relating to the implications of these results and suggestions for future research relating to the drug war and determinants of violence within Mexico.

The evolution of the War on Drugs

President Eisenhower was the first President that took the first aggressive stance against drugs. Eisenhower coined the term “War on Drugs” in 1954 upon establishing the Interdepartmental Committee on Narcotics. Still, the term “War on Drugs” was not widely used until the creation of the DEA in 1973 by President Nixon. President Reagan continued the

anti-drug policies – possibly stronger than any of his predecessors while enacting the 1986 Anti-Drug Act in attempt to control the crack/cocaine epidemic which serves as a relatively inexpensive drug to produce while being marketed to low income black communities. This was the act that set the stage for mandatory minimum sentencing laws for the trafficking and possession of illegal drugs. President Bush in 2002 pushed the “War on Drugs” to new heights by pledging to reduce illegal drug use by 25% -- leading to an unprecedented number of marijuana-related arrests (Saadatmand et. al 2012).

Historically, the Mexican government has always been complicit as an overseer of the drug industry – but the U.S. insisted Mexico was a strong ally. The PRI (Institutional Revolutionary Party) during its seven decades in power, the military, traffickers, police, and political officials all took a cut from narcotics traffic traversing their territory – keeping violence to relatively low levels because all groups had a smooth and equitable stake in the enterprise. Furthermore, the PRI and DFS (Federal Security Directorate) were anticommunist allies during the cold war – therefore, Washington kept its eyes closed to their involvement in narcotics along with electoral fraud which kept the PRI in power (Mercille 2014). As Mexico faced deteriorating economic conditions and an austerity program, a rural and labor militancy ensued and grew in the 1970s. At the same time, Mexico waged a small war on drugs in the Northern States of Chihuahua, Durango, and Sinaloa – poor states where land occupations are frequent by peasants. Operation Condor sent 7,000 soldiers to Sinaloa with the assistance of over 200 DEA advisers from the United States. Furthermore, not one key drug trafficker was captured but hundreds of peasants were tortured, arrested, killed, and jailed – suggesting that it was rather a war against guerillas peasants, and marginalized groups. Nowadays, the Mexican government no longer regulates the drug trade as they did under the PRI – thus, accounting for

the rise in violence – but pivotal sectors of the state and security forces are still involved (Mercille 2014).

Initially, US narcotics policy towards Mexico was considered a success from 1970s-1990s, but only because the Mexican government chose to crackdown on marijuana and poppy producers and traffickers. 90% of the heroin and 70% of the marijuana consumed in the United States came from Mexican suppliers in the 1970s. However, only 30% of those drugs came from Mexico itself in the 1980s. At this point, Mexico began to serve as a pivotal transit zone for cocaine and marijuana destined for the US market. Still, this diminished role of Mexican DTOs did not signify that the drug war had succeeded – the drug economy simply took a different form. It was reshaped by the rise of Andean cocaine interests in the United States and Western Europe – thereby placing the center of this illicit activity in South American countries (Rodrigues 2017). Mexican DTOs occupied a second-class position until the 2000s in the political economy of drug trafficking in the America's – behind the Colombian cartels. During this time, Mexican DTOs also remained less fragmented while dedicating their production to heroin and marijuana for a small share of the US market while smuggling Colombian cocaine into the US (Rodrigues 2017).

Mexico's position in the political economy of the drug war came when increased US surveillance in the 1990s led to problematic outcomes for Caribbean drug smuggling routes to the Americas – forcing Kingpins like Escobar to conceive alternatives. It was at this time that Mexico returned to the core of the political economy of the geopolitics of drug trafficking in the Americas (Rodrigues 2017). As Mexico fragmented politically in the upper half century of the 20th century and into the 21st century—the states failure to provide for its citizens basic needs directly strengthened criminal groups of all descriptions. In service provision and access

to economic opportunities – where states fail in these areas – organized crime will pick up the slack (Briscoe et. al 2015). This was exactly what happened to Mexico as cartel violence escalated, the government lost control. President Vicente Fox had a rather mild approach to combatting violence but that all changed when President Felipe Calderon took office on December 1, 2006 in Mexico. In a matter of weeks, nearly 6,500 troops were dispatched to the state of Michoacán to curtail drug violence (Kellner et. al 2010). Government crackdowns significantly contribute to the escalation of violence between DTOs. The intensification of law enforcement along with the rise in the number of DTOs are both variables positively associated with the severity of violence between criminal organizations (Osorio 2015). Since the escalation of the drug war in Mexico, the annual number of homicides in Mexico nearly doubled between 2000 and 2011 from 13,849 to 22,852 according to the SNSP. After the Calderon administration took office in 2006, drug-related homicides increased exponentially at a rate of 55.2% from 2007-2011 (Enamorado 2016). Now, the drug war is deadlier than ever. Mexico is in chaos while neoliberal American policies have not only failed the American public, but failed the many Latin American nations of whom U.S. militarized drug war policy has been pushed on.

Literature regarding the natural resource curse and conflict

Development economists at first in the 1950s suggested that resource abundance would help backward states – not harm them. This thought was prevalent at the time as most backward states had a labor surplus, but shortages of investable capital. This made states with abundant natural resources the most prime targets to overcome those capital shortfalls due to their ability to export primary commodities (Ross 1999). However, many scholars have attributed Latin American nations' extensive clinging to ISI from WW2 up until the 1970s early 80s to its

massive resource wealth. Latin American manufacturers and workers who enjoyed subsidies from the resource sector effectively impeded their politicians from dropping ISI policies. Meanwhile countries such as South Korea and Taiwan, with little resource wealth, had fewer groups profit from ISI and thus found it easier to transition into EOI (Ross 1999). Frankel makes a similar conclusion by stating that Latin America has been peculiarly impacted by public monopolies and the prohibition on importing foreign expertise or capital which has led to stunted development of its mineral sector (2012). Neudorfer also sheds light on the impact of natural resources as they allow governments to extract rents to offer political supporters material or immaterial benefits in exchange for their political support. This encouragement of rent-seeking behavior and patronage increases a nation's level of corruption (2018). Therefore, it appears viable that Mexican officials may be corrupted quite easily from cartels who pursue rent-seeking activities which can then be used to fund bribes to pay off Mexican officials.

Natural resources are known to bring with them many unfortunate geopolitical and economic problems. Commodity price swings can trigger intense macroeconomic instability via the real exchange rate and government spending. Furthermore, the world market prices for oil and natural gas are far more volatile than those for any other mineral or agricultural commodities (with copper and coffee coming in a close 2nd). This volatility of natural resources is bad for long term economic growth (Frankel 2012). Meanwhile, Sachs & Warner argue that positive commodity shocks in combination with consumer preferences that translate into higher demand for the non-traded goods sector creates excess demand for non-traded products and thus, drives up their prices – particularly inputs and wages (2001).

The rentier state is also a common argument surrounding the literature of natural resources and their pity. Natural resources serve as rents or foreign assistance freeing the need to

levy domestic taxes – making the politicians in charge less accountable to the societies they govern. The diminished demand for revenue aside from the resource also diminishes the soundness of the state’s economic policies (Ross 1999). Monopoly rents foster rent-seeking behavior. Resource rents carry with them the possibility that they may foster the rise of extralegal organizations seeking “protection” rents. This leads to the destruction of property rights and the decline of non-resource industries – helping to explain why resource extraction has often flourished in states or regions where the rest of the economy and rule of law has broken down (Ross 1999) as natural resources weaken the capacity of political institutions to peacefully resolve conflicts (Le Billon 2001).

If the impacts of the natural resource curse are so acute and harmful as described above – then insurgents should thrive off of exportable natural resources – if rebels (including transnational criminal groups) are able to extract and sell resources, or extort money from those who do, conflict is likely to ensue with the possibility of Civil War (Ross 2004). If exportable natural resources lead to conflict – there does not appear to be much hope for countries with an abundance in natural resources. However, if rebels try to loot, extort, or seek rents from manufacturing firms – those firms will simply relocate to a safe location or face the risks of being forced out of business (Ross 2004).

Resource wars are armed conflicts in which resources serve as a source of funding illicit enterprise but also have the capability to unleash a fierce confrontation amongst competing groups (Rettberg et. al 2016). Dunning finds that incumbent elites push for resource dependence as a strategic decision to limit the extent to which political opponents can challenge their power. He argues that regime change or political instability in resource-dependent states is not caused by fiscal crisis nor economic contraction and that by pushing for resource dependence

– it serves as a way that elites can block challenges to incumbent power (2005). Lujala demonstrates that oil and gas production in conflict regions tends to more than double the number of combat deaths. This suggests that oil and gas production contribute to a higher conflict intensity. Most likely this is because oil and gas production remain a highly valuable revenue source for both government and illicit actors. Illicit actors mostly can only access these revenues via successful state capture or by increasing their negotiating power with respect to how resource revenues are shared. This often requires a more offensive style of fighting (2009). Moreover, in Colombia, gold mining appears to have emerged as a substitute for illicit crops as the area devoted to growing coca leaves has decreased (Rettberg et. al 2016). A report by the UNODC in 2013 warned that coca growers along with illicit crop-dependent illegal groups are migrating to illegal gold mining. Gold contains many advantages in relation to illicit crops. Number one, it is a legal resource and its extraction and commercialization can be regulated by domestic and international institutions. Furthermore, gold is a highly tradable commodity and an internationally renowned asset which makes it a safe haven and store of value. However, gold is also extremely lootable as are diamonds (Rettberg et. al 2016). At the end of the day, oil, nonfuel minerals, and drugs are all casually linked to conflict while legal agricultural commodities are not (Rettberg et. al 2016).

It's worth discussing the fact that the United States maintains a strong economic interest in ensuring its energy security, increasing its exports, and reducing barriers to U.S. trade and investment. Implicit in these interests is the national security interests ensuring that Mexico – a critical ally and top trade partner in which the two nations share a 2,000 mile border, is economically flourishing and politically stable. US-Mexico energy trade and cooperation is a key facet towards the fomentation of a healthy relationship between the two nations (Seelke et. al

2015). As Mexico is the 10th largest producer of oil in the world and holds more than 11.1 billion barrels of oil reserves – the 18th largest in the world – the United States put's Mexico high on its priority list (Seelke et. al 2015). Given the saliency of oil and gas production in Mexico along with the omnipresence of drug cartels operating in every sector of Mexico – it makes sense that oil and gas fields should increase the intensity of violence in Mexico – especially in states/regions where oil/gas fields and infrastructure are prominent.

Government options available to combat the resource curse

Of course, many developing countries can mitigate the harmful impacts that a resource sector might bring. Governments can invest in productivity of their resource sectors and diversify their exports helping to offset the declining terms of trade. They can also erect buffers to protect against violent volatile price swings in commodities by using commodity stabilization and careful fiscal policies (Ross 1999). Dunning provides evidence of the importance of a robust middle class. The long-term role of the middle-class business community in demanding political change is paramount for overcoming kleptocratic leaders in resource rich nations (2005).

Literature on the determinants of violence & homicide – with an acute look at the case of the drug war

The drug war has not only been fought in the United States, it has been pushed on to most other nations to adhere to the restrictive policies promulgated by the United States relating to the war on drugs. Moreover, the conservative ideology framing the drug war is an explicit rejection of the very social and economic factors that have led to increased violent crime rates (Cheatwood 1995). Yet, we know that drug use is not a significant factor in precipitating violence and if

anything – there is a negative correlation amongst drug abuse and homicide rates (Miron 2001). So why are we fighting this war on drugs then in the first place? The American War on Drugs faces a lot of similarities with similar conditions in how the United States evolved from 1945 through 1980. A central part of the rhetoric on the drug war was that such war would make the streets much safer – and fear is what Americans often most try to prevent. Thus, U.S. policy is a simple, direct, and conservative approach to the War on Drugs (Cheatwood 1995). But such rhetoric which is equivalent to expressing an outright prohibition on drugs raises the price of the prohibited commodity and such elevated prices result in a negative income shock to consumers of the prohibited good leading to an increase in income-generating crime in order to finance purchases of the good. Furthermore, Loureiro & Silva also point out that the war on drugs and the drug prohibition that accompanies it promotes the growth of organized crimes in such producing countries as organized crime maintains a comparative advantage in the utilization of violence with the intent to maintain territory and the enforcement of illegal contracts. (2012). Meanwhile, Miron finds that drug seizure rates and homicide rates are positively related (2001). Therefore, the ongoing militarization and harsh rhetoric relating to the war on drugs and a conservative approach to fight this war seem contradictory in its efforts to actually come about a true solution to this violent endemic.

Neoliberalism in the Americas has led to the militarization of domestic police functions, often mobilized against rural and urban underclasses. Neoliberalism has meant *mano-duro* policies and often getting tough on crime – especially narcotics related crime (Corva 2008). The intensification of poverty and economic inequality due to neo-liberal policies also produced a higher level of violence in the region than would have been experienced otherwise (Chon 2011). Meanwhile, such violence deters investment and lower

investment deters economic growth, an uptick in violent crime can occur (Loureiro & Silva 2012).

At the same time, Illiberal modes of governance associated with the drug war have permeated throughout the Americas – leveraged by the geo-coding of the Majors certification process. Such illiberal modes of governance include the frequent use of military forces and equipment to police space, the normalization of ecocide via aerial spraying eradication methods in the Andes, acute targeting of dominated ethnic groups, superfluous prison overcrowding, along with countless human rights violations (Corva 2008). Such findings by Corva (2008) reverberate with the findings of Loureiro & Silva that the average intentional homicide rate in drug producing countries, (Mexico, Colombia, and Peru) in their study experienced a 34.78 percent higher homicide rate than all other countries in their sample (2012). I would argue in part due to the militarization of this war as described by (Corva 2008).

Exacerbating the deleteriousness of mano-duro policies is the fact that the majority of drug-related homicides are concentrated at border cities – due to such border cities being the most profitable part of the drug-trafficking enterprise chain occurring at the U.S.-Mexico border crossing points. Unlike general homicides, many victims of drug-related homicides are tortured and beheaded – and their bodies dumped in the streets, or hanged from bridges to send a message to rival DTOs (Contreras 2014). Meanwhile, the privatization of security for citizens to protect themselves and their businesses due to the incapacity of many Latin American governments to control crimes and violence also leads to higher violence as such security apparatuses often use violence and intimidation to target individuals seen as subversive to the social, political, and economic order (Chon 2011). Leading to another mechanism that foment violence in Latin America.

The Conservative National Action Party (PAN) made fighting organized crime a crucial issue. However, Mexico was ruled by a single party for most of the 20th century, the PRI. Historically, the PRI has taken a passive stance toward the drug trade. The PRI has had profound drug-related corruption. Mexico elected its first opposition president in 2000 and now there are three major parties: PAN (rightwing); PRI (Moderate); and PRD (leftwing). PAN mayors and officials are more likely to request law enforcement assistance from the PAN Federal government than their non-PAN counterparts. Furthermore, operations involving both the federal police and military have been at their most effective when local authorities are politically aligned with the federal government (Dell 2015) in the case of Mexico. While looking at the larger picture of Latin America, Chon argues that ethnic conflicts, a weak criminal justice system and paramilitary movements may also possibly serve as explanations for the high homicide rates witnessed in Latin America (2011). Mexico has experienced all three.

On the impact of NAFTA and free trade

NAFTA envisioned a free trade area that requires the relatively unrestricted movement of people, goods, and services across international borders and increased dependence on signing parties. The dependence on open borders brings the prospect of greater opportunities for illicit criminal activity to occur such as drug trafficking (Cottam et. al 2015). Signed by the U.S., Canada and Mexico on December 17, 1992 and fully implemented by January of 1994 – NAFTA was created. Mexico has further signed and implemented a multitude of other free trade agreements with the European Union, the European Free Trade Association, various Latin American countries, Israel and Japan. This makes Mexico one of the most open economies in the world (Martinez 2013). However, NAFTA and free trade have directly

contributed to the ongoing violence in Mexico. The liberal access to weapons in Texas and Arizonian cities located close to the border has equipped Mexican criminal organizations with profound firepower capacities. More than 87% of firearms used by the cartels originate in the US but Washington – as a political toy of the gun lobby – simply refuses to take action and even lacks a comprehensive strategy to end arms trafficking (Mercille 2011). Such augmentation of violence can only be matched by the armed forces (Martinez 2013).

Furthermore, NAFTA has increased the size of the drug trade by forcing millions of peasants in search of work into the drug trade while protecting neoliberal projects and policed under the guise of the war on drugs – used exclusively to promote closer bilateral relations between the U.S. and Mexican militaries (Mercille 2014). For example, since the inception of NAFTA, the manufacturing sector added between 500,000 and 600,000 net jobs, but this was largely offset by a loss of 2.3 million jobs in agriculture due to the cheapening corn imports from U.S. subsidized agrobusinesses. This causes farmers to leave their land and either migrate to the United States or move to cities in Mexico's North – the darling of cheap labor for U.S. manufactures (maquiladoras). The informal economy and its alarming size in which workers face even worse conditions has increased from 53% of the workforce in 1992 to 57% in 2004. This sadly led many Mexicans to participate in drug trafficking as they had little other choice – serving as low-level dealers, to make ends meet. At the same time, increased competition between Mexico, China, and India for cheap labor caused some Maquiladoras to move operations overseas to either China or India – leading to further layoffs. Finally, the social ills rippling throughout Mexican society has increased Mexicans' use of drugs to alleviate suffering, enlarging the market (Mercille 2014).

NAFTA is often described as having two principal purposes: to gift U.S. enterprises willing and able to invest in Mexico to take advantage of the country's cheaper wages and to deny other corporations the advantage of operations in and exporting from Mexico. In all reality, this means continuing Mexico's long history as a U.S. economic colony, providing for cheap labor, raw materials and manufactures for consumption while continuing to impede Mexico's access to the U.S. market (Carlos 2014). NAFTA was the antithesis of justice by labor unions, environmental organizations, and popular majorities in Mexico, the United States, and Canada (Mercille 2014). Commins echoes what Mercille (2014) has said when stating that NAFTA was passed during periods of strain in the multilateral trading system—facing significant opposition not from business interests fearing import competition – but rather from citizen and labor groups with concerns on a wide array of human rights issues, including the treatment of labor and environmental degradation (2013). Popular opposition to Neoliberal reforms is not anything new. On January 1, 1994 – the same day that NAFTA came into effect, the Zapatista Army of National Liberation (EZLN) began armed actions against neoliberal reforms. Meanwhile, the Mexican government erected several counterinsurgency campaigns in Chiapas against the rebels. At the same time, U.S. corporations-maintained concerns that this could create a precedent and lead to threatened investment opportunities in Mexico. A leak confirmed this notion in which a memo by a Chase Manhattan Bank analyst warned that the Mexican government must eliminate the Zapatistas to demonstrate effective control of their national sovereignty and security (Mercille 2011). This brings up another good point in respect to the banks' role in the drug trade. Globally, estimations range that banks launder from \$500 billion to \$1 trillion every year from criminal activities – half of which

traverses through US banks. This illicit money has been documented as even having rescued some failing banks during the 2008 banking crisis (Mercille 2011).

NAFTA partners have very different perspectives pertaining to drug use. While Canada and Mexico regard it as a public health issue, the United States sees it as a matter of criminal behavior – hence, making it subject to law enforcement strategies. The United States maintains a supply side and law enforcement approach to the issue – eradicate drug crops, stop drug infiltration at the border, and arrest traffickers at all levels. Meanwhile, Mexico and Canada prefer a demand side approach that focuses on prevention and treatment (Cottam et. al 2015). Further hurting Mexico’s chance at calling its own shots with respect to the drug war is the fact that policy predispositions impact the relationship between Mexico and the United States. Mexicans are perceived through the lens of inferiority and incompetence. This ensures that there is a great deal of demand making instruction by U.S. policy elites giving very little at the Southern Border. The idea is that Mexicans need be told what to do while the Canadians are more or less perceived as equals (Cottam et. al 2015).

In the end, the U.S only ever wanted to see Mexico grow so that it could repay its foreign debt anyways (Commins 2013). “Free trade” has converted Mexico into a completely open market for U.S. products while U.S. producers are protected against Mexico’s products by subsidies and tariffs. All that NAFTA ever really was, was a policy of U.S. economic expansion serving to deepen U.S. hegemony while permitting the continued extraction of capital. Mexico today is suffering more from extreme economic inequality caused by U.S. economic imperialism, capital extraction and repatriation than due to drug-related violence (Carlos 2014).

The current state of the cartels

Organized crime groups have split off and diversified their criminal activities turning to crimes such as extortion, kidnapping, auto theft, oil smuggling, human smuggling, retail drug sales, and other illicit enterprises. These crimes are often parasitic for the local populations involved (Beittel 2018). The Mexican drug war has seen the rise of two dominant cartels which has led to violence of insurmountable proportions. The Sinaloa Cartel, the largest of them all, moves an enormous amount of drugs. It controlled the coastal state of Sinaloa—known for its poppy fields and opium gum produced by Chinese immigrants. Only now, these products are being produced by hundreds of thousands of Mexican campesinos (Kellner et. al 2010).

The second dominant cartel has been the Gulf Cartel. The Gulf Cartel was founded in the 1970s on the northeastern border state of Tamaulipas, along the Gulf of Mexico. The Cartel grew exponentially amongst the chaos of the early 1990s expanding its territory while moving from drug trafficking into direct sales. This growth led to inevitable conflict with “El Chapo” Guzman and the most powerful cartel—Sinaloa. However, while the Sinaloa cartel conducted operations in a legitimate business enterprise like manner, the Gulf Cartel carried a rather bloody, violent image (Kellner et. al 2010). The Gulf DTO is a transnational smuggling operation with agents in Central and South America and served as the principal competitor challenging Sinaloa for trafficking routes in the early 2000s but now battles its former enforcement wing, Los Zetas – for the territory located in northeastern Mexico (Beittel 2018).

The composition of Los Zetas is made up of former elite airborne special force members of the Mexican Army who defected from the Gulf DTO becoming its hired assassins. The main asset of Los Zetas is not drug smuggling (albeit deeply involved) but rather organized violence. Los Zetas wields significant influence in an extractive and rent-seeking business model — generating revenues from crimes such as fuel theft, extortion, human smuggling, and kidnapping.

Activities of which are seen to be more harmful to the Mexican public than the drug trade itself. Media coverage reported that PEMEX, Mexico's state-owned oil company, declared revenue losses of more than \$1.15 billion in 2014 due to oil tapping and has been sustaining losses over \$1 billion yearly. An early 2017 report conducted by the Atlantic Council estimated that Los Zetas controlled nearly 40% of the market in stolen oil – with most incidents of illegal siphoning occurring in the Mexican Gulf states of Tamaulipas and Veracruz (Beittel 2018).

In the rural state of Michoacán, La Familia Michoacán and the Knights Templar cartels have deleteriously cut into the profits of avocado growers – in which half of the global supply is sourced from. Moreover, The Knights Templar has moved fiercely into the illegal mining sector mining iron ore from illegally operated mines (Beittel 2018).

Nowadays, much of the current violence can be attributed to a raging war between the Sinaloa Cartel and Los Zetas, along with a host of other smaller cartel enterprises (Kellner et. al 2010). But the violence in Mexico is also directed towards the government, political candidates, and the news media – committing a staggering amount of bloodshed – excessive for typical standards of organized crime (Beittel 2018). Furthermore, the steep drop in world oil prices dramatically in 2014 led to reduced economic expansion – the Nieto administration in turn imposed significant budget austerity measures. This most likely caused Mexico to experience a sharp increase in opium poppy cultivation between 2014 and 2017 while becoming a significant transit country for powerful synthetic opioids like fentanyl (Beittel 2018).

Data

Theory

Seelke et. al (2015) contextualize that oil is widely available in Mexico as the 10th largest producer. At the same time, Beittel (2018) demonstrates that it is a widely lootable resource in Mexico – especially if the Los Zetas cartel is present in an oil zone or area with oil infrastructure. Competing cartel groups fight for control of territory, they seek funds to widely fund their illicit activities and expand their drug enterprise along with pay their employees. Natural resources such as oil grant cartels the capacity to do this as they weaken the capacity of political institutions to peacefully resolve conflicts (Le Billon 2001). Thus, making oil rents easier to extract for cartels who choose to do so. Furthermore, cartels range in size and scope and thus, oil may supplement the income of many cartel members for smaller time cartels such as la Familia Michoacán. As a result, the presence of oil may lead to more violence in a particular state or region within Mexico as cartels must extract their income from illicit activities. This raises the likelihood that cartels will fight for this illicit rent from oil at the same time that the Mexican state tries to protect its oil infrastructure – leading to conflict, danger and more homicides as government forces clash with cartel groups. Furthermore, Beittel (2018) elucidates the operational structure of Los Zetas cartel as a violent, rent-seeking, extortion and transaction like business model. Oil is plentiful and provides the los Zetas cartel with fungible rents to extract. Thus, I expect states with oil/gas fields & pipeline present accompanied with an operational presence of Los Zetas to experience more violence and homicides than a competing cartel who might extract oil rents but not run the enterprise with such ferocious violence – but rather an enterprise premised from the bribing of officials such as the Sinaloa cartel does. From these premises: I develop two hypotheses:

Hypothesis 1: States in Mexico where oil & gas fields/oil infrastructure is present – will have a

higher homicide rate in the presence of drug trafficking in comparison to other states in Mexico where no oil and gas fields/oil infrastructure are present with all other factors controlled for.

Hypothesis 2: The presence of Los Zetas cartel and oil/oil infrastructure will have a significant impact on the homicide rate in comparison to other cartels as Los Zetas is largely viewed as a transnational rent-seeking criminal enterprise that is heavily involved in racketeering, extortion, and fuel-theft that utilizes violence to achieve its ends.

Research Design

To test these hypotheses, I construct a data set consisting of all 32 Mexican states with data for all variables primarily coming from 2014 with a few variables ranging from data between 2013-2018 due to limitations in the data. Mexico is the prime nation to test these hypotheses because not only does it experience abnormally high homicide rates due to drug trafficking, it's also a key oil producing state as Mexico is the 10th largest producer of oil in the world (Seelke et. al 2015). Furthermore, neoliberal reforms and trade deals such as NAFTA have pushed the flow and distribution of drugs all the ways up to the U.S.-Mexico border making it ripe to increase the intensity of violence along the northern region as the dependence on open borders makes Mexico a vibrant location for transnational drug trafficking (Cottam et. al 2015).

Estimation Strategy

To estimate the effects of the regressors on the dependent variable homicide rate, I employ ordinary least squares (OLS) regression. All data come from the INEGI government ran website of Mexico unless otherwise noted. In order to explain the variation in homicide rates I construct the following model:

$$\begin{aligned} \text{Homicide Rates} = & \beta_0 + \beta_1 * \text{Northern Region} + \beta_2 * \text{Los Zetas Presence} + \beta_3 * \\ & \text{Oil Pipeline present \& or } \frac{\text{oil}}{\text{gas}} \text{ fields} + \beta_4 * (\text{Oil Pipeline present \& or } \frac{\text{oil}}{\text{gas}} \text{ fields} * \\ & \text{Los Zetas Presence}) + \beta_5 * \% \text{ Total Rural Population} + \beta_6 * \text{Avg Years Schooling Ages 15} \\ & \text{and above} + \beta_7 * \text{Log Criminal Incidence Rate} + \beta_8 * \% \text{ Informal Sector} + \beta_9 * \% \text{ Population in} \\ & \text{Extreme Poverty} + \beta_{10} * \# \text{ of Judges/100,000 People} + \mu_i \end{aligned}$$

Dependent Variable

I use the intentional homicide rate per 100,000 people from INEGI that is further compiled by a 3rd party source in an elucidated manner.³ The intentional homicide rate captures homicides that were deliberately carried out by actors – helping to account for the spike in homicides caused by the omnipresent distribution of illicit actors operating in Mexico.

Independent Variables

I control for the Northern region of Mexico by coding for all Mexican states whom share a border with the United States along with those states that are typically classified as being “Northern Mexico” (Baja California, Baja California Sur, Chihuahua, Coahuila de Zaragoza, Durango, Sinaloa, Sonora, Tamaulipas). The literature suggests that the Northern region is typically the most dangerous and violent of all regions in Mexico – especially states among the Mexico-U.S. border (Contreras 2014).

The control for Los Zetas presence is executed through coding 1 for all States in Mexico that contain an operational presence of the Los Zetas Cartel utilizing a map constructed by the

³ <https://elcristen/en/index.html>

DEA.⁴ This dummy variable is implemented with the hopes of capturing the interaction between Los Zetas presence and a State within Mexico in order to see if Los Zetas Cartel presence has a positive interaction on homicide rates.

Oil and other natural resources have been demonstrated to lead to an increased intensity of conflict and serve as a source of illicit rent to fuel illicit activities (Beitell 2018). This led me to control for the presence of oil pipeline & gas/oil fields. Using imagery from a map constructed by the Congressional Research Service in 2018, I coded for each state in Mexico that had either an oil pipeline running through it and or sat on the presence of major oil/gas fields. The image can be found in the appendix of this study.⁵

Los Zetas are known to be the most violent cartel operating in Mexico. Inherent in the operating structure of Los Zetas is an illicit rentier economy of fuel theft. Los Zetas are known to be relentless in their pursuit of illicit activities and have a name for themselves as the most violent of the violent (Beitell 2018). For this reason, I constructed an interaction term controlling for the presence of oil pipeline/major gas & oil fields * the presence of Los Zetas. If Los Zetas were active in a state within Mexico that has known oil pipeline and or gas/oil fields – that state was coded as 1, otherwise – 0. This control variable will enable insight determining whether if a spike in violence in an oil region or state with pipeline and or major oil/gas fields is caused solely by the presence of Los Zetas (known to undertake in oil theft) as opposed to other cartels whose primary modus operandi entails drug trafficking. A picture from the DEA utilized in a

⁴ See appendix B for the map constructed by the DEA

⁵ See Appendix A for a picture of the image of Mexican states with major oil/gas fields and oil pipeline.

Congressional Research Service report by Seelke et. al (2015) can be found in the appendix for Mexican states that have a presence of the Los Zetas cartel.⁶

Variables known to increase cartel and drug activity – leading to increased homicide rates

The more rural a particular region and or state, the greater the likelihood that such state and its citizens will participate in narco-trafficking in all forms of the trade. Therefore, I employ the variable % of rural population (2014) for each state in Mexico from the INEGI. The more rural the state, the greater the likelihood of violence and disillusionment of the populace due to harmful neoliberal reforms (Mercille 2014).

Besides accounting for the % of rurality in each state within Mexico, it's important to take into consideration the level of human capital and upward mobility that a particular people are afforded. The less upward social mobility available, the more violence and strife in a society will arise according to the literature. For instance, many Latin American countries consist of remote, rural territories plagued by high levels of informality, along with overwhelming and patriarchal forms of leadership. Some areas with lack of state control have emerged as centers of organized crime and transnational drug trafficking (Briscoe et. al 2015). Furthermore, albeit agriculture consists of less than 5% of Mexico's GDP – it employs nearly 1/7th of the work force, mostly consisting of small plots of land. Mexico has in turn lost more than 1 million farm families in the decade after the passage of NAFTA (Ross 2008). This demonstrates that the level of social mobility moving upwards is relatively low for the majority of Mexicans. Thus, I control for the average years of schooling ages 15 and over using 2017 data from the INEGI as a synonym to effectively capture upward social mobility. The more education one has,

⁶ See Appendix B for a picture of the image of States within Mexico that contain an operational presence of Los Zetas Cartel.

the more opportunities one can expect to have in life. On the opposite end, the less opportunities available to a polity, the more violence and crime is likely to be present. I expect this variable to capture just that.

It makes sense that the more criminal incidences occur in a particular state, the more the likelihood for there to be higher homicide rates. Crime also builds on impunity as the literature states. Impunity for officials and drug traffickers is the norm in Mexico and corruption is ripe. Meanwhile, bribery and corruption aid in the neutralization of government action against the DTOs, ensuring impunity and smooth operational success (Beittel 2018). Therefore, I take the log of criminal incidence rate for the year 2014 for every Mexican state from INEGI.

The informal sector can tell us a lot about the state of a country's economy as well as provide a measure of how many people are left out of the capitalist system due to restrictive elitist measures. The narco-economy is a profound informal economic industry permeating all aspects of society throughout Latin America (especially Mexico) – providing fierce means to make ends meet for populations often excluded by the formal legal economy due to neoliberalization (Corva 2008). For this reason – I take the % informal sector for each Mexican state for the year 2014 from INEGI.

Political analyst Denise Dresser stated that “The current strategy—based largely on the increased militarization of Mexico—ignores high-level government corruption that no one really wants to combat. It ignores a police force so weak, so ill trained, so underpaid and so infiltrated that good apples are spoiled by rotten ones. It ignores a concentrated, oligopolistic economic structure that thwarts growth and social mobility, forcing people across the border or into the drug trade in record numbers... it ignores the existence of a permanent subclass of 20 million

people who live on less than two dollars a day and view drug cultivation as a way out of extreme poverty” (Carpenter 2013). For these reasons as vividly stated by Dresser – I control for the % of population in extreme poverty for each Mexican state in 2014 with data coming from the INEGI.

The importance of a strong rule of law in protecting contracts, enforcing agreements, and carrying out justice is paramount for a society to function properly – both civically and economically. Meanwhile, narco-corruption allows for the supplementation of low government wages in highly unequal societies and is executed by lawyers, judges, police, and politicians alike (Corva 2008). Such illiberal governance has been more harmful than many of the drugs themselves but with exceptions. Elite consumers, bankers, and corrupt police forces have remained unharmed by such illiberal governance measures – and illicit economies could not operate without these four pivotal groups. Therefore, justice – remains a commodity to be exploited by those who can afford to purchase their freedom or hide from the state (Corva 2008). The laws and regulations directed at preventing corruption are severely weak. This weak law enforcement, especially at the local level – exacerbates complicit arrangements of corruption (Briscoe et. al 2015). Given these proclamations, I controlled for the number of judges per 100,000 people in utilizing data from 2013 from the INEGI website.

Results

Table 1
Descriptive Statistics

Variable	N	M	SD	Min	Max
Homicide Rate per 100,000 people	32	21.05	23.77	1.6	94.2

Northern Region	32	0.28	0.45	0	1
Los Zetas Presence	32	0.47	0.51	0	1
Oil Pipeline/Gas & Oil Fields Present	32	1	0.43	0	1
Oil Pipeline/Gas & Oil Fields Present and Los Zetas Presence	32	0	0.50	0	1
% total rural population	32	24.54	14.12	0.5	52.7
Avg years of schooling ages 15+	32	9.14	0.82	7.3	11.1
log criminal incidence rate	32	4.51	0.14	4.26	4.84
Informal Sector %	32	32.28	9.95	18.6	59.3
% of population in extreme Poverty	32	8.9	7.56	1.3	31.8
# of judges per 100,000 People 2013	32	3.25	1.50	1	9

The Dependent Variable visualized (Image 1)

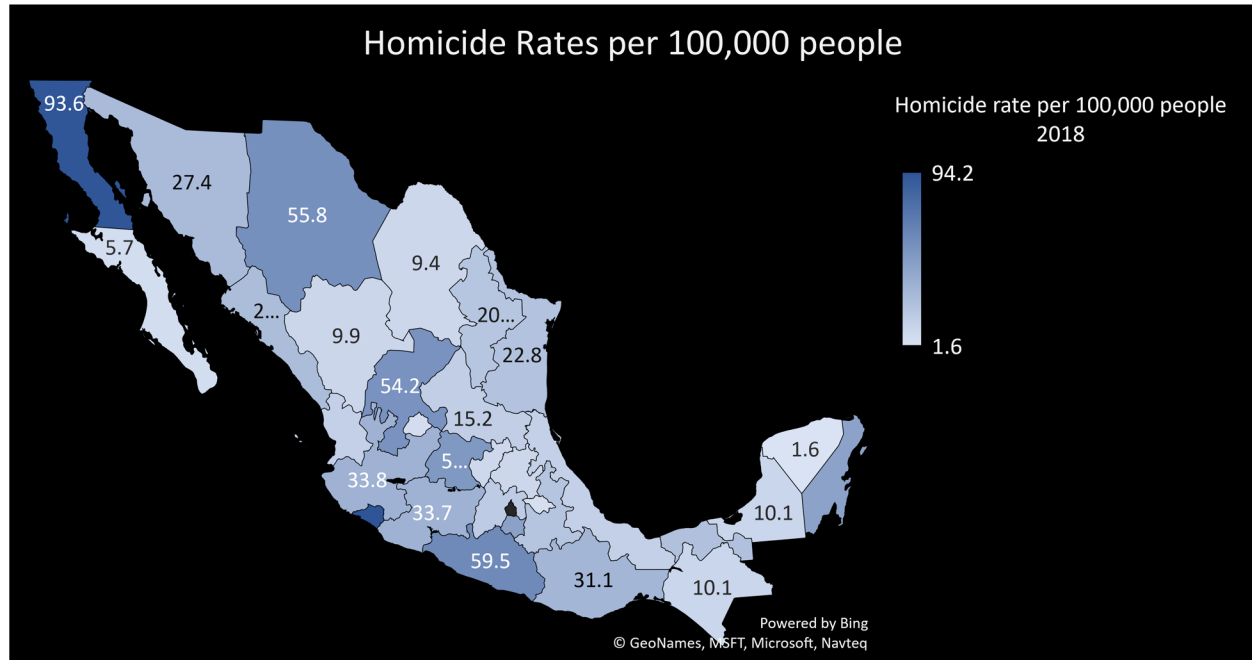


Table 2

Estimates of Homicide Rates

<i>Variable</i>	<i>B</i>	<i>SE</i>
Intercept	92.20	178.13
Northern Region	23.07	13.16*
Los Zetas Presence	13.58	17.62
Oil Pipeline/Gas & Oil Fields Present	-10.60	15.39
Oil Pipeline/Gas & Oil Fields Present and Los Zetas Presence	-19.35	19.41
% total rural population	-0.63	0.69
Avg years schooling for population aged 15+	-39.96	13.39***

log criminal incidence rate	75.77	40.01*
Informal sector %	-0.57	0.51
% of population in extreme Poverty	-1.58	1.13
# of judges per 100,000 people	3.16	2.75
Multiple R ²	0.64	
F Statistic	1.47	
P > F	0.22	
N	32	

$p^ < 10$. $p^{**} < 0.05$. $p^{***} < 0.01$.*

Over 64 % of the variation in homicide rates is explained by the results from the model and the dependent variable has significance as is demonstrated by the probability of F. In line with the findings of Contreras (2014), the control variable for the *northern region* of Mexico proved statistically significant at the 90% confidence level. This suggests that as the distribution of drugs flows farther away from its centroid, and enters into new markets, especially the U.S. market – prices for the drugs skyrocket – contributing to rising levels of violence as competing DTO groups battle for control of the lucrative border region.

The variable *Los Zetas Presence* if Los Zetas cartel was present within a particular State in Mexico outputted a positive coefficient of 13.58 suggesting that the presence of Los Zetas cartel, a cartel known for its violence, does have an upward impact on the homicide level. However, it is not statistically significant therefore the validity of the results is in question.

The control variable for *oil pipeline/gas & oil fields* present predicted opposite of what I expected. This variable was estimated negatively with a coefficient of -10.60 and not statistically significant. If statistically significant – this would have meant that oil pipeline/gas & oil fields actually decrease the level of homicides, and to a significant extent. This finding is in contrast to what Beittel (2018) finds in which oil and other natural resources significantly increase the intensity of conflict. Additionally, after controlling for states in Mexico that contain both *oil pipeline/gas & oil fields along with a Los Zetas cartel presence* in the state, this variable was predicted in the opposite manner of which I expected too with a negative coefficient of -19.35 and was not statistically significant. These results are concerning given that Los Zetas Cartel is known for its rentier extraction activities and violent modus operandi. This interaction should have made a positive impact on the homicide rate but the model demonstrated otherwise. Therefore, coming into conflict with what Beittel (2018) claims relating to the violent modus operandi of Los Zetas and their illicit rentier operating structure. Still, the results of the estimations of *oil pipeline/oil & gas fields* and *oil pipeline/oil & gas fields accompanied by Los Zetas presence* have proven both of my original hypothesis false. It appears that oil and oil/gas related rents are not a significant factor contributing to the preposterously high level of homicide rates in Mexico as attributed to the drug trade. However, this doesn't mean that natural resource conflicts don't have an impact on homicide rates as Lujala (2009) shows.

The % total rural population doesn't appear to impact homicide rates either as the model estimated this variable with a coefficient of -0.63 and was not statistically significant – going against the findings of Mercille (2014) which claim that the more rural a state/region, the greater the likelihood of violence and disillusionment of the populace. This suggests that

Mexican rurality and the peasantry aren't being coopted by narcotraffickers and that drug trafficking and its exceedingly high homicide rates in Mexico can be attributed to those who participate within the trade.

On the other hand, the control variable for human capital and social mobility (substituted by *average years schooling for population ages 15+*) proved highly statistically significant with 99% confidence. For every one-unit shift in the variable average years schooling for population ages 15+, homicide rates shift -39.96 units demonstrating that schooling plays a significant role in providing people with opportunity and contributes to decreasing levels of homicide in a significant manner. Perhaps more educational expenditures in Mexico's social infrastructure could prove useful in combatting the rising levels of violence.

The log of criminal incidence rates was statistically significant at the 90% confidence level with an estimated coefficient of 75.77. $75.77/100 = 0.7577$. Therefore, for every 1% increase in the log of criminal incidence rates, homicide rates increase by 0.7577 units. Although for every 1% increase in the log of criminal incidence rates, the shift in homicide rates might be negligible but as demonstrated if we have a 10% increase in the log of criminal incidence rates (which is not too far off to think could happen), the uptick in crime significantly pushes homicide rates to a higher level – as would be expected.

The % of people working in the informal sector did not prove statistically significant and had a coefficient of -0.57. This suggests that Mexican citizens are making the informal economy work for them – and are adapting to the lack of formal opportunities. It is also a positive sign for governmental authorities the fact that a large % of people working in the informal sector doesn't necessarily contribute to rising violence nor crime in the presence of narco-trafficking. This doesn't entail that the problem doesn't need to be addressed, however.

As Enamorado shows – the increase in rents extracted through crime is accompanied by an increase in employment opportunities in the illegal (informal) sector through the proliferation of DTOs in combination with a decrease in legal job opportunities along with a reduction in being caught – due to an increasingly strained law enforcement system. Therefore, criminal activity is a rational decision for a large group of people (2016).

The control for the % of population in extreme poverty was negatively signed and had a coefficient of -1.58. It was not statistically significant. This is the opposite of what I expected this variable to be as extreme poverty is a sign of rampant inequality which leads to violence and disillusionment of the populace which Carpenter (2013) vividly describes in articulating the thoughts of political analyst Denise Dresser.

Finally, after controlling for the # of judges per 100,000 people, the variable was not statistically significant but did have a positively signed coefficient of 3.16 entailing that the less judicial presence there is – the higher the amount of homicides and corruption there will be – in line with the findings of Corva (2008). A weak rule of law in Latin America and Mexico moreover, has been an omnipresent characteristic of the region and is a consequence of the civil law adapted by countries in the region that historically hold the executive sovereign while severely debilitating other critical branches of governance – such as the Judiciary and Congress.

Discussion and Conclusion

Overall, the multiple linear regression model above has demonstrated rather robust results in terms of explaining the variation in homicide rates. However, hypothesis 1 is rejected according to the model in favor of the alternative that *oil pipeline and oil & gas fields* do not

contribute to increased homicide rates nor violence in the presence of narco-trafficking in Mexico. The same conclusion can be made relating to hypothesis 2 upon interacting *oil pipeline and oil & gas fields with the presence of Los Zetas Cartel*. Ross's findings that there is strong evidence that resource wealth empowers the longevity of conflicts – leading them to last longer, and produce more casualties than would otherwise happen (2004) thus do not hold when applied to this model.

Lindo & Romo find that the capture of a drug-trafficking-organization leader in a municipality increases its homicide rate by 61% in the six months following the capture. This is consistent with the notion that the Kingpin strategy causes widespread destabilization throughout the organization (2018). However, the kingpin strategy alone is insufficient at explaining the levels of rising violence and is difficult to estimate due to oscillations in different time periods relating to kingpin removal. Meanwhile the public policies of forcible eradication by spraying chemical herbicides have adverse effects on the health of people and livestock along with impacting legal agricultural production. The banning and eradication of opium poppies are counterproductive if not preceded by the implementation of alternative development programs and crop substitution in order to maintain a way of life. Furthermore, eradication without compensation creates multiple risks and adverse effects: the expansion of predatory economies (especially human trafficking), prostitution, illegal trading of timber, protected species, antiques, weapons, and contraband. Such policies increase the poverty and underdevelopment of drug-producing countries and peoples – people already amongst the world's poorest (Chouvey et. al 2007). This area also merits further research for its potential in explaining the violence in Mexico as it changes the growing and distribution of drugs and directly impacts peoples' lives.

Large-scale efforts to combat drug trafficking have been spearheaded by Mexico's conservative National Action (PAN). The efforts cost around 9 billion USD annually, almost on par with the amount the government spends on social development (Dell 2015). Dell has found that there are 27 to 33 more drug trade-related homicides per 100,000 municipal inhabitants after a PAN mayor seizes office in a municipality than after a non-PAN mayor takes office (2015). The presence of a PAN (a Mexican conservative party) may very well prove a robust estimate and it garners further merit. Still, it fails to account for other factors that might contribute to rising homicides like region and cartel control structure. Nor did his study take into account the influence of neighboring municipalities either and the impact that a neighboring municipality might have on others due to violence spillover.

The media and the entertainment industries share the same goals as the corporate sector: steady profits, maximizing market share at home and globally, promoting free-market and consumption values, and opposing income redistributive measures targeting the lower echelons of society. The celebration of gun culture and violence, along with a focus on tough and militaristic approaches to drugs, corruption, and negative depictions of Mexicans are themes in highly popular tv series and movies such as *Fast & Furious*, *Weeds*, *Breaking Bad*, and *CIS: Miami*. These themes correspond innately to the views demonstrated by the U.S. government and mainstream media commentary which helps to legitimize such ideologies and interests (Mercille 2014). To my knowledge, there are no studies to date that have looked at the role of American media and its violent narco culture portrayal in Mexico at a state or even municipal level and its impact on homicide rates. This opportunity is worth exploring for scholars conducting future research on the determinants of violence within Mexico.

While being in opposition to the culture of the state and strongly regional in nature, narco culture combines elements of a pop culture giving primacy to organized crime in Mexico with the definition of a region. The descension of the nation state and the erosion of the social contract that the state historically uses to justify its existence – gives rise to other systems that stand as representatives and organizers of the communities in question. The Caudillo constructs a parallel state, enabling the community to live its own history while replacing the nation-state with a popular political organization that operates in its own place (Morales 2014). Examining the drug war as a bunch of competing caudillos operating at the state and or municipal level controlling their own regions might bring new insight into the conflict. It might also prove useful for understanding the context historically and where it stands in Mexican history in terms of earlier caudillos dating back to the 18th, 19th, and 20th centuries.

The parallels between Colombia and Mexico are significant. Both are marked by remarkably high murder rates, weak and ineffective judicial institutions, large amounts of territory considered ungovernable and U.S. policy has been the same towards each. The U.S. has emphasized a militarized solution to drug trafficking in each state with an emphasis on state-building and socioeconomic development that almost never comes to fruition (Commins 2013). One area of concern is the discrepancies present in the military and law enforcement strategies promoted by Mexico compared to the social and economic development programs in Central America. The militarized war on drugs has without a doubt – took its toll on Mexico and its citizens. After arguing for a paradigm shift, the UNODC has proposed that transnational organized crime is driven by market forces and that countermeasures must disrupt those markets, not just the criminal groups that exploit these lucrative illicit markets. A reframing of the issue allows for the true source of the problem to come to fruition, that regional dynamics and weak

state institutions are primary forces driving the rise of Mexican DTOs (Carpenter 2013). Sadly, however, the war on drugs served as a replacement for the containment of communism as the principal mission of hemispheric security at the end of the Cold War. More profoundly, since 9/11 – the drug war and 9/11 have been used to reinforce each other. It comes as no surprise then that the Colombian military is now being used to train U.S. sponsored Afghan anti-narcotics police units (Corva 2008). Ever since, DTOs have made a mockery of the Westphalian system by empowering criminal, non-state actors in powerful ways (Marcella 2013). This newly seen violence in Mexico could therefore just be the new norm and the consequence of exogenous geopolitical actions taken by stronger nations (the United States).

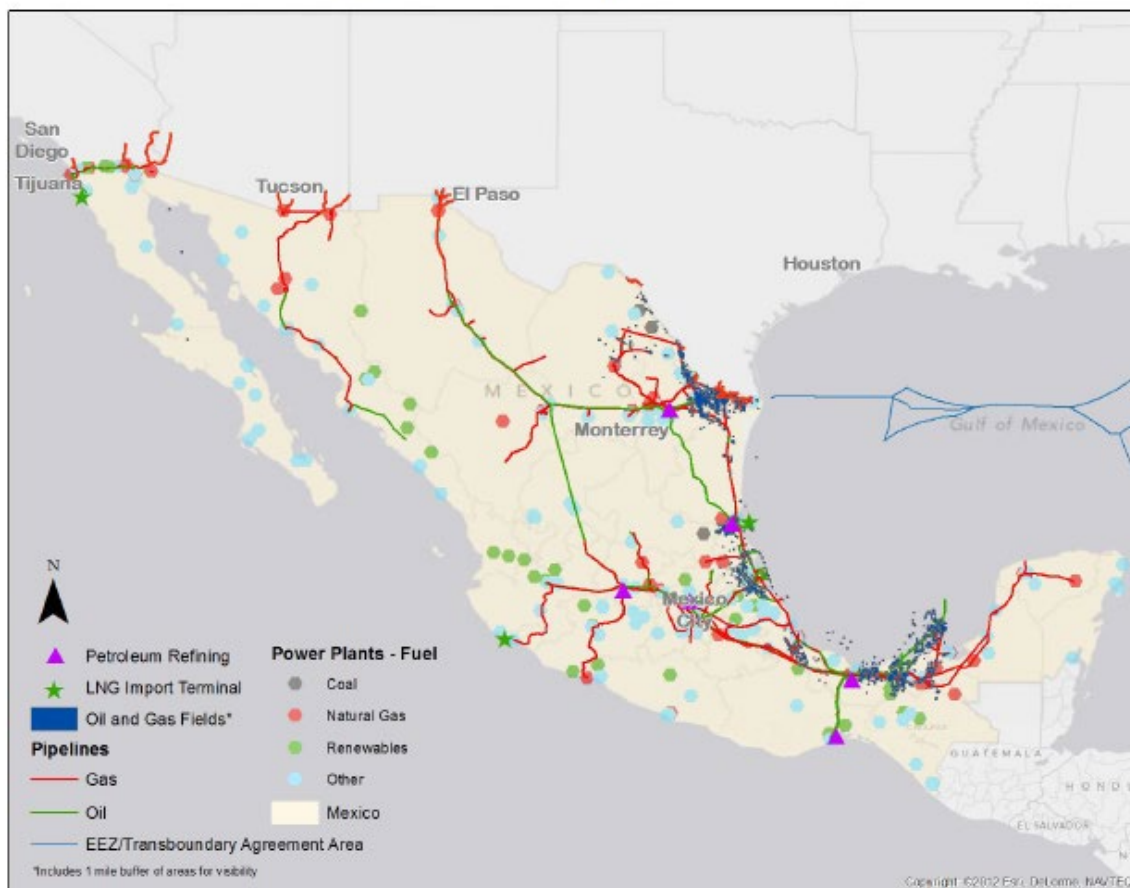
One thing can be certain – the American experience with the drug war attempting to reduce criminal violence through a criminal justice-based assault on drugs has not only been ineffective at addressing violence, but has actually strengthened the problem (Cheatwood 1995). Drugs will come into poor, urban, displaced communities through the streets and avenues in their home country. Once the consumer base exists, the forces driving such illicit economy and business are so influential, they counter any police attempts at control. Therefore, serious violence is expected as competing organizations fight for control of the illicit market. Any attempt to reestablish societal control which disrupts this illicit market without changing the conditions of displacement or powerlessness of the consumer population must lead to an uptick in violence levels. A drug war would destabilize such markets and open them up the most aggressive, intelligent, daring, and violent entrepreneurs the world has ever witnessed (Cheatwood 1995). To the detriment of the people, these entrepreneurs are now flourishing.

If the presence of oil pipeline/oil & gas fields does not contribute to increased violence & homicides within Mexico – than what does? As the model has shown in this study – the

amount of crime is a highly significant variable along with controlling for the Northern region of Mexico which escalates conflict as DTOs battle for the lucrative U.S. market. Future research should be conducted on drug trafficking solely within Mexico to help explain why homicide rates since 2006 have continually escalated year after year. Although recent, these alarming developments deserve further merit and research. If oil and natural resources aren't contributing to the intensity of the conflict than there are socioeconomic factors rippling throughout Mexican society that are escalating the level of violence that are still unaccounted for.

Appendix A

Figure 3. Mexico Energy Infrastructure



Source: Compiled by CRS using data from IHS, Platts, and Esri. Date: September 2013.

Appendix B



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