Border Fences and the Mexican Drug War [*]

Benjamin Laughlin[†]

March 2019

For the most recent version of this paper, click here.

Abstract

Border security is rapidly expanding globally as states build fences and walls to deter migration and smuggling. How do these barriers affect the behavior of criminal organizations that engage in illegal cross-border activities? I provide evidence from the US-Mexico border, where 649 miles of fencing were built between 2007 and 2011. I theorize that the border fence creates a shock to the value of nearby territory for drug traffickers by increasing the difficulty of cross-border smuggling from some areas in Mexico, but not others. I argue that the shock of the border fence undermines agreements that previously reduced conflict. This leads drug cartels to violently compete over territory with valuable alternate smuggling routes. I use novel fine-grained data on violence from death certificates, engineering maps of the border fence, and a difference in differences research design to show that construction of the border fence did not increase violence in Mexican localities near the border fence, but caused over 1,000 deaths in localities that provided access to alternate smuggling routes into the US. This project contributes to our understanding of the microfoundations of violent conflict between criminal organizations and international sources of violence by non-state actors.

[†]Postdoctoral Fellow, Perry World House, University of Pennsylvania, e: benlaugh@upenn.edu, w: benjamin-laughlin.com

"We're going to build a wall and it's going to be a great wall. And Mexico is going to pay for the wall; we're going to stop those drugs from pouring in and poisoning our youth."

—Donald Trump

1   Introduction

Border walls and fences are being constructed around the world at an accelerating pace, as states seek to protect against security threats, real or imagined, and deter migration and smuggling (Rosière and Jones, 2012; Hassner and Wittenberg, 2015; Vallet, 2016; Carter and Poast, 2017). Of the 51 international boundaries along which walls or fences were built since 1945, half of these border fortifications were constructed since 2000 (Hassner and Wittenberg, 2015). The image of thousands of people tearing down the Berlin Wall with hammers and chisels is one of the most iconic images of end of the Cold War. In contrast, some of the starkest images of the early twenty-first century include massive walls along the United States' southern border, Israel's security barrier in the West Bank, and barbed wire to prevent refugee flows across Europe. In the United States alone, the administration's most recent budget request asks for $23 billion for enhanced border security, $18 billion of which would go toward construction of a wall along the US-Mexico border.[1] Despite the accelerating pace of border wall construction and proposals for more and larger walls, relatively little is known about the consequences of these barriers.

In this paper, I study how border fortifications affect the incentives and behavior of criminal organizations. While a few recent border security projects have been motivated by security concerns (Vallet, 2016), a primary aim of most border fortifications is to prevent smuggling (Sorrensen, 2014). A growing literature examines why states build border walls (Rosière and Jones, 2012; Jones, 2012; Hassner

---

[1]See https://www.reuters.com/article/us-usa-budget-mulvaney/trump-budget-asks-more-than-200-billion-for-infrastructure-border-security-budget-director-idUSKBN1FW03N.

and Wittenberg, 2015; Simmons, 2016; Simmons and Kenwick, 2018). However much less is understood about the repercussions of this security infrastructure. If effective, border walls and fences change the incentives of criminal organizations involved in the lucrative smuggling of migrants and drugs by making crossing the border more difficult (Hassner and Wittenberg, 2015). As smugglers are forced to adapt to changing border security, criminals will compete, potentially violently, for control over increasingly scarce smuggling routes.

I examine this question in the case of the US-Mexico border, where the US government built 649 miles of fencing between 2007 and 2011 (Borkowski, Fisher and Kostelnik, 2011). While the fence was being built, the drug war in Mexico escalated, reaching a peak of over 25,000 homicides in 2011, as drug cartels fought to control territory (Beittel, 2015). The most conspicuous spikes in violence occurred in regions of Mexico near the US border, where territory is especially valuable for its smuggling routes into the US. Border security changes the difficulty of smuggling from nearby territory, lowering the value of territory where walls and fences make smuggling more difficult and increasing the value of territory that accesses alternate smuggling routes. Intended to deter migrants and smugglers, border walls and fences have the potential to cause cartels to fight over territory as they adapt to changing incentives.[2] This contributes an additional explanation to a the large literature on causes of drug war violence in Mexico (e.g., Dube, Dube and García-Ponce, 2013; Castillo, Mejía and Restrepo, 2014; Dell, 2015; Calderón et al., 2015; Trejo and Ley, 2018). Moreover, the construction of the fence on the US-Mexico border provides an opportunity to investigate whether criminal organizations fight to control territory when the expected future value increases.

I argue that the border fence restricts drug smuggling routes, which increases the value of alternate routes that circumvent the border fence. As a result of this change in the value of territory, competing drug cartels fight for control over territory that provides access to alternate smuggling routes, which leads to a spike

---

[2]There is evidence that non-state actors compete to control valuable territory in a variety of other contexts as well (see, e.g., Klein, 1997; Sanchez de la Sierra, forthcoming).

in fatal violence. Over time, a new equilibrium is reached as cartels settle on an arrangement over territory sharing, and fatal homicides will subside.

To test this theory, I use novel fine-grained data on violence from death certificates, engineering maps of the border fence and a difference in differences research design. I show that construction of the fence caused over 1,000 deaths in Mexican localities that are near the US border. The entire increase in violence is due to escalation of violence in border areas where smuggling routes were not blocked by the new border fence—territories that became relatively more valuable for smuggling. I show that these results are not driven by changes in law enforcement, including captures of cartel leaders, seizures of drugs, assets, or guns, state violence, or arrests.

This contributes to our understanding of the conditions under which non-state actors violently compete to control territory. It also provides evidence of the potential for serious unintended consequences of border security policy (Sviatschi, 2017, 2018). Current proposals to build a new wall on the US-Mexico border make understanding all potential effects of border security vital.

The paper proceeds as follows. The next section provides more information on the context of the US-Mexico border and the drug war in Mexico. Section 3 develops a theory of fighting for territorial control by drug cartels and contrasts it with other explanations for the Mexican drug war. Section 4 explains the data and section 5 outlines the empirical strategy used to find the effect of the border wall construction on drug cartel violence. Section 6 overviews the results and, finally, section 7 concludes.

2   Context

The fortification of the US-Mexico border has a recent history. While the oldest section of the wall was built in San Diego in 1962, by 1990 only 4.3 miles of the current wall had been built. Border security construction had been haphazard and plans were often proposed and never implemented. That changed after

the passage of the Secure Fence Act of 2006, which led to the largest expansion of border security infrastructure in US history, requiring the US Department of Homeland Security (DHS) to construct double layered fencing along 850 miles of the US-Mexico border in five specific areas. At the time the primary motivation was to reduce illegal immigration from Mexico, but President Bush presented reduce drug smuggling as a secondary goal of the border fence (Bush, 2006). By the time funding was appropriated a year later the initial requirement of double layer fencing had been dropped, the mandated length was reduced to 700 miles, and the Secretary of Homeland Security was given authority to use his discretion as to the type and location of fencing. Initial plans for the fence were quickly stymied by environmental lawsuits, numerous landowners on the border refusing to sell their land, and multiple tracts of land for which the owner could not be determined. In spite of these initial difficulties, the Secure Fence Act resulted in the construction 649 miles of border fence between 2007 and 2011 (Borkowski, Fisher and Kostelnik, 2011).

Shortly after construction of the border fence began, in late 2007, the intensity of the Mexican drug war began increased dramatically, reaching a peak of over $25,000$ homicides in 2011 (see figure 1). The escalation of the drug war had numerous causes. Most research has focused on analyzing political (Snyder and Duran-Martinez, 2009; Rios Contreras, 2013; Zachary and Spaniel, 2018; Dell, 2015; Trejo and Ley, 2018) or law enforcement causes of violence within Mexico (Calderón et al., 2015; Dell, 2015; Phillips, 2015; Osorio, 2015). In spite of the consensus that Mexican politics and law enforcement played a role in the explosion of drug violence in this period, there is room for additional explanation. The spike in violence after 2007 is especially pronounced in areas of Mexico near the US border (see figure 2), lending plausibility to the idea that competition over smuggling routes could be part of the reason for the violence.

Beyond purely domestic explanations for violence in Mexico, some authors have pointed to the potential for policy changes across the border to cause violence in Mexico. For example, Dube, Dube and García-Ponce (2013) show that in
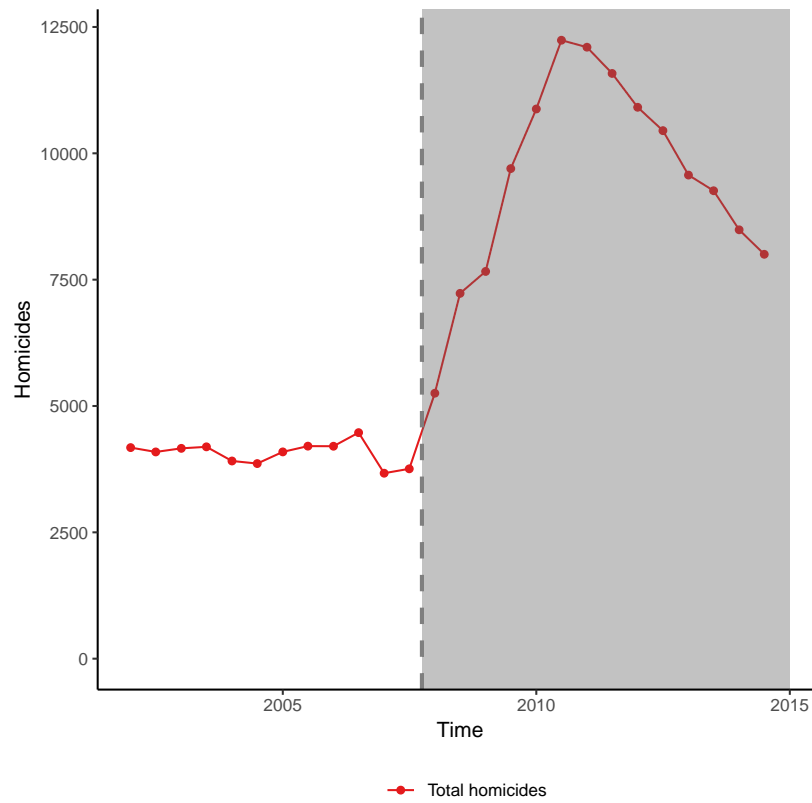
4

Figure 1: Aggregate fatal violence in Mexico increased dramatically after the US began building a border fence.

an earlier period increased ease of smuggling weapons from the US caused violence in Mexico and Castillo, Mejía and Restrepo (2014) shows that law enforcement against traffickers in Colombia caused violence in Mexico. Did the construction of the border fence similarly cause cartel violence in Mexico from across the border?

Qualitative evidence supports the idea that construction of the border fence changed the behavior of drug cartels by making it more difficult to smuggle drugs across the border. A large segment of the border fence was built on the border in El Paso, Texas. Once the fence was built in El Paso, traffickers in neighboring Juarez had more difficulty smuggling drugs across the border. Juarez municipal president Armando Cabada told Reuters that when the fence was built "the narco traffickers had to battle much harder to cross their drugs into the United States."[3]

Substantial evidence exists that drug cartels in Mexico respond to increased difficulties smuggling by switching to alternate routes and that this causes violence. For example, Dell (2015) shows that law enforcement within Mexico caused violence to shift to areas with alternate trafficking routes.[4] Juarez's public prosecutor, Jorge Arnaldo Nava López, blames the El Paso fencing for contributing to a sharp uptick in crime, which has been particularly acute where the barrier ends near Guadalupe municipality. "It has fostered a displacement towards the villages on the outskirts of Ciudad Juarez," says Nava.[5]

3   Theory

How does increased border security affect lethal violence in Mexico? I argue that border fencing acts as a shock to the value of territory in the border region by increasing the difficulty of cross-border smuggling in some places but not others. This change in the usefulness of territory undermines agreements between cartels

---

[3]See https://www.reuters.com/article/us-usa-trump-mexico/behind-fence-mexicos-notorious-juarez-is-wary-of-trumps-wall-idUSKBN14O14N.

[4]Similarly, Kronick (2018) argues that a law enforcement crackdown on drug traffickers in Colombia caused a shift to alternate routes through Venezuela.

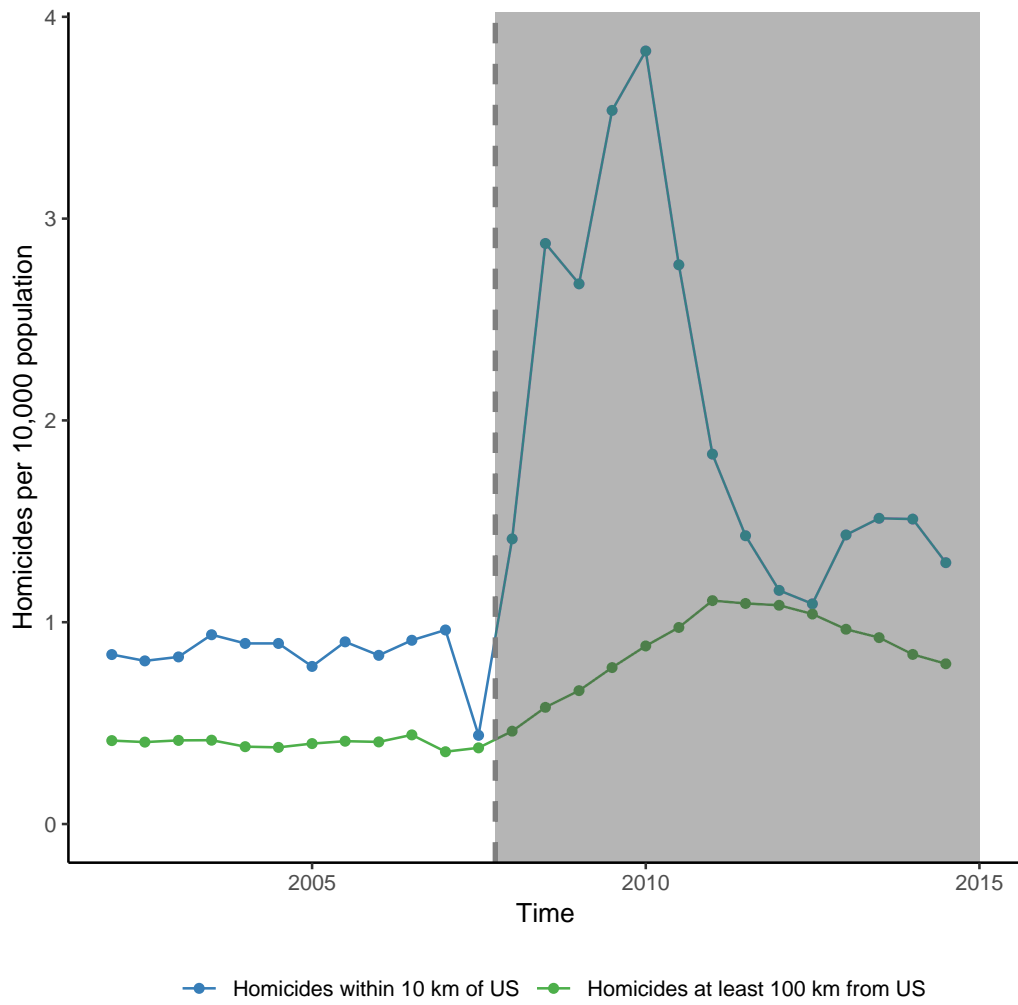[5]See http://www.reuters.com/article/us-usa-trump-mexico-idUSKBN14O14N.

Figure 2: US border fence construction coincided with a much larger increase in homicides in regions of Mexico near the US than in areas far from the border.

that had previously reduced conflict, leading cartel groups to fight for the newly valuable smuggling routes. While cartels will eventually reach a new set of agreements over how to do business, such an adjustment will involve violence.

The first step of the argument is to establish that border walls affect the difficulty of drug smuggling. Superficially, this runs contrary to popular opinion, which often views border walls either as impenetrable barriers or as having no effect and literature that emphasizes the ease by which immigrants, refugees, smugglers, insurgents, and terrorists can cross borders (e.g., Greenhill, 2002; Cornelius and Salehyan, 2007; Salehyan, 2008*a,b*). However, these views are compatible. Researchers have found that the reason borders are permeable is because people can find alternative routes (Getmansky, Grossman and Wright, 2018). The theory here exploits this very mechanism to identify the changing value of territory providing access to cross-border smuggling routes. Walls and fences may not completely deter determined smugglers from crossing the border, but by making it more difficult to cross, they lead traffickers to consider alternate routes that circumvent barriers (Hassner and Wittenberg, 2015). Border security does nothing to reduce demand for drugs from within the US, so profit motivated traffickers have strong incentives to find ways to continue to move drugs across the border. This is clear from the periodic discovery of tunnels and drones used to smuggle drugs into the US. This logic is not limited to such newsworthy smuggling routes; border fences also incentivize traffickers to smuggle drugs over and around border fences and through official ports of entry. Rather than being merely symbolic or completely eliminating smuggling, border fortifications increase the cost of smuggling along routes where they are built and traffickers adapt by seeking easier smuggling routes. Consistent with this, recent work shows that border fortifications displaced migration and smuggling to alternate routes (Getmansky, Grossman and Wright, 2018; Braithwaite and Ghosn, 2018).

This change in value of different smuggling routes has two main consequences. First, it disrupts existing agreements between cartels. Osorno (2009, p. 238) recounts that the drug trafficker Miguel Ángel Félix Gallardo favored the saying

"better a bad deal than a good fight."[6] Even in the absence of access to legal institutions, competing criminals often find ways to reduce violent conflict (Durán-Martínez, 2015, p. 1378). In Mexico, rival drug trafficking organizations coexisted for decades without resorting to large-scale violent confrontations (Osorio, 2015, p. 1404). This is not surprising. Powerful profit motives encourage competing groups to resolve disputes nonviolently if possible (Fearon, 1995). Maintaining agreements over territory becomes more difficult when the value of smuggling routes accessible from the territory suddenly changes. The border fence acts as an economic shock and creates incentives to capture valuable territory from rival cartels.[7] Non-state actors reaching agreements about territorial control and fighting when those agreements break down has been documented in the context of organized crime (Klein, 1997; Gambetta, 1996; Okrent, 2011, 7) and insurgent groups (Mampilly, 2011; Staniland, 2012).

Second, drug cartels will fight for the newly valuable territory. An important theoretical literature expects powerful individuals or organizations to seek to control territory when expectations of future revenue from that territory are high (Olson, 1993; Skaperdas, 2002; Acemoglu and Robinson, 2005; Konrad and Skaperdas, 2012). Recent work provides evidence that attempts to control territory by states (Caselli, Morelli and Rohner, 2015) and insurgent groups (Sanchez de la Sierra, forthcoming) are driven by changes in the economic value of territory. Territory in Mexico along the border with the US is valuable to drug cartels because it provides access to cross-border smuggling routes. Construction of the border fence causes a negative shock to the value of territory near the new border fence by making smuggling more difficult in these areas. At the same time, fencing increases the value of controlling other territories near the border that provide access to alternate smuggling routes. The increase in potential profits from controlling alternative smuggling routes can increase violence as drug cartels fight for control.[8] This

---

[6]Félix Gallardo reportedly arranged a meeting of cartel leaders at which territory was divided by agreement (Osorno, 2009, p. 239).

[7]This is similar to theories of collusion between firms, which can also break down due to market shocks. Firms, however, do not usually engage in violence in response.

[8]Changes in revenue to non-state actors has been shown to affect the production of violence in

is consistent with evidence that greater contested profits cause violence (Kronick, 2018).[9]

Taken together, this theory of the breakdown of cartel agreements due to border security has several empirical implications. First, lethal violence is expected to decrease in areas where the border fence is built, territory from which smuggling becomes more difficult. Second, violence is expected to increase in areas near the US border where border fencing was not constructed, areas that provide access to alternate smuggling routes. Third, I expect an overall increase in violence, accounting for both the areas where smuggling is more difficult due to the border fence and territory providing access to alternate smuggling routes. Fighting between cartels for access to valuable smuggling routes is not expected to persist indefinitely. The construction of the border fence is a transitory shock and cartels can achieve greater profits if they reach new agreements for control over territory. For this reason, I hypothesize that, after increasing, violent conflict between cartels will fall over time.

4   Data on Drug War Violence and Construction of the Border Fence

To estimate the effect of the construction of the border fence on violence in Mexico, I combine geocoded data on the location of the border fence, both before and after the Secure Fence Act, with geographically fine-grained data on lethal violence. I overlay the map of the fence, released through a Freedom of Information Act (FIOA) lawsuit and coded from satellite imagery, with the locations of localities in

---

numerous other contexts (Berman et al., 2011; Dube and Vargas, 2013; Wright, 2016).

[9]The effect of economic shocks on rebellion by groups seeking to capture the state and its revenue is conceptually similar. However, the large literature on whether economic shocks affect the onset of civil war has mixed results. Some authors find a higher chance of rebellion when the value that could be expropriated is higher (Collier and Hoeffler, 1998; Fearon, 2005; Besley and Persson, 2008, e.g.,). Others find that there is less rebellion when economics shocks increase the value that can be captured by rebelling (Miguel, Satyanath and Sergenti, 2004; Brückner and Ciccone, 2010; Nielsen et al., 2011; Bazzi and Blattman, 2014).

Mexico to identify which territories in Mexico the border fence may have affected directly by increasing the difficulty of cross-border smuggling. In order to leverage the geographic detail of the maps of the border fence, I use death certificates to compile a locality-level count of lethal violence over a fourteen year period. The combined locality-month panel dataset contains over 200,000 localities between 2002 and 2014.

Maps of the location of the border fence produced by Michael Baker Jr., Inc, the engineering firm that planned and managed the construction of the fence, were obtained through a Freedom of Information Act (FIOA) lawsuit against the US Department of Homeland Security, US Customs and Border Protection, and the US Army Corps of Engineers and provided by the plaintiffs.[10] These maps show where the fence authorized by the Secure Fence Act was constructed, but do not indicate whether the fence replaced a prior border fence in the same location or if it was built in a location that never had a border fence. A newly constructed fence and a replaced existing fence are expected to affect smuggling routes and violence differently, so satellite imagery from 2006, the year before construction began, was used to code border fence that existed before the SFA. Figure 3 shows the path of the fence constructed along the California, Arizona, and New Mexico borders. Fencing constructed along the Texas border faced significant delays and only a small amount was actually constructed. Because of uncertainty about when different portions of the small border fence in Texas was constructed, I exclude areas of Mexico near Texas from the analysis.

To measure drug war violence I use data from death certificates for more than $200,000$ localities in Mexico. Previous studies of the Mexican drug war generally use data on violence at the municipality-level. However, only 39 municipalities are adjacent to the US border and, because of the large size of Mexican municipalities, the construction of the border fence may have different impacts on different parts of the same municipality. For the much smaller localities, I can more confidently attribute changes in violence to nearby changes in border fencing. The Na-

---

[10]Gilman v. US Department of Homeland Security, No. 1:09-CV-00468 (D.D.C.)

Figure 3: Border Fencing Built under the Secure Fence Act
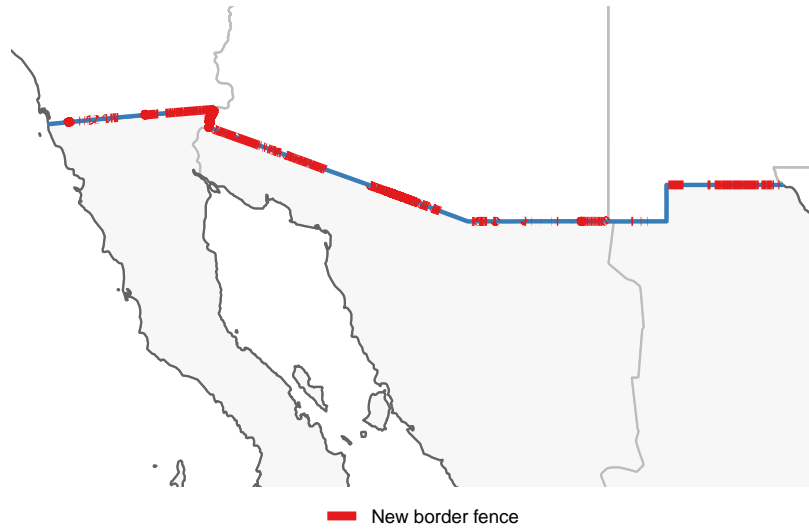
New border fence

The locations of the 649 miles of new border fencing built in California, Arizona, and New Mexico between 2007 and 2011 under the Secure Fence Act.

tional Institute of Statistics and Geography has made available mortality microdata from death certificates issued by the Ministry of Health. This shows homicides in Mexico by locality—cities, towns, or villages—the smallest territorial unit in Mexico. Homicides related to drug trafficking organizations are not distinguished from other homicides, but drug related violence accounted for the vast majority of homicides in Mexico during this period.

Locality characteristics are compiled from a variety of sources. Locality-level population figures are from the 2005 census. Data on the local presence of drug cartels are from Coscia and Rios (2012), who machine code mentions of drug cartel activity from newspapers. Dell (2015) provided data on municipal elections. Data on law enforcement operations were automatically coded from Mexican newspapers by Osorio (2015) and data on beheading of drug cartels is from Calderón et al. (2015).

Table 1 compares the pre-treatment characteristics of localities within 10km of the US border where the border fence was built and where it was not built. The

Table 1: Characteristics of Localities Near the US Border

Statistic	N	Mean	St. Dev.	Min	Max
New Fence					
Population 2005	897	108.450	1,071.428	0	22,007
Mean educational attainment 2005	897	8.847	0.651	6.440	9.230
Literacy rate 2005	897	98.665	0.577	97.000	99.600
Human development index 2005	897	0.811	0.008	0.783	0.820
Running water 2005	897	0.936	0.059	0.772	0.979
Sewer 2005	897	0.880	0.027	0.778	0.972
Electricity 2005	897	0.967	0.021	0.913	0.986
Urban	897	0.008	0.088	0	1
Criminal charges per 1000 pop. 2005	897	7.638	2.650	1.831	20.216
Gun charges percent 2005	897	13.482	4.364	2.890	30.556
Drug charges percent 2005	897	14.192	5.707	4.818	35.857
Number of cartels 2005	897	1.847	0.692	0	3
PAN mayor 2005	897	0.061	0.240	0	1
PRI mayor 2005	897	0.939	0.240	0	1
PRD mayor 2005	897	0.000	0.000	0	0
No New Fence					
Population 2005	1,144	2,142.095	43,242.800	0	1,286,187
Mean educational attainment 2005	1,144	8.241	0.557	6.290	9.230
Literacy rate 2005	1,144	98.268	0.840	97.000	99.600
Human development index 2005	1,144	0.805	0.008	0.783	0.820
Running water 2005	1,144	0.901	0.079	0.772	0.979
Sewer 2005	1,144	0.901	0.048	0.782	0.972
Electricity 2005	1,144	0.942	0.023	0.911	0.986
Urban	1,144	0.010	0.098	0	1
Criminal charges per 1000 pop. 2005	1,144	7.983	3.819	0.731	20.216
Gun charges percent 2005	1,144	11.578	6.667	0.000	30.556
Drug charges percent 2005	1,144	16.848	9.695	4.818	35.857
Number of cartels 2005	1,144	1.568	1.096	0	3
PAN mayor 2005	1,144	0.343	0.475	0	1
PRI mayor 2005	1,144	0.657	0.475	0	1
PRD mayor 2005	1,144	0.005	0.072	0	1

most notable difference is that the fence was more likely to be built near localities with lower populations.

5   Estimation Strategy

In order to assess the effect of the construction of the border fence on violence in the Mexican drug war, I employ a difference in differences design to compare changes in violence in localities affected by construction of the border fence to changes in violence in localities not directly affected by the border fence. I estimate this difference in differences using a panel model with locality (α_i) and year (δ_t) fixed effects, and an indicator (D_{it}) for whether a locality is in the treatment group in a given time period. The theory presented in section 3 implies that the effect of the border fence will depend on how much time has passed since the fencing was built. I expect an initial increase in violence in localities that access alternate smuggling routes, that will decline over time as cartels make new agreements. To evaluate whether the impact of the border fence varies over time, I separately estimate the effects of the border fence on lethal violence for each of the 14 time periods after construction of the border fence began.

$$y_{it} = \alpha_i + \delta_t + \sum_{t=13}^{26} \beta_t D_{it} + \varepsilon_{it} \tag{1}$$

Locality fixed effects will remove the effects of time-invariant characteristics correlated with homicide rates and treatment status. Time fixed effects remove trends in violence common to all localities. I evaluate changes in two different measures of lethal violence as dependent variables: the logged number of homicides in a locality in a given time period and the number of homicides per 10,000 people residing in a locality in 2005.

To consider both the direct effect of the border fence on violence in areas where fencing is constructed and the indirect effect on violence in areas near alternate smuggling routes, I estimate results using two different treatment groups. The first

treatment group consists of localities near a newly constructed border fence and the second treatment group consists of localities that provide access to alternate cross-border routes—localities near the US border but not near a newly constructed border fence. These treatment indicators indicate whether or not a shortest-path smuggling route from a locality near the border into the US is blocked by a newly constructed border fence. A locality near the US border is coded as directly affected by the border fence if a straight line from the locality reaching 5 km into the US[11] passes through a border fence. Actual smuggling routes are unobservable and unlikely to consist of straight lines, but I choose this measure of proximity to the border fence conservatively in order to minimize assumptions underlying the results. For localities near the US border, blocking the most direct route into the US with a fence will increase the travel distance and therefore the costs of smuggling from that locality. Due to the high density of localities, alternative smuggling routes would involve travel through other localities where the best path into the US is not blocked by a border fence. [12] The locations of localities near the border fence and localities that access alternate smuggling routes are shown in figure 4.

The set of localities potentially affected by construction of the border fence is conservatively restricted to localities within 10 km of the border with California, Arizona, and New Mexico. Localities very close to the US border are likely to be the most valuable for smuggling, as smugglers must cross these areas to reach the US. It is less clear how small changes in the border fence might affect smuggling from localities farther from the border. Localities near the Texas border are not considered for three reasons. First, less than 15 km of the SFA fence was constructed along the Texas border because the Rio Grande provides a natural barrier. These localities are a poor comparison group because DHS's strategic decision not to build a border fence in these areas indicates differences that might affect trends. Second, it is

---

[11]The nearest point 5km within the US is chosen because the border fence is sometimes over a kilometer into the US.

[12]An alternative used by Dell (2015) is to calculate optimal smuggling routes on road networks. This is not possible in this context because the type of drug smuggling potentially blocked by a border wall is not along roads, which cross the border only at official ports of entry.

Figure 4: Localities Affected by the Border Fence

Localities   •   Near alternate route   •   Near new fence
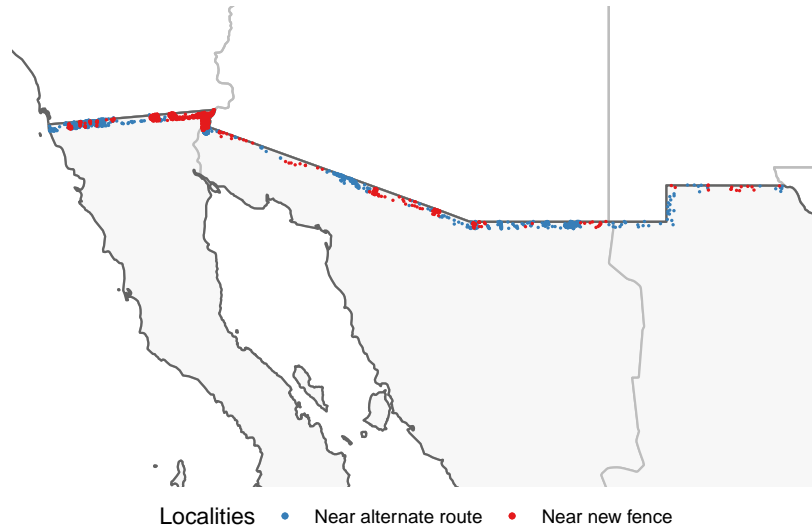
Localities within 10 km of the US border that have a border fence built near them
or provided access to alternate smuggling routes.

unclear from the data DHS has released exactly when different segments of border
fencing in Texas were built, which is necessary to code the treatment indicators.
This is because the border fence that was built in Texas was delayed by cost over-
runs and lawsuits, causing fence construction in some parts of Texas to not even
begin until 2013. Third, because of the huge distance, the Texas border would be
an unlikely location to displace smuggling routes from localities near California,
Arizona, and New Mexico. Nearer areas where no new border fence was built are
likely to be better alternative smuggling routes.

The unit of analysis is the locality-half-year from the beginning of 2002 to the
end of 2014. A geographically fine-grained unit of analysis is important because the
border fence is made up of many, often small, unconnected segments, so larger geo-
graphic units are partially treated. Municipalities, the administrative unit above lo-
calities, have areas along their borders with the US where fencing was constructed
as well as areas without new border fencing. I code the treatment period as be-
ginning September 30, 2007, the first date the Government Accounting Office lists

any construction progress on the border fence.[13]

I hypothesize that the border fence will affect violence where it is built, as well as violence in border areas where no fence is built because these regions provide alternative, more valuable smuggling routes for drug traffickers. Analyses comparing changes between localities near the US border are unable to distinguish whether the construction of the border fence had an overall effect on violence in Mexico. This is because of the potential for violence to simply be displaced from territory where the border fence was built to localities with access to alternate routes, which could be accompanied by overall increases in violence, decreases in violence, or no change.[14] Therefore, it is necessary to have a control group that is not near the US border and less likely to be directly affected by the construction of the border fence. In the following section I compare results using several different control groups. All control groups consist of localities at least 100 km from the US border in order to minimize spillover effects from the treatment groups to nearby control groups.

6   Results

The theory presented in section 3 implies that the shock to the value of territory controlled by drug cartels due to construction of the border fence will cause competition between drug cartels for territorial control. This leads to different hypotheses for areas where the border fence is build and areas where it is not. In localities near where the border fence is built, lethal violence is expected to decrease because which smuggling from these areas becomes more difficult. However, I expect an increase in violence in localities near the US border where the fence is *not* built because these areas provide access to alternate cross-border smuggling routes that become more valuable when the fence is built. These effects are expected to initially increase and then decline over time as cartels make new agreements.

To test these hypotheses, I estimate equation 1 for both the treatment groups:

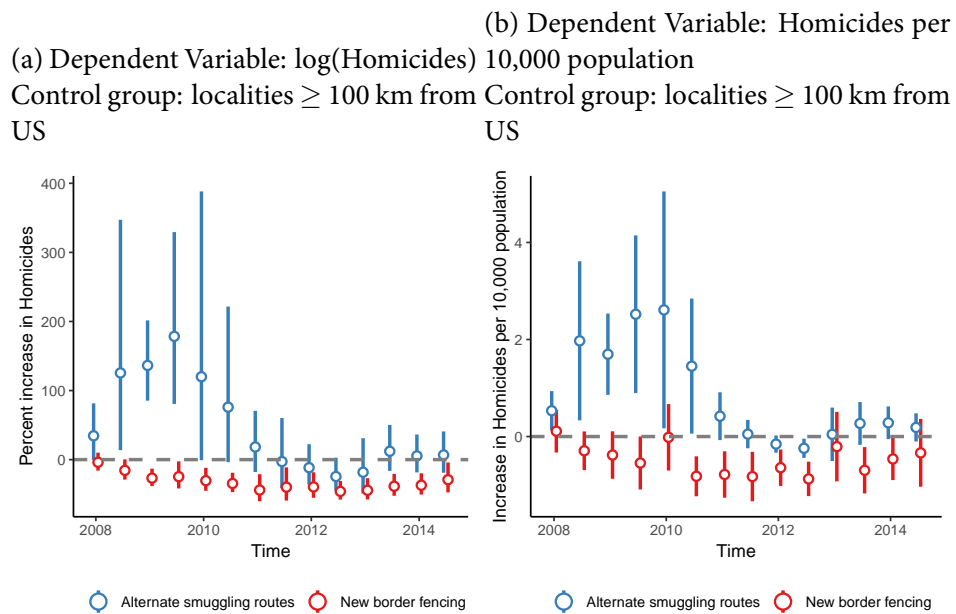[13]See http://www.gao.gov/new.items/d09244r.pdf.

[14]See Donohue, Ho and Leahy (2013).

localities that had new border fencing built near them and localities with access to alternate smuggling routes. The control group is a random sample of the localities that are not near the US border. The geographically fine-grained data I have collected are vital to capture the distinction between violence in territory from which smuggling is made more difficult by the construction of the border fence and territory with access to alternate cross-border smuggling routes. However, estimating regression models with so much data is computationally challenging. Therefore, I use a random sample of ten percent of the 248,196 localities that are at least 100 km from the US border.

Figure 5 presents the results. These models include locality and month fixed effects to remove time-invariant differences in violence between localities and trends in violence common to all localities, but do not include time-varying control variables. Results are shown for every six month period after construction of the border fence began and for two dependent variables: logged homicides, in figure 5a, and homicides per capita, in figure 5b. With both dependent variables, the localities with access to alternate smuggling routes suffered a significant increase in lethal violence that persisted for over two years. At the same time, localities near the new border fence saw a decline is violence. Figure 6 shows the number of homicides caused by the border fence using logged homicides as a dependent variable. The increase in violence in localities providing access to alternate routes is much larger than the decrease in violence in localities near the border fence.

An identifying assumption for the difference in differences design is that trends in lethal violence would have been parallel in treatment and control groups absent the construction of border fencing. In order to assess the plausibility of the parallel trends assumption, I look at pre-treatment trends. If treatment and control areas follow the same trajectory prior to construction of the border fence, this suggests that treated localities are not undergoing changes unrelated to the border fence that also increase levels of lethal violence. I estimate the change in lethal violence in treatment and control groups separately for every time period after the first period, including the six years prior to construction of the border fence, including a

Figure 5: Effect of Border Fence on Lethal Violence

(a) Dependent Variable: log(Homicides) Control group: localities ≥ 100 km from US

(b) Dependent Variable: Homicides per 10,000 population Control group: localities ≥ 100 km from US

Results for difference in differences estimates showing the effect of the border fence on lethal violence for all post-treatment time periods. The control group is localities at least 100 km from the US. Standard errors are clustered by locality and 95 percent confidence intervals are shown.

Figure 6: Estimated Homicides Caused by Border Fence
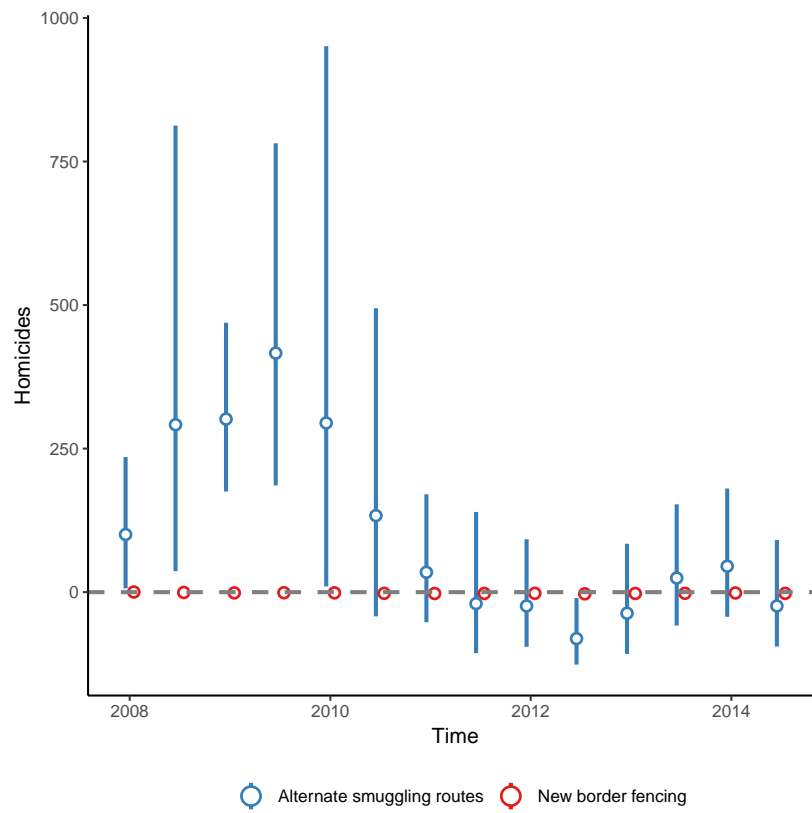
Number of homicides caused by the border fence using the estimates shown in figure 5a. The increase in violence in localities providing access to alternate routes is much larger than the decrease in violence in localities near the border fence.

treatment indicator (D_i) that for localities in the treatment group in all time periods:

$$y_{it} = \alpha_i + \delta_t + \sum_{t=2}^{26} \beta_t D_i + \varepsilon_{it} \tag{2}$$

The estimated effects prior to construction of the border fence serve as placebo tests. In figure 7 I plot the estimates and 95 percent confidence intervals for every time period. I find no evidence of anticipatory effects, bolstering the parallel trends assumption.

6.1 Is the result driven by differences between border and non-border regions?

Difference in differences estimates rely on the assumption that if the border fence had not been built, violence in the border region and violence in the control region would have had the same trends over time. A concern in selecting a control group is that border localities and control localities may differ in ways related to the trends in violence over time. The previous results used all localities in Mexico far from the border as a control group. However, these may differ from localities near the border that may have been affected, directly or indirectly, by the construction of the border fence. Pre-treatment trends appear parallel, but it may be that areas near the border are unique because of the value of the territory for cross-border smuggling and that this affects trends. This suggests localities near Mexico's southern border with Guatemala and Belize as a control group. Drugs are smuggled across this border by cartels, but no border fence was build along Mexico's southern border. The locations of control localities within 10 km of Guatemala or Belize are shown in figure 8.

Figure 9 shows the results, which are virtually unchanged. Again, the results demonstrate significantly more violence in localities with alternate smuggling routes after the border fence that persists for over two years, as well as a decline in violence in localities near the newly constructed border fence.

Figure 7: Pre-trends Bolster Parallel Trends Assumption
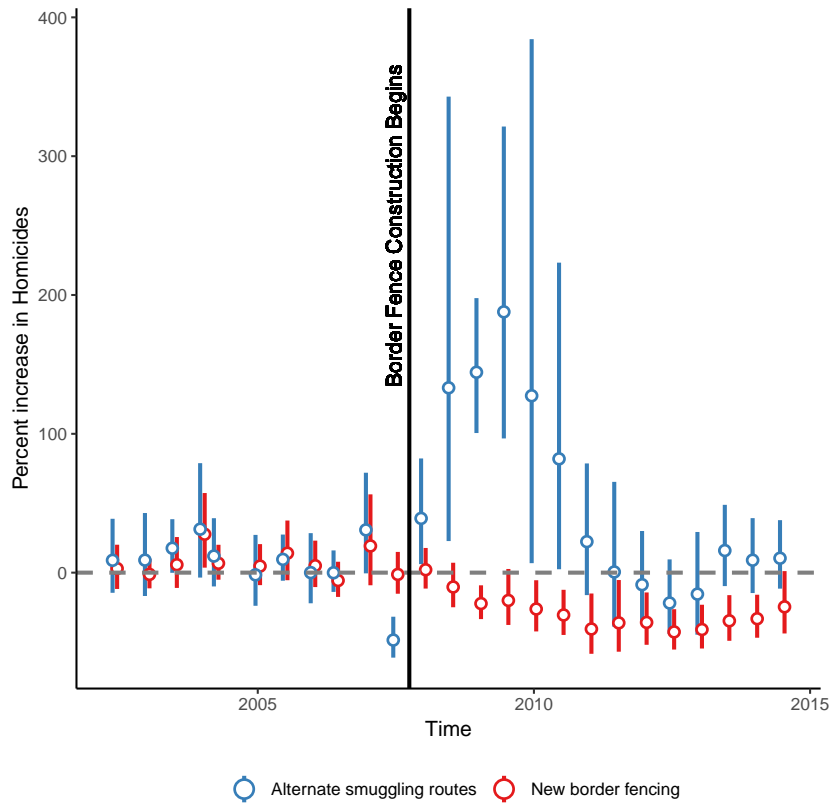
Results for difference in differences estimates showing the effect of the border fence on logged homicides in a locality-semester. Standard errors are clustered by locality and 95 percent confidence intervals are shown.

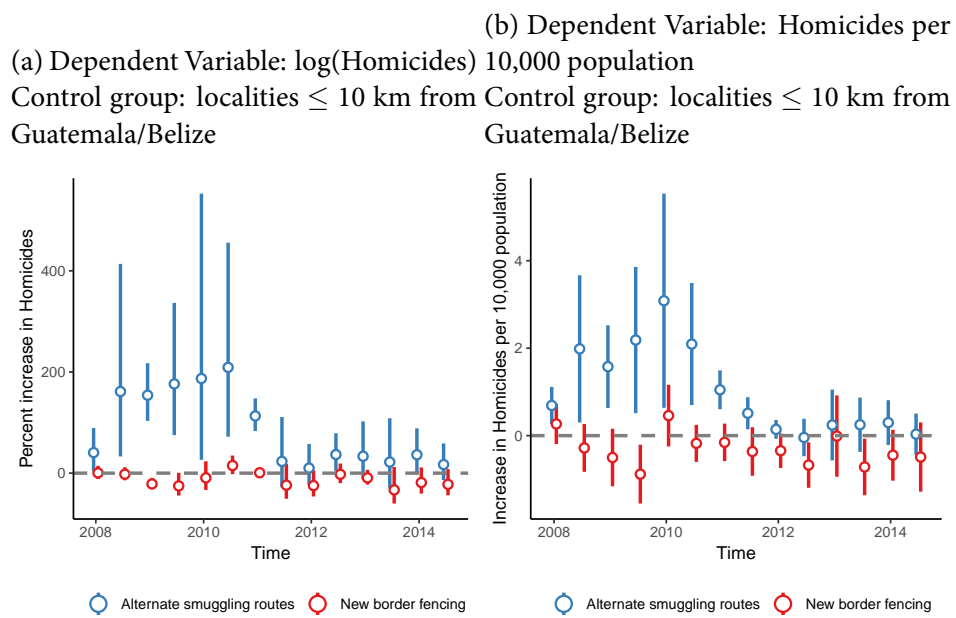Figure 8: Southern Border Control Localities

Localities • Near alternate route • Near new fence • Near southern border

The locations of localities within 10 km of Mexico's border with Guatemala and Belize used as a control group.

Figure 9: Effect of Border Fence on Lethal Violence using Southern Border Control
Group

(a) Dependent Variable: log(Homicides)
Control group: localities ≤ 10 km from
Guatemala/Belize

(b) Dependent Variable: Homicides per
10,000 population
Control group: localities ≤ 10 km from
Guatemala/Belize

Results for difference in differences estimates showing the effect of the border fence
on lethal violence. The control group is localities within 10 km of Mexico's border
with Guatemala and Belize. Standard errors are clustered by locality and 95 percent
confidence intervals are shown.

It may be that localities near the US border differ from localities that are not near the border in ways that affect trends in homicides. Localities near the US border differed prior to construction of the border fence from those far from the border in ways previous research has indicated may affect drug war violence. Localities near the border are on average richer, better educated, and differ in crime rates, drug cartel presence, and political parties elected. To alleviate the concern that the results may be driven by these differences, I construct a control group from localities at least 100 km from the US border matched on pre-treatment covariates. I use nearest neighbor propensity score matching without replacement to match on pre-treatment population, average education level, literacy rate, human development index, indices of access to running water, sewer, and electricity, urban or rural status, criminal charges, gun charges, drug charges, the presence of drug cartels before the fence was constructed, and the political party of the mayor. As seen in table 2, this substantially improves covariate balance. Figure 10 shows the locations of the matched control localities.

Results, shown in figure 11 are substantively similar to the previous estimates. Again, the results demonstrate significantly more violence in localities with alternate smuggling routes after the border fence that persists for over two years, as well as a decline in violence in localities near the newly constructed border fence.

6.2 Is the result due to increased law enforcement?

Was the construction of the border wall the cause of the spike in violence near alternate smuggling routes while it was being constructed? The overall increase in violence in Mexico during this period is often attributed to increased law enforcement targeting of drug cartels after the presidential election of Filipe Calderón in 2006 (Calderón et al., 2015; Dell, 2015; Phillips, 2015; Osorio, 2015). This crackdown began prior the start of construction on the border fence, but continued through the period of border fence construction. The differences in differences research design removes nationwide trends in violence, but if Mexican law enforcement targeted localities near alternate smuggling routes more intensely than other areas, law en-

Table 2: Characteristics of Localities near the US Border and Control Localities

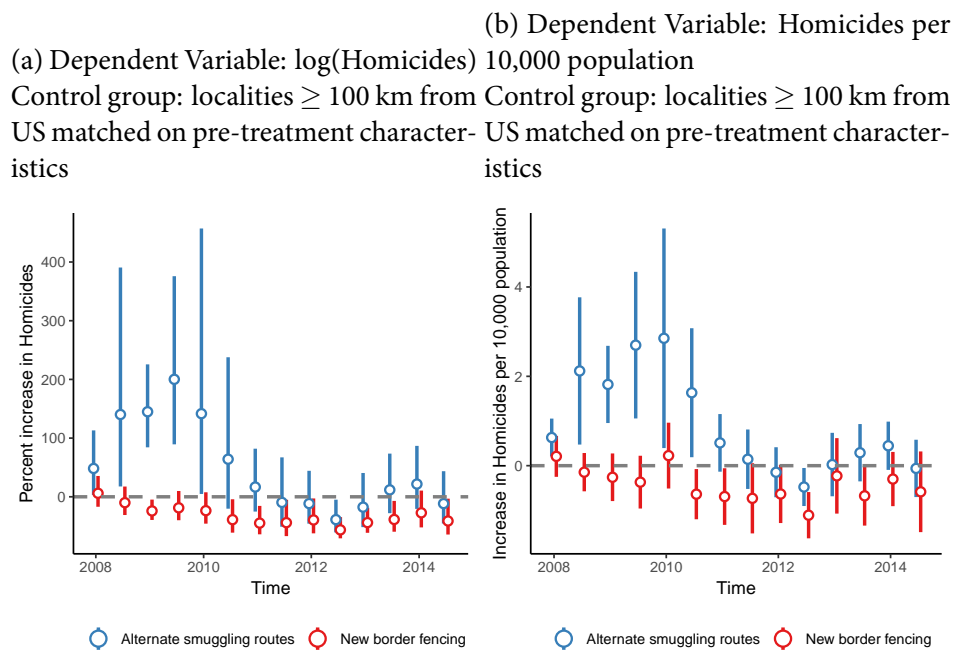| Statistic	N	Mean	St. Dev.	Min	Max
Localities within 10 km of US					
Population 2005	2,041	1,248.33	32,398.15	0	1,286,187
Mean educational attainment 2005	2,041	8.51	0.67	6.29	9.23
Literacy rate 2005	2,041	98.44	0.76	97.00	99.60
Human development index 2005	2,041	0.81	0.01	0.78	0.82
Running water 2005	2,041	0.92	0.07	0.77	0.98
Sewer 2005	2,041	0.89	0.04	0.78	0.97
Electricity 2005	2,041	0.95	0.03	0.91	0.99
Urban	2,041	0.01	0.09	0	1
Criminal charges per 1000 pop. 2005	2,041	7.83	3.36	0.73	20.22
Gun charges percent 2005	2,041	12.41	5.85	0.00	30.56
Drug charges percent 2005	2,041	15.68	8.29	4.82	35.86
Number of cartels 2005	2,041	1.69	0.95	0	3
PAN mayor 2005	2,041	0.22	0.41	0	1
PRI mayor 2005	2,041	0.78	0.41	0	1
PRD mayor 2005	2,041	0.003	0.05	0	1
Localities at least 100 km from US					
Population 2005	24,819	433.57	12,883.62	0	1,137,465
Mean educational attainment 2005	24,819	6.41	1.52	1.41	11.25
Literacy rate 2005	24,819	95.54	4.83	43	100
Human development index 2005	24,819	0.75	0.06	0.46	0.87
Running water 2005	24,819	0.78	0.20	0.01	1.00
Sewer 2005	24,819	0.69	0.24	0.00	0.99
Electricity 2005	24,819	0.91	0.12	0.29	1.00
Urban	24,819	0.02	0.12	0	1
Criminal charges per 1000 pop. 2005	24,819	1.88	1.46	0.00	11.16
Gun charges percent 2005	24,819	10.01	11.88	0.00	100.00
Drug charges percent 2005	24,819	6.53	10.73	0.00	100.00
Number of cartels 2005	24,819	0.35	0.79	0	4
PAN mayor 2005	24,819	0.30	0.46	0	1
PRI mayor 2005	24,819	0.47	0.50	0	1
PRD mayor 2005	24,819	0.22	0.42	0	1
Matched Localities at least 100 km from US					
Population 2005	2,041	1,583.99	41,624.18	0	1,687,549
Mean educational attainment 2005	2,041	8.51	1.16	5.52	9.90
Literacy rate 2005	2,041	98.64	0.51	96.80	100.00
Human development index 2005	2,041	0.82	0.02	0.76	0.84
Running water 2005	2,041	0.94	0.09	0.69	0.98
Sewer 2005	2,041	0.91	0.10	0.56	0.98
Electricity 2005	2,041	0.98	0.02	0.92	0.99
Urban	2,041	0.02	0.13	0	1
Criminal charges per 1000 pop. 2005	2,041	5.10	2.66	0.41	11.16
Gun charges percent 2005	2,041	8.42	18.51	0.00	100.00
Drug charges percent 2005	2,041	9.84	12.76	0.00	100.00
Number of cartels 2005	2,041	1.56	1.21	0	4
PAN mayor 2005	2,041	0.42	0.49	0	1
PRI mayor 2005	2,041	0.58	0.49	0	1
PRD mayor 2005	2,041	0.003	0.05	0	1

Figure 10: Matched Control Localities
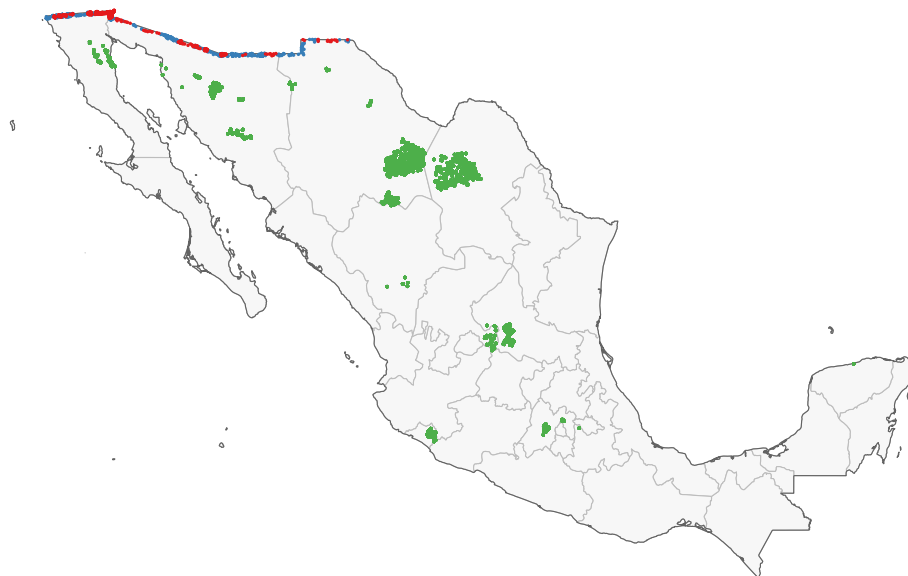
Localities   •   Near alternate route   •   Near new fence   •   Propensity score matched

The locations of localities at least 100 km from the US border that were propensity score matched on pre-fence locality characteristics and used as a control group.

Figure 11: Effect of Border Fence on Lethal Violence using Matched Control Group

(a) Dependent Variable: log(Homicides) Control group: localities ≥ 100 km from US matched on pre-treatment characteristics

(b) Dependent Variable: Homicides per 10,000 population Control group: localities ≥ 100 km from US matched on pre-treatment characteristics

Results for difference in differences estimates showing the effect of the border fence on lethal violence. The control group is localities at least 100 km from the US that are propensity score matched on pre-treatment characteristics. Standard errors are clustered by locality and 95 percent confidence intervals are shown.

Figure 12: Results are not Driven by Law Enforcement

(a) Controlling for law enforcement activity

(b) Controlling for removal of cartel leaders
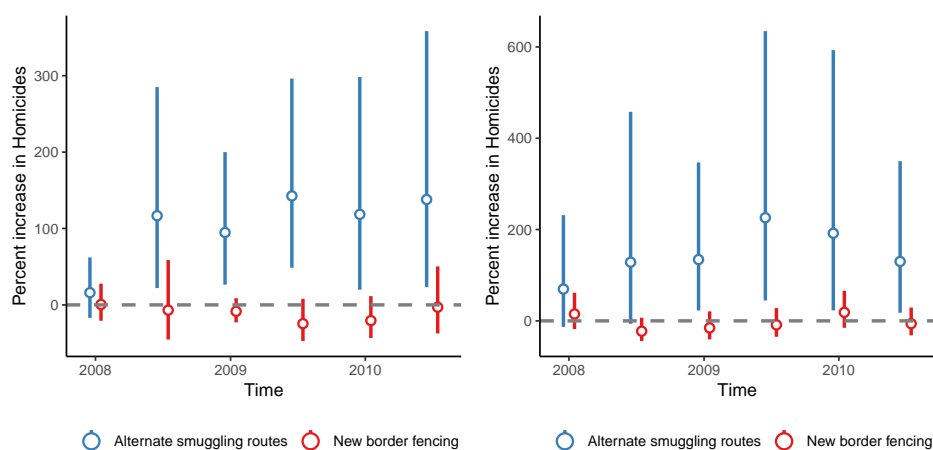
Results for difference in differences estimates showing the effect of the border fence on log(homicides). The control group is localities at least 100 km from the US. The left panel controls for five time varying measures of law enforcement against drug cartels in Mexico: state violence, drug seizures, assets seizures, gun seizures, and arrests. The right panel controls for killing or capture of cartel leaders and lieutenants. Standard errors are clustered by locality and 95 percent confidence intervals are shown.

forcement could be driving the results.

To examine this alternative explanation, I use data on Mexican law enforcement operations against drug cartels collected by Osorio (2015) using automated text analysis of Mexican newspapers (see Osorio and Reyes, 2017). This provides data on multiple measures of law enforcement activity against drug cartels. In figure 12a I show estimates of equation 1 that include five time-varying measures of law enforcement actions against drug cartels in a municipality: state violence, drug seizures, assets seizures, gun seizures, and arrests. The alternate explanation being examined is that law enforcement operations account for the results in figures 5, 9, and 11. The estimated effects are significant in the two years after the beginning of

border fence construction, so it is not a major concern that data on law enforcement is only available until the end of 2010, which does not include the final four years shown previously. Results are shown using the full control group, but are similar using the southern border or matched control groups. The estimates in figure 12a are substantively similar to the previous results that did not control for law enforcement activity. This indicates that the increase in violence in localities providing access to alternate routes is not primarily driven by law enforcement in Mexico.

Several authors have shown that another form of law enforcement causes violence in Mexico: "decapitating" drug cartels by capturing leaders (Calderón et al., 2015; Phillips, 2015). This may cause violent power struggles within the cartel. A focus on beheading drug cartels is also associated with the Calderón presidency, which partially overlaps with the time period when the border fence was under construction. It is possible that cartel leaders were more likely to be in areas with access to alternate smuggling routes and that when they are captured there by the government this causes the increased violence in these areas while the border fence was under construction. To see if a state policy to capture cartel leaders is driving the estimated effect, I include time-varying data on the removal of cartel leaders in the municipality in figure 12b. These data were collected by Calderón et al. (2015) and measure the capture of cartel leaders and lieutenants. These controls also do not substantially change the estimated effects of construction of the border fence on violence in alternate smuggling routes. This indicates that, like other forms of law enforcement, the capture of cartel leaders are not driving the results.

7   Conclusion

In this paper I have shown that governments' decisions about border security can have profound effects beyond their own borders. Specifically, I study how shocks to the value of territory for drug smuggling caused by the construction of a fence on the US-Mexico border affect violent competition for territorial control by drug

cartels in Mexico.

I show that construction of the border fence caused fighting over territory—not near where the fence was built—but in areas that provide access to alternate cross-border smuggling routes. By making control of territory near alternate smuggling routes more valuable, construction of the border fence undermined agreements about territorial control and caused fighting. The estimated effects are large and unrelated to differences in economic conditions, crime rates, the activities of drug cartels or electoral politics before the construction of the border fence. I can also rule out alternative explanations including arrests, seizures of drugs, guns, and assets, state violence, and captures of cartel leaders.

Estimates suggest that in localities within 10 km of the US border and near alternate smuggling routes that avoid the new border fence, the number of homicides increased by as much at 200 percent. This is over 400 homicides caused by the border fence in a six month period. Over time, well over 1000 homicides can be attributed to the border fence.

These results speak to current proposals in the US to expand the fence along the border with Mexico, which largely do not consider its potential to intensify the drug war in Mexico. Since increases in border security does not directly affect demand for drugs in the US, drug cartels in Mexico continue to have incentives to control territory along the US-Mexico border in order to smuggle drugs into the US. Changes in border security will change the value of this territory to drug cartels, which can upset prior agreements about territorial control and cause fighting to control alternate smuggling routes.

By demonstrating that construction of the border fence caused drug cartel violence, I provide evidence that non-state actors fight to control territory and that the value of the territory affects their willingness to fight. The increase in violence persisted only while the fence was under construction—while the effects on smuggling revenues remained uncertain. This suggests that uncertainty prevented drug cartels from reaching agreements about territorial control earlier that would have prevented fighting between cartels.

References

Acemoglu, Daron and James A Robinson. 2005. *Economic origins of dictatorship and democracy*. Cambridge University Press.

Bazzi, Samuel and Christopher Blattman. 2014. "Economic shocks and conflict: Evidence from commodity prices." *American Economic Journal: Macroeconomics* 6(4):1–38.

Beittel, June. 2015. "Mexico: Organized crime and drug trafficking organizations." *Washington DC: Congressional Research Service* .

Berman, Eli, Michael Callen, Joseph H Felter and Jacob N Shapiro. 2011. "Do working men rebel? Insurgency and unemployment in Afghanistan, Iraq, and the Philippines." *Journal of Conflict Resolution* 55(4):496–528.

Besley, Timothy J and Torsten Persson. 2008. "The incidence of civil war: Theory and evidence." Unpublished manuscript.

Borkowski, Mark, Michael Fisher and Michael Kostelnik. 2011. "After SBInet - the Future of Technology on the Border." *Testimony before the United States House Committee on Homeland Security, Subcommittee on Border and Maritime Security* . March 15.
URL: *https://www.dhs.gov/news/2011/03/15/written-testimony-cbp-house-homeland-security-subcommittee-border-and-maritime*

Braithwaite, Alex and Faten Ghosn. 2018. "Border fortifications and migrant deaths on the Mediterranean Sea." Unpublished manuscript.

Brückner, Markus and Antonio Ciccone. 2010. "International commodity prices, growth and the outbreak of civil war in Sub-Saharan Africa." *The Economic Journal* 120(544):519–534.

Bush, George W. 2006. "Bush's Speech on Immigration." *The New York Times* . March 15.

    URL: *http://www.nytimes.com/2006/05/15/washington/15text-bush.html*

Calderón, Gabriela, Gustavo Robles, Alberto Díaz-Cayeros and Beatriz Magaloni. 2015. "The beheading of criminal organizations and the dynamics of violence in Mexico." *Journal of Conflict Resolution* 59(8):1455–1485.

Carter, David B and Paul Poast. 2017. "Why do states build walls? Political economy, security, and border stability." *Journal of conflict resolution* 61(2):239–270.

Caselli, Francesco, Massimo Morelli and Dominic Rohner. 2015. "The geography of interstate resource wars." *The Quarterly Journal of Economics* 130(1):267–315.

Castillo, Juan, Daniel Mejía and Pascual Restrepo. 2014. "Scarcity without leviathan: The violent effects of cocaine supply shortages in the mexican drug war." Unpublished manuscript.

Collier, Paul and Anke Hoeffler. 1998. "On Economic Causes of Civil War." *Oxford Economic Papers* 50(4):563–573.

Cornelius, Wayne A and Idean Salehyan. 2007. "Does border enforcement deter unauthorized immigration? The case of Mexican migration to the United States of America." *Regulation & Governance* 1(2):139–153.

Coscia, Michele and Viridiana Rios. 2012. Knowing where and how criminal organizations operate using web content. In *Proceedings of the 21st ACM international conference on Information and knowledge management*. ACM pp. 1412–1421.

Dell, Melissa. 2015. "Trafficking networks and the Mexican drug war." *The American Economic Review* 105(6):1738–1779.

Donohue, JL, D Ho and Patrick Leahy. 2013. "Do police reduce crime? A re-examination of a natural experiment." *Empirical Legal Analysis: Assessing the Performance of Legal Institutions* pp. 125–143.

Dube, Arindrajit, Oeindrila Dube and Omar García-Ponce. 2013. "Cross-border spillover: US gun laws and violence in Mexico." *American Political Science Review* 107(3):397–417.

Dube, Oeindrila and Juan F Vargas. 2013. "Commodity price shocks and civil conflict: Evidence from Colombia." *The Review of Economic Studies* 80(4):1384–1421.

Durán-Martínez, Angélica. 2015. "Drugs Around the Corner: Domestic Drug Markets and Violence in Colombia and Mexico." *Latin American Politics and Society* 57(3):122–146.

Fearon, James D. 1995. "Rationalist explanations for war." *International organization* 49(3):379–414.

Fearon, James D. 2005. "Primary commodity exports and civil war." *Journal of Conflict Resolution* 49(4):483–507.

Gambetta, Diego. 1996. *The Sicilian Mafia: the business of private protection.* Harvard University Press.

Getmansky, Anna, Guy Grossman and Austin L. Wright. 2018. "Border Walls and the Economics of Crime." Working paper.

Greenhill, Kelly M. 2002. "Engineered migration and the use of refugees as political weapons: a case study of the 1994 Cuban Balseros Crisis." *International Migration* 40(4):39–74.

Hassner, Ron E and Jason Wittenberg. 2015. "Barriers to Entry: Who Builds Fortified Boundaries and Why?" *International Security* .

Jones, Reece. 2012. *Border walls: Security and the war on terror in the United States, India, and Israel.* Zed Books Ltd.

Klein, Malcolm W. 1997. *The American street gang: Its nature, prevalence, and control.* Oxford University Press.

Konrad, Kai A and Stergios Skaperdas. 2012. "The Market for Protection and the Origin of the State." *Economic Theory* 50(2):417–443.

Kronick, Dorothy. 2018. "Profits and Violence in Illegal Markets." Unpublished manuscript.

Mampilly, Zachariah Cherian. 2011. *Rebel rulers: Insurgent governance and civilian life during war.* Cornell University Press.

Miguel, Edward, Shanker Satyanath and Ernest Sergenti. 2004. "Economic shocks and civil conflict: An instrumental variables approach." *Journal of political Economy* 112(4):725–753.

Nielsen, Richard A, Michael G Findley, Zachary S Davis, Tara Candland and Daniel L Nielson. 2011. "Foreign aid shocks as a cause of violent armed conflict." *American Journal of Political Science* 55(2):219–232.

Okrent, Daniel. 2011. *Last call: The rise and fall of prohibition.* Scribner.

Olson, Mancur. 1993. "Dictatorship, democracy, and development." *American Political Science Review* 87(3):567–576.

Osorio, Javier. 2015. "The contagion of drug violence: spatiotemporal dynamics of the Mexican war on drugs." *Journal of Conflict Resolution* 59(8):1403–1432.

Osorio, Javier and Alejandro Reyes. 2017. "Supervised Event Coding From Text Written in Spanish: Introducing Eventus ID." *Social Science Computer Review* 35(3):406–416.

Osorno, Diego Enrique. 2009. "El cártel de Sinaloa: Una historia del uso político del narco.".

Phillips, Brian J. 2015. "How does leadership decapitation affect violence? The case of drug trafficking organizations in Mexico." *The Journal of Politics* 77(2):324–336.

Rios Contreras, Viridiana. 2013. How government structure encourages criminal violence: the causes of Mexico's drug war PhD thesis.

Rosière, Stéphane and Reece Jones. 2012. "Teichopolitics: Re-considering globalisation through the role of walls and fences." *Geopolitics* 17(1):217–234.

Salehyan, Idean. 2008*a*. "The externalities of civil strife: Refugees as a source of international conflict." *American Journal of Political Science* 52(4):787–801.

Salehyan, Idean. 2008*b*. "No shelter here: Rebel sanctuaries and international conflict." *The Journal of Politics* 70(1):54–66.

Sanchez de la Sierra, Raul. forthcoming. "On the origin of states: Stationary bandits and taxation in Eastern Congo." *Journal of Political Economy* .

Simmons, Beth A. 2016. "The Built Environment: State Presence at Border Crossings in the Modern World." Unpublished manuscript.

Simmons, Beth A and Michael Kenwick. 2018. "Border Orientation in a Globalizing World: Concept and Measurement." Unpublished manuscript.

Skaperdas, Stergios. 2002. "Warlord competition." *Journal of Peace Research* 39(4):435–446.

Snyder, Richard and Angelica Duran-Martinez. 2009. "Does illegality breed violence? Drug trafficking and state-sponsored protection rackets." *Crime, law and social change* 52(3):253–273.

Sorrensen, Cynthia. 2014. "Making the subterranean visible: security, tunnels, and the United States–Mexico border." *Geographical Review* 104(3):328–345.

Staniland, Paul. 2012. "States, insurgents, and wartime political orders." *Perspectives on Politics* 10(2):243–264.

Sviatschi, Maria Micaela. 2017. "Making a Narco: childhood exposure to illegal labor markets and criminal life paths." Unpublished manuscript.

Sviatschi, Maria Micaela. 2018. "Making a Gangster: Exporting US Criminal Capital." Unpublished manuscript.

Trejo, Guillermo and Sandra Ley. 2018. "Why did drug cartels go to war in Mexico? Subnational party alternation, the breakdown of criminal protection, and the onset of large-scale violence." *Comparative Political Studies* 51(7):900–937.

Vallet, Elisabeth. 2016. *Borders, fences and walls: State of insecurity?* Routledge.

Wright, Austin L. 2016. "Economic Shocks and Rebel Tactics." Unpublished manuscript.

Zachary, Paul and William Spaniel. 2018. "Getting a Hand By Cutting Them Off: How Uncertainty over Political Corruption Affects Violence." *British Journal of Political Science* pp. 1–24.