ONLINE APPENDIX

— Supporting Information for "Border Walls and Smuggling Spillovers" —

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A Border Walls Around the World since 2000

The Israeli separation barrier is not unique. In fact, dozens of countries around the world have invested in border fortification in the last two decades. Figure SI-1 depicts the initiators of these walls and their target countries. The map is based on data from Hassner and Wittenberg (2015) and Carter and Poast (2017). Table SI-1 lists the fortifications combined from these two data sources.

Figure SI-1: **Map of walls constructed since 2000, based on data from Hassner and Wittenberg (2015); Carter and Poast (2017), and additional news sources. See Table SI-1 for details.**

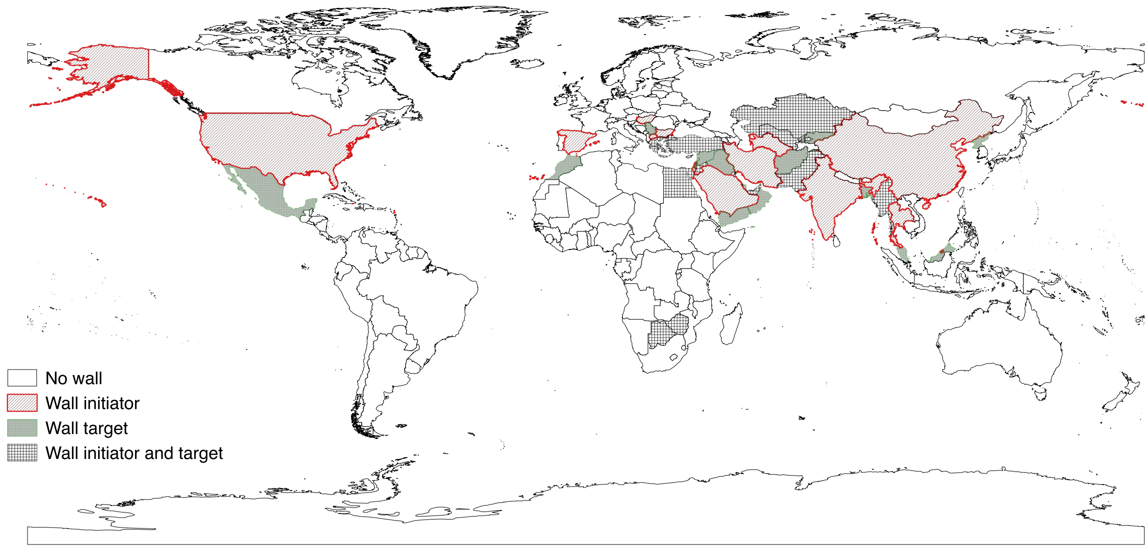


Table SI-1: List of border fortifications since 2000.

Initiator	Target	Start Year	Source
Egypt	Gaza	2000	1
Israel	Gaza	2000	1
Israel	Lebanon	2000	2
Spain	Morocco	2001	1
India	Pakistan	2001	1
Thailand	Malaysia	2001	1,2
Turkmenistan	Uzbekistan	2001	1,2
Uzbekistan	Afghanistan	2001	1
Israel	West Bank	2002	1
Botswana	Zimbabwe	2003	1,2
India	Burma	2003	1,2
Zimbabwe	Botswana	2003	2
Saudi Arabia	Yemen	2004	1,2
United Arab Emirates	Oman	2004	1,2
Brunei	Malaysia	2005	1,2
India	Bangladesh	2005	1
Pakistan	Afghanistan	2005	2
United Arab Emirates	Oman	2005	1
United States	Mexico	2005	1,2
China	North Korea	2006	1,2
Jordan	Iraq	2006	2
Kazakhstan	Uzbekistan	2006	1,2
China	North Korea	2007	1,2
Iran	Pakistan	2007	1,2
Pakistan	Afghanistan	2007	1
Burma	Bangladesh	2009	1,2
Saudi Arabia	United Arab Emirates	2009	2
Saudi Arabia	Iraq	2009	1,2
Saudi Arabia	Oman	2009	2
Saudi Arabia	Qatar	2009	2
Greece	Turkey	2011	2
Israel	Jordan	2011	2
Bulgaria	Turkey	2015	3
Hungary	Serbia	2015	4
Turkey	Syria	2016	5
Macedonia	Greece	2015	6

Sources: 1=Hassner and Wittenberg (2015), 2=Carter and Poast (2017), 3=link to a news article, 4=link to a news article, 5=link to a news article, 6=link to a news article.

B Data

To implement our empirical strategy, we use data on auto theft and the separation barrier construction sequence, and combine them with locality-level indicators.

Unit of Analysis

Our unit of analysis is locality-month, and we examine the period from October 2000 through January 2004. Localities are local administrative units that the Israeli Ministry of Interior classified as municipalities, local councils, or regional councils. The latter are comprised of smaller communities in the same region. The main factor that affects this designation is a locality's number of residents. Municipalities are relatively large cities (usually above 20,000 residents), whereas local councils are usually smaller urban townships (between 2,000 and 20,000 residents). Rural communities and villages with fewer than 2,000 residents are often grouped together with other similarly small communities in their area into regional councils. These thresholds apply for most local authorities, with a few exceptions. Some relatively large towns with above 20,000 residents remain local councils to preserve their small community character (for example, the town of Ramat HaSharon). In other cases, small communities of historical importance, but with fewer than 2,000 residents, are still designated as local councils and not merged with others into a regional council to maintain their independent status (for example, Metula).

Dependent Variable — Property Crime

Our main dependent variable is auto thefts per 1,000 residents in locality j in month t. We obtained these data from the Israeli police using the Freedom of Information Law. Police records encompass the entire universe of reported auto thefts in Israel. These records are comprehensive because reporting to the police is required in order to file an insurance claim. A further advantage of our data is that we have the number of stolen vehicles reported in every locality-month. This allows us to conduct a very disaggregated test of how the progress of barrier construction affects auto theft in geographically-disaggregated units.

For our purposes, we use data on all Jewish and mixed localities in Israel, excluding Israeli Arab localities and Israeli settlements in the West Bank. We exclude non-Jewish localities because crime reporting may be incomplete and underreported. Indeed, the mean number of vehicle thefts per 1,000 residents in mixed and Jewish localities is 0.70, and it is 0.53 in non-Jewish localities. In addition, we exclude West Bank settlements because the effect of the barrier on auto theft may be different in these places. In our main estimations, we use Jewish Israeli localities, and in robustness checks we also include mixed localities (Jewish-Arab). The number of localities varies over the years, and in our sample there are between 914 and 1,050 localities in each year.

Explanatory Variable — Border Wall

Our main independent variable of interest is whether locality i is protected by the barrier in month t. We obtained data and maps on the different stages of barrier construction. We received the data from the GIS unit at the United Nations Office for the Coordination of Humanitarian Affairs (OCHA oPt) and from Peace Now (an NGO that monitors the Israeli-Palestinian conflict). In addition, we consulted the Israeli Ministry of Defense webpage that describes the process of barrier construction.[1]

Using these data, we assigned Israeli localities to one of three groups: Northern, Southern, or "Outer" (see Figure 2 in the manuscript). The Northern zone includes Israeli localities approximately 25 kilometers to the west and north of the barrier in the Northern part of the West Bank (the distance was chosen to reflect the distance to the coastline). The Southern zone includes all Israeli localities within 40 kilometers to the west and south of the West Bank. The greater distance in the South reflects the fact that the coastline there is farther away from the West Bank than in the Northern zone. We classify Outer localities as units below the Southern region and above the Northern region. Treatment classifications are also described in the main text (see "Data and Variable Description").

Control Variables

We control for a number of factors that can affect auto theft. First, we identify Jewish and mixed localities using the data in the Local Authorities datasets (Central Bureau of Statistics, 1998-2004), and we limit our investigation to Jewish and mixed localities, as explained above. Second, we control for one-year lagged population size (in 10,000). Number of residents is directly related to the number of vehicles in a locality, and thus can account for the number of stolen vehicles. Third, we include an indicator for urban localities based on locality coding of the Central Bureau of Statistics (CBS). We control for urban localities because it may be easier to steal a vehicle in urban settings than in rural communities where residents tend to

[1] Israel's Security Fence, Retrieved June 21, 2016 (`http://bit.ly/1dKc4AG`).

know each other and can easily spot an outsider. Fourth, we control for whether a locality is part of a regional council because, similarly to rural localities, it may be easier to steal a vehicle in small communities. Finally, we also control for locality's distance to the West Bank by including the distance in kilometers (and distance squared).

In the robustness checks detailed below, we control for locality-specific socio-economic status using the CBS coding of the socio-economic cluster that ranges from 1 (the least wealthy) to 10 (the most wealthy). The main indicators that the CBS uses to measure the socio-economic level of localities are: financial resources of residents, housing, home appliances, motorization level, schooling and education, employment, socio-economic distress, and various demographic characteristics.[2] This variable is available for municipalities, local councils, and regional councils, not for the small localities that are parts of regional councils (in some cases, these are small communities of several dozen families). For these small localities, we use the regional council cluster, and assume all small localities within the same regional cluster have the same socio-economic status.

We also show that our results are consistent while controlling for terrorist activity. We use two measures of terrorist activity: the number of suicide attacks and the number of all terror attacks in a locality and in a locality's district. Data on attacks was coded using the archive of the Israeli news website Ynet. Our suicide attacks data is comparable to other dataset of suicide attacks in Israel that do not contain information on the location of the attack (for example, Benmelech, Berrebi and Klor (2010)).

Summary statistics are presented inTable SI-2.

[2] http://www.cbs.gov.il/publications/local_authorities06/pdf/e_mavo.pdf.

Table SI-2: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Northern localities (Treatment)					
Auto thefts pre-barrier (per 1k residents)	1.02	1.68	0	14.64	11232
Auto thefts post-barrier (per 1k residents)	0.56	0.92	0	11.21	11232
Population (10k)	0.29	1.22	0.01	14.34	11232
Part of a regional council	0.89	0.31	0	1	11232
Urban locality	0.12	0.33	0	1	11232
Distance to the West Bank (km)	11.66	7.89	0.21	33.94	11232
Socio-economic level	6.19	1.18	2	10	11205
Number of suicide attacks in locality	0	0.05	0	1	11232
Number of suicide attacks in district	0.35	0.63	0	4	11232
Number of all attacks in locality	0.01	0.11	0	3	11232
Number of all attacks in district	1.83	1.99	0	12	11232
Southern localities (Control)					
Auto thefts pre-barrier (per 1k residents)	0.87	0.97	0	7.49	12519
Auto thefts post-barrier (per 1k residents)	1.07	1.07	0	8.51	12519
Population (10k)	0.27	1.33	0	14.94	12519
Part of a regional council	0.92	0.28	0	1	12519
Urban locality	0.09	0.28	0	1	12519
Distance to the West Bank (km)	16.36	11.08	0.11	48.15	12519
Socio-economic level	5.68	1.34	2	10	12480
Number of suicide attacks in locality	0	0.01	0	1	12519
Number of suicide attacks in district	0.22	0.62	0	5	12519
Number of all attacks in locality	0.01	0.15	0	8	12519
Number of all attacks in district	3.51	3.71	0	25	12519
Outer localities					
Auto thefts pre-barrier (per 1k residents)	0.34	0.71	0	8.44	11427
Auto thefts post-barrier (per 1k residents)	0.29	0.47	0	4.07	11427
Population (10k)	0.51	2.15	0	16.32	11427
Part of a regional council	0.87	0.33	0	1	11427
Urban locality	0.12	0.32	0	1	11427
Distance to the West Bank (km)	49.16	32.04	2.44	198.19	11310
Socio-economic level	5.60	1.27	2	10	11388
Number of suicide attacks in locality	0	0.03	0	2	11427
Number of suicide attacks in district	0.23	0.49	0	4	11427
Number of all attacks in locality	0	0.07	0	4	11427
Number of all attacks in district	1.74	2.08	0	12	11427

Note: These summary statistics refer to the sample of localities we use in our main estimation: Jewish-Israeli localities between October 2000 and January 2004, where the unit of analysis is the locality-month.

C Police Deployment as an Alternative Explanation for our Findings

In this section, we show that our findings are not due to police deployment. To measure police deployment, we use official figures on the number of police officers and the number of police cruisers in each police district in Israel. These measures capture the manpower and key resources available to the police to respond to vehicle theft events. We supplement these with an investigation of arrest trends.

Deployment trends

To rule out that police deployment drives our results, we match each police district to our locality classifications (Northern, Southern, and Outer). We then examine whether there are changes in police deployment in these areas–measured using data on police officers and relevant police vehicles–during the construction of the barrier.[3]

Figure SI-2 depicts the changes in the number of police officers in the Northern and Southern zones. The figure shows that there are no substantial changes after 2002, and the growth rate in police force scale appears to be similar in both areas.

Similarly, Figure SI-3 suggests that police resources—as measured using the number of police cruisers—do not explain the decrease in car thefts in the Northern region.

[3]The data on police figures come from the annual budget of the Ministry of Public Security, available online at `https://mof.gov.il/BudgetSite/statebudget/Pages/Fbudget.aspx`, accessed September 13, 2018.

Figure SI-2: Annual number of police officers in the North and in the South.

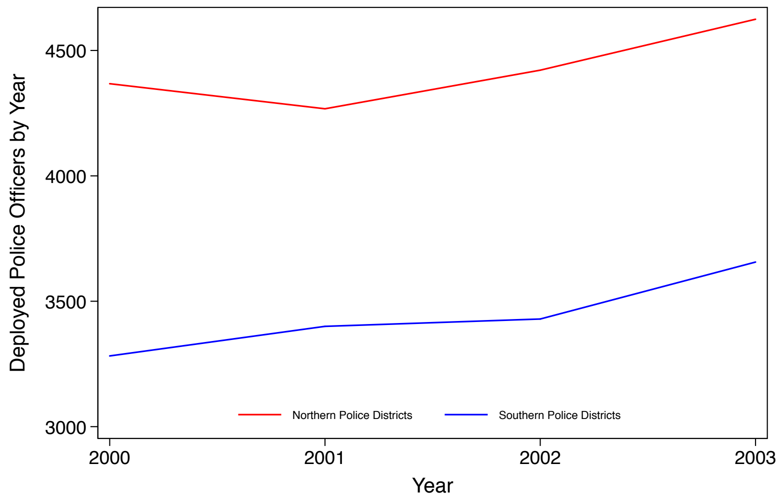
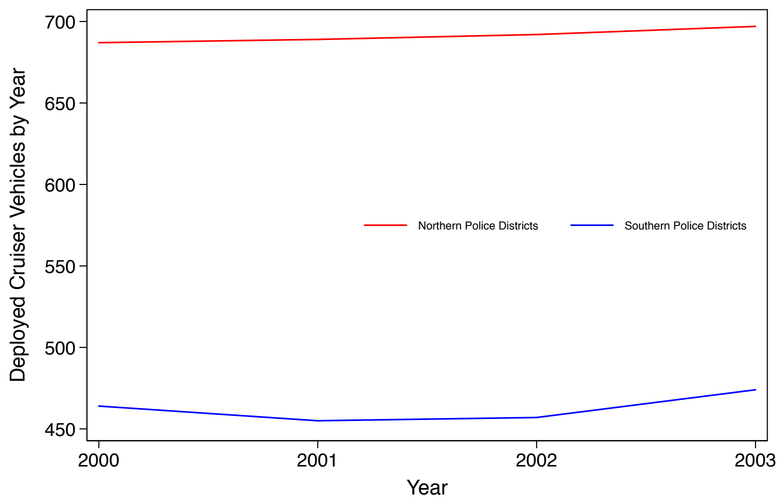


Figure SI-3: Annual number of police cruisers in the North and in the South.



Arrest Trends

In Figures SI-4 and SI-5 we corroborate the above evidence about police deployment using arrest data. Specifically, we plot the apprehension rate of Israeli and West Bank suspects that were arrested for car theft. Notice that only border localities in the treated (walled) zone see a significant increase in apprehension. The probability of apprehension peaks at roughly double the pre-wall mean in border localities. No similar shifts are observed in other regions, including localities in the North that are not within five kilometers of the barrier.

Figure SI-4: Apprehension rates for car theft suspects, by region of origin and capture (Israeli suspects).

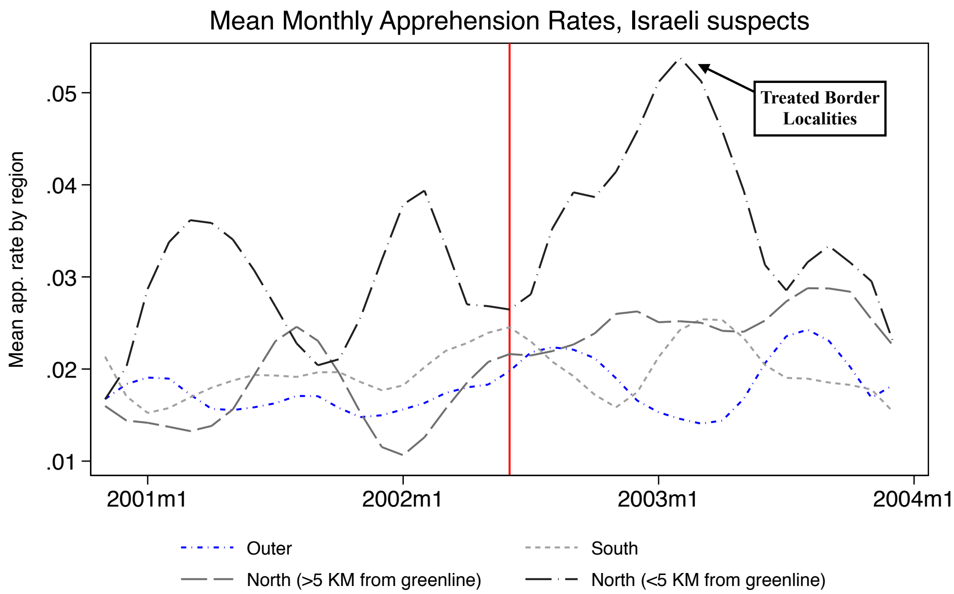
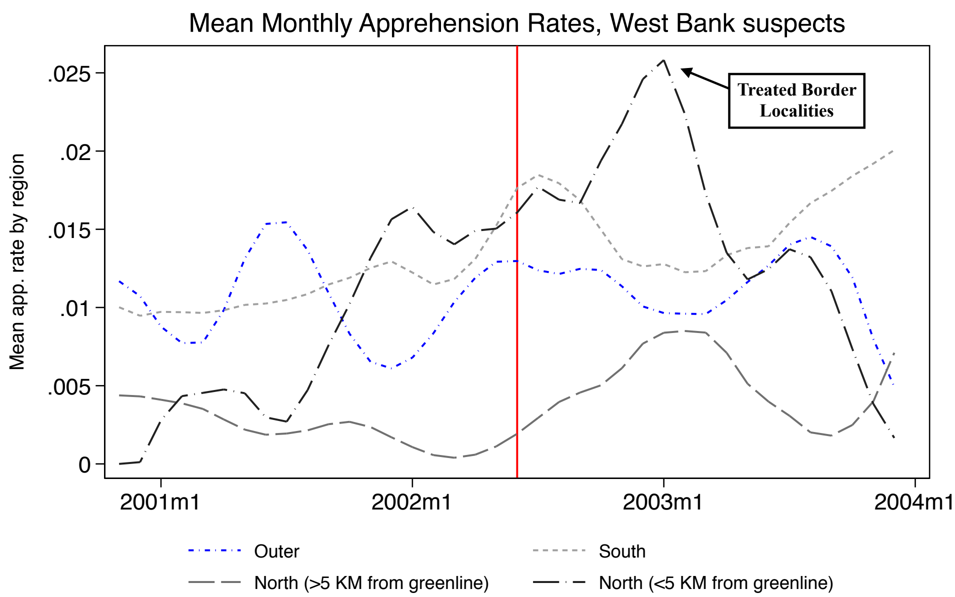


Figure SI-5: Apprehension rates for car theft suspects, by region of origin and capture (West Bank suspects).



D Crime Deterrence vs. Incapacitation of Criminals

The border wall can affect crime not only by deterring auto theft in the north, but also by making it harder for criminals from the West Bank to enter Israel and steal vehicles in localities protected by the barrier. In other words, our findings might reflect an incapacitation effect rather than deterrence due to higher opportunity cost of crime (Chalfin and McCrary, 2017, pp. 10-11). While we acknowledge that the barrier has made it harder for Palestinians to cross the border, the evidence at hand suggests that incapacitation alone cannot account for our findings. Using data on all auto-theft-related arrests in Israel and the West Bank, we show in Table SI-3 that the vast majority of car-theft suspects arrested in the North area are from Israel and not from the West Bank, and that the share of West Bank arrestees increases slightly after the introduction of the barrier, but they still constitute a small fraction of all arrestees.[4]

Although these figures are based on arrest data, the low percentage of West Bank suspects suggests that incapacitation is not the main mechanism that explains how the barrier affects car theft. Furthermore, as we demonstrate in Figure SI-4 and Figure SI-5, the largest increases in car theft apprehension occur among Israeli suspects in Northern border regions. We find similar patterns for West Bank suspects, but at lower rates (roughly half).

Table SI-3: Origin of car-theft suspects arrested before and after barrier construction

Suspect's origin	**Pre-barrier period** (October 2000-May 2002)	**Post-barrier period** (June 2002-January 2004)	**Total**
West Bank	13% (38)	16% (45)	14% (83)
Israel	87% (251)	84% (241)	86% (492)
Total	100% (289)	100% (286)	100% (575)

Note: All suspects arrested in the Northern zone on auto-theft related charges before and after the barrier construction, based on data obtained from the Israeli police.

[4] According to arrests data, West Bank suspects arrested in the North constitute only 13% of those arrested for car-theft related charges in the pre-barrier period, and 16% in the post-barrier period. The distribution of suspects' origin is similar for suspects arrested in the South and the Outer areas.

E Parallel trends in criminal activity

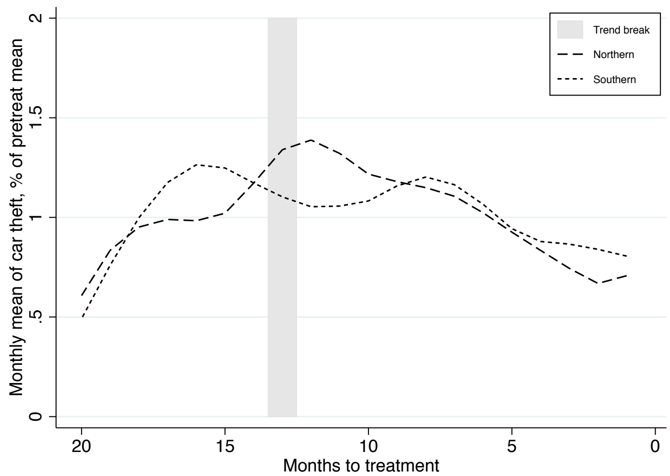
Because it is difficult to visually assess parallel trends, we investigate whether one region's month-over-month trends are statistically distinguishable from one another at the 10% level. To calculate these breaks, we use a difference-in-slopes test (equation 1) to estimate whether the change in car theft in one region from month-to-month is statistically different from another region's trend during the same two periods. Suppose locality l is either a treated unit t (directly or, separately, by spillover) or control unit c. We compare trends across all t and c for all pairs of sequential time periods prior to treatment. These periods P range from 1 to n. For simplicity, we show the two period case, for P equals 1 and 2. Our difference-in-slopes test is expressed as:

$$diff_{P=2} = (crime_{t2} - crime_{t1}) - (crime_{c2} - crime_{c1}), \tag{1}$$

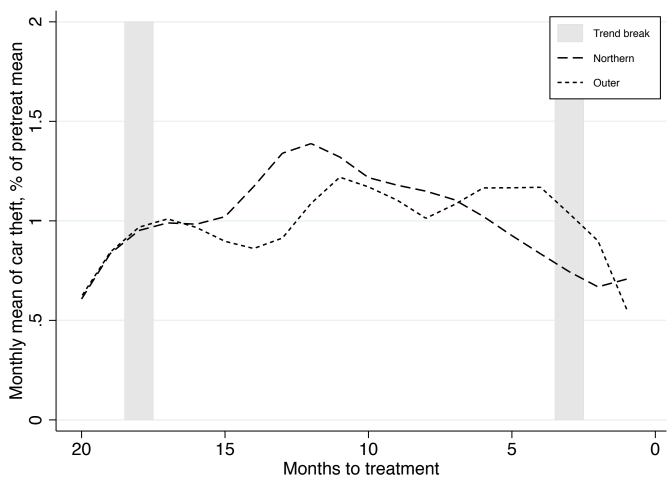
Where we estimate if $diff_{p=2}$ is significantly different from 0 (Figure SI-6). In the figure, grey bars indicate if these differences are significant at or below the 10% level. We repeat this test for all subpopulations we compare. In Figure SI-6, top panel, there is one month with evidence of a trend break (a pretreatment period when our trends are not parallel). In the bottom two panels, there is evidence of two trend breaks, where each break moves in opposite directions. Among all subgroup combinations, ∼10% (or less) of the pretreatment trends appear statistically non-parallel, giving us confidence in the main results. We also reestimate our main results without these pretreatment 'breaks'. Our results are unaffected (results available upon request).

As a further examination of the parallel trends assumption, we follow Autor (2003) and generate leads and lags of the effect of border fortification on car theft. A coefficient is estimated for each period (month) relative to the six months prior to our main sample. In Figure SI-7, the pretreatment estimates are largely statistically indistinguishable from zero. After fortification, however, our lagged treatment estimates become consistently precise and follow the effects estimated in our main specification.

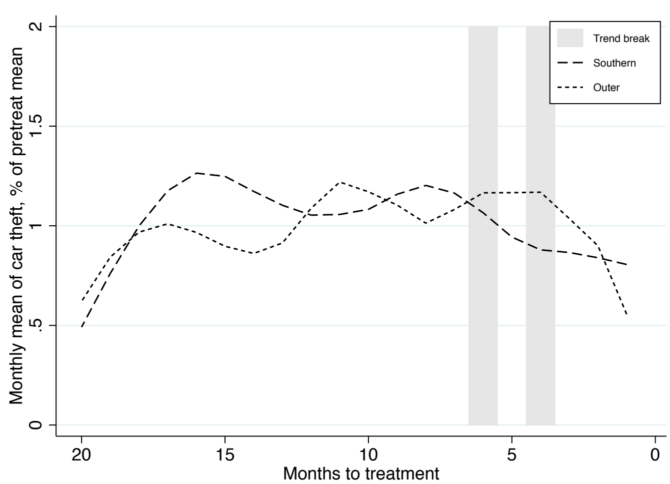
Figure SI-6: Empirical evaluation of parallel trends assumption across pretreatment periods.



(a) North vs. South

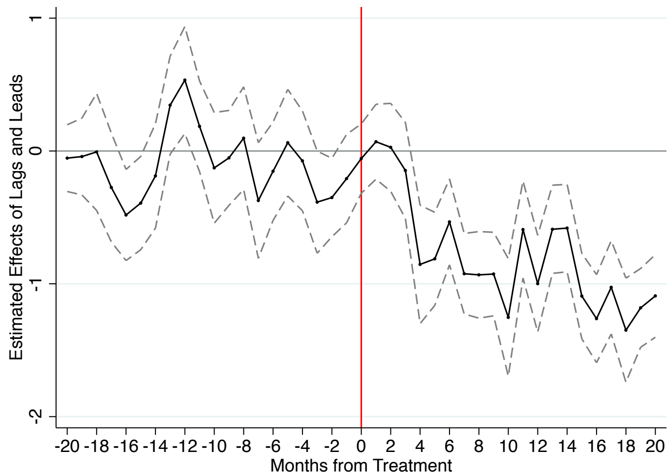


(b) North vs. Outer

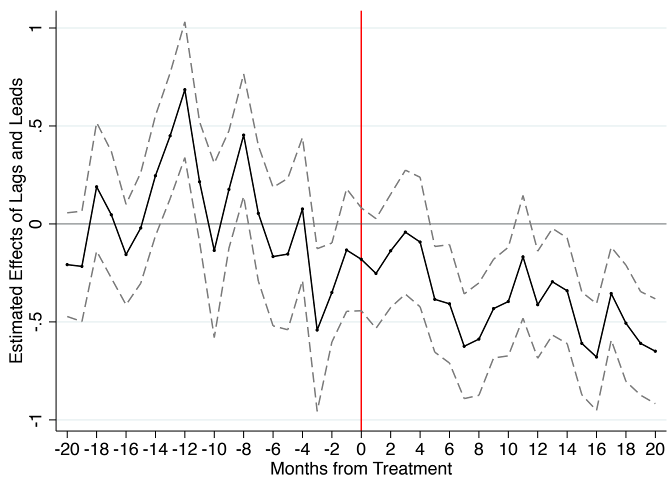


(c) South vs. Outer

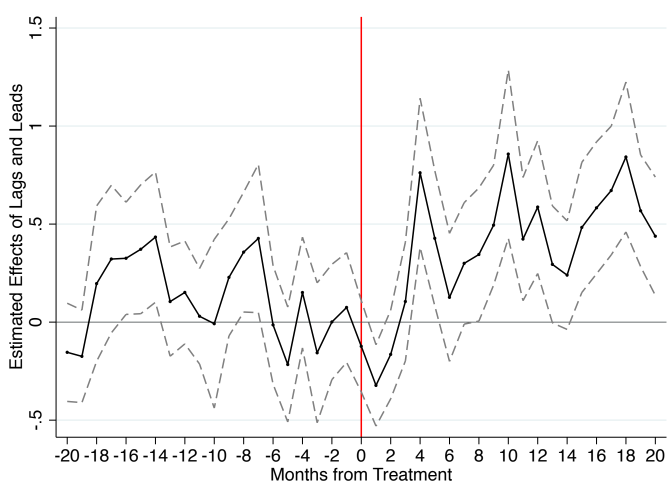
Figure SI-7: Empirical evaluation of parallel trends using estimated leads and lags following Autor (2003).



(a) North vs. South



(b) North vs. Outer



(c) South vs. Outer

F Robustness Checks

We consider several robustness checks. In Table SI-4, we add unit and time fixed effects to our baseline model. To address potential concerns about parallel trend breaks, we incorporate lags of our outcome variable in Table SI-5 and drop periods that our difference-in-slopes tests suggests may be inconsistent across treatment and control regions in Table SI-6. We further assess our main results using just the ten months prior to and after treatment (in Table SI-7), when our parallel trends look most consistent, and incorporate district-specific time trends in Table SI-8. We adjust our analysis for potential spatial dependence. In particular, one might be concerned that the criminal organizations operating in various parts of the treated and control regions may adjust their tactics across a number of localities, such that the cross-section of localities cannot be considered independent observations. We address this concern by first identifying all Arab Israeli towns that are known to be central to auto theft organized activity, and then clustering localities that are closest to each these towns using Thiessen polygons. We adjust our standard errors using these spatial clusters and report results in Table SI-9. Second, we exclude potential outliers from the main analysis. In Table SI-10 we report results when dropping Be'er Sheva—a hotspot for auto theft—from the sample and in Table SI-11 we exclude the densely populated localities—known as "Gush Dan"—that lie between the Northern and Southern localities. Also, in Table SI-12, we expand our sample to include localities with mixed populations. As these results clarify, our findings are robust to these modifications.

Previous research provides compelling evidence that suicide bombings and other forms of terrorism can affect the allocation of police units to affected areas, which in turn affects crime (Gould and Stecklov, 2009). The separation wall was built to address these security concerns, but insurgent activity continued during and after construction. The wall thwarted some, but not all, attempts to carry out acts of terrorism. To address potential covariance concerns in barrier construction and terrorism, we gather georeferenced data on suicide and conventional attacks. We aggregate the number of terrorist events by locality- and district-month. There are reasons to believe that reshuffling of police and military units might correspond to some but not all forms of terrorism. We remain agnostic and account for measures of each type of violence. These results are presented in tables SI-13 through SI-16. Importantly, our findings are robust to all four measures of local terrorist activity. In SI-17 we show that our results also hold when controlling for localities' socio-economic status.

Finally, we consider alternative treatment and control classifications. Our spatial overlay design uses bounding boxes to classify villages into treatment groups. This design has the benefit of being motivated by the geography of the areas surrounding the border region. There are, however, alternative means of defining protected and unprotected border villages as well as remote localities. We focus on a straightforward approach: distance to the West Bank border. In Figure SI-9, we replicate the benchmark difference-in-difference models presented in Table 1. We redefine Northern (treatment) and Southern (control) units as villages less than 25 kilometers from the border, and estimate the treatment effect of border fortification. We repeat this process sequentially, increasing the distance threshold by one kilometer, until we reach 40 kilometers. For these models, we define Outer units as localities more than 50 kilometers from the West Bank border. Alternatively, we could hold the treatment and control (South) units fixed and vary our definition of the Outer control units. These results are presented in Figure SI-10. The relevant estimated treatment effect from our main results is plotted as a red line. Notice that our main results are consistently well within the 90% confidence intervals of these alternative specifications. These results give us confidence that our core results are not driven by the particular scaling of our spatial overlay design.

Table SI-4: Incorporating unit and time fixed effects

	Fixed Effects		
	North vs. South	North vs. Outer	South vs. Outer
Treatment × Post	-0.671***	-0.414***	0.256***
	(0.079)	(0.071)	(0.057)
N	24985	23716	25069
Clusters	617	587	620

Note: Model estimates produced using a standard diff-in-diff regression with unit and time fixed effects (base terms are absorbed). All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Table SI-5: Addressing breaks in parallel trends with lags of outcome

	Diff-in-Diff North vs. South	North vs. Outer	South vs. Outer
Treatment	0.018	0.095***	0.119***
	(0.044)	(0.034)	(0.045)
Post	0.208***	0.098***	-0.083**
	(0.038)	(0.027)	(0.034)
Treatment × Post	-0.301***	-0.147***	0.164***
	(0.034)	(0.028)	(0.034)
N	24969	23698	25051
Clusters	609	578	611

Note: Model estimates produced using a standard diff-in-diff regression. Lags of the outcome variable included as a regressor. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Table SI-6: Addressing breaks in parallel trends by dropping unparallel periods

	Diff-in-Diff North vs. South	North vs. Outer	South vs. Outer
Treatment	0.074	0.299**	0.218**
	(0.114)	(0.144)	(0.103)
Post	0.177***	0.106**	-0.257***
	(0.056)	(0.042)	(0.050)
Treatment × Post	-0.647***	-0.437***	0.250***
	(0.079)	(0.071)	(0.059)

Note: Model estimates produced using a standard diff-in-diff regression. Main sample excludes periods where the difference-in-slopes test suggests inconsistency in pretreatment trends. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Table SI-7: Using a narrow timing window around wall construction

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.018	0.217	0.201**
	(0.142)	(0.146)	(0.086)
Post	0.154**	0.199***	-0.237***
	(0.071)	(0.062)	(0.062)
Treatment × Post	-0.437***	-0.222**	0.216***
	(0.096)	(0.088)	(0.062)
N	12789	12138	12831
Clusters	609	578	611

Note: Model estimates produced using a standard diff-in-diff regression. Main sample is limited to the ten months prior to and after treatment. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Table SI-8: Incorporating district-specific time trends

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.995***	0.534***	-0.269*
	(0.221)	(0.169)	(0.140)
Post	0.168***	0.106**	-0.220***
	(0.056)	(0.044)	(0.048)
Treatment × Post	-0.635***	-0.423***	0.237***
	(0.077)	(0.072)	(0.056)
N	24985	23716	25069
Clusters	617	587	620

Note: Model estimates produced using a standard diff-in-diff regression. The model specification includes district-specific time trends. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Table SI-9: Accounting for unobserved industrial organization of crime with Arab localities

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.097	0.267	0.211
	(0.268)	(0.313)	(0.217)
Post	0.199**	-0.057	-0.053
	(0.097)	(0.039)	(0.039)
Treatment × Post	-0.671***	-0.415**	0.256**
	(0.184)	(0.160)	(0.105)
N	24985	23716	25069
Clusters	47	40	22

Note: A novel map is constructed to address potential clustering in the industrial organization of crime (Figure SI-8). A Voronoi method is used to assign localities to one of several dozen crime zones hotspots. Model estimates produced using a standard diff-in-diff regression. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by Arab locality zone.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table SI-10: Excluding Be'er Sheva from main analysis

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.100	0.267*	0.203**
	(0.114)	(0.142)	(0.098)
Post	0.200***	-0.057*	-0.053
	(0.047)	(0.033)	(0.033)
Treatment × Post	-0.671***	-0.415***	0.256***
	(0.079)	(0.071)	(0.057)
N	24944	23716	25028
Clusters	616	587	619

Note: This analysis excludes the locality Be'er Sheva, an auto theft hotspot. Model estimates produced using a standard diff-in-diff regression. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table SI-11: Excluding central localities from main analysis

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.097	0.697***	0.547***
	(0.114)	(0.132)	(0.081)
Post	0.199***	-0.020	-0.016
	(0.047)	(0.027)	(0.027)
Treatment × Post	-0.671***	-0.452***	0.219***
	(0.079)	(0.069)	(0.054)
N	24985	21664	23017
Clusters	617	536	569

Note: This analysis excludes central localities, located between the treatment and control bounding boxes, from the set of Outer localities. Model estimates produced using a standard diff-in-diff regression. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Table SI-12: Including mixed religion localities in estimating sample

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.095	0.264*	0.205**
	(0.113)	(0.140)	(0.096)
Post	0.202***	-0.057*	-0.053*
	(0.047)	(0.032)	(0.032)
Treatment × Post	-0.672***	-0.413***	0.259***
	(0.079)	(0.071)	(0.057)
N	25149	23921	25356
Clusters	621	592	627

Note: This analysis adds non-Jewish, mixed communities to the main analysis. Model estimates produced using a standard diff-in-diff regression All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Figure SI-8: Figure shows clustering of localities in Israel using the Voronoi method.

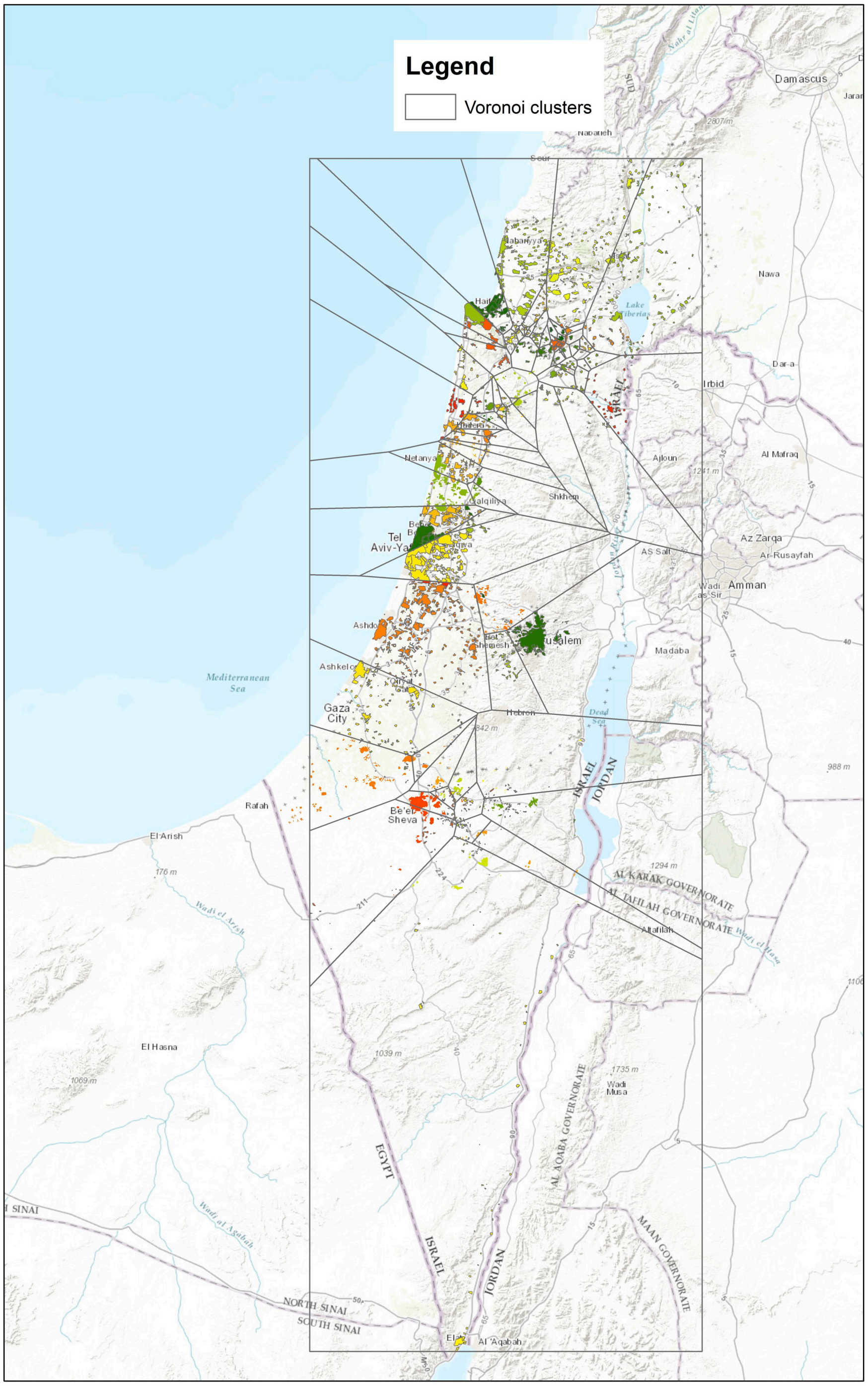


Table SI-13: Accounting for intensity of terrorist attacks, suicide bombings within-locality

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.097	0.268*	0.211**
	(0.114)	(0.142)	(0.098)
Post	0.199***	-0.057*	-0.053
	(0.047)	(0.033)	(0.033)
Treatment × Post	-0.670***	-0.415***	0.256***
	(0.079)	(0.071)	(0.057)
N	24985	23716	25069
Clusters	617	587	620

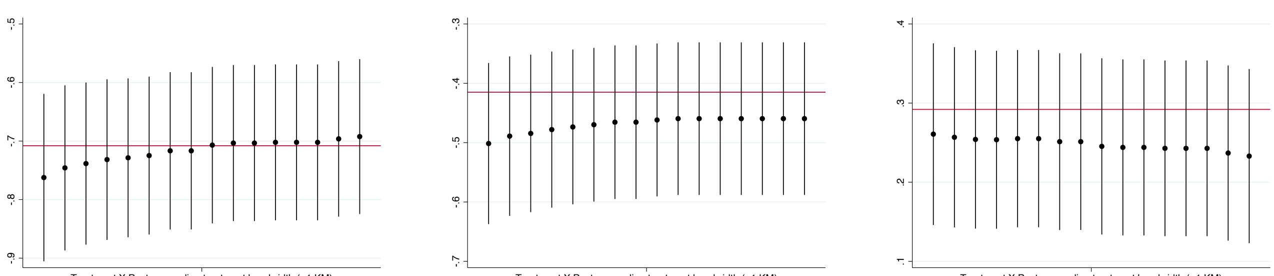
Note: This analysis adds a control for the total number of suicide attacks within-locality, by month. Model estimates produced using a standard diff-in-diff regression. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table SI-14: Accounting for intensity of terrorist attacks, suicide bombings within-district

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.100	0.265*	0.200**
	(0.113)	(0.141)	(0.098)
Post	0.197***	-0.056*	-0.056*
	(0.047)	(0.033)	(0.033)
Treatment × Post	-0.672***	-0.410***	0.252***
	(0.079)	(0.070)	(0.057)
N	24985	23716	25069
Clusters	617	587	620

Note: This analysis adds a control for the total number of suicide attacks within-district, by month. Model estimates produced using a standard diff-in-diff regression. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Figure SI-9: Alternative Northern and Southern group classifications based on distance to West Bank border (<25 KM to <40 KM), while Outer defined as >50 KM. Baseline treatment effect plotted as red line from Table 1.



(a) North vs. South **(b) North vs. Outer** **(c) South vs. Outer**

Table SI-15: Accounting for intensity of terrorist attacks, attacks within-locality

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.097	0.268*	0.211**
	(0.114)	(0.142)	(0.098)
Post	0.199***	-0.058*	-0.053
	(0.047)	(0.033)	(0.033)
Treatment × Post	-0.671***	-0.415***	0.256***
	(0.079)	(0.071)	(0.057)
N	24985	23716	25069
Clusters	617	587	620

Note: This analysis adds a control for the total number of terrorist attacks within-locality, by month. Model estimates produced using a standard diff-in-diff regression. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Table SI-16: Accounting for intensity of terrorist attacks, attacks within-district

	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.109	0.265*	0.227**
	(0.117)	(0.141)	(0.096)
Post	0.211***	-0.026	-0.068*
	(0.050)	(0.036)	(0.035)
Treatment × Post	-0.673***	-0.408***	0.249***
	(0.080)	(0.070)	(0.057)
N	24985	23716	25069
Clusters	617	587	620

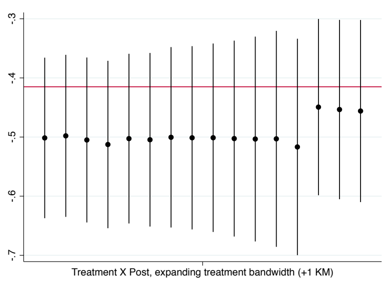
Note: This analysis adds a control for the total number of terrorist attacks within-district, by month. Model estimates produced using a standard diff-in-diff regression. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Table SI-17: Accounting for changes in socio-economic development

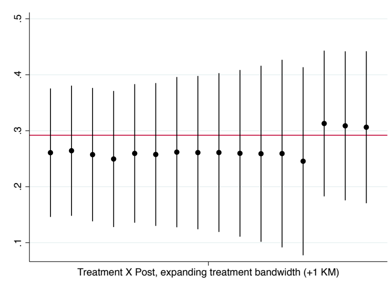
	Diff-in-Diff		
	North vs. South	North vs. Outer	South vs. Outer
Treatment	0.033	0.214	0.215**
	(0.109)	(0.139)	(0.097)
Post	0.184***	-0.083**	-0.061*
	(0.047)	(0.034)	(0.034)
Treatment × Post	-0.667***	-0.404***	0.258***
	(0.079)	(0.071)	(0.057)
N	24917	23648	24987
Clusters	616	586	618

Note: This analysis adds a control for year-over-year variation in economic and social development, by zone. Model estimates produced using a standard diff-in-diff regression. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

Figure SI-10: **Alternative Outer group classifications based on distance to West Bank border (>50 KM to >65 KM), while Northern and Southern zones are defined as <25 KM. Baseline treatment effect plotted as red line from Table 1.**



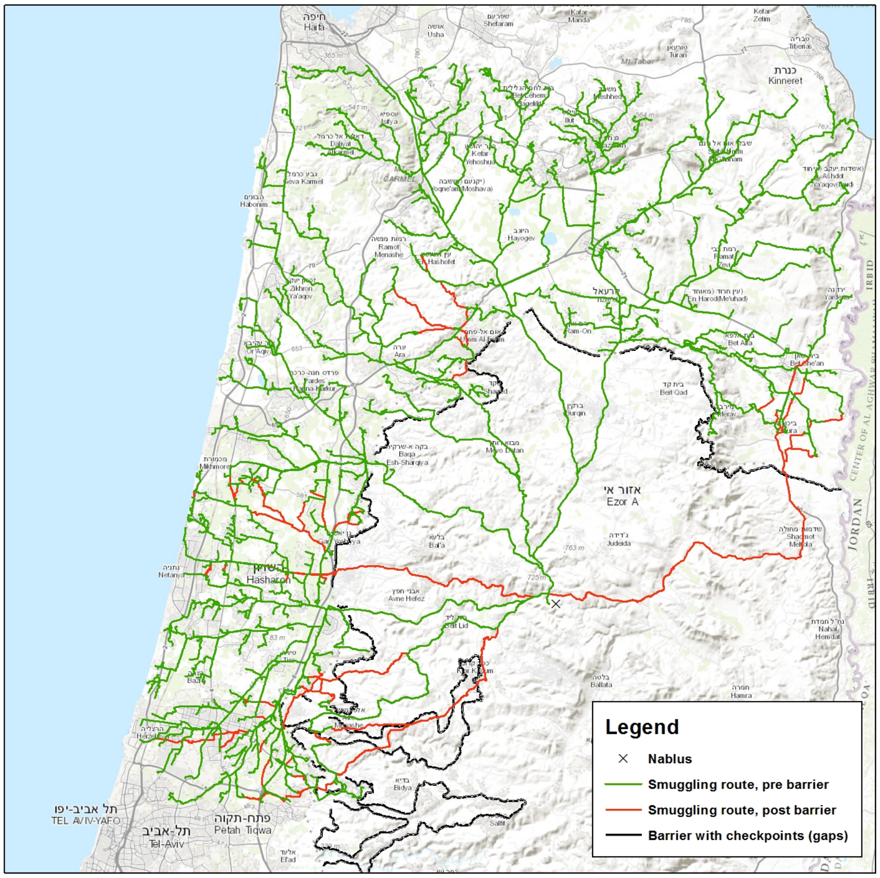
(a) North vs. Outer



(b) South vs. Outer

G Path optima

Figure SI-11: Network of shortest path smuggling routes, with disrupted paths (red)



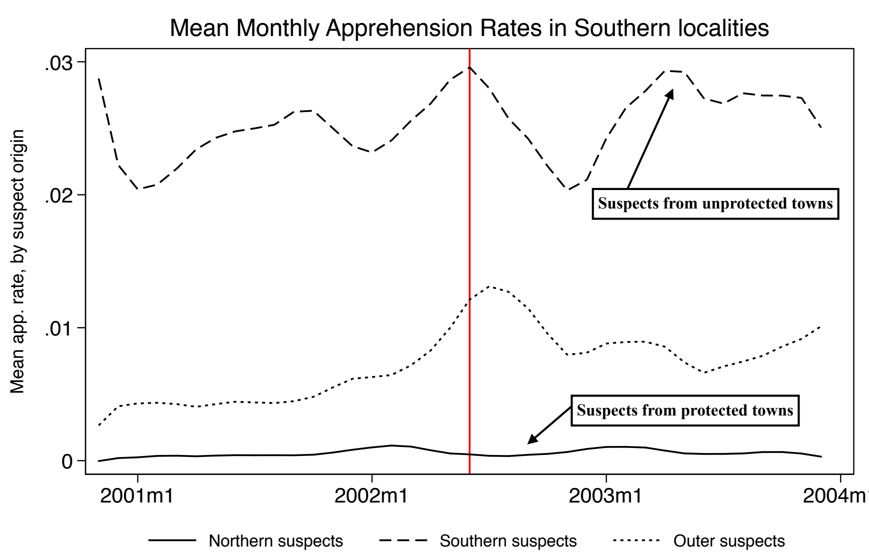
H Spillover Mechanisms

In this section, we introduce additional descriptive evidence that clarifies the mechanisms linking border fortification to smuggling spillovers and substitution away from smuggling into related criminal enterprises. These analyses are important for providing a comprehensive assessment of the general effects of border wall policies on criminal behavior. We consider two related questions: (1) do smugglers relocate to unprotected regions? (2) if not, how do smugglers cope with the rising costs of cross-border travel?

Smuggling Relocation

In our main results, we observe a substantial spillover of smuggling activity from protected regions to unprotected border townships. However, it remains unclear whether smugglers from the protected region are relocating their activities to the not-yet-protected border area or if the increase in vehicle smuggling we observe in the unprotected region is driven by increased predation by criminals from the region. To investigate this further, we rely on individual arrest records, which include information about the origin of the car smuggler and the location where the arrest took place. We plot trends in the arrest data in Figure SI-12. We find no evidence of an increase in the rate of apprehension of smugglers originating in the protected region. This suggests that smugglers are not relocating. Instead, we observe a notable increase in the rate of apprehension for smugglers from the unprotected region in early 2003.

Figure SI-12: Trend in apprehension rates of suspects in Southern localities, by suspect's origin



Substituting from Smuggling

Smugglers are not relocating to the unprotected region, likely because encroaching on other gangs' turf carries a high risk of violent retaliation (Lessing, 2017). In this case, how do (northern) smugglers cope with the rising costs of cross-border travel? One possible mechanism is through substitution from cross-border activities to criminal enterprises that do not require the (former) smuggler to exit the location where their criminal activity takes place. We consider one such activity—home invasions—which enable thieves to steal and liquidate a good without crossing into the West Bank (i.e., stolen goods are sold in Israel). Home invasions are useful because they are well-reported (for insurance purposes) and, in the context we study, they covary with vehicle theft as crimes of opportunity.

We begin by testing the assumption that car thefts and break-ins covary positively by simply regressing home invasions per capita on car thefts per capita in locality j in month t. Table SI-18 Panel A shows that when broken down by treatment subgroup, or pooled across subgroups, home invasions are indeed increasing in car theft activity.[5] Importantly, if smugglers substitute from vehicle theft to home invasions after the construction of the border wall, this elasticity should flip for protected Northern localities but remain unchanged for Southern and Outer areas. We use two strategies to test this possibility.

First, for each locality we construct a measure of the mean difference in house break-ins per capita before and after the construction of the separation barrier and regress it on equivalent mean difference in per capita car theft. Results, reported in columns 1-3 in Table SI-18 Panel B show that only among the protected Northern localities does a reduction in the mean car theft not lead to reduction in mean home invasions. Second, and closely related, we regress home invasions per capita in levels on the mean difference in car theft per capita (post and pre-barrier construction). Results reported in column 1 in Table SI-18 Panel C suggest that protected localities with the greatest reduction in smuggling have the highest levels of home invasions. We find additional evidence consistent with our argument in the Southern region (column 2), but not in the Outer localities.

These findings strongly suggest that smugglers that do not relocate after border fortification may be substituting into other criminal enterprises. Such coping strategies should be viewed as part of criminal organizations' menu of actions that help keep gang members from defecting (Kostelnik and Skarbek, 2013). The externalities discussed herein could further destabilize border regions, and thus must be taken into account when considering the overall effect of border fortification policies.

[5] Pooled sample results available upon request.

Table SI-18: Elasticities of property crime

Panel A: Levels of break-ins reg. on levels of car theft			
	Northern	Southern	Outer
Car thefts per capita	0.166***	0.130***	0.184**
	(0.035)	(0.018)	(0.090)
N	11816	13169	11900
Clusters	292	325	295

Panel B: $\bar{\Delta}$ in break-ins reg. on $\bar{\Delta}$ in car theft			
	Northern	Southern	Outer
Mean change in car theft	0.059*	0.266***	0.208***
(post — pre)	(0.035)	(0.065)	(0.079)
N	288	321	290
Clusters	288	321	290

Panel C: Levels of break-ins reg. on $\bar{\Delta}$ in car theft			
	Northern	Southern	Outer
Mean change in car theft	-0.174***	0.333***	0.080*
(post — pre)	(0.045)	(0.078)	(0.042)
N	6048	6741	6090
Clusters	288	321	290

Note: Panel A is a simple correlation. Panel B evaluates the pre/post difference in means for home invasions and car thefts per capita for each locality across treatment subgroups. Panel C evaluates the pre/post difference in means for car thefts per capita on home invasions in levels. All models control for locality factors as described in the main text.
- Robust standard errors in parentheses, clustered by locality.
* p<0.10, ** p<0.05, *** p<0.01

I Where Crime Goes in the Unprotected South

We have shown that most of the reduction in auto theft in the North has been displaced to the South, and that this displacement likely represents a sharp increase in car theft by Southern gangs. Here we examine the logic of such spatial displacement. Specifically, we examine site selection; i.e., "where crime goes" when it gets displaced and why.

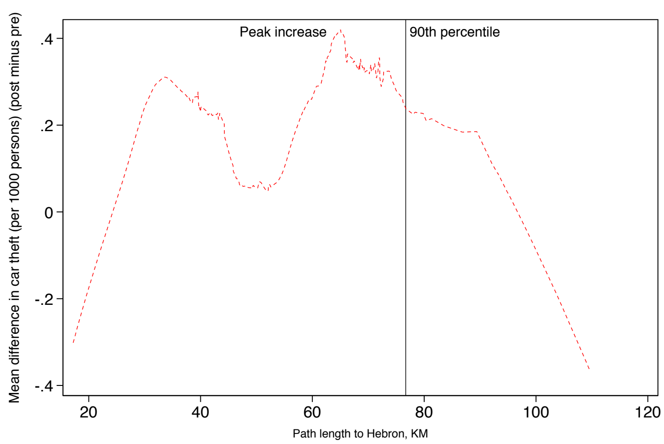
While crime displacement and reduction follow similar logics—criminals still respond to smuggling costs—-expanding predation imposes two additional constraints: 'carrying capacity' and rival operations. First, localities relatively close to Hebron likely have reached their carrying capacity of theft in the pre-treatment period and could not sustainably bear additional theft.[6] In the absence of a substantial increase in the number of vehicles in these

[6] Carrying capacity is a function of localities' (finite) supply of vehicles that are in demand in the 'black' market for spare parts, and of private and public security measures that are endogenous responses to localities'

locations or a change in private security provision that coincides with barrier construction, criminals should opt to predate relatively more among localities further away from Hebron. Second, if criminals are concerned about inter-network conflict over zones of activity, they may be willing to absorb an increase in transit costs and associated risks of apprehension to avoid intense contact with rival gangs.

We find support for this logic when examining displacement trends in the South following construction of the Northern section of the barrier. In Figure SI-13 we plot the pre/post differences in mean monthly number of stolen vehicles. We find that the largest increases in criminal activity in localities unprotected by the barrier did not occur near the border. Quite the contrary, auto theft in the South generally *increases* until about 65 kilometers from Hebron, before dropping down.

Figure SI-13: Impact of smuggling path disruption on predicted mean change in auto theft intensity.



Only among townships far from the West Bank—localities that suffered from limited auto theft in the pre-construction period—is auto theft decreasing in distance to the center of stolen vehicle dismantling operations. In other words, only where we neither expect inter-gang competition nor anticipate carrying capacity has been reached, do smuggling costs (i.e., distance) dominate gang's choice of theft location. By contrast, where carrying capacity is high and inter-gang competition is a genuine concern, route length is only a secondary consideration for gang's target selection.

level of predation.

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