Tourism and Cross-Border Conflict: An Empirical Analysis of the Israeli-Palestinian Case

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Abstract

How does tourism affect conflict, and how is it affected by conflict and violence? Tourism is often proposed as a way to manage and resolve conflicts, especially those between close neighbors. Drawing on theories of economic cooperation and conflict, and using data from the Israeli-Palestinian case, this paper finds no strong evidence that tourism has a pacifying effect on conflict: regions that host more tourists, and that have a stronger tourism potential, are not more peaceful than other regions. Furthermore, hosting more tourists from the other side of the border does not affect violence. Finally, although tourism is sensitive to violence, this sensitivity is short-term and often conditional on other factors. These findings suggest that we should moderate our expectations about the potential effect of tourism on conflict resolution.

"What I have seen is that peace works better than conflict, and one of the best manifestations of it is in travel and tourism"[1]

How does tourism affect conflict? Can cross-border tourism contribute to conflict resolution and peace building, as the quote above suggests? It is a well-established empirical regularity that tourism is adversely affected by conflict and violence. However, the effect of tourism on conflict, and especially the role of tourism in promoting conflict resolution has been under-explored.[2] In this paper, I use data from the Israeli-Palestinian conflict to examine the effect of tourism on patterns of conflict and violence, and to test several hypotheses about the relationship between cross-border flows of people and conflict. Specifically, I explore how tourism is associated with the patterns of suicide attacks initiated by Palestinians against Israeli civilian targets. I also explore hypotheses about the sensitivity of tourism to violence.

A dominant view in the literature as well as in policy circles maintains that conflict and tourism are substitute phenomena. This view is based on the assumption that people prefer traveling to peaceful destinations, where their risk of exposure to violence is low, and where they can easily access tourist attractions or reach their destination in a predictable manner. Thus, conflict is believed to have a negative effect on cross border movement of people.

Causality, however, can also run in the opposite direction. Since cross border flows of people often generate revenues, they may also increase the opportunity cost of conflict, thereby making violence more costly and less likely. Moreover, revenues generated by cross border flows of people improve the local economy, and improved economic conditions are negatively related to some forms of violence, such as civil wars (Fearon & Laitin, 2003; Collier & Hoeffler, 2004; Miguel, Satyanath, & Sergenti (2004). For these reasons, investment in tourism is often being proposed as an indirect way to manage and even resolve conflicts.[3] Thus, the negative correlation between tourism and conflict can be due to the negative effect

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1   Former US President Bill Clinton at the 13th annual World Travel & Tourism Council Global Summit in Abu Dhabi, UAE, April 9, 2013, http://www.wttc.org/events/abudhabi-2013/global-summit-news/day-one/presidential-prospective (Retrieved on September 21, 2013).

2   As I will discuss below, there are many studies that theoretically explore the role of economic exchanges, cross-border movement, and tourism in promoting cooperation. However, very little empirical evidence has been provided to demonstrate the pacifying role of these exchanges. For example, Enders and Sandler (1991) find no effect of tourism on conflict between 1970 and 1988 using data from Spain.

3   The US Secretary of State John Kerry emphasized the role of tourism in promoting peace in the Middle East in his address in the World Economic Forum in Jordan on May 26, 2013, http://www.weforum.org/news/kerry-announces-us4-billion-economic-plan-break-israeli-palestinian-impasse (Retrieved on September 21, 2013).

of tourism on conflict, and not just the negative effect of conflict on tourism.

Despite the logical appeal and the evidence that tourism and conflict are substitutes, there is also evidence that conflict and tourism can be complementary. Terrorists often strike popular and crowded locations to maximize the impact of their attacks, and sometimes they specifically target tourists. Thus, an increase in tourism can also lead to an increase in terrorism, especially if it is directed against foreigners and tourists.[4] Additionally, there is evidence that some types of tourists are attracted to areas of conflict precisely because of the risks involved in traveling to these destinations or because they are interested in understanding these conflicts.[5] Thus, conflict may not necessarily affect the overall level of cross border flows, but instead the type of travelers.

In this paper, I explore several hypotheses about the relationship between tourism and terrorism using data from the Israeli-Palestinian conflict. I use a fine-grained dataset that contains monthly and geographically-disaggregated data on tourist arrivals in Israel and the Palestinian Authority (West Bank and Gaza strip), as well as locations of terrorist attacks conducted by Palestinians against Israeli targets, and the attackers' geographic origin.

Overall, I find little evidence that cross-border movement of tourists decreases conflict. Initially, there is a negative association at the macro-level between prior tourist flows and current attacks, consistent with the dominant view of tourism and conflict as substitutes. However, this association disappears at the micro-level, and after controlling for alternative explanations for attacks. Specifically, I find that Palestinian regions that have greater tourist potential do not differ from other regions in the number of suicide attacks launched from their territory. Likewise, Palestinian regions that host more tourists are not more peaceful compared to regions that host fewer tourists. Furthermore, religious holidays that are associated with tourist arrivals do not seem to affect the patterns of violence, not even when it comes to regions with religious sites.

My findings also indicate that under some conditions tourism is sensitive to violence. First, I find that tourism in Israel decreases by 3% to 7% in the month following a suicide attack, however this effect lasts only for one month and dissipates afterwards. Attacks in Israel affect all Israeli touristic destinations, and not only the cities in which these attacks take place (thus there is no local effect of terrorism on

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4   The Luxor massacre in Egypt in 1997 that killed 62 people, most of whom were tourists, is a case in point.

5   Tourists traveling to Syria and Afghanistan, http://www.washingtonpost.com/blogs/worldviews/wp/2013/01/03/war-tourism-a-thrill-seeking-japanese-trucker-in-syria/ (Retrieved on September 21, 2013). Alternative Tourism Group in the Israeli-Palestinian context, http://electronicintifada.net/content/visit-palestine-says-west-banks-growing-alternative-tourism-industry/8343 (Retrieved on September 21, 2013).

tourism). Tourist arrivals in Palestinian territories, however, are less sensitive to attacks against Israelis. The effect of terrorist attacks on tourism is conditional on Israeli countermeasures against Palestinians: tourism in Palestinian regions decreases only when Israel uses military force in response to suicide attacks by Palestinians. Without such countermeasures, tourist arrivals in Palestinian areas are not associated with suicide attacks against Israelis that originate from these areas. Taken together, my findings suggest caution in response to claims that tourism can be useful for managing and resolving cross-border conflicts.

The paper is organized as follows. In the next section, I briefly outline the historical background of the Israeli-Palestinian case. Then, I review literature on economic ties and conflict, and formulate eight hypotheses about the expected relationship between tourism and patterns of violence. Afterwards, I describe the data and the empirical strategy. Then, I present the empirical results, and conclude with a discussion of the potential role of tourism in solving cross-border conflicts.

Historical Context: Tourism and the Israeli-Palestinian Conflict

Israel captured the West Bank and Gaza strip (WBG) during the Six Days War in 1967, and imposed a military rule in these territories. Figure 1 shows a map of Israel and the WBG. The light gray areas represent the pre-1967 Israeli territory, and the darker grey areas show the Palestinian regions (also labeled North, Middle, Jerusalem, South, and Gaza).

Following the first Palestinian uprising (*Intifada*) in 1987, Israel started negotiating with the Palestinian leadership, and signed the Oslo accords in 1993, followed by several interim agreements. The basic principle underlying these agreements was the land for peace formula: Israel agreed to withdraw from part of the lands it occupied in 1967 in exchange for the Palestinian recognition of Israel's right to exist and their cooperation in counterterrorism against the hardline Palestinian organizations.

Although the interim agreements have not led to the establishment of a Palestinian state, they allowed the Palestinians for the first time to control parts of the disputed territory, and establish an administrative infrastructure to govern these areas. The territory that came under Palestinian control includes the cities of Bethlehem, Hebron, and Jericho that contain many sites of religious and historical importance. Other areas in the Palestinian territories, such as the city of Ramallah as

Figure 1
Map of Israel and the Palestinian Regions with Main Touristic Sites

well as Gaza strip also have touristic potential.[6]

Israel hosts numerous sites that attract many tourists from around the world—Jerusalem, Tel Aviv, the Dead Sea, and the Gulf of Eilat (see Figure 1).[7]

Despite the initial progress in the 1990s, talks over the permanent agreement between Israel and the Palestinians came to a halt in 2000. Violence had resumed with the outbreak of the second Intifada in September 2000, and the subsequent wave of suicide attacks that targeted Israeli cities until the end of December 2006. Israel has used military force, as well as targeted assassinations, house demolitions, and curfews, whereas the Palestinians resorted to terror attacks, including suicide bombings. According to the Israel Security Agency, there were about 30,000 Palestinian attacks against Israeli targets between September 2000 and December 2006 that resulted in over 1,000 Israeli fatalities.

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6   Palestinian official website describes several places with touristic potential: http://travelpalestine.ps/destinations/ (Retrieved on September 21, 2013).

7   See Israeli official website, http://www.goisrael.com/Tourism_Eng/Pages/home.aspx (Retrieved on September 21, 2013).
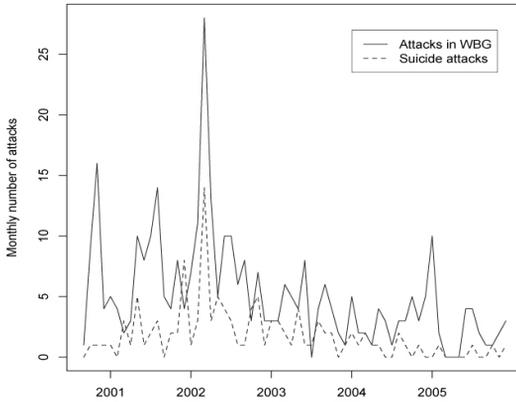
Figure 2
Suicide Attacks Carried Out by Palestinians against Israeli Targets

Figure 2 shows the number of suicide attacks conducted by Palestinians against Israeli targets. Suicide attacks peaked in March 2002, and became significantly less frequent afterwards.

Tourism in Palestinian areas and in Israel surged in the wake of the Oslo accords and the peace talks, but steeply declined after the eruption of violence. Figures 3 and 4 depict the changes in tourist arrivals in Palestinian and in Israeli hotels, respectively. The number of tourists staying in Palestinian hotels has plummeted following the outbreak of the second Intifada, and has never recovered to its previous level. There has been a slight recovery since 2004, but it is due mostly to domestic tourism, as shown by the solid line (total number of tourists) and the dashed line (foreign tourists) in Figure 3. Israel has also experienced a decline in
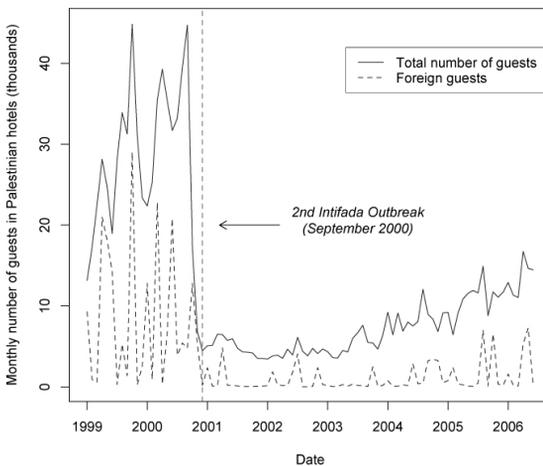

Figure 3
Hotel Guests in Palestinian Regions
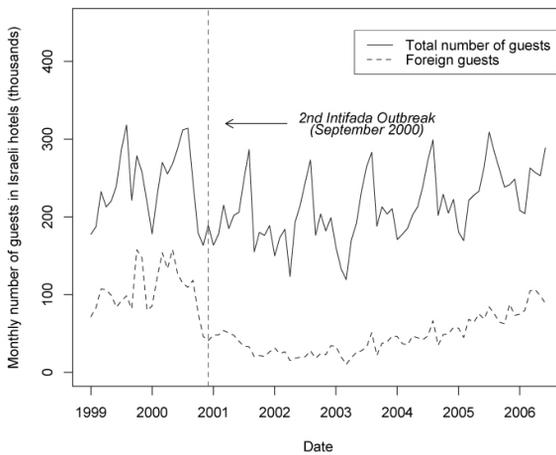
Figure 4
Hotel Guests in Israel

foreign tourist arrivals, but the overall number of tourists has remained largely the same due to domestic tourism, as shown by the solid line in Figure 4. Foreign tourist arrivals have been recovering since 2003, but the overall number has not returned to the pre-Intifada levels, as depicted by the dashed line in Figure 4.

Tourism and Conflict: Extant Literature and Hypotheses

The Effect of Tourism on Conflict

The relationship between tourism and conflict is situated within a broader context of the effect of economic ties on political conflict. The extant literature in this area offers three alternative views: One perspective asserts that cross-border economic exchanges inhibit conflict, leading to a more peaceful world. A second view holds that economic exchanges are positively associated with conflict because they generate discord between countries. A third argument posits that economic ties do not affect conflict, and that the apparent correlation is spurious.

The argument that economic ties reduce conflict is associated with the liberal approach to international relations, and it has gained prominence in both academic and policy circles, as the quote in the beginning of this paper suggests. This perspective traces back to Immanuel Kant, who envisioned free trade to be one of the key ingredients to a world peace (Crescenzi, 2005). Several studies find an empirical support for the pacific impact of cross-border economic exchanges (Domke, 1988; Mansfield, 1994; Polanchek, 1978; Oneal & Russet, 1997; cited in Mansfield & Pollins, 2003; and in Crescenzi, 2005). Some of these findings have been called

into question, among other things based on methodological grounds (Beck, Katz, & Tucker, 1998).

One explanation for the pacifying effect of economic exchanges suggests that as such exchanges intensify, potential belligerents become better positioned to achieve their political goals using other, nonviolent means, thereby making military conquest and territorial expansion unnecessary (Rosencrance, 1986). Cross-border tourism in particular has been linked to economic stability, development of infrastructure, foreign currency earning, and an increase in employment, all of which contribute to a greater satisfaction with the status quo, and reduce the incentives to engage in conflict. Applying this argument to the Israeli-Palestinian context suggests that we should expect less violence by Palestinians following periods of higher tourist inflows, since tourism revenues are expected to boost the economy, make Palestinians more satisfied with the status quo, and less likely to resort to violence.

Hypothesis 1: Fewer Palestinian attacks against Israelis are expected in period t if Palestinians host more tourists in period t-1.

An additional reason for their pacifying effect is that economic exchanges generate revenue for individuals and groups that develop vested interest in maintaining the status quo, and avoiding situations that can disrupt future flow of income. These groups restrain their governments from using force because conflict reduces revenue from cross-border economic exchange (Mansfield & Pollins, 2003; Domke, 1988; cited in Crescenzi, 2005).

In the Israeli-Palestinian context, Bueno de Mesquita (2009) proposes an arrangement involving tourism that would provide incentives to both sides to avoid violence. In this arrangement, Israel and the Palestinians would share tax revenue from tourism in a way that would enhance income for both sides, and in the case of the Palestinians this mechanism might result in a ninefold increase in tax revenue. Since tourism is sensitive to violence, both sides would lose if the conflict reignites. Thus, both Israel and the Palestinians, under this arrangement, would have strong incentives to maintain stability and avoid escalation in order to secure tourism revenue. If the argument that higher costs of losing economic ties make violence less likely is correct, then those who profit from tourism, and thus have vested interest in avoiding disruption of cross-border flows, should oppose violence, and try and restrain those who engage in it. In the Israeli-Palestinian context, this explanation would imply that Palestinian regions that benefit more from tourism should be less likely to contribute to violence.

Hypothesis 2: Palestinian suicide bombers are less likely to originate in period t from Palestinian regions that host more tourists in period t-1.

Another causal mechanism that is suggested in the literature to explain why economic ties can reduce the likelihood of conflict is that economic exchanges

increase the frequency of interaction and communication between potential belligerents, and contribute to mutual understanding, reduce uncertainty, and ultimately lower the likelihood of violence outbreak. Karl Deutsch's research on security communities, whose members have a "real assurance that the members of that community will not fight each other physically," emphasizes transaction flows that incrementally lead to "mutual sympathy and localities," and a "we feeling" (cited in Kupchan, 2010, pp. 22-23).

In the Israeli-Palestinian conflict this explanation implies that higher frequency of interactions between Israelis and the Palestinians, especially in the context of economic exchanges, should lower the likelihood of violence by increasing mutual understanding and reducing miscommunication. This logic implies the following hypotheses:

Hypothesis 3: Palestinian suicide bombers are less likely to emerge in period t from regions that host more Israeli tourists in period t-1.

A number of studies have asserted various domestic and international factors mediate the effect of economic exchanges on conflict.[8] In the Israeli-Palestinian context, religious holidays could be a mediating factor that shapes the impact of tourism on conflict. Religious tourism is especially important in the context of Israel and the Palestinian regions, and thus it is logical to suggest that the effect of dependence on tourism might be contingent on proximity to religious holidays, and that Palestinians are less likely to initiate attacks prior to such holidays in order to avoid losing revenue from tourism. This should be especially true for Palestinian regions with religious sites, such as the cities of Jerusalem and Bethlehem. This implies the following hypotheses:

Hypothesis 4: Palestinians from regions with religious sites are less likely to initiate attacks against Israelis before Christian holidays.

The Sensitivity of Tourism to Conflict

One of the arguments in favor of the pacifying effect of tourism on conflict is that tourism is sensitive to violence, and parties have an incentive to avoid fighting to preserve tourism revenue. The tax revenue sharing arrangement proposed by Bueno de Mesquita (2009) and discussed earlier rests on the premise that tourism

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8   For example, Mansfield (2004) posits that economic ties inhibit conflict only in the presence of preferential trade arrangements. Liberman (1999) reports that the effect of economic ties on conflict is conditional on the offense-defense balance. Papayoanou (1996) and Hegre (2000) show that domestic characteristics (such as the effect of the economic interests on policy-making and the level of industrial development) affect the role of economic interdependence in preventing conflict.

is sensitive to violence, and that tax revenues would decrease if violence erupts, thus leading both sides to lose. Bueno de Mesquita provides some evidence that tourist arrivals decrease both in Israel and in Palestinian regions following terrorist attacks, but this evidence is based on data that are aggregated both spatially as well as temporally.

Several other studies provide evidence of the negative effect of conflict on tourism. Enders and Sandler (1991) find a significant negative effect of terrorism on the number of tourists visiting Spain from 1970 through 1988 using monthly data and a vector autoregressive analysis. Enders, Sandler, and Parise (1992) report a negative effect of terrorism on tourism in Greece, Austria, and Italy from 1974 through 1988. Moreover, using data from Western Europe they report that tourist substitute away from countries that experience attacks to other, more peaceful countries. Pitzam and Fleischer (2009) report an adverse effect of terrorism on tourism based on data from Israel between 1991 and 2001. They note that the frequency of attacks, rather than their lethality, is the best predictor of tourism decline. In a more recent study, Enders and Sandler (2006) find that both domestic and international terrorism adversely affected foreign tourism to Italy between 1995 and 1997. Finally, using data from Greece, Israel, and Turkey, Drakos and Kutan (2003) also find evidence that tourists substitute away from high-risk places. Unlike other studies, Yaya (2008) finds a negative, but relatively small effect of domestic terrorism on tourists' arrival in Turkey.

The view that parties abstain from violence out of fear of losing profits from their economic exchange has been criticized by Barbieri and Levy (1999), who show that interstate wars do not always halt trade, and that conflict presents only short-term costs to parties that engage in trade.

In order to investigate whether terrorism indeed imposes costs by reducing the number of tourists following attacks, I investigate the following hypotheses:

Hypothesis 5: Fewer tourists arrive in Israel in period t if there is a terrorist attack in period t-1.

Hypothesis 6: Israeli cities that experience an attack in period t-1 should have fewer tourists in period t.

Hypothesis 7: Fewer tourists arrive in a Palestinian region in period t if a suicide bomber originated from that region in period t-1.

Finally, some studies conclude that there is no systematic relationship between economic exchanges and political conflict. This view is characteristic of neorealist approaches that maintain that the distribution of power is the key determinant of conflict, and that it trumps the importance of economic gains (Waltz, 1979; Buzan, 1984; Gilpin, 1987; quoted in Crescenzi, 2005). To the extent that this argument is correct, we should not observe any relationship between tourism and terrorism in

the hypotheses specified above.

Data

The dataset contains geographically-disaggregated monthly data on tourism and conflict in Israel and the Palestinian territories from 1999 through 2006.

Tourism Data

To measure flows of tourists, I use data provided by the Palestinian Central Bureau of Statistics and the Israeli Central Bureau of Statistics.[9] The measure that is available for both entities is that of the number of guests staying in hotels in every Palestinian region i in month t ($Tourists^{PAL}_{i,t}$), and in every Israeli tourist destination j in month t ($Tourists^{ISR}_{j,t}$). The data on guests staying in Palestinian and Israeli hotels is available on a monthly basis for each Palestinian region and each Israeli tourist destination. There is also information on the origin of the guests, and I explore this data in my tests.

Palestinian territories are divided into 5 regions depicted in Figure 1. The Israeli data covers the main tourist destinations in Israel: Jerusalem Tel Aviv, Haifa, Tiberias, Netanya, Herzliya, and Eilat, as well as the Dead Sea resorts that are also represented in Figure 1.

Conflict Data

The measure of terrorism is Palestinian suicide attacks against Israeli targets. I use a detailed dataset, originally constructed by Benmelech and Berrebi (2007) and recently used in Benmelech, Berrebi, and Klor (2010), based on the annual reports of the Israeli Security Agency. This dataset identifies all Palestinian suicide attacks that were carried out from September 2000 through December 2006, and the home district of the perpetrators. The dataset contains 143 suicide attacks involving 157 suicide terrorists. Based on these data, I create a variable $Suicide\ attacks_{i,t}$ that count the number of suicide attacks originating from each Palestinian region i in month t.

Controls Variables

I employ several control variables to account for alternative explanations for attacks or for tourist arrivals.

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9 These data are available here: http://www.pcbs.gov.ps/site/lang__en/507/site/688/default.aspx (Palestinian data, retrieved on September 21, 2013) and here http://www.cbs.gov.il/reader/?MIval=cw_usr_view_ SHTML&ID=432 (Israeli data, retrieved on September 21, 2013).

In models where the dependent variable is attacks, I control for Palestinian unemployment, Palestinian population size, and Israeli settler population size in every Palestinian region, since these factors might affect the likelihood and the intensity of violence. These variables are available on an annual basis for each Palestinian region. In my tests, I use the log-transformed value for Palestinian population and settler population.

Attacks as well as tourist arrivals can be affected by proximity to religious holidays. *Religious holiday$_{t-1}$* and *Religious holiday$_{t+1}$* are equal to 1 if there is a religious holiday in the preceding and in the following month, respectively. These variables are otherwise coded 0. I consider Christian, Jewish, and Muslim religious holidays.[10]

Another factor that might affect the likelihood and the intensity of attacks and tourism is proximity to elections (Aksoy, n.d.). To control for elections, I include two binary variables—*Election$_{t-1}$* and *Election$_{t+1}$* that are equal to 1 if there are elections either in Israel or in the Palestinian regions in the preceding or in the following month, respectively. I consider parliamentary elections in Israel, as well as the 2001 direct election of the prime minister. In the Palestinian regions, I account for the Palestinian Legislative Council, presidential elections, and local (municipal) elections.[11]

Attacks and tourism are affected by developments in the Israeli-Palestinian peace talks (Kydd & Walter, 2002). I use data from the Levant Reuters CAMEO data collected by the Penn State Even Data Project to code positive and negative developments in negotiations.[12] *Positive event in negotiations$_t$* measures a number of events in month *t* the parties (formal Israeli and Palestinian representatives) negotiated, expressed an intent to engage in cooperation, made optimistic comments, or provided concessions. *Negative event in negotiations$_t$* counts that number of times in month *t* the parties halted negotiations, threatened to use force, imposed sanctions on each other, or made pessimistic comments about the prospects of the talks.

Finally, attacks and tourism can also be affected by the use of military force by

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10 Christian holidays are New Year's eve, Christmas, Ash Wednesday, and Easter, both western and Orthodox dates. Jewish holidays are Rosh Hashana, Yom Kippur, Sukkot, Chanuka, Purim, Pessach, and Shavuot. Muslim holidays are Ramadan, Eid al Fitr, Day of Arafat, and Eid al Adha. The dates of these holidays are available here http://www.timeanddate.com/holidays.

11 Dates of Israeli parliamentary elections: 5/17/1999, 1/28/2003, 3/28/2006. Direct prime minister election: 2/6/2001. Palestinian presidential election was held on 1/9/2005, and Palestinian parliamentary election took place on 1/25/2006. Palestinian local elections were held in several rounds in the following months: 12/2004, 1/2005, 5/2005, 9/2005, and 12/2005.

12 The dataset is available here http://eventdata.psu.edu/data.dir/Levant.Reuters.CAMEO.1111.zip (Retrieved September 21, 2013).

Israel. To control for this, I create a variable *Military force by Israel$_t$* which counts the number of times in month *t* Israeli used tanks, artillery, or aerial weapons against the Palestinians, based on the Penn State's Levant Reuters CAMEO data.

Empirical Method

I use a time-series cross-section dataset to explore the relationship between conflict and tourism.

Hypothesis 1 is tested using the following equation:

$$Suicide\ attacks_t = Tourists^{PAL}_{t-1} + Suicide\ attacks_{t-1} + \gamma X_{t-1} + \varepsilon_t, \tag{1}$$

where Suicide *attacks$_t$* is the number of all Palestinian suicide attacks in month *t. Tourists$^{PAL}_{t-1}$* is the logged number of tourists staying in Palestinian hotels in the preceding month, *Suicide attacks$_{t-1}$* is the number of Palestinian suicide attacks in the preceding month, and *γX_{t-1}* is a vector of control variables, as explained above. Finally, *ε_t* are robust standard errors.

The following equations are used to test hypothesis 2:

$$Suicide\ attacks_{i,t} = Tourists^{PAL}_{i,t-1} + Suicide\ attacks_{i,t-1} + \gamma X_{i,t-1} + \eta_t + \varepsilon_{i,t} \tag{2}$$

$$Suicide\ attacks_{i,t} = Tourists^{PAL}_{i,t-1} + \gamma X_{i,t-1} + \mu_i + \eta_t + \varepsilon_{i,t} \tag{3}$$

Suicide attacks$_{i,t}$ is the number of suicide attacks originating from Palestinian region *i* in month *t*. The main independent variable is the logged total number of tourists in Palestinian region *i* in month *t-1*.

Equation 2 refers to the lagged dependent variable linear model,[13] and in equation 3 I include Palestinian regions fixed effects *μ_i* that capture time-invariant region level factors, such as topography, distance from Israel, and distance from borders. These region fixed effects are in leu of the lagged dependent variable. Equation 3 also includes month dummies *η_t* that capture temporal trends. Finally, I allow for correlated errors within regions over time by clustering the regressions at the region level (*$\varepsilon_{i,t}$*).

Hypothesis 3 is tested using the models in equations 1 and 2, and the only difference is that the main independent variable is the logged number of tourists from Israel in Palestinian region *i* in month *t-1—Israeli Tourists$^{PAL}_{i,t-1}$*.

To test hypothesis 4, I use the following models:

$$Suicide\ attacks_{i,t} = Christian\ holiday_{t+1} + Religious\ site_i + Christian\ holiday_{t+1} \times Religious$$
$$site_i + Suicide\ attacks_{i,t-1} + \gamma X_{i,t-1} + \eta_t + \varepsilon_{i,t} \tag{4}$$

$$Suicide\ attacks_{i,t} = Christian\ holiday_{t+1} + Religious\ site_i + Christian\ holiday_{t+1} \times Religious$$
$$site_i + \gamma X_{i,t-1} + \mu_i + \eta_t + \varepsilon_{i,t} \tag{5}$$

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13 For the discussion of analyzing time-series—cross section data, see Beck and Katz (2009).

where *Christian holiday*$_{t+1}$ is equal to 1 if there is a Christian religious holiday in the following month, and 0 otherwise. Religious *site*$_i$ is equal to 1 if there is a site of religious importance in Palestinian region *i*.

The model used to test hypothesis 5 is again similar to the one in equation 1. The dependent variable is *Tourists*$^{ISR}_t$ that measures the logged number of tourists staying in Israeli hotels in month *t*, and the dependent variable is the total number of suicide attacks against Israelis in month *t-1*—*Suicide attacks*$_{t-1}$.

Finally, the models used to estimate hypotheses 6 and 7 are similar to equations 2 and 3. Here the dependent variables are *Tourists*$^{ISR}_t$ and *Tourists*$^{PAL}_t$ for hypothesis 6 and hypothesis 7, respectively. The main independent variable is *Suicide attacks*$_{i,t-1}$ that measures the number of suicide attacks in city *i* in month *t-1* for hypotheses 6, and the number of suicide attacks originating from Palestinian region *i* in month *t-1* for hypothesis 7.

Results

Does Tourism Reduce Conflict?

I start the empirical tests by asking whether Palestinian attacks are affected by the tourist arrivals in Palestinian regions in the previous period. Results are presented in Table 1. The unit of analysis in this test is month. The dependent variable is the logged number of suicide attacks initiated by Palestinians against Israelis in month *t*.[14] The main independent variable is *Tourists*$^{PAL}_{t-1}$ that is equal to the logged number of guests staying in all Palestinian hotels in a preceding month.

I begin with a simple linear regression of the number of attacks on the logged number of tourists, including a lagged dependent variable to account for temporal dependence,[15] and month dummies to address secular trends. The results in column 1 suggest that past tourism is negatively associated with present number of suicide attacks. Existing literature suggests that economic conditions are an important potential determinant of violence. To ascertain whether these results are affected by changes in the economy, in column 2, I control for the Palestinian unemployment

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14 I logged the number of attacks and added 1 to transform it to a continuous variable suitable for an OLS regression. The other alternative would be to use a count model to accommodate a count dependent variable (number of attacks), but such model would be problematic since it is a time-series dataset, and there is no good way of accounting for temporal dependence with a count model (see Brandt and Williams, 1998). In a robustness test (not reported here), I repeat this estimation using a probit model with a binary variable and binary time-series corrections as in Beck, Katz, and Tucker (1998), and the results are substantively the same as in Table 1.

15 Not including the lagged dependent variable will be equal to assuming that attacks in month *t* are uncorrelated with attacks in month *t-1*.

Variable	(1)		(2)		(3)	
	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
$Tourists^{PAL}_{t-1}$	-0.55***	[0.08]	0.42***	[0.12]	-0.31**	[0.14]
$Unemployment^{PAL}_{t-1}$			1.86	[1.18]	4.32**	[1.86]
$Population^{PAL}_{t-1}$					-1.60	[1.66]
$Settler\ population_{t-1}$					-0.22	[0.15]
$Religious\ holiday_{t-1}$					-0.11	[0.13]
$Religious\ holiday_{t+1}$					-0.20	[0.14]
$Election_{t-1}$					0.26*	[0.14]
$Election_{t+1}$					-0.08	[0.17]
Positive events in negotiation$_{t-1}$					-0.01	[0.02]
Negative events in negotiation$_{t-1}$					0.00	[0.03]
$Military\ force\ by\ Israel_{t-1}$					0.02	[0.03]
$Suicide\ attacks_{t-1}$	0.07**	[0.03]	0.06**	[0.03]	0.04	[0.03]
Constant	5.59***	[0.72]	4.00***	[1.28]	29.22	[23.42]
Month dummies	yes		yes		yes	
R^2	0.55		0.55		0.56	
No. of obs.	89		89		88	

* p<0.10, ** p<0.05, *** p<0.01

Table 1

Tourism and Palestinian Suicide Attacks: Pooled (Palestine)-Level Regressions (Hypothesis 1)

rate in a preceding month. The coefficient of $Tourists^{PAL}_{t-1}$ is still negative and statistically significant. Finally, in column 3 I include additional control variables—proximity to religious holidays and to elections, developments in the Israeli-Palestinian negotiations, and the use of force by Israel in the preceding month. The coefficient of $Tourists^{PAL}_{t-1}$ is still negative, although its statistical significance drops from 99% to 95%. This implies that the number of tourists is negatively associated with the number of suicide attacks originating from Palestinian regions. Substantively, since both the dependent and the independent variables are log-transformed, the coefficient implies that a 1% increase in the number of tourists in Palestinian hotels in month $t-1$ is associated with a 0.31% decrease in the number of suicide attacks in month t.

One potential problem with the results in Table 1 is that they might be driven by omitted variables, some of which might be unobservable, but also correlated with the number of tourists. Thus, these results cannot be interpreted causally. To further explore the relationship between tourism and conflict, I use a geographically-disaggregated dataset where the unit of analysis is Palestinian region-month. This allows exploration of the connection between tourism and violence, and control of alternative region-level explanations that can affect violence.

As hypothesis 2 suggests, groups that benefit from tourism should be less likely to participate in conflict because they have more to lose if violence disrupts economic exchange. This hypothesis is tested in Table 2.

In column 1, I again start with a simple linear regression of the dependent variable (suicide attacks originating from Palestinian region i in month t) on the logged number of guests staying in hotels in region i in month $t-1$. I include a lagged dependent variable and month dummies to account for temporal dependence and trends, respectively. The results suggest that there is a negative and statistically significant relationship between tourism and the number of attacks launched in and from Palestinian regions. I proceed with the tests, and include control variables in column 2. The relationship between tourism and attacks remains negative, though the level of statistical significance drops from 95% to 90%. The coefficient size is also smaller. Finally, in column 3 I include also region fixed effect to control for time-invariant observable and unobservable region-level characteristics (and drop the lagged dependent variable). The statistical significance no longer holds, and the coefficient size becomes much smaller.

This suggests that the initial negative association between tourism and vio-

Variable	(1)		(2)		(3)	
	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
$Tourists^{PAL}_{i,t-1}$	-0.09**	[0.02]	-0.05*	[0.02]	-0.01	[0.04]
$Unemployment^{PAL}_{i,t-1}$			1.13	[0.61]	2.30	[1.32]
$Population^{PAL}_{i,t-1}$			0.08	[0.07]	-1.00	[0.63]
$Settler\ population_{i,t-1}$			0.04*	[0.02]	0.01*	[0.00]
$Religious\ holiday_{t-1}$			-0.05	[0.03]	-0.05	[0.04]
$Religious\ holiday_{t+1}$			-0.09	[0.08]	-0.08	[0.07]
$Election_{t-1}$			0.04	[0.07]	0.05	[0.05]
$Election_{t+1}$			-0.03	[0.06]	-0.03	[0.08]
$Positive\ events\ in\ negotiation_{t-1}$			0.00	[0.01]	-0.00	[0.01]
$Negative\ events\ in\ negotiation_{t-1}$			-0.00	[0.00]	0.00	[0.00]
$Military\ force\ by\ Israel_{t-1}$			0.01	[0.01]	0.01	[0.01]
$Suicide\ attacks_{i,t-1}$	0.30**	[0.10]	0.22**	[0.05]		
$Constant$	0.73**	[0.18]	-1.09	[1.09]	12.99	[8.02]
$Month\ dummies$	yes		yes		yes	
$Region\ fixed\ effects$	no		no		yes	
R^2	0.26		0.31		0.20	
$No.\ of\ obs.$	440		440		440	

* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 2
Tourism in Palestinian Regions and Palestinian Suicide Attacks Originating from These Regions: Region-Level Regressions (Hypothesis 2)

lence disappears once we control for region-level time-invariant factors, such as terrain and distance from borders and Israel, as well as other unobservable time-invariant region-level factors. When we account for an alternative explanation, it seems that previous violence trends and the size of the settler population in a Palestinian region are better predictors of suicide attacks than tourism. Based on the results in Table 2, I reject hypothesis 2.

I now turn to examine whether Palestinian regions hosting more Israeli tourists are less likely to be home-regions of suicide bombers (hypothesis 3). Results are reported in Table 3. Column 1, as before, shows a simple linear regression with lagged dependent variable and month dummies. The results suggest a negative correlation between Israeli tourists in a Palestinian region in month *t-1* and suicide attacks launched from that region or attacks in that region against Israelis in month *t*. However, this result is not robust to the inclusion of control variables and region fixed effects in columns 2 and 3—the coefficient of interest remains negative, but it is no longer significant. As before, the lagged dependent variable and the demographic variables are better predictors of where suicide bombers are more likely to originate from. Despite the initial appearance, there is no evidence that Palestinian

Variable	(1)		(2)		(3)	
	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
Israeli Tourists$^{PAL}_{i,t-1}$	-0.04***	[0.01]	-0.01*	[0.01]	-0.01	[0.03]
Unemployment$^{PAL}_{i,t-1}$			1.16	[0.71]	2.31	[1.39]
Population$^{PAL}_{i,t-1}$			0.12	[0.06]	-1.10*	[0.41]
Settler population$_{i,t-1}$			0.04*	[0.02]	0.01*	[0.01]
Religious holiday$_{t-1}$			-0.05	[0.03]	-0.05	[0.04]
Religious holiday$_{t+1}$			-0.09	[0.07]	-0.08	[0.07]
Election$_{t-1}$			0.04	[0.07]	0.05	[0.05]
Election$_{t+1}$			-0.04	[0.06]	-0.02	[0.07]
Positive events in negotiation$_{t-1}$			0.00	[0.01]	-0.00	[0.01]
Negative events in negotiation$_{t-1}$			-0.00	[0.01]	-0.00	[0.00]
Military force by Israel$_{t-1}$			0.02	[0.01]	0.01	[0.01]
Suicide attacks$_{i,t-1}$	0.34**	[0.11]	0.24***	[0.04]		
Constant	0.25**	[0.07]	-1.91	[1.00]	14.22	[5.28]
Month dummies	yes		yes		yes	
Region fixed effects	no		no		yes	
R^2	0.23		0.31		0.20	
No. of obs.	445		440		440	

* p<0.10, ** p<0.05, *** p<0.01

Table 3

Israeli Tourism in Palestinian Regions and Palestinian Suicide Attacks Originating from These Regions: Region-Level Regressions (Hypothesis 3)

regions hosting more tourists from Israel are less likely to be home-bases for suicide bombers. I, therefore, reject hypothesis 3.

I now turn to test hypotheses 4, according to which there should be fewer suicide attacks coming from Palestinian regions that have religious sites prior to Christian holidays. Table 4 reports the results of this hypothesis test. I do not include region fixed effects here because I am interested in the effect of having a religious site (a fixed effect) on attacks. I include a lagged dependent variable to account for time dependence. The dependent variable is the number of suicide attacks that originate from Palestinian region i in month t. The main independent variables are *Religious site$_i$*, *Christian holiday$_{t+1}$*, and the interaction of the two. The effect of a Christian holiday, conditional on having a religious site, is the sum of the coefficients of *Christian holiday$_{t+1}$* and the interaction term *Religious site$_i$ × Christian holiday$_{t+1}$*.

Column 1 suggests that a month prior to a Christian holiday is not less peaceful in terms of suicide attacks originating from Palestinian regions (the coefficient is positive, though not statistically significant). Furthermore, a month prior to a Christian holiday is also not less violence in Palestinian regions with Christian reli-

Variable	(1)		(2)	
	Coef.	Std. err.	Coef.	Std. err.
Religious site$_i$	-0.09	[0.08]	-0.06	[0.05]
Christian holiday$_{t+1}$	0.04	[0.08]	-0.04	[0.10]
Religious site$_i$ x Christian holiday$_{t+1}$	-0.02	[0.05]	-0.02	[0.06]
Unemployment$^{PAL}_{i,t-1}$			1.22	[0.58]
Population$^{PAL}_{i,t-1}$			0.13	[0.06]
Settler Population$_{i,t-1}$			0.04*	[0.02]
Election$_{t-1}$			0.04	[0.06]
Election$_{t+1}$			-0.05	[0.07]
Positive events in negotiation$_{t-1}$			0.00	[0.00]
Negative events in negotiation$_{t-1}$			0.00	[0.00]
Military force by Israel$_{t-1}$			0.02	[0.01]
Suicide attacks$_{i,t-1}$	0.40**	[0.10]	0.23***	[0.03]
Constant	0.12**	[0.08]	-2.25	[0.86]
Month dummies	yes		yes	
Region fixed effects	no		no	
R^2	0.17		0.26	
No. of obs.	440		440	

* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 4
Religious Sites, Christian Holidays, and Palestinian Suicide Attacks: Region-Level Regressions (Hypothesis 4)

gious sites that are frequented by tourists. This result does not change when control variables are added in column 2. I, therefore reject hypothesis 4.

To summarize my findings so far—despite the initial results that suggested a negative relationship between tourism in month *t-1* and suicide attacks in month *t*, this relationship disappears when we control for additional explanations.

Does Conflict Affect Tourism?

I now turn to examine whether tourism is sensitive to violence. Table 5 reports the results of a linear regression of tourists staying in Israeli hotels in month *t* on the number of suicide attacks in Israel in month *t-1*. The regression includes control variables, a lagged dependent variable, and month dummies. The results provide support for the argument that tourism is affected by terrorism. There is a negative and statistically significant relationship between the number of tourists and suicide attacks in the preceding month, except for domestic tourism that does not seem to be affected by terrorism.[16] Specifically, one suicide attack decreases the overall number of tourists in the next month by 3%, the number of foreign tourists by 7%, and the number of tourists from the Americas and Europe by 6% and 7%,

Variable	Total		Foreign		Domestic	
	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
Suicide attacks$_{t-1}$	-0.03***	[0.01]	-0.07***	[0.02]	0.01	[0.02]
Religious holiday$_{t-1}$	-0.08*	[0.04]	0.03	[0.10]	-0.04	[0.04]
Religious holiday$_{t+1}$	-0.03	[0.04]	-0.19*	[0.10]	-0.01	[0.05]
Election$_{t-1}$	-0.01	[0.05]	-0.09	[0.12]	0.05	[0.05]
Election$_{t+1}$	0.03	[0.04]	0.14	[0.11]	-0.00	[0.05]
Positive events in negotiation$_{t-1}$	0.01*	[0.01]	0.02*	[0.02]	-0.02***	[0.01]
Negative events in negotiation$_{t-1}$	-0.02**	[0.01]	-0.04**	[0.02]	-0.00	[0.01]
Military force by Israel$_{t-1}$	-0.01	[0.01]	-0.01	[0.02]	0.01	[0.01]
US global tourism$_{t-1}$	0.00**	[0.00]	0.00	[0.00]	0.00	[0.00]
Tourists$^{ISR}_{t-1}$	-0.02	[0.02]	0.66***	[0.08]	0.03	[0.03]
Constant	12.73**	[0.34]	4.41***	[0.78]	12.06***	[0.35]
Month dummies	yes		yes		yes	
R^2	0.64		0.71		0.65	
No. of obs.	88		88		88	

* p<0.10, ** p<0.05, *** p<0.01

Table 5
Suicide Attacks and Tourism in Israel: State-Level Regressions (Hypothesis 5)

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16 I also tested the sensitivity of tourism to terrorism fatalities. The results are substantively similar: one fatality due to suicide terrorism reduces the number of tourists by 1% in the following month. Domestic tourism in Israel is not affected by terrorism fatalities.

Variable	Coef.	Std. err.
Suicide attack$_{t-1}$	-0.03**	[0.01]
Suicide attack$_{t-2}$	0.01	[0.01]
Suicide attack$_{t-3}$	0.01	[0.01]
Suicide attack$_{t-4}$	-0.01	[0.02]
Suicide attack$_{t-5}$	0.0	[0.01]
Suicide attack$_{t-6}$	-0.01	[0.01]
Religious holiday$_{t-1}$	-0.06	[0.05]
Religious holiday$_{t+1}$	-0.04	[0.04]
Election$_{t-1}$	-0.02	[0.06]
Election$_{t+1}$	0.02	[0.04]
Positive events in negotiation$_{t-1}$	0.01	[0.01]
Negative events in negotiation$_{t-1}$	-0.02	[0.01]
Military force by Israel$_{t-1}$	-0.02**	[0.01]
US global tourism$_{t-1}$	0.00	[0.00]
Tourists$^{ISR}_{t-1}$	0.05	[0.03]
Constant	12.01***	[0.46]
Month dummies	yes	
R^2	0.64	
No. of obs.	83	

* p<0.10, ** p<0.05, *** p<0.01

Table 6

Suicide Attacks and Tourism in Israel: State-Level Regressions (Hypothesis 5)

respectively.[17]

The effect of violence on tourism does not depend only on the immediate as-sociation between these variables, but also on how long-lasting this association is. I explore this in Table 6, where I regress the number of tourists staying in Israeli hotels in month *t* on the number of attacks in month *t-1* through *t-6*. The results show that there is an immediate negative association between the number of sui-cide attacks and subsequent number of tourists. However, this relationship dis-sipates after one month. Two months after a suicide attack the number of tourists goes back to its normal level.

Based on the results in Tables 5 and 6, I conclude that there is evidence in favor of the argument that tourism and terrorism are substitutes. However, the negative relationship lasts for a very short period. I therefore accept hypothesis 5,

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17   The dependent variable is log transformed, and the main independent variable is in its original form—the number of suicide attacks. The interpretation of the coefficient is thus one unit change in the in-dependent variable (one attack) is associated with 100 × coefficient percent change in the dependent variable (see Wooldridge, 2003, p. 187).

Variable	(1)		(2)	
	Coef.	Std. err.	Coef.	Std. err.
Local suicide attack$_{t-1}$	-0.02	[0.03]	-0.06	[0.03]
National suicide attack$_{t-1}$	-0.03***	[0.00]	-0.06**	[0.02]
Religious holiday$_{t-1}$	-0.03	[0.02]	-0.08*	[0.04]
Religious holiday$_{t+1}$	-0.08**	[0.03]	-0.06***	[0.01]
Election$_{t-1}$	-0.05**	[0.02]	-0.05	[0.05]
Election$_{t+1}$	0.02	[0.01]	0.03	[0.04]
Positive events in negotiation$_{t-1}$	-0.00	[0.00]	0.02*	[0.01]
Negative events in negotiation$_{t-1}$	0.00	[0.01]	-0.03***	[0.01]
Military force by Israel$_{t-1}$	-0.00	[0.00]	-0.01	[0.01]
US global tourism$_{t-1}$	-0.39***	[0.04]	0.39	[0.18]
Tourists$^{ISR}_{t-1}$	0.96***	[0.01]		
Constant	6.21***	[0.71]	4.66	[2.59]
Month dummies	yes		yes	
Region fixed effects	no		yes	
R^2	0.94		0.45	
No. of obs.	392		392	

* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 7
Suicide Attacks and Tourism in Israel: City-Level Regressions (Hypothesis 6)

and now turn to explore this relationship using a geographically-disaggregated data on Israeli cities hosting tourists.

Table 7 reports the results of two linear regressions of the logged number of tourists staying in Israeli hotels in month *t* on the number of suicide attacks in month *t-1*, both at the local level (attacks in city *i* in month *t*), as well as at the national level (all suicide attacks in Israel in month *t*). Column 1 reports the results of a linear model with controls, a lagged dependent variable, and month dummies, and column 2 reports the results of the same model, but with city fixed effects instead of the lagged dependent variable. In both models, local and national attacks have a negative association with the subsequent number of tourists, but only the relationship with attacks on the national level is statistically significant at acceptable levels. The implication is that an attack in city *j* affects city *i* to the same extent as if it happened in city *i*. In substantive terms, a suicide attack anywhere in Israel leads to a decrease of 3% or 6% (depending on the model) in the number of tourists in all Israeli touristic hubs. This result is consistent with the national effect of suicide attacks estimated in Table 5. Based on this evidence I reject hypothesis 6, since there is no evidence of a stronger local effect of an attack.

I now proceed to examine the effect of violence on tourist arrival in Palestinian

regions. Table 8 reports the results of hypothesis 7 tests that predict that Palestinian regions from which suicide attacks originated in month *t-1* should host fewer tourists in month *t*. Column 1 starts with a simple linear regression, without controls but with a lagged dependent variable and month dummy. It shows that suicide attacks are negatively associated with the subsequent number of tourists, but the coefficient is not statistically significant. Adding control variables (in column 2) and region fixed effects (in column 3) do not change these results. I therefore conclude that Palestinian attacks against Israelis have no direct relationship with subsequent arrivals of tourists to Palestinian regions.

Interestingly, the use of military force by Israel has a negative and statistically significant association with the number of tourists. Since military force is often employed in retaliation to attacks, the relationship between tourism and attack might be conditional on Israeli responding with military force. Such a response, rather than the attacks themselves, might prevent tourists from arriving. To investigate if

Variable	(1)		(2)		(3)		(4)	
	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
Suicide attack$_{t-1}$	-0.09	[0.05]	-0.07	[0.04]	-0.05	[0.04]	-0.21**	[0.07]
Unemployment$^{PAL}_{i,t-1}$			0.12	[0.31]	-5.90**	[1.51]	-5.71**	[1.61]
Population$^{PAL}_{i,t-1}$			-0.20**	[0.07]	1.53	[1.73]	1.63	[1.61]
Settler population$_{i,t-1}$			0.01	[0.01]	0.06*	[0.02]	0.06*	[0.02]
Religious holiday$_{t-1}$			-0.14**	[0.05]	-0.18	[0.09]	-0.18	[0.09]
Religious holiday$_{t+1}$			-0.16	[0.09]	-0.11	[0.08]	-0.11	[0.08]
Election$_{t-1}$			-0.04	[0.07]	-0.00	[0.12]	-0.01	[0.11]
Election$_{t+1}$			0.10*	[0.04]	0.10	[0.07]	0.10	[0.07]
Positive events in negotiation$_{t-1}$			0.01	[0.01]	0.04**	[0.01]	0.04**	[0.01]
Negative events in negotiation$_{t-1}$			-0.06	[0.03]	-0.10*	[0.04]	-0.09*	[0.04]
Military force by Israel$_{t-1}$			-0.03***	[0.01]	-0.12**	[0.04]	-0.14**	[0.04]
Military force by Israel$_{t-1}$ x Suicide attacks$_{t-1}$							0.05	[0.02]
Tourists$^{PAL}_{i,t-1}$	0.92***	[0.03]	0.85***	[0.04]				
Constant	0.67**	[0.17]	3.94**	[0.94]	-12.27	[22.86]		[21.26]
Month dummies	yes		yes		yes			
Region fixed effects	no		no		yes			
R^2	0.88		0.89		0.39			
No. of obs.	445		440		440			

* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 8
Suicide Attacks, Israeli Military Response, and Tourism in Palestinian Regions: Region-Level Regressions (Hypothesis 7)

this is the case, on column 4 of Table 8 I interact the attacks variable with the military use variable. The overall association between attacks and subsequent tourism is the sum of the attack coefficient with the interaction term coefficient.

The results that suggest that when conditioning on the use of military force by Israel, suicide attacks are associated with a 21% decrease in the fixed effects model (column 2).[18] Based on these results, I accept hypothesis 7, but add that the negative effect of suicide terrorism on tourism in the regions of origin of suicide bombers depends on a military response by Israel.

Discussion

Tourism is believed to promote peace by reducing poverty, enhancing mutual understanding, and increasing economic incentives of individuals, groups, and governments to maintain peace. Tourism is often proposed as a strategy of conflict resolution in several cross-border conflicts.

However, despite the logical appeal of these proposals, the relationship between tourism and conflict, and especially the effect of tourism on conflict, has been under-studied empirically.

In this paper, I use data from one conflict—the Israeli-Palestinian case, and explore how conflict is associated with tourism. My findings suggest that tourism might not be the panacea to solving this conflict. First, despite the initial evidence at the macro level that an increase in the number of tourists is associated with less violence, this relationship does not hold at a geographically-disaggregate level. Specifically, this relationship is not robust when we account for local characteristics of Palestinian communities that might affect the level of violence. Second, the assumption that underlies the argument about the pacifying impact of tourism—namely that tourism is sensitive to violence—is not fully supported by the data from this particular conflict. As reported above, the decrease in tourism following attacks is short-lived, and sometimes conditional on other factors, such as military response by the government. This raises the question of whether temporary loses are enough to make it worthwhile for both parties to avoid violence. Thus, in terms of policy implications these findings suggest that investing in tourism may not be as effective as some people hope for reducing violence and promoting conflict resolution, at least in the context of this case.

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18 These results were obtained using the **margins** command in Stata that estimates the marginal effect of a variable. I also tested a model without region fixed effects, but with a lagged dependent variable, and there a suicide attack reduced tourism to regions of origin of the attackers by 7% conditional on a use of force by Israel.

Despite this conclusion, there are several caveats to these findings. First, this paper focuses on one case—the Israeli-Palestinian conflict, and thus it is possible that tourism has a different effect in other settings. The benefit of focusing on one case is that we can use disaggregated data and explore the relationship between tourism and violence in a more nuanced way, and using more consistent definitions of the variables of interest than what is possible in a cross-national dataset. The disadvantage of using data from one case is the uncertainty about the external validity of the results, and their applicability beyond this particular case. Although the Israeli-Palestinian conflict shares many similarities with other cross-border disputes, the evidence reported here applies only to this setting.[19]

A second reason why these findings should not lead us to discard the idea that tourism could be useful to mitigate violence is that so far tourism has played a limited role in the economy of both sides, and especially in the Palestinian economy. From 2000 through 2007, accommodation and food services contributed from 0.5% to 1.2% to the Palestinian GDP.[20] In Israel, trade, accommodation, and restaurants constituted from 8.5% to 10% of the total GDP in 2000 through 2007.[21]

This relatively modest contribution to the GDP, especially in the Palestinian side, might explain why we do not detect an effect of tourism on patterns of violence. It is possible, though, that if the share of tourism in the local economy increases, and if specific arrangements, such as those proposed in Bueno de Mesquita (2009) are put in place, both sides would have stronger incentives to refrain from violence, and enjoy the profits from tourism.

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19 The Israeli-Palestinian conflict evolves around a dispute over territory, and also has ethnic and religious dimension, something that is also present in other conflicts, such as the former conflict in Northern Ireland, the conflict in Kashmir, or the Turkish conflict with the PKK. Moreover, due to availability of data, the Israeli-Palestinian case has been used to explore other questions related to conflict, and lessons derived from this setting have later found support in other cases as well. For example, the effect of exposure to terrorism on voting has been studied in the Israeli context by Berrebi and Klor (2008) and Gould and Klor (2010), and the results were later confirmed also in the Turkish case (Kibris, 2011).

20 See Table 1-1 in http://www.pcbs.gov.ps/Portals/_PCBS/Downloads/book1441.pdf and in http://www.pcbs.gov.ps/Portals/_PCBS/Downloads/book1547.pdf.

21 http://www1.cbs.gov.il/publications13/1514/pdf/t15.pdf.

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