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# DOES TERRORISM WORK?\*

ERIC D. GOULD AND ESTEBAN F. KLOR

This paper examines whether terrorism is an effective tool for achieving political goals. By exploiting geographic variation in terror attacks in Israel from 1988 to 2006, we show that local terror attacks cause Israelis to be more willing to grant territorial concessions to the Palestinians. These effects are stronger for demographic groups that are traditionally right-wing in their political views. However, terror attacks beyond a certain threshold cause Israelis to adopt a less accommodating position. In addition, terror induces Israelis to vote increasingly for right-wing parties, as the right-wing parties move to the left in response to terror. Hence, terrorism appears to be an effective strategy in terms of shifting the entire political landscape to the left, although we do not assess whether it is more effective than non-violent means.

## I. INTRODUCTION

Terrorism is one of the most important, and yet complex, issues facing a large number of countries throughout the world. In recent years, several papers have analyzed the underlying causes and consequences of terrorism, as well as the strategies used by terror organizations in the pursuit of their goals.<sup>1</sup> However, very little attention has been given to the question of whether terrorism works or not with respect to coercing the targeted country to grant political and/or territorial concessions. The lack of research on this subject is surprising, given that the answer to this question is critical to understanding why terror exists at all, and why it appears to be increasing over time in many parts of the world.

This paper is the first to analyze whether terrorism is an effective strategy using a large sample of micro data and paying

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1. For the causes of terrorism, see Krueger and Maleckova (2003), Li (2005), Abadie (2006), Berrebi (2007), Krueger and Laitin (2008), and Piazza (2008). For the consequences of terrorism, see the recent surveys by Enders and Sandler (2006) and Krueger (2007), as well as Becker and Rubinstein (2008) and Gould and Stecklov (2009), among many others. For the strategies of terrorist groups, see Kydd and Walter (2002, 2006), Berman and Laitin (2005, 2008), Bloom (2005), Bueno de Mesquita (2005b), Berrebi and Klor (2006), Benmelech and Berrebi (2007), Bueno de Mesquita and Dickson (2007), Rohner and Frey (2007), Baliga and Sjöström (2009), and Benmelech, Berrebi, and Klor (2009).

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particular attention to establishing causality.<sup>2</sup> To do this, we exploit variation in a large number of terror attacks over time and across locations in Israel from 1988 to 2006, and examine whether local terror attacks cause Israeli citizens to become more willing to grant territorial concessions to the Palestinians. In addition, we examine whether terror attacks cause Israelis to change their preferences over political parties, attitudes toward establishing a Palestinian state, and whether or not they define themselves as being “right-wing.”<sup>3</sup> Our results indicate that terror attacks have pushed Israelis leftward in their political opinions by making them more likely to support granting concessions to the Palestinians. As a result, this paper presents the first comprehensive analysis showing that terrorism can be an effective strategy. However, our findings also indicate that terrorism beyond a certain threshold can backfire on the political goals of terrorist factions, by reducing the targeted population’s willingness to make political and/or territorial concessions.

As stated above, the existing evidence on the effectiveness of terrorism is sparse. In the political science literature, there are currently two opposing views on this issue. The first one claims that terrorism is rising around the world simply because it works. Most notably, Pape (2003, 2005) claims that terrorists achieved “significant policy changes” in six of the eleven terrorist campaigns that he analyzed. In addition, Pape (2003, 2005) argues that terrorism is particularly effective against democracies because the electorate typically is highly sensitive to civilian casualties from terrorist acts, which induces its leaders to grant concessions to terrorist factions. Authoritarian regimes, in contrast, are responsive only to the preferences of the ruling elite, and therefore are less likely to accede to terrorist demands in response to civilian casualties.<sup>4</sup>

2. As Abrahms (2007) points out, the effectiveness of terrorism can be measured in terms of its “combat effectiveness” and its “strategic effectiveness.” The former refers to the amount of physical damage and the number of human casualties resulting from terror activity, whereas the latter refers to whether terror is able to achieve political goals. The focus of our research is to assess the “strategic effectiveness” of terror.

3. The main policy difference between the “left-wing” and “right-wing” in the Israeli context is related to the conflict with the Palestinians, and their attitudes toward the Arab world, rather than to social and economic issues.

4. To provide empirical support for this theory, Pape (2003, 2005) shows that democracies are disproportionately more likely to be the victim of an international suicide terror attack. Karol and Miguel (2007) provide empirical support for voters’ sensitivity to casualties by showing that American casualties in Iraq caused George Bush to receive significantly fewer votes in several key states in the 2004

The opposing view argues not only that there is very little evidence that terrorism is effective (Abrahms 2006), but that in fact terror is not an effective tool.<sup>5</sup> Abrahms (2006) examined 28 terrorist groups, and argues that terrorists achieved their political goals only 7% of the time (in contrast to the more than 50% success rate reported in Pape [2003] with a different sample). Moreover, he argues that terrorism against democracies is ineffective because democracies are more effective in counterterrorism. In support of this claim, Abrahms (2007) presents evidence that democracies are less likely to be the target of terror activities than autocratic regimes, and that democracies are less likely to make territorial or ideological concessions. Using the Worldwide Incidents Tracking System database of international and domestic terror incidents from 2004 to midway through 2005, Abrahms (2007) shows that terror incidents decline with the level of a country's "freedom index," and that the freedom index is uncorrelated with the level of casualties from terror. In particular, Abrahms (2007) shows that, among the ten countries with the highest numbers of terror casualties, only two are "free countries" (India and Philippines), whereas the rest are "not free" (Iraq, Afghanistan, Russia, and Pakistan) or "partially free" (Nigeria, Nepal, Colombia, and Uganda).<sup>6</sup> This evidence leads Abrahms (2007) to conclude that terrorism is not an effective strategy against democratic countries.

Thus, a summary of the literature reveals that very few studies have even attempted to analyze the strategic effectiveness of terrorism, and there is little agreement among those that have. Thus, whether terror is effective or not is not only important in terms of understanding why terrorism exists, it is still very much an open question in terms of the evidence. Furthermore, as described above, the existing evidence is based on analyzing a small sample of countries and making assessments about the success of

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elections. Weinberg and Eubank (1994) and Eubank and Weinberg (2001) also show that democracies are more likely to host terror groups and be the target of terror attacks. They claim that terrorism is particularly effective against democracies due to constitutional constraints that limit policies of retaliation against terrorism in these types of regimes.

5. Abrahms (2007) criticizes the analysis in Pape (2003) for being based on very few countries. Out of the eleven terrorist campaigns that Pape (2003) analyzed, six were based in Israel, whereas four of the remaining five were in Turkey or Sri Lanka.

6. The evidence in Abrahms (2007) notwithstanding, the findings of Abadie (2006), Blomberg and Hess (2008), and Krueger and Laitin (2008) suggest that political reforms toward more democratic forms of government are associated with an increase in terrorist activity. Jackson Wade and Reiter (2007) dispute this claim.

terror campaigns against them (Pape 2003, 2005; Abrahms 2006, 2007). However, comparisons across countries are problematic for a number of reasons. First, it is difficult to control for all the factors that may be correlated with the level of terrorism, political stability, level of freedom, etc. All of these factors are most likely to be endogenously determined, and jointly influenced by geography, colonial history, ethnic composition, and religious affiliation. Second, terrorist groups may be emerging endogenously in certain countries according to the success rate of other strategies, and according to the expected success rate of terrorist strategies (Iyengar and Montan 2008). In addition, one cannot ignore the fact that most of the countries (listed above) that suffer high levels of terror are near each other geographically and share similar characteristics in terms of long-standing border conflicts intermixed with ethnic and religious tensions. Controlling for these factors is difficult to do in a cross section of countries, making it problematic to infer causality from the existing evidence. Finally, it is often difficult to assess whether terror is effective when the goals of the terrorists are not even clear. For example, it is not easy to define the political goals of the September 11 attacks (Byman 2003). Therefore, it is nearly impossible to apply a standard definition of “success” in comparing terrorist groups across different countries.

In this paper, we overcome the empirical obstacles mentioned above by focusing on the Israeli–Palestinian conflict and using individual-level data on the political attitudes of Israelis toward making concessions to the Palestinians. Our focus on one conflict allows us to abstract from the empirical difficulties associated with controlling for all the factors that could be influencing the presence and effectiveness of terror across countries. In addition, restricting our analysis to one conflict enables us to avoid the difficult task of trying to create objective and consistent measures for whether terror seems to be effective across different conflicts, which are often not comparable to one another.<sup>7</sup>

7. Terror factions are intricate and multifaceted organizations. There is a growing consensus that terror organizations strategically choose their targets and their operatives (Berman and Laitin 2005, 2008; Bueno de Mesquita 2005b; Benmelech and Berrebi 2007; Benmelech, Berrebi, and Klor 2009). The main goals behind terror campaigns, however, are not always clear or well defined, and seem to differ not only across conflicts, but even over time for any given terror organization. Alternative goals notwithstanding, the main objective of the majority of terror campaigns is to impose costs on the targeted population to pressure a government into granting political and/or territorial concessions. A large number of articles can be cited in support of this claim. For formal theoretical models, see Lapan and Sandler (1993), Bueno de Mesquita (2005a), and Berrebi and Klor (2006).

Using repeated cross sections of Jewish Israelis (not including those in the West Bank or Gaza Strip) from 1988 to 2006, we control for subdistrict fixed effects and aggregate year effects, and test whether variation in the level of terror across subdistricts over time can explain variation across subdistricts over time in political attitudes. We pay particular attention to distinguishing between political attitudes and party preferences, which is important because the platforms of parties could be endogenously changing in response to terror.

Our results show that terrorism significantly affects the preferences and attitudes of Jewish Israelis. In particular, local terror attacks induce the local population to exhibit a higher willingness to grant territorial concessions. However, the effects of terrorism are nonlinear—terror makes Israelis more accommodating up to a certain point, but beyond this threshold, more terror attacks harden the stance of Israelis toward making concessions. That said, the level of terror fatalities rarely reaches the critical threshold in any given locality. Out of 102 subdistrict–year combinations in our data set, there are only seven cases where the marginal effect was negative (Jerusalem in 1996 and 2003 and Afula, Hadera, Sharon, Tel Aviv, and Zefat in 2003), and only one case (Jerusalem in 2003) where the estimated total effect is negative. As a result, the total effect of terror on the preferences of the Israeli population is almost always toward moderation. Hence, terror attacks appear to be strategically effective in coercing Israelis to support territorial concessions.

At the same time, our analysis shows that terror increases the likelihood that voters support right-wing parties (similar to that of Berrebi and Klor [2008]). This result does not contradict our finding that terror causes moderation. The evidence suggests that terrorism brought about a leftward shift of the entire political map in Israel over the last twenty years, including the positions of right-wing parties that are traditionally less willing to grant territorial concessions to the Palestinians. This finding highlights how critical it is to distinguish between the effects of terror on political attitudes and its effects on party preferences, because the platforms of parties are moving endogenously in response to terrorism. Therefore, our overall results show that terrorism has been an effective tool by shifting the entire political landscape toward a more accommodating position. Although we cannot determine whether terrorism is an optimal strategy, these findings suggest that terrorism may be increasing over time and spreading to other regions precisely because



it appears to be a successful strategy for achieving political goals.

## II. THE DATA

### *II.A. Data on the Political Attitudes of Israeli Citizens*

Our analysis uses data on the political attitudes of Jewish Israeli citizens (who do not reside in Gaza and the West Bank) along with data on the occurrences of terror attacks.<sup>8</sup> The data on the attitudes of Israeli citizens come from the Israel National Election Studies (INES), which consist of surveys carried out before every parliamentary election in Israel since 1969.<sup>9</sup> These surveys are based on a representative sample of Israeli voters, and focus on a wide array of substantive issues affecting Israeli society. For example, the surveys include questions about economic and political values, trust in government, social welfare, and the desired relationship between state and religion. In addition, there are several questions regarding the political preferences of the respondent and his or her policy position regarding the Israeli–Palestinian conflict.

Because our goal is to understand changes over time in the political opinions of Israelis, our analysis focuses on the questions that appear repeatedly across surveys for the six parliamentary elections from 1988 until 2006. These include questions regarding which party the voter is supporting in the upcoming elections and his or her self-described political tendency (from right wing to left wing). In addition, the survey asks whether the respondent favors granting territorial concessions to the Palestinians as part of a peace agreement, and whether Israel should agree to the establishment of a Palestinian state.

The surveys also contain a rich set of demographic information, such as gender, age, education level, ethnicity, immigrant status, monthly expenditures, and notably, the location of residence for each respondent. This geographic information is particularly important for our identification strategy because we do not

8. We omit Arab Israelis and Jewish Israeli citizens residing in Gaza and the West Bank because these populations were not consistently included in the surveys. The survey includes Arab Israelis only starting from 1996 and Jewish settlers only since 1999.

9. The INES questionnaires and data are available online at the INES website ([www.ines.tau.ac.il](http://www.ines.tau.ac.il)). See Arian and Shamir (2008) for the latest edited volume of studies based on the INES data.

want to rely on aggregate time trends to identify the causal effect of terror on political attitudes. Instead, we control for aggregate time trends and exploit the geographic variation in terror attacks across eighteen different subdistricts to explain the changes in political attitudes across locations.

Table I presents summary statistics for the attitudes of Jewish Israeli citizens, computed separately for each sample year. The main variable of interest refers to the respondent's willingness to make territorial concessions to the Palestinians. This question appears in every survey, though not in the same format. In the surveys from 1988 and 1992, individuals were asked to consider three options regarding the long-term solution for the West Bank and Gaza Strip. We coded the person as being willing to make concessions if he or she chose the option: "In return for a peace agreement, a return of most of Judea, Samaria and the Gaza Strip."<sup>10</sup> In the surveys from 1996 and 1999, individuals were asked to rank from one to seven how much they agree (*one* refers to "strongly disagree" and *seven* refers to "strongly agree") with the statement "Israel should give back territories to the Palestinians for peace." We coded individuals as being willing to make concessions if they chose five or above. Finally, in 2003 and 2006, individuals were given four options regarding their opinion on "To what extent do you agree or disagree to exchange territories for peace?" The four options were strongly agree, agree, disagree, and strongly disagree. We coded individuals as being willing to make concessions if they responded with "agree" or "strongly agree."

This variable is our main variable of interest because it unequivocally captures the respondent's willingness to grant territorial concessions to the Palestinians, which is consistent with the goals of the terrorist factions. For example, Abdel Karim Aweis, a leader of the Al Aksa Martyrs Brigades (one of the factions linked to the Fatah movement), asserted in an interview with the *New York Times* that the "goal of his group was to increase losses in Israel to a point at which the Israeli public would demand a withdrawal from the West Bank and Gaza Strip" (Greenberg 2002).

Table I shows an upward trend over time in the willingness of Israelis to make concessions—from 39% in 1988 to 57% in 2006. However, because there were changes in the structure

10. The other two options available in the survey are "Annexation of Judea, Samaria and the Gaza Strip" and "Status quo, keeping the present situation as it is."



TABLE I  
ATTITUDES TOWARD THE CONFLICT, SUPPORT FOR DIFFERENT POLITICAL PARTIES, AND TERROR FATALITIES, BY YEAR

	1988	1992	1996	1999	2003	2006
Political attitudes						
Agree to territorial concessions to the Palestinians	0.395 (0.489)	0.498 (0.500)	0.428 (0.495)	0.502 (0.500)	0.550 (0.498)	0.568 (0.495)
Agree to the establishment of a Palestinian state in the territories as part of a peace settlement	0.260 (0.439)	0.290 (0.454)	0.482 (0.500)	0.554 (0.497)	0.486 (0.500)	0.668 (0.471)
Right-wing political tendency	0.504 (0.500)	0.427 (0.495)	0.393 (0.489)	0.389 (0.488)	0.517 (0.500)	0.413 (0.493)
Vote for right bloc of political parties	0.529 (0.499)	0.443 (0.497)	0.438 (0.496)	0.380 (0.486)	0.463 (0.499)	0.328 (0.469)
N	873	1192	1168	1060	1058	1505
Terror fatalities						
Number of terror fatalities since previous elections	25	78	141	44	408	198
Number of terror fatalities within a year of elections	6	11	71	2	275	19
Number of terror fatalities per capita since previous elections (per 1,000 individuals)	0.0063	0.0179	0.0290	0.0077	0.0626	0.0294
Number of terror fatalities per capita within a year of elections (per 1,000 individuals)	0.0015	0.0025	0.0146	0.0004	0.0422	0.0028

Notes: Entries in the first four rows of the table represent the averages of the respective variables for each survey. Standard deviations appear in parentheses. The number of observations refers to the total numbers of Israeli Jewish individuals (who do not reside in Gaza or the West Bank) interviewed in each survey. The exact number of observations for each variable varies slightly because not all respondents answered each question.  
Source: Israeli National Elections Study (INES).  
The last four rows report the number of fatalities from terror attacks, and the number of fatalities per capita (per 1,000 individuals) from terror attacks.  
Source: B'tselem.

of the question over time, we employ several strategies to show that our results do not come from those changes. First, all of the regressions control for year effects, which should neutralize aggregate year-specific differences in how individuals interpreted the question. Second, because the major change to the wording occurred between 1992 and 1996, we show that the results are virtually identical when all of the surveys are used (1988–2006), or when the analysis is restricted to periods when there was very little change in the question (1996–2006) or no change at all (2003–2006). Third, it is not entirely clear whether those who responded with a “four” on the seven-point scale in 1996 and 1999 should be considered willing to make concessions or not. Therefore, we show that the results are very similar if we code them as being willing to make concessions or unwilling to make concessions.

Table I also shows the evolution over time of the other variables used to measure the reaction of Israelis to terror attacks. One measure is the person’s willingness to agree to the establishment of a Palestinian state in the territories as part of a peace settlement. This question included four options (strongly agree, agree, disagree, and strongly disagree) regarding the person’s willingness to “establish a Palestinian state as part of a permanent solution to the conflict.” We divided the sample into two groups by coding together individuals who agree or strongly agree with the creation of a Palestinian state, versus individuals who disagree or strongly disagree with this position. Table I shows that the proportion of individuals who agree or strongly agree with the creation of a Palestinian state increases from 0.26 in 1988 to 0.67 in 2006.<sup>11</sup>

The third variable in Table I refers to the respondent’s self-classification across the left–right political spectrum. If the respondent defined himself or herself as being on the “right” or “moderate right” end of the spectrum, then he or she was coded as identifying with a right-wing political tendency.<sup>12</sup> Table I depicts a generally downward trend in the percentage of self-described

11. One possible caveat of this question is that the survey does not provide a clear definition of “territories.” As a consequence, respondents may interpret territories as areas already under the control of the Palestinian Authority. If that is the case, for these respondents, the creation of a Palestinian state does not really entail any further territorial concessions. In our sample, 25% of the individuals who agree to the establishment of a Palestinian state do not agree to further territorial concessions. They compose 12% of the entire sample.

12. The exact wording of the question is, “With which political tendency do you identify?” It included seven possible answers: left, moderate left, center, moderate right, right, religious, and none of them. We classified an individual as identifying

“right-wingers” between 1988 and 2006, although there was a short-lived increase from 1999 to 2003.

Finally, our last outcome measure depicts whether the individual intends to vote for a party belonging to the “right-wing bloc” in the upcoming parliamentary elections. The surveys ask every individual: “If the elections for the Knesset (Israeli parliament) were held today, for which party would you vote?” We assign parties to the right bloc following the categorization developed by Shamir and Arian (1999). According to their definition, the right bloc of parties includes the Likud party, all of the religious parties, all of the nationalist parties (Tzomet, Moledet, National Union), and parties identified with Russian immigrants. We choose to focus on the right bloc instead of on separate parties because the number of small parties and the electoral system were not constant across each election period.<sup>13</sup>

Table I shows that support for the right bloc fluctuates over time in a fashion similar to the self-described right-wing political tendency. We observe a steady decrease in the support for the right bloc between 1988 and 1999, with an increase in 2003 followed by a sharp decrease in 2006 (due to the appearance of Kadima, a new centrist party, in those elections).

Table II depicts the political attitudes of respondents tabulated by their demographic characteristics. The table shows that (i) men and women share similar political preferences; (ii) the willingness to make concessions (and other left-leaning views) increases with age, with education, and with the degree of being secular (versus religious); (iii) individuals with an Asian–African family background (Sephardic Jews) are more likely to oppose concessions and support parties in the right bloc; and (iv) there are no clear differences between the attitudes of immigrants and of native-born Israelis.

Overall, the data display a tendency for Israelis to become more accommodating in their views over time—more willing to grant concessions, less “right-wing” in their own self-description,

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with the right-wing political tendency if the individual's answer to this question was “moderate right” or “right.”

13. In contrast to the other elections, the parliamentary elections of 1996 and 1999 allowed split-ticket voting, whereby each voter cast a ballot in support of a political party for the parliamentary elections and a different ballot for the elections for Prime Minister. This different system may have had an effect on the relative support obtained by the different parties. Consequently, political preferences in these elections may not be directly comparable at the party level to voter preferences in the parliamentary elections of 1988, 1992, 2003, and 2006.

TABLE II  
POLITICAL ATTITUDES BY DEMOGRAPHIC CHARACTERISTICS

	Agree to territorial concessions	Agree to Palestinian state	Right-wing political tendency	Vote for right bloc of political parties	Share of sample population
All	0.497	0.473	0.440	0.421	1.00
Gender					
Male	0.48	0.47	0.43	0.41	0.51
Female	0.51	0.47	0.46	0.43	0.49
Age					
15–29	0.43	0.41	0.48	0.47	0.32
30–45	0.51	0.46	0.45	0.43	0.30
46 and older	0.55	0.54	0.39	0.37	0.37
Years of schooling					
Elementary and secondary	0.44	0.40	0.49	0.48	0.57
Higher education	0.58	0.58	0.36	0.35	0.43
Religiosity					
Secular	0.57	0.55	0.37	0.33	0.74
Observant	0.28	0.25	0.64	0.69	0.26
Place of birth					
Immigrant	0.48	0.49	0.42	0.42	0.39
Native Israeli	0.51	0.46	0.45	0.42	0.61
Ethnic background					
African–Asian ethnicity	0.41	0.37	0.54	0.53	0.37
Non-African–Asian ethnicity	0.54	0.53	0.37	0.36	0.63
Household expenditures					
Less than average	0.44	0.44	0.47	0.46	0.39
About average	0.50	0.46	0.45	0.43	0.34
More than average	0.57	0.54	0.39	0.36	0.27

*Note.* Entries in the table show the means over the entire sample period.  
*Source.* Authors' calculations using survey data from INES.

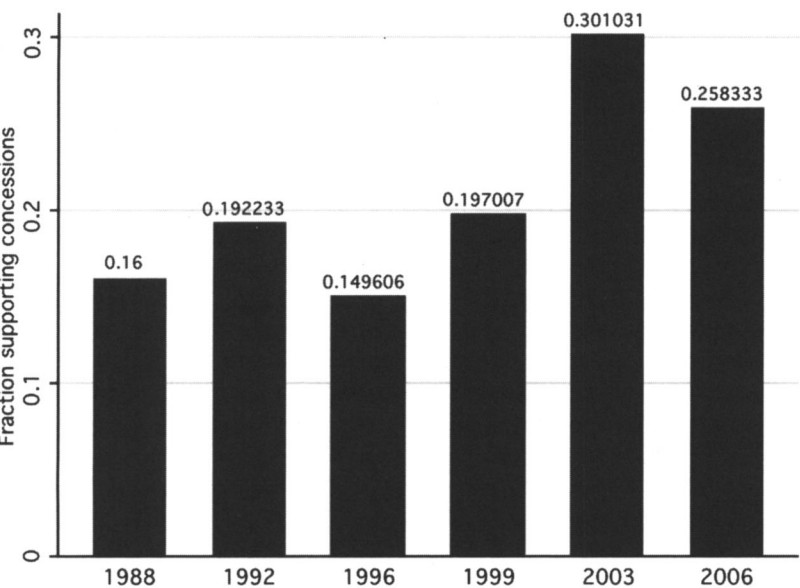


FIGURE I  
Agree to Concessions over Time: All Right-Leaning Israelis

and more amenable to the creation of a Palestinian state. Interestingly, an increase in the willingness to grant concessions occurred even within individuals that consider themselves “right-wing.” This pattern is shown in Figures I and II. Although there were changes in the composition of people who define themselves as being right-wing over time, these figures highlight the general shift in the political landscape over time toward a more accommodating position regarding Palestinian demands. The question we address is whether this shift is causally related to the terrorist tactics employed by various Palestinian factions.

II.B. *Data on Israeli Fatalities in Terror Attacks*

Information on Israeli fatalities from terror attacks is taken from B’tselem, an Israeli human rights organization. B’tselem’s data (thought to be accurate, reliable, and comprehensive) are widely used in studies focusing on the Israeli–Palestinian conflict (Becker and Rubinstein 2008, Jaeger and Paserman 2008, Jaeger et al. 2008, Gould and Stecklov 2009, and others). The data include information on the date, location, and circumstances of each terror attack, which allows us to classify every Israeli fatality according

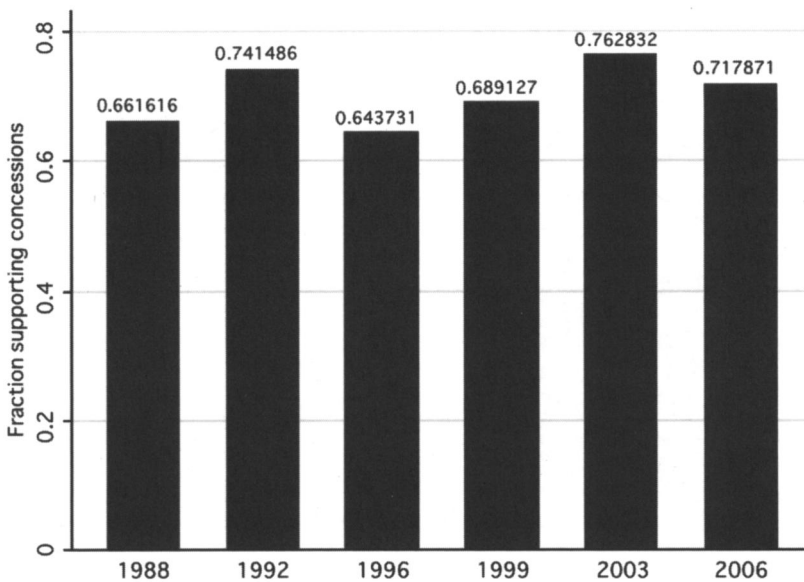


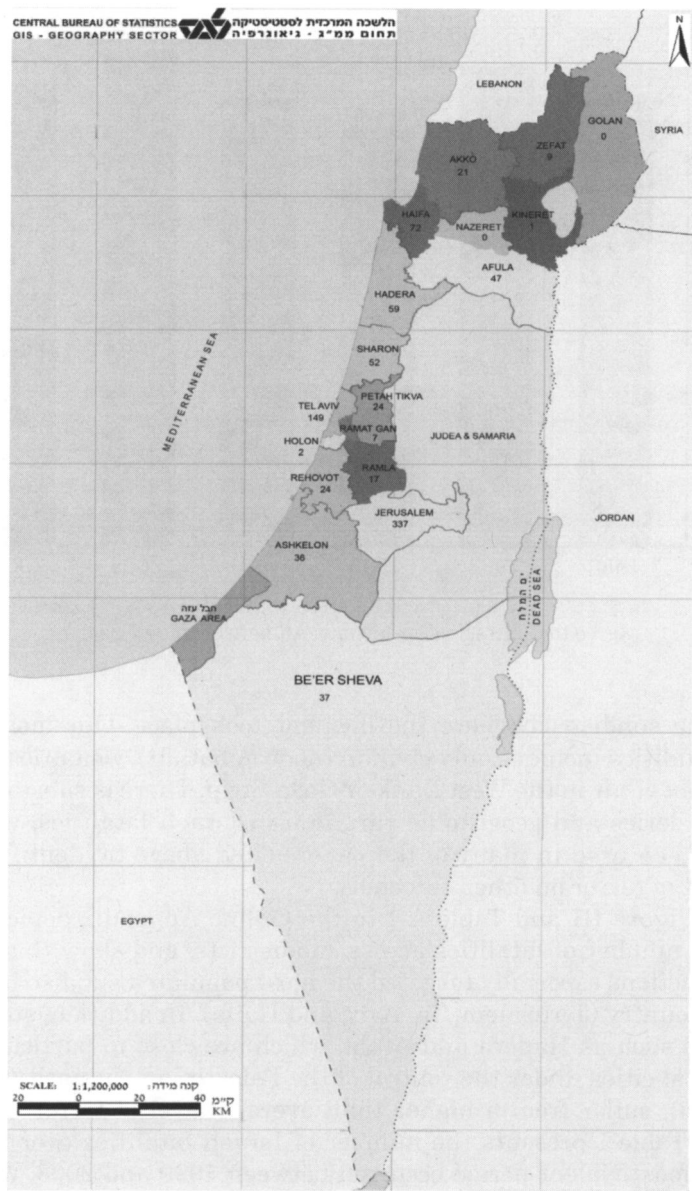
FIGURE II

Agree to Concessions over Time: All Left-Leaning Israelis

to the subdistrict where the incident took place. Our measure of fatalities includes only civilian (noncombatant) casualties that did not occur in the West Bank or Gaza Strip. There is substantial time series and geographic variation in Israeli fatalities, which has been used in many of the papers cited above to identify the effect of terror on other outcomes.

Figure III and Table A.1 in the Online Appendix depict the total number of fatalities across subdistricts, and show that terror factions especially targeted the most populated subdistricts of the country (Jerusalem, Tel Aviv, and Haifa). In addition, subdistricts such as Hadera and Afula, which are close to particularly radical cities under the control of the Palestinian Authority (e.g., Jenin), suffer from a higher than average level of terror fatalities. Table I presents the number of Israeli fatalities over time. The most violent period occurred between 1999 and 2003, which coincided with the outbreak of the second Palestinian uprising. Overall, there seems to be an upward trend in terror activity over time, and this coincided with the shift in the political landscape toward a higher willingness to make concessions. However, these two trends are not necessarily causally related. For this reason,





**FIGURE III**  
**Distribution of Terror Fatalities across Subdistricts**  
Total number of terror fatalities across subdistricts between July 23, 1984 (date of 1984 parliamentary elections), and March 28, 2006 (date of 2006 parliamentary elections). Adapted by permission from the Central Bureau of Statistics, Israel, map.

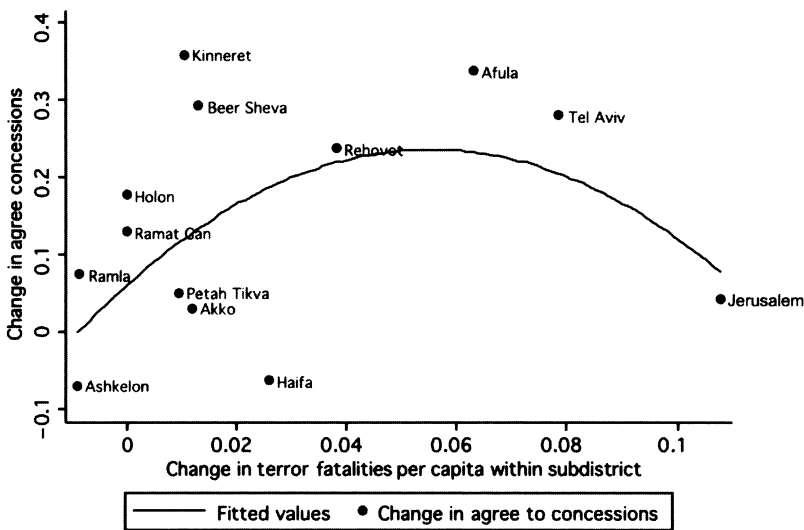


FIGURE IV

Agree to Concessions and Terror Fatalities: Changes from 1988 to 2003

our strategy is to exploit geographic variation in the trends over time across locations, rather than looking at the aggregate trends.

Figure IV presents a first look at whether the increase in fatalities per capita within a subdistrict between 1988 and 2003 (the peak year of terror) is correlated with the average change in political views within each subdistrict. The line in Figure IV is the fitted quadratic curve estimated by OLS using the sample of subdistricts depicted in the figure. The figure displays a positive relationship between the change in fatalities per capita in a subdistrict and the change in the average willingness to grant concessions within that subdistrict. However, the relationship seems to get weaker at higher levels of terror. This nonlinear pattern is also found in Figures V and VI, which show the relationship between changes in local terror fatalities per capita and changes in the other outcomes: support for a Palestinian state and support for the right-wing parties. These patterns are all consistent with the idea that terror has induced Israelis to become more accommodating to Palestinian interests, while increasing their support for the right bloc. But these figures are just a cursory look at the

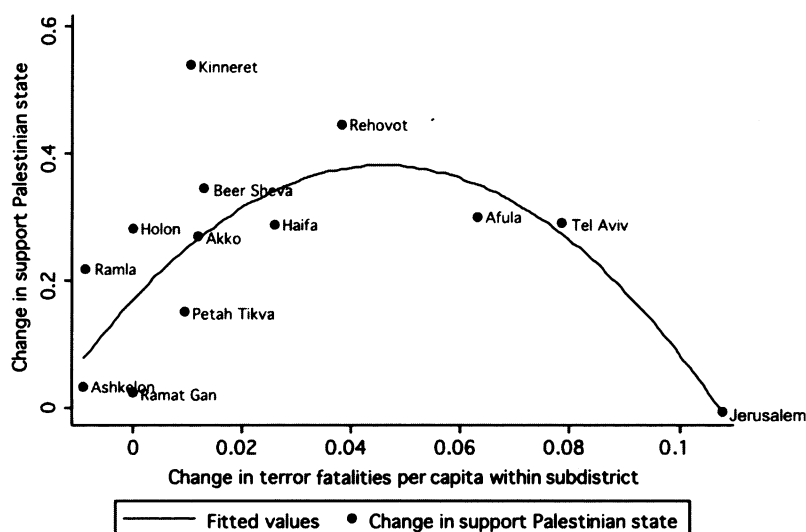


FIGURE V

Support for Palestinian State and Terror Fatalities: Changes from 1988 to 2003

broad patterns in the data. The next section presents our main empirical strategy.

### III. EMPIRICAL STRATEGY

Our empirical strategy is designed to identify the causal effect of terrorism on the political preferences of the Jewish Israeli population. Our unit of observation is the individual, and we model his or her views as a function of his or her personal characteristics and location of residence, the survey year, and the level of recent terror activity in the individual's subdistrict. Specifically, we estimate the following linear regression model:

$$(1) \text{ view}_{ijt} = \alpha_1 \cdot \text{terror}_{jt} + \alpha_2 \cdot \text{terror}_{jt}^2 + \beta \cdot x_{ijt} + \gamma_t + \mu_j + \varepsilon_{ijt},$$

where  $\text{view}_{ijt}$  is a dummy variable equal to one if individual  $i$  who lives in subdistrict  $j$  in year  $t$  holds an accommodating position toward Palestinian demands, and zero otherwise;  $\text{terror}_{jt}$  is the number of terror fatalities per capita in subdistrict  $j$  before the elections in  $t$ ;  $\gamma_t$  is a fixed effect for each election year that controls for aggregate trends in political preferences;  $\mu_j$  is

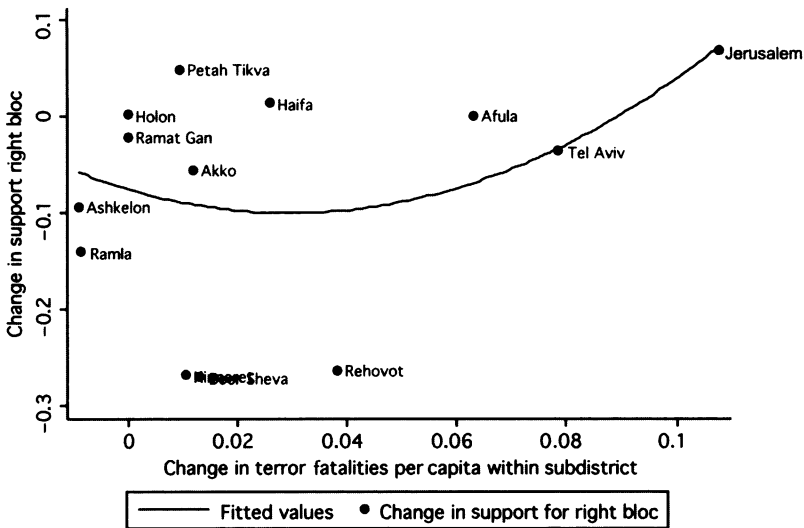


FIGURE VI

Support for Right Bloc of Political Parties and Terror Fatalities: Changes from 1988 to 2003

a fixed effect unique to subdistrict  $j$ ; and  $x_{ijt}$  is a vector of individual and subdistrict-level characteristics. These characteristics include all the characteristics listed in Table II—the individual's gender, age (and age squared), years of schooling, schooling interacted with age, level of religious observance, immigrant status, ethnicity (Asian–African origin versus all other groups), level of expenditures (designed to control for income), number of persons in the household, and number of rooms in the individual's house (another proxy for income). The  $x_{ijt}$  vector also includes characteristics that vary at the subdistrict–year level, and are presented in Table III (computed from the Israeli Labor Force Survey). These subdistrict characteristics include the unemployment rate and demographic variables such as the population share by gender, education levels, religiosity, immigrant status, ethnicity, age groups, household size, and marital status. Unobserved determinants of the individual's views are captured by the error term,  $\varepsilon_{ijt}$ .

The goal of the proposed econometric specification is to identify  $\alpha_1$  and  $\alpha_2$ , which represent the causal effect of local terror activity on an individual's political attitudes. Identification of  $\alpha_1$

TABLE III  
THE EFFECT OF LOCAL TERROR FATALITIES ON OBSERVABLE CHARACTERISTICS OF THE LOCAL POPULATION

	Male	Higher education	Ultra-orthodox Jews	Immigrants	Asian-African ethnicity	Population size	Unemployment
Terror fatalities per capita within a year of the survey							
Linear effect	-0.0846 [0.20]	0.0832 [0.48]	0.0796 [0.17]	-0.3086 [0.65]	0.4502 [0.49]	-178.699 [658.3]	-0.07139 [0.14]
Quadratic effect	1.2400 [1.94]	0.3925 [5.32]	-0.9097 [1.50]	0.0702 [5.11]	-3.6838 [4.84]	2,577.698 [7,768.0]	0.25239 [1.53]
P-value for effect of terrorism	.4645	.8753	.7585	.5499	.6219	.9366	.7055
N	102	102	102	102	102	102	102
Average number of individuals in the household							
Partition by age							
	Below 30	30 to 45	Above 45	Below 14 years old	Above 14 years old	Total	Married
Terror fatalities per capita within a year of the survey							
Linear effect	-0.0610 [0.31]	0.6862 [0.51]	-0.6252 [0.71]	1.8236 [1.36]	1.0316 [1.47]	2.834* [1.50]	-0.22459 [0.41]
Quadratic effect	1.0685 [2.80]	-5.3373 [4.62]	4.2688 [5.48]	-11.0021 [14.09]	-14.3044 [11.59]	-25.033 [16.5]	-0.08029 [3.23]
P-value for effect of terrorism	.9175	.4053	.6807	.0860	.2889	.1441	.3254
N	102	102	102	102	102	102	102

Notes. Each column presents the results of a separate OLS regression where the dependent variable, obtained from the Israeli Labor Force Survey, appears at the top of each column. In addition to terror fatalities per capita within a year before the survey, all regressions include subdistrict and year fixed effects. Robust standard errors, adjusted for clustering at the subdistrict-year level, appear in brackets. The P-value for the effect of terrorism tests the hypothesis that the joint effect of all proxies for the severity of terrorism included in each regression are equal to zero.

\*Indicates statistically significant at 10% level; \*\*indicates statistically significant at 5% level; \*\*\*indicates statistically significant at 1% level.

and  $\alpha_2$  is based on the idea that terror attacks differentially affect the political views of individuals in relation to their proximity to the attack. This may happen because the salience of the conflict could depend on a person's proximity to terror attacks, or it may be the case that terror attacks impose a higher cost on the local population than on the rest of the country.<sup>14</sup> For example, terror attacks pose a greater threat to the personal security of local versus nonlocal residents. Also, terror attacks typically cause local residents to alter their daily routine (modes of transportation, leisure activities, etc.) in costly ways due to the perceived changes in their personal security (Gordon and Arian 2001).<sup>15</sup>

Based on the concave relationship observed in Figures IV to VI, we allow for a nonlinear effect in equation (1) by including a quadratic term for the local level of terror, but we also estimate models that assume a linear relationship (i.e., restricting  $\alpha_2 = 0$ ). There are several reasons that terror may affect a person's political views. Terror attacks increase the cost of denying terrorist groups what they are seeking, and therefore could cause individuals to become more accommodating toward terrorist demands. On the other hand, terror attacks could increase hatred for the other side or make a peaceful solution appear less plausible, leaving individuals less willing to adopt an accommodating position. Therefore, terror could theoretically produce either a softening or a hardening of one's stance regarding the goals of a terrorist faction, and the effect could be nonlinear if an increase in attacks changed the way an individual viewed the conflict or dealt with terror. For example, the impact of initial attacks, which tend to be more shocking and unexpected, could be substantively different than attacks which occur after individuals have already dealt with several previous attacks. Additionally, attacks beyond a certain threshold could alter an individual's views about the goals

14. In addition, there is convincing evidence that the local effect of violence is amplified by the coverage of the local media (Karol and Miguel 2007; Sheafer and Dvir-Gvirsman 2010). However, in the Israeli context, where almost all media are at the national level, this mechanism is unlikely to generate substantially different effects across geographic areas.

15. Becker and Rubinstein (2008) show that terror attacks induce a significant decline in bus tickets sold, and in expenditures in restaurants, coffee shops, and pubs. They also find an increase in expenditures on taxis, particularly in large cities, after a bus bombing. Similarly, Spilerman and Stecklov (2009) find that sales in a popular chain of Jerusalem coffee shops decline in the days following attacks, particularly in locations more open to attacks such as those in city centers. Moreover, this decline in sales is larger after more fatal attacks. Hence, the evidence consistently suggests that the effect of terror attacks varies according to the proximity and severity of the attacks.



and rationality of the other side, thus changing a person's willingness to make concessions to terror groups.

By including fixed effects for each subdistrict and survey year, we are essentially examining whether changes over time in terror activity within a subdistrict are correlated with the changes over time in political views within that subdistrict, after controlling for the national trend and a rich set of personal and subdistrict-level characteristics. Our identifying assumption in (1), therefore, is that local terror attacks are not correlated with omitted variables that affect political attitudes, and that terrorist groups are not choosing targets based on the trend in local political attitudes (i.e., no reverse causality).

To understand this identifying assumption, we sketch out the following conceptual framework for a terrorist group's decision-making process over how much terror to produce in subdistrict  $j$  during year  $t$ .<sup>16</sup> Because terror varies at the subdistrict-year level, we start by aggregating our empirical model, (1), to that level by using the mean of each variable by subdistrict and year:

$$(2) \quad \overline{\text{view}}_{jt} = \alpha_1 \cdot \text{terror}_{jt} + \alpha_2 \cdot \text{terror}_{jt}^2 + \beta \cdot \bar{x}_{jt} + \gamma_t + \mu_j + \bar{\varepsilon}_{jt},$$

where  $\overline{\text{view}}_{jt}$  is the share of individuals in subdistrict  $j$  at time  $t$  who hold an accommodating position toward Palestinian demands, and the coefficients  $\alpha_1$ ,  $\alpha_2$ , and  $\beta$  are assumed to be fixed over time and across subdistricts. We assume that the cost of producing terror in subdistrict  $j$  increases with the number of terror attacks per capita and the local population size,  $N_{jt}$ :

$$(3) \quad \text{cost}_{jt} = N_{jt} [\lambda_{0jt} + \lambda_{1jt} \cdot (\text{terror attack})_{jt} + \lambda_{2jt} \cdot (\text{terror attack})_{jt}^2],$$

where the coefficients  $\lambda_{0jt}$ ,  $\lambda_{1jt}$ , and  $\lambda_{2jt}$  may vary across subdistricts and over time.<sup>17</sup> The relationship between terror attacks per capita and terror fatalities per capita is given by

$$(4) \quad \text{terror}_{jt} = \delta \cdot (\text{terror attack})_{jt} + v_{jt},$$

16. We thank Robert Barro for suggesting the following framework.

17. The assumption that the cost of producing terror attacks increases with a subdistrict's population size is consistent with the observation that terror organizations assign more highly skilled terrorists to attack more populated areas. The strategic assignment of terrorists may reflect differences in the value of attacking each target (Benmelech and Berrebi 2007), or may be indicative of the terrorists' response to an optimal counterterrorism policy that raises the failure probability of attacks to valuable targets (Powell 2007).

where the random term  $v_{jt}$  captures the idea that the relationship between terror attempts and the resulting number of fatalities is not predetermined.

Terrorists care about the total number of individuals willing to make concessions to them at time  $t$ , net of the costs of producing terror. Formally, they maximize  $\sum_j [\theta_t N_{jt} \cdot \overline{\text{view}}_{jt} - \text{cost}_{jt}]$ , where  $\theta_t > 0$  captures the idea that the overall payoff to producing terror may change over time due to changes in political developments. The optimal level of terror fatalities in subdistrict  $j$  at time  $t$  is obtained by equating the marginal cost to the marginal benefit of terror, represented by

$$(5) \quad \text{terror}_{jt} = \max\{\delta \cdot (\theta_t \cdot \alpha_1 \cdot \delta - \lambda_{1jt}) / [2 \cdot (\lambda_{2jt} - \delta^2 \cdot \theta_t \cdot \alpha_2)] + \eta_{jt}, 0\},$$

where  $\eta_{jt} = \lambda_{2jt} \cdot v_{jt} / (\lambda_{2jt} - \delta^2 \cdot \theta_t \cdot \alpha_2)$  is a stochastic shock. Therefore, the optimal level of terror in subdistrict  $j$  at time  $t$  is determined not only by the parameters governing the political response in (2) that we want to estimate ( $\alpha_1$  and  $\alpha_2$ ), but also by the cost parameters of producing terror in subdistrict  $j$  over time ( $\lambda_{1jt}$  and  $\lambda_{2jt}$ ) and the random outcome of planned attacks ( $\eta_{jt}$ ). Assuming that  $\eta_{jt}$  is independently determined by the random circumstances surrounding each attack, estimation of our parameters of interest ( $\alpha_1$  and  $\alpha_2$ ) in (1) and (2) yields consistent coefficients if the unobserved political preferences in subdistrict  $j$ ,  $\varepsilon_{jt}$ , are uncorrelated with changes over time in the costs of producing terror,  $\lambda_{1jt}$  and  $\lambda_{2jt}$ .

The costs of producing terror in a given area could be changing over time due to the building of the security wall between Israel and the Palestinian territories, or due to policy changes regarding border closures, police presence, and the deployment of security guards at restaurants, schools, and buses. To the extent that these changes are occurring at the aggregate level, they will be absorbed by the aggregate time effects in (2). However, some of these preventive efforts may be differentially changing over time across subdistricts according to the local level of terror. For example, it is likely that Israeli authorities would set a higher priority to beefing up security in areas that historically have been targeted more frequently (i.e., Jerusalem, Tel Aviv, Haifa, Netanya, etc.). It is not clear why these changes would be systematically correlated with changes in unobserved political preferences within an area, which would violate our identifying assumption, but one possibility is that individuals with certain views may be differentially

migrating away from heavily targeted areas to safer areas, or there might be a correlation purely by coincidence.

In order to address this issue, we perform a set of balancing tests to examine whether there is a systematic relationship between the observable characteristics of the local population and the local level of terror. More specifically, we test whether there is a linear or nonlinear relationship between  $\text{terror}_{jt}$  and the variables contained in  $\bar{x}_{jt}$ . If there is no relationship between terror and observable factors that affect political preferences, then it seems reasonable to assume that  $\text{terror}_{jt}$  is not correlated with unobservable political preferences,  $\bar{\varepsilon}_{jt}$ , which is the condition needed to obtain consistent estimates of  $\alpha_1$  and  $\alpha_2$ .

Table III presents this analysis by regressing various characteristics of the local population on the local level of recent terror activity, while controlling for subdistrict and year fixed effects. The inclusion of fixed effects by year and subdistrict allows us to test whether changes in the characteristics of the local population over time vary systematically with the local level of recent terror activity. The subdistrict-level characteristics used in Table III capture the main demographic and economic characteristics of the local population available in the Israel Labor Force Survey of each election year. In addition, Table III examines whether local terror is related to the size of the local population, which sheds light on whether terror induces overall out-migration from areas with high levels of attacks.

The results in Table III show that terror is not significantly related to population size, which suggests that terror does not induce Israelis to migrate to calmer areas. In addition, terrorism is not correlated with changes in the demographic composition or unemployment rate of the subdistrict.<sup>18</sup> In particular, recent levels of terrorism are not correlated with the percentage of the subdistrict's population that is ultra-orthodox or from an Asian-African background—two groups that are typically more right-wing in their views.

The fact that terror is not correlated with observable characteristics that are strong predictors of political views supports our assumption that terror is not correlated with unobservable factors

18. The unemployment rate is defined as the number of Jewish males over the age of 24 who are in the labor force but have not worked for the past twelve months. Similar insignificant results are obtained if we include those out of the labor force (but not in school) as being unemployed.

that affect an individual's political preferences.<sup>19</sup> In addition, the evidence in Table III provides support for our assumption that there is no reverse causality in equation (1)—terror groups do not target areas according to changes in local demographic characteristics that affect political preferences, and therefore, it seems unlikely that terror groups are targeting areas based on the local trends in political preferences.<sup>20</sup>

To provide further support for our assumption that there is no reverse causality, Table IV examines whether the political views of individuals within a locality are correlated with local levels of terror in the next election cycle:

$$(6) \text{ terror}_{jt+1} = \pi_1 \cdot \overline{\text{view}}_{jt} + \pi_2 \cdot \overline{\text{view}}_{jt}^2 + \pi_3 \cdot x_{jt} + \gamma_t + \mu_j + \tau_{jt},$$

where  $\text{terror}_{jt+1}$  measures the number of fatalities per capita in subdistrict  $j$  between parliamentary elections in years  $t$  and  $t + 1$ ;  $\overline{\text{view}}_{jt}$  is the share of residents with an accommodating view in subdistrict  $j$  in the survey taken before parliamentary elections in year  $t$ ;  $\gamma_t$  is a fixed effect for each election year;  $\mu_j$  is a fixed effect unique to subdistrict  $j$ ; and  $x_{jt}$  is a vector of demographic characteristics in subdistrict  $j$  before the elections in year  $t$ .

The estimation of equation (6) is done in Table IV, which tests for a linear or nonlinear effect of current views on attacks in the next period, as well as testing the robustness of the relationship to the inclusion of additional controls. Also, the last column regresses  $\text{terror}_{jt+1}$  on the first difference in political views ( $\overline{\text{view}}_{jt} - \overline{\text{view}}_{jt-1}$ ) and its square, in order to test whether terror groups target areas that recently underwent a specific type of change in political attitudes. Table IV performs this analysis using all five ways of measuring political views and preferences, and shows that there is no significant relationship between changes in local political views and terror attacks in the next period. Given that terror groups are not using recent changes

19. The analysis in Berrebi and Klor (2008), based on 240 municipalities and local councils, is consistent with this conclusion. They show that terrorism did not affect net migration across localities or political participation of the electorate during the period at issue.

20. Reverse causality also appears unlikely based on theoretical and practical grounds. Theoretically, it is not clear why terror groups would target particular areas based on the contemporaneous changes in their political attitudes. In practice, it would be very hard to do so, given that the information on the trends in political attitudes is not widespread, and only becomes available in the future after an election, and the election survey, takes place. This makes it hard for groups to target areas based on current changes in local political views.

TABLE IV  
THE EFFECT OF LOCAL POLITICAL ATTITUDES ON FUTURE LOCAL LEVELS OF TERROR FATALITIES PER CAPITA

	Linear specification (1)	Nonlinear specification (2)	Adding survey data (3)	Adding subdistrict characteristics (4)	First differences (5)
Support for granting territorial concessions					
Linear effect	0.0227 [0.027]	0.0450 [0.118]	0.0383 [0.103]	-0.0415 [0.101]	-0.2148* [0.118]
Quadratic effect		-0.0272 [0.160]	-0.0732 [0.123]	-0.0271 [0.129]	0.2329 [0.138]
P-value for effect of political attitudes		.5534	.6237	.3407	.2075
N	87	87	87	87	67
Support for creation of a Palestinian state					
Linear effect	0.0405 [0.024]	-0.0019 [0.092]	0.0046 [0.113]	-0.0150 [0.118]	-0.0899 [0.071]
Quadratic effect		0.0497 [0.120]	0.0180 [0.132]	0.0059 [0.127]	0.0651 [0.102]
P-value for effect of political attitudes		.1974	.7629	.9636	.3365
N	87	87	87	87	67
Right wing political tendency					
Linear effect	0.0158 [0.027]	-0.0173 [0.075]	0.0337 [0.079]	0.1313 [0.129]	0.0239 [0.174]
Quadratic effect		0.0364 [0.073]	0.0335 [0.094]	-0.0631 [0.141]	-0.0301 [0.153]
P-value for effect of political attitudes		.7287	.1302	.0656	.9458
N	87	87	87	87	67

TABLE IV  
(CONTINUED)

	Linear specification (1)	Nonlinear specification (2)	Adding survey data (3)	Adding subdistrict characteristics (4)	First differences (5)
Factor analysis using support for Palestinian state and right-wing tendency					
Linear effect	0.0086 [0.014]	0.0103 [0.015]	-0.0105 [0.015]	-0.0285 [0.017]	-0.0051 [0.014]
Quadratic effect		0.0209 [0.026]	0.0357 [0.027]	0.0245 [0.031]	0.0087 [0.028]
<i>P</i> -value for effect of political attitudes		.6886	.4138	.2494	.8597
<i>N</i>	87	87	87	87	67
Vote for a party in the right bloc					
Linear effect	-0.0229 [0.039]	-0.0906 [0.166]	-0.0365 [0.137]	-0.0555 [0.132]	-0.0094 [0.145]
Quadratic effect		0.0668 [0.146]	0.0492 [0.136]	0.0803 [0.142]	0.0182 [0.147]
<i>P</i> -value for effect of political attitudes		.8095	.902	.7892	.9663
<i>N</i>	87	87	87	87	67

Notes. Each column in each panel presents the results of a separate OLS regression where the dependent variable is the number of terror fatalities per capita in the next election cycle. In addition to the respective proxy for the preferences of the subdistrict's population listed at the top of each panel, column (1) includes year and subdistrict fixed effects. Column (2) adds to column (1) a quadratic effect of the political preferences. Column (3) adds to column (2) the subdistrict's average for age, schooling, schooling interacted with age, expenditures, number of persons in the household, number of rooms in the household's apartment, religiosity, and percentage of males, immigrants, individuals coming from former Soviet bloc of countries, and individuals with Sephardic ethnicity. Column (4) adds to the specification in column (3) subdistrict-specific time trends and the subdistricts' characteristics obtained from the LFS (specified in the note to Table VI). Column (5) presents a regression where all the explanatory variables used in column (4) are first-differenced. Robust standard errors, adjusted for clustering at the subdistrict level, appear in brackets. The *P*-value for the effect of political attitudes tests the hypothesis that the joint effect of all variables measuring political attitudes included in each regression are equal to zero.

\*indicates statistically significant at 10% level; \*\* indicates statistically significant at 5% level; \*\*\* indicates statistically significant at 1% level.



in political views to choose their targets, it seems reasonable to assume that they are not using contemporaneous changes in political views to choose their targets either.

Overall, the analysis in Tables III and IV shows that terror is not systematically related to observable factors that affect political views, and political attitudes in the current period are not related in any way to terror attacks in the next period. These findings provide support for the identifying assumption that local terror attacks are not correlated with omitted factors that affect the local trend in political views, and that terrorist groups are not choosing their targets based on the contemporaneous changes in local political preferences (i.e., no reverse causality).

Furthermore, we will make our identifying assumption less restrictive by including subdistrict-specific linear time trends in (1). The inclusion of subdistrict-specific time trends means that we do not have to assume that terror is uncorrelated with omitted factors which affect the linear trend in local political preferences. Rather, our assumption will be that terror is not correlated with factors that produce deviations from the local linear trend in unobserved political views. In this manner, we will examine whether the results are robust to alternative sources of identification.

#### IV. MAIN RESULTS FOR THE EFFECT OF TERROR ON POLITICAL ATTITUDES

We now analyze the effect of terror on our main outcome variable: a person's willingness to make territorial concessions to the Palestinians. For most of the analysis, we measure the local level of terror by the number of fatalities per capita in the twelve months prior to the elections in year  $t$  for each subdistrict  $j$ . However, we also present evidence regarding the robustness of the results to alternative ways of defining the local level of terror activity. Table V presents the effect of terrorism on a person's willingness to make territorial concessions, estimated using a linear specification. The sensitivity of the coefficient is examined by adding more control variables to the specification in successive columns. For example, the first column does not include any other controls, the next three columns include fixed effects for each year and subdistrict by themselves and together, the fifth column adds a rich set of personal characteristics, the sixth column adds additional controls at the subdistrict level (those used in Table III), and the final column adds subdistrict-specific linear time trends.

TABLE V  
THE EFFECT OF TERROR FATALITIES ON SUPPORT FOR GRANTING TERRITORIAL CONCESSIONS—LINEAR SPECIFICATION

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Terror fatalities per capita within a year before the survey	0.5144 [0.901]	0.2617 [0.872]	0.5666 [0.500]	0.3392 [0.498]	0.4112 [0.452]	0.2874 [0.452]	0.3129 [0.445]
Personal characteristics							
Age					0.0154** [0.0028]	0.0155** [0.0028]	0.0152** [0.0028]
Age square					-0.0001*** [0.0000]	-0.0001*** [0.0000]	-0.0001*** [0.0000]
Male					-0.0123 [0.0127]	-0.0125 [0.0126]	-0.0116 [0.0126]
Years of schooling					0.0349** [0.0078]	0.0347** [0.0078]	0.0342** [0.0078]
Years of schooling × age					-0.0004*** [0.0001]	-0.0004*** [0.0001]	-0.0004*** [0.0001]
Immigrant					-0.0310* [0.0182]	-0.0337* [0.0184]	-0.0334* [0.0186]
African-Asian ethnicity					-0.0762** [0.0185]	-0.0775** [0.0184]	-0.0751** [0.0182]
From former Soviet bloc					-0.1363*** [0.0277]	-0.1313*** [0.0276]	-0.1331*** [0.0277]
Religiously observant					-0.2245** [0.0190]	-0.2252** [0.0187]	-0.2255** [0.0189]
Expenditures (base category: more than average):							
About average					-0.0319** [0.0152]	-0.0323** [0.0153]	-0.0331** [0.0152]
Less than average					-0.0745** [0.0171]	-0.0741** [0.0173]	-0.0726** [0.0175]

TABLE V  
(CONTINUED)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Subdistricts fixed effects	No	No	Yes	Yes	Yes	Yes	Yes
Years fixed effects	No	Yes	No	Yes	Yes	Yes	Yes
Subdistrict time varying characteristics	No	No	No	No	No	Yes	Yes
Subdistrict-specific linear time trends	No	No	No	No	No	No	Yes
N	6,494	6,494	6,494	6,494	6,098	6,098	6,098
R <sup>2</sup>	.001	.016	.029	.043	.1421	.1467	.1499

Notes. Estimated using OLS. The dependent variable is an indicator for agreeing to territorial concessions to Palestinians. Columns (5) through (7) also include dummy variables for each number of individuals in the household and number of rooms in the household's residence. The subdistrict time varying characteristics used in columns (6) and (7) were calculated from the Israel Labor Survey, and include the unemployment rate, the mean number of children below the age of 14 in a household, mean number of individuals above the age of 14 in a household, mean number of individuals per household, percent married, percent male, percentage of individuals between the ages of 30 and 45, percentage of individuals above 45 years old, percentage of individuals with higher education, percent ultra-orthodox Jews, percent immigrants, and percent African-Asian ethnicity. Robust standard errors, adjusted for clustering at the subdistrict-year level, appear in brackets.

\*Indicates statistically significant at 10% level, \*\*Indicates statistically significant at 5% level, \*\*\*Indicates statistically significant at 1% level.

The results in Table V suggest that there is no linear effect of terror activity on a person's willingness to grant concessions to the Palestinians. This result is consistently found as additional control variables are added for personal and subdistrict-level characteristics. In contrast, many of the coefficients on the other controls are highly significant: the willingness to grant concessions increases with income, education, and age (up to a point), and is also higher for natives versus immigrants, secular versus religious, and individuals who did not immigrate from the former Soviet Union and do not come from an Asian–African ethnic background.

However, due to the concave pattern exhibited in Figure IV, we now include a quadratic term for the local level of terror in order to see whether the treatment effect is nonlinear. As shown in Table VI, the results are very different now, with the linear term and the quadratic term highly significant across specifications.<sup>21</sup> The coefficients suggest that terrorism increases an individual's willingness to grant concessions up to a point, and then further terror attacks reduce the willingness to grant concessions. This pattern is found in the simple specification that includes no other controls, and also in subsequent specifications, which gradually add a rich array of personal and subdistrict characteristics, fixed effects for each year, fixed effects for each subdistrict, and subdistrict-specific linear time trends.

The robustness of the results to the inclusion or exclusion of so many other factors suggests that local terror activity is uncorrelated with a large variety of personal and subdistrict-level characteristics that affect political preferences. This pattern is consistent with our balancing tests in Tables III and IV, and supports our assumption that terror is an exogenous event. Furthermore, the results appear to be robust across a variety of identifying assumptions, which change with each specification in Table VI.

The magnitudes of the coefficients in column (5) of Table VI imply that the total effect of terror fatalities, relative to the case where there is no terror activity at all, is positive until 0.105 local casualties per capita are reached, whereas terror activity beyond that threshold makes Israelis adopt a more hard-line stance toward the Palestinians. Similarly, the marginal effect of terror on

21. The standard errors account for clustering at the subdistrict–year level. Clustering only at the subdistrict level yields very similar conclusions regarding the indicated significance levels. These results are available from the authors upon request.

TABLE VI  
THE EFFECT OF TERROR FATALITIES ON SUPPORT FOR GRANTING TERRITORIAL CONCESSIONS—NONLINEAR SPECIFICATION

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Terror fatalities per capita within a year before the survey							
Linear effect	4.285* [2.26]	5.538*** [1.89]	2.029 [1.76]	3.526*** [1.27]	3.648*** [1.18]	3.943*** [0.93]	5.585*** [1.19]
Quadratic effect	-43.459** [19.74]	-59.346*** [15.48]	-16.590 [16.63]	-34.180*** [12.23]	-34.683*** [10.80]	-38.044*** [9.07]	-56.648*** [12.46]
Personal characteristics							
Age					0.0155*** [0.0028]	0.0157*** [0.0028]	0.0153*** [0.0028]
Age square					-0.0001*** [0.0000]	-0.0001*** [0.0000]	-0.0001*** [0.0000]
Male					-0.0140 [0.0128]	-0.0140 [0.0127]	-0.0134 [0.0128]
Years of schooling					0.0351*** [0.0078]	0.0350*** [0.0078]	0.0343*** [0.0078]
Years of schooling × age					-0.0004*** [0.0001]	-0.0004*** [0.0001]	-0.0004*** [0.0001]
Immigrant					-0.0308* [0.0183]	-0.0336* [0.0185]	-0.0328* [0.0186]
African-Asian ethnicity					-0.0768*** [0.0184]	-0.0778*** [0.0183]	-0.0743*** [0.0182]
From former Soviet bloc					-0.1358*** [0.0280]	-0.1307*** [0.0277]	-0.1332*** [0.0278]
Religiously observant					-0.2230*** [0.0191]	-0.2238*** [0.0187]	-0.2255*** [0.0189]

TABLE VI  
(CONTINUED)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Expenditures (base category: more than average):							
About average							
Less than average							
Subdistricts fixed effects	No	No	Yes	Yes	−0.0321** [0.0153]	−0.0325** [0.0153]	−0.0321** [0.0153]
Years fixed effects	No	Yes	No	Yes	−0.0755*** [0.0170]	−0.0748*** [0.0172]	−0.0715*** [0.0175]
Subdistrict time varying characteristics	No	No	No	No	Yes	Yes	Yes
Subdistrict-specific linear time trends	No	No	No	No	Yes	Yes	Yes
<i>N</i>	6,494	6,494	6,494	6,494	6,098	6,098	6,098
<i>R</i> <sup>2</sup>	.004	.021	.029	.0448	.1436	.1484	.1518
<i>P</i> -value for effect of terrorism	.0754	.0001	.4555	.0219	.0076	.0002	.0001

Notes. Estimated using OLS. The dependent variable is an indicator for agreeing to territorial concessions to Palestinians. Columns (5) through (7) also include dummy variables for each number of individuals in the household and number of rooms in the household's residence. The subdistrict time varying characteristics used in columns (6) and (7) were calculated from the Israel Labor Survey, and include the unemployment rate, the mean number of children below the age of 14 in a household, mean number of individuals above the age of 14 in a household, mean number of individuals per household, percent married, percent male, percentage of individuals between the ages of 30 to 45, percentage of individuals above 45 years old, percentage of individuals with higher education, percent ultra-orthodox Jews, percent immigrants, and percent Asian-African ethnicity. Robust standard errors, adjusted for clustering at the subdistrict-year level, appear in brackets. The *P*-value on the effect of terrorism tests the hypothesis that the joint effect of all proxies for the severity of terrorism included in each regression are equal to zero.

\*Indicates statistically significant at 10% level; \*\*Indicates statistically significant at 5% level; \*\*\*Indicates statistically significant at 1% level.



granting concessions is positive until 0.053 casualties per capita are reached, and then additional casualties reduce the willingness to concede territory. That is, a moderate amount of terror is effective, but then it can backfire on the terrorist group. For 102 cases where data are available by subdistrict and year, there are only seven cases that reach levels high enough so that the marginal effect is negative (Jerusalem in 1996 and 2003, and Afula, Hadera, Sharon, Tel Aviv, and Zefat in 2003), and only one case where the estimated total effect is negative (Jerusalem had 0.11 fatalities per capita in 2003), thereby hardening the stance of Jerusalem residents toward the Palestinians in 2003. Given that most of the observations lie within the region where the marginal effect is positive, the estimated nonlinear effect is mostly indicative of a declining effect of terrorism on views, rather than a reversal of the sign of the effect. This overall pattern suggests that individuals respond differently to initial attacks versus later attacks, which may be caused by the declining shock value of attacks, or may be due to changes in the probability that an individual places on the rationality, and perhaps the ultimate goals, of the terrorist group.<sup>22</sup>

To describe the magnitude of the coefficients, we computed the predicted value for each person's willingness to grant concessions in 2003 using the actual local level of fatalities in the previous twelve months, and compared that to the scenario whereby there were no attacks in the year prior to those elections. The difference in these predicted effects represents the change in a person's views due to the attacks leading up to the 2003 elections. The median value of this predicted change in views (using column (5) in Table VI) for the whole sample suggests that the median individual became 4.2 percentage points more likely to support granting territorial concessions. This is more than half of the effect of being from an Ashkenazi background versus an Asian-African background, for which the estimated effect is 7.7 percentage points. In addition, the effect is larger than the estimated effect of being native versus an immigrant (3.1 percentage points), and almost

22. Several theoretical studies show that a nonlinear pattern may emerge when Israelis (or the Israeli government) do not have complete information on the level of extremism of terror factions (Kydd and Walter 2002; Bueno de Mesquita 2005a; Berrebi and Klor 2006). According to these studies, at low levels of attacks, Israelis increase their support for concessions in order to placate terror factions. For higher levels of attacks, however, Israelis start to believe with higher probability that they are facing an extremist faction that cannot be placated with partial concessions. Therefore, in this range of attacks, Israelis start adopting a nonconciliatory position toward terror factions.

one-fifth of the effect of being religiously observant (22.3 percentage points). Therefore, these findings are significant not only in the statistical sense, but also in terms of the magnitudes.

Table VII explores whether the results are heterogeneous across different subsamples of the population according to gender, age, level of expenditures, education, religious observance, immigrant status, and ethnicity. Estimates are presented from our two main specifications, which appear in columns (5) and (7) in Table VI. Both specifications include a rich set of personal characteristics and fixed effects for each year and subdistrict, but the latter specification includes subdistrict-specific linear time trends and additional controls that vary by subdistrict and year.

The estimates in Table VII are generally significant for all groups, with larger effects for Israelis who are younger, religious, female, non-native, less educated, poorer (lower expenditures), and from an Asian–African background. Table II showed that these groups, except for the gender and immigrant categories, tend to be more right-wing than their counterparts. Therefore, Table VII suggests that the effect of terror is larger for particular groups which typically support right-wing political parties.<sup>23</sup> Figure VII demonstrates this more concretely by graphing the predicted nonlinear relationship in the upper panels of Table VII for several subgroups. This figure shows that the predicted effect is larger for the whole range of observed attacks for particularly right-wing groups (religious, Asian–African origin, less educated, and younger Israelis). These findings illustrate how the political map is changing over time as the right wing is shifting to the left in response to terror.

## V. ROBUSTNESS TESTS AND ALTERNATIVE SPECIFICATIONS

### V.A. *Alternative Definitions of Local Terror and Willingness to Grant Concessions*

Table VIII presents results using three alternative definitions for the local level of terror in each subdistrict around the time of the election. The first column in the upper panel uses

23. This pattern is more pronounced for the specification without subdistrict-specific linear time trends. However, the same conclusions are reached in Table A.4 in the Online Appendix, which uses the number of terror fatalities as the treatment variable (instead of fatalities per capita), and also in Table X, which examines the effect of terror on alternative outcomes.

TABLE VII  
THE EFFECT OF TERROR FATALITIES ON SUPPORT FOR GRANTING TERRITORIAL CONCESSIONS, BY SUBGROUPS

	Partition by gender		Partition by age			Partition by expenditures		
	Females	Males	Below 30	30 to 45	Above 45	Below average	Average	Above average
Effect of terror fatalities per capita using only survey data								
Linear effect	4.6758*** [1.36]	2.7568* [1.43]	4.2452*** [1.50]	2.8184* [1.68]	2.8471 [1.75]	3.1391* [1.88]	3.7498*** [1.50]	2.9905* [1.71]
Quadratic effect	-38.113*** [13.53]	-32.607*** [12.45]	-40.018*** [14.23]	-20.643 [15.56]	-30.317* [16.14]	-34.774** [17.00]	-33.246** [14.60]	-29.743* [15.38]
P-value for effect of terrorism	0.0024	0.0047	0.0189	0.1658	0.1618	0.1034	0.0487	0.1607
Effect of terror fatalities per capita including subdistrict time trends and characteristics								
Linear effect	7.6632*** [1.46]	4.4340*** [1.87]	5.7143*** [2.08]	4.6022*** [1.78]	5.4123*** [2.15]	8.4501*** [2.37]	3.9925*** [1.56]	5.0405*** [2.16]
Quadratic effect	-77.189*** [14.97]	-46.567** [20.04]	-53.679*** [19.35]	-49.005*** [18.70]	-55.192*** [20.41]	-98.509*** [25.14]	-31.267** [15.04]	-49.181** [22.23]
P-value for effect of terrorism	.0000	.0655	.0223	.0349	.0300	.0008	.0386	.0713
N	2,991	3,107	1,995	1,890	2,213	2,277	2,122	1,699

TABLE VII  
(CONTINUED)

	Partition by education		Partition by religiosity		Partition by country of birth		Partition by ethnicity	
	Below academic	Academic education	Secular	Religious	Immigrant	Native Israeli	African-Asian	Other
Effect of terror fatalities per capita using only survey data								
Linear effect	4.7347*** [1.44]	2.0906 [1.60]	2.4068* [1.38]	6.1954*** [1.71]	5.9583*** [1.83]	2.3811* [1.31]	6.6334*** [1.96]	2.0451* [1.05]
Quadratic effect	-37.560*** [14.14]	-29.565** [14.68]	-24.580* [13.22]	-56.509*** [17.00]	-58.674*** [17.45]	-23.580* [12.89]	-61.902*** [18.04]	-22.686*** [9.37]
P-value for effect of terrorism	0.0026	0.0105	0.1830	0.0023	0.0047	0.1858	0.0036	0.0475
Effect of terror fatalities per capita including subdistrict time trends and characteristics								
Linear effect	5.8537*** [1.57]	5.7778*** [2.03]	5.9378*** [1.53]	4.8865** [2.20]	9.1530*** [2.40]	3.8223*** [1.44]	6.5823*** [1.73]	4.9349*** [1.43]
Quadratic effect	-59.425*** [17.19]	-56.762*** [19.96]	-56.964*** [15.56]	-64.616*** [22.03]	-94.835*** [22.83]	-40.823*** [15.09]	-76.013*** [19.38]	-43.977*** [13.94]
P-value for effect of terrorism	.0015	.0195	.0010	.0029	.0004	.0291	.0007	.0036
N	3,514	2,584	4,530	1,568	2,349	3,749	2,287	3,811

Note. Each column in each panel presents the results of a separate OLS regression where the dependent variable is an indicator for agreeing to territorial concessions to Palestinians. In addition to terror fatalities per capita within a year before the survey, all regressions include the same covariates as specifications (5) and (7) in Table VI. Robust standard errors, adjusted for clustering at the subdistrict-year level, appear in brackets. The P-value for the effect of terrorism tests the hypothesis that the joint effect of all proxies for the severity of terrorism included in each regression are equal to zero.

\*Indicates statistically significant at 10% level; \*\*Indicates statistically significant at 5% level; \*\*\*Indicates statistically significant at 1% level.

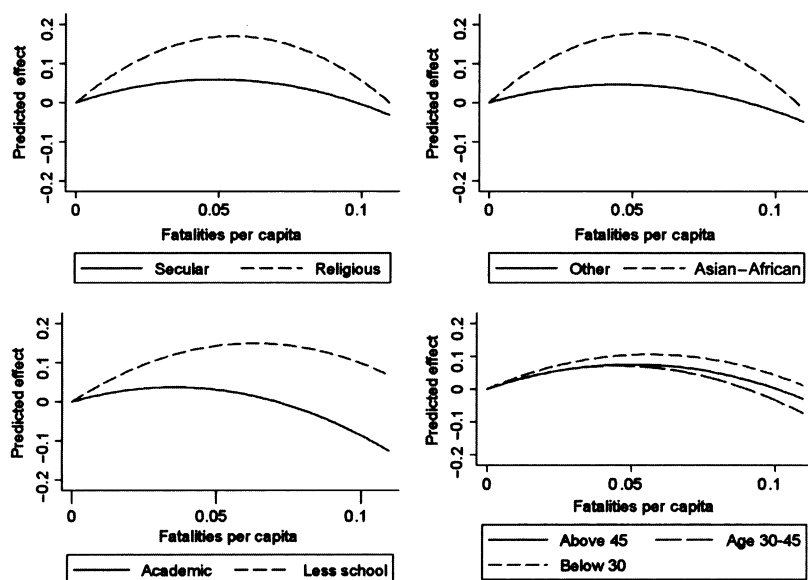


FIGURE VII

Effect of Terror Fatalities on Willingness to Grant Concessions by Subgroups

Each graph depicts the nonlinear relationship between terror fatalities per capita and a person's willingness to grant territorial concessions using the estimated coefficients in the upper panel of Table VII.

the number of attacks per capita in the last twelve months, rather than the number of fatalities. The number of attacks is defined as the number of incidents with at least one fatality, which essentially gives equal weight to all fatal attacks regardless of the number killed. The results using this measure are very similar, in the sense of displaying a highly significant concave pattern.

The second and third columns in the upper panel of Table VIII use terror "since the last elections" rather than "in the last twelve months" as the treatment variable. The estimates reveal the same nonlinear pattern using "total fatalities" or "total attacks" as the measure of local terror, and are significant in three out of four specifications. (The coefficients are not significant for the specification that uses "total fatalities since the previous election" without subdistrict-specific time trends.) However, the estimates are smaller in magnitude, which suggests that recent terror activity has a bigger impact than attacks occurring in the more distant

TABLE VIII  
THE EFFECT OF TERROR FATALITIES ON SUPPORT FOR GRANTING TERRITORIAL CONCESSIONS, ROBUSTNESS TESTS

	Alternative proxies for level of terrorism			Restricting the sample to different time periods	
	Attacks within a year before the survey	Attacks since previous elections	Fatalities since previous elections	From 1996 to 2006	From 2003 to 2006 <sup>a</sup>
Effect of terror fatalities per capita using only survey data					
Linear effect	15.2331*** [5.45]	6.059* [3.10]	0.5682 [0.68]	1.5921* [0.95]	2.7388*** [0.82]
Quadratic effect	-619.6** [289]	-171.5*** [72]	-3.282 [4.51]	-18.375** [9.05]	-30.984*** [7.02]
P-value for effect of terrorism	.0177	.0489	.7077	.1592	.0000
Effect of terror fatalities per capita including subdistrict time trends and characteristics					
Linear effect	25.486*** [5.37]	10.387*** [3.58]	2.2995*** [0.60]	2.1419 [1.31]	4.5820*** [0.65]
Quadratic effect	-1,236.2*** [312]	-285.4*** [107]	-14.089*** [4.55]	-21.814 [14.40]	-46.777*** [6.03]
P-value for effect of terrorism	.0000	.0180	.0010	.2426	.0000
N	6,098	6,098	6,098	4,229	2,292

TABLE VIII  
(CONTINUED)

	Using an alternative definition of <i>agree to concessions</i>	Excluding Jerusalem	Excluding Jerusalem and Tel Aviv	Marginal effects using a probit model	Including a higher-order polynomial
Effect of terror fatalities per capita using only survey data					
Linear effect	2.8397** [1.28]	4.4180*** [1.51]	6.0163*** [1.70]	4.2215*** [1.36]	3.5676* [2.01]
Quadratic effect	-27.441*** [11.45]	-39.832*** [15.17]	-63.176*** [15.80]	-39.882*** [12.61]	-32.302 [43.83]
Cubic effect					-16.372 [258.72]
P-value for effect of terrorism	.0613	.0161	.0005	.0064	.0044
Effect of terror fatalities per capita including subdistrict time trends and characteristics					
Linear effect	3.1428*** [1.29]	6.7684*** [1.26]	7.9114*** [1.57]	6.3722*** [1.33]	8.5875*** [1.90]
Quadratic effect	-37.916*** [12.90]	-67.448*** [14.62]	-87.880*** [19.84]	-64.165*** [13.78]	-145.069*** [50.73]
Cubic effect					621.608 [362.98]
P-value for effect of terrorism	.0107	.0000	.0000	.0000	.0000
N	6,098	5,398	4,176	6,098	6,098

Notes. Each column in each panel presents the results of a separate OLS regression where the dependent variable is an indicator for agreeing to territorial concessions to Palestinians. In addition to the respective proxy for the severity of terrorism, all regressions include the same covariates as specifications (5) and (7) in Table VI. Robust standard errors, adjusted for clustering at the subdistrict-year level, appear in brackets. The marginal effects of the probit model are calculated at the means. The P-value for the effect of terrorism tests the hypothesis that the joint effect of all proxies for the severity of terrorism included in each regression are equal to zero.

<sup>a</sup>The regressions at the bottom using only observations from years 2003 and 2006 do not include subdistrict specific time trends because there are only two periods for each subdistrict.

\* indicates statistically significant at 10% level; \*\* indicates statistically significant at 5% level; \*\*\* indicates statistically significant at 1% level.



past.<sup>24</sup> However, the effect of terrorism on an individual's political preferences does not completely disappear even when measured over a longer time period.

Table A.2 in the Online Appendix examines whether terror attacks by different Palestinian factions have similar effects on the views of Israelis. Because the goals of the different groups are not always clear and may not be consistent with each other, we distinguish between attacks perpetrated by Islamic-based groups ( Hamas and Islamic Jihad) and the rest. Most of the attacks are perpetrated by Islamic groups, and Table A.2 shows that similar results are obtained when we use terror fatalities committed only by Islamic groups. Although Table A.2 shows that terror fatalities caused by Islamic groups have a slightly smaller effect on Israeli political views than overall fatalities, this difference is not significant. These findings suggest that although Palestinian groups may not have identical goals, Israelis do not seem to distinguish between the attacks of different groups. This result, however, could be due to the lack of awareness of who is perpetrating each attack.

In Table A.3 in the Online Appendix, we also show that adding "attacks in neighboring subdistricts" to the specification has no influence on the estimated effect of local terror, although the effect of terror in neighboring areas is often significant but much smaller in magnitude. This finding demonstrates that our main results are not coming from the correlation of local attacks with factors associated with attacks at the broader regional level. Finally, it is worth noting that using the number of fatalities as the treatment variable, rather than fatalities per capita, yields very similar results as well—including much stronger effects for traditionally right-wing demographic groups (see Table A.4 in the Online Appendix).

The first column in the bottom panel of Table VIII uses an alternative coding scheme for a person's willingness to grant concessions. As noted in Section II, we coded a response of "four" (the middle value of the range of answers) in survey years 1996 and 1999 as being "unwilling" to make concessions. Because this value lies in the center of the range of answers (from one to seven), we

24. A possible explanation for the weaker results using terrorism "since the last election" versus the "last twelve months" is that the differential costs of a terror attack on local versus nonlocal residents dissipate over time, and therefore, the effects of attacks from a few years ago become subsumed in the aggregate year effects.

now test whether the results are sensitive to coding this value as being “willing” to make concessions. Table VIII shows that the coefficients using this alternative coding scheme are still highly significant.

#### *V.B. Changes in the Coding of the Question about Concessions*

Because the wording of the question regarding a person’s willingness to make concessions changed over time, we now explore whether our main results are a product of those changes rather than representing a causal effect. Up to now, we dealt with this issue by including fixed effects for each year in the regressions. Table VI showed that including or excluding fixed effects for each year does not affect the results, which suggests that changes in the structure of the questionnaires are not likely to be creating spurious estimates. Table VIII presents more evidence for this conclusion by restricting the sample to periods when there was very little change in the question (1996–2006) and to periods when there was no change at all (2003–2006).<sup>25</sup> As shown in the upper panel, the coefficient estimates are still significant for the period 1996–2006, although not for the specification that includes subdistrict-specific time trends. For the years 2003–2006, the results are highly significant even for this short time period, which incidentally did not include the largest wave of attacks (i.e., 1999–2003).<sup>26</sup> These findings show that changes in the wording of the question over time are not responsible for our main results.

#### *V.C. Specifying the Nonlinearity*

We now examine the specification of the nonlinear effect of terror on political attitudes. In addition, we check whether the nonlinear effect is coming entirely from the observations from Jerusalem, as it appears in Figure IV. Table VIII shows that the results are still highly significant and nonlinear after Jerusalem residents are omitted from the sample, and after Tel Aviv and Jerusalem residents are omitted from the sample. This finding suggests that the nonlinear effect of terror on political attitudes is not entirely due to the perhaps unique characteristics and

25. From 1999 to 2003, there was a small change in the structure of the question, as the range of answers went from one to seven to one to four.

26. Similar results are obtained if we start the sample in 1992 or 1999. Starting the sample in 1992 yields coefficients (standard errors) for the specification in column (5) of Table VI equal to 2.66 (1.09) and –27.16 (10.18) for the linear and quadratic terms, respectively. Starting the sample in 1999 produces 2.11 (1.17) and –24.00 (11.09), respectively.

experiences of Jerusalem or Tel Aviv. Table VIII also shows that using a probit model instead of a linear probability model yields very similar results.<sup>27</sup> In addition, the last column in the bottom panel of Table VIII adds a cubic term for the level of local terror per capita, in order to see whether the nonlinearity should be modeled with a higher-order polynomial. The cubic term is not significant, which suggests that using a quadratic specification is sufficient.

#### V.D. *Alternative Panel Data Model Specifications*

This section tests the robustness of the results to alternative panel data models. Because our data set consists of repeated cross sections of individuals, we aggregate the data to the subdistrict-year level to exploit these other methods. As a baseline model, we estimate the fixed-effect model used until now (column (5) of Table VI) at that level of aggregation. Specifically, we estimate equation (2) from Section III. Although the number of observations is reduced to 86, the first column of Table IX shows that the results for this model are still highly significant.<sup>28</sup>

Table IX also presents a first-differences model as an alternative way to control for the fixed effect of each subdistrict. The results in column (3) are very similar to those for the fixed-effect model, thereby providing support for the strict exogeneity assumption. In addition, we consider an alternative specification of the “levels” model that includes a lagged dependent variable as a control variable:

$$(7) \quad \overline{\text{view}}_{jt} = \rho \cdot \overline{\text{view}}_{jt-1} + \alpha_1 \cdot \overline{\text{terror}}_{jt} + \alpha_2 \cdot \overline{\text{terror}}_{jt}^2 \\ + \beta \cdot \bar{x}_{jt} + \gamma_t + \mu_j + \bar{\varepsilon}_{jt}.$$

This “dynamic panel data model” captures the idea that political attitudes may be moving slowly, so that attitudes at time  $t$  are correlated with those at  $t - 1$ , and terrorist activity may introduce an innovation to the evolution of political views. This model is estimated using OLS in the second column of Table IX, which shows results very similar to those for the model without the

27. The table presents the marginal effects evaluated at the means from the probit model. In the rest of the paper, we choose to present results from a linear probability model instead of a probit, because the interpretation of the marginal effects using a nonlinear specification is not straightforward in a probit model.

28. This regression also differs from the one using individual-level data by giving equal weight to all subdistricts, whereas the models based on individual-level data essentially give more weight to those subdistricts with more observations.

TABLE IX  
THE EFFECT OF TERROR FATALITIES ON SUPPORT FOR GRANTING TERRITORIAL CONCESSIONS, AGGREGATING DATA AT SUBDISTRICT LEVEL

	OLS fixed effects		First differences	Arellano-Bond	System
	(1)	(2)	(3)	estimation	dynamic panel data estimation
Terror fatalities per capita within a year before the survey					
Linear effect	5.2083*** [1.75]	4.608** [2.27]	3.478* [1.78]	3.9685*** [1.63]	4.7583*** [1.83]
Quadratic effect	-57.306*** [18.29]	-56.489*** [21.75]	-39.225** [18.44]	-55.361*** [16.17]	-57.622*** [18.02]
Lagged support for granting territorial concessions		-0.0108 [0.154]		-0.1463 [0.19]	0.0448 [0.14]
P-value for effect of terrorism	.0112	.0374	.0034	.0000	.0007
N	86	66	66	48	66

Notes. Each column in each panel presents the results of a separate regression where the dependent variable is an indicator for agreeing to territorial concessions to Palestinians. In addition to terror fatalities per capita 12 months before the survey, all regressions include the same covariates as specification (5) in Table VI aggregated at the subdistrict-year level. The first two columns present a fixed-effect estimation. Column (3) uses a first differences estimation while column (4) presents a general method of moments estimate based on Arellano and Bond (1991), and column (5) uses additional moment conditions based on Arellano and Bover (1995) and Blundell and Bond (1998). Robust standard errors appear in brackets. The P-value for the effect of terrorism tests the hypothesis that the joint effect of all proxies for the severity of terrorism included in each regression are equal to zero. \*indicates statistically significant at 10% level; \*\* indicates statistically significant at 5% level; \*\*\* indicates statistically significant at 1% level.

lagged dependent variable. To address concerns about whether OLS yields consistent estimates when a lagged dependent variable is included in the fixed-effects model, the model is also estimated with GMM following Arellano and Bond (1991) in column (4) and using additional moment conditions (see Arellano and Bover [1995] and Blundell and Bond [1998]) in column (5). Using both methods, the results are very similar to previous results. Overall, the nonlinear effect of terror on political accommodation is robust to all the most widely used panel data methods.

### *V.E. Alternative Measures of Political Attitudes*

We now examine whether terror has affected the two other available ways of defining political views: support for a Palestinian state, and defining oneself as being right-wing. To do this, we create a **summary measure** using the first factor from a factor analysis on both views. The first factor explains 71% of the variation, and the factor loadings can be interpreted as giving a more positive weight to more accommodating positions. Specifically, the factor loadings on the first factor are 0.85 on “support for a Palestinian state” and  $-0.85$  on “defining oneself as having a right-wing political tendency.” As such, positive values of the first factor indicate a more left-wing position on the conflict.

Results for this summary measure are presented in Table X. As seen before, there is a significant nonlinear effect of terrorism on this summary measure—terrorist attacks induce individuals to shift their views toward a more accommodating stance, but after a certain threshold, additional attacks cause Israelis to adopt a more hard-line stance versus the Palestinians.

Table X also presents the results for our summary measure of alternative attitudes for different subpopulations. Again, the nonlinear pattern is significant for most demographic groups, but the effects are once again much stronger for people who are religious, less educated, and from an Asian–African ethnic background. These findings demonstrate that terrorism has had a pervasive impact within many subgroups of the population, with the strongest impact on groups that are particularly known for holding right-wing views. The finding of stronger effects for these traditionally right-wing groups across all outcomes highlights the dramatic shift in the political map in Israel.

Overall, the results in this section show that the significant effect of terrorism on political attitudes, and its nonlinear pattern, is robust to alternative ways of defining an individual’s views

TABLE X  
THE EFFECT OF TERROR FATALITIES ON A SUMMARY MEASURE OF TWO ALTERNATIVE ATTITUDES TOWARD PALESTINIANS  
BASED ON FACTOR ANALYSIS

	Partition by gender			Partition by age			Partition by expenditures			
	Entire sample	Female		Male	Below 30	30 to 45	Above 45	Below average	Average	Above average
Effect of terror fatalities per capita using only survey data										
Linear effect	4.7977*	5.885*	5.299*	3.072	4.197	3.2673	3.049	8.726***	2.2953	
	[2.56]	[3.24]	[2.75]	[3.80]	[3.66]	[3.24]	[4.51]	[2.69]	[3.42]	
Quadratic effect	-56.65***	-56.155*	-74.78***	-35.96	-19.56	-65.77**	-45.44	-91.85***	-37.90	
	[22.7]	[29.8]	[23.5]	[33.5]	[34.5]	[29.2]	[40.0]	[25.8]	[31.0]	
P-value for effect of terrorism	.0323	.1718	.0009	.5116	.2135	.0039	.1956	.0024	.2489	
Effect of terror fatalities per capita including subdistrict time trends and characteristics										
Linear effect	5.7566**	8.2814**	4.9736**	3.2349	7.2096*	3.3378	1.7381	11.7436***	7.0940*	
	[2.75]	[4.12]	[2.30]	[4.35]	[3.91]	[4.42]	[4.66]	[3.32]	[4.19]	
Quadratic effect	-64.085***	-83.184**	-66.643***	-37.925	-49.318	-68.630	-55.341	-81.651***	-94.575**	
	[24.7]	[37.0]	[24.2]	[41.6]	[37.6]	[42.9]	[40.3]	[31.1]	[41.6]	
P-value for effect of terrorism	.0340	.0860	.0236	.6285	.1416	.0825	.0275	.0013	.0300	
N	5,122	2,518	2,604	1,785	1,635	1,702	1,902	1,809	1,411	

TABLE X  
(CONTINUED)

	Partition by education		Partition by religiosity			Partition by country of birth		Partition by ethnicity		
	Below academic	Academic education	Secular	Religious	Immigrant	Native Israeli	African-Asian	Other		
Effect of terror fatalities per capita using only survey data										
Linear effect	6.137*** [2.35]	1.975 [4.60]	0.104 [3.48]	12.223*** [3.44]	4.525 [3.27]	4.599* [2.70]	10.778*** [3.50]	0.724 [3.22]		
Quadratic effect	-59.19*** [24.0]	-49.23 [42.1]	-19.33 [31.5]	-111.97*** [31.2]	-56.78* [32.2]	-59.52*** [25.0]	-119.75*** [33.5]	-20.55 [29.1]		
P-value for effect of terrorism	.0365	.0786	.2902	.0024	.1947	.0388	.0023	.4357		
Effect of terror fatalities per capita including subdistrict time trends and characteristics										
Linear effect	8.7890*** [2.45]	1.8101 [4.85]	4.3563 [4.01]	10.6170** [4.66]	-1.0630 [4.30]	9.9804*** [2.77]	11.9123*** [3.34]	0.9514 [3.52]		
Quadratic effect	-94.435*** [25.1]	-19.621 [42.1]	-49.211 [36.0]	-124.19*** [43.4]	-4.858 [37.6]	-106.52*** [27.6]	-155.76*** [34.5]	-0.288 [32.9]		
P-value for effect of terrorism	.0013	.8894	.3748	.0136	.7262	.0010	.0001	.8069		
N	3,123	1,999	3,784	1,338	1,942	3,180	2,054	3,068		

Notes. Each column in each panel presents the results of a separate OLS regression where the dependent variable is an indicator for accommodating views toward the Palestinians using factor analysis based on the two attitudes discussed in the text. In addition to terror fatalities per capita within a year before the survey, all regressions include the same covariates as specifications (5) and (7) in Table VI. Robust standard errors, adjusted for clustering at the subdistrict-year level, appear in brackets. The P-value for the effect of terrorism tests the hypothesis that the joint effect of all proxies for the severity of terrorism included in each regression are equal to zero.

\*indicates statistically significant at 10% level; \*\*indicates statistically significant at 5% level; \*\*\*indicates statistically significant at 1% level.



toward the Palestinians.<sup>29</sup> Moreover, the similarity of the results for all three measures of political views provides further evidence against the possibility that changes in the structure of a particular question in the survey over time could be responsible for our main results.

## VI. THE EFFECT OF TERROR ON VOTING VERSUS POLITICAL VIEWS

We now examine the effect of terror on voting preferences using the outcome variable “support for the right-wing bloc” in the upcoming elections. As we will see, this variable is fundamentally different in its nature from the previous outcome measures. Table XI presents this analysis for the linear specification—the quadratic term was not included because it was insignificant in most specifications. In contrast to the political outcomes previously analyzed, the linear effect is generally positive, which suggests that terror attacks encourage Israelis to vote for right-wing parties. This finding is consistent with Berrebi and Klor (2008), who used data on actual voting patterns at the local level (rather than our measure, which uses the respondent’s voting intentions in the upcoming elections) to show that local attacks turned voters toward right-wing parties.

Combined with our previous results, this suggests that terrorism is causing Israelis to vote increasingly for right-wing parties, whereas at the same time, they are turning left in their political views. The difference in the pattern of results can be reconciled by the idea that the platforms of the political parties are endogenously changing over time. This shift over time is evident from a casual inspection of the parties’ official platforms. For example, the platform of the right-wing Likud party during the 1988 elections stated on its first page that “The State of Israel has the right to sovereignty in Judea, Samaria, and the Gaza Strip,” and that “there will be no territorial division, no Palestinian state, foreign sovereignty, or foreign self-determination (in the land of Israel).” This stands in stark contrast to the Likud’s platform before the 2009 elections, which stated that “The Likud is prepared to make (territorial) concessions in exchange for a true and reliable peace

29. The overall results using the “support Palestinian state” measure versus the other measures are weaker, but there is still the familiar pattern whereby strong and significant effects are found for individuals with an Asian–African background.

TABLE XI  
THE EFFECT OF TERROR FATALITIES ON VOTES FOR A PARTY IN THE RIGHT BLOC OF POLITICAL PARTIES

	Partition by gender			Partition by age			Partition by expenditures			
	Female	Male		Below 30	30 to 45	Above 45	Below average	Average	Above average	
Effect of terror fatalities per capita using only survey data										
Linear effect	0.7195** [0.35]	-0.2216 [0.50]	1.7809*** [0.43]	1.3511*** [0.53]	-0.4158 [0.51]	1.1080* [0.58]	1.6769*** [0.67]	-0.1969 [0.53]	0.7184 [0.71]	
Effect of terror fatalities per capita including subdistrict time trends and characteristics										
Linear effect	0.7639* [0.41]	-0.8345 [0.60]	2.1207*** [0.53]	1.0983* [0.63]	-0.1460 [0.68]	1.1542 [0.83]	1.5026* [0.87]	-1.5186** [0.65]	1.7822*** [0.71]	
N	6,196	3,041	3,155	2,022	1,916	2,258	2,319	2,153	1,724	
Partition by ethnicity										
Partition by education			Partition by religiosity			Partition by country of birth			African-Asian	Other
Below academic education			Secular			Religious Immigrant				
Effect of terror fatalities per capita using only survey data										
Linear effect	0.6903 [0.50]	0.9045* [0.47]	1.1535*** [0.48]	-0.2812 [0.58]	1.1741** [0.56]	0.6675 [0.50]	0.6118 [0.66]	0.8741** [0.39]		
Effect of terror fatalities per capita including subdistrict time trends and characteristics										
Linear effect	0.8561* [0.50]	-0.2633 [0.65]	0.8770 [0.60]	0.7232 [0.73]	1.2452 [0.84]	0.3775 [0.48]	1.0530 [0.77]	0.1191 [0.54]		
N	3,566	2,630	4,604	1,592	2,402	3,794	2,323	3,873		

Notes. Each column in each panel presents the results of a separate OLS regression where the dependent variable is an indicator for a party in the right bloc of political parties. In addition to terror fatalities per capita within a year before the survey, all regressions include the same covariates as specifications (5) and (7) in Table VI. Robust standard errors, adjusted for clustering at the subdistrict-year level, appear in brackets. The *P*-value for the effect of terrorism tests the hypothesis that the joint effect of all proxies for the severity of terrorism included in each regression are equal to zero.

\*indicates statistically significant at 10% level; \*\*indicates statistically significant at 5% level; \*\*\*indicates statistically significant at 1% level.

agreement.” Arguably, the Likud’s position in 2009 is to the left of the left-wing Labor party’s platform in 1988.<sup>30</sup>

Table XI also presents the analysis within each subgroup, and shows that the linear effect of terrorism on supporting right-wing parties is found predominantly among individuals who are male, non-native, secular, highly educated, and not from an Asian–African ethnic background population. The last three groups are quite notable, because our previous results indicated that terrorism leads to a more accommodating attitude particularly among individuals who are religious, less educated, and from an Asian–African background. In contrast, we now find that the shift toward right-wing parties occurred within subgroups that are strongly identified with left-wing parties, rather than those groups who are typically right-wing.

The stronger results for left-leaning groups on the probability of voting right-wing, combined with our evidence that they are not shifting toward less accommodating political views regarding Palestinian demands, shows that these groups are increasing their support for right-wing parties only because the right-wing parties are moving to the left. As a result, the overall pattern of results suggests that terror is shifting the entire political landscape by moving public opinion to the left, and moving the right-wing parties accordingly.

This pattern of results is consistent with the theory of policy voting (Kiewiet 1981). According to this theory, parties benefit from the salience of issues to which they are widely viewed as attaching the highest priority. Thus, in periods of repeated terror attacks, voters increase their support for the right bloc of political parties because terror attacks amplify the salience of the security dimension in political discourse, and the right bloc is typically identified as placing a stronger emphasis on security-related issues compared to the left bloc. Given that right-wing parties benefit from the increasing prominence of the security issue during a wave of terror, theoretical models of candidate location predict that this causes the disadvantaged candidate, which in this scenario is the left bloc of parties, to move away from the center (Groseclose 2001; Aragonés and Palfrey 2002). In contrast, the advantaged candidate—the right bloc—moves toward the center

30. For the 1988 elections, the Labor-Alignment party platform “ruled out the establishment of another separate state within the territorial area between Israel and Jordan.” For the 2009 elections, however, Labor supported the creation of a Palestinian state together with the evacuation of isolated settlements.

of the political map. As a result, the left bloc loses support to the right bloc, as the right bloc moves to the left. This is one possible explanation for the pattern of results uncovered in our analysis, but the theoretical mechanisms behind these findings deserve further attention.

## VII. CONCLUSIONS

This paper presents the first systematic examination of whether terrorism is an effective strategy for achieving political goals, while paying particular attention to the issue of causality. Our results show that terror attacks by Palestinian factions have moved the Israeli electorate toward a more accommodating stance regarding the political objectives of the Palestinians. At the same time, terrorism induces Israelis to vote increasingly for right-wing parties, as the right-wing parties (and particular demographic groups that tend to be right-wing in their views) are shifting to the left in response to terror.<sup>31</sup> These findings highlight the importance of examining how terrorism affects political views, not just voting patterns, in assessing the effectiveness of terror. Looking at the effect of terrorism only on voting patterns in order to infer its effect on political views would lead to the opposite conclusion, at least in the context of the Israeli–Palestinian conflict.

Although terrorism in small doses appears to be an effective political tool, our results suggest that terror activity beyond a certain threshold seems to backfire on the goals of terrorist factions, by hardening the stance of the targeted population. This finding could be one explanation for why terrorist factions tend to implement their tactics in episodes that are rather limited in scale and diverse in terms of geographic placement.

Others have argued that Palestinian terrorism has worked in exacting political concessions (Dershowitz 2002; Hoffman 2006). Their claim, however, is that terrorism raised the salience of the Israeli–Palestinian conflict, which increased pressure from the

31. We show significant effects on public opinion, but for terror to be effective, this should result in changes in public policy. Our finding that there has been a dramatic shift in the political platforms of the parties is consistent with the idea that terror has led to a significant change in the policies of the main political parties. In practice, this policy shift is perhaps best exemplified by the Israeli unilateral withdrawal from the entire Gaza Strip and parts of the West Bank in 2005 (in the aftermath of the second Palestinian uprising), which was carried out by a government led by the right-wing Likud party.

international community on the Israeli government. Our paper shows that terrorism works not only because of the possibility of fostering international pressure, but also because it creates domestic political pressure from the targeted electorate.

Many conflicts in history have been settled by peaceful means (the racial conflict in South Africa, the civil rights movement in the United States, the British occupation of India, etc.). Understanding when conflicts are conducted peacefully rather than violently is a complicated issue that deserves more attention. It may well be the case that a more peaceful, diplomatic strategy would have been more effective in achieving Palestinian goals. Moreover, the apparent political effectiveness of Palestinian terrorism may not have been worth the economic, social, and human cost to the Palestinian population over time, as the conflict remains unsettled to this day. However, by showing that terror can be an effective political tool, our findings not only provide insights into how the Israeli–Palestinian conflict has evolved over time, but also shed light on why terror appears to be increasing in many parts of the world. Effective and comprehensive counterterrorism policies—which may consist of deterrence, raising the costs to terrorists, and diplomatic efforts—have to take into account the political gains that can be obtained through terrorism.

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