Economic Conditions and the Quality of Suicide Terrorism

Efraim Benmelech[¥]
Harvard University and NBER

Claude Berrebi[§]
Rand Corporation

Esteban F. Klor[¶]
Hebrew University and CEPR

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[¥] Department of Economics, Harvard University, Littauer Center, Cambridge, MA 02138. E-mail: effi_benmelech@harvard.edu

[§] Rand Corporation, Santa Monica, CA 90407. E-mail: claude_berrebi@rand.org

[¶] Department of Economics, The Hebrew University of Jerusalem, Mount Scopus, Jerusalem 91905, Israel. E-mail: eklor@mscc.huji.ac.il

Abstract

We analyze the link between economic conditions and the quality of suicide terrorism. While the existing empirical literature shows that poverty and economic conditions are not correlated with the *quantity* of terror, theory predicts that poverty and poor economic conditions may affect the *quality* of terror. Poor economic conditions may lead more able, better-educated individuals to participate in terror attacks, allowing terror organizations to send better-qualified terrorists to more complex, higher-impact, terror missions. We provide evidence on the correlation between economic conditions, the characteristics of suicide terrorists and the targets they attack. High levels of unemployment enable terror organizations to recruit more educated, mature and experienced suicide terrorists who in turn attack more important Israeli targets.

Keywords: *Quantity and Quality of Terrorism; Economic Conditions, Suicide Terrorists*.

1. Introduction

Do poor economic conditions affect terrorism? A growing body of empirical literature shows that poverty and economic conditions are not directly correlated with the occurrence of terrorism (Abadie, 2006; Drakos and Gofas, 2006a; Krueger and Malechova 2003; Krueger and Laitin, 2008; Piazza, 2006). The lack of correlation between the frequency of terror attacks and economic conditions, combined with the privileged background of suicide terrorist found in earlier studies, suggests that economic conditions do not have a direct and straightforward effect on terrorism. However, economic conditions may affect terrorism through other – indirect – channels. While economic conditions are probably not root causes of terrorism, and do not affect the level of terrorism, they could still impact the nature and type of terror attacks.

This paper adds to the debate on the relation between economics conditions and terrorism by studying the *intensive* rather than the *extensive* margin of terrorism. Whereas the related empirical literature has focused on the *quantity* or the amount of terror, we study the *quality* of terror and its relation to underlying economic conditions. The notion that economic conditions are potentially correlated with the quality of terror has been suggested by Bueno de Mesquita (2005a). In his model, individuals have to choose whether to work in a market economy or volunteer to carry terror attacks. Rational individuals become terrorists only if their utility of carrying a terror attack is higher than their utility of working in the market economy. When economic conditions are good, and unemployment is low, there are desirable opportunities for able individuals that choose to join the market economy. Therefore, only individuals with low ability, those unable to find a job even under good market conditions, are the ones who join terror organizations. When market conditions deteriorate, the economic opportunities of able individuals deteriorate as well. Worsening economic conditions should ease the recruiting of

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more able and better-educated individuals by terror organizations, even if the launching of a terror campaign and the quantity of terrorism are driven by strategic decisions taken by terror organizations irrespective of economic conditions. In other words, economic conditions should affect the supply of individuals willing to join terror organizations. By screening volunteers and selecting only the most competent to commit attacks, terror organizations may be able to send more capable terrorists under recessionary economic conditions. That is, we should observe that economic conditions affect the quality (rather than the quantity) of terrorism.[1]

This paper provides a systematic analysis of the link between economic conditions, the quality of suicide terrorists, the characteristics of their targets, and the outcomes of their attacks. We combine a detailed data set on the universe of Palestinian suicide terrorists during the second Intifada, with data on earnings and labor force participation in the West Bank and Gaza Strip, and with data on Israeli counterterrorism measures. Our results suggest that that there is a strong correlation between economic conditions and the characteristics of suicide terrorists and targets they attack. Higher unemployment enables terror organizations to recruit more educated, mature and experienced suicide terrorists, who in turn attack more important targets, located closer to their district of residence. Furthermore, we show that bad economic conditions do not drive the quality of terror equally for different organizations. In the spirit of the club model proposed by Berman and Laitin (2008), groups that provide excludable public goods increase their ability to commit terror attacks during difficult economic times.

These results have important implications for the design of efficient policies of counter-terrorism. The most common policies of counterterrorism are aimed to incapacitate terror

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[1] Becker and Posner (2005) use similar intuition in a rational model of suicide. In their application to suicide bombers, they also highlight the impact of market opportunities on the individuals' decision to go on a suicide mission. Unlike Bueno de Mesquita (2005a), Becker and Posner (2005) study exclusively individuals' decision making and do not incorporate into the analysis the strategic considerations of terror organizations.

organizations by cracking down on their members and by enacting security measures that affect the probability of success of a planned attack. The connection between economic conditions and the quality of terrorism suggests that policies intended to improve economic development and stimulate economic growth might reduce the quality, and thus the threat, of suicide terrorism.

The suggested policy implications have one important caveat. Institutions that provide economic aid geared to stimulate economic sustainability need to pay particular attention to the ideology and political objectives of the local organizations administering their aid. Even if these local organizations use the donors' aid to provide important public goods (like education and health), our analysis shows that this aid may allow terror organizations to coerce the local population into increasing violence and terrorism.

The rest of the paper is organized as follows. Section 2 describes the data sources used in the analysis. Section 3 presents the empirical analysis of the relation between economic conditions and the quality of suicide terrorism. Section 4 studies the effect of economic conditions on the quality of suicide terrorism across Palestinian factions. Section 5 highlights the lack of correlation between economic conditions and the quantity of terrorism also present in our case study. Section 6 concludes.

2. Data

A.   Data on Palestinian Suicide Terrorists

The data on Palestinian suicide terrorists is an updated version of the data set constructed by Benmelech and Berrebi (2007) from reports of the Israeli Security Agency (ISA). The data details the biographies of all Palestinian suicide terrorists that attacked (or tried to attack) targets in Israel, the West Bank and Gaza Strip between September 2000 and December 2006. The data

contains detailed information on terrorists' characteristics, targets' characteristics and outcome of the attacks.

Our data set includes 157 suicide terrorists for whom we know their names, membership in terror organization, age, city of residence, whether they had an academic degree or attended an institution of higher education, and whether they were previously on ISA's most wanted terrorists list, were incarcerated, or were detained by the Israeli security forces.

Figure 1 displays the number of suicide terrorists coming from Jerusalem, from each of the ten districts in the West Bank, and from the five districts in the Gaza Strip. The figure exhibits a high geographic variability with respect to district of origin of suicide terrorists, especially among districts in the West Bank. Whereas 45 percent of suicide terrorists resided in Nablus and Jenin, only two suicide terrorists resided in the neighboring districts Salfit, Tubas and Jericho.

[Figure 1 about here]

Table 1 reports detailed summary statistics on suicide terrorists and targets' characteristics. The top panel of Table 1 focuses on the characteristics of suicide terrorists. Panel A shows that 31 terrorists were enrolled at the time of the attack in an institution of higher education or completed academic studies by that time. This rate is higher than the equivalent rate for the entire Palestinian population of 8 percent (Berrebi, 2007), and confirms findings regarding the relative privileged background of terrorists elsewhere (Krueger, 2007 and 2008; Krueger and Maleckova, 2003; Sageman, 2004). The youngest suicide terrorist is 12 years old, the oldest is 64 years old and their average age is slightly over 21 years old. Out of the 157 suicide terrorists during this time period, 19 (12.1%) had prior known terrorist activity

experience: they were either previously detained in Israeli prisons or accused of being involved in terror activity by the ISA before their attacks.

[Table 1 about here]

Panel B of the table focuses on two variables that measure target importance. The first measure is a dummy variable that equals one for localities with a population of over 50,000 and zero otherwise.[2] The second measure of target importance is a dummy variable for localities that host an official bureau of the Ministry of Interior, thus effectively acting as regional capitals.[3] Arguably, the two variables are sensible proxies for the importance of the targeted localities. Table 1 shows that suicide terrorists tend to attack these types of localities. Big cities were targeted in almost 75 percent of the attacks, even though less than 10 percent of Israeli cities have over 50,000 inhabitants. Similarly, 84 attacks occurred in regional capitals when there are only 32 localities overall that act in that capacity. These findings are consistent with previous results showing that city population and regional capitals are strongly and positively correlated with the frequency of terror attacks in Israel (Berrebi and Lakdawalla, 2007).

The third panel of Table 1 presents two variables that proxy for the logistics behind suicide attacks. To construct these variables we use Geographic Information Systems (GIS) to measure i) the distance between the suicide terrorist's locality of residence and his or her target, and ii) the distance between the headquarter of the faction dispatching the terrorist and the attack's target. There is a high degree of variability in both variables. On average, terrorists travel 26.6 km to their targets, where the maximum distance traveled is 142.4 km. Likewise, the

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[2] The localities' size refers to their population within the metro area of the city according to the population figures for the year 2003 of the Israeli Central Bureau of Statistics. Our analysis is robust to alternative cutoffs such as 100,000 or 150,000.

[3] An official bureau of the Ministry of Interior includes the following: National Election Inspection Bureau, Regional Appeal Committee, Regional Licensing and Supervising Bureau, and Regional or Sub-Regional Population Administration Bureau.

mean distance between the head quarters of the terror cell that dispatches the suicide terrorist and the target is 25.9 km. The large distances traveled by suicide terrorists, relative to a small country like Israel, suggest that terror organizations select their targets carefully, with geographic proximity being only one of many relevant factors affecting their decision.

Finally, the bottom panel of Table 1 presents summary statistics on the outcome of the attacks. The first row of Panel D provides information on caught suicide terrorists. We classify suicide terrorists as "caught" if they failed to detonate their explosive devices, were apprehended or killed before they managed to detonate their explosives, blew themselves up before they reached their desired target, or "chickened out" (i.e. leaving without completing the attack). Our sample contains 39 suicide terrorists that are classified as caught, 27 of which were killed or died during capture. We also report summary statistics on casualties caused by the attacks (that is, counts of individuals killed or wounded in the aftermath of the suicide attacks). On average, a suicide attack caused almost 30 casualties, but there are several failed attacks that did not cause any casualty and there are others that caused over 150 casualties. Most of the attacks caused at least 10 casualties.

Our analysis below differentiates between suicide terrorists of high and low quality. We define a suicide terrorist as of high quality based on information on his or her education, past involvement in terror activity, and age. Our data include 31 terrorists with academic education, 19 terrorists that were previously involved in terror activities, and 81 terrorists who were older than 20 at the time of the attack (63 are below that age).[4] The three characteristics of suicide terrorists show similar correlations with other variables in Table 1. Suicide terrorists of high quality are associated with more complex terror attacks, more important targets, and better

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[4] The results below are robust to any other sensible age cutoff. We choose the cutoff "older than 20 years old" because the median and average terrorists are 21 years old, and there are 13 terrorists that are exactly at this age.

outcomes for the terror organizations (Benmelech and Berrebi, 2007). The only notable difference among our three proxies for the terrorists' quality is that, unlike more educated and mature terrorists, suicide terrorists previously detained in Israeli prisons or accused of being involved in terror activity by the ISA travel shorter distances to commit an attack. These terrorists attack targets closer to the West Bank and Gaza Strip because they face a higher risk of being apprehended by the Israeli security forces if they travel deeper into Israeli territory. Nevertheless, experienced terrorists are still more likely to attack regional capitals and populated localities.

B. Data on Economic and Demographic Indicators of West Bank and Gaza Strip

The data on economic and demographic variables come from the Palestinian Labor Force Survey (PLFS) of the West Bank and Gaza Strip. Administered by the Palestinian Central Bureau of Statistics (PCBS), the survey covers a representative sample of the Palestinian population. The survey has been conducted every quarter since 1995 and provides information on about 22,000 individuals aged 15 and above residing in East Jerusalem, the West Bank and Gaza Strip. Since our empirical analysis focuses on the second Intifada, we use data from all quarterly surveys between the years 2000 and 2006, with a total of over 620 thousands individual-quarter observations. We use these micro-level data to calculate economic and demographic variables at the district level.

We start by collecting information on every individual in the PLFS micro-dataset. We collect information on the individuals' district of residence, age, marital status, gender, years of education, workplace location (Israel or Palestinian territories), and type of locality of residence (city, village or refugee camp). The PLFS also provides information on the individuals' labor

force status (employer, self-employed, salaried worker, unemployed, or out of the labor force). While the PLFS does not report the actual individuals' income, it groups those individuals that earned strictly positive incomes into four bins of roughly the same size according to their earnings, and reports the income group to which they were assigned.

We next move to use the micro-level data to calculate district-level economic conditions. We collapse the micro-level data by year, quarter, and district. Using the weights provided by the PLFS, we compute, for each of these cells, weighted averages of our economic and demographic variables. Two observations are in order regarding the construction of these variables. First, the definition of the local unemployment rate includes not only workers actively looking for work but also individuals out of the labor force, a more appropriate measure of underlying economic conditions.[5] Second, since information on actual earnings is unavailable, we compute a relative measure of income inequality by adding to the four groups of individuals with strictly positive income the individuals with incomes equal to zero, and then calculating the standard deviation of this variable. While not an ideal measure of income inequality, it is the best we can compute given the data.

Table 2 displays summary statistics of the economic and demographic variables of interest for all districts during the entire period at issue.

[Table 2 about here]

As a first cut, the table provides a general overview of Palestinian economic and demographic conditions during the period of the second Intifada. While we observe a high unemployment rate, we must keep in mind that we calculate this rate from the entire population surveyed by the PFLS, which consists of all individuals above the age of 15, including women

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[5] Our results are qualitatively the same when we use the standard definition of unemployment.

and retirees. Therefore, while it better represents the prevailing economic conditions, the particular low participation of women and the elderly in the labor force increases this rate significantly when compared to the official unemployment rates published by the PCBS. The table also shows relatively low average years of schooling for the entire period. The table masks, however, a significant increase of average schooling from 8.8 years in 2000 to 9.6 years in 2006.

C. Data on Curfews and Palestinian Fatalities

Our analysis includes data on Israeli security measures and districts' level of violence. The available measures are the number of Israeli-induced Palestinian fatalities, and the number of curfews days per district per quarter. The data on Palestinian fatalities during the second Palestinian uprising come from B'tselem, an Israeli human rights organization. B'tselem's data (considered accurate, reliable and comprehensive) are widely used in studies focusing on the Israeli-Palestinian conflict (see, for example, Jaeger et al., 2008). The data on curfews was obtained from the United Nation's Office for the Coordination of Humanitarian Affairs (OCHA). This organization coordinates humanitarian action on behalf of the United Nations in different countries of the world. Among some of its responsibilities, the OCHA office that operates in the West Bank and Gaza Strip monitors closures and curfews imposed on the Palestinian population. OCHA provided us with their data on total hours under curfew by district by month between May 2002 and December 2006. Table 3 reports the available data on Israeli security measures and districts levels of violence.

[Table 3 about here]

Table 3 illustrates the widespread level of violence during the second Intifada. On average, every district suffers almost 9 Israeli-induced Palestinian fatalities and 4 days of

curfews every quarter. An average district originates a suicide terrorist every three quarters, and over 10 Israeli casualties every quarter (an average of 1.33 Israeli fatalities in suicide attacks per district × quarter cell). At the same time, the table depicts the high level of variability on the level of violence. Although the median number of Palestinian fatalities is 4, for 27 percent of the observations the number of Palestinian fatalities is ten or higher. Similarly, for almost 10 percent of the observations the quarterly number of days with curfew exceeds 21. The high variability in the level of violence highlights the importance of including these variables in the empirical analysis to control for potential reverse causality. For example, Israeli responses to particularly violent suicide attacks may affect local economic conditions. Without properly controlling for security measures one would adduce to economic distress the occurrence of a high quality terror attack, when in actuality high quality attacks could be the ones causing economic distress.

3. The Impact of Economic Conditions on the Quality of Suicide Attacks

There is a growing body of literature on the macroeconomic determinants of terrorism. The majority of these studies find that economic fluctuations in countries from which terrorism originates do not seem to affect their level of terrorism (Abadie, 2006; Drakos and Gofas, 2006a; Krueger and Laitin, 2008; Piazza, 2006).[6] This does not imply that economic conditions do not affect terrorism at all. Whereas most of the literature focused on the direct relation between economic conditions and the quantity of terror, Bueno de Mesquita (2005a) proposes an indirect, subtler, relationship between economic conditions and terrorism. Bueno de Mesquita (2005a)

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[6] These studies focus on transnational terrorism using data from a cross-section of countries. We show below that fluctuations on the level of unemployment at the district level are not correlated with the frequency of suicide attacks that the district originates. Hence, our results are in line with the conclusions of these studies.

argues that bad economic conditions decrease individuals' opportunities in the labor force and, as a consequence, lower their opportunity cost of participation in terror activities. Therefore, if terror organizations select suicide terrorists from a large supply of volunteers, they are able to choose better-qualified suicide terrorists under bad economic conditions.

This section assesses the empirical validity of Bueno de Mesquita's (2005) theoretical conclusions. The main necessary condition for Bueno de Mesquita's (2005a) theory to hold is that the supply of suicide terrorists is greater than its demand. This condition holds for Palestinians terror organizations, as documented in the field study of Hassan (2001). Hassan (2001) reports that one of Hamas' biggest problems during the time period at issue was selecting a few among the large quantity of volunteers willing to be sent in suicide missions.[7] Therefore, if bad economic conditions increase the supply of suicide terrorists (but don't affect the frequency of attacks), this allows terror organizations to choose suicide terrorists with better qualifications; and given that, as shown by Benmelech and Berrebi (2007), better qualified terrorists lead to more desirable outcomes for terror factions, it logically follows that, conditional on originating a suicide attack, bad economic conditions should lead to terror attacks of higher quality.

A. Empirical Framework

To test the relationship between economic conditions and the quality of terrorism we focus exclusively on district × quarter cells that originated at least one suicide attack. We assign to every suicide terrorist the prevailing economic, demographic and security conditions in his or

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[7] This suggests that terror organizations are not constrained by a lack of volunteers to carry out attacks. To explain fluctuations on suicide attacks we therefore need to focus mostly on terror organizations' strategic considerations and capabilities to overcome security obstacles enacted by Israel. See Berrebi (2008) for further discussion of demand versus supply constraints in terrorism.

her district in the quarter preceding the attack to further address the possibility of reverse causality. These data allow us to test the effect of poor economic conditions on the quality of suicide terrorists, their targets, and the outcomes of the attacks.

Formally, our general specification is:

$$(\textit{Quality of Suicide Terrorism})_{i,t} = \alpha(\textit{Economic Variables})_{i,t-1} + \beta(\textit{Demographic Variables})_{i,t-1}$$
$$+ \gamma(\textit{Security Measures})_{i,t-1} + \varepsilon_{i,t} \qquad (1)$$

where the (*Quality of Suicide Terrorism*) are the proxies, presented in Table 1, associated with the characteristics of the suicide terrorists, their targets, the logistics of their attack and the attacks' outcomes of each suicide terrorist *i* that committed an attack in quarter *t*. We focus on local unemployment rate and income inequality at the district of origin of the terrorist in the quarter before the attack as our two main explanatory economic variables of interest. All the specifications control for demographic characteristics and Israeli security measures that vary across districts and time. These include average years of education, percentage of population employed in Israel, percentage of population living in a refugee camp, average age, proportion of male in the local population, proportion of married population as well as local Palestinian fatalities and local curfews. In addition, we include a West-Bank dummy to control for regional unobservable characteristics that are constant over time. Finally, $\varepsilon_{i,t}$ is an error term (clustered at the regional level) that captures non-systematic determinants of the quality of a suicide attack.

Our detailed longitudinal data allows us to overcome some of the difficulties associated with the task of estimating the causal effects of economic conditions on the quality of suicide terrorism. First, we control for counter-terror measures enacted by the Israeli government in the aftermath of an attack that may also affect economic conditions. Second, the longitudinal data gives us a *sequential* order of the events of interest, allowing us to look at the effects of past economic and demographic conditions on *subsequent* characteristics of suicide terrorists and

their attacks. Finally, the time variation in the data allows us to include year fixed effects to control for events that are common to all the districts, occurred at a particular point in time, and may simultaneously affect the quality of suicide attacks and economic conditions.

B. Results

Table 4 presents the estimated impact of economic conditions on the characteristics of suicide terrorists. Panel A of the table focuses on the education of suicide terrorists, Panel B on their age, and the last panel on the level of their previous involvement in terror activities. All panels present the same specifications: for each panel, the left column reports the estimated marginal effects from a probit model of the respective covariate on the dependent variable at issue;[8] the middle column adds years fixed effects to the previous specification; and the specification in the right adds the number of days with curfew to the regression in the middle column. Our preferred specification is the one in the middle column because including days with curfews to the specification significantly reduces the number of observations.[9]

[Table 4 about here]

The results of the table support the hypothesis that bad economic conditions affect the quality of suicide terrorists. Higher unemployment rates are associated with more educated, more mature and more experienced suicide terrorists. In particular, based on our preferred specification, a one percentage point increase of the unemployment rate significantly raises the probability that next quarter's suicide terrorist i) has some academic education by 1.54 percentage points; ii) that the terrorist is older than 20 years old by 0.91 percentage points; iii)

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[8] In addition to the reported covariates, the regression controls for each district proportion of males, married, population working in Israel, proportion living in a refugee camp, and whether the district is in the West Bank.
[9] Recall that the data on curfews are only available from May 2002. Therefore, the specification including curfews as a covariate ignores all the suicide attacks that occurred before the second quarter of 2002.

and that the terrorist was previously involved in terror activities by 0.43 percentage points. These effects are of an important magnitude. They imply that a standard deviation increase in the level of unemployment causes an increase of 38.3 percent on the probability that the suicide terrorist has some academic education relative to their mean education level. Similarly, for a one standard deviation increase in the level of unemployment, they represent an increase of 7.93 percent on the probability that the terrorist is older than 20 years old, and an increase of 17.5 percent on the probability that the terrorist was previously involved in terror activities, relative to their unconditional means.

The impact of the other variables of interest on the quality of suicide terrorists is not consistently significant across the different measures. The analysis suggests that higher income inequality and lower years of schooling also raise the quality of suicide terrorists. This, however, is not the case regarding the terrorists' education. Security measures imposed by Israel do not have a consistent effect in terms of their sign or significance level.

Table 5 repeats the analysis of Table 4 focusing on the characteristics of targeted localities. The results confirm that economic conditions have a significant effect on the importance of the localities targeted in suicide attacks. Higher unemployment rates and greater inequality significantly increase the likelihood that the targeted city has a large population. The estimated coefficients in Column (2) imply that a standard deviation increase in unemployment results in a 21.24 percent increase on the probability that the targeted city has a large population relative to the mean number of large cities. Similarly, a standard deviation increase in inequality causes a 28.2 increase on the probability of a large city being targeted. The probability that the city acts as a regional capital also increases in recessionary economies, though the effect of the unemployment rate is not significant for all the specifications. In line with the results obtained

regarding the characteristics of suicide terrorists, the impact of the other covariates is not consistently significant across specifications and proxies for the importance of the targeted localities.

[Table 5 about here]

Table 6 focuses on the logistics of terror attacks. The table shows that bad economic conditions lead terror organizations to commit attacks closer to the suicide terrorists' localities of residence and to their headquarters. These results can partially be explained by terror organizations sending experienced suicide terrorists when unemployment is particularly high, and by experienced terrorist choosing closer targets to avoid the risk of being caught by the Israeli security forces.[10] In addition, the table indicates that suicide terrorists travel longer distances to commit attacks as the number of Palestinian fatalities in their district increases. This effect may be driven by the difficulty of committing an attack against Israeli civilians nearby due to increased Israeli military presence. Another possibility is that Palestinian fatalities heighten the desire to retaliate against Israeli civilians in Israel's most important cities.

[Table 6 about here]

Finally, Table 7 presents the effects of economic conditions on the outcome of suicide attacks. These results are not as conclusive as our previous results. While Columns 2 and 3 suggest that higher unemployment rates significantly increase the probability that the suicide terrorist is caught, this is not consistent with Column 1, casting doubts on the validity of the result. Similarly, the unemployment rate does not consistently affect the number of casualties.

[Table 7 about here]

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[10] Suicide terrorists previously involved in terror activities travel, on average, 17.9 km to commit an attack, whereas inexperienced terrorists travel an average of 27.8 km to commit an attack. The difference between the two means is statistically significant at the 1% level.

If anything, the table suggests that higher income inequality leads to terror attacks of higher quality. Higher income inequality reduces the chances that the terrorist is caught, and causes an increase in the number of casualties. Finally, the table consistently implies that the outcomes of terror attacks are significantly affected by Israeli security measures. A stronger Israeli military presence (measured by the number of days with curfew and the number of Palestinian fatalities) is effective in terms of stopping suicide terrorists.

Summarizing, this section shows that there is a strong correlation between economic conditions and characteristics of suicide terrorists and the targets they attack. High unemployment enables terror organizations to recruit more educated, mature and experienced suicide terrorists, who in turn attack more important targets, located closer to their district of residence. We find that the outcomes of these attacks are not consistently correlated with economic conditions, perhaps because attacks' outcomes are more random than the other characteristics associated with suicide terrorism.

4. Economic Conditions and Suicide Attacks across Factions

This section investigates the effect of economic conditions on the willingness of different Palestinian factions to carry suicide attacks. Several theoretical studies analyze why moderate and radical factions react differently to the same political environment.[11] The related literature focuses mostly on the peace process (Kydd and Walter, 2002; Bueno de Mesquita, 2005b), the timing of elections (Berrebi and Klor, 2006 and 2008), and Israeli policies of counter-terrorism (Jaeger and Paserman, 2008) as triggers of terrorism. In what follows, we investigate whether

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[11] See, for example, the theoretical analyses of Kydd and Walter (2002), Bueno de Mesquita (2005b), and Berrebi and Klor (2006), and their applications to the Israeli-Palestinian conflict.

economic conditions may lead different factions to different strategies regarding the number of suicide attacks they commit.

Several Palestinian factions were involved in suicide terrorism during the second Intifada. The factions were closely associated to one of the three main political Palestinian organizations: Fatah, Hamas, and the Palestinian Islamic Jihad (PIJ).[12] These political organizations differ in terms of their ideology, organizational structure, political objectives, and even their strategic responses to Israeli-induced Palestinian fatalities (Jaeger and Paserman, 2006).

In conjunction with ideology, economic conditions may play an important role in the level of terrorism chosen by terror organizations. For example, Bueno de Mesquita (2008) argues that factions' level of radicalization, although chosen to maximize political support, is affected by economic conditions. We expect a similar effect to play a role on the organizations at issue. Accordingly, the theory of economic voting implies that the level of unemployment should affect the support for Fatah, the political organization at the helm of the Palestinian National Authority during most of the analyzed period.

Though in a different direction, we expect economic conditions to also affect support for Hamas, an organization that provides excludable local public goods like education, welfare and medical care (Mishal and Sela, 2000). Naturally, the value of the goods provided by Hamas increases on recessionary economies. This should increase the demand for membership in Hamas, and the sacrifice that individuals are willing to forgo so they, and their families, are accepted as group members (Berman, 2000). Therefore, a combination of the club model with Bueno de Mesquita's (2005a) theory of the quality of terrorism implies that not only are religious

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[12] In our data set, 49 terrorists belonged to factions affiliated with Fatah, 61 belonged to factions affiliated with Hamas, and 46 belonged to the PIJ.

clubs more likely to commit suicide attacks (Berman and Laitin, 2008), but that religious clubs can conduct more attacks when economic conditions are bad.

We analyze the heterogeneous effect of economic conditions on suicide attacks across factions and report the results in Table 8. The first column of Table 8 presents the results of a Probit regression where the dependent variable is an indicator for Islamic suicide terrorists (those affiliated with Hamas and the PIJ), with the same set of covariates used in the models in Tables 4 to 7. The results show that the unemployment rate has a positive and highly significant effect on the likelihood of Islamic organizations committing a suicide attack, equal to a 7.47 percent increase (relative to its mean) on the probability that the suicide terrorist belongs to an Islamic organization for a standard deviation increase in the level of unemployment. Income inequality, years of schooling and Israeli-induced Palestinian fatalities have a negative effect on suicide attacks by Islamic organizations.

[Table 8 about here]

Aggregating suicide terrorists affiliated with Hamas and the PIJ, however, masks important differences across groups. The remaining columns of the table present the results from estimating a multinomial logit model for faction committing a suicide attack. The dependent variable takes on one of three values: Fatah, Hamas and PIJ. To facilitate comparison with previous tables we present the marginal effects of economic, demographic and security conditions for each faction, rather than the multinomial logit coefficients. The results confirm our hypothesis regarding the effect of economic conditions on religious factions that provide local public goods. We find that Hamas shows the highest sensitivity to the unemployment rate, with an increase of over 4 percentage points on the number of suicide terrorists dispatched to Israel for every one percent increase in unemployment. The marginal effect of unemployment

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for Fatah is negative and statistically significant, though of lesser magnitude than the decrease observed by the PIJ.

The estimated coefficients in Table 8 provide an intuitive ordering of the different groups based on the type of public goods that they provide (if at all). This ordering suggests that groups that provide excludable public goods are able to increase their ability to commit terror attacks during difficult economic times. The magnitude of the effect of economic conditions on the number of attacks of groups that provide non-excludable public goods is not significant, whereas the ability to commit suicide attacks of groups that are not associated with the provision of any public goods significantly decrease when unemployment increases.

5. The Impact of Economic Conditions on the Frequency of Suicide Attacks

In this section we examine the correlation between economic conditions and the frequency of suicide attacks during the second Palestinian uprising. We adopt a similar approach to related studies on the macroeconomic determinants of transnational terrorism but focusing on one particular case study.

We believe it is important to compare our analysis to the related literature because of several important differences. By focusing on the Israeli-Palestinian conflict, we alleviate concerns driven by unobserved political, cultural and institutional cross-country differences. Using our longitudinal data set we are able to control for unobserved characteristics of each district that are constant over time and may affect the district's level of terrorism. Moreover, by assembling a detailed data set that includes information not only on economic and demographic variables, but also on counter-terrorism policies, we can control for socio-economic characteristics as well as counter-terrorism measures. Finally, our data set contains information

on all suicide terrorists during the time period at issue. Therefore, it does not suffer from any type of reporting bias or under-reporting that is suspected to affect data on transnational terrorism (Drakos and Gofas, 2006b).

Our general specification to analyze the relationship between economic and demographic conditions and the occurrence of suicide attacks focuses on three different proxies of terrorism: i) the number of suicide attacks that originated from each quarter × district cell; ii) the number of casualties caused in suicide attacks that originated in each cell; and iii) an indicator that equals one if at least one suicide attack originated in district i at quarter t, and zero otherwise. The main specifications control for the same economic, demographic, and security variables specified in model (1).

Table 9 displays the results from estimating the effects of economic conditions on the number of suicide terror attacks using a Poisson regression model because the dependent variable admits only non-negative integers. Each cell in the table presents the estimated coefficient of a separate regression between the variable of interest and the number of suicide attacks. The left panel of the table examines the correlations between the number of suicide attacks and the contemporaneous unemployment rate, income inequality and years of schooling, whereas the right panel of the table examines the correlation between the number of suicide attacks with the reigning economic and demographic conditions in the preceding quarter.

[Table 9 about here]

The first column in the table presents coefficients estimated using simple univariate regression models, each of which explains the correlation between the number of suicide attacks and a different explanatory variable contemporary to the occurrence of attacks. The results suggest that current economic conditions are significantly correlated with the timing and district

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of origin of suicide attacks. Accordingly, unemployment is positively correlated with suicide attacks and income inequality is negatively correlated with attacks. These results are strengthened in column 2 when we add to each specification the demographic control variables detailed above. The significant correlations disappear, however, once we include in the analysis year fixed effects (Column 3). This implies that the statistically significant correlations observed in Columns 1 and 2 are mainly driven by the similar fluctuations of these variables over time. The second panel of the table shows the correlations between the number of suicide attacks and the same control variables, with all the controls lagged one quarter. The results in this panel lead us to the same conclusions. Namely, economic conditions do not seem to cause suicide attacks.

Table 10 performs a similar analysis using as the dependent variables the number of casualties from suicide attacks that originated in each quarter × district cell and an indicator for the occurrence of a suicide attack that originated in each cell. These analyses rely on a Poisson and linear probability regression model, respectively.[13]

[Table 10 about here]

The results in Table 10 show a similar pattern to those in the previous table. Accordingly, the first two columns of each panel suggest a link between suicide terrorism and economic conditions. This link completely disappears, or even changes sign, once year fixed effects are included in the analysis.[14]

Tables 9 and 10 examine separately the impact of each economic variable on suicide terrorism. Doing this is justified to the extent that we are concerned about potential collinearity

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[13] To avoid unnecessary clutter, this table focuses exclusively on the correlations between the dependent variables of interest and preceding economic conditions. The correlations between the dependent variables and current economic conditions are qualitatively similar to those observed in Table 9.

[14] The results in the right panel of Table 10 suggest that increasing the average level of education may bring a reduction in the number of casualties in the following quarter. We treat these results with caution because they are not robust to other measures of suicide terrorism.

between the explanatory variables that would lead to an inappropriate interpretation of the coefficients' significance level. That said, it is important that we not mistakenly omit relevant variables from the analysis since this would bias our coefficients' estimates. Therefore, in Table 11 we include all the available variables that measure economic conditions in the same regression, and estimate their effects on the different proxies for suicide terrorism.

[Table 11 about here]

The results are, for the most part, similar to the ones described above. Economic conditions don't seem to affect the occurrence of a suicide terror attack or their number. While the impact of unemployment on the number of casualties from suicide attacks is statistically significant, its sign is not consistent in both specifications. Therefore we conclude that economic conditions don't affect the number of casualties from suicide terrorism either.

Summarizing, the findings of this section unambiguously establish that there is not a consistent statistically significant impact of economic conditions on the frequency of suicide terrorism. In addition, the analysis demonstrates that inappropriate specifications (resulting mainly from limited data sets) may deliver spurious correlations.

6. Conclusions

This paper provided a systematic analysis of the link between economic conditions, the quality of suicide terrorists, the characteristics of their targets, and the outcomes of their attacks. We uncovered a strong correlation between economic conditions and the characteristics of suicide terrorists and targets they attack. In particular, we document that high unemployment and poor economic conditions enable terror organizations to recruit more educated, mature and experienced suicide terrorists, who in turn attack more important targets, located closer to their

district of residence. Furthermore, we show that bad economic conditions do not drive the quality of terror equally for different organizations, but rather affect groups that provide excludable public goods by increasing their ability to commit terror attacks during difficult economic times.

Our paper focuses on the Israeli-Palestinian conflict for a variety of reasons. Notably, by focusing on a particular case study, we are able to build an exceptionally rich longitudinal data set that allows us to identify the causal connection between economic conditions and the quality of terrorism. We control for Israeli counterterrorism measures, regional fix effects, and observed the effect of past economic, demographic and security conditions on the current quality of suicide terrorism. All these features are crucial to overcome concerns about reverse causality, whereby successful terror attacks prompt Israeli retaliation and the ensuing worsening of economic conditions. The particularities of this conflict notwithstanding, we believe that the connection between economic conditions and the quality of suicide terrorism applies more generally.[15] Hence, the policy implications mentioned in the introduction should be taken into consideration in other conflicts as well.

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[15] Our results on the lack of a robust correlation between economic conditions and the quantity of terrorism, for instance, are in line with those obtained by most of the related studies using a cross section of countries.

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Figure 1: Districts of Origin of Suicide Terrorists

Notes: Numbers indicate the numbers of suicide terrorists originating from each district between the years 2000 and 2006.

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Table 1

Summary Statistics on the Characteristics of Suicide Terrorists and their Attacks

	Number of Observations	Mean	Standard Deviation	Median	Minimum	Maximum
A. Characteristics of Suicide Terrorists						
Suicide Terrorist has Academic Education	157	0.197	0.399	0	0	1
Age of Suicide Terrorist	156	21.397	5.727	21	12	64
Suicide Terrorist Previously Involved in Terror	157	0.121	0.327	0	0	1
B. Characteristics of Targeted Locality						
Targeted Locality's Population above 50,000	157	0.745	0.437	1	0	1
Regional Capital	157	0.535	0.500	1	0	1
C. Logistics of Suicide Attack						
Distance Suicide Terrorist's Locality to Target (km)	156	26.607	22.768	23.230	0	142.4
Distance Terror Head Quarters to Target (km)	133	25.903	23.633	19.782	0	142.4
D. Outcome of Suicide Attack						
Caught Suicide Terrorist	157	0.248	0.433	0	0	1
Casualties from Suicide Attack	157	29.535	39.397	10	0	181

Notes: The summary statistics reflect authors' calculations based on Israeli Security Agency reports of suicide terrorists. The targeted cities population refers to their population within the metro area of the city according to the population figures for the year 2003 of the Israeli Central Bureau of Statistics.

Table 2

Economic and Demographic Characteristics of Districts (Quarterly Averages)

	Mean	Standard Deviation	Median	Minimum	Maximum
Unemployment Rate	0.591	0.049	0.589	0.419	0.728
Income Inequality	1.099	0.208	1.080	0.596	1.679
Years of Schooling	9.203	0.513	9.234	7.431	10.346
Percentage Employed in Israel	0.051	0.043	0.044	0	0.207
Refugee Camp	0.170	0.178	0.112	0	0.696
West Bank	0.688	0.464	1	0	1
Age	33.633	0.968	33.660	31.133	35.804
Male	0.502	0.013	0.502	0.460	0.539
Married	0.572	0.031	0.573	0.496	0.659

Notes: Entries in the table represent districts-quarters statistics of the respective variable. The number of observations equals 448 for all variables. Data source: Palestinian Labor Force Survey of the West Bank and Gaza Strip between the years 2000 to 2006.

Table 3

Israeli Security Measures and Districts' Level of Violence

	Mean	Standard Deviation	Median	Minimum	Maximum
Palestinian Fatalities	8.732	14.210	4	0	121
Days with Curfew	3.889	12.413	0	0	89
Suicide Terrorists	0.348	0.914	0	0	8
Israeli Casualties from Suicide Terror Attacks	10.248	37.214	0	0	362

Notes: Entries in the table represent districts-quarters statistics of the respective variable. There are 304 observations for days with curfew and 448 observations for all the other variables. The data on the number of Palestinian fatalities was obtained from B'tselem. The data cover the years 2000 to 2006. The data on days with curfew was obtained from the U.N. office for the coordination of humanitarian affairs. The information for this variables is available only from May 2002 to December 2006. The data on the number of suicide terrorists and Israeli casualties from suicide terror attacks was obtained from reports of the Israeli Security Agency. These data cover the years 2000 to 2006.

Table 4

The Effect of Economic Conditions on the Characteristics of Suicide Terrorists

Dependent Variable	A. Education of Suicide Terrorist			B. Age of Suicide Terrorist			C. Suicide Terrorist Previously Involved in Terror		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Unemployment Rate	1.114 [0.839]	1.536 *** [0.346]	0.993 *** [0.073]	1.005 *** [0.391]	0.910 * [0.513]	-0.469 [0.610]	1.339 *** [0.548]	0.432 * [0.199]	0.529 *** [0.296]
Income Inequality	-0.037 [0.063]	-0.015 [0.308]	0.648 [0.493]	0.752 *** [0.043]	0.547 *** [0.030]	0.671 [0.536]	0.455 ** [0.179]	0.512 *** [0.230]	0.284 *** [0.061]
Years of Schooling	-0.063 *** [0.022]	-0.109 [0.112]	-0.661 [0.498]	-0.225 *** [0.061]	-0.181 *** [0.006]	-1.168 *** [0.267]	-0.069 [0.098]	-0.027 *** [0.068]	0.018 [0.073]
Palestinian Fatalities	-0.002 ** [0.001]	-0.003 [0.003]	-0.008 * [0.004]	-0.002 ** [0.001]	-0.002 [0.002]	-0.008 ** [0.003]	0.001 [0.001]	0.001 *** [0.000]	0.001 *** [0.000]
Days with Curfews			-0.001 *** [0.000]			-0.003 *** [0.000]			0.001 [0.001]
Year Fixed Effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	156	141	64	143	143	74	156	143	79

Notes: Each column reports the estimated marginal effects of a separate Probit regression model in which the dependent variable is an indicator of the education of suicide terrorists, an indicator of their age, and an indicator of their experience. In addition to the explanatory variables listed on the left, regressions in Columns 1, 4, and 7 add each district proportion of males, married, population working in Israel, proportion living in a refugee camp and whether the district is in the West Bank as explanatory variables. We subsequently add to these regressions years fixed effects (regressions in Columns 2, 5 and 8) and days with curfews (regressions in Columns 3, 6 and 9). Robust standard errors (adjusted for clustering at the regional level) are in parentheses. *, **, *** denote statistically significance at the 10, 5 and 1 percent level respectively.

Table 5

The Effect of Economic Conditions on the Characteristics of Targeted Cities

	Targeted City Population			Regional Capital		
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployment Rate	1.588 ***	3.230 ***	0.003 ***	2.238 *	0.730	2.357 **
	[0.614]	[0.214]	[0.016]	[1.336]	[0.812]	[1.245]
Income Inequality	0.923 ***	1.036 ***	0.015 **	1.456 ***	1.515 ***	1.587 ***
	[0.153]	[0.057]	[0.088]	[0.012]	[0.098]	[0.410]
Years of Schooling	0.227	0.094	-0.001	-0.075 ***	0.175	0.073
	[0.230]	[0.163]	[0.006]	[0.009]	[0.183]	[0.305]
Palestinian Fatalities	-0.002 ***	-0.001	-0.000	0.003 **	0.004 ***	0.004
	[0.000]	[0.000]	[0.000]	[0.001]	[0.002]	[0.002]
Days with Curfews			-0.000 *			0.007 **
			[0.000]			[0.003]
Year Fixed Effects	No	Yes	Yes	No	Yes	Yes
Observations	156	143	66	156	156	79

Notes: Each column reports the estimated marginal effects of a separate Probit regression model in which the dependent variable is an indicator of the targeted city population (equals one for cities with over 50,000 inhabitants) and whether the city is a regional capital. In addition to the explanatory variables listed on the left, regressions in Columns 1 and 4 add each district proportion of males, married, population working in Israel, proportion living in a refugee camp and whether the district is in the West Bank as explanatory variables. We subsequently add to these regressions years fixed effects (regressions in Columns 2 and 5) and days with curfews (regressions in Columns 3 and 6). Robust standard errors (adjusted for clustering at the regional level) are in parentheses. *, **, *** denote statistically significance at the 10, 5 and 1 percent level respectively.

Table 6

The Effect of Economic Conditions on the Logistics of Suicide Attacks

	Distance Suicide Terrorist's Locality to Target			Distance Terror Head Quarters to Target		
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployment Rate	-159.820 ***	-145.659 ***	-102.641 ***	-121.504 ***	-123.615 ***	-123.882 ***
	[5.197]	[0.171]	[3.732]	[22.053]	[6.011]	[34.623]
Income Inequality	-8.922 ***	-11.097 ***	14.435 **	-14.885 ***	-16.575 *	25.035
	[3.025]	[0.817]	[7.043]	[4.372]	[10.024]	[17.206]
Years of Schooling	-6.947	-8.159	-13.930	-11.294 ***	-10.946 ***	-13.282 *
	[6.300]	[5.191]	[17.776]	[0.873]	[1.922]	[7.544]
Palestinian Fatalities	0.113	0.120	0.114	0.135 ***	0.135 *	0.129
	[0.102]	[0.237]	[0.353]	[0.015]	[0.080]	[0.140]
Days with Curfews			0.064			-0.181 ***
			[0.201]			[0.025]
Year Fixed Effects	No	Yes	Yes	No	Yes	Yes
Observations	155	155	78	132	132	64

Notes: Each column reports the estimated effects of a separate OLS regression model in which the dependent variable is the distance between the suicide terrorists' locality of residence and the targeted city, and the distance between the terror head quarters and the targeted city. In addition to the explanatory variables listed on the left, regressions in Columns 1 and 4 add each district proportion of males, married, population working in Israel, proportion living in a refugee camp and whether the district is in the West Bank as explanatory variables. We subsequently add to these regressions years fixed effects (regressions in Columns 2 and 5) and days with curfews (regressions in Columns 3 and 6). Robust standard errors (adjusted for clustering at the regional level) are in parentheses. *, **, *** denote statistically significance at the 10, 5 and 1 percent level respectively.

Table 7

The Effect of Economic Conditions on the Outcomes of Suicide Attacks

	Caught Suicide Bomber			Casualties from Suicide Attack		
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployment Rate	-0.767 ***	0.666 **	2.264 ***	2.190 ***	0.427	-10.841 ***
	[0.050]	[0.275]	[0.582]	[0.418]	[0.499]	[3.655]
Income Inequality	-0.363 **	-0.323	-1.050 ***	0.801 ***	0.863 ***	2.526 ***
	[0.167]	[0.255]	[0.057]	[0.096]	[0.104]	[0.512]
Years of Schooling	0.324 ***	-0.009	0.073	-0.148 ***	0.241 ***	-0.273
	[0.004]	[0.012]	[0.111]	[0.033]	[0.076]	[0.262]
Palestinian Fatalities	0.005 ***	0.004 ***	0.010 ***	-0.005 **	0.001	-0.003
	[0.001]	[0.001]	[0.001]	[0.002]	[0.001]	[0.008]
Days with Curfews			0.005 ***			0.008 ***
			[0.001]			[0.002]
Year Fixed Effects	No	Yes	Yes	No	Yes	Yes
Observations	156	156	79	155	155	79

Notes: Each column reports the estimated effects of a separate regression in which the dependent variable is whether the suicide terrorist was caught (estimated using a Probit model), and the number of casualties from suicide attacks (estimated using a Poisson model). In addition to the explanatory variables listed on the left, regressions in Columns 1 and 4 add each district proportion of males, married, population working in Israel, proportion living in a refugee camp and whether the district is in the West Bank as explanatory variables. We subsequently add to these regressions years fixed effects (regressions in Columns 2 and 5) and days with curfews (regressions in Columns 3 and 6). Robust standard errors (adjusted for clustering at the regional level) are in parentheses. *, **, *** denote statistically significance at the 10, 5 and 1 percent level respectively.

Table 8

The Effect of Economic Conditions on the Organizational Affiliation of Suicide Bombers

	Islamic Suicide Bomber	Multinomial Logit: Marginal Effects that Suicide Terrorist belongs to		
		Fatah	Hamas	Palestinian Islamic Jihad
Unemployment Rate	1.047 *** [0.218]	-0.952 *** [0.045]	4.296 ** [1.753]	-3.344 ** [1.708]
Income Inequality	-0.473 *** [0.007]	0.554 *** [0.063]	0.783 *** [0.012]	-1.337 *** [0.075]
Years of Schooling	-0.440 *** [0.027]	0.339 *** [0.007]	0.215 [0.186]	-0.554 *** [0.179]
Palestinian fatalities	-0.002 *** [0.000]	0.001 [0.000]	0.007 *** [0.002]	-0.008 *** [0.003]
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	156		156	

Notes: The first column reports the estimated marginal effects of a Probit regression model in which the dependent variable equals one for suicide terrorists affiliated with Islamic groups (Hamas and PIJ) and zero othewise. Columns 2 to 4 report the estimated marginal effects of a multinomial Logit regression in which the dependent variable is the group affiliation of suicide terrorists. In addition to the explanatory variables listed on the left, both estimations control for each district proportion of males, married, population working in Israel, proportion living in a refugee camp, whether the district is in the West Bank and years fixed effects. Robust standard errors (adjusted for clustering at the regional level) are in parentheses. *, **, *** denote statistically significance at the 10, 5 and 1 percent level respectively.

Table 9

The Effect of Economic Conditions on the Number of Suicide Attacks

	Correlation of Number of Suicide Attacks with Current Conditions			Correlation of Number of Suicide Attacks with Conditions in Previous Quarter		
	Simple Correlation	Including Additional Covariates	Including Year Fixed Effects	Simple Correlation	Including Additional Covariates	Including Year Fixed Effects
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployment Rate	13.222 ***	9.706 ***	2.739	6.691 ***	4.755 *	-2.453
	[2.393]	[2.782]	[3.052]	[2.589]	[2.907]	[3.323]
Income Inequality	-3.622 ***	-2.682 ***	0.038	-2.024 ***	-1.425 *	1.421
	[0.607]	[0.789]	[1.032]	[0.595]	[0.782]	[1.053]
Years of Schooling	-0.596 ***	-1.317 ***	0.006	-0.617 **	-1.334 ***	0.535
	[0.244]	[0.335]	[0.537]	[0.248]	[0.341]	[0.557]
Observations	448	392	392	432	378	378

Notes: Each cell reports the estimated coefficients of a separate Poisson panel regression model in which the dependent variable is the number of suicide attacks in each district for every quarter. The regressions in Columns 1 and 4 have as their only explanatory variable the variable listed in the left. Regressions in Columns 2 and 5 add each district proportion of males, married, population working in Israel, proportion living in a refugee camp, number of Palestinian fatalities, whether the district is in the West Bank and district fixed effects as explanatory variables. Regressions in Columns 3 and 6 add year fixed effects to the regressions in Columns 2 and 5. Standard errors are in parentheses. *, **, *** denote statistically significance at the 10, 5 and 1 percent level respectively.

Table 10

The Effect of Economic Conditions on the Occurrence and Number of Casualties from Suicide Attacks

	Correlation of Occurrence of Suicide Attacks with Conditions in Previous Quarter			Correlation of Number of Casualties from Suicide Attacks with Conditions in Previous Quarter		
	Simple Correlation	Including Additional Covariates	Including Year Fixed Effects	Simple Correlation	Including Additional Covariates	Including Year Fixed Effects
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployment Rate	1.521 ***	1.620 **	0.404	5.515 ***	-0.391	-8.588 ***
	[0.430]	[0.669]	[0.625]	[0.478]	[0.577]	[0.669]
Income Inequality	-0.377	-0.375 **	-0.075	-2.294 ***	-1.248 ***	0.596 ***
	[0.026]	[0.176]	[0.147]	[0.118]	[0.154]	[0.203]
Years of Schooling	-0.078	-0.177 ***	0.108	-0.831 ***	-1.512 ***	-0.232 **
	[0.052]	[0.055]	[0.083]	[0.048]	[0.067]	[0.101]
Observations		432		432	378	378

Notes: Each cell reports the estimated coefficients of a separate panel regression model in which the dependent variable is the ocurrence of suicide attacks (panel A, estimated using a linear probability model) and number of casualties from suicide attacks (panel B, estimated using a Poisson model) in each district for every quarter. The regressions in Columns 1 and 4 have as their only explanatory variable the variable listed in the left. Regressions in Columns 2 and 5 add each district proportion of males, married, population working in Israel, proportion living in a refugee camp, number of Palestinian fatalities, whether the district is in the West Bank and district fixed effects as explanatory variables. Regressions in Columns 3 and 6 add year fixed effects to the regressions in Columns 2 and 5. Standard errors are in parentheses. *, **, *** denote statistically significance at the 10, 5 and 1 percent level respectively.

Table 11

The Effect of Economic Conditions on Suicide Terrorism

	A. Number of Suicide Attacks		B. Occurrence of Suicide Attack		C. Number of Casualties from Suicide Attacks	
	Current Conditions	Conditions in Previous Quarter	Current Conditions	Conditions in Previous Quarter	Current Conditions	Conditions in Previous Quarter
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployment Rate	3.745	-0.026	0.630	0.419	2.214 ***	-9.957 ***
	[3.567]	[3.847]	[0.466]	[0.661]	[0.677]	[0.731]
Income Inequality	0.642	1.240	-0.040	-0.112	0.728 ***	-0.134
	[1.209]	[1.228]	[0.154]	[0.170]	[0.227]	[0.226]
Years of Schooling	0.041	0.375	0.041	0.134	-1.882 ***	-0.652 ***
	[0.543]	[0.588]	[0.121]	[0.100]	[0.109]	[0.114]
Palestinian Fatalities	0.017 ***	0.013 *	0.003 **	0.003	0.027 ***	0.011 ***
	[0.006]	[0.007]	[0.001]	[0.002]	[0.001]	[0.002]
Age	0.069	-0.174	0.028	-0.013	-0.179 ***	-0.407 ***
	[0.204]	[0.197]	[0.022]	[0.028]	[0.040]	[0.036]
Percentage Married	-1.140	-2.210	-0.232	0.698	-8.088 ***	-11.028 ***
	[4.642]	[4.859]	[0.727]	[0.787]	[0.884]	[0.939]
Percentage Work in Israel	-2.451	-4.010	0.319	-0.300	0.817	-0.389
	[4.361]	[3.868]	[1.181]	[0.702]	[0.760]	[0.707]
Male Population	8.996	-0.734	1.278	0.573	10.213 ***	-4.812 ***
	[7.693]	[7.875]	[1.959]	[2.256]	[1.446]	[1.533]
Percentage in Refugee Camp	-1.023	-0.381	-0.109	1.083 ***	-3.745 ***	2.413 ***
	[2.167]	[2.339]	[0.984]	[0.390]	[0.454]	[0.472]
Observations	392	378	448	432	392	378

Notes: Each column reports the estimated coefficients of a separate regression. Panel A presents the results of a Poisson panel model in which the dependent variable is the number os suicide terrorists in each district for every quarter. Panel B presents the results of an OLS panel model in which the dependent variable is an indicator for the existence of at least one suicide terrorist in each district for every quarter. Panel C presents the results of a Poisson panel model in which the dependent variable is the number of fatalities from suicide bombers in each district for every quarter. All regressions include districts and years fixed effects. Robust standard errors (adjusted for clustering at the regional level for panel A) are in parentheses. *, **, *** denote statistically significance at the 10, 5 and 1 percent level respectively.