

An Econometric Analysis of Palestinian Attacks: An Examination of Deprivation Theory and Choice of Attacks

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Abstract

The paper provides evidence that Palestinian economic conditions are related to the level of attacks against Israelis. Also, the paper makes an attempt to analyze attack patterns by the various Palestinian militant groups. Using an original dataset from 1990-2002, the author finds that Palestinian groups that are founded as religious organizations tend to use more suicide attack tactics compared to their secular counterparts. As for the causal link between political violence and deprivation theory, the negative binomial regression shows that Palestinian economic conditions are linked to political violence. Precisely, an increase in the Palestinian income per capita can reduce Palestinian attacks against Israelis. Likewise, the statistical model predicts that a reduction in the unemployment rate would reduce the incentive for Palestinians to participate in political violence. Finally the paper addresses the issue of Palestinian grievances as a source of attacks. The analysis will show that shooting attacks against Israelis will rise with the number of Palestinians killed while suicide attacks are not correlated with the number of Palestinians killed. Israel's violent repression of Palestinians is proved to increase rather than suppress attacks.

Keywords: Political Violence, Suicide Attacks, Palestinian Economic Conditions, Poisson Regression Model, Unemployment

“The policy of curfews and closures is harming Israel's security... It destroys the agriculture, it increases hatred for Israel, and it strengthen the terror organizations...In our tactical decisions we are operating contrary to our strategic interest.”

Lt. Gen. Moshe Ya'alon, IDF Chief of Staff

1. Introduction

In their papers Krueger & Maleckova (2002, henceforth KM) and Berrebi (2003, henceforth B) claim that there is no connection between Palestinian education and economic deprivation for the West Bank and Gaza Strip (WBGs), on the one hand, and their suicide and other violent attacks, on the other. But it would be wrong to infer from these findings that economic factors are insignificant or that other forms of personal hardship are inconsequential. In fact, data from the Palestinian case indicate that relative deprivation (a downward trend in economic well-being, regardless of the initial starting point) and emotional grievance (from physical injury or personal loss regarding family and friends) are strongly associated with increasingly use and public support for the most desperate and devastating form of contemporary political violence, suicide attack.

A major methodological problem with KM and B lies in their neglect of the nature of the political struggle between the Israelis and the Palestinians, and the authors' failure to account for the

sociopolitical pressures resulting from it. Instead KM and B preferred to focus solely on economic variables. In this writer's view, studies of the determinants of violence, including suicide attack, must include both political and economic aspects. In this paper, I include a measure of Israel's brutal and indiscriminate retaliations in the quantitative analysis.

Notwithstanding their shortcomings, Krueger and colleagues have made an important contribution to our understanding of contemporary forms of political violence that stem from the Middle East by demonstrating that standard economic models of (blue-collar) crime do not reliably account for the patterns of violence in the Middle East.

Therefore, One main objective of this paper is to argue against the findings of KM and B by providing empirical evidence indicating a strong correlation between economic conditions in the WBGS and the number of Palestinian attacks during the period from 1990-2002 in which Israel initiated its policy of political and economic separation from the WBGS. Also, I will explain why economic factors in the WBGS have become, since 1990, a motivating factor in the attacks against Israelis. The findings of this paper will suggest that an enhancement in economic conditions in the Palestinian Territories and respect for the Palestinian human rights will significantly enhance the security of the Israelis. Furthermore, the empirical evidence presented here points to the ineffectiveness of the "get-tough policy" in suspending attacks and protecting the citizens of the state of Israel.

The fact that most of the Palestinian militants and suicide bombers did have a source of income from civilian employment shows that Palestinians don't seek to join the resistance movement mainly for the purposes of earning income or other monetary benefits. It is the implied assumption in KM and B that the utility function of Palestinian militants depends only on quantifiable economic variables and nothing else that is problematic.

The problem in their studies can be traced to using the economic theory of crime to predict the determinants of political violence, an oversimplification that is tantamount to committing a fallacy of composition. In general economic theory of crime predicts that "a rise in the income available in legal activities or an increase in law-abidingness due, say, to 'education' would reduce the incentive to enter illegal activities" (Becker, 1968, p. 177). But participation in collective political violence is not necessarily identical to participation in criminal activities. Unlike criminals and outlaws, individuals joining insurrectionist political groups don't consider their activities illegal. Hence, the determinants of political unrest should not be restricted only to education and poverty—the focus of the economics of crime; rather, a set of other variables that measure political tensions, variables ignored by KM and B, should be included: for example, the desire for retaliation and revenge or the individual's commitment to nationalist aspirations of freedom and independence. Incorporating only economic factors as the sole determinants of political violence in the WBGS is erroneous.

The paper will proceed in the following manner. Section 2 will explain the critical role economic conditions play in WBGS as a root cause for violence in the literature. Section 3 lists the hypotheses that will be evaluated in this paper. Section 4 discusses the sample and data collection method. Section 5 provides the detail on the statistical methods used and the findings of the hypotheses testing. Section 6 will analyze the role of grievances in motivating attacks using information collected on Palestinian suicide attackers. Section 7 concludes.

2. Previous Research

Unlike KM and B, economists always found evidence that violent political conflicts have economic roots. For instance, Parvin (1973) demonstrates the importance of economic variables as "[the] main explanatory variables of political violence." His results indicate that income inequality, gross national product, and the growth rate of the economy can explain a significant percentage of the variations in the level of political unrest in 26 countries. Stein (1990) compared the Palestinian uprising of 1988 with the Arab revolt of 1936. He observed that the period prior to either of the violent episodes was characterized by growing and intolerable political frustration in the Palestinian street. Moreover,

fueling this frustration was “economic hardship borne of unemployment and underemployment, the drying up of traditional sources of capital import, and dramatic price drops, particularly in Agriculture.”

Nafziger and Auvinen (2000) provide evidence from cross-country studies of the significance of economic factors in predicting the emergence of conflicts. The authors show that their measures of conflicts are inversely associated with real GDP growth, GNP per capita, food output growth, and IMF funding. They indicate that “stagnation and decline in incomes exacerbate the feelings of relative deprivation” that can be responsible for social unrest and anger. Similarly, other studies confirm the critical role economic conditions play in generating collective political unrest (e.g., Khawaja, 1995; Ben Meir, 2001; Berger and Spoerer, 2001; Davis, 2002).

The Oslo Peace Accord (OPA) brought with it the promise for a better future for the whole Middle East region. In particular, the Palestinians and Israelis were optimistic about the economic prosperity that will come from the cessation of hostilities. For instance, in an opinion survey in June 1994 after the first agreement on IDF redeployment from Gaza and Jericho, more than one third of the Palestinians felt that the peace process would improve their economic situation. Only 14 percent of the respondents feared that the Oslo peace process would worsen their economic condition (CPRS, 1994). Now, the Palestinian Central Bureau of Statistics (PCBS) reported that over 50 percent of the Palestinians consider finding a job and money as their first priority.

For the two economies on either side of the Green line the period from 1990-2000 was a period of wide disparity in the achieved rates of economic growth and prosperity. While Israelis, in general, enjoyed unprecedented favorable economic conditions, the Palestinians living in the WBGS experienced a level of economic hardship unforeseen since before the first intifada of 1987. Simply, the period after OPA is characterized by a rapidly rising inequality between the Israelis and the Palestinians. For when the Israeli economy was enjoying an economic boom- a result of the flourishing high-tech industry and improved investment climate after the signing of the peace treaty with Jordan and the Palestinians. Israel’s policy of closures caused the Palestinian economy to stagnate throughout the 90s. Actually, Fischer *et al.* (2001) argued that the restrictions on employment of Palestinians in Israel caused a collapse of the Palestinian economy. The attempts by Israel to rapidly separate itself (economically and politically) from the WBGS after the OPA prevented any viable economic development and worsened economic hardship relative to pre-OPA period.

The policy of closure was first instituted in January 1991 as a temporary measure during the Gulf War. In March 1993, that policy became permanent. The Israeli government has been enforcing three types of closures depending on the security situation: general, total, and internal. The general closure restricts the movement of Palestinian labor and goods between the West bank and Israel, between Israel and the Gaza Strip, and between the West Bank and Gaza. Total closure describes a situation of complete prohibition on any movement of any kind. Finally, internal closure imposes movement restrictions between Palestinian villages and towns in the WBGS (Roy, 2001). A recent report by UN Office for the Coordination of Humanitarian Affairs (OCHA) found that the majority of the staffed checkpoints in the West Bank do not separate between the West Bank and Israel, but rather block passages between Palestinian villages and cities. OCHA’s figures indicate that there are 65 staffed checkpoints, of which only nine separate the West Bank from Israel, while the remaining 56 prevent traffic between West Bank communities. In addition there are 607 physical roadblocks that prevent the passage of vehicles - 457 mounds of dirt, 94 concrete blocks, and 56 trenches (OCHA, 2003). Israel’s policy of closure has fragmented the Palestinian society and obstructed the movement of labor, created disincentive to join the labor force, and more importantly Palestinians became dependent on the Palestinian National Authority and relief agencies for income. This fragmentation of the WBGS via checkpoints disrupted the economic development for the Palestinians.

The sector that was most affected by the closure policy was the Palestinian labor sector. Historically the Palestinians depended on Israel for absorbing one third of their labor force. However, after the implementation of the closure policy in 1991, the number of Palestinians working in Israel or

Israeli settlements plummeted to unprecedented level. In 1990 there were around 200,000 Palestinians working legally in Israel, but by the year 2000, this number was reduced to 42,000 workers.

With no alternative means for employment in the WBGS, the economic situation deteriorated sharply in the Palestinian territories. to cope with the sharp reduction of disposable income, surveyed Palestinian households stated that they have reduced their expenditure on basic needs (food and clothing, education, etc.), and delayed the payment of bills (PCBS). Moreover, the chronic unemployment situation has increased the “discouraged workers” phenomenon in the Palestinian economy. Faced with protracted closures, mobility restrictions, and macroeconomic depression, an increasing number of Palestinians appears to have given up finding employment altogether.

Also the closures policy created a unique pattern in the unemployment statistics in the WBGS which was prevalent all through the 90s and is worth examining. The unemployment rate varies considerably within a given year due to border closure policy and not as a result of cyclical or seasonal fluctuations in business conditions. For example, in 1996 the official unemployment rate as reported by the PBCS was 23.9 percent. On the other hand, the United Nations Special Coordination Office (UNSCO) reported that unemployment ranged from about 20% of the labor force to as high as 50% by the end of the year (Table 1). This amounts to approximately 30% spread in one year, and leads to instability of disposable income, savings, and consumption for many families living in the WBGS. Such large variations in labor market conditions could depress the motive to join labor market and/or increase the burden on younger members of the families to join the labor force at an early age, thereby creating a child labor problem in the WBGS. The following table the high/low levels of unemployment rates as reported by major sources.

Table 1: High-Low unemployment rate during selected years

	1995	1996	2000	2001
Lowest during the Year	11% WB & 17% GS	20%	9%	26.9%
Highest	30% WB & 33% GS	50%	28%	35.5%

Source: world bank, International Labor organization, Palestinian Ministry of Labor (MOL),PCBS, IMF, UNSCO.

Clearly, the pattern of fluctuations in the unemployment conditions in the WBGS, and the resulting instability in incomes and consumptions, increased the stress borne by the Palestinians and intensified the incentive to join Palestinian resistance groups or the support for them. Most importantly, Palestinians consider Israel responsible for their economic plight. After all, the policy of closure is not separating Israel from the Palestinians. It is separating the Palestinians from each other.

The evidence above shows that the unemployment rate in the WBGS is a political problem rather than an economic one. Israel’s policy of closure and severe movement restrictions that is imposed and lifted haphazardly is creating a unique pattern in the unemployment rate that does not exist anywhere else in the world. This severe employment variability enhances the disincentive to join the labor market and can lead to increased support for resistance groups. Since the Palestinian unemployment and under-unemployment is a result of the political dispute then it should be pivotal in motivating attacks against Israel. Therefore, the facts provided in this section should cast doubt on the findings of KM and B. In the empirical section of the paper I will provide evidence of the strong correlation between unemployment rate and the number of Palestinian attacks.

3. Hypotheses

In order to analyze the relationship between Palestinian attacks and the corresponding economic conditions in the Occupied Palestinian Territories, we test the following hypothesis:

H1: Palestinian militant groups specialize in certain attack method.

H2: Palestinian Unemployment rate is negatively correlated to Palestinian attacks.

H3: Palestinian income per-capita is strongly and positively related to Palestinian attacks.

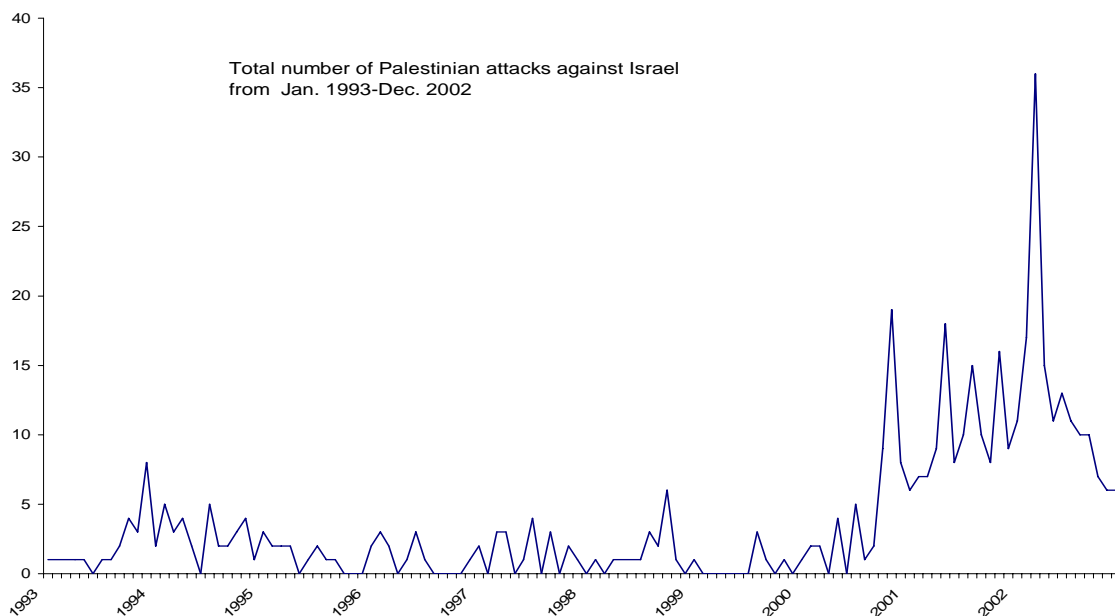
4. Sample

For this study I constructed a dataset on the number of daily, monthly, and annual attacks against Israelis from 1990-2002 coded by the type of attack (shooting, bombing, suicide) and the Palestinian organization claiming responsibility for the attack (Hamas, PIJ, PFLP, DFLP, and al Aqsa Martyrs' Brigades or al Fateh). I used two sources for collecting the data. From 1990-1999, the data source is the electronic archives of the International Policy Institute for Counter Terrorism (ICT) (www.ict.org.il). The archives list news reports of attacks by Palestinians against Israeli targets dating back to 1970. All of the reported attacks appear as summaries of news reports that were reported in Israeli newspapers and media or international news organizations such as the *Associated Press* and *Reuters* among others. For the attack data during the years 2000-2002, I culled the relevant data to my work by searching the electronic news archives of the *Jerusalem Post* Internet edition (<http://www.jpost.com>).

I identify four major patterns of attacks: (1) shooting attacks are all incidents that involved firing a gun or tossing a hand grenade on an Israeli target, (2) suicide attacks which involve a Palestinian detonating an explosive device strapped around his(her) body or detonating a bag filled with explosives in a closed location (bus, restaurant, mall, or hotel) or among pedestrians, (3) The category of bombing attacks includes any attack where explosives were planted on a car or a boat then crashed into an Israeli target. Other methods of attacks were also identified (e.g., lynching, knife attack, pipe bomb, mortar fire, attacks by a vehicle and kidnapping).

In general five Palestinian resistance groups are involved in the attacks: al-Fateh, Hamas, Palestinian Islamic Jihad, (PIJ), Palestinian Front for the Liberation of Palestine (PFLP), and Democratic Front for the Liberation of Palestine (DFLP). The category of “other groups “ designates attacks that went unclaimed by any political group, or claimed by two groups at the same time, or at very rare occasions, included attacks by Hezbollah members and the Forces of Omar Al-Mukhtar, a group associated with the Palestine Liberation Front (PFL). Figure 1: presents the total monthly number of reported Palestinian attacks from 1993-2002.

Figure 1: Total Palestinian Attacks Against Israel from January 1993-December 2003.



Source: Author collected data and International Policy Institute for Counter Terrorism

As for economics data. The unemployment figures were obtained from The Palestinian Central Bureau of Statistics (PBCS) and UNSCO quarterly reports. Finally, the annual and quarterly number of

Palestinians killed was obtained from B'TSELEM and the Palestinian Red Crescent Society (PRCS) websites (all data can be obtained from the author by request).

5. Research Method

Using the sample data as discussed in section 4, we use contingency tables to test H1 and to test H2 and H3 I use count data regression model.

5.1. Hypotheses Testing

5.1.1. Do Militant Groups Specialize in a Specific Method of Attack (H1)

Do militant groups have a preference in the choice of method of attack? Tables 2 and 3 summarize the data on Palestinian attacks. We can use the two tabulated data to investigate whether Palestinian militant groups specialize in one method of attack and not the other. For example, can one assume that Palestinian religious militant groups use suicide attacks more frequently than secular groups?

Table 2: Total attacks by group and method Form 1990-2002

Attack Org	Shooting	Suicide	Bombing	Other	Totals
Fateh	1118 (80%)	21 (14%)	4 (3%)	5 (3%)	148
Hamas	47 (38%)	46 (37%)	14 (11%)	18(14%)	125
PIJ	12 (23%)	25 (48%)	11 (21%)	4 (8%)	52
DFLP	3	0	0	0	3
PFLP	10 (62.5%)	1 (6%)	3 (19%)	2 (12.5%)	16
Other	50 (41%)	8 (6.5%)	13 (10.5)	52 (42%)	123
Totals	240	101	45	81	467

Without any loss of generality the analysis will proceed by focusing on the three militarily active organizations (Hammas, PIJ, Fateh). Table 3 is a 3-by-3 contingency table with data only pertaining to al-Fateh, Hamas and PIJ. Accordingly, is there any statistical evidence that the two classifications (militant groups versus attack method) are dependent? That is, do militant groups randomly select their method of attack or certain attacks are selected by certain groups.

Table 3: 3-by-3 Contingency Table with Observed and Estimated Expected Counts (in Parentheses)

Attack Org	Shooting	Suicide Bomber	Bombing	Totals
Fateh	118 (84.93)	21 (44.14)	4 (13.91)	P₁
Hamas	47 (63.55)	46 (33.03)	14 (10.41)	P₂
PIJ	12 (28.51)	25 (14.81)	11 (4.67)	P₃
Totals	P_h	P_s	P_b	1

By using the following test statistics $X^2 = \sum_{i=1}^3 \sum_{j=1}^3 \frac{[n_{ij} - \hat{E}(n_{ij})]^2}{\hat{E}(n_{ij})}$ one can compare the observed

and expected counts in each cell in the contingency table (McClave and Benson 1989). Under the null hypothesis of independence, the sampling distribution of the X^2 is approximately a χ^2 probability distribution with (r-1)(c-1) degrees of freedom, where r is the number of rows and c is the number of columns in the table. Substituting the data of Table 3 into the expression for the X^2 test yields $X^2 = 67.86$ with four degrees of freedom. This large value of X^2 implies that the observed and expected counts do not closely agree and therefore the hypothesis of independence is false, and we can conclude that there is strong statistical evidence that the type the attack carried out does depend on the organization behind it. There appears to be preference by certain groups to use certain attacks. What

this implies is that militant organizations specialize in a certain method of attack. To examine this further, we can also use a Two-by-Two table to get inference about whether we can connect religious militant groups to suicide attacks and secular groups to attacks by means other than suicide (Table 4). Using the same test statistics yields $X^2 = 63.13$ ($p < 0.0001$) which is significant, indicating a correlation between the religious organizations and suicide attacks. The data suggests that suicide attacks seem to be a preferred attack tactic by PIJ and Hamas compared to al-Fateh group. Particularly, the PIJ ranks first among all militant organizations in terms of the frequency of using suicide bombers relative to other groups. About half of the PIJ attacks against Israeli civilians and military targets are suicide attacks. On the other hand, one out of every seven attacks by Fateh group was a suicide attack and one out of every three attacks by Hamas was a suicide attack.

Table 4: Two-by-Two Contingency Table

	Suicide Attack	Other Attack
Religious organizations (PIJ & Hammas)	96 (61.5)	59 (93.4)
Secular organizations (Fateh, PFLP, DFLP)	29 (63.4)	131 (96.5)
Total	125	190

The statistical evidence suggests that Palestinian religious organizations are likely than their non-religious groups to use suicide attacks. What is not clear, however, is whether religious groups tend to use suicide attacks because they are religious, or because there are other elements that determine what method of attack the militants will choose. Unfortunately, and to the best of the authors knowledge, one cannot test directly for this. Nevertheless, the evidence presented above does indicate more reliance on suicide attack tactics by religious groups. PIJ and Hamas seem to prefer attacking Israeli targets using suicide bombers while al Fateh group seemingly has a preference towards carrying out shooting attacks.

Some researchers are attributing this organizational behavior to religious doctrine that encourages martyrdom. However, such an argument does not explain the behavior and pattern of attack in its entirety. For instance, al- Fateh (a secular group) carried out more suicide attacks in 2002 than Hamas and PIJ combined (20 versus 18)[From January to September 2002.? To fill in this gap I propose three hypotheses explaining the recent ascendancy of suicide attacks by all Palestinians groups.

The first hypothesis is the economic rational for using suicide attacks. Like any businesses entity, the militant groups will use the most efficient attack method. Efficiency in an attack, in this context, is defined as causing the largest number of casualties with the least resources. Certainly then, suicide bombings are very efficient attack tactic relative to other methods of attacks. The cost of preparing a suicide mission is relatively inexpensive, even at times cheaper than procuring a weapon from arms dealers in Gaza, yet more lethal. For example, Atran (2003) reports that the total cost of carrying out suicide attacks is about \$150, and the most expensive item is the transportation of the suicide bomber. The components of a suicide bombing mission: the person and the material are readily available. The cost of human labor to the militant organization is zero since all suicide bombers are volunteers. Suicide attacks can reflect the mode of desperation, bitterness, and hopelessness that is spread among young Palestinians. The premise that militant groups use suicide attacks because these are cost effective means that the elimination of suicide attacks requires both restricting the access to physical material, a costly and perhaps impossible to implement, and to subdue the incentive for individuals to agree to a suicide mission. Economic opportunities, humiliation, and the motive for retaliation and revenge which are a strong component of the Arab political culture are all important factors. Therefore, not only the PNA should be responsible for stopping suicide bombers, also Israel has a no small role to play in improving the treatment and living conditions of the Palestinians.

A second hypothesis for the rise in suicide attacks is the level of competition amongst different Palestinian groups. If studied within the context of an oligopolistic strategic behavior, then suicide

attacks are perhaps the best response function for the various Palestinian militant organizations. Since Hamas and PIJ were gaining support in the street, al Aqsa Martyrs Brigade increased the number of suicide bombings as a strategic behavior to guarantee its survival. Militant groups are simply adopting their strategies to the competitive pressure to maintain or win more support in the Palestinian streets. Palestinian public opinion polls by Jerusalem Media & Communication Center of Palestinian opinion (December 1996 – April 2003) concerning suicide attack (favorable or strongly favorable) showed that support for suicide attacks has been in steady rise (S. Atran, personal communication, October 2003). For instance, in May 1997, about 24 percent of the Palestinian public supported suicide attacks. This figure reached 66 percent at the beginning of the intifada and remains high to this day. Since a wide majority of Palestinians support suicide attacks it is hence conceivable that the leaders of the militant groups are aware of the popularity of suicide attacks, hence, they increase such attacks to enhance their popularity. In this respect, suicide attacks serve as a recruitment strategy and a way to boost the morals of its cadres and give them more political influence in the Palestinian streets.

The final plausible scenario is the potential link between the size of the militant organization and the tactic adopted. PIJ, the smallest militant organization in terms of its followers has the most extensive use of suicide bombings. On the other hand the al Aqsa Martyrs Brigades ranks third after Hamas in sending out suicide bombers. As the size of the organization decreases, so does the resources available to it. A small militant organization will want to economize on its resources thus ending up adopting the lethal yet relatively inexpensive attacks—suicide mission. al-Fateh movement is thus responsible for about 50% all shooting attack while Hams and PIJ claimed responsibility for 70% of the suicide attacks.

Although Palestinian religious insurrectionist groups are using suicide attacks, it is not a proof that religion is the sole driving force for such a behavior and this paper does not make this claim. It is possible that religious groups are responding to a set of challenges and constraints (economic and social) that can be steering them into this direction. More research on this subject might be insightful.

5.1.2. A Poisson Model with Grievances for the Attack Data(H1 and H2)

In this section I examine the significance of the Palestinian unemployment rate and real GDP per capita in determining the number of attacks after controlling for the number of Palestinians killed. The number of Palestinians killed is a measure of conflict intensity which KM (2002) and B (2003) did not account for in their econometric analysis. Palestinian militant organizations almost always cite retaliation against Israeli attacks when issuing a statement claiming their attacks. Therefore the validity of studies by KM and B which did not control for noneconomic motivations for attack is questionable.

Let Y be a random variable indicating the number that a particular method of attack (suicide, shooting, all attacks) occurred during a given year from 1990 to 2002. Following Cameron and Trivide (1998), I estimate a Poisson pseudo maximum likelihood model to account for heterogeneity in the data. Two separate specifications are considered:

$$\text{Specification 1 : } E(y_t) = e^{\alpha + \beta_1 pkill(t) + \beta_2 unemp(t)}$$

$$\text{Specification 2 : } E(y_t) = e^{\alpha + \beta_1 pkill(t) + \beta_2 income(t)}$$

Where $unemp(t)$, $income(t)$, and $Pkill(t)$ are the unemployment rate, real income per capita, and the logarithm of the number of Palestinians killed at time t , respectively. The dependent variable $y(t)$ is measured in three different ways: Suicide attacks, shooting attacks, and total number of attacks. Therefore each specification was estimated three times for each type of attack method. Table 5 shows the results for the maximum likelihood estimation for the two specifications.

Table 5: Results of the Count Data Regressions

Dependent	Suicide Attacks	Shooting Attacks	All Attacks
Palestinians Killed Annual form 1990-2002			
	Not Significant	Positive at 1%	Positive at 1%
Income percapita	Negative at 5%	Negative 1%	Negative 1%
Unemployment	Not Significant	Positive at 1%	Positive at 1%

According to the estimated models, the level of political violence as measured by the number of Palestinians killed by IDF is an important determinant for the level of total attacks in Israel. Also, unlike the finding of KM and B economic factors become significant after accounting for conflict intensity as measured by the number of Palestinians killed. The results show that shooting but not suicide attacks appear to be more responsive to the number of Palestinians killed. Actually, this result confirms the existing patterns in attacks. In general, suicide attacks are a response to Israel military actions that resulted in the killing of Palestinian political leaders. But shooting attacks – which don't require the involved planning similar to the one required by suicide attacks- are initiated after Israeli military incursions into Palestinian cities and villages. Therefore, the model predicts a rise in the number of shooting attacks against Israelis after Israeli military operations or incursions in the WBGS that result in the killing of Palestinians. Unlike shooting attacks, suicide bombings are in general a response of Israel's assassinations policy of Palestinian high-level cadres. This finding cast doubt on the Israeli government claim that its military incursions into the WBGS are meant to curb suicide bombings. Also, targeting leaders of militant organizations will only delay an attack but not halt attacks. Leaders of militant groups don't have the know-how of carrying out suicide attacks.

As for the economic determinants of political violence in the WBGS, they are highly significant and their statistical sign conform to the prediction of deprivation theory. Precisely, an increase in the Palestinian income per capita will reduce Palestinian attacks against Israelis. Like wise, the model predicts that a reduction in the unemployment rate would reduce the incentive for young Palestinians to participate in political violence.

The above results reveal an important distinction between attacks that can be reduces by improving economic and political conditions in the Palestinian Territories (shooting attacks) and attacks that depend strictly on socio-political factors (suicide attacks). Therefore, an improvement in economic conditions will reduce the level of resistance to Israel's. At the same time, halting the policy of assassination that goes back to the early days of suicide attacks will stop such attacks.

6. The Role of Grievances in Suicide Attacks: The Ignored Link

There are few things we know about Palestinian suicide attackers and most scholars would agree on: First, they are in their twenties with the average age of 22 years old. Second, a considerable number of them had more than 12 years of education which indicates that they were recruited from university campuses (Saleh, 2003). With regard to their economic status, the information remains speculative with no conclusive evidence depending on which variable is used to measure the level of poverty. Researchers, however, are only focusing on the economic status or educational achievements as the prime factor contributing to suicide attacks. But could there be other salient factors stimulating suicide attacks against Israelis besides poverty and literacy yet are ignored by researchers?

One such relevant factor is the extent to which Israel Defense Force (IDF) military operations in the West Bank and Gaza Strip (WBGS) is creating an environment conducive to encouraging suicide attacks. By this environment I mean grievances that are only extinguished by revenge. Such IDF actions include: home demolitions, detention of suspected Palestinians without charge for prolonged periods of time (at least six months extended to one year), and collective punishment of Palestinians such as the detention of the brothers and father of a wanted Palestinians who are on the run.

The Israeli Army Chief of Staff Lt. Gen. Moshe Yaalon recognized the influence of grievances when he criticized Israeli government's closure policy saying that such a policy is increase the support for militants. (http://news.bbc.co.uk/1/hi/world/middle_east/3228843.stm). Two weeks later four former Israeli security chiefs of the Shin Bet Security Agency, the agency responsible for protecting Israelis from attacks, sharply criticized Prime Minister Ariel Sharon's military incursions and policy indicating that such a policy will backfire and does not buy security for the Israelis (http://news.bbc.co.uk/1/hi/world/middle_east/3270491.stm). Yet, KM (2002) and B (2003) did not acknowledge in their study any role for anger, bitterness, and alienation that result from Israeli harsh policy of collective punishment. If highest ranking military Israeli official recognized that grievances can be a major force harnessed by militant groups looking for Palestinians to carry out attacks, the why KM and B didn't?

Researchers on suicide militancy have been neglecting the grievance factor. As a result, terrorism experts, narrowed their focus on what seemed- on the surface- to be relevant factors (age, marital status, educational level, and poverty). Some times they simply attempted to extend what we already know from research on crime to research on suicide attacks (Fallacy of Composition).

But evidence on Palestinian suicide bombers is growing. I have collected data on Palestinian suicide attackers from the official websites of Hamas and Palestinian Islamic Jihad (PIJ) (see special appendix for detailed analysis of the database). By reading through the published biographies of Palestinian militants, I compiled a database on 87 suicide attackers who carried out suicide bombings or suicide shooting attacks inside Israel or in inside an Israeli settlement mostly during the second intifada. The information revealed that 44 suicide attacks that were carried out by Palestinians who had been exposed at some point in the past to IDF military measures—grievances that are listed in the second column of the table. 11 of the 44 suicide attackers with grievances had a relative (father, brother, or cousin) killed by IDF in the past. Almost all of the 44 were arrested or had one of their brothers arrested by IDF. Jessica Stern (2003) when she asked the recently assassinated Hamas spokesman Abu Shanab if there are any psychological differences between those who join the military wing and those who don't, He replied "*they are more religious than typical. Often they are angry-they may have seen someone being hurt. It's also a question of the general atmosphere they live in*". Hamas is aware of the power of personal grievances that some Palestinians have and has successfully used these grievances as a source of recruits for suicide attack.

Simply, recent research on Palestinian suicide militants has failed to consider the full range of stressors leading to suicide attacks. Restricting attention to only economic factors or level of education has resulted, for example, in no understanding of why young Palestinians carry out suicide attacks. As a result, the Israeli government decided on more inhumane treatment of Palestinians through very heavy handed military incursions. The existing research is responsible for providing moral support to militarily aggressive policies against the general population in the West Bank and Gaza Strip.

The typology of existing studies on suicide attacks has narrowly limited their search to only economic and educational backgrounds of the attackers—other relevant variable have been ignored and are lacking even though they might be dominant and salient. One is left to wonder as to why the parameter of the search was not expanded to contain other seemingly relevant and evident factors.

Academic research is always the basis of informed government policy. Unfortunately, research on Palestinian suicide bombers is conducted in away to justify not inform and guide Israeli and U.S. approach to the Palestinian-Israeli conflict. Innocent Palestinians and Israelis are dying everyday because there is a fundamental problem in existing Israeli right-wing policy that uses force to force Palestinians to stop their attacks. However, evidence presented in this chapter suggests that force will only force more attacks (see empirical model and results in the previous sections).

Recently, the Israeli newspaper *Haaretz* reported that the two suicide bombers that struck Israel on September 9th, 2003 had been jailed by Israel and were released from jail earlier this year. Palestinians released from jail are never offered any type of psychological habilitation to adjust to life outside the jail. Many lose their educations and jobs. Therefore, Palestinians released from Israeli

detentions find comfort in joining back the militant groups. These groups work as a support group for militants with shared experiences. Also, the young women who carried out the suicide attack at Maxim restaurant in Haifa lost her brother and fiancé after the IDF killed both of them in one of its military incursions in March 2003.

7. Summary and Concluding Remarks

Studying the Palestinian-Israeli conflict by focusing only on economic factors will lead to the counterintuitive conclusions reached by KM and B. Since 1990 to the present, economic conditions in the WBGs have been shaped largely by Israeli closure policy. Although economic causes are not a prime cause for political violence in the WBGs, they are still strong facilitators that feed the conflict. When considering the number of Palestinians killed in the empirical model, I conclude that the economic factors have become statistically significant. The statistical results indicate a strong direct relationship between the level of violence and the average unemployment rate in the Palestinian Territories, and an indirect relationship between the income per capita and Palestinian attacks. However, we should be cautious when interpreting the results. The statistical link is not monotonic; improving living conditions and increasing income-generating opportunities for young Palestinians will not lead to elimination of attacks against Israelis—it will only reduce it. My analysis of suicide bombers profile has also delineated that there are personal grievances contributing to the rise in attacks.

Including the number of Palestinians killed as a measure of conflict intensity produced results that prove the ineffectiveness of the current Israeli government policies in preventing attacks. The results show that shooting attacks against Israelis will rise with the number of Palestinians killed. This result is consistent with the views voiced by the Israeli Chief of Staff, retired former directors of the Shen Bet, and the soldiers in the “Courage to Refuse” campaign.

In conclusion, the most serious effect of the current conflict is not on the economic losses, but in the great divide the intifada created between the two people. Unfortunately, the lasting impact of the intifada is making violence an acceptable way to settle disputes. Nafziger (2002) explains that “A tradition of deadly political violence makes societies more susceptible to its return. Past violence...is likely to lower the threshold for using violence to express dissent, making intensive forms of political conflict normatively justifiable”(p.3). Regardless of the root causes of this conflict, the current Israeli-Palestinian fighting moved the two peoples further away from peace than ever before.

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