



THE ECONOMICS AND THE EDUCATION OF SUICIDE BOMBERS.

Does Poverty Cause Terrorism?

by Alan B. Krueger & Jitka Maleckova

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I.

That investment in education is critical for economic growth, improved health, and social progress is beyond question. That poverty is a scourge that the international aid community and industrialized countries should work to eradicate is also beyond question. There is also no doubt that terrorism is a scourge of the contemporary world. What is less clear, however, is whether poverty and low education are root causes of terrorism.

In the aftermath of the tragic events of September 11, several prominent observers and policymakers have called for increased aid and educational assistance as a means for ending terrorism. "We fight against poverty," President George W. Bush has declared, "because hope is an answer to terror." But a careful review of the evidence provides little reason for optimism that a reduction in poverty or an increase in educational attainment would, by themselves, meaningfully reduce international terrorism. Any connection between poverty, education, and terrorism is indirect, complicated, and probably quite weak. Instead of viewing terrorism as a direct response to low market opportunities or lack of education, we suggest it is more accurately viewed as a response to political conditions and long-standing feelings of indignity and frustration (perceived or real) that have little to do with economics.

An understanding of the causes of terrorism is essential if an effective strategy is to be crafted to combat it. Drawing a false and unjustified connection between poverty and terrorism is potentially quite dangerous, as the international aid community may lose interest in providing support to developing nations when the imminent threat of terrorism recedes, much as support for development waned in the aftermath of the Cold War; and connecting foreign aid with terrorism risks the possibility of humiliating many people in less developed countries, who are implicitly told that they receive aid only to prevent them from committing acts of terror. Moreover, premising foreign aid on the threat of terrorism could create perverse incentives in which some groups are induced to engage in terrorism to increase their prospects of receiving aid. In our view, alleviating poverty is reason enough to pressure economically advanced countries to provide more aid than they are currently giving. Falsely connecting terrorism to poverty serves only to deflect attention from the real roots of terrorism.

To make any headway investigating the determinants of terrorism, one must have a working definition of terrorism. This is a notoriously difficult task. More than one hundred diplomatic and scholarly

definitions of the term exist. The types of activities by various groups that are considered terrorist acts differ substantially across the definitions. The term "terrorism" has also evolved over time. It was first used in a political context during the French Revolution, when it was reserved for accusations against those who, like Robespierre, made use of violence in the name of the state. By the late nineteenth century, however, Russian and French anarchists proudly used the word "terrorism" to describe their violent endeavors against the state. A part of the difficulty in defining terrorism is that there are valid disputes as to which party is a legitimate government. During World War II, for example, the German occupation forces labeled members of the French Resistance terrorists.

A range of possible definitions exists. The State Department, which acknowledges that no single definition of terrorism has gained universal acceptance, seems to have captured what is considered terrorism by many governments and international organizations. Since 1983, it has employed this definition for statistical and analytical purposes: "The term 'terrorism' means premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents, usually intended to influence an audience. The term 'international terrorism' means terrorism involving citizens or the territory of more than one country." The State Department also specifies that "the term noncombatant is interpreted to include, in addition to civilians, military personnel who at the time of the incident are unarmed and/or not on duty....We also consider as acts of terrorism attacks on military installations or on armed military personnel when a state of military hostilities does not exist at the site, such as bombings against U.S. bases in the Persian Gulf, Europe, or elsewhere." The rub, of course, is that the definitions of "subnational" and "military hostilities" leaves much latitude for disagreement.

The definitions of terrorism used by scholars, by contrast, tend to place more emphasis on the intention of terrorists to cause fear and terror among a targeted population that is considerably larger than the actual victims of their attacks, and to influence the views of that larger audience. The actual victim of the violence is thus not the main target of the terrorist act. Scholarly definitions often also include nation-states as potential perpetrators of terrorism.

Rather than dogmatically adhere to one definition, we have analyzed involvement in or support for activities that, at least when judged by some parties, constitute terrorism. Still, in the incidents that we have analyzed, the line between terrorism and resistance is often blurred. At the least, all of the cases we examine could be thought of as involving politically motivated violence. Moreover, it is reassuring that our main conclusions appear to hold across a varying set of circumstances, cultures, and countries. (We do not examine state terrorism because we suspect that the process underlying participation in state terrorism is quite different from the process underlying sub-state terrorism, and would involve a different type of analysis. We do not dispute that state terrorism exists, and that it has at times generated sub-state terrorism as a response.)

In economics, it is natural to analyze participation in terrorism in the framework of occupational choice. As is conventional in economics, involvement in terrorism is viewed as a rational decision, depending on the benefits, costs, and risks involved in engagement in terrorism compared with other activities. Not surprisingly, the standard rational-choice framework does not yield an unambiguous answer to the question of whether higher income and more education would reduce participation in terrorism.

In this context, we have also reviewed evidence on "hate crimes," which can be viewed as a close cousin to terrorism in that the target of an offense is selected because of his or her group identity, not because of his

or her individual behavior, and because the effect of both is to wreak terror in a greater number of people than those directly affected by the violence. A consensus is emerging in the social science literature that the incidence of hate crimes, such as lynchings of African Americans or violence against Turks in Germany, bears little relation to economic conditions.

Most significantly, we have considered data from a public-opinion poll conducted in the West Bank and Gaza Strip by the Palestinian Center for Policy and Survey Research (PCPSR). In December 2001, Palestinians were asked whether they supported attacks on Israeli civilian and military targets, and about whether they considered certain incidents acts of terrorism. Breaking down the data by education and occupation indicates that support for violence against Israeli targets is widespread in the Palestinian population, and at least as great among those with higher education and higher living standards as it is among the unemployed and the illiterate. Similarly, a review of the incidence of major terrorist acts over time in Israel, and an analysis that relates the number of terrorist acts each year to the rate of economic growth in that year or in the recent past, yields the same skepticism about the idea that poverty is a cause of terrorism.

The data on participation in and support for political violence, militancy, and terrorism that we have examined are meager, often indirect, and possibly nonrepresentative. In addition, participation in terrorist activities may be highly context-specific, and we have examined terrorism, militancy, and politically motivated violence in a small number of settings primarily in the Middle East. Consequently, our results must be considered tentative and exploratory. Yet we are not aware of compelling evidence that points in the opposite direction from what we have found. In light of our results, we would urge intellectuals and policymakers to exercise caution in presuming that poverty and education have a direct and causal impact on terrorism.

II.

A simple view of terrorism is that participation in terrorism is akin to participation in crime in general. Economists have a well-developed and empirically successful theory of participation in criminal activities. As emphasized by Gary Becker, individuals should choose to allocate their time between working in the legal job market or working in criminal activities in such a way that maximizes their utility. After accounting for the risk of being caught and penalized, the size of the penalty, and any stigma or moral distress associated with involvement in crime, those who receive higher income from criminal activities would choose involvement in crime. According to this model, crime increases as one's market wage falls relative to the rewards associated with crime, and decreases if the risk of being apprehended after committing a crime, or the penalty for being convicted of a crime, rises. Available evidence suggests that individuals are more likely to commit property crimes if they have lower wages or less education; but the occurrence of violent crimes, including murders, is typically found to be unrelated to economic opportunities.

Some economists, notably William Landes, Todd Sandler, and Walter Enders, have applied the economic model of crime to transnational terrorism. They focus on how an increase in penalties and law enforcement influences the incentive to partake in terrorist activities. But the economic model yields few concrete predictions insofar as the relationship between market opportunities and participation in terrorism is concerned, because participation in terrorist acts by individuals with different characteristics depends on the probability that participation will bring about the desired political change, as well as the differential payoff

for the various groups associated with achieving the terrorists' desired aims versus the penalties associated with failure. It is possible, for example, that well-educated individuals will disproportionately participate in terrorist groups if they think that they will assume leadership positions if they succeed, or if they identify more strongly with the goals of the terrorist organization than less-educated individuals.

Other important considerations include the relative pay of skilled and unskilled individuals for participation in terrorist organizations and how it compares to relative pay in the legal sector, and the selection of particular terrorists by terrorist organizations. Bill Keller recently reported in *The New York Times* that Iraq decided in March to increase the payment to families of suicide bombers in the West Bank and Gaza from \$10,000 to \$25,000. In the month after that decision, suicide bombings increased, though it is unclear whether the connection is causal.

Even before the increase in the payment to families of suicide bombers, there was a large supply of willing suicide bombers, as Nasra Hassan, a relief worker for the United Nations, reported last year in *The New Yorker*. Between 1996 and 1999, Hassan interviewed nearly two hundred fifty militants and associates of militants involved in the Palestinian cause, including failed suicide bombers, the families of deceased bombers, and those who trained and prepared suicide bombers for their missions. One Hamas leader whom Hassan interviewed remarked: "Our biggest problem is the hordes of young men who beat on our doors, clamoring to be sent [on suicide missions]. It is difficult to select only a few." A senior member of the al-Qassam Brigades said: "The selection process is complicated by the fact that so many wish to embark on this journey of honor. When one is selected, countless others are disappointed." Thus, the demand side is also part of the equation.

With a queue of willing participants, how do terrorist or militant groups choose their suicide bombers? A planner for Islamic Jihad explained to Hassan that his group scrutinizes the motives of a potential bomber to be sure that the individual is committed to carrying out the task. Now, a high level of educational attainment is probably a signal of one's commitment to a cause, as well as of one's ability to prepare for an assignment and carry it out. For this reason, the stereotype of suicide bombers being drawn from the ranks of those who are so impoverished that they have nothing to live for may be wildly incorrect. This interpretation is also consistent with another of Hassan's observations about suicide bombers: "None of them were uneducated, desperately poor, simple-minded, or depressed. Many were middle class and, unless they were fugitives, held paying jobs. More than half of them were refugees from what is now Israel. Two were the sons of millionaires."

Suicide bombers clearly are not motivated by the prospect of their own individual economic gain, although it is possible that the promise of larger payments to their families may increase the willingness of some to participate in these lethal missions. We suspect their primary motivation instead results from their passionate support for the ideas and the aims of their movement. "Over and over," Hassan reported, "I heard them say, 'The Israelis humiliate us. They occupy our land and deny our history.'" The eradication of poverty and the attainment of universal high school education are unlikely to change these feelings. Indeed, it is even possible that those who are well-off and well-educated experience such feelings more acutely.

Economic theory is unlikely to give a very convincing answer one way or the other as to whether poverty and education are important root causes of terrorism. One could construct plausible explanations for

why a reduction in poverty and a rise in education might increase or decrease the incidence of terrorism. It might help to consider the evidence on hate crimes. Since the literature on participation in terrorism is less well developed than the literature on hate crimes, we begin by briefly reviewing evidence on the economic determinants of hate crimes, a phenomenon that many have considered closely related to terrorism.

Hate crimes are commonly defined as crimes against members of religious, racial, or ethnic groups because of their group membership, rather than because of their characteristics or actions as individuals. Hate crimes include acts of violence as well as destruction of property, harassment, and trespassing. Until recently, social scientists thought that economic deprivation was a crucial determinant of hate crimes, but new evidence strongly challenges the empirical basis for this conclusion. In fact, a new consensus is emerging that views hate crimes as independent of economic deprivation.

The original empirical support for the economic deprivation hypothesis stemmed mainly from historical evidence on anti-black lynchings in the southern United States. In his classic book *The Tragedy of Lynching*, which appeared in 1933, Arthur Raper documented a correlation of -0.532 between the number of lynchings in a year and the value of an acre of cotton (a measure of economic conditions) in that year, using data from 1882 to 1930. He concluded that "periods of relative prosperity bring reduction in lynching and periods of depression cause an increase." In 1940, the psychologists Carl Hovland and Robert Sears seized on this finding as support for the view that inter-group antagonism results from frustration accompanying economic contractions.

But a landmark study by Donald Green, Jack Glaser, and Andrew Rich overturned that conclusion in 1998. First, they showed that the correlation between lynchings and economic conditions vanished once secular trends in both variables were taken into account. That is, apart from the long-term tendency for the number of lynchings to decline and the economy to grow, lynchings were unrelated to year-to-year economic fluctuations. Second, when they applied Simon Kuznets's measure of real per capita GNP growth (which was unavailable to Raper) as a measure of economic conditions instead of the value of cotton, they found that lynchings and economic conditions were virtually unrelated.

Raper's sample ended just before the Great Depression. Lynchings did not rise during the Great Depression, despite the dramatic deterioration in economic conditions. When Green, Glaser, and Rich extended the original sample through 1938, they found an insignificant correlation between the number of anti-black lynchings and the value of an acre of cotton, and a positive correlation between anti-black lynchings and real GNP growth. It is almost certainly the case that the inverse correlation reported between economic conditions and anti-black lynchings that launched the "aggressionfrustration hypothesis" was spurious, a coincidence of two unrelated trends that happened to move in opposite directions at the turn of the twentieth century.

Moreover, evidence of a connection between economic conditions and other types of hate crimes in contemporary data is elusive as well. Green, Glaser, and Rich also report evidence on the incidence of hate crimes against blacks, Jews, Asians, and homosexuals using data from New York City each month from 1987 to 1995. They found that the incidence of these crimes was unrelated to the city's unemployment rate. And across regions in a given year, the occurrence of hate crimes and the prevalence of hate groups are also found to be unrelated to the economic circumstances of the area. In a study of the "geography of hate," Philip Jefferson and Frederic L. Pryor examined determinants of the existence of hate groups across counties in the United States in 1997. (About 10 percent of counties, they noted, are home to a hate group.) They found that the location of hate groups was unrelated to the unemployment rate, divorce rate, percentage of blacks, or gap in per capita income between whites and blacks in the county. The share of the

adult population with a high school diploma or higher had a statistically significant positive association with the likelihood that a hate group was located in the area. They concluded that "economic or sociological explanations for the existence of hate groups in an area are far less important than adventitious circumstances due to history and particular conditions."

The findings for the United States do not appear to be unique. Germany experienced a rash of violence against foreigners in the early 1990s. Unemployment was high, particularly in the former East Germany. But economists who have studied the German case found no relationship between the unemployment rate and the incidence of ethnic violence across 543 counties in Germany, once they took account of whether the county was located in the former East or West Germany. Likewise, average education and the average manufacturing wage in the county was unrelated to the amount of violence against foreigners. Within the former East Germany, those counties located farthest from the West had the highest incidence of ethnic violence, a geographical pattern that may be explained by a failure of law enforcement farther east and a pent-up animosity that was suppressed during communism.

In sum: neither cyclical downturns nor longer-term regional disparities in living standards appear to be correlated with the incidence of a wide range of hate crimes. This is not proof of the absence of a causal relationship, of course; but if there were a direct causal effect one would expect hate crimes to rise during periods of economic hardship. Rather than to economic conditions, the hate crimes literature points to a breakdown in law enforcement, as well as official sanctioning and encouragement of civil disobedience, as significant causes of the occurrence of hate crimes.

III.

The Palestinian Center for Policy and Survey Research (PCPSR) is an independent, nonprofit research organization in Ramallah that conducts policy analysis and academic research in the West Bank and Gaza. In December 2001, PCPSR conducted a public-opinion poll of 1,357 Palestinians eighteen years old or older in the West Bank and Gaza. The survey, which was conducted by in-person interviews, covered topics including the participants' views toward the September 11 attacks in the United States, the participants' support for an Israeli-Palestinian peace agreement, and their opinions about armed attacks against Israel. Under trying circumstances in the middle of one of the worst periods of the Israeli-Palestinian conflict, a researcher at the center kindly provided us with tabulations of key questions broken down by the educational level and the occupational status of the respondents.

Although public-opinion polls are subject to multiple interpretations, such data can provide indirect information about which segments of the population support terrorist or militant activities. The PCPSR poll reveals several things. First, the support for armed attacks against Israeli targets by the Palestinian population is widespread, though it is important to emphasize that there is a distinction between support for armed attacks expressed in a public-opinion poll at a particular point in time and participation in or active support for such attacks. Second, a majority of the Palestinian population believes that armed attacks against Israeli civilians have helped to achieve Palestinian rights in a way that negotiations could not have achieved. This finding raises obvious implications concerning the difficulty of ending the attacks, and may partially account for the Palestinian public's opposition to a United Nations initiative to fight terrorism, which was also found in the poll. If the Palestinian public believes the attacks are efficacious, they are

unlikely to cease supporting additional attacks unless their demands are met. Another question asked was: "To what extent do you support or oppose the position taken by President Arafat and the [Palestinian Authority] regarding the U.S. campaign against terror?" Thirty-six percent supported or strongly supported the position of Arafat in this case, and 50.4 percent opposed it.

Moreover, a majority of the Palestinian population did not consider suicide bombings, such as the one that killed twenty-one Israeli youths at the Dolphinarium disco in Tel Aviv, terrorist events. Toward the end of the questionnaire, respondents were also asked whether they thought the international community considered the Dolphinarium bombing a terrorist event. Ninety-two percent responded yes. These results highlight important differences in interpreting the meaning of the word "terrorism."

Most important for our purposes, there is no evidence in these results that more highly educated individuals are less supportive of violent attacks against Israeli targets than are those who are illiterate or poorly educated. Consider the percentage of individuals who say they support or strongly support armed attacks against Israeli targets less those who say they oppose or strongly oppose such attacks. By a margin of 68 points, those with more than a secondary school education support armed attacks against Israeli targets, while the margin is 63 points for those with an elementary school education and 46 points for those who are illiterate.

A survey conducted by PCPSR in November 1994, before the current intifada, asked respondents whether they supported a dialogue between Hamas and Israel. Responses were reported by educational attainment. More highly educated respondents were less supportive of a dialogue with Israel: 53 percent of those with a B.A. and 40 percent of those with an M.A. or a Ph.D. supported a dialogue, compared with 60 percent of those with nine years of schooling or less. (Based on other questions, it is clear that supporters of dialogue generally favored a more peaceful coexistence with Israel.)

The PCPSR study in 2001 showed also that support for armed attacks against Israeli targets is widespread across all Palestinian occupations and groups, but particularly strong among students (recall that respondents are age eighteen or older) and merchants and professionals. Notably, the unemployed are somewhat less likely to support armed attacks against Israeli targets. If poverty was indeed the wellspring of support for terrorism or politically motivated violence, one would have expected the unemployed to be more supportive of armed attacks than merchants and professionals, but the public-opinion evidence points in the other direction.

The survey also found that the Palestinian population doubted Osama bin Laden's role in the September attacks on New York and Washington. A subsequent poll of adults in nine Islamic countries by the Gallup Organization also found considerable skepticism toward the role of bin Laden's group in the attacks. Seventy-four percent of Muslim Lebanese, for example, did not believe news reports that groups of Arabs carried out the attacks, while 65 percent of Christian Lebanese accepted the veracity of the news reports. Respondents in the PCPSR survey were divided on whether they defined as a "terrorist event" the "destruction of the Twin Towers in New York City by people suspected to be members of Bin Laden's organization": 41.4 percent agreed and 53.1 percent disagreed.

It is possible to use public-opinion data to infer trends in economic expectations. On three occasions--in July/August 1998, in September 1999, and in February 2000--PCPSR asked respondents in the West Bank and Gaza the following two questions: "How would you describe your economic situation over the last three years compared to the situation today? Better, Worse, Stayed the Same, or Don't Know?" and "Are you optimistic or pessimistic regarding your economic situation over the next three years? Optimistic, Pessimistic, It will remain the same, No Opinion/Don't Know?"

The survey results indicate that between 1998 and 2000 the public perceived economic conditions to be improving. Optimism about the future was rising. The downward trend in the unemployment rate is also consistent with this interpretation of economic circumstances. There is little evidence here to suggest that a deteriorating economy or falling expectations for the economy precipitated the latest intifada, which began in September 2000, although it is possible that expectations could have changed between the PCPSR's last survey and the start of the intifada.

In 1995, Joshua Angrist closely examined Palestinian trends in school enrollment, earnings, and unemployment by level of education in a period encompassing the intifada in 1988. He found that college enrollment in the West Bank and Gaza increased rapidly in the early 1980s, doubling between 1981 and 1985. Between 1982 and 1988, the number of Palestinian men in the labor force with twelve or more years of schooling doubled, while the number with eleven or fewer years of schooling increased only by about 30 percent. This remarkable rise in the education of the workforce coincided with a sharp increase in the unemployment rate for college graduates relative to high school graduates in the 1980s. In addition, from 1985 to 1988 the real daily wage of college graduates fell by around 30 percent, while the real wage of those with twelve years of schooling held steady and the real wage of those with eleven or fewer years of schooling increased slightly. Angrist observes that the decline in Palestinian school enrollment in the early 1990s probably represents "a belated supply response to low returns to schooling."

Thus, the noteworthy increase in educational attainment of Palestinians in the 1980s coincided with a marked deterioration in the economic position of more highly educated Palestinians. Angrist and others speculate that the deterioration in economic opportunities for the highly educated contributed to the civil unrest that broke out in December 1987. Angrist notes, though, that the confluence of these developments could be unique to the Palestinian situation, and not a universal response to expanding educational opportunities. Importantly, the Israeli occupation of the territories and the lack of an effective capital market or banking system probably prevented the labor markets in the West Bank and Gaza from functioning smoothly, particularly in light of the fact that many Palestinians are dependent on Israel for jobs. Consequently, the link between an expansion in educational attainment, deteriorating economic conditions, and protest may not generalize. Indeed, the contrasting economic environments surrounding the intifadas in 1988 and 2000 suggest that protest, violence, and even terrorism can follow a rising economic tide or a declining one.

We also performed a detailed analysis of participation in Hezbollah in Lebanon, which has reportedly instructed Palestinian extremist groups on the use of suicide bomb attacks. We compared the background characteristics of 129 members of Hezbollah's militant wing who died in action mostly in the late 1980s to those of a random sample of 121,000 young people in the Lebanese population. Many of these militants died fighting Israeli occupation, while others died in suicide bomb attacks or while planting booby traps. The Hezbollah militants in this sample are likely to be representative of those who engaged in terrorist acts, and some were carrying out terrorist acts when they died. Compared to the general

Lebanese population from the same age group and region, the Hezbollah militants were actually slightly less likely to come from impoverished households, and were more likely to have attended secondary school or higher. These results suggest that the militants were not particularly drawn from those with the least opportunities in society.

And this conclusion is ratified by political violence on the other side as well. In the late 1970s and early 1980s, numerous violent attacks against Palestinians were conducted by Israeli Jews in the West Bank and Gaza. These attacks included attempts to kill three Palestinian mayors of West Bank cities and attempts to blow up the Dome of the Rock mosque in Jerusalem. From 1980 to 1984, a total of twenty-three Palestinians were killed in attacks by what became known among Israelis as the Jewish Underground, and 191 Palestinians were injured. The *International Encyclopedia of Terrorism* (1997) refers to these attacks as acts of terrorism. In a ruling in 1985, an Israeli court convicted three Israeli settlers of murder and found others guilty of violent crimes in cases involving attacks in the West Bank.

What were the biographical backgrounds of those involved in these violent attacks by Israeli Jewish extremists? A list may be compiled of the name, the age, the occupation, and the nature of underground activity for twenty-seven individuals involved in the Jewish Underground in the early 1980s, based mainly on a memoir of the Jewish Underground by Haggai Segal, one of its members. It is clear from such a chart that these Israeli extremists were overwhelmingly well-educated and in high-paying occupations. The list includes teachers, writers, university students, geographers, an engineer, a combat pilot, a chemist, and a computer programmer. As Donald Neff observed in 1999 about the three men convicted of murder, "all were highly regarded, well-educated, very religious." Although we have not statistically compared the backgrounds of these extremists to the wider Israeli population, these twenty-seven individuals certainly do not appear to be particularly underprivileged or undereducated.

IV.

The evidence that we have assembled and reviewed suggests that there is little direct connection between poverty, education, and participation in or support for terrorism. Indeed, the available evidence indicates that compared with the relevant population, participants in Hezbollah's militant wing in the late 1980s and early 1990s in Lebanon were at least as likely to come from economically advantaged families and to have a relatively high level of education as they were to come from impoverished families without educational opportunities. We should caution, however, that the evidence we have considered is tentative due to data limitations. In addition, our focus has been primarily on the Middle East, so our conclusions may not generalize to other regions or circumstances.

Still, less quantitative studies of participants in a variety of forms of terrorism in several different settings have reached a conclusion similar to ours. We are particularly struck by Charles Russell and Bowman Miller's work in this regard. In 1983, to derive a profile of terrorists, they assembled demographic information on more than three hundred fifty individuals engaged in terrorist activities in Latin America, Europe, Asia, and the Middle East from 1966 to 1976 based on newspaper reports. Their sample consisted of individuals from eighteen revolutionary groups known to engage in urban terrorism, including the Red Army in Japan, the Baader-Meinhof Gang in Germany, the Irish Republican Army in Northern Ireland, the Red Brigades in Italy, and the People's Liberation Army in Turkey. Russell and Miller found that "the vast majority of those individuals involved in terrorist activities as cadres or leaders is quite well educated. In fact, approximately two-thirds of those identified terrorists are persons with some university training,

university graduates or postgraduate students." They also report that more than two-thirds of arrested terrorists "came from the middle or upper classes in their respective nations or areas."

Maxwell Taylor likewise concluded from his survey of the literature, in his book *The Terrorist* in 1988, that "neither social background, educational opportunity or attainment seem to be particularly associated with terrorism." And this conclusion also accords with the conclusion of the Library of Congress's report "The Sociology and Psychology of Terrorism: Who Becomes a Terrorist and Why?" This report was prepared for the CIA in September 1999 and foresaw the possibility of Al Qaeda crashing explosive-laden airplanes into the Pentagon, the CIA, or the White House. After reviewing profiles of terrorists, the report observed that "terrorists in general have more than average education," and questioned whether there is a typical terrorist profile.

While economic deprivation may not be associated with participation in terrorism and political violence at the individual level, it may nonetheless matter at the national level. If a country is impoverished, a minority of the relatively well off in that country may turn to terrorism to seek to improve the conditions of their countrymen. One might question, though, whether the goal of many terrorist organizations is to install a political regime that is likely to reduce poverty. In addition, there are well-documented cases of homegrown terrorism in economically advanced countries (remember Timothy McVeigh?), so it is far from clear that poverty at a national level is associated with support for terrorism. Of course, this question can only be addressed by cross-country analyses.

In addition, poverty may indirectly affect terrorism through the apparent connection between economic conditions and the proclivity for countries to undergo civil wars. James Fearon and David Laitin have found that GDP per capita is inversely related to the onset of civil war, and Paul Collier and Anne Hoeffler have found that the growth rate of GDP per capita and the male secondary-school enrollment rate are inversely related to the incidence of civil war. Lebanon, Afghanistan, and Sudan are high-profile examples of countries where civil war provided a hospitable environment for international terrorists to operate. But there are other situations in which countries undergoing a civil war did not provide a breeding ground for international terrorism, so it is unclear how much one should extrapolate from the relationship between economic development and civil war. And terrorism has arisen in many countries that were not undergoing a civil war.

Enough evidence is accumulating that it is fruitful to begin to conjecture why participation in terrorism and political violence is apparently unrelated--or positively related--to individuals' income and education. The standard economic model of crime suggests that those with the lowest value of time should engage in criminal activity. But we would hypothesize that in most cases terrorism is less like property crime and more like a violent form of political engagement. More-educated people from privileged backgrounds are more likely to participate in politics, probably in part because political involvement requires some minimum level of interest, expertise, commitment to issues, and effort, all of which are more likely if people are educated enough and prosperous enough to concern themselves with more than economic subsistence. These factors could outweigh the effect of opportunity cost on individuals' decisions to become involved in terrorism.

The demand side for terrorists must be considered as well as the supply side. Terrorist organizations may prefer highly educated individuals over less-educated ones, even for suicide bomb attacks. In addition, educated middle-class or upper-class individuals are better suited to carry out acts of international terrorism

than are impoverished illiterates, because the terrorists must fit into a foreign environment to be successful. This consideration suggests that terrorists who threaten economically developed countries will disproportionately be drawn from the ranks of the relatively well off and highly educated.

On the whole, we must conclude that there is little reason to be optimistic that a reduction in poverty or increase in educational attainment will lead to a meaningful reduction in the amount of international terrorism without other changes. Jessica Stern has observed that many madrasahs, or religious schools, in Pakistan are funded by wealthy industrialists, and that those schools deliberately educate students to become foot soldiers and elite operatives in various extremist movements around the world. She further reported that "most madrasahs offer only religious instruction, ignoring math, science, and other secular subjects important for functioning in modern society." These observations suggest that, in order to use education as part of a strategy to reduce terrorism, the international community should not limit itself to increasing years of schooling, but should consider very carefully the content of education.

Alan B. Krueger and Jitka Malecková are writing a history of hate crimes and terrorism.

[Alan B. Krueger](#) is Bendheim Professor of Economics and Public Affairs at Princeton University. [Jitka Maleckova](#) is associate professor at the Institute for Middle Eastern and African Studies at Charles University in Prague.

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