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Lecture 19

The paper by Michael Jetter analyses the determinants of media attention for terrorist attacks.

That is, why do some attacks generate more coverage than others do?

This question is intrinsically interesting but it is also a practical question because terrorist groups should be able to determine the sorts of attacks that get them the most publicity and choose these high-profile attacks rather than other methods that do not generate such publicity.

Jetter uses the *New York Times* (NYT) to measure media attention - this is a sensible choice for measuring media attention in the US because the NYT is a truly national source.

Jetter measures media attention for each country by comparing the number of daily mentions of that country in the NYT on days before attacks with mentions on days after attacks: Jetter writes:

For an attack a in country i on day t, I choose the formula

$$\left(NYT\ response\right)_{a,i,t} = \frac{\left(\#ofhits\right)_{i,t+1} - \left(\#ofhits\right)_{i,t-1}}{1 + \left(\#ofhits\right)_{i,t-1}} \qquad (1)$$

to derive the relative change in media attention related to the attack from the day before $(t-1)$ to the day after $(t+1)$.

Let’s think through this formula.

Suppose the NYT mentions Pakistan 4 times on Tuesday, there is a terrorist attack in Pakistan on Wednesday and the NYT mentions Pakistan 11 times on Thursday.

Then Jetter’s NYT response measure is (11-4)/(1+4) = 1.4

The idea is that this attack caused a jump up in NYT coverage from 4 to 11 which we then measure relative to a baseline of 4.

The 1 in the denominator may puzzle you but without it the denominator would often equal 0 in which case the response measure would be undefined.

This NYT response rate is clearly a noisy and imperfect measure.

For example, Pakistan might have a big event on Thursday, such as a national election, which draws big media coverage unrelated to the terrorist incident on Wednesday.

Or there could be a big event on Tuesday so that Pakistan is mentioned more times on Tuesday than on Thursday for reasons having nothing to do with terrorism.

Still, there are many terrorist attacks so the irrelevant random events that distort the data should even out over time, i.e., we can overcome the noise in our measurement tool with enough data.

Overall this is a sensible measure.

Note, however, that Jetter excludes terrorist attacks in the US because it is unlikely that these attacks would lead to an increase in NYT mentions of the US rather than to an increase in mentions of more specific locations such as New York or Michigan.

At the same time, attacks on major cities like London or Paris will often generate mentions of just “London” or “Paris” in the NYT rather than mentions of the “UK” or “France”.

So the exclusion of attacks on the US in the dataset mitigates, but does not eliminate, this problem.

Jetter's strategy is:

estimating the NYT response to attack day a in country i and year t takes the following form:

$$(NYT\ response)_{a,i,t} = \alpha_0 + \alpha_1 \mathbf{\Gamma_a} + \alpha_2 \mathbf{\Theta_{i,t}} + \alpha_3 \mathbf{\Pi_i} + \alpha_4 \mathbf{\Phi_t} + \alpha_5 \mathbf{\Omega_{i,t}} + \epsilon_{a,i,t}. \quad (2)$$

To capture any factors that can potentially affect the media reaction by the New York Times, I distinguish between five categories of variables:

- Attack features ($\mathbf{\Gamma_a}$), including a binary variable for suicide attacks and variables measuring (i) the number of victims on the attack day, (ii) the number of attacks on this day, (iii) a binary variable whether at least one attack was successful, (iv) 9 different attack types, (v) 22 target types, (vi) 9 weapon types, and (vii) dummy variables for whether the country experienced attacks one or two days before (and after) this attack day.[10] All results are robust to including a variable measuring the number of attacks in the same country in the preceding seven days.

- Societal characteristics ($\mathbf{\Theta_{i,t}}$), including population size and the fractions of Catholic, Muslim, and Protestants in society.

- Geographical characteristics ($\mathbf{\Pi_i}$), adding the geographical distance (closest border-to-border) from the attacked country to the US and continental fixed effects. Further estimations use regional or country fixed effects, but also country specific time trends, extending $\mathbf{\Pi_i}$ to $\mathbf{\Pi_{i,t}}$.

- Time characteristics ($\mathbf{\Phi_t}$), specifically year, month, and weekday fixed effects.
- Economic and political characteristics ($\mathbf{\Omega_{i,t}}$), including GDP per capita, the political regime form, and press freedom of the attacked country. Extensions to the main results also consider contemporaneous conflicts in the attacked country, the a priori assessed political terror risk, trade relationships (general and bilateral between the attacked nation and the US), natural resources, and foreign direct investment. Finally, I include binary variables for countries ruled by leftist and rightist administrations, with centrist governments and undefined administrations forming the omitted category.

The list of terrorist attacks comes from the GTD database with which you are already familiar.

Note that Jetter focuses quite a bit, but not exclusively, on suicide attacks.

I spread the following key table of Jetter's results over this slide and the next:

Table 2: OLS results predicting the NYT response to terrorist attacks.

Dependent variable: NYT response (mean= 1.98)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Attack Features								
Suicide attack	1.130***	0.811***	1.153***	1.006***	0.967***	0.842***	0.800***	0.520*
	(0.276)	(0.289)	(0.297)	(0.297)	(0.292)	(0.320)	(0.287)	(0.288)
# of deaths		-0.002	-0.001	0.000	0.005	0.003	0.002	0.001
		(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
# of attacks		-0.101*	-0.079	-0.095	-0.114**	-0.106	-0.103*	-0.047
		(0.058)	(0.058)	(0.058)	(0.058)	(0.084)	(0.058)	(0.058)
At least 1 attack successful		-0.579**	-0.504**	-0.337	-0.237	-0.234	-0.136	-0.015
		(0.249)	(0.255)	(0.257)	(0.253)	(0.266)	(0.247)	(0.247)
Attack, target, and weapon type fixed effects[a]		yes	yes	yes	yes	yes	yes	yes
Societal Characteristics								
Population size			0.439***	0.350***	0.365***	0.352***		
			(0.052)	(0.057)	(0.056)	(0.056)		
% Catholic			-0.018***	-0.016***	-0.015***	-0.015***		
			(0.002)	(0.002)	(0.002)	(0.002)		
% Muslim			-0.013***	-0.014***	-0.017***	-0.023***		
			(0.002)	(0.002)	(0.002)	(0.002)		
% Protestant			-0.038***	-0.022***	-0.023***	-0.010		
			(0.007)	(0.008)	(0.008)	(0.008)		

Geographical Characteristics								
Distance from US in 1,000 km				-0.355***	-0.412***	-0.444***		
				(0.044)	(0.044)	(0.046)		
Continental fixed effects				yes	yes	yes		
Country fixed effects							yes	yes
Country specific time trends								yes
Time Characteristics								
Year, month & weekday fixed effects[b]					yes	yes	yes	yes
Economic & Political Characteristics								
GDP per capita						-0.241***		
						(0.070)		
Polity IV index						-0.478***		
						(0.052)		
Absence of press freedom						-0.050***		
						(0.009)		
N	24,464	24,462	23,680	23,680	23,680	19,343	24,462	24,462
# of countries	161	161	147	147	147	138	161	161
R^2	0.001	0.012	0.022	0.028	0.061	0.065	0.081	0.106

Notes: White robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
[a]Includes dummies for 9 attack types, 22 target types, 9 weapon types, and 4 dummies for whether there was a terrorist attack in this country 2 days before, the day before, the day after, and 2 days after the attack.

Highlights from the table include:

1. There is a premium on suicide attacks. Column 1 leaves open the possibility that this premium can be explained by characteristics of suicide attacks such as the fact that they tend to kill more people than other types of attacks. However, the other columns show that this result still shines through even when you control for various things including the number of deaths.

2. Surprisingly, the number of deaths does not come close to statistical significance.

3. In fact, the number of attacks and a dummy variable for whether at least one attack was successful both come out negative and, usually, insignificant.

4. The NYT tends to increase coverage after attacks more in countries that are geographically closer to the US than it does in those that are farther away.

5. GDP per capita is negatively associated with NYT responsiveness to attacks.

The next table stresses the role of economic factors in determining the terrorism coverage:

Table 4: Economic aspects.

Dependent variable: NYT response (mean= 1.98)	(1)	(2)	(3)	(4)	(5)	(6)
Suicide attack	0.850***	0.803**	0.789**	0.791**	0.762**	0.860***
	(0.321)	(0.320)	(0.321)	(0.320)	(0.337)	(0.322)
Distance to US in 1,000 km	-0.442***	-0.437***	-0.440***	-0.436***	-0.363***	-0.440***
	(0.044)	(0.046)	(0.046)	(0.046)	(0.045)	(0.046)
Trade (% of GDP)	0.001					
	(0.002)					
Exports to US		0.105***				
		(0.030)				
Imports from US			0.104***			
			(0.027)			
Natural resource rents (% of GDP)				0.009***		
				(0.003)		
Oil rents (% of GDP)					-0.014	
					(0.010)	
Foreign direct investment						0.200**
						(0.088)
Attack features[a]	yes	yes	yes	yes	yes	yes
Societal, Time, Economic & Political Characteristics[b]	yes	yes	yes	yes	yes	yes
Continental fixed effects	yes	yes	yes	yes	yes	yes
N	19,235	19,343	19,343	19,281	17,165	19,006
# of countries	138	138	138	137	113	138
R^2	0.065	0.065	0.065	0.065	0.069	0.065

Notes: White robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[a]Includes # of deaths, # of attacks, at least one attack successful, dummies for 9 attack types, 22 target types, 9 weapon types, and 4 dummies for whether there was a terrorist attack in this country 2 days before, the day before, the day after, and 2 days after the attack. [b]Includes population size and fractions of Catholics, Muslims, and Protestants; includes fixed effects for years, months, and weekdays; includes GDP per capita, the Polity IV index, and the absence of press freedom.

Here are some key points from the above table:

1. Openness to trade does not seem to matter for NYT coverage.

2. But trading with the US, either exporting to or importing from the US, is positively associated with NYT coverage of terrorism.

3. Having natural resources seems also to be positively associated with coverage although, surprisingly, having oil does not seem to matter.

4. Foreign direct investment is positively associated with NYT coverage of terrorism.

The Gassebner and Luechinger (G & L) paper does for the terrorism literature what the Hegre and Sambanis paper (lecture 11) does for the literature on the causes of war.

Again, the idea is that many people have done regressions using many combinations of variables - variables that are significant and with a certain sign in one regression can be insignificant or significant but with the opposite sign in another regression.

So G & L run a huge number of regressions, systematically trying out many different combinations of variables and looking for some that are consistently significant with largely just one sign.

The tables on the next two slides succinctly summarize G & L's results.

Table 2 Main results for locations of terrorism

Variable	Location, ITERATE			Location, GTD			Location, MIPT		
	Coef.	CDF	% sig.	Coef.	CDF	% sig.	Coef.	CDF	% sig.
Baseline variables									
GDP per capita, log	0.103	0.681	39.6	0.210	0.894	73.4	0.063	0.628	27.6
Population, log	0.142	0.837	62.3	0.221	**0.984**	93.7	0.177	**0.902**	68.8
Democracy	0.059	0.550	23.7	0.191	0.646	48.9	−0.065	0.537	14.7
Partial democracy	0.035	0.542	20.9	0.225	0.726	53.0	−0.017	0.523	10.2
Robust variables									
Physical integrity	−0.138	**0.979**	92.1	−0.165	**0.970**	90.8	−0.099	**0.914**	73.5
Religious tension	0.103	**0.934**	80.6	0.121	**0.986**	96.3	0.069	**0.918**	74.6
Economic freedom	−0.307	**0.948**	80.0	−0.269	**0.949**	83.0	−0.327	0.899	71.7
Infant mortality	−0.017	**0.910**	67.2	−0.010	**0.903**	64.1	−0.008	0.699	22.4
Ethnic tensions	−0.007	0.544	18.4	0.040	**0.911**	63.1	0.011	0.627	15.2
Gvt. fractionalization	0.450	0.867	64.9	0.420	**0.919**	73.5	0.411	0.852	60.8
Guerrilla war	0.208	0.877	65.7	0.370	**0.990**	96.0	0.182	0.893	62.3
Internal war	0.086	0.839	46.5	0.264	**0.987**	95.6	0.112	0.856	62.4
Internat. internal war	0.028	0.624	6.5	0.147	**0.933**	69.6	0.059	0.735	14.0
Law and order	0.002	0.538	11.6	−0.072	**0.960**	82.3	−0.059	0.882	62.8
Military expenditures	0.027	0.701	29.1	0.079	**0.935**	79.8	0.015	0.625	17.2
Military personnel	0.041	0.791	32.2	0.077	**0.923**	73.1	0.025	0.691	21.5
OECD	−0.108	0.600	14.2	0.407	**0.914**	68.4	0.137	0.661	11.0
Portfolio investment	1.029	0.743	7.4	0.037	0.539	1.8	2.877	**0.963**	80.4
Proximity to U.S.	1.266	0.813	42.8	1.481	**0.905**	72.0	0.969	0.795	34.6
Strikes	0.068	0.810	37.6	0.126	**0.906**	75.5	0.088	0.897	53.1
Urbanization	0.015	0.856	62.7	0.005	0.716	42.3	0.023	**0.913**	77.5

Note: The table reports the median parameter estimates (Coef.), the cumulative distribution function (CDF), i.e. the proportion of the cumulative distribution function lying on each side of zero, and the percent the estimate was statistically significant at the 5% level (% sig.). The criterion to consider a variable robustly related to terrorism is a CDF above 0.9 which is printed in **bold** face

Table 3 Main results for victims and perpetrators of terrorism

Variable	Victim, ITERATE			Victim, GTD			Perpetrator, ITERATE		
	Coef.	CDF	% sig.	Coef.	CDF	% sig.	Coef.	CDF	% sig.
Baseline variables									
GDP per capita, log	0.304	0.852	58.5	0.371	**0.957**	87.9	−0.020	0.528	21.0
Population, log	0.307	**0.965**	90.0	0.247	**0.990**	96.6	0.111	0.774	38.8
Democracy	−0.111	0.599	10.6	−0.018	0.512	40.1	−0.327	0.755	37.9
Partial Democracy	−0.196	0.741	21.7	0.041	0.556	29.1	−0.110	0.629	23.3
Robust variables									
Economic freedom	−0.313	**0.938**	83.3	−0.202	**0.914**	73.0	−0.374	**0.954**	82.1
Internat. internal war	0.188	**0.963**	85.1	0.134	**0.927**	70.3	0.169	**0.906**	60.5
Physical integrity	−0.101	**0.969**	85.2	−0.137	**0.935**	82.4	−0.198	**0.985**	93.5
Guerrilla war	0.098	0.766	28.2	0.366	**0.993**	97.2	0.325	**0.935**	77.5
Internal war	0.170	**0.930**	73.7	0.270	**0.987**	95.1	0.126	0.874	59.7
Telephone	0.006	0.720	16.9	0.019	**0.934**	80.7	−0.026	**0.904**	72.8
Centrist government	0.117	0.783	30.2	−0.069	0.721	20.8	0.294	**0.936**	63.0
Ethnic tensions	−0.007	0.582	7.5	0.039	**0.909**	65.2	−0.006	0.527	12.5
Military expenditures	0.026	0.643	10.5	0.074	**0.917**	78.5	0.028	0.648	18.5
OECD	−0.345	0.789	33.0	0.717	**0.976**	90.4	−0.329	0.729	28.1
Proximity to U.S.	0.854	0.758	28.6	2.233	**0.968**	88.8	1.377	0.801	38.9
Primary goods exports	−0.006	0.786	34.4	−0.007	**0.930**	72.7	0.001	0.536	10.6
Religious tensions	0.063	0.841	62.5	0.124	**0.987**	96.7	0.071	0.858	58.3
Youth bulge	−4.604	0.830	58.5	−4.504	**0.930**	78.9	1.398	0.619	26.1

Note: The table reports the median parameter estimates (Coef.), the cumulative distribution function (CDF), i.e. the proportion of the cumulative distribution function lying on each side of zero, and the percent the estimate was statistically significant at the 5% level (% sig.). The criterion to consider a variable robustly related to terrorism is a CDF above 0.9 which is printed in **bold** face

We need to do a bit of work before we can understand these tables.

1. There is general agreement that what are called the “baseline variables” should be in every specification. That said, this agreement is slightly odd since some of these variables are not consistently significant. (“Partial Democracy” and “Democracy” are dummy variables, each of which is coded with a “1” if a democracy rating system is within an appropriate range.)

2. G & L use three different terrorism databases – GTD, MIPT and a third one called “ITERATE” that we have not yet encountered.

3. G & L tried many variables but the only ones that appear in these tables as “robust variables” are the ones that consistently have a certain sign with statistical significance.

4. The columns labelled “Coef” give the median coefficient estimate for each variable over all the regressions that contain that particular variable.

5. The columns labelled “CDF” give the fraction of estimates for each coefficient that have the same sign as the median estimate for that coefficient.

6. The columns labelled “% sig.” give the percentage of estimates for each coefficient that are statistically significant.

7. The tables list only the variables for which one of the three CDF numbers is larger than 0.9.

8. Table 2 explains locations (countries) of terrorist attacks.

9. Table 3 explains the nationalities of victims and perpetrators. (Of course, the victims of an attack in country X will tend to be primarily citizens of country X.)

10. “Physical integrity” is an index measuring the extent of “torture, extrajudicial killing, political imprisonment and disappearance”, with higher values meaning better protection.

Here are some highlights from table 2 on the location of terrorism:

1. The most robust variables (bold in all three columns) are physical integrity and religious tension - so strong police states with religious tensions seem to be favoured targets of terrorists.

2. The second most robust variables (bold in two columns) are population size, economic freedom and infant mortality – so bigger, economically repressive and richer countries seem to attract terrorist attacks. The result on infant mortality seems inconsistent with a widespread belief that poverty breeds terrorism (we will return to this theme later in the lecture and next week).

3. "Law and order," which measures the quality of the legal system, seems to discourage terrorism. This is consistent with the physical integrity result, with both going against a commonly held idea that repressive, police states prevent terrorism.

4. More foreign portfolio investment seems positively associated with terrorism, suggesting a connection between globalization and terrorism.

Highlights from table 3 include:

1. It is rather similar to table 2. Surprisingly, neither table suggests that democracy is important.

2. Higher natural resource exports are associated with fewer attacks on a country's citizens.

3. Citizens from countries with a "youth bulge" i.e., a large proportion of young people are attacked relatively less and do not attack more often.

4. Fewer telephones are associated with more attacks, which gives some support to the poverty-breeds-terrorism notion which we will turn to on the next slide. However, a number of other economic indicators go against this idea.

5. Countries with centrist governments seem to export terrorists. This is kind of bizarre and inexplicable.

Poverty, Education and Terrorism

There is a widespread view that poverty causes terrorism (e.g., see this BBC article.

The Alan Krueger book, mentioned in lecture 18, opens by citing many people expressing this view. Krueger then makes a sustained attack on the ideas that either poverty or poor education causes terrorism.

Try googling something like “poverty causes terrorism” and you will find mostly articles endorsing the Krueger view so it seems that he, and others, have been successful in pressing this argument.

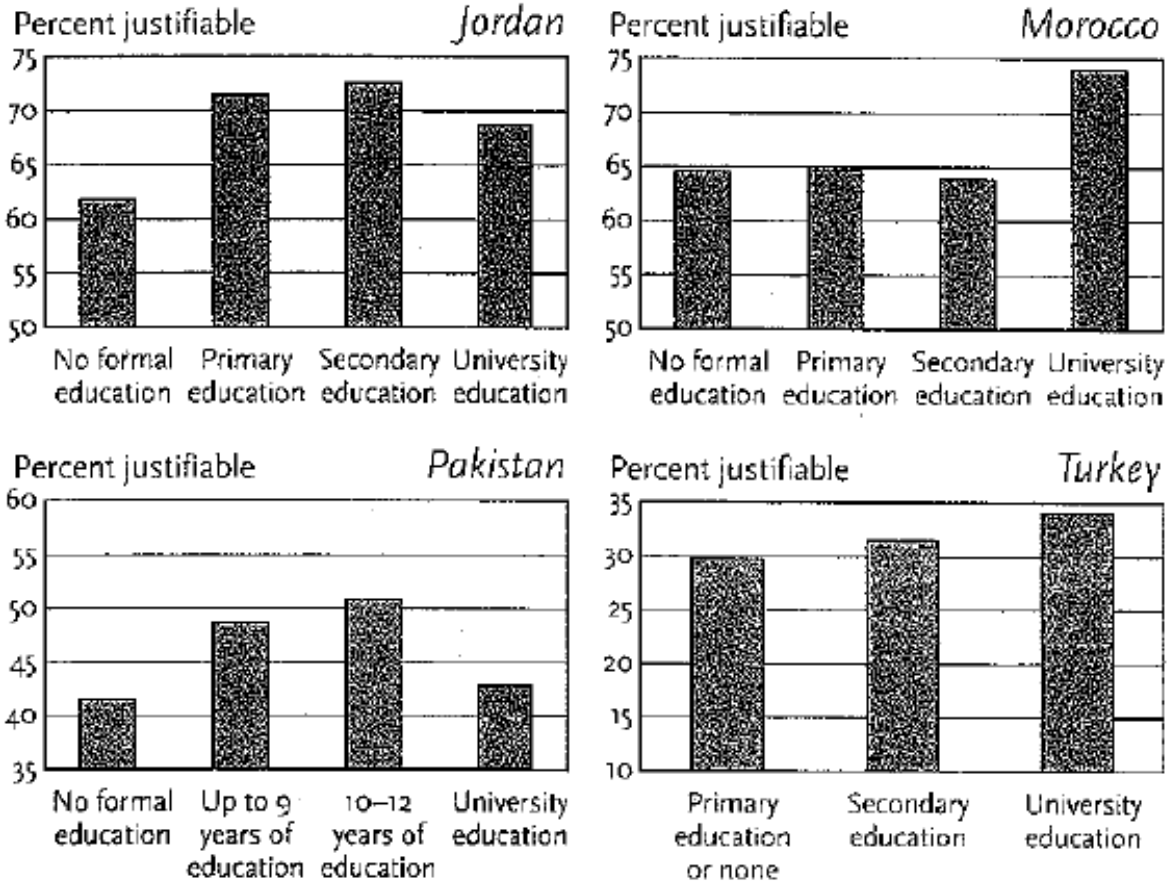
Yet there has now been a counterattack suggesting that maybe poverty and low education do matter after all – we will return to this point in lecture 20.

The graphs on the next slide, taken from Krueger's book, come from an opinion poll.

They do not support the view that very low ("no formal") education is associated with support for suicide bombing.

On the other hand, the Pakistan numbers do suggest that very high levels of education do diminish support for terrorism in that country - but this high-education effect does not seem to extend to the other three countries in the survey (except maybe to Jordan).

Figure 1.3 "What about suicide bombing carried out against Americans and other Westerners in Iraq? Do you personally believe that this is justifiable or not justifiable?" Results by education level. Based on Pew Global Attitudes Project (2004).



The survey results presented on the above slide are from 2004 so I have updated these findings using new data from a 2013 Pew Survey.

The columns in the tables on slides 24 – 30 give responses to the following question: “

> Some think that suicide bombing\other forms of violence against civilian targets are justified in order to defend Islam…Do you personally feel that this kind of violence is often\sometimes\rarely\ever justified?

The rows in the tables break down the answers by education levels for each country in the survey for which the suicide bombing question was asked.

I apologize for some scrappy formatting below but the descriptions of educational levels are very long for some countries which makes it difficult to fit some tables onto the slides.

Egypt	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No formal education	0.12	0.13	0.35	0.34	0.03	0.02
Incomplete elementary	0.13	0.15	0.29	0.4	0.02	0.02
Completed elementary	0.06	0.19	0.37	0.37	0	0
Complete intermediate	0.12	0.13	0.37	0.35	0.02	0.01
Complete secondary	0.08	0.18	0.26	0.47	0.01	0
Complete college/post-secondary	0.09	0.13	0.38	0.37	0.02	0.01
Completed university/Masters/Post Graduate/PhD	0.09	0.09	0.34	0.46	0	0.02

Indonesia	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No formal education	0	0	0	1	0	0
Incomplete grade school (completed 1-5 grades)	0.02	0.04	0.08	0.82	0.04	0
Complete grade school (completed 6 grades)	0.02	0.06	0.11	0.8	0.01	0
Incomplete junior high school (completed 1-2 secondary grades)	0	0.03	0.11	0.83	0	0.03
Complete junior high school (completed 3 secondary grades)	0	0.06	0.15	0.77	0.01	0
Incomplete high school (completed 1-2 high school grades)	0	0.02	0.13	0.82	0.02	0
Complete high school (completed 3 high school grades)	0.01	0.05	0.11	0.8	0.02	0
Some university (has not completed a degree	0.14	0	0.11	0.76	0	0
University education, with degree	0.05	0	0.06	0.89	0	0
Refused	0	0	0	1	0	0

Israel	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No formal education	0.09	0	0	0.91	0	0
Partial elementary school	0	0	0.2	0.8	0	0
Completed elementary school	0	0	0.13	0.87	0	0
Partial junior high school	0	0.16	0.24	0.42	0.08	0.11
Completed junior high school	0	0.06	0.37	0.41	0.08	0.08
Partial high school	0.02	0.02	0.22	0.7	0.02	0.02
Completed high school	0.03	0.11	0.21	0.64	0	0.01
Partial tertiary education	0.02	0.03	0.26	0.67	0	0.02
Complete tertiary—Professional (e.g., technicians, engineers,nurses, etc.)	0	0	0.25	0.71	0.04	0
Academic education (B.A. M.A. Ph.D.)	0.02	0.06	0.19	0.74	0	0
Refused	0	0	0	1	0	0

Jordan	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No formal education	0.07	0.08	0.38	0.37	0.08	0.02
Incomplete primary (completed less than 9 grades)	0.02	0.09	0.33	0.54	0.01	0.01
Complete primary (completed 9 grades)	0.04	0.09	0.28	0.57	0.02	0.01
Incomplete secondary (completed 10 or 11 grades)	0.07	0.12	0.25	0.53	0.01	0.01
Complete secondary (completed 12 grades)	0.03	0.04	0.34	0.57	0.01	0.03
Intermediate diploma (completed 2 or 3 grades in community college)	0.01	0.13	0.29	0.55	0.02	0
Bachelor and above	0.01	0.11	0.38	0.48	0.02	0.01

Lebanon	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Incomplete elementary or less (0- 7 years) (not enrolled/illiterate/preschool/readand write)	0.07	0.22	0.18	0.5	0	0.03
Complete elementary (8 years)	0.03	0.29	0.34	0.32	0	0.02
Incomplete intermediate (9-11 years)	0.1	0.16	0.31	0.43	0	0
Complete intermediate (12 years)	0.11	0.19	0.24	0.43	0.03	0
Incomplete secondary (13-14 years)	0.08	0.23	0.29	0.39	0.02	0
Complete secondary (15 years)	0.1	0.34	0.26	0.29	0.02	0
Some university without degree	0.06	0.24	0.19	0.46	0.04	0
University with degree	0.16	0.24	0.18	0.4	0.02	0

Malaysia	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No formal education	0	0.09	0.29	0.62	0	0
Primary school (bega	0.06	0.22	0.12	0.57	0.03	0
Lower secondary sch	0.03	0.27	0.11	0.55	0.03	0
Upper secondary sch	0.05	0.2	0.12	0.6	0.03	0
Vocational / technica	0.08	0.16	0	0.76	0	0
Trade and technical s	0	0	0	1	0	0
Post Secondary (beg	0.05	0.17	0.11	0.68	0	0
Tertiary (began or co	0.11	0.42	0.16	0.29	0.03	0
Post graduate (begar	0.28	0.16	0.25	0.31	0	0

Nigeria	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
None/No formal edu	0.01	0.01	0.08	0.81	0.08	0.01
Incomplete nursery s	0	1	0	0	0	0
Completed nursery s	0	0	1	0	0	0
Incomplete primary	0	0.13	0.06	0.78	0.03	0
Completed primary s	0	0.05	0.06	0.75	0.14	0
Incomplete JSS/Mod	0	0.12	0	0.88	0	0
Completed JSS/Mod	0	0	0	0.55	0.45	0
Incomplete SSS/SEC/	0	0.06	0.17	0.69	0.08	0
Completed SSS/SEC/	0.03	0.03	0.06	0.85	0.03	0
Incomplete OND/NC	0	0.13	0	0.82	0.05	0
Completed OND/NC	0.03	0.12	0.02	0.83	0	0
Incomplete universi	0	0.17	0	0.83	0	0
University graduate/	0.07	0.24	0.05	0.59	0.05	0
Post graduate	0	0	0	0.43	0.57	0
Other	0	0	0	1	0	0
Don't know	0	0	0.23	0.49	0	0.29
Refused	0	0	1	0	0	0

Pakistan	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No education at all	0.01	0.01	0.03	0.89	0.05	0
No formal education but can read/write simple Urdu	0.06	0	0.04	0.79	0.11	0
Incomplete primary education (completed less than 5 grades)	0	0.01	0	0.96	0.03	0
Complete primary education (completed 5 grades)	0	0.01	0.03	0.94	0.02	0
Incomplete middle school (completed 6 or 7 grades)	0	0.01	0.13	0.82	0	0.04
Complete middle school (completed 8 grades)	0	0	0.06	0.91	0.02	0.01
Incomplete matric (completed 9 grades)	0	0.1	0.04	0.84	0.01	0
Matriculation (completed 10 grades)	0.01	0.03	0.04	0.92	0	0
Intermediate (completed 12 grades)	0.02	0.04	0.05	0.85	0.05	0
Graduate (completed 14 years of studies)	0	0.04	0.05	0.81	0.1	0
Post-graduate (completed 16 years of studies)	0	0	0.02	0.97	0.01	0

Palestinian Territori	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No formal education	0.34	0.17	0.17	0.33	0	0
Incomplete element	0.33	0.17	0.13	0.21	0.12	0.04
Complete elementa	0.46	0.23	0	0.19	0.11	0
Complete preparato	0.3	0.25	0.1	0.18	0.14	0.03
Complete secondary	0.4	0.25	0.11	0.15	0.08	0.01
Diploma	0.35	0.28	0.12	0.2	0.04	0.02
BA	0.36	0.23	0.16	0.15	0.09	0.02
Master	0.5	0.18	0.18	0.07	0.07	0
PhD	0.22	0.58	0	0	0	0.19
Refused	0	0.5	0	0	0	0.5

Senegal	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know
No formal education (no schooling)	0.05	0.05	0.12	0.54	0.23
Some primary	0.15	0.06	0.13	0.48	0.18
Completed primary	0.18	0.12	0.14	0.4	0.16
Some technical secondary education	0.11	0.08	0.18	0.53	0.11
Completed technical secondary education (CAP, BEP)	0.24	0.16	0.12	0.32	0.16
Some general secondary education	0.05	0.07	0.16	0.47	0.25
Completed general secondary education	0.2	0.14	0.09	0.54	0.03
Some university without degree	0.17	0.17	0.17	0.5	0
University with degree	0.15	0.04	0.19	0.59	0.04
Don't know	0.5	0	0	0	0.5

Tunisia	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No formal education	0.02	0.04	0.05	0.82	0.08	0
Primary school	0.04	0.06	0.06	0.75	0.08	0
Secondary school: technical/vocational type	0.07	0.08	0.08	0.75	0.03	0
Secondary school: universitypreparatory type	0.04	0.09	0.05	0.78	0.02	0.01
Post-secondary school, with degree	0.07	0.04	0.05	0.79	0.03	0.02
University-level education, with degree	0.06	0.07	0.05	0.77	0.05	0.01

Turkey	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
No formal education	0	0.06	0.04	0.79	0.11	0
Incomplete primary school (completed less than 5 grades)	0	0.11	0.28	0.55	0.03	0.03
Complete primary school (completed 5 grades)	0.02	0.07	0.15	0.63	0.11	0.01
Complete primary education (completed 8 grades)	0.04	0.17	0.12	0.64	0.03	0
Complete junior high school or vocational school at the same level	0.01	0.18	0.17	0.47	0.04	0.14
Complete high school or vocational school at the same level	0.03	0.19	0.21	0.33	0.13	0.12
Higher education (completed 2 years of college or 4 years of university studies)	0.1	0.14	0.23	0.4	0.08	0.06
Master (completed 2 more years after university)	0	0	0	1	0	0
PhD (completed 4-6 more years after university)	0	0.1	0	0.9	0	0

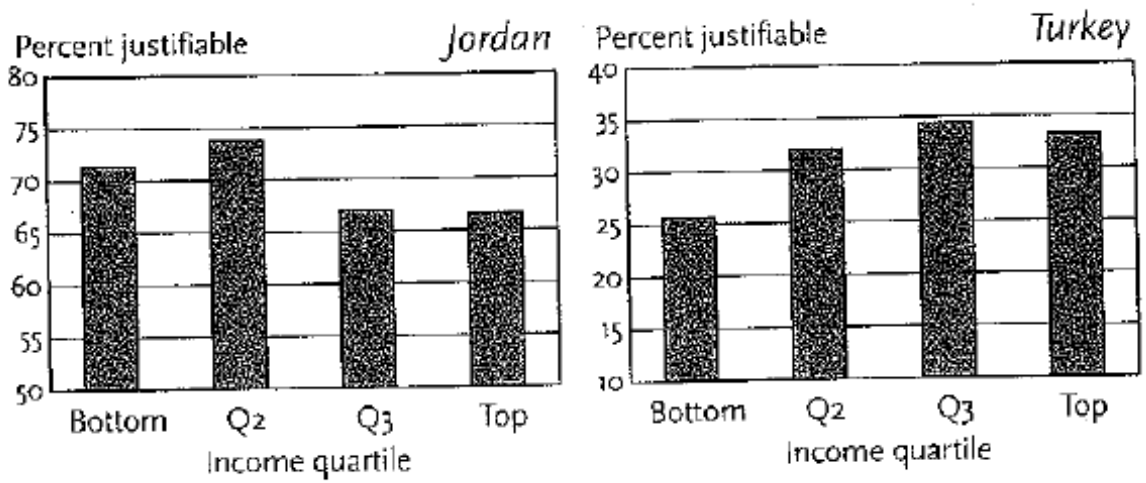
These tables generally seem to back up Krueger's claim that there does not seem to be much of a relationship between education and support for terrorism. (Note, though, that I have just started digesting these numbers myself and I may change my mind a bit in the future)

I suggest focusing your attention mostly on the "often justified" and "never justified" columns – you should see that these do not seem to move monotonically in a single direction as you move up the education ladder, especially if you eliminate the lowest and highest education levels which describe very few people.

In fact, you could make a case that higher education levels in Malaysia and Nigeria are associated with higher support for terrorism - but it is hard to find a country supporting the theory that poor education breeds terrorism.

The figures below, again from Krueger's book, break the answers down by income instead of education - in Jordan there may be a slight association between low income and support for terrorism but this is not the case in Turkey.

Figure 1.4 "What about suicide bombing carried out against Americans and other Westerners in Iraq? Do you personally believe that this is justifiable or not justifiable?" Results by income level. Based on Pew Global Attitudes Project (2004).



Again, I update the numbers based on the 2013 Pew survey.

Unfortunately, the income question is not great:

> "Now thinking about your personal economic situation, how would you describe it - is it very good, somewhat good, somewhat bad or very bad?"

The problem is that, for example, person A may have higher income than person B has but person A might describe his situation as "somewhat bad" while person B may describe hers as "somewhat good".

Hopefully, these differences in subjective interpretations of personal economic situations largely cancel out so that we still get meaningful, albeit random, signals about actual incomes off of the subjective perceptions question.

Egypt	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.14	0.17	0.31	0.38	0	0
Somewhat Good	0.07	0.14	0.32	0.45	0.01	0
Somewhat Bad	0.12	0.15	0.35	0.36	0.01	0.01
Very Bad	0.1	0.15	0.34	0.38	0.02	0.01
Don't know	0	0	0.33	0.67	0	0
Refused	0	0	0.33	0.67	0	0

Indonesia	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.03	0.11	0.02	0.84	0	0
Somewhat Good	0.02	0.03	0.14	0.79	0.01	0
Somewhat Bad	0	0.04	0.11	0.82	0.02	0
Very Bad	0.02	0.18	0.02	0.79	0	0
Don't know	0.38	0	0	0.62	0	0

Israel	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0	0.04	0.32	0.64	0	0
Somewhat Good	0.02	0.07	0.22	0.67	0.01	0
Somewhat Bad	0.03	0.06	0.2	0.69	0.01	0.03
Very Bad	0.01	0.03	0.17	0.71	0.03	0.04
Don't know	0	0	0.37	0.62	0	0
Refused	0	0	1	0	0	0

Jordan	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0	0.11	0.51	0.35	0.03	0
Somewhat Good	0.01	0.03	0.45	0.47	0.02	0.02
Somewhat Bad	0.02	0.11	0.24	0.6	0.02	0.01
Very Bad	0.06	0.08	0.31	0.53	0.02	0.01
Don't know	0	0.22	0.22	0.56	0	0
Refused	0	0.2	0.2	0.6	0	0

Lebanon	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.11	0.33	0.22	0.33	0	0
Somewhat Good	0.14	0.18	0.2	0.46	0.02	0
Somewhat Bad	0.08	0.23	0.24	0.43	0.02	0
Very Bad	0.07	0.28	0.3	0.33	0.01	0.02

Malaysia	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.03	0.15	0.06	0.71	0.06	0
Somewhat Good	0.07	0.23	0.14	0.54	0.02	0
Somewhat Bad	0	0.23	0.13	0.61	0.03	0
Very Bad	0	0	0	1	0	0
Refused	0	0	0	1	0	0

Nigeria	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.06	0.08	0.08	0.77	0	0
Somewhat Good	0.02	0.04	0.08	0.81	0.05	0
Somewhat Bad	0.01	0.08	0.08	0.76	0.06	0
Very Bad	0	0.08	0	0.72	0.17	0.03
Don't know	0	0	0	1	0	0
Refused	0	0	0	1	0	0

Pakistan	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.02	0.02	0.02	0.89	0.07	0
Somewhat Good	0.01	0.01	0.02	0.92	0.03	0
Somewhat Bad	0.01	0.03	0.05	0.88	0.03	0.01
Very Bad	0.01	0.03	0.05	0.89	0.03	0
Don't know	0	0.01	0.4	0.43	0.1	0.06
Refused	0	0.04	0.45	0.32	0	0.19

Palestinian Territories	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.38	0.27	0.1	0.16	0.07	0.02
Somewhat Good	0.33	0.24	0.14	0.2	0.08	0.01
Somewhat Bad	0.34	0.26	0.13	0.15	0.1	0.02
Very Bad	0.51	0.23	0.08	0.12	0.05	0.01
Don't know	0.31	0.28	0.09	0.14	0.18	0
Refused	0	0.45	0	0.55	0	0

Senegal	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.25	0.07	0.1	0.42	0.15	
Somewhat Good	0.11	0.09	0.15	0.47	0.17	
Somewhat Bad	0.06	0.05	0.16	0.5	0.23	
Very Bad	0.1	0.06	0.1	0.6	0.14	
Don't know	0	0	0	0.5	0.5	

Tunisia	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.08	0.11	0	0.81	0	0
Somewhat Good	0.06	0.06	0.06	0.78	0.05	0
Somewhat Bad	0.04	0.07	0.08	0.74	0.06	0
Very Bad	0.05	0.05	0.04	0.8	0.05	0.01
Don't know	0	0.44	0	0.56	0	0
Refused	0	0.6	0	0.4	0	0

Turkey	Often justified	Sometimes justified	Rarely justified	Never Justified	Don't know	Refused
Very Good	0.09	0.25	0.17	0.42	0.02	0.04
Somewhat Good	0.04	0.1	0.13	0.57	0.12	0.03
Somewhat Bad	0.01	0.19	0.12	0.48	0.09	0.11
Very Bad	0	0.08	0.29	0.59	0.03	0.01
Don't know	0.04	0	0	0.69	0.26	0
Refused	0	0.22	0	0	0.78	0

Once again I make the caveat that I just prepared these tables last week and have not fully digested them yet.

Still, I would say in general that the Palestinian Territories provides the only support in the new data for the anti-Krueger theory that poverty breeds support for terrorism – Jordan, Malaysia, Senegal and Turkey all seem to go in the opposite direction.

The other countries exhibit no clear relationship between answers to the economic question and support for terrorism so far as I can see.

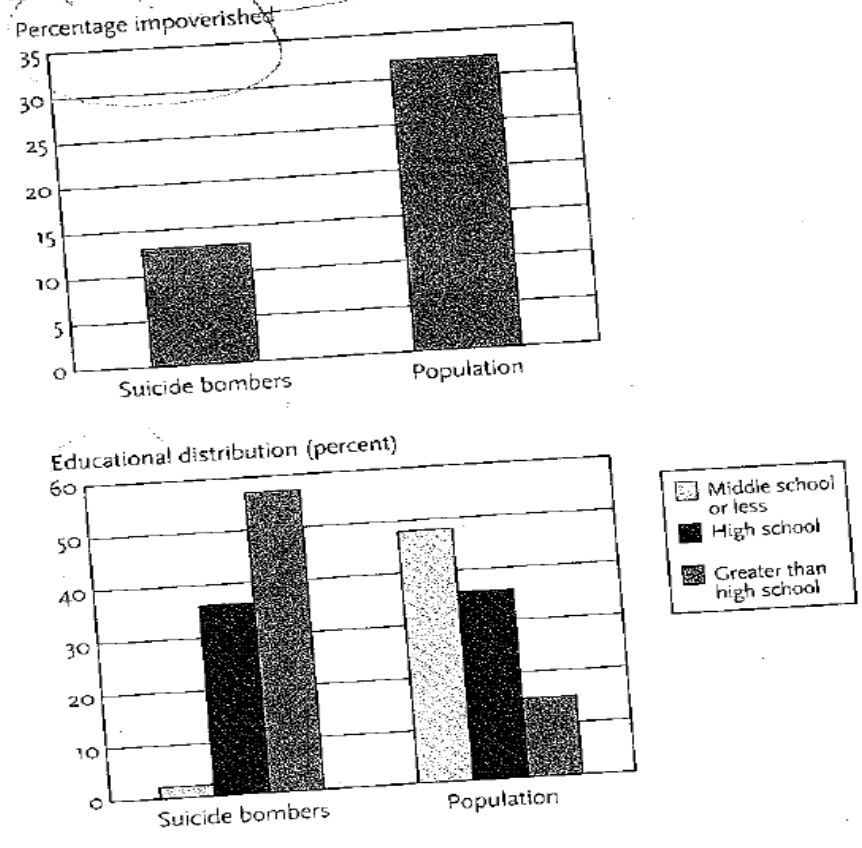
It is one thing to voice support on a survey for terrorism or attacks - it is another matter entirely to strap on explosives and blow oneself up.

In other words, suicide bombers have to be really committed individuals.

It happens to be the case that we actually know a lot about Palestinian suicide bombers because their names are well publicized and their families are honoured by part of the Palestinian community.

It is clear from the figures below that suicide bombers are generally less impoverished and better educated on average than the population from which they are drawn – although the low education category of “read and write” (but without finishing primary school) is an exception

Figure 1.6 Comparison of Palestinian suicide bombers to Palestinian population, West Bank and Gaza Strip. Sample size is 48 for suicide bombers and 18,803 for population. Suicide bombers were from Hamas and the Palestinian Islamic Jihad. From Berrebi (2004).



Similar observations seem to apply to deceased members of Hezbollah.

Table 1.6 Comparison of Deceased Hezbollah Militants to Lebanese Population, Ages 15 to 38

	Deceased Hezbollah militants (%)	Lebanese population (%)
Impoverished background	28	33
Education level		
Illiterate	0	6
Read and write	22	7
Primary school	17	23
Preparatory school	14	26
Secondary school	33	23
University	13	14
Postgraduate studies	1	1
Age		
15–17	2	15
18–20	41	14
21–25	42	23
26–30	10	20
31–38	5	28
Region of residence		
Beirut	42	13
Mount Lebanon	0	36
Bekaa	26	13
Nabatieh	2	6
South	30	10
North	0	22

Note: The *p*-values for tests of the hypothesis that the percentages are equal for the Hezbollah militants and Lebanese population are .489 for impoverished background, .000 for education level, .000 for age, and .000 for region.

All the work described so far is conducted at the individual level.

Next week we will turn now to the country level.