

EXPLAINING TERRORISM THREAT LEVEL ACROSS WESTERN COUNTRIES ON THE DAY OF THE BRUSSELS TERRORIST ATTACKS

by

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Acknowledgements

I acknowledge support from the University of Oxford, from Nuffield College, Oxford, and from the Economic and Social Research Council (UK).

Abstract

The Foreign and Commonwealth Office of the British government reports a terrorism threat level for every country. This paper analyses variation in terrorism threat level across Western countries on 22nd March 2016, the day of the airport and metro station bombings in Brussels. It finds that percentage of Muslims in the population and military intervention in the Middle East are independently associated with terrorism threat level. In other words, Western countries which have a higher percentage of Muslims, and which have intervened militarily in the Middle East, tend to exhibit higher terrorism threat levels in March 2016. Despite a small sample size, these results are fairly robust across different specifications.

Key words

Terrorism; Western countries; percentage Muslim; military intervention; Brussels

1. Introduction

There have been a number of highly destructive attacks by Islamist terrorists against Western countries over the last two decades, beginning with the September the 11th attacks in the United States. Other examples include the 2004 train bombings in Madrid, the 2005 bus and underground bombings in London, the 2009 Ft. Hood shootings in Texas, the 2015 *Charlie Hebdo* shootings in Paris, and the 2016 airport and metro station bombings in Brussels (see The Economist, 2015). As a consequence, Islamist terrorism has become an issue of central political concern for both citizens and policymakers in the West. Such concern has been exacerbated in recent years by the rise of the so-called Islamic State (also known as ISIS, the Islamic State of Iraq and Syria), an Islamist organisation that as of April 2016 controls substantial territory across Iraq and Syria, and which has already claimed responsibility for two major terrorist attacks against the West (the November 2015 Paris attacks, and the 2016 airport and metro station bombings in Brussels), as well as numerous attacks against Middle Eastern countries (The Economist, 2016).

Many possible factors could influence risk of terrorism across countries. The present study focuses on two: percentage of Muslims in the population, and military intervention in the Middle East. Regarding the former, it seems plausible that the higher the percentage of Muslims in the population, the greater the share of citizens susceptible to Islamist radicalisation, and therefore the larger the fraction of the population that the security services should need to monitor. For example, ISIS has been actively attempting to radicalise young Muslims living in Western countries by disseminating Jihadist propaganda through social media (Gates & Podder, 2015; and see Benmelech & Klor, 2016). Regarding the latter, it stands to reason that Islamist terrorist organisations such as Al Qaeda and ISIS might selectively target countries that have intervened militarily in Muslim countries—particularly those in the Middle East, where the most sacred Islamic holy sites are located. Indeed, a number of Islamist martyr videos refer explicitly to Western military aggression in the Middle East as the justification for Jihad (Best, 2010; Pape & Feldman, 2010).

It should be noted that the first hypothesis, unlike the second, presumes that Islamist terrorists can be motivated by causes other than indignation over Western military aggression; for example, opposition to Western values, or simply a general desire to foment terror (see Berger, 2014). However, since different terrorists may obviously have different motivations, the two hypotheses are not mutually exclusive. The fact that many Islamist terrorist attacks have been perpetrated in Muslim countries that have not themselves taken

part in Western military operations (such as Indonesia, Bangladesh and Nigeria) constitutes rather strong evidence that at least some Islamist terrorists are motivated by grievances other than Western military intervention.

2. Data and measures

2.1 Measure of terrorism threat level

Western countries were defined as: all the OECD countries located in Europe, plus the United States, Canada, Australia, and New Zealand (all of which are also in the OECD). The sample thus comprises 28 countries. In Section 3.2, the analysis is repeated using two slightly different samples: first, all 34 OECD countries; and second, only the 24 OECD countries located in Europe.

The Foreign and Commonwealth Office of the British government (FCO) reports a terrorism threat level for every country as part of its travel advice (FCO, 2016). There are four levels of terrorism threat: high, general, underlying, and low. Following the Brussels terrorist attacks (8:11 am London time), an article was published on the *Telegraph* newspaper's travel blog (1:30 pm London time) reporting the contemporaneous FCO terrorism threat level in every country (Smith, 2016). For example, Belgium (unsurprisingly) had a high terrorism threat level, Austria had a general terrorism threat level, Portugal had an underlying terrorism threat level, and Poland had a low terrorism threat level. The data reported in the *Telegraph* article were utilized for analysis. Terrorism threat level is treated as an interval scale, running from 1 (low) to 4 (high). The mean terrorism threat level in the sample is 2.4, while the median is 2.5.

One major caveat concerning this measure is that it was not possible to discern how the FCO actually puts it together. In particular, it was not possible to rule out that the measure is partly based on information such as percentage of Muslims in the population or military intervention in the Middle East. If it is partly based on such information, then the analyses in Section 3 are somewhat tautological. In an attempt to discern how the measure is in fact constructed, two emails were sent to the FCO (see Appendix A). However, in both cases, the reply received was wholly uninformative: each one simply provided a link to the FCO's travel advice page, namely FCO (2016). The analyses in Section 3 are predicated on the assumption that terrorism threat level is based on information such as secret intelligence reports, rather than demographic or foreign policy statistics.

2.2 Measures of percentage Muslim and military intervention in the Middle East

Percentage of Muslims in the population in 2015 was constructed using figures compiled by Pew Research (2011). In particular, since Pew reports an estimate of the percentage Muslim in 2010 and a projection of the percentage Muslim for 2030, percentage Muslim in 2015 was computed via linear interpolation, i.e., using the formula:

$$\text{Percentage Muslim in 2015} = \text{Percentage Muslim in 2010} + 0.25 * (\text{Percentage Muslim in 2030} - \text{Percentage Muslim in 2010})$$

This variable ranges from 0 (Czech Republic) to 8.2 (France), with a mean of 3.1, and a median of 2.6.

Three measures of military intervention in the Middle East were utilised: first, whether a country sustained any military deaths in the Iraq (Operation Iraqi Freedom) or Afghanistan (Operation Enduring Freedom) wars, as reported by iCasualties.org (2016a,b); second, the logarithm of 1 + the number of military deaths sustained in Iraq or Afghanistan, as reported by iCasualties.org (2016a,b); and third, whether a country is part of the anti-ISIS military coalition, as reported by Wikipedia (2016). 21 countries (75%) in the sample sustained at least one military death in Iraq or Afghanistan; the mean number of military deaths sustained in Iraq or Afghanistan is 294, while the median is 11; 7 countries (25%) are part of the anti-ISIS military coalition.

2.3 Control variables

Three control variables were utilised: first, GDP per capita at PPP for 2014, taken from OECD (2016a); harmonised unemployment rate for 2014, taken from OECD (2016b); and post-tax post-transfer Gini coefficient (a measure of income inequality), taken from OECD (2016c). Because there was no recent year in which the Gini coefficient was available for all countries in the sample, the maximum value observed between 2009 and 2011 was utilised. In order to reduce skewness, the logarithmic transformation was applied to GDP per capita.

GDP per capita was chosen to obviate possible confounding due to a tendency for terrorists to selectively target richer countries. Unemployment rate was chosen to obviate

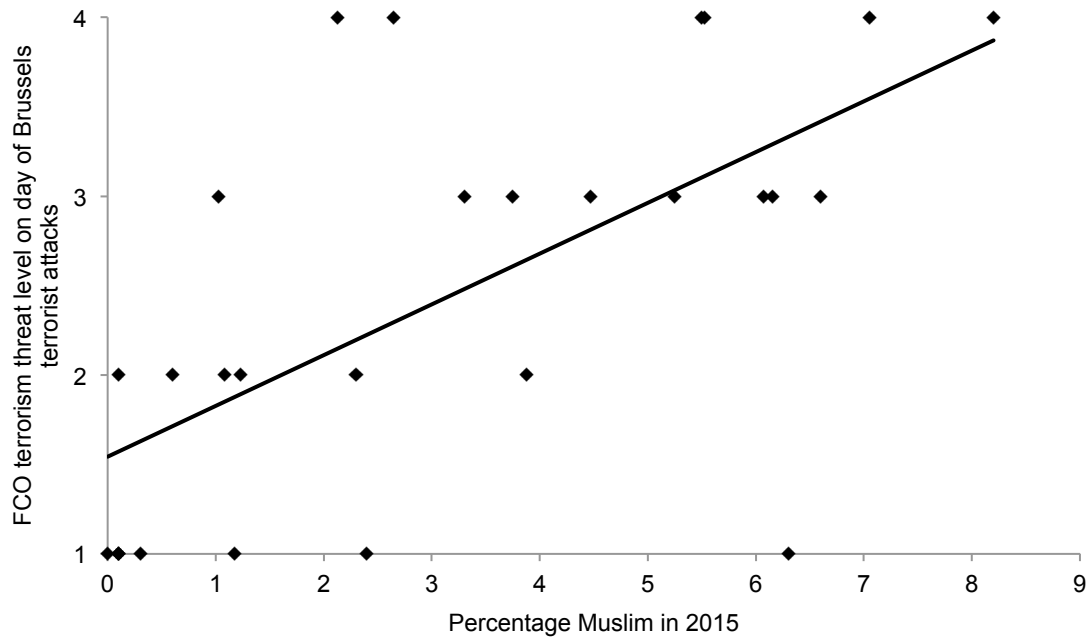
possible confounding due to a tendency for terrorism to emerge out of inactivity, purposelessness and social exclusion. And Gini coefficient was chosen to obviate possible confounding due to a tendency for terrorism to emerge out of indignation or resentment toward a wealthy elite.

3. Results

3.1 Raw estimates

The correlation between terrorism threat level and percentage Muslim is $r = .64$ ($p < 0.001$; 95% CI = [.33, .95]), indicating a strong association (Cohen, 1988). Figure 1 displays a scatterplot of the relationship. When percentage Muslim squared was included in a model of terrorism threat level alongside percentage Muslim it was not significant ($p > 0.1$), indicating minimal non-linearity. The standardised difference in terrorism threat level by any military deaths in Iraq or Afghanistan is $d = 0.67$ ($p > 0.05$; 95% CI = [-0.20, 1.54]). The correlation between terrorism threat level and log of 1 + military deaths is $r = .40$ ($p = 0.037$; 95% CI = [.03, .77]), indicating a relatively strong association (Cohen, 1988). When log of 1 + military deaths squared was included in a model of terrorism threat level alongside log of 1 + military deaths it was not significant ($p > 0.1$), indicating minimal non-linearity. The standardised difference in terrorism threat level by part of anti-ISIS military coalition is $d = 1.34$ ($p < 0.001$; 95% CI = [0.60, 2.08]). By conventional standards, this difference would be considered large (Cohen, 1988).

Figure 1. Scatterplot of FCO terrorism threat level on day of Brussels terrorist attacks against percentage Muslim in 2015 among Western countries ($n = 28$).



3.2 Preferred specification

Table 1 displays estimates from multiple linear regression models of terrorism threat level. Percentage Muslim has a positive and significant effect in all models. The estimate is largest when conditioning on any military deaths in Iraq or Afghanistan, and smallest when conditioning on part of anti-ISIS military coalition. Controlling for log GDP per capita, unemployment rate and Gini coefficient reduces the estimates by 5-10% of a standard deviation. All three measures of military intervention in the Middle East have positive and significant effects in both models. Controlling for log GDP per capita, unemployment rate and Gini coefficient increases the estimate of any military deaths in Iraq or Afghanistan by 30% of a standard deviation, increases the estimate of log 1 + military deaths by 6% of a standard deviation, and leaves the estimate of part of anti-ISIS military coalition essentially unchanged.

Table 1. Effects of Muslim percentage and military intervention in the Middle East on terrorism threat level among Western countries.

	FCO terrorism threat level on the day of the Brussels terrorist attacks					
	(z-score)					
Muslim percentage in 2015	0.67***	0.65***	0.48**	0.56***	0.55**	0.42**
Any military deaths in Iraq or Afghanistan	0.79*			1.00**		
log(1 + military deaths in Iraq or Afghanistan)		0.41**			0.47**	
Part of anti-ISIS military coalition			0.89*			0.90**
Controls				yes	yes	yes
<i>n</i>	28	28	28	28	28	28
<i>R</i> ²	0.53	0.58	0.54	0.74	0.72	0.70

Notes: Entries in the first four rows are coefficients from OLS regression models. Muslim percentage in 2015 and log(1 + military deaths in Iraq or Afghanistan) are z-scored. Controls: log GDP per capita at PPP, unemployment rate, Gini coefficient. Significance levels: *5%, **1%, ***0.1%.

3.2 Robustness checks

Table 2 repeats the analysis using all OECD countries. The estimates are highly similar to those displayed in Table 1. Percentage Muslim and all three measures of military intervention in the Middle East have positive and significant effects in all the models. Note that percentage Muslim was Winsorized at its second largest value (namely 19%, for Israel), because its largest value (namely 99%, for Turkey) skewed the variable so substantially. Indeed, that single value accounted for 95% of the variance. The results were highly similar both when utilising log of 1 + percentage Muslim, and when simply omitting Turkey from the sample.

Table 2. Effects of Muslim percentage and military intervention in the Middle East on terrorism threat level among all OECD countries.

	FCO terrorism threat level on the day of the Brussels terrorist attacks (z-score)					
Percentage Muslim in 2015 (z-score)	0.59 ^{***}	0.63 ^{***}	0.49 ^{***}	0.51 ^{***}	0.60 ^{***}	0.46 ^{***}
Any military deaths in Iraq or Afghanistan	0.59 [*]			0.80 ^{**}		
log(1 + military deaths in Iraq or Afghanistan)		0.40 ^{**}			0.36 ^{**}	
Part of anti-ISIS military coalition			0.96 ^{**}			0.91 ^{**}
Controls				yes	yes	yes
<i>n</i>	34	34	34	34	34	34
<i>R</i> ²	0.48	0.57	0.56	0.73	0.73	0.73

Notes: Entries in the first four rows are coefficients from OLS regression models. Muslim percentage in 2015 and log(1 + military deaths in Iraq or Afghanistan) are z-scored. Controls: log GDP per capita, unemployment rate, Gini coefficient. Significance levels: *5%, **1%, ***0.1%.

Table 3 repeats the analysis using only the OECD countries located in Europe. The estimates for percentage Muslim and any military deaths in Iraq or Afghanistan are highly similar to those displayed in Table 1, while the estimates for log 1 + military deaths are quite similar to those displayed in Table 1. Estimates for part of anti-ISIS military coalition are somewhat smaller and non-significant. Obviously however, power to detect effects is attenuated in models with only 24 cases.

Table 3. Effects of Muslim percentage and military intervention in the Middle East on terrorism threat level among OECD countries located in Europe.

	FCO terrorism threat level on the day of the Brussels terrorist attacks (z-score)					
Muslim percentage in 2015 (z-score)	0.73 ^{***}	0.68 ^{***}	0.58 ^{**}	0.62 ^{***}	0.58 ^{***}	0.47 [*]
Any military deaths in Iraq or Afghanistan	0.70 [*]			0.93 ^{**}		
log(1 + military deaths in Iraq or Afghanistan)		0.32 [*]			0.43 ^{**}	
Part of anti-ISIS military coalition			0.56			0.78
Controls				yes	yes	yes
<i>n</i>	24	24	24	24	24	24
<i>R</i> ²	0.62	0.62	0.55	0.79	0.77	0.70

Notes: Entries in the first four rows are coefficients from OLS regression models. Muslim percentage in 2015 and log(1 + military deaths in Iraq or Afghanistan) are z-scored. Controls: log GDP per capita, unemployment rate, Gini coefficient. Significance levels: *5%, **1%, ***0.1%.

4. Conclusion

The Foreign and Commonwealth Office of the British government (FCO) reports a terrorism threat level for every country. This study analysed variation in terrorism threat level across Western countries on 22nd March 2016, the day of the Brussels terrorist attacks. It found that percentage of Muslims in the population and military intervention in the Middle East were independently associated with terrorism threat level. Despite a small sample size, these results were fairly robust across different specifications.

There are of course several important limitations to this study. First and most importantly, the analyses may be tautological insofar as the terrorism threat level reported by the FCO might itself be based on information such as percentage of Muslims in the population or military intervention in the Middle East. Second, terrorism threat level was measured at a single point in time, meaning that it may not be representative of the medium-run risk of terrorism in different Western countries. Indeed before 2000, Islamist terrorist attacks accounted for only trivial proportion of the deaths from terrorism in Europe (Datagraver, 2016). Third, percentage Muslim in 2015 was estimated via linear interpolation from percentage Muslim in 2010 and percentage Muslim projected for 2030, as reported by Pew Research. If patterns of fertility and migration have changed since Pew made its projections, then interpolated values of percentage Muslim may systematically differ from true values. Fourth, the analysis was correlational in nature, rather than causal. It is possible that either percentage Muslim or military intervention in the Middle East was confounded by some extraneous variable that affects the risk of terrorism.

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Appendix A

First email sent to the FCO (30th March, 2016):

To whom it may concern,

Please could you provide me with a few details as to how you measure the terror threat level in each country. In particular, what sort of variables and information

is this based on?

Many thanks

Second email sent to the FCO (11th April, 2016):

To whom it may concern,

On your travel advice page, it is stated that:

"We constantly review the threat of international terrorism to advise British nationals travelling and living abroad.... All of our country travel advice pages have a terrorism section. We use four levels of terrorist threat"

I am interested to know what sort of information a particular country's terrorism threat level is based on. For example, is it just based on secret intelligence reports from that country, or does it take into account other information as well?

Many thanks