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Unpacking the Connection Between Terror and Islam

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Unpacking the Connection Between Terror and Islam

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Are countries with large Muslim populations more likely to experience or produce transnational terrorist attacks than countries with fewer Muslims? And if there is a difference, is it attributable to the influence of Islam, or to the economic, social, and political conditions that are common in predominantly Muslim countries? Analyzing all transnational terrorist attacks between 1973 and 2002, this study uses decomposition analysis to identify the relative contributions of the observable and behavioral characteristics of a state on the amount of terrorism that it experiences and produces. The results suggest that Muslim states do not systematically produce more terrorism than non-Muslim states once state repression, human rights abuses, and discrimination against minorities are taken into account.

When polled in December 2001, 61 percent of Americans strongly or somewhat agreed that their country needed to increase efforts to support democracy and economic growth in Muslim countries.¹ In this same survey, respondents identified religious extremism as the most important cause of international terrorism. Conventional wisdom, and even counterterrorism policy, seem to make certain assumptions about the causes of terrorism. First, that political and economic problems cause terrorism and second, that these problems are somehow more acute in Muslim countries. Both of these assumptions suggest that increasing democracy or economic prosperity in Muslim states is an effective way to combat terrorism. This approach implies that largely Muslim countries will respond to increased political participation and wealth in the same manner as non-Muslim countries.

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Some have suggested, however, that concepts like democracy do not mean the same thing to predominantly Muslim societies as they do to Westerners.²

The idea that Muslim countries may be associated with more terrorism is not limited to policy discussions or public opinion. There is a substantial body of scholarly literature that either explicitly or implicitly points to Islam as a contributing factor in levels of terrorism. We still know very little, though, about how Muslim countries may or may not differ systematically from other countries in their experiences with transnational terrorism. Our analysis seeks to answer two broad questions. First, are any differences in transnational terrorist attacks between Muslim and non-Muslim states attributable to commonly accepted correlates of terrorism, such as political institutions and macroeconomic conditions?³ Second, how much of the difference between the two types of states is influenced by these political and economic characteristics, and how much is attributable to general heterogeneity between Muslim and non-Muslim states?

In an effort to answer these questions, our analysis departs from previous research in two ways: First, we utilize an econometric technique known as decomposition analysis which allows us to identify the relative contributions of a state's observable characteristics (i.e., observable values of the variables in our model) and behavioral characteristics (i.e., coefficients of the variables in our models) to any difference in transnational terrorism across Muslim and non-Muslim countries. In other words, this method gives us an opportunity to break down any apparent differences between Muslim and non-Muslim states into (1) macro-level characteristics of states such as regime type, economic inequality or government policy and (2) the extent to which differences in religious demographics alter the influence of such variables. Second, we examine not only how many terrorist attacks a state *experiences*, but also how many it *produces* (i.e., how many transnational attacks around the world are perpetrated by citizens of that state). In doing so, we move beyond most previous empirical studies of transnational terrorism, which tend to focus only on the *target* of terrorist attacks, and rarely examine the *source* of those attacks.⁴

The results of our analysis suggest that Muslim countries are no more likely to experience transnational terrorist attacks than non-Muslim countries. We find some preliminary evidence that Muslim countries *produce* more transnational terrorist attacks than non-Muslim countries (more perpetrators of attacks come from Muslim countries), and this difference is not driven by differences in economic conditions, political institutions, or other structural factors. However, the difference between the two samples is not statistically significant once government policy is taken into account. In other words, even though the presence of a majority or plurality Muslim population initially seems to have a positive influence on the amount of terrorism a country exports, this influence becomes insignificant once factors like state repression and minority discrimination are taken into account. Our study therefore joins a burgeoning literature on the primacy of state actions in driving terrorism,⁵ and casts substantial doubt on the notion that Islam *per se* is a key determinant of terrorism.

After reviewing the scholarly literature on Islam and terrorism and outlining the competing hypotheses, we present an overview of the central methodology of this study, the decomposition model. We then explain the data and research design of our analysis. Following the description of the data and design, we present the results from regression models as well as the decomposition analysis. Finally, we conclude with a discussion on the implications of our results and potential areas for future research.

The Islam–Terrorism Connection in Theory

The possible causes of terrorism received increased attention from academics following the 11 September 2001 (9/11) attacks in the United States and subsequent terrorist attacks

in Europe and Asia. As a result of this increased focus on terrorism research, multiple factors influencing the number of terrorist attacks have been identified, ranging from a state's regime type to its level of poverty. Yet many of these studies have also explicitly or implicitly controlled for the presence of a majority Muslim population. A string of recent research has emphasized the importance of religion, and religious differences, in fueling terrorism.⁶ Specifically, religious oppression of minorities and religious differences between sources and targets of terrorism have been identified as aggravating factors that may lead to terrorism.

Why might scholars expect Muslim countries to exhibit different patterns of terrorism than non-Muslim countries? Some scholars argue that idiosyncratic interpretations of religious texts may lead to higher levels of terrorism. The temporal period under analysis in most of the aforementioned studies coincides with what many scholars have argued is a rise in "fundamentalist terrorism" in the last decades of the twentieth century.⁷ They argue that a resurgence of general religious fundamentalism, including (but not exclusive to) the Muslim world, has been the motivation for much of the terrorism of the last three decades.⁸ Juergensmeyer has stressed that religion, and especially its more strict interpretations, feature an "absolutism" that makes terrorism both more likely and more justifiable.⁹ Hoffman argues that it is this absolutism and the belief in divine sanctioning of terrorist activity that ultimately makes the perpetrators of religious terrorism "unconstrained by the political, moral, or practical constraints that seem to affect other terrorists."¹⁰ Terrorism may not only be justified through strict religious interpretations, but it also may be viewed as necessary in accomplishing the group's goals. In this sense, religion and fundamentalist religious movements, in particular, can be used as "legitimizing force[s]" where none may have previously existed.¹¹

Furthermore, the use of terrorism by religious organizations can be viewed as a mutually reinforcing process.¹² Successful terrorist campaigns driven by religious motivations can move religious issues to the forefront of public discourse, and can even make individual religious organizations and sects more powerful. This theoretical argument, that religion can empower terrorist campaigns and vice versa, receives a considerable amount of support in a series of articles that apply economic models to the phenomenon of religious.¹³ These authors conclude that religious terrorism organizations have several advantages over non-religious organizations in terms of recruitment and securing long-term commitments from members. Religious groups are better able to provide club goods and to demand economically efficient sacrifices from their members. These recruitment and commitment-inducing tools, in turn, contribute to tactical superiority in executing terrorist attacks, among other advantages.¹⁴

To summarize, a large portion of the literature on terrorism agrees that the presence of religious motivations not only makes terrorism more likely, but more effective, as well. While this body of literature largely refers to patterns of terrorism during the rise of religious fundamentalism in the late twentieth and early twenty-first centuries, Rapoport points out that even in earlier time periods, when terrorism was more typically utilized by groups with nationalist and ideological motivations, there was often a heavy "overlap" of religious identity.¹⁵ Sedgwick notes that while Al Qaeda's immediate objectives are political in nature (with regard to U.S. foreign policy) their ultimate aims are religiously oriented.¹⁶

But if religion in general is thought to affect levels of terrorism, why would we expect to see separate patterns for Muslim countries compared to non-Muslim countries? The connection between religion and terrorism identified in the previous studies does not necessarily indicate that Islamic groups should be any more likely to use terrorism as a tactic than other groups. Other scholars, however, have argued that there is indeed something unique about Islamic fundamentalist movements that makes terrorism more likely.¹⁷ Once

again, the temporal period with which most contemporary studies of terrorism are concerned makes the identification of Islam as a contributing factor to terrorism almost inevitable. Barros and Proença argue that the Iranian revolution of 1979 and the Soviet invasion of Afghanistan transformed terrorism from a largely secular phenomenon to one that has been primarily driven by Islamic motivations.¹⁸ Rapoport has identified terrorism since the wane of Marxism, nationalism, and other secular ideologies as the “fourth wave” of terrorism.¹⁹ This current wave of terrorism, he claims, is driven primarily by religious motivations, and by Islamic motivations, in particular. Hoffman points out that while only a minority of terrorist attacks during the 1980s were perpetrated by Islamic terrorist organizations, these attacks resulted in a disproportionate amount of casualties.²⁰ Again, this may simply be a result of religious groups in general being more effective at terrorist attacks, but the fact remains that many of the religious terrorist groups in operation since the 1980s are Muslim in denomination.

Scholars have also linked terrorism directly to Islam by way of historical precedent. Many consider the *Ismailis-Nizari* (“Assassins”) of the twelfth and thirteenth centuries to be the earliest examples of our conventional idea of a terrorist organization. The Assassins developed entirely within the Shi’ite tradition of Islam, and were organized primarily to fight the invading Christian Crusaders in the Middle East.²¹ Contemporary Islamic terrorism (especially suicide terrorism) is seen by some, then, as the latest in a long tradition of Shi’ite glorification of death and martyrdom.²² Present-day fundamentalist Muslim religious leaders frequently invoke this historical precedent (in addition to scriptural precedent) when morally justifying the use of terrorist tactics.²³ And other scholars point out that while Islam has no historical monopoly on violence, it is the only major religion with a concept like *jihad* (or at least, the only one which makes such a concept central to the religion).²⁴

If Islam directly influences the probability of terrorism, as these studies suggest, then countries with more adherents to Islam might experience and/or produce more terrorism than countries with fewer followers of Islam.

Statistical Attempts to Evaluate the Islam–Terrorism Connection

While there has been no systematic empirical analysis of the connection between Islam and terrorism to our knowledge, several recent studies have found statistical evidence that Muslim countries at least *experience* more terrorist attacks than non-Muslim countries, *ceteris paribus*. For example, Wade and Reiter, in a study on the determinants of suicide terrorism, control for countries with majority Muslim populations, arguing that an important body of literature has characterized suicide terror as a “primarily Muslim phenomenon.”²⁵ They find that Muslim countries are significantly more likely to experience suicide terrorism than non-Muslim countries, and the effect is substantively large. Likewise, Piazza controls for Muslim majorities in his analysis of the effect of democracy and economic liberalization on levels of terrorism.²⁶ Like Wade and Reiter, he finds that whether or not a country is primarily Muslim has a significant effect on the number of overall terrorist attacks that the country can expect.

But Piazza argues that controlling for the presence of a majority Muslim population may be addressing another issue besides the hypothesized link between Islam and terrorism.²⁷ He notes that Muslim countries typically lag behind other countries in terms of levels of democratization, economic liberalization, and other variables commonly believed to have an effect on levels of terrorism. Controlling for Muslim countries, then, may also be a way of controlling for these other factors via a proxy measure. And controlling for the Middle East as a region may suffer from the same issues. Li finds that the Middle East as a

region is highly susceptible to terrorist attacks compared to other regions, while Enders and Sandler find that the Middle East and Asia are the regions most associated with terrorist attacks since 9/11.²⁸ They imply that this result is directly correlated with the rise of Islamic fundamentalism, as those two regions have the highest proportion of Muslim countries in the world. But again, if Middle East countries and Muslim countries are also likely to score lower on political and economic measures than non-Muslim countries, then the influence of religion may be spurious.

More recently, scholars have argued that the *policies* of governments directed toward their citizens, especially dissidents, matters just as much, if not more, than structural characteristics like domestic political institutions and economic performance.²⁹ In particular, studies have demonstrated that state violations of physical integrity rights and discrimination against minorities can have a significant impact on the number of terrorist attacks that a state experiences.³⁰ And insofar as the presence of large amounts of oil reduces the need for some leaders to be responsive to their constituents and increases the likelihood of civil and human rights violations, oil production may be a crucial influencer of terrorist activity.³¹ Of course, many of the world's major oil-producing countries also happen to be predominantly Muslim. Pape has argued that terrorism is not caused by fundamentalism or any similar transcendental attachment, but is rather a strategic choice made by groups with specific grievances.³² Ross also hypothesizes that grievances are the most important factor driving the level of terrorism.³³ But if governments in Muslim countries are more likely to generate grievances (political grievances, economic grievances, etc.) than other, non-Muslim countries, we would still find that Muslim countries experience a disproportionate amount of terrorist attacks in the system.

If differences in the number of terrorist attacks that states produce and/or experience are actually being driven by differences in structural characteristics of states or the policies of their governments, and those differences are correlated to some extent with the presence of a majority Muslim population, then the connection between Islam and terrorism may be spurious.

There are two important limitations to previous studies that have prevented us from more fully understanding the connection between Islam and terrorism. First, most of these studies focus on the *location* of terrorist attacks. While it seems logical to expect that Muslim countries might experience more attacks than non-Muslim countries, the more intuitive conclusion (according to some of the above theories) is that Muslim countries should *produce* more terrorist attacks than non-Muslim countries. In other words, the *perpetrators* of terrorist attacks should more often come from Muslim countries. Second, most attempts to understand the connection have only been through the use of a majority/plurality Muslim control variable. This approach, as noted by Piazza, may not actually be addressing the question of whether or not the Islamic religion influences terrorism.³⁴ Instead, scholars may be inadvertently controlling for observable factors (e.g., economic or political factors) that differ between Muslim and non-Muslim countries. What the debate needs is a research design through which the effects of these observable factors can be separated from any "behavioral" differences of Muslim countries. In the next section, we describe a statistical technique that allows us to make such a distinction.

Decomposition Analysis

The foundational question of this analysis is whether there are unobservable differences between Muslim and non-Muslim countries that influence the number of terrorist attacks they experience or produce. Or are such differences attributable to measurable political and economic characteristics? Although the specific question asked here is unique,

this type of question, which deals with differences between observable and unobservable characteristics, is not unique. Early in the field of economics, the question of wage discrimination based on gender or race commanded large amounts of scholarly attention.³⁵ This line of research sought not only to explain whether or not differences existed between the wages paid to women as opposed to men or Blacks as opposed to Whites, but also to explain how characteristics of these groups might account for differences in earnings. For example, do Whites earn more than Blacks because they have more education, *ceteris paribus*, or because the effect of education on wages is higher for Whites than it is for Blacks? Decomposition analysis allows us to separate out these differences.³⁶ We apply this technique to address the question of how Muslim countries might differ from non-Muslim countries.³⁷ Before doing so, we give a brief description of how this technique works.

The quickest way to estimate whether or not there is a different impact on the number of terrorist attacks between Muslim and non-Muslim countries is to include a dummy variable in the traditional linear regression equation as follows

$$Y = X_j \beta_j + X_M \beta_M + \varepsilon \quad (1)$$

where X_j is a vector containing the predictors of terrorist events and X_M is a dummy variable that takes on the value of “1” for Muslim countries, and “0” otherwise. In order to test whether or not a plurality or majority Muslim population has an appreciable effect on the number of terrorist incidents in a country (or produced by that country), we would only need to conduct a hypothesis test for $\beta_M \neq 0$.³⁸ If this test is significant, it would tell us that Muslim countries are home to more terrorist attacks than non-Muslim countries. However, even though commonly used by scholars (as described above), this method conveys relatively little information regarding the *sources* of the differences between Muslim and non-Muslim countries, leaving us with scarcely more information than when we started.

A second technique would be to estimate two separate equations for Muslim and non-Muslim countries, and then simply find the difference between the mean outcomes of these two equations, $\bar{Y}^M - \bar{Y}^N$, where the M superscript represents the results produced by analyzing the model only with respect to Muslim countries and the N superscript represents the same process for non-Muslim countries.³⁹ We could then call that difference, if significant, the average amount of terror attributable to Muslim nations as opposed to non-Muslim nations.⁴⁰ As Blinder suggests, the analysis of why Muslim nations might differ from non-Muslim nations can be taken much further than this.⁴¹

The amount of difference actually explained (in terms of the variables that we have included, setting aside the intercepts) by our equation would be $\sum_j \beta_j^M \bar{X}_j^M - \sum_j \beta_j^N \bar{X}_j^N$. Notice that the difference is a function of both the coefficients and the average characteristics of the variables in the two different samples. This equation can be rewritten as follows:

$$\sum_j \beta_j^M \bar{X}_j^M - \sum_j \beta_j^N \bar{X}_j^N = \sum_j \beta_j^N (\bar{X}_j^M - \bar{X}_j^N) + \sum_j \bar{X}_j^M (\beta_j^M - \beta_j^N). \quad (2)$$

One important thing to recognize is that the portion of the equation within the first set of parentheses is based on the average values of the independent variables in our two samples. The independent variables are measured, not estimated. This part of the equation represents the difference between what we can observe and measure about each group (Muslim and non-Muslim) and how that difference affects the overall difference between Muslim and non-Muslim countries. This part of the equation has been described as “attributable to the endowments” or as the difference in “observables.”⁴² In either sense, what is being conveyed is that the difference between Muslim and non-Muslim countries is in part due to

the fact that there are observable differences between the two groups in terms of measurable characteristics (regime type, poverty, etc.).

The second set of parentheses in Equation (2) is based on the difference between the coefficients in the two models. The coefficients of each sample represent how each group responds to changes in values of the independent variables. In this case, we take the difference between the responses (coefficients) of Muslim and non-Muslim countries. Previous research has described this part of the equation as “attributable to the coefficients” or as the difference in “behavior” of the two groups.⁴³ Using either description, this part of the model represents the fact that different variables have different effects on the production of terrorism. For example, it is possible that the actual *effect* of population size or economic development differs from Muslim to non-Muslim nations. This portion of the equation is capturing that distinction.⁴⁴

Reed and Chiba point out that if there is no difference between the observable characteristics of the two countries ($\bar{X}_j^M - \bar{X}_j^N = 0$), then differences in the amount of terror in Muslim countries as opposed to non-Muslim countries is due to behavioral characteristics (i.e., the second part of the equation).⁴⁵ This same logic applies to the behavioral side of the equation in that if $\beta_j^M - \beta_j^N = 0$, any difference between Muslim and non-Muslim countries in producing terror would be attributable to observed differences (e.g., different levels of education, poverty).

We use STATA’s “oaxaca” command, developed by Ben Jann, to estimate the decomposition models.⁴⁶ To estimate the standard errors, the delta method is used.⁴⁷ It should be noted that the standard Oaxaca-Blinder model uses ordinary least squares (OLS), and its associated assumptions, in estimating the decomposition. Some scholars have pointed out that OLS is inefficient when the dependent variable is a count of terrorist attacks, as it is in our analysis. We therefore analyzed nonlinear negative binomial decompositions, in addition to our OLS decompositions, and find that the results support our main conclusions outlined below.

Data

We employ a time-series cross-sectional research design, with observations from all countries for which data is available in the period 1973–2002. There are two variations of the dependent variable. Both come from the International Terrorism: Attributes of Terrorism (ITERATE) dataset, which compiles information on all transnational terrorist attacks.⁴⁸ For the purposes of this study, there are two variables in the dataset that are particularly relevant: perpetrator nationality and event location. Our first dependent variable, therefore, is consistent with many previous studies on terrorism: we create a yearly count of the number of terrorist attacks that a state experiences. This variable ranges from 0 to 181, and can be thought of as the susceptibility of a particular country to terrorist attacks, regardless of the national origin of the perpetrators. The second dependent variable is a yearly count of terrorist events committed by individuals of a particular nationality. Thus, the count shows the production of terror from each country for a given year, and it ranges from 0 to 129. These two dependent variables allow for a comparison between whether terror more often emanates (or not) from Muslim countries or whether Muslim countries are more susceptible (or not) to terrorist attacks.⁴⁹

For our purposes, the most important independent variable is the one that allows us to distinguish between Muslim and non-Muslim countries. To this effect, we include a variable, *Muslim* is a dummy variable, with “1” representing countries with at least a

plurality of Muslims, and “0” otherwise.⁵⁰ It was constructed by Piazza using data from the CIA⁵¹ and State Department.⁵²

Avoiding Omitted Variable Bias

In order to generate any confidence in the final results of this analysis, we must first ensure that all variables that potentially influence both our independent and dependent variables are included as controls. If the presence of a majority or plurality Muslim population is not a true influencer of transnational terrorism, then studies that find this variable to be significant may suffer from omitted variable bias. Indeed, the argument that Islam is correlated with other factors, which in turn drive terrorism, is an argument about omitted variable bias. For example, if human rights violations increase the number of terrorist attacks that a state experiences, and human rights violations are more prevalent in predominantly Muslim countries, then excluding human rights from our statistical analysis will lead to positive bias.⁵³ In other words, we would overestimate the effect of Islam on terrorism. It is therefore crucial that we include a comprehensive set of independent variables that account for potential causes of transnational terrorism that may also be correlated with the number of Muslim adherents within a country. To date, empirical studies of terrorism have largely focused on two broad categories of factors that influence levels of terrorism: structural characteristics of countries (including political institutions and economic conditions) and government policies.

Since studies of terrorism most commonly claim that political and economic factors have the greatest influence on the number of terrorist attacks a state experiences, several of our key independent variables are aimed at capturing such concepts. A state’s level of democracy has been demonstrated by many scholars to have an effect on the number of terrorist attacks the state experiences.⁵⁴ Democracies typically provide more civil liberties, such as freedom of speech and freedom of association, which make it easier for terrorists to organize and execute attacks. The operationalization for democracy in our models is taken from the Polity IV project.⁵⁵ Polity IV creates a measure that ranges from –10 for states that are considered “strong” autocracies, to a score of 10 for states that are considered “strong” democracies. Those countries that score higher on the Polity scale offer greater political participation, greater constraints on the executive, and other factors commonly associated with democratic governance. Regimes that score lower than 5 or 6 on the scale are generally thought to be non-democratic. Economic conditions within countries are also thought to influence terrorism, since individuals in more economically advanced states have higher standards of living and fewer reasons to engage in terrorism.⁵⁶ To capture this potential effect, we include *GDP Per Capita*, a logged measure of real Gross Domestic Product per capita from the United Nations Statistics Division.⁵⁷ Finally, we include two structural measures, which are used as standard control variables in many studies of terrorism. The first is *Population*, which is the natural log of a state’s population. The second is *Area*, the natural log of the total geographic surface area of the country. Higher values of both of these measures are thought to lead to more terrorism since larger populations and larger geographic areas make policing and counterterrorism efforts more difficult.⁵⁸ Finally, to control for the possibility that patterns of terrorism were influenced by the Cold War, we include a variable *Post Cold War*, which equals “1” if the observation year is later than 1991, and “0” otherwise.

While most quantitative analyses of terrorism have traditionally focused on these kinds of broad structural and institutional variables, Walsh and Piazza point out that “less attention has been paid to how the actual behavior of the government” may drive patterns

of terrorism.⁵⁹ Government repression has long been found to influence domestic dissent, although expectations and findings regarding the nature of its influence have varied.⁶⁰ Only recently, however, have scholars begun to examine how government policy affects terrorism. In an effort to avoid omitted variable bias and generate maximum confidence in our results, we include in our models several variables that capture government policies likely to influence terrorism. The first measure, *Physical Integrity Rights*, captures the level of respect for physical integrity rights in each country on a scale of 0 to 8, with a score of 8 representing the highest level of respect.⁶¹ Physical integrity violations have been found to increase transnational and domestic terrorism, so a negative effect is also expected here.⁶² Piazza also finds that discrimination against minorities is a significant predictor of terrorism.⁶³ Specifically, he finds that economic and political discrimination against minority groups leads to an increase in terrorist attacks. These two variables, *Economic Discrimination* and *Political Discrimination*, are drawn from the Minorities at Risk project.⁶⁴ Both variables are scales ranging from “0” to “4” with “0” representing no minority discrimination and “4” representing a “substantial” restriction of minority rights through government policy. We follow Caprioli and Trumbore, Lai, and Piazza in coding the highest level of discrimination that any minority group experiences within a given country year.⁶⁵ Finally, political scientists have identified evidence of a “resource curse,” with respect to oil production. Countries that produce significant amounts of oil are more likely to experience government repression because increased income from oil decreases leaders’ reliance on their citizens to remain in power.⁶⁶ If the presence of large amounts of oil does indeed increase the repressive behavior of governments, and repression increases terrorism, then oil production could be a significant positive predictor of terrorism. The specific measure, *Oil*, is the total income from oil exports as a percentage of GDP and is drawn from the World Bank’s *World Development Indicators*.⁶⁷

By including both structural/institutional characteristics and government policies in our model, we have accounted for a comprehensive list of variables that are likely to be correlated with both our key independent variable and our dependent variable. We now proceed to an examination of the empirical results of our analysis.

Explaining Differences Between Muslim and Non-Muslim States

Before determining the relative influence of observable and behavioral characteristics of states on the number of terrorist attacks a state experiences and produces, we conduct a preliminary analysis to see if evidence exists for an empirical difference between Muslim and non-Muslim states on a number of indicators. In Table 1 we present a summary of the observable characteristics of states that we use in our larger analysis. We also include our two dependent variables in this analysis: the number of transnational terrorist attacks a state experiences in a year, and the number of attacks perpetrated by citizens of that state in a year. We use a difference in means test to determine if there are indeed differences between Muslim and non-Muslim states, and whether these differences are statistically significant. The table displays information for three samples: Sample 1 shows the means for the pooled sample, Sample 2 shows the means for the Muslim subsample (including only the countries identified as having a majority or plurality Muslim population), and Sample 3 displays the means for the non-Muslim subsample (all countries identified as having a non-Muslim majority or plurality).

From this initial snapshot, we can already see that Muslim and non-Muslim countries differ in many of their observable characteristics. Of chief importance to this study is the difference in the number of terrorist attacks emanating from, and taking place in,

Table 1
Difference in means across Muslim and non-Muslim subsamples

Variable	Sample 1 Pooled	Sample 2 Muslim Subsample	Sample 3 Non-Muslim Subsample
Incidents (location)*	1.69 (6.31)	2.33 (7.58)	1.57 (6.03)
Incidents (perpetrator)*	1.12 (4.88)	1.64 (5.21)	1.02 (4.81)
Democracy*	0.24 (7.54)	-4.76 (5.14)	1.38 (7.56)
Population (logged)	3.91 (0.67)	3.95 (0.61)	3.91 (0.69)
GDP Per Capita (logged)*	3.11 (0.65)	3.01 (0.58)	3.14 (0.67)
Area (logged)*	6.14 (1.76)	6.47 (1.47)	6.04 (1.83)
Oil*	4.62 (12.11)	13.14 (18.89)	2.56 (8.60)
Economic Discrimination*	2.31 (1.35)	2.10 (1.45)	2.39 (1.30)
Political Discrimination*	2.65 (1.35)	2.90 (1.34)	2.55 (1.34)
Physical Integrity Rights*	4.92 (2.38)	3.88 (2.17)	5.20 (2.35)

(Standard deviations in parentheses).

*Difference in means significant at $p < .05$.

Muslim states compared to non-Muslim states. Arguments that Islam is associated with more terrorist attacks find preliminary support here: the mean number of transnational terrorist attacks emanating from Muslim countries is 1.64, while the mean in non-Muslim countries is 1.02.⁶⁸ This difference is small, but not unimportant. There appears to be a greater number of attacks being produced, on average, by Muslim countries. When looking at where the attacks take place (i.e., which states are the targets of attacks), the mean for Muslim countries is 2.33, while the mean for non-Muslim countries is 1.57. This difference in means is statistically significant.

Differences in the mean values of most of the other variables are significant, indicating that substantial differences in the observable characteristics of Muslim and non-Muslim states exist. Muslim countries, on average, have lower scores for democracy and lower levels of GDP per capita than non-Muslim countries. Muslim countries also have higher levels of political discrimination against minority groups and lower levels of respect for physical integrity rights. This emphasizes Piazza's point that any differences in terrorist attacks between the two samples may simply be a result of Muslim countries having different values for these observable characteristics.⁶⁹ In other words, characteristics such as the level of democracy and individual income may be correlated with the number of terrorist attacks a state experiences. Another important implication of Table 1 is that the Muslim sample has lower variances on some of the variables representing the observable characteristics of a country, while the non-Muslim sample exhibits lower variance in other areas (most notably, with the variable *Oil*). Muslim states, therefore, seem to be no more homogeneous than non-Muslim states overall (at least with respect to the indicators included here).

Turning now to behavioral characteristics, we aim to determine if there is a similar discrepancy between Muslim and non-Muslim states in the influence that these observable characteristics have on the number of transnational terrorist attacks. We use a negative binomial model to estimate separate regression equations on the pooled sample as well as the two subsamples.⁷⁰ To account for possible endogeneity, we advance the dependent variable

Table 2
Dependent variable: Number of terrorist attacks by location

Variable	Model 1	Model 2	Model 3	Model 4
Democracy	—	0.08*** (0.01)	0.07*** (0.01)	0.02 (0.01)
Population (logged)	1.05*** (0.07)	1.01*** (0.07)	0.99*** (0.07)	0.88*** (0.14)
GDP Per Capita (logged)	0.55*** (0.09)	—	0.15 (0.10)	1.11*** (0.16)
Area (logged)	0.16*** (0.02)	0.16*** (0.02)	0.15*** (0.02)	-0.03 (0.04)
Muslim Country	0.34*** (0.12)	0.64*** (0.12)	0.66*** (0.13)	0.13 (0.18)
Post Cold War	-0.90*** (0.10)	-1.07*** (0.10)	-1.06*** (0.10)	-1.01*** (0.76)
Oil	—	—	—	-0.004 (0.01)
Economic Discrimination	—	—	—	-0.05 (0.08)
Political Discrimination	—	—	—	0.07 (0.08)
Physical Integrity Rights	—	—	—	-0.23*** (0.04)
Constant	-6.12*** (0.43)	-4.40*** (0.32)	-4.71*** (0.47)	-5.15 (0.76)
Observations	4,293	4,373	4,216	1,335
Prob > chi ²	0.0000	0.0000	0.0000	0.0000

Results are from negative binomial regressions.

(Robust standard errors in parentheses).

* $p < .10$; ** $p < .05$; *** $p < .01$ (two-tailed).

(the count of terrorist attacks) by one year. This helps to ensure that any relevant variations in the independent variables occur prior to variations in the dependent variable. Tables 2 and 3 display the results of regressions on the pooled samples with transnational terrorist attacks *experienced* and *produced* as the dependent variables, respectively. By including the variable *Muslim* as an independent variable in the regressions, we are demonstrating how most previous studies have addressed the possible correlation of terrorist attacks and a majority Muslim population. In the four models in Table 2, we control for structural/institutional variables (Models 1, 2 and 3) and structural variables combined with government policy variables (Model 4). The *Muslim* variable is significant in all models except for Model 4, suggesting that a strong link between having a majority Muslim population and experiencing transnational terrorist attacks is weaker when government policy is taken into account. This pattern is repeated in Table 3, with the *Muslim* variable being highly significant in the first three models, but becoming insignificant once we account for government policies. This result will be an important one to consider as we move into the decomposition analysis.

Table 3
Dependent variable: Number of terrorist attacks by perpetrator nationality

Variable	Model 5	Model 6	Model 7	Model 8
Democracy	—	0.03*** (0.01)	0.03*** (0.01)	0.03* (0.02)
Population (logged)	1.34*** (0.09)	1.31*** (0.09)	1.32*** (0.09)	0.95*** (0.17)
GDP Per Capita (logged)	0.07 (0.11)	—	-0.09 (0.12)	0.82*** (0.18)
Area (logged)	0.10*** (0.03)	0.10*** (0.03)	0.09*** (0.03)	-0.07 (0.05)
Muslim Country	0.50*** (0.12)	0.67*** (0.14)	0.69*** (0.14)	0.27 (0.20)
Post Cold War	-0.80*** (0.12)	-0.88*** (0.13)	-0.92*** (0.12)	-0.70*** (0.19)
Oil	—	—	—	0.01 (0.01)
Economic Discrimination	—	—	—	-0.14 (0.10)
Political Discrimination	—	—	—	0.25** (0.11)
Physical Integrity Rights	—	—	—	-0.31*** (0.05)
Constant	-6.09*** (0.56)	-5.75*** (0.41)	-5.42*** (0.59)	-5.19*** (0.95)
Observations	4,293	4,373	4,216	1,335
Prob > chi ²	0.0000	0.0000	0.0000	0.0000

Results are from negative binomial regressions.
(Robust standard errors in parentheses).
* $p < .10$; ** $p < .05$; *** $p < .01$ (two-tailed).

In Tables 2 and 3, we include a variable to account for a majority Muslim population. However, another way to think about the difference that might exist is to analyze models while separating the samples into Muslim and non-Muslim samples. This is what we do in Figures 1 and 2. The results from the pooled sample are located in the left-hand column of each graph, the results of the Muslim subsample are included in the middle column, and the non-Muslim results are presented in the right-hand column.

The first observation we can derive from these figures (which shows coefficient values when predicting the location of terrorist incidents) is the insignificance of some of the variables in the Muslim subsample (Figure 1, center column). The points represent the actual coefficient estimates for each variable, with the bands around the points indicating the 95 percent confidence interval of those estimates. Notice that several of the confidence intervals in the Muslim subsample include 0. In other words, we cannot safely conclude that the effect of these variables is significantly different from 0. By contrast, at least two of the variables (*Regime* and *Physical Integrity Rights*) that are insignificant in the Muslim subsample are significant in the non-Muslim subsample. This may suggest that looking at

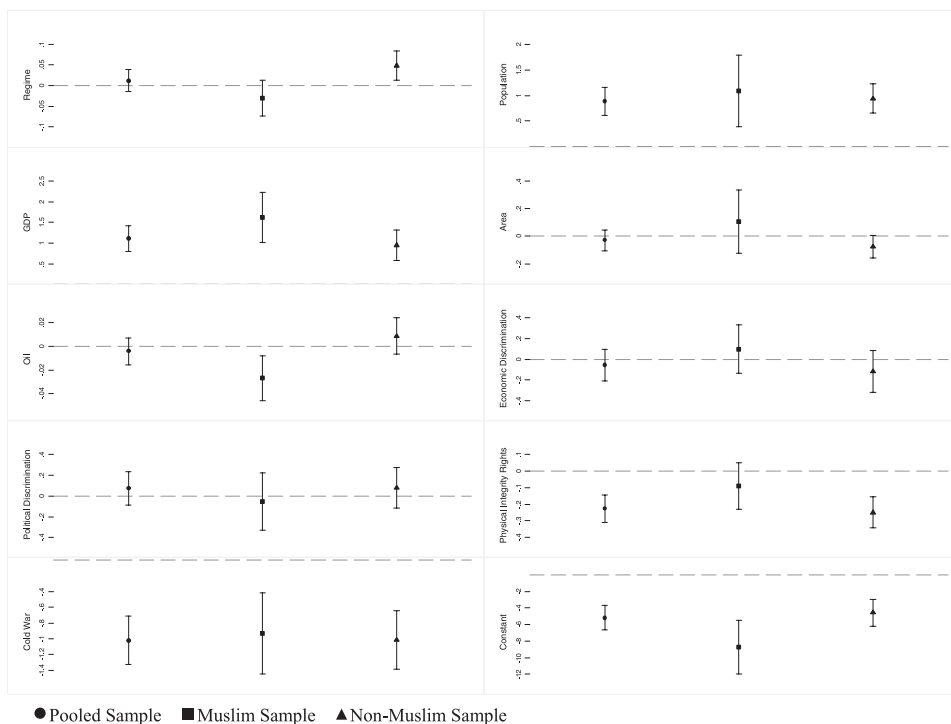


Figure 1. Negative binomial coefficients, pooled and subsamples, by location.

the behavioral characteristics of these two samples alone may not be the best way to explain the location of transnational terrorist attacks.

In the graph showing coefficient values when predicting the nationality of the perpetrator of terrorist attacks, we see similar patterns (Figure 2, center column). Notice the wider variance around our estimates of the coefficients in the Muslim subsample, compared with the results of the non-Muslim subsample (this same phenomenon appears to some extent in Figure 1). It appears that behaviorally, Muslim countries exhibit greater variability than do non-Muslim countries. We noted earlier that, overall, the two samples are comparable with respect to variance in the endowments (variables), but it appears that the variance is almost universally wider for the Muslim subsample in terms of behavioral characteristics (coefficients). At this point, however, it is difficult to say whether or not these differences account for a large difference in terms of the end product: transnational terrorism. To get a better assessment of how differences in endowments and coefficients affect the location and production of transnational terrorism, we turn to the Oaxaca-Blinder decomposition.

In Table 4 we show the results of the Oaxaca-Blinder decomposition on the event location model that contained only the structural/institutional variables (Model 3), which allows us to break down the sample differences into observable and behavioral characteristics.⁷¹ In Table 4 the first two rows of the table displays the mean predictions of terrorist attacks by group. We can see that the predicted number of transnational terrorist attacks in countries with at least a plurality of any group other than Muslims is about the same when compared with countries with at least a plurality of Muslims. In fact, the difference between the two predictions is statistically insignificant (third row). In other words, there seems to be no

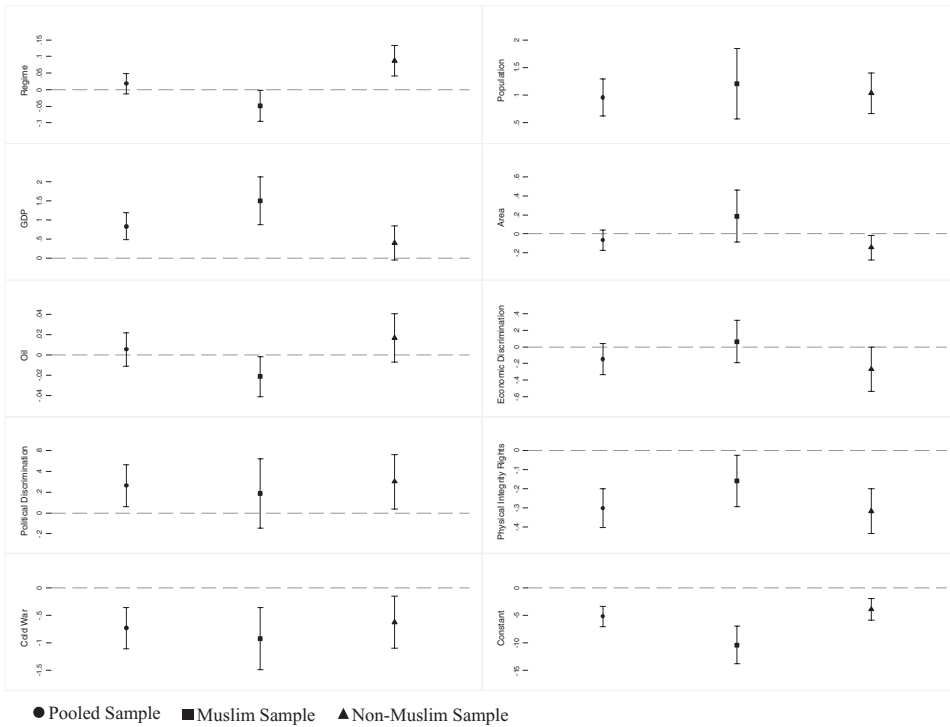


Figure 2. Negative binomial coefficients, pooled and subsamples, by perpetrator nationality.

difference in the number of transnational terrorist events that occur in Muslim countries as opposed to other countries. In Table 5, however, which lists the results of the decomposition of the perpetrator nationality model (Model 7), the difference between the two samples is significant. On average, Muslim states produce 0.61 more terrorist attacks than non-Muslim states. The bottom two rows in Table 5 then break this difference down into observable and behavioral contributions. The fourth row in Table 5, labeled “Observables,” indicates how the number of attacks produced would change if we applied the observable characteristics of the non-Muslim countries in the sample (levels of political participation, economic

Table 4
Decomposition analysis of terrorist attack by location

Structural characteristics only (Model 3)		
Component	Coefficient	(Standard error)
Non-Muslim	2.28***	(0.13)
Muslim	2.29***	(0.24)
Difference	-0.01	(0.27)
Observables	1.03***	(0.12)
Coefficients	-1.04***	(0.29)

* $p < .10$; ** $p < .05$; *** $p < .01$ (two-tailed).

Table 5
Decomposition analysis of terrorist attack by perpetrator nationality

Structural characteristics only (Model 7)		
Component	Coefficient	(Standard error)
Non-Muslim	1.10***	(0.08)
Muslim	1.71***	(0.17)
Difference	-0.61***	(0.18)
Observables	0.24***	(0.07)
Coefficients	-0.85***	(0.20)

* $p < .10$; ** $p < .05$; *** $p < .01$ (two-tailed).

freedom, respect for physical integrity rights, etc.) to Muslim countries. The number of attacks produced would increase in Muslim countries, providing evidence that observable political and economic characteristics have some influence over how often a state produces transnational attacks. But there is also a difference between the two samples in terms of their behavioral differences (the fifth row in Table 5, labeled “Coefficients”). Specifically, if Muslim states were given the same behavioral characteristics of non-Muslim states (i.e., if they responded to observable characteristics in the same manner), Muslim states would produce 0.85 fewer attacks per year, on average. Importantly, this effect is nearly three times greater than the competing effect of the “Observables” portion. Table 5, therefore, provides preliminary evidence that Muslim states indeed produce more transnational attacks than non-Muslim states, and that this difference is primarily due to religious differences, rather than observable characteristics like regime type.

The previous two tables featured results of the decomposition models when we only included the structural/institutional control variables. In Tables 6 and 7, we add the government policy variables to the analysis. Table 6 displays the results from the attack location model (Model 4). The difference between the two samples is once again not statistically significant, but also notice that only the “Observables” portion of the model is significant. In other words, while there is not a statistically significant difference between the two samples, any difference that does exist seems to be driven by the observable characteristics. If Muslim states were given the same observable characteristics as non-Muslim states

Table 6
Decomposition analysis of terrorist attack by location

Structural plus government policy (Model 4)		
Component	Coefficient	(Standard error)
Non-Muslim	1.91***	(0.26)
Muslim	1.47***	(0.22)
Difference	0.43	(0.34)
Observables	0.71***	(0.23)
Coefficients	-0.28	(0.36)

* $p < .10$; ** $p < .05$; *** $p < .01$ (two-tailed).

Table 7
Decomposition analysis of terrorist attack by perpetrator nationality

Structural plus government policy (Model 8)		
Component	Coefficient	(Standard error)
Non-Muslim	0.95***	(0.17)
Muslim	1.20***	(0.18)
Difference	-0.25	(0.25)
Observables	0.09	(0.14)
Coefficients	-0.35	(0.27)

* $p < .10$; ** $p < .05$; *** $p < .01$ (two-tailed).

(including political and economic characteristics and government policies), they would experience more attacks, on average.

Finally, Table 7 displays the results from the full model with perpetrator nationality as the dependent variable (Model 8). Unlike the previous perpetrator nationality model outlined in Table 5, however, the difference between the two samples here is no longer statistically significant. So, while there initially seemed to be some difference at work between the two samples in Table 5, and this difference seemed to be largely driven by the presence of a Muslim majority or plurality, this difference is insignificant once government policies are taken into account, as are both the “Observable” and “Coefficient” portions of the decomposition analysis. Specifically, when human rights abuses and various forms of domestic discrimination are included in the analysis, Muslim and non-Muslim countries are indistinguishable with respect to their production of terrorism.

Sensitivity Analysis

In an effort to generate additional confidence in the results presented above, we employed a series of robustness checks based on both methodological and theoretical concerns. In the interest of space, the results of these checks are not presented, but we briefly discuss their implications here. First, as described earlier, we conducted a set of nonlinear decomposition analyses using a negative binomial model, since OLS may not be appropriate for the count variables used as our dependent variables. The conclusions of our four primary decomposition models outlined above do not change with the new methodological approach. Second, much of the literature surveyed earlier argues that organizations are not only more likely to use terrorism, but are likely to be more effective than non-religious organizations. We therefore analyzed our main set of models using two new dependent variables: the number of terrorist fatalities experienced, and the number of fatalities produced by, a state in a given year. Overall, the results are very similar. The most notable change is that the difference in the samples in Table 6 is now statistically significant, and the difference is solely attributable to the difference in “Coefficients.” According to these results, if Muslim states were given the same observable characteristics as non-Muslim states, they would experience more fatalities from terrorist attacks.

Conclusion

Our goal has been to use more appropriate methodological tools to address a question that continues to be debated in popular discourse and academic literature: Is there a connection between Islam and terrorism? We separated the universe of countries into two groups,

countries with a majority or plurality Muslim population and countries with a majority or plurality of any other religion. We then used decomposition analysis to identify the relative contributions of “observable” and “behavioral” differences between the two categories. In the early labor economics literature, which focused on the wage gaps between men and women, decomposition analysis suggested that the majority of the differences between the two groups’ earnings were attributable to behavioral characteristics. That is, given the same observable characteristics as men, women would still earn less. Economists interpreted this “behavioral” difference as wage discrimination.

We initially find some evidence of a behavioral difference between Muslim and non-Muslim countries, particularly with regards to the amount of terrorism they produce. While observable characteristics seem to be the primary influencer of which states are *targeted* for attacks, the results suggest that majority or plurality Muslim states would still *produce* more terrorist attacks than non-Muslim states even if they were given the same observable characteristics. Yet behavioral differences across the two samples become insignificant once a state’s domestic policies are taken into account. Domestic human rights abuses, discrimination against minorities, and repressive policies made possible through oil wealth erase the apparent effect of a state’s inclusion in the Muslim subsample.

Our study therefore joins a growing body of research that emphasizes the importance of government policies in understanding why some states produce more terrorism than others. This finding indicates that Islam is a much less powerful predictor of terrorism than some scholars have argued. And it suggests that future terrorism research should pay particular attention to the behavior of states’ governments toward their citizens, although not necessarily at the expense of the cultural and institutional factors that also seem to drive levels of terrorism.

The results of this study have implications beyond the academic debate regarding the connection between religion and terrorism. Some have tried to paint the post-9/11 world as one in which the West is aligned against Islam in a “clash of civilizations.”⁷² The underlying assumption is that religious and cultural beliefs lead to the use of violence. This is a belief that still seems to have plenty of traction. A 2011 Gallup poll found that 55 percent of Americans believed that the Muslim world considers itself at war with the United States. In a 2011 CNN/ORC poll, 42 percent of those polled had an unfavorable or somewhat unfavorable view of Muslim countries, compared with 25 percent that had a favorable or somewhat favorable view.

These recent polls, while anecdotal, suggest the possibility that Muslims and/or Islam are sometimes viewed unfavorably or at odds with the West. However, our study suggests that most of the differences between Muslim countries and the West (at least in regard to transnational terrorism) are not due to “behavioral” factors like culture and/or religion. Rather, the differences between Muslim and non-Muslim states with respect to their production of terrorism is almost non-existent once government repression and discrimination are taken into account. Thus, what has been billed as a “clash of civilizations” is more a result of different approaches to governance. By focusing our attention more on how governments treat their citizens in the Muslim world (which can change, and over which the West might have some leverage) and less on the cultural/religious differences between the West and Islam, we may be able to better deal with the root causes of terrorism.

Notes

1. Global Engagement Survey of 1000 registered voters, 4–6 December 2001.
2. Arthur A. Goldsmith, “Muslim Exceptionalism? Measuring the ‘Democracy Gap,’” *Middle East Policy* 14 (2007), p. 87.

3. For the purposes of shorthand, hereafter we use the terms “Muslim state” or “Muslim country” to refer to states with a plurality or majority Muslim population. We use the terms “non-Muslim state” or “non-Muslim country” to refer to states that do not have a plurality or majority Muslim population.

4. Krueger and Laitin demonstrate that some states are more likely to be the target of a transnational attack, while others are more likely to produce attacks. Alan Krueger and David Laitin, “Kto kogo?: A cross country study of the origins and targets of terrorism,” in Keefer Philip and Norman Loayza eds., *Terrorism, Economic Development, and Political Openness* (New York: Cambridge University Press, 2008), pp. 148–173.

5. Walter Enders and Todd Sandler, *The Political Economy of Terrorism* (Cambridge: Cambridge University Press, 2006); James I. Walsh and James A. Piazza, “Why Respecting Physical Integrity Rights Reduces Terrorism,” *Comparative Political Studies* 43 (2010), pp. 551–577; Will H. Moore, Ryan Bakker, and Daniel W. Hill, Jr., “Dissidents, Governments, Institutions and the Cross-National Study of Terror Attacks,” unpublished manuscript.

6. David Rapoport, “The Fourth Wave: September 11 in the History of Terrorism,” *Current History* 100 (2001), pp. 419–424; Mark Juergensmeyer, *Terror in the Mind of God* (Berkeley: University of California Press, 2003); Scott Atran, “The Genesis of Suicide Terrorism,” *Science* 299 (2003), pp. 1534–1539; Robert A. Pape, “The Strategic Logic of Suicide Terrorism,” *American Political Science Review* 97 (2003), pp. 343–361; Robert A. Pape, *Dying to Win: The Strategic Logic of Suicide Terrorism* (New York: Random House, 2005); Victor Asal, “The Preconditions for Ethnic Suicide Bombing Campaigns, 1991–2003” (Paper presented at the Annual Meeting of the International Studies Association, San Diego, California, 22 March 2006); Sara Jackson Wade and Dan Reiter, “Does Democracy Matter?: Regime Type and Suicide Terrorism,” *Journal of Conflict Resolution* 51 (2007), pp. 329–348; James A. Piazza, “A Supply-Side View of Suicide Terrorism,” *Journal of Politics* 70 (2008), pp. 28–39.

7. Rapoport, “The Fourth Wave: September 11 in the History of Terrorism”; Juergensmeyer, *Terror in the Mind of God*; Enders and Sandler, *The Political Economy of Terrorism*.

8. At least one scholar has noted that the term “fundamentalist,” when applied to Islam, is actually a misnomer (Farah 1996, pp. 1–2). Current interpretations of Islam that justify terrorism are wholly new, and therefore, not a return to any “fundamental” interpretation. Caesar Farah, “Political Dimensions of Islamic Fundamentalism,” *Digest of Middle East Studies* 5 (1996), pp. 1–14.

9. Juergensmeyer, *Terror in the Mind of God*.

10. Bruce Hoffman, “Holy Terror: The Implications of Terrorism Motivated by a Religious Imperative” (paper presented at the Worldwide Department of Defense Combating Terrorism Conference, Virginia Beach, VA, June 8–11, 1993), p. 2.

11. Bruce Hoffman, *Terrorism Trends and Prospects in Countering the New Terrorism* (Santa Monica, CA: RAND Corporation, 1999), p. 20.

12. Juergensmeyer, *Terror in the Mind of God*.

13. Lawrence R. Iannaccone, “Sacrifice and Stigma: Reducing Free-Riding in Cults, Communes, and Other Collectives,” *Journal of Political Economy* 100 (1992), pp. 271–292; Eli Berman, “ Hamas, Taliban, and the Jewish Underground: An Economist’s View of Radical Religious Militias,” UC San Diego typescript (2003). NBER Working Paper No. W10004. Available at <http://www.ndu.edu/library/docs/Berman.pdf> (accessed 23 September 2011); Lawrence R. Iannaccone and Eli Berman, “Religious Extremists: The Good, the Bad and the Deadly,” *Public Choice* 128 (2006), pp. 109–129; Eli Berman and David D. Laitin, “Religion, Terrorism and Public Goods: Testing the Club Model,” *Journal of Public Economics* 92 (2008), pp. 1942–1967.

14. Increased lethality is one such advantage (Berman and Laitin, “Religion, Terrorism and Public Goods”).

15. Rapoport, “The Fourth Wave.”

16. Mark Sedgwick, “Al-Qaeda and the Nature of Religious Terrorism,” *Terrorism and Political Violence* 16 (2004), pp. 795–814.

17. Rapoport, “The Fourth Wave”; Atran, “The Genesis of Suicide Terrorism”; Martha Crenshaw, “The Logic of Terrorism: Terrorist Behavior as a Product of Strategic Choice,” in Walter Reich,

ed., *Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind* (Washington, DC: Woodrow Wilson Center Press, 2002), pp. 54–66; Marc Sageman, *Leaderless Jihad: Terror Networks in the Twenty-First Century* (Philadelphia: University of Pennsylvania Press, 2004).

18. Carlos Pestana Barros and Isabel Proença, “Mixed Logit Estimation of Radical Islamic Terrorism in Europe and North America: A Comparative Study,” *Journal of Conflict Resolution* 49 (2005), pp. 298–314.

19. Rapoport, “The Fourth Wave.”

20. Bruce Hoffman, *Terrorism Trends and Prospects in Countering the New Terrorism*. Specifically, Hoffman argues that 8 percent of attacks during this time were committed by Islamic groups, while 30 percent of all terrorist casualties were caused by Islamic groups.

21. David Rapoport, “Fear and Trembling: Terrorism in Three Religious Traditions,” *American Political Science Review* 78 (1984), pp. 658–677.

22. David Rapoport, “Messianic Sanctions for Terror,” *Comparative Politics* 20 (1988), pp. 195–213; H. W. Kushner, “Suicide Bombers: Business as Usual,” *Studies in Conflict and Terrorism* 19 (1996), pp. 329–337; Raphael Israeli, “A Manual of Islamic Fundamentalist Terrorism,” *Terrorism and Political Violence* 14 (2002), pp. 23–40.

23. Israeli, “A Manual of Islamic Fundamentalist Terrorism.”

24. M. Steven Fish, Francesca R. Jensenius, and Katherine E. Michel, “Islam and Large-Scale Political Violence: Is There a Connection?” *Comparative Political Studies* 43 (2010), pp. 1327–1362.

25. Wade and Reiter, “Does Democracy Matter?,” p. 339.

26. James A. Piazza, “Do Democracy and Free Markets Protect Us from Terrorism?,” *International Politics* 45 (2008), pp. 72–91.

27. *Ibid.*

28. Quan Li, “Does Democracy Promote or Reduce Transnational Terrorist Incidents?” *Journal of Conflict Resolution* 49 (2005), pp. 278–297; Enders and Sandler, *The Political Economy of Terrorism*.

29. Will H. Moore and Ahmer Tarar, “Domestic-International Conflict Linkages,” in Robert A. Denemark, ed., *The International Studies Encyclopedia* (Blackwell Reference Online: Blackwell Publishing, 2010).

30. Walsh and Piazza, “Why Respecting Physical Integrity Rights Reduces Terrorism”; James A. Piazza, “Poverty, Minority Economic Discrimination, and Domestic Terrorism,” *Journal of Peace Research* 48 (2011), pp. 339–353.

31. Michael Ross, “Does Oil Hinder Democracy?” *World Politics* 53 (2001), pp. 325–361; Michael Ross, “Oil, Islam, and Women,” *American Political Science Review* 102 (2008), pp. 1–17; Courtenay Conrad and Jacqueline H. R. DeMeritt, “Human Rights Advocacy and State Repression Substitutability” (paper presented at the Annual Conference of the American Political Science Association, Seattle, WA, September 1–4, 2011).

32. Pape, “The Strategic Logic of Suicide Terrorism”; Pape, *Dying to Win*.

33. Jeffrey Ian Ross, “Structural Causes of Oppositional Political Terrorism: Towards a Causal Model,” *Journal of Peace Research* 30 (1993), pp. 317–329.

34. Piazza, “Do Democracy and Free Markets Protect Us from Terrorism?”

35. For a brief review of this early literature, as well as the varying results found previous to the implementation of decomposition analysis, see Ronald L. Oaxaca, “Male-Female Differentials in Urban Labor Markets,” *International Economic Review* 14 (1973), pp. 693–709.

36. Alan S. Blinder, “Wage Discrimination: Reduced Form and Structural Estimates,” *Journal of Human Resources* 8 (1973), pp. 436–455; Oaxaca, “Male-Female Differentials in Urban Labor Markets.”

37. The use of this technique is not without precedent in political science. It has previously been applied to the study of the differences in the probability of conflict between major and minor power states. See William Reed and Daina Chiba, “Decomposing the Relationship Between Contiguity and Militarized Conflict,” *American Journal of Political Science* 54 (2010), pp. 61–73.

38. Ronald L. Oaxaca and Michael R. Ransom, "Searching for the Effect of Unionism on the Wages of Union and Nonunion Workers," *Journal of Labor Research* 9 (1988), pp. 139–140. For simplification purposes, we hereafter discuss the technique using "attacks experienced" by a country as the dependent variable.

39. Our setup of the equations and the information that can be derived from these equations relies greatly on Blinder's 1973 article, which discussed the decomposition technique in more detail. Blinder, "Wage Discrimination."

40. Reed and Chiba, "Decomposing the Relationship Between Contiguity and Militarized Conflict," p. 67.

41. Blinder, "Wage Discrimination," p. 438.

42. *Ibid.*, p. 438; Reed and Chiba, "Decomposing the Relationship Between Contiguity and Militarized Conflict," p. 67.

43. *Ibid.*

44. There is an issue in each of these equations regarding our selection of the benchmark group (Blinder, "Wage Discrimination," pp. 438–439). The benchmark group in Blinder is the high wage group. This is because if, in the absence of discrimination, the wage structure would be more like that of the high wage group, the equations Blinder uses are accurate (Christophe Nordman, Anne-Sophie Robilliard and Francois Roubaud, "Decomposing Gender and Ethnic Earnings Gaps in Seven West African Cities" (paper presented at the Annual Conference of the Centre for the Study of African Economies, Oxford, United Kingdom, March 16–18, 2008)). Similarly, Reed and Chiba ("Decomposing the Relationship Between Contiguity and Militarized Conflict," p. 67) state that in the case of examining wage discrimination, economists select the benchmark group based on an expectation of no wage discrimination against that group. Blinder ("Wage Discrimination," p. 438) states that he uses the benchmarks because of ease in interpretation and computation (provided that the assumption discussed earlier holds). In our case, the argument in the literature is typically that something about religious doctrine in Muslim countries produces more terrorism and that, in the absence of such, the amount of terror produced from these countries would be similar to that of non-Muslim countries. Given that the literature provides some expectation that this is the case and in order to maintain simplicity in the model estimation, we select non-Muslim countries as our benchmark.

45. Reed and Chiba, "Decomposing the Relationship Between Contiguity and Militarized Conflict," p. 67.

46. Benn Jann, "The Blinder-Oaxaca Decomposition for Linear Regression Models," *Stata Journal* 8 (2008), pp. 453–479.

47. Ronald L. Oaxaca and Michael R. Ransom, "Calculation of Approximate Variances for Wage Decomposition Differentials," *Journal of Economic and Social Measurement* 24 (1998), pp. 55–61; Jann, "The Blinder-Oaxaca Decomposition for Linear Regression Models"; Reed and Chiba, "Decomposing the Relationship Between Contiguity and Militarized Conflict."

48. Defined as attacks that due to "location, the nature of [their] institutional or human victims, or the mechanics of [their] resolution, [their] ramifications transcend national boundaries." Edward Mickolus, Todd Sandler, Jean M. Murdock, and Peter A. Flemming, *International Terrorism: Attributes of Terrorist Events (ITERATE)* (Vinyard Software, 2003).

49. Of course, counting terrorism events is only one way to measure terrorism. It may be that Islam leads to more (or less) severe terrorism than other groups. If this is the case, then using the number of fatalities might be better than the number of events. We ran our models using the number of fatalities instead of the number of events as the dependent variable. The results (not presented) are consistent with what we present here. A discussion of these results is included in the "Sensitivity Analysis" section.

50. Piazza, "Do Democracy and Free Markets Protect Us from Terrorism," p. 78.

51. The CIA World Factbook data is available for download from <https://www.cia.gov/library/publications/download/> (accessed 23 September 2011).

52. There is a qualification to our approach here that needs to be pointed out. The discussion of Islam cites several authors who note that the Shi'ite version of Islam may be driving some of the current wave of terrorism (Rapoport, "Messianic Sanctions for Terror"; Kushner, "Suicide Bombers";

Israeli, "A Manual of Islamic Fundamentalist Terrorism"). If this is the case, then a dummy variable is most likely not the best way to capture the many different beliefs and divisions within Islam. In an attempt to address this shortcoming, we ran models in which the main group was not all Muslim majority countries, but Shi'a Muslim majority countries. When we did this, the results (not presented) were similar to what we discuss here. However, the question of how to best represent Islam and its variants remains. There is a need for gathering more data in this regard and we hope that our article will encourage such gathering in an attempt to contribute to this discussion. We thank an anonymous reviewer for encouraging us in this direction.

53. Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach* (Mason, OH: Thomson South-Western, 2006).

54. William Eubank and Leonard Weinberg, "Does Democracy Encourage Terrorism?" *Terrorism and Political Violence* 6 (1994), pp. 417–443; William Eubank and Leonard Weinberg, "Terrorism and Democracy: What Recent Events Disclose," *Terrorism and Political Violence* 10 (1998), pp. 108–118; William Eubank and Leonard Weinberg, "Terrorism and Democracy: Perpetrators and Victims," *Terrorism and Political Violence* 13 (2001), pp. 155–164; Joe Eyerman, "Terrorism and Democracy States: Soft Targets or Accessible Systems," *International Interactions* 24 (1998), pp. 151–170; Li, "Does Democracy Promote or Reduce Transnational Terrorist Incidents?"

55. Monty Marshall and Keith Jagers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800–2004*, 2006. Available at <http://www.cidcm.umd.edu/polity/> (accessed 23 September 2011).

56. Quan Li and Drew Schaub, "Economic Globalization and Transnational Terrorism: A Pooled Time-Series Analysis," *Journal of Conflict Resolution* 48 (2004), pp. 230–258; Li, "Does Democracy Promote or Reduce Transnational Terrorist Incidents?"

57. United Nations Statistics Division, *Economic Statistics Branch* (National Accounts Statistics Database, 2009). Available at <http://unstats.un.org/unsd/snaama> (accessed 23 September 2011).

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68. By "emanating" we mean that the attacks were perpetrated by citizens of that country. We are not claiming that the governments themselves launched or supported the attacks.

69. Piazza, "Do Democracy and Free Markets Protect Us from Terrorism?"

70. Using a negative binomial model has two important benefits: it allows for regressions involving dependent variables in count form, and it accounts for the overdispersion typical of terrorism data.

71. We used the “oaxaca” command in Stata to produce the results found in Tables 4 and 5 (Jann, “The Blinder-Oaxaca Decomposition for Linear Regression Models”). The basic *oaxaca* command uses OLS to estimate the decomposition. When using a dependent variable that is a count of terror events, it is generally considered inappropriate to use OLS. However, using a nonlinear model to estimate the decomposition makes interpretation of the results more difficult. We therefore chose to report the OLS results for ease of interpretation. Even so, the significance and substantive effects of each variable is comparable in both the negative binomial and OLS versions (both in the basic regressions and the decompositions). Furthermore, we used the recently developed “*ndlecompose*” command in Stata (Mathias Sinning, Markus Hahn, and Thomas K. Bauer, “The Blinder-Oaxaca Decomposition for Nonlinear Regression Models,” *The Stata Journal* 8 (2008), pp. 480–492), which assumes nonlinearity of the models in the decomposition. In all variations of these techniques, the relative contributions of the explained and unexplained characteristics are highly comparable. The one exception comes in Table 7 when we use a different weighting scheme for the decomposition. In this case, the explained portion becomes statistically insignificant. Given that the model is significant in two other weight schemes used, we do not think this one instance casts significant doubt on the findings presented here.

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