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Unemployment, Inequality and Terrorism: Another Look at the Relationship between Economics and Terrorism

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Unemployment, Inequality and Terrorism: Another Look at the Relationship between Economics and Terrorism

Abstract

This paper builds on existing research on the determinants of terrorism by looking at new measures of poverty in addition to political freedom, population fractionalization, and other country characteristics. The findings of this paper reinforce the conclusions of existing literature that political freedom is a key determinant of terrorism, with the greatest risk coming from countries that are middling between liberal democracy and authoritarian control. Further, this paper supports recent conclusions that linguistic fractionalization and geography are both related to terrorist risk as well. The new finding in this paper is that adult unemployment rate is also a significant predictor of terrorism, though it can only explain a small portion of the overall terrorist risk in a country. This paper also suggests that the Gini Index of economic inequality may also have a significant correlation with terrorist risk. The results overall imply that exclusion from the economy can be a motivator for terrorism just as exclusion from politics can be, regardless of the overall wealth of a country.

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Introduction

Recent empirical work on the causes of terrorism has suggested that in contrast to studies on political coups and civil wars, economic factors are not significant predictors of terrorism. If these results hold up to further testing, the implications for governmental policy are potentially tremendous. This paper will build on work by Alberto Abadie (2004) to test the robustness of his conclusions and to see if economic factors have a causal relationship with the risk of terrorism.

Currently there are two general schools of thought on the root causes of terrorism. The side usually endorsed by the current U.S. administration believes primarily that spreading freedom and democracy will eat away at the political frustration and lack of rights that cause marginalized groups to lash out with terrorism. To quote from President Bush's 2005 State of the Union Address, "The only force powerful enough to stop the rise of tyranny and terror, and replace hatred with hope, is the force of human freedom." The European Union tends to take the other perspective that terrorism must be fought at its root causes, and that these causes include poverty and inequality, though they also acknowledge the importance of political rights. It is important to realize that these are not two dramatically opposed views, but rather a spectrum in which some countries weigh economic opportunity as more important than political freedom, and vice versa.

If the recent suggestions that political rights alone determine the level of terrorism prove correct, then it could add additional justification to calls for the toppling of oppressive governments and the use of force to spur transition to democracy. However, if economic opportunity is also shown to have a relation to terrorism, then more peaceful

methods of preventing terrorism may be available. It is evident from this ongoing debate that the questions this paper asks are extremely important.

Review of Literature

Until very recently, almost all empirical work done on the causes of terrorism had a focus on transnational terrorism. The few exceptions tend to be anomalous case studies, usually of Israel and Palestine, one of the few hotbeds of terrorism where the data are available and good. Studies such as in Krueger and Laitin (2003) find that GDP per capita and GDP growth rate are not significant predictors of transnational terrorism, but that politically free countries are likely to be targeted by agents from politically oppressed countries, regardless of wealth. Other studies like Krueger and Malečková (2003) go further against conventional wisdom that assumes poverty is a source of terrorism, concluding that among Palestinians wealthier and more educated individuals are actually more likely to be terrorists than poorer individuals.

International terrorism is extremely important to study, but according to the MIPT Terrorism Knowledge Base, funded by the U.S. Department of Homeland Security, international terrorism has only accounted for 10-15% of the total global number of terrorist acts in each of the last three completed years (2002-2004). This means that these studies are only looking at one narrow kind of terrorism. While it may be the case that international acts have drawn the most attention since the September 11 attacks, it is worth noting that the second most deadly attack on U.S. soil, the Oklahoma City bombing, was a purely domestic act of terrorism.

Very recent work by Abadie (2004) is able to make significant improvements on previous work because he uses an inclusive and robust measure of terrorism as his dependent variable. Rather than using U.S. Department of State data which only count instances of transnational terrorism, Abadie (2004) chose country-level index data assessing the combined risk of both domestic terrorism within a country and transnational terrorism on that country's territory at home and interests abroad. This index allows consideration of a much wider and more realistic range of terrorist activities, in addition to expanding the number of countries that can be considered. Nonetheless, the Abadie (2004) paper points to conclusions similar to the earlier transnational studies, finding that GDP per capita has little to do with terrorism and that political freedom is the most important determinant of such acts.

Despite many strengths, Abadie (2004) still leaves room for further improvement. In measuring economic factors, only GDP per capita was considered, though the UN Human Development Index and the Gini Index were tested for robustness. Other hypothesized predictors of terrorism that have been tested in previous literature, such as GDP growth and unemployment level, were not investigated.

The determinants of international terrorism have been investigated very thoroughly, but it remains to be seen to what extent those results apply when domestic terrorism is also considered. This paper builds on Abadie (2004) by introducing an updated dataset and including a variable for total adult unemployment rate. Replicating much of the Abadie (2004) methodology, this paper finds that unemployment is a significant predictor of terrorism in addition to political freedom, population fractionalization, and geography.

Data

Table I includes brief definitions and descriptive statistics of the dataset described below. Following Abadie (2004), as my measure of the risk of terrorism I use the notoriously difficult to obtain World Market Research Centre's Global Terrorism Index 2003/4 (GTI). The GTI includes domestic and transnational acts that fall under a broad definition of terrorism as, "The unlawful and premeditated use of violence intended to coerce or intimidate a government or civilian population as a means of advancing a political or ideological cause." The GTI also rules out any acts by sovereign states as not constituting terrorism. The GTI rates 186 countries on a possible scale of 1-100; higher numbers indicate greater risk of terrorism to a country and its assets abroad in the 12 months following the index's publication. The risk score is composed of five factors which forecast terrorism, differently weighted depending on significance: motivation (40%), presence (20%), scale (20%), efficacy (10%), and prevention (10%).

Improving on the sample size in Abadie (2004), I use data from World Bank as provided to the United Nations (UN) on 2002 GDP per capita in purchasing power parity (PPP) as a measure of poverty. Though this data is from 2002, as opposed to the 2003 data that Abadie uses, I believe it represents an improvement. The greater completeness of the data allows for observations on over a dozen countries that were dropped in earlier studies. Furthermore, per capita PPP is a more accurate measure of poverty than just looking at the raw GDP. The weakness of using slightly older data is that while in most countries changes were likely very small, some salient examples like Iraq or Afghanistan

have likely changed more dramatically. However, examples such as those are rife with endogeneity problems and that makes it hard to say if they would actually be better.

To ensure that the results are robust and maintain ease of comparison to Abadie (2004) this paper will use the most recent UN Human Development Index (HDI) or the Gini Index in place of GDP in some regressions. The HDI weighs life expectancy, adult literacy, combined enrollment ratios for all levels of schooling, and GDP to give each country a value from 0-1 with higher numbers representing the most development. The Gini Index is a measure of inequality in a country; it is defined as the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage. A value of 0 represents perfect equality and 100 represents perfect inequality.

To measure the degree of political freedom in each country I use Freedom House's Freedom in the World 2004 Political Rights Index. This rates countries from 1-7 with a lower score representing greater freedom. Perhaps because I used 2004 data, as opposed to 2003, I managed to improve on the sample size over Abadie (2004) with data on territories and disputed areas in addition to the independent countries that he considers. As such, this paper is not forced to drop Hong Kong, Macau, Puerto Rico, the Palestinian Authority, or North Korea. The Freedom House also reports a Civil Liberties Index which was used by Krueger and Laitin (2003); however this index is highly collinear with the Political Rights Index used by Abadie (2004) and would provide almost exactly the same result. Regardless, in order to keep comparability between this paper and Abadie (2004) at a maximum, I opted to stick with the political rights measure.

Just as Abadie (2004) did, I take linguistic, ethnic, and religious fractionalization indices from Alesina et al (2002). The indices represent the probability that any two

individuals chosen at random from a country belong to different linguistic, ethnic, or religious groups. There are two important things to keep in mind with these data. Firstly, ethnic and linguistic fractionalizations are significantly correlated. It is not surprising that individuals of different ethnic groups are more likely to speak different languages than people of the same ethnic group. Secondly, when they measure linguistic fractionalization, which proves to be the most important of the three indices in this paper's regressions, Alesina et al (2002) look at data on first languages only. They do not look at whether individuals are likely to share a common language. Somewhere like Montreal, where residents move comfortably between French or English, will have a fairly high linguistic fractionalization index even if there is no real difficulty in communication. Thus it may be the case that the linguistic fractionalization variable is proxying for some combination of linguistic, ethnic, and other cultural factors. Regardless of its precise makeup, there is little reason to think that it may be correlated with any of the other variables tested in this paper and it maintains its usefulness as a measure of social division within a country.

Geographic data come from Gallup, Mellinger, and Sachs (2001) and measure country land area, average elevation, and the fraction of land area in the Köppen-Geiger tropics.

Finally, I include data from the International Labor Office (ILO) on the total adult unemployment rate in a country. The data are the annualized values for the most recent year available, which is 2003 in the vast majority of cases. Unfortunately, data were only available for 117 of the 186 countries in this study. The countries that are left out are consistently very poor, have higher linguistic fractionalization, have fewer political rights

and are often involved in violent conflicts. However, the distribution of terrorist risk in the group without data is roughly similar to the distribution of risk in the sample with unemployment data reported. The list of countries without adequate unemployment data however includes Iraq, Afghanistan, and most of Africa.

Empirics and Results

To begin my empirical work, I use the country-level cross-section data described above in a series of Ordinary Least Squares regressions. The general form of the estimating equations is:

$$\ln(\text{terrorist risk}) = \beta_0 + \beta_1 \ln(\text{GDP per capita}) + \beta_2 \mathbf{X} + \varepsilon$$

The vector \mathbf{X} includes all of the potential predictors of terrorism previously described: lack of political rights, unemployment, geographic variables, and linguistic, ethnic, and religious fractionalization. All regressions also include an exhaustive set of regional dummy variables based on the groupings used in the WMRC-GTI.

For my initial series of regressions, I considered the maximum number of observations available as I went along. Thus, as more variables are added in, the number of observations in the regressions has the unfortunate trend of decreasing. The results of these regressions are reported in Table II. Columns (1) – (5) mirror estimations in Abadie (2004), and produce very similar results even with my slightly modified data set. The coefficient on log GDP in column (1) is significant and shows that a 1% increase in GDP per capita is associated with a .19% reduction in terrorist risk.

Columns (2) and (3) add in the index for lack of political rights and show the non-monotonic relationship of political rights and terrorist risk as found in Abadie (2004).

This relationship shows that countries on both ends of the political rights spectrum are the least likely to suffer terrorist attacks. Liberal countries with many political freedoms and authoritarian countries where people are highly regulated have the least risk; but middle-ranking countries, often in a state of political transition, have the greatest risk.

The three fractionalization indices are added in column (4) and we find that only linguistic fractionalization bears a significant coefficient. Also in this column, the coefficient on GDP remains negative, but becomes statistically insignificant. In column (5) the ethnic and religious fractionalization indices are removed, causing two major changes in the estimation. Firstly, the coefficient on linguistic fractionalization becomes significant at the 1% level, where it had previously only been at the 5% level. This is not surprising because of the degree of colinearity with ethnic fractionalization may previously have divided some of the relationship between the two variables. Secondly, we see that the coefficient on log GDP per capita has returned to significance, marking the first serious departure from the results in Abadie (2004) yielded by the different data set in this paper. Regardless, further tests still manage to reduce the coefficient on log GDP per capita to insignificant levels.

In column (6) I introduce my novel variable of total adult unemployment rate into the estimation equation. The previously included variables all remain significant to at least a 10% level and unemployment is found to be highly significant at a 1% level. The regression estimates that a 1% increase in the adult unemployment rate is associated with a .02% increase in the risk of terrorism in a country.

Due to concerns about possible endogeneity, because terrorism can certainly weaken an economy, in columns (7) through (12) this paper tries to go a step beyond the

level of GDP per capita. In those columns I include geographic variables for country size, average elevation, and tropical climate with the rationale that studies have related geography and climate to wealth, and that certain types of geography may lend themselves more to terrorism than others. For example, the mountains of Afghanistan have proven notoriously difficult to flush terrorists out of and have definitely contributed to Afghanistan's 6th place ranking out of the 186 countries in the GTI.

In column (7), with the unemployment variable left out, the geographic variables essentially overwhelm the rest of the included factors. The regression coefficients on all three geographic variables are significant at a 1% level. Linguistic fractionalization remains significant, but now only at a 10% level and political rights and GDP fall out of the range where they can be statistically distinguished from zero.

However, when we add back in unemployment as a regressor in column (8), the degree of political freedom becomes once again significant, but now linguistic fractionalization is no longer significant. It is difficult to speculate about the reason for the phasing in and out of significance of political freedom and linguistic fractionalization. The two variables are not collinear to any mentionable degree with each other or with unemployment, so why they interact as they do is not obvious.

Instead of GDP per capita, in columns (9) and (10) poverty is measured with the UN Human Development Index. The HDI is a broader measure and includes health and education components in addition to GDP. Column (10) yields results very similar to column (8), with unemployment and geographic variables once again highly significant. This suggests a degree of robustness to the results obtained with GDP per capita.

However, in columns (11) and (12) where poverty is now measured with the Gini Index, the coefficient on the index is significant as are the coefficients on all other estimation variables. The coefficient on the Gini Index is negative which surprisingly suggests that wealth inequality may be associated with a reduction in terrorist risk even though overall average wealth in a country is not. If there were causality here, it would mean that countries with a high degree of equality are actually more at risk of terror than very unequal countries. This result is contrary to other evidence which concludes that characteristics that make people feel marginalized make them more likely to resort to terrorism. This may just be the result of a small sample size and the skewing effect of a large number of extremely unequal African countries that do not draw the ire of any terrorist groups, though the included regional dummies should insulate the results from such effects. However, there is a chance that there is a genuine relationship between equality and terrorism, as counterintuitive as it seems.

It is interesting to note that in column (11) the results of this paper differ from those of Abadie (2004) despite running almost exactly the same regression as he does at one point. The Abadie (2004) paper does not find Gini coefficients to be significant. To look deeper at this problem, the only difference between my data and that in Abadie (2004) is that my data on linguistic fractionalization is 1 year more recent and contains 1 fewer observation. Whichever country was dropped, it may be an outlier in its Gini coefficient or in some other way. This should give us further caution before drawing any conclusions about economic inequality and terrorist risk.

Overall, the results on the OLS regressions found in Table II show that when country characteristics for linguistic fractionalization, political freedom, unemployment,

and geography are considered, neither GDP per capita or human development have significant relationships with terrorist risk.

OLS Robustness

Unemployment rate was shown to have a highly statistically significant association with the risk of terrorism in the above OLS regressions. However, there are several potential complications to be addressed before any hard conclusions can be drawn.

One immediately apparent problem is the number of observations in regressions containing an unemployment variable is noticeably lower than the baseline regressions building up to it. This is because unemployment data is unavailable for a large number of less developed countries or countries in the midst of domestic strife. Regardless of the reasons for the reduced number of observations, the problem is that changes in the dataset may cause significant changes across the board, causing one column not to be comparable to its neighbor.

In order to address this problem, I created a second, limited dataset containing only the 105 countries for which I had a complete set of data on all tested variables. Descriptive statistics for the limited dataset are reported in Table III. If we compare the statistics from the full data set in Table I with this limited set, we can get a rough idea if the omitted countries share common characteristics.

A quick comparison shows that the two data sets exhibit very little difference in mean and standard deviation for dependent variable, terrorist risk, as well as many of the right-hand side variables. The two most prominent differences are in GDP per capita

and in political freedom. The omitted countries tend to be a little poorer and a little less politically free.

When looking at the regressions on the 105 country sample, we should keep a few things in mind. First, because GDP per capita ended up not being significant once other characteristics were accounted for in the earlier regressions, we should be skeptical if that result changes. Second, the mean of the freedom index has dropped, indicating more freedom in the 105 country sample, while the terrorist risk statistics have remained basically constant. If the non-monotonic result for political freedom proves to be robust, then we should expect to see the positive coefficient on political rights and the negative coefficient on political rights squared become farther apart, indicating more dramatic sloping to the non-linear curve as we move along the spectrum from liberal states to authoritarian states.

Table IV reports the estimation coefficients after running the same series of regressions as earlier on the limited 105 country sample. When compared to the earlier results in Table II, the limited sample produces extremely similar estimations. All of the previous conclusions about the complete dataset hold for the smaller set with the possible exception that linguistic fractionalization is not as consistently significant in the 105 country set. From this, I conclude that the 105 country set has no glaring irregularities that distinguish it from the larger set. Overall, this gives strong support for concluding that the highly significant estimation coefficients on unemployment are robust.

Cautions

Prior to drawing final conclusions, let me caution the reader with some of the general weaknesses of this study. First and most important is that terrorism is impossible to truly predict. Terrorists operate on a global scale and work actively to strike where they are unexpected. Some like Al-Qaeda have very wide goals and targets around the world; some act solely in their own countries as rebel groups too small to fully start a civil war. This paper hopes only to shed light on some of the factors that correlate with terrorist risk, be it by drawing the attention of international terrorists, as in the case of the United States, or by producing local terrorism as in Columbia.

Another point of caution is that while I have shown that at least one economic variable is significant in addition to social and political factors, the predictive power of unemployment is not as strong as those of the other significant factors. Though highly statistically significant, even if we granted complete causality to unemployment (which would be extremely charitable) the magnitude of the coefficient is small relative to the other significant variables and does not explain the majority of the dependent variable. That said, when the unemployment variable is added beyond all other considered factors in Table II, the R^2 value goes from 0.35 in column (7) to 0.47 in column (8); this is not a small jump by any means.

Further, when testing unemployment rates endogeneity problems may exist. Terrorism has a negative impact on economies and can disturb business, reduce growth, and very possibly as a consequence raise unemployment. This is an extremely difficult problem for which to control. Perhaps a better measure than recent annualized unemployment rate would have been to look at long-term unemployment or rates over a

few recent years. Unfortunately, data on unemployment is already scarce for a huge number of countries and I am unable to find long-term unemployment data for more than a handful of countries beyond the OECD. While questions of endogeneity are difficult to resolve empirically, the significant correlation is nonetheless present and there are many good reasons to think that unemployment may indeed have a causal relationship to terrorism.

Conclusions

Using a more complete dataset than previous studies and testing new variables, I find that the economic variable of unemployment has a significant association with terrorist risk. My results also confirm previous work suggesting that political freedom, population fractionalization and geography are also powerful predictors of terrorism. Like other studies, I find that GDP per capita does not have a statistically significant relationship with terrorism once these other variables are taken into account.

My results also suggest that as a country's Gini coefficient increases, meaning the gap between rich and poor grows, terrorist risk may be reduced. However, these results are counter-intuitive and never significant beyond the 10% level. Therefore, I hope to do more testing in the future with inequality and Gini coefficients before drawing any hard conclusions about inequality and terrorism.

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Table I
Descriptive Statistics

Variable	Description	Obs	Mean	Std. Dev	Min	Max
Terrorist Risk	WMRC Global Terrorism Index 2003/04	186	40.05	19.87	10	94
GDP per capita	GDP per capita in PPP for 2002 in US dollars	169	9312	10122	520	61190
Human Development	UN Human Development Index 2002	171	0.70	0.18	0.27	0.96
Gini Index	Index of income or consumption inequality, various years	122	40.6	10.17	24.4	70.7
Lack of Political Rights	Freedom House Political Rights Index, 2004	182	3.52	2.16	1	7
Linguistic Fractionalization	Probability two random individuals have different native language	173	0.39	0.28	0.002	0.92
Ethnic Fractionalization	Probability two random individuals have different ethnicity	174	0.45	0.25	0	0.93
Religious Fractionalization	Probability two random individuals have different religion	181	0.43	0.23	0.002	0.86
Unemployment	ILO annualized adult unemployment rate of both genders, 2003	117	9.60	6.53	1.1	36.7
Country Area	Area in million square kilometers	161	0.81	2.03	0.0026	16.6
Elevation	Average elevation above sea level in hundred meters	161	6.17	5.57	0.092	31.86
Tropical Weather	Fraction of country in Köppen-Geiger tropics	161	0.31	0.41	0	1

Table II – Terrorism and Country Characteristics
OLS with Robust Standard Errors

Dependent variable: Natural logarithm of WMRC Global Terrorism Index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log GDP per capita (PPP)	-0.1990*** (0.0452)	-0.1618*** (0.0467)	-0.1286** (0.0495)	-0.0909 (0.0550)	-0.1058** (0.0518)	-0.1276* (0.0762)	-0.0775 (0.0532)	-0.0403 (0.0770)				
Human Development Index									-0.2134 (0.4160)	-0.0473 (0.6175)		
Gini index											-0.0087* (0.0049)	-0.0112* (0.0058)
Lack of Political Rights		0.0508** (0.0252)	0.2507** (0.1028)	0.2226** (0.1082)	0.2225** (0.1054)	0.3419** (0.1303)	0.1840 (0.1121)	0.2828** (0.1193)	0.2271** (0.1106)	0.3075*** (0.1166)	0.2104* (0.1065)	0.2708** (0.1222)
Lack of Political Rights Squared			-0.0249** (0.0119)	-0.0218* (0.0124)	-0.0220* (0.0122)	-0.0389** (0.0168)	-0.0197 (0.0129)	-0.0354** (0.0151)	-0.0243* (0.0126)	-0.0379** (0.0148)	-0.0237* (0.0130)	-0.0339** (0.0168)
Linguistic Fractionalization				0.5397** (0.2271)	0.4962*** (0.1634)	0.4315** (0.1887)	0.3533* (0.1793)	0.2387 (0.1885)	0.3655** (0.1797)	0.2292 (0.1884)	0.4811** (0.1861)	0.3603* (0.1937)
Ethnic Fractionalization				-0.0045 (0.2477)								
Religious Fractionalization				-0.0711 (0.1692)								
Unemployment Rate						0.0212*** (0.0072)		0.0221*** (0.0069)		0.0220*** (0.0070)		0.0213*** (0.0070)
Country Area							0.0516*** (0.0124)	0.0506*** (0.0137)	0.0492*** (0.0122)	0.0490*** (0.0133)	0.0458*** (0.0145)	0.0503*** (0.0169)
Average Elevation							0.0182*** (0.0061)	0.0270*** (0.0075)	0.0201*** (0.0060)	0.0287*** (0.0072)	0.0204*** (0.0061)	0.0283*** (0.0072)
Tropical Weather Percentage							0.3699*** (0.1228)	0.4858** (0.1863)	0.3759*** (0.1238)	0.5077*** (0.1844)	0.4306*** (0.1302)	0.5439*** (0.1776)
R-squared	0.17	0.19	0.21	0.26	0.27	0.35	0.35	0.47	0.35	0.47	0.44	0.53
Observations	169	169	169	158	160	110	147	105	147	105	117	92

Notes: Robust standard errors are shown in parentheses. All regression included a comprehensive set of regional dummy variables based on the country groupings used in the WMRC-GTI.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table III
Descriptive Statistics – Limited Dataset

Variable	Description	Obs	Mean	Std. Dev	Min	Max
Terrorist Risk	WMRC Global Terrorism Index 2003/04	105	43.47	20.66	12.5	94
GDP per capita	GDP per capita in PPP for 2002 in US dollars	105	11717	10992	580	61190
Human Development	UN Human Development Index 2002	105	0.77	0.1345	0.34	0.96
Gini Index	Index of income or consumption inequality, various years	92	39.0	10.16	24.4	70.7
Lack of Political Rights	Freedom House Political Rights Index, 2004	105	2.83	1.97	1	7
Linguistic Fractionalization	Probability two random individuals have different native language	105	0.31	0.25	0.002	0.92
Ethnic Fractionalization	Probability two random individuals have different ethnicity	104	0.38	0.23	0.002	0.93
Religious Fractionalization	Probability two random individuals have different religion	105	0.40	0.23	0.002	0.86
Unemployment	ILO annualized adult unemployment rate of both genders, 2003	105	9.22	6.36	1.1	36.7
Country Area	Area in million square kilometers	105	1.01	2.46	0.0027	16.6
Elevation	Average elevation above sea level in hundred meters	105	6.12	5.61	0.092	31.86
Tropical Weather	Fraction of country in Köppen-Geiger tropics	105	0.24	0.38	0	1

Table IV – Terrorism and Country Characteristics with Limited Sample
OLS with Robust Standard Errors

Dependent variable: Natural logarithm of WMRC Global Terrorism Index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)†	(9)	(10)†	(11)	(12)†
Log GDP per capita (PPP)	-0.2053*** (0.0660)	-0.1730** (0.0831)	-0.0994 (0.0919)	-0.1095 (0.1023)	-0.1029 (0.0901)	-0.1122 (0.0861)	-0.0343 (0.0834)	-0.0403 (0.0770)				
Human Development Index									-0.0792 (0.6665)	-0.0473 (0.6175)		
Gini index											-0.0099* (0.0059)	-0.0112* (0.0058)
Lack of Political Rights		0.0295 (0.0477)	0.3377** (0.1392)	0.3674** (0.1470)	0.3315** (0.1409)	0.3284** (0.1379)	0.2931** (0.1227)	0.2828** (0.1193)	0.3107** (0.1235)	0.3075*** (0.1166)	0.2786** (0.1310)	0.2708** (0.1222)
Lack of Political Rights Squared			-0.0407** (0.0176)	-0.0443** (0.0183)	-0.0398** (0.0175)	-0.0368** (0.0174)	-0.0396** (0.0151)	-0.0354** (0.0151)	-0.0414*** (0.0153)	-0.0379** (0.0148)	-0.0376** (0.0177)	-0.0339** (0.0168)
Linguistic Fractionalization				0.5351** (0.2601)	0.3964* (0.2025)	0.3716* (0.1909)	0.2686 (0.2014)	0.2387 (0.1885)	0.2609 (0.2023)	0.2292 (0.1884)	0.4152* (0.2091)	0.3603* (0.1937)
Ethnic Fractionalization				-0.2680 (0.2941)								
Religious Fractionalization				0.1726 (0.2621)								
Unemployment Rate						0.0220*** (0.0073)		0.0221*** (0.0069)		0.0220*** (0.0070)		0.0213*** (0.0070)
Country Area							0.0516*** (0.0135)	0.0506*** (0.0137)	0.0504*** (0.0131)	0.0490*** (0.0133)	0.0500*** (0.0163)	0.0503*** (0.0169)
Average Elevation							0.0279*** (0.0078)	0.0270*** (0.0075)	0.0292*** (0.0075)	0.0287*** (0.0072)	0.0269*** (0.0076)	0.0283*** (0.0072)
Tropical Weather Percentage							0.4229** (0.1991)	0.4858** (0.1863)	0.4393** (0.1957)	0.5077*** (0.1844)	0.4671** (0.1942)	0.5439*** (0.1776)
R-squared	0.23	0.24	0.28	0.30	0.30	0.36	0.42	0.47	0.42	0.47	0.48	0.53
Observations	105	105	105	104	105	105	105	105	105	105	92	92

Notes: Robust standard errors are shown in parentheses. All regression included a comprehensive set of regional dummy variables based on the country groupings used in the WMRC-GTI.

* significant at 10%; ** significant at 5%; *** significant at 1%

† Identical to regressions in Table II