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Military Might and Political, Economic, and Social Institutions: A Global Time Series Empirical Test of Terrorism

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Introduction

Current U.S. counter-terrorism policy deals with terrorists in a somewhat rational fashion. However, the ideology of terrorists has been characterized in a U.S. Government report as involving "oppression, violence, and hate"[1]. These ambiguous terms share text with more specific irrational reasons for terrorist activities. In the same report, experts state that terrorists hold "a false belief that the United States is the cause of most problems affecting Muslims today, our enemies seek to expel Western power and influence from the Muslim world and establish regimes that rule according to a violent and intolerant distortion of Islam"[2]. Furthermore, the report continues by stating "[f]or our terrorist enemies, violence is not only justified, it is necessary and even glorified – judged the only means to achieve a world vision darkened by hate, fear and oppression"[3]. Moreover, they describe terrorists as having a "distorted and violent view of the world"[4].

If policy were derived from the above phrases, which depict an irrational terrorist foe, our military, local law enforcement, and security organizations may have to alter operations to combat these groups. Yet despite the seemingly irrational drive depicted by the United States, our policies reflect a rational actor possibly funded by a rational state. It may be that terrorist groups are rational and have rational reasons for their conflict with the United States. But even if their reasons are rational, that does not mean terrorist beliefs are justified or correct. The United States has an interest in overcoming these opponents because they are a threat to Americans and possibly the world. Therefore, accepting terrorists as enemies is justified, but accepting them as irrational enemies is not.

Counter-terrorism policy in a democracy is plagued by one ailment: security and personal freedom are opposing needs[5]. Citizens expect terrorists to be dissuaded from attacking innocent civilians if civil society can implement security measures that prevent terrorists from planning and implementing an event. Simultaneously, sectors of the military, the government, and society want to punish terrorists. Citizens want the terrorists permanently stopped and the planning of future attacks prevented. This creates tension between due process, individual rights, and general security because the most effective methods of attaining security are often the most personally intrusive methods. This constrains counter-terrorism policy and belabors civil rights[6].

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[1] Whitehouse (2006). "National Strategy for Combating Terrorism. "September 2006 available at http://www.Globalsecurity.org/security/library/policy/natonal/nsct_sep2006.pdf

[2] Ibid, p. 5.

[3] Ibid, p. 5.

[4] Ibid, p. 6.

[5] Perl, R. "Terrorism, the Future, and U.S. Foreign Policy." Congressional Research Service. (2003)

[6] Ibid.

Under such constraints facilities, such as the Guantanamo Bay, become necessary in order to protect citizens.

Free from law designed to prosecute far different criminals, these facilities are criticized for their lack of prisoner civil rights. Designed for simply prosecution of terrorists, these centers also become the center of complex legal matters. For example, not all detainees desire to return to their country. Uighur Muslims from a North-West province of China do not wish to return to China for fear of retribution. Reports insist that these detainees, if released in China, will face torture and/or death. Although eligible to apply for asylum in the United States, these detainees have not expressed desire for refuge. Instead the U.S. has been forced to maintain their detainee status and allow these Muslims to habitat in Guantanamo until provisions have been made[7]. This example highlights the need for counter-terrorism policy to do more than address the *symptoms* of terrorism; future policy must focus on preventing terrorism. If policy fails to identify and remedy root causes of terrorism the future is likely to have increasing numbers of complex civil rights and legal dilemmas.

This study, in an effort to uncover root reasons for terrorism, will delve into the issue of terrorism by testing if economic, social, and political factors have an effect on terrorism. It is the intention of this study to suggest policies that address the source of terrorist motivations rather than the symptoms. Using data from RAND and the World Bank that spans 12 years[8], the researcher uses a negative binomial time series analysis to answer several hypotheses probing the relationship of political, social, and economic institutions' effect on terrorist incidents.

Establishing that terrorism is a rational behavior is significant to the discussion; it is only when we prove that terrorism is rational that policy can be effective. That is, if terrorism is irrational, counter-terrorism policy will be ineffective. Therefore, this article will begin with a discussion about the rationality of terrorism. Previous research will then be reviewed that attempts to measure the effect of political, social and economic factors. Weaknesses and strengths of each study will be discussed. The current study will then be introduced including methodology, data and findings. Finally, the discussion and conclusion will highlight important findings of the study and suggest policy implications.

Terrorists as Rational Actors

Simply stated, rational choice theory purports that "crimes are broadly the result of rational choices based on analyses of anticipated costs and benefits"[9]. Therefore, in this proposal's application, terrorists seek to reduce costs and maximize the benefits. The costs for a terrorist may be the group or team's apprehension prior to the incident, a premature detonation, the target's survival, or the community's backlash. The benefits could be incapacitating governments, defeating repression, killing a person or group, and/or publicizing their cause. Terrorists may also attempt to overthrow a government, such as bandits had done in China.

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[7] Simard, Kara " Innocent at Guantanamo Bay: Granting Political Asylum to Unlawfully Detained Uighur Muslims." Suffolk Transnational Law Review 30:2 (2007)

[8] Data acquired from RAND's MIPT terrorism knowledgebase and the World Bank. Data from 1995 to 2006 are utilized in this study.

[9] Cornish, D. B. C., Ronald V. "Modeling Offenders' Decisions: A Framework for Research and Policy." An Annual Review of Research 6: 145-185, p.vi. (1985)

To illustrate the rationale of terrorists, Zwinkael recognized three characteristics of Al Qaeda that demonstrate a certain level of rationality. First, all the operations by Al Qaeda exemplify "uniqueness"[10] in that each attack is distinct from any other in history. Second, each attack strictly adhered to a timeline. Third, Al Qaeda had defined goals. Moreover, Zwikael applied a Project Management methodology to test terrorist events. He found that 44 processes of project management were met in Al Qaeda operations. Grouped into 9 categories, this list exemplifies the extensive planning needed for a successful attack[11]. The categories are as follows:

1. *Integration*. Includes integrative processes required to ensure that the various elements of the project are properly coordinated.

2. *Scope*. This knowledge area makes sure that the project includes all and only the necessary work required to complete the project successfully. This knowledge area includes product scope (features and functions that are to be included in a product or service) and project scope (work that must be done in order to deliver a product as specified).

3. *Time*. Scheduling is the process of integrating information regarding duration of activities, precedence relationships, and required due dates, in order to determine the dates in which resources are to perform the various activities that are part of the project.

4. *Cost*. Processes include planning and controlling the project budget.

5. *Quality*. Processes performed to reach the totality of features and characteristics of a product or service that bear on its ability to satisfy a customer's given needs.

6. *Human resources*. Processes required making effective use of the people involved in the project, including organizational planning, staff acquisition, and team development.

7. *Communications*. The processes required in order to assure the timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project information. This knowledge area includes communications planning, information distribution, performance reporting, and administrative closure.

8. *Risk management*. Processes dealing with identifying and reducing the project's risk level, including risk management planning, risk identification, qualitative risk analysis, quantitative risk analysis, risk response planning, and risk monitoring and control.

9. *Procurement*. Processes require the acquisition of goods and services from outside the performing organization. This knowledge area includes: procurement

[10] Zwinkael, O. "Political Parties Turn to Terrorist Activities." Comparative Politics 23(4): 423-438, p.268. (2007)
[11] Ibid.

planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout[12].

The characteristics above give strong reasons to believe that Al Qaeda does act as rationally as any large corporation or business acts. The fatwa of February 1998 stated that "it was God's decree that every Muslim should try his utmost to kill any American, military or civilian, anywhere in the world, because of American occupation of Islam's holy places and general aggression against Muslims"[13]. This decree issued by Al Qaeda may seem irrational to the average American, but the steps to accomplish the fatwa are well developed. In fact, operations are so well developed that from 1993 to 2005, a majority of Al Qaeda's attacks on the U.S. could be considered successful[14].

Crenshaw found that terrorists use "rational political choice"[15]. The actions of terrorists are to gain "recognition or attention"[16] for their cause. Gruesome and horrific events bring the greatest attention and are therefore the tools of these actors. Crenshaw found that when a small group is faced with a seemingly insurmountable task of challenging a large group or nation, terrorist tactics are logical choices[17].

Ferracuti [18] examines four theories to explain terrorism: frustration-aggression, unbalanced social systems, Olson's rational choice, and Marxist theory. Ferracuti does understand how logical actors could commit terrorist acts, yet he found that all four theories fall short of explaining terrorism. Instead, he found that subculture theory holds the greatest explanatory power[19]. Although Ferracuti does not support rational choice, he does explain how certain death can still be a rational choice for a terrorist. It is understood that a human's natural survival instinct would prohibit a person from putting himself in danger, but exceptions to this human drive may explain why terrorists logically kill others and themselves[20]. Ferracuti states, "[d]eath per se cannot be accepted at the experimental level and must therefore be rationalized, attributed to chance or to natural processes, made into a symbol of an exceptional event, or denied and lived simply as a religious transition from life on earth to eternal life"[21]. During times of war, a soldier can be encouraged to murder and understand that his or her life is in jeopardy. A terrorist, therefore, creates these war conditions and subjects himself or herself to this rule. No longer is the terrorist killing or being killed; instead he is part of a collective action against an enemy[22].

Although this is by no means an exhaustive literature review of rational choice theory's application to terrorism, it does provide evidence that the theory can be applied to terrorism. To follow Ferracuti's logic, a U.S. soldier would certainly not be considered irrational; therefore,

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[12] Ibid, p. 269.
[13] Ibid, p. 270.
[14] Ibid.
[15] Crenshaw, M. "The Causes of Terrorism." Comparative Politics **13**(4): 379-399 (1981)
[16] Ibid, p.285.
[17] Ibid.
[18] Ferracuti, F. "A Sociopsychiatric Interpretation of Terrorism." The Annals of the American Academy: 129-140. (1982)
[19] Ibid.
[20] Ibid.
[21] Ibid, p.136.
[22] Ibid.

terrorist actors may be rational as well. Following Crenshaw's[23] findings, not only are the individual terrorist actors rational, but the group is as well because it is the only viable means of combating a superpower such as the United States. Not only are the groups' motivations rational, but the means they use are rationally executed[24].

Previous Research

Previous empirical research has shaped the current study. Davis[25] tests two major theories in terrorism research utilizing political, social and economic factors: social disorganization theory and relative deprivation theory. Both theories hinge on rational choice theory's postulates. Davis argues that social disorganization will be positively related to societal change. He operationalizes societal change using two variables GDP growth and population growth which estimate economic and social change, respectively. These variables are expected to be positively related to political violence. Evidence supporting relative deprivation theory, Davis argues, is manifested when GDP per capita is regressed on political violence. This relationship is not expected to be linear; instead, it was projected to have an inverted "U" shape. The logic for such a relationship is based on the argument of Gurr[26] and the findings of Feirabend and Feirabend[27] who found that as moderate levels of GDP per capita are related to high political violence whereas low levels of political violence were associated with low and very high GDP per capita values. As is necessary to test inverted "U" relationships, Davis utilized interaction variables to test relative deprivation theory. Political rights squared, civil rights squared and democracy squared were used to test the hypothesis that repression and political rights share a negative parabolic curve. In addition, variables calculated by squaring GDP per capita, education divided by GDP per capita, political rights multiplied by GDP per capita, and political rights multiplied by education further test relative deprivation theory.

To test each theory Davis used count data of the number of assassinations per million per year in 138 nations over the course of 15 years (1970-1984), pooled and broken up into three time periods as a dependent variable. Control variables of each nation included average education level, fraction of time (1960-1985) in war, participation in war (dummy), political rights, civil rights, democracy, government consumption, and government expenditures relative to GDP.

Models testing social disorganization theory found results contradictory to the theory. Yet models testing rational choice theory, a negative relationship between real GDP per capita growth and political violence, were significant. In fact, when the dependent variable included all 15 years, the *p* value was significant to the 1% level. As predicted, results support an inverted "U"-shaped relationship between political violence and repression. That is, political violence was low when repression was low and very high, but violence was greatest when repression was

[23] Crenshaw, M. "The Causes of Terrorism." Comparative Politics **13**(4): 379-399 (1981)
[24] Zwinkael, O. "Political Parties Turn to Terrorist Activities." Comparative Politics 23(4): 423-438. (2007)
[25] Davis, G. G. "Repression, Rationality, and Relative Deprivation; A Theoretical and Emperical Examination of Cross-National Variations in Political Violence" Department of Economics Washington, D.C. , George Mason University Ph.D. : 1-31.(1999)
[26] Gurr, R. T. Why Men Rebel. (Princeton, NJ, Princeton University Press, 1970)
[27] Feirabend, R. & Feirabend, I. "Aggressive Behavior within Polities 1946-62 a Cross-National Study." Journal of Conflict Resolution **10**: 249-271.(1966)

neither high nor low. All models testing this relationship had a *p* value below 7%. When all years were considered, the *p*-value was below the 0.1% level, indicating a very strong relationship[28]. Overall, the study found support for the application for rational choice theory and relative deprivation theory. Moreover, this study introduced variables that will be included in the current study.

Crain & Crain[29] conducted a study in an effort to test the effect of terrorism on economic factors. Data included indicators from 147 nations between the years of 1968 and 2002. Regressions used several dependent variables including GDP per capita, fixed capital investment, final consumption expenditures, and international tourist expenditures. The independent variables were unanticipated incidents per 100,000 population, incidents per 100,000, unanticipated casualties per 100,000, casualties per 100,000, unanticipated wounded per 100,000, wounded per 100,000, unanticipated killed per 100,000, and killed per 100,000. All terrorist incident data were acquired through the ITERATE database. Control variables were also included in a set of regressions. They included infrastructure and economic indicators. All independent variables were calculated using their natural log[30].

The results found that terrorism is quite costly. Consistently, unanticipated incidents per 100,000 people were significant. Most regressions found anticipated incidents per 100,000 people were significant. The impact on GDP was dramatic for some nations. For instance, if the U.S. decreased the number of incidents from 3 to 2, the savings would be $40 billion. Other nations would not see such a dramatic change. For example, Argentina would save $257 million if terrorist incidents decreased from 11 to 10. Interestingly, the change in cost from the number of incidents was not uniform. For example, a population of 10 million that experiences a decrease in incidents from 2 to 1 will see a savings of $2.2 billion. But if the same sized nation decreases the number of incidents from 10 to 9, the savings is only $330 million. The population of the nation will also dictate the magnitude of the change in GDP. The larger the nation, the greater the effect terrorism has on GDP[31]. Crain & Crain offer valuable information about the relationship terrorism has on economic factors. In particular, terrorist incidents play a role in a nation's economic well being. This study also introduces one particularly interesting control variable: telephone mainlines. In every regression it was used, it was significant at the 1% level[32], leading this researcher to consider this variable's effect on a nation's economy.

Abadie[33] conducted a study to measure the effect economic, political, cultural/religious, and environmental variables have on the risk of terrorist attacks. To accomplish this, Abadie (2004) utilized data from the World Market Research Center's Global Terrorism Index which included information on 186 nations. These data served as the dependent variable. Notable independent variables included GDP per capita (log), lack of political rights, linguistic fractionalization, ethnic fractionalization, religious fractionalization, country's land area, country's elevation, and country's tropical area. Abadie chose political rights instead of civil

[28] Davis, G. G. "Repression, Rationality and Relative Deprivation" (1999)
[29] Crain, N. V. & Crain, W. M. "Terrorized Economies " Public Choice 128: 317-349. (2006)
[30] Ibid.
[31] Ibid.
[32] Ibid.
[33] Abadie, A. "Poverty, Political Freedom, and the Roots of Terrorism" Working Paper Series rwp04-043, Harvard University John F. Kennedy School of Government.(2004)

rights to reduce the endogeneity the variable would have on the risk of terrorism, i.e., a nation may constrict civil rights to deter terrorism.

Results of and ordinary least squares regression indicate that when the linguistic fractionalization variable is included, GDP per capita loses significance (negative correlation). Therefore, the commonly held belief that poor nations are more prone to terrorism is refuted in this study[34]. In addition, all three environmental variables (land area, elevation, and tropical area) were significant, indicating that geographical conditions may lead to terrorist incident risk. Abadie found the relationship between terrorist risk and lack of political rights to increase until a moderate level of political rights is reached; then risk decreases. This is in accordance with Davis' (n.d.) findings. Abadie's use of environmental factors influences the current study.

The following studies utilize similar dependent and independent variables. The first, by Kurrild-Kiltgaard, Justesen, and Klemmensen [35] consisted of four hypotheses expecting a negative relationship between terrorism incidents and economic freedom, political freedom, political rights, and civil liberties.

Hypothesis 1: Higher degrees of economic freedom lead to less terrorism

Hypothesis 2: Higher degrees of political freedom lead to less terrorism

Hypothesis 3: More extensive political rights lead to less terrorism

Hypothesis 4: More civil liberties lead to less terrorism

The researchers used a Time Series Cross Section (TSCS) design that spanned the years of 1996 and 2002. Kurrild-Kiltgaard, Justesen, and Klemmensen used ITERATE recorded terrorist incidents by origin nation and target nation as dependent variables. Independent variables included political rights, civil rights, GDP per capita, economic growth, human poverty, and a set of control variables. The dependent variable was coded as those nations that had experienced a terrorist incident and those that had not. This variable served as the dependent dummy variable (1=nations having terrorist incidents, 0=nation that did not have terrorist incidents), therefore, a logistic regression model was utilized. Independent variables were compiled from the Economic Freedom of the World Index and Freedom House.

Kurrild-Kiltgaard, Justesen, and Klemmensen found that negative quadratic form explained the relationship between terrorism and democracy (sig. at .01 level). Therefore, nations having little democracy and those having the most democracy enjoyed fewer terrorist incidents, whereas, those that had a moderate amount of democracy faced a greater likelihood of a terrorist event. Furthermore, a negative relationship was found between civil liberties and terrorist attacks. Those nations that allowed greater amounts of civil liberties had a reduced likelihood of terrorism. Results also discovered a negative relationship between trade orientation and terrorist events, as well as a positive relationship between linguistic fracturalization and terrorist acts.

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[34] Ibid.

[35] Kurrild-Kiltgaard, P., Justesen, M. K., and Klemmensen " The Political Economy of Freedom, Democracy, and Transnational Terrorism." Public Choice 128: 286-315.(2006)

Kurrild-Kiltgaard, Justesen, and Klemmensen examined the origin of terrorist groups/individuals. Utilizing the terrorist's origin as a dependent variable, democracy was found to be a significant independent variable. This relationship was negative and linear, i.e., nations that were more democratic had a lower likelihood of producing terrorists. When control variables were added, civil liberty became significant and negatively related to nations experiencing terrorist incidents. Essentially, democracy and civil liberty were found to be the strongest predictors of terrorist acts (whether victim or perpetrator). Economic freedom was not significantly related to nations experiencing terrorist attacks or those in which the terrorists originated. Utilizing many of the same independent variables, the current study attempts to test military force's effect using more sophisticated models.

Li conducted a study that also utilized time series analysis (TSCS) of terrorist incidents (ITERATE) from 1975 to 1997 from 119 nations. Three hypotheses are tested and are as follows:

> Hypothesis 1: Greater democratic participation reduces the number of transnational terrorist incidents in a country.
>
> Hypothesis 2: Countries with more institutional constraints on their government experience more transnational terrorist incidents.
>
> Hypothesis 3: Democratic countries with the proportional system have fewer transnational terrorist incidents than those with the majoritarian or mixed systems[36].

As mentioned, the dependent variable was terrorist incidents. The independent variables included freedom of press, democratic participation (dummy), government power constraint, proportional government, regime durability ["number of years since most recent regime change"[37]], past incidents (average number of incidents since 1968), and post-cold war (if nation arose after the cold war). Also included were controls for regions, government size, and conflict (if nation was involved in a conflict).

Results indicated that democratic participation reduces terrorist incidents and government constraints increase the likelihood for terrorist incidents. Li concludes by stating that "improving citizen satisfaction, electoral participation, and political efficacy, democratic governments can reduce the number of terrorist incidents within their borders"[38]. Of interest to this study is, of course, the major finding as reported, but also the use of proportional dummy variables. The suspected negative effect of a proportional system was not found in any of the models tested. In one of two models majoritarian and mixed systems were found to have a positive effect on terrorist incidents.

Research Design: Measures, Data, and Methods

[36] Li, Q. "Does Democracy Promote or Reduce Transnational Terrorist Incidents?" Journal of Conflict Resolution 49(2): 1-20.(2005)
[37] Ibid.
[38] Ibid, p.17.

Similar to Li's study, the current study utilizes the number of terrorist incidents per country per year in 166 nations between the years of 1995 and 2006 as the dependent variable. Li addressed the use of count data by arguing that such data does not take into account the magnitude of the incident. That is, a terrorist incident that kills 30 people would be considered the same as an incident that does not kill one person[39]. Such a consideration would seriously threaten internal validity if the magnitude were related to the independent variables and the purpose of the analysis. In this case, the magnitude is not central to the argument, instead, it is the fact that the individual or group planned and executed the terrorist event. From a deterrence standpoint, the fact that the terrorist(s) conspired to commit the attack is of concern. Economic, political, and social factors should have prevented a person from feeling that such behavior was necessary. In addition, the ubiquitous nature of "military might" should have dissuaded the perpetrator or group from following through with the plan. This analysis goes beyond the "symptoms" of terrorism by trying to measure the source of terrorist drives. Therefore, treating all incidents as equivalent may be considered the best method to ascertain the source of terrorist drives. According to University of Maryland's START program, 97% of terrorist incidents are domestic[40]. Therefore, aggregate analysis of this kind can, for the most part, accurately estimate the effect of economic, political and social factors on terrorism. In addition, military force is largely domestic with only a few exceptions; for example the coordinated effort in Iraq and Afghanistan. In essence, only a small fraction of nations possess the ability to substantially fight terrorism abroad.

The current study introduces military force to determine if it does prevent terrorist events. Testing such a proposition may seem problematic because determining causation is difficult. In addition, nations who dedicate military resources to terrorism innately have an interest in deterring terrorists. Therefore, events that occur on their soil may have occurred regardless of military efforts. Furthermore, military force may decrease terrorism for a nation that otherwise would have many more incidents. Admittedly, these relationships complicate the current study, but each will be addressed and mitigated as much as possible.

Research Questions and Hypotheses

In accordance with the aforementioned literature, the following research question and hypotheses have been established.

Research Question: Can the economic, social and political institutions affect the likelihood of a terrorist event in a nation?

Hypothesis 1: Nations that enjoy more economic freedoms will be less likely to fall victim to terrorist incidents.

Hypothesis 2: Nations that enjoy more political freedoms will be less likely to fall victim to terrorist incidents.

Hypothesis 3: A state's military spending will have a negative effect on terrorism incidents in that respective state.

[39] Ibid.
[40] START, University of Maryland's terrorism database

Hypothesis 4: The magnitude of a state's military workforce is negatively related to the number of terrorist incidents

Hypothesis 5: Nations having a majoritarian or mixed political system will be positively related to the number of terrorist incidents

Data

This study will use count data of terrorist incidents for the years including and between 1995 and 2006 gathered from MIPT Terrorism Knowledge Base[41]. For instance, in FY 2000, Ecuador experienced five terrorist incidents. Therefore, Ecuador is given a five in 2000. To avoid auto-correlation, the time series data will include a trend variable. Using count data precludes the use of OLS because a great number of nations did not experience terrorist incidents. For example, China did not experience any terrorist incidents 4 out of 12 years. Furthermore, the data is not parametric nor are the conditional means and variances equal as a Poisson model assumes. Therefore, a time series Negative Binomial Regression Model (XTNBRM) is utilized.

Definition

A major concern when dealing with terrorism data is the definition applied to an incident. The FBI, State Department, and CIA all have different definitions. Using a singular definition can be considered a strength as well as a weakness. Certain incidents may not fit the needed parameters, yet they are considered by many to be terrorism. On the other hand, an innocuous incident may be considered terrorism even though it may seem ridiculous to be considered as such. The data utilized in this study does not have a set definition. Instead MIPT Terrorism Knowledge Base used several configurable definitions of *terrorist*. This approach is ambiguous but is likely to be one of the most liberal. It is necessary to mention that one should not consider these data to be completely accurate but rather a close approximation of the number of incidents. Data from any source of this kind will most likely be inaccurate because the chain of events that must occur to have an incident added to this list is daunting at times. Incidents such as 9/11 will easily make the list, but incidents that are in remote areas, affected few people, and did not result in fatalities will most likely be neglected. Yet this data does provide valuable information that represents terrorism in many regions of the world; even if the count is not correct, the magnitude still reflects the degree of terrorism. In addition, the error is considered to be close to equivalent in most nations, therefore the data are still reliable because the error is distributed evenly throughout. Furthermore, this type of data are considered one of the most accurate non-classified sources.

To measure military force several variables will be introduced into the regression. The following will operationalize the variable: military expenditures as a percentage of central government spending, military spending as a percentage of Gross Domestic Product (GDP), military personnel as a percentage of labor force, and total military personnel. Data for this variable was gathered from the World Bank[42]. Although data from this report are valuable, some

[41] RAND's MIPT Terrorism Knowledgebase
[42] The World Bank Database

variables may be considered problematic under this type of examination because not all military funds are directed toward counter-terrorism. Yet attaining a figure that could accurately measure counter-terrorism spending would be equally problematic. For instance, in the United States many agencies, including Department of Homeland Security, Federal Bureau of Investigations, Central Intelligence Agency, and many others, participate in conjunction with and independently from the U.S. military to prevent terrorist events. Finding accurate counter-terrorism figures in an immensely bureaucratic nation such as the U.S. is difficult, but the data become increasingly more difficult in less bureaucratic and less organized nations such as Zimbabwe. Therefore, the percentage of GDP dedicated to military spending and military expenditures as a percentage of central government expenditures should be considered more as an indicator of counter-terrorism spending than as an exact figure. Furthermore, in effort to neutralize the disparity of spending between first world and third world nations, military expenditures are held respective to GDP and central government spending. For example, the United States spent approximately $348,500,000 in military expenditures in 2004; meanwhile, Israel spent a seemingly dismal $9,900,000 in the same year[43]. When the percentage of GDP spent on military expenditures is evaluated, it becomes apparent that Israel (9.7%) put more of their potential resources toward military spending; in fact, nearly three times as much of their GDP as the United States (3.3%). Interestedly, China spent approximately the same as the U.S. when spending is held respective of GDP, 2.7%, but in a standardized currency value[44] China spent only 2.2% of what the U.S. spent[45].

In addition, several variables were gathered from the Heritage Foundation Freedom index[46]. Those included are democracy score, business freedom, trade freedom, government size, monetary freedom, fiscal freedom, investment freedom, financial freedom, property rights, freedom from corruption, and labor freedom. Several other variables were gathered from World Bank[47]. These variables include GDP growth, internet users per 100 people, labor force participation (%), life expectancy rate, mobile users per 100 people, the social contribution as a percentage of government revenue, and total tax revenue as a percentage of GDP. Two notable controls are mobile phone and internet users. Crain & Crain used telephone mainlines as a control[48]. Thus, this study will utilize internet and mobile phone user variables in an attempt to ascertain the connectivity of a nation with itself and the rest of the world. A control of this type should account for a nation's technological prowess and, is therefore, a valuable control in today's world.

A variable for political representation has also been added. Proportional representation (PR) systems have been regarded as more stable than mixed or majoritarian systems because they allow societies having more fractionalization to be more accurately represented in their government[49]. If this is true, political groups in non-PR systems may not be able to represent the variety of perspectives available in their society. This frustration may lead to groups becoming

[43] Chamberlin, J." Comparisons of U.S. and Foreign Military Spending: Data from Selected Public Sources," Congressional Research Service 1-27.(2004)
[44] Based on 2004 U.S. dollars
[45] Ibid
[46] The Freedom House organization; www.freedomhouse.org
[47] The World Bank organization
[48] Crain, N. V. & Crain, W. M. "Terrorized Economies" Public Choice 128: 317-349.(2006)
[49] Lijphart, A. Patterns of Democracy (New Haven, Yale University Press, 1999)

deviant terrorist groups. Li found that PR systems did not have a significant (positive or negative) effect on terrorist incidents, but he did find a significant positive relationship between mixed and majoritarian systems on such incidents. Therefore, in an effort to test Li's (2005) findings, which included incidents from 1975 to 1997, the current study will include a dummy variable for mixed or majoritarian systems.

The following analysis also includes a control variable for each of the 166 nations measured in an effort to limit the effects of certain regions' terrorist incidents, but most will drop out due to collinearity. That is, due to the other control variables, these nation control variables will drop out of the regression. The strength of the other control variables is negatively related to the number of nation control variables. Table 1 represents the descriptive statistics for the aforementioned independent and dependent variables.

Table 1: Descriptive statistics

	N	Mean	Std. Dev.	Min	Max
Terrorist incidents	1980	9.915657	108.7231	0	3968
Military Spending as % of GPD	1673	2.306515	1.882327	0	14.62
Military Spending as % of Total Government Expenditures	893	9.486954	7.851437	0	52.99
Military Personnel as % of Total Labor	1884	1.730663	1.907425	0	12.96
Military Personnel	1897	193977.4	466947.6	0	5564000
Military Personnel (log)	1887	10.70527	1.841411	4.60	15.53183
Democracy	1807	58.45977	12.22915	4	90.5
Business Freedom	1807	64.0399	14.41582	0	100
Trade Freedom	1807	62.26209	17.3811	-20	90
Fiscal Freedom	1807	68.42928	16.59099	0	99.9
Government Size	1807	65.41942	25.12799	0	99.3
Monetary Freedom	1807	70.28019	20.44035	0	95.4
Investment Freedom	1807	53.44217	19.09047	10	90
Financial Freedom	1807	50.71389	20.78177	10	90
Property Rights	1807	51.13448	23.70189	10	90
Freedom from Corruption	1807	40.0321	24.75267	4	100
GDP Growth	1903	4.371597	5.506038	-41.3	85.9
Internet Users per 100	1882	9.635659	15.53442	0	85.65
Life Expectancy	1291	68.55324	10.46541	31.08	82.32
Mobile Users per 100	1957	21.57189	30.41572	0	139.01
Population 14 or younger (%)	1973	31.47396	10.48343	13.57	51.16
Population Growth	1973	188.8121	685.0028	1.45	6580.71
Population Density	1972	1.436922	1.277803	-5.14	9.76
Governmental Social Contribution	696	20.7182	15.14373	0	60.23
Mixed or Majoritarian (dummy)	1980	.7262626	.4459884	0	1

According to the data, China experienced a mean of 1.58 terrorist incidents per year with a standard deviation of 1.83 incidents between 1995 and 2006. The average number of fatalities was 7.25 (standard deviation of 24) and the mean number of injuries was 3.25 (standard deviation of 9). China spent an average of $28.9 million[50] and boasted a military composed of 3.6 to 4.1 million personnel during any given year. China scored above the worldwide 12 year mean in monetary freedom, government size, and fiscal freedom. Freedom House reported low scores for China in investment freedom, financial freedom, and property rights. Their average GDP growth was an outstanding 9.46%; over 5% above the 12 year worldwide average. The Chinese enjoyed a life expectancy 2 years above the worldwide mean. On average, 13 out of 100 citizens had a mobile phone and about 4 out of 100 were utilizing the internet; both are below the worldwide mean for the 12 year timeframe.

Empirical Results

Tables 2 through 5 display the regression results. Fifteen models are included differing by the use of fixed effects and the time frame analyzed. Models 1 though 7 include data from all years, models 8 through 11 include data from 1995 to 2000, and models 8 to 15 include the data from years 2001 to 2006. Fixed effect variables for nation and year were done separately because when done in conjunction with one another, regression results were not possible.

Model 1 includes all social, economic, and political independent variables. In addition, military might was measured in military expenditures as a percentage of GDP. Regression results indicate only overall democracy increased the likelihood of terrorist incidents. In time periods spanning 1995 to 2006 and 2000 to 2006, the coefficients indicate that there is a slightly better than 50/50 chance of a terrorist incident when democracy increases by one unit. Regressions in which democracy was expected to have an inverted "u" shape did not increase goodness of fit values; therefore the better fitting linear model is reported. Most economic indicators found a negative effect. That is, as nations increased in business, fiscal, monetary, investment, and financial freedoms, fewer terrorist incidents took place in that nation. Furthermore, political factors including property rights and freedom from corruption also diminished the number of terrorist incidents. Mixed and majoritarian governmental systems did not experience an increased likelihood of attack. In fact, their coefficient is negative, indicating a slight inverse relationship. However, this variable is not significant. Military might, measured by military expenditures as a percentage of GDP, was insignificant. Model 2 is similar to model 1 except it does not include any fixed effects. This model is used as a comparison to other models using fixed effects.

Model 3 replaces model 1's measure of military might with military expenditures as a percentage of total government spending. In this model, military might is significant at the 10% level. The relationship is positive, indicating that as military expenditures increase, terrorist events increase as well; a causational relationship is unable to be established. Model 4 replaces the fixed effects by nation with fixed effects by year. The year 2000 was omitted and is therefore used as the reference year. The year 2000 was chosen because it stands in the middle of the time frame, yet is before the historic year 2001. Therefore, the year 2000 would have characteristics of 1995 and of 2006 but without the distortion caused by the terrorist events of

[50] Based on the 2004 U.S. dollar

Table 2: Terrorist Incidents by Nation per Year from 1995 to 2006 (reported in incident rate ratio)

Terrorist Incidents (1995-2006)	1	se	T*	P-value	2	se	T*	P-value	3	se	T*	P-value	4	se	T*	P-value
Democracy Score	1.348	0.133	3.04	0.002	1.247	0.147	1.88	0.061	1.345	0.131	3.030	0.002	1.313	0.154	2.33	0.02
Business Freedom	0.943	0.014	-4	0	0.964	0.015	-2.33	0.02	0.942	0.014	-4.130	0.000	0.967	0.015	-2.14	0.032
Trade Freedom	0.998	0.016	-0.14	0.892	1.002	0.017	0.1	0.923	0.999	0.016	-0.050	0.964	0.998	0.017	-0.14	0.891
Fiscal Freedom	0.969	0.014	-2.14	0.032	0.984	0.015	-1.08	0.28	0.967	0.014	-2.260	0.024	0.981	0.015	-1.25	0.211
Govt Size	0.993	0.014	-0.49	0.626	0.977	0.014	-1.67	0.096	0.988	0.013	-0.880	0.377	0.967	0.014	-2.34	0.019
Monetary Freedom	0.966	0.014	-2.44	0.015	0.980	0.014	-1.38	0.168	0.971	0.013	-2.160	0.031	0.967	0.015	-2.25	0.025
Investment Freedom	0.959	0.011	-3.64	0	0.971	0.014	-2.11	0.035	0.961	0.011	-3.570	0.000	0.963	0.014	-2.67	0.008
Financial Freedom	0.963	0.014	-2.58	0.01	0.970	0.014	-2.12	0.034	0.958	0.014	-2.880	0.004	0.961	0.014	-2.72	0.007
Property Rights	0.961	0.016	-2.36	0.018	0.960	0.014	-2.73	0.006	0.961	0.016	-2.350	0.019	0.963	0.015	-2.49	0.013
Freedom From Corruption	0.960	0.013	-3.1	0.002	0.980	0.014	-1.41	0.16	0.960	0.012	-3.170	0.002	0.966	0.014	-2.3	0.021
GDP Growth	0.970	0.016	-1.83	0.067	0.963	0.019	-1.88	0.061	0.969	0.016	-1.850	0.064	0.963	0.018	-2	0.046
Internet Users per 100	1.015	0.010	1.52	0.13	1.011	0.009	1.21	0.228	1.015	0.010	1.500	0.133	1.005	0.010	0.53	0.593
Life Expectancy	1.263	0.075	3.93	0	1.003	0.024	0.14	0.887	1.274	0.075	4.100	0.000	1.012	0.025	0.47	0.638
Mobile Users per 100	0.984	0.004	-3.9	0	0.995	0.004	-1.06	0.291	0.985	0.004	-3.620	0.000	0.986	0.005	-2.63	0.009
Population 14 or Younger	0.929	0.089	-0.77	0.44	0.973	0.027	-0.97	0.331	0.941	0.087	-0.650	0.513	0.969	0.029	-1.05	0.296
Population Growth	1.135	0.144	1	0.318	0.960	0.122	-0.32	0.749	1.126	0.132	1.010	0.313	0.987	0.134	-0.1	0.923
Population Density	1.033	0.011	3.02	0.003	0.999	0.001	-1.08	0.278	1.031	0.011	3.030	0.002	0.999	0.001	-1.02	0.309
Govt Social Contribution	0.982	0.023	-0.78	0.435	0.980	0.011	-1.81	0.071	0.985	0.022	-0.650	0.515	0.976	0.011	-2.11	0.035
Mixed or Majoritarian Govt	0.459	0.242	-1.48	0.14	0.973	0.235	-0.11	0.909	0.513	0.274	-1.250	0.211	0.937	0.248	-0.25	0.805
Military Expenditures (%GDP)	0.954	0.108	-0.41	0.679	1.104	0.066	1.65	0.099					1.087	0.066	1.38	0.169
Military Personnel as % of Labor																
Govt Military Expenditures (%)									1.057	0.032	1.800	0.071				
Total Military Personnel (log)																

Coefficients that are highlighted in RED are significant at 1% level
Coefficients that are highlighted in GREEN are significant at 5% level
Coefficients that are highlighted in YELLOW are significant at 10% level

Table 3: Terrorist Incidents by Nation per Year from 1995 to 2006 (reported in incident rate ratio)

Terrorist Incidents (1995-2006)	5	se	T-score	p-value	6	se	T-score	p-value	7	se	T-score	p-value
Democracy Score	1.310	0.153	2.32	0.02	1.342	0.158	2.5	0.012	1.250	0.144	1.95	0.052
Business Freedom	0.967	0.015	-2.15	0.031	0.966	0.015	-2.15	0.032	0.971	0.015	-1.87	0.062
Trade Freedom	1.000	0.017	0	0.998	0.994	0.017	-0.35	0.726	1.006	0.017	0.35	0.723
Fiscal Freedom	0.982	0.015	-1.21	0.228	0.980	0.015	-1.34	0.18	0.989	0.015	-0.77	0.439
Govt Size	0.967	0.014	-2.39	0.017	0.964	0.014	-2.54	0.011	0.970	0.014	-2.2	0.028
Monetary Freedom	0.966	0.014	-2.29	0.022	0.963	0.015	-2.51	0.012	0.969	0.014	-2.16	0.031
Investment Freedom	0.963	0.014	-2.65	0.008	0.961	0.014	-2.8	0.005	0.969	0.014	-2.24	0.025
Financial Freedom	0.960	0.014	-2.81	0.005	0.958	0.015	-2.78	0.005	0.968	0.014	-2.27	0.023
Property Rights	0.962	0.014	-2.61	0.009	0.961	0.015	-2.61	0.009	0.968	0.014	-2.28	0.022
Freedom From Corruption	0.968	0.014	-2.16	0.031	0.966	0.014	-2.34	0.019	0.970	0.014	-2.09	0.036
GDP Growth	0.961	0.018	-2.1	0.036	0.961	0.018	-2.09	0.036	0.965	0.018	-1.85	0.065
Internet Users per 100	1.004	0.010	0.42	0.671	1.004	0.010	0.37	0.709	1.007	0.010	0.69	0.488
Life Expectancy	1.014	0.025	0.58	0.56	1.018	0.027	0.67	0.5	1.010	0.024	0.42	0.674
Mobile Users per 100	0.987	0.005	-2.5	0.012	0.987	0.005	-2.45	0.014	0.987	0.005	-2.43	0.015
Population 14 or Younger	0.980	0.030	-0.65	0.515	0.975	0.030	-0.8	0.421	0.956	0.028	-1.53	0.126
Population Growth	0.967	0.137	-0.24	0.813	0.984	0.143	-0.11	0.911	1.016	0.141	0.11	0.909
Population Density	0.999	0.001	-0.82	0.413	0.999	0.001	-0.79	0.43	0.999	0.001	-0.89	0.376
Govt Social Contribution	0.976	0.011	-2.07	0.039	0.974	0.012	-2.21	0.027	0.965	0.011	-3.07	0.002
Mixed or Majoritarian Govt	0.900	0.238	-0.4	0.689	0.880	0.245	-0.46	0.645	0.785	0.203	-0.93	0.351
Military Expenditures (%GDP)												
Military Personnel as % of Labor					0.998	0.089	-0.02	0.983				
Govt Military Expenditures (%)	1.020	0.020	0.98	0.329								
Total Military Personnel (log)									1.420	0.133	3.73	0

Coefficients that are highlighted in RED are significant at 1% level
Coefficients that are highlighted in GREEN are significant at 5% level
Coefficients that are highlighted in YELLOW are significant at 10% level

Table 4: Terrorist Incidents by Nation per Year from 1995 to 2006 (reported in incident rate ratio)

Terrorist Incidents (1995-2000)	8	se	T*	P-value	9	se	T*	P-value	10	se	T*	P-value	11	se	T*	P-value
Democracy Score	19.335	53.517	1.07	0.285	21.193	58.733	1.1	0.271	20.406	57.901	1.06	0.288	17.360	47.641	1.04	0.298
Business Freedom	0.738	0.226	-0.99	0.322	0.734	0.225	-1.01	0.314	0.739	0.232	-0.96	0.336	0.752	0.228	-0.94	0.349
Trade Freedom	0.731	0.224	-1.02	0.307	0.730	0.225	-1.02	0.306	0.727	0.229	-1.01	0.311	0.743	0.226	-0.98	0.328
Fiscal Freedom	0.717	0.222	-1.07	0.282	0.708	0.220	-1.11	0.266	0.713	0.227	-1.07	0.287	0.737	0.227	-0.99	0.32
Govt Size	0.729	0.224	-1.03	0.304	0.718	0.221	-1.07	0.282	0.725	0.228	-1.02	0.307	0.732	0.223	-1.03	0.305
Monetary Freedom	0.723	0.223	-1.05	0.292	0.713	0.220	-1.09	0.274	0.713	0.226	-1.07	0.285	0.725	0.222	-1.05	0.293
Investment Freedom	0.724	0.224	-1.04	0.297	0.718	0.222	-1.07	0.285	0.717	0.228	-1.05	0.294	0.728	0.223	-1.04	0.3
Financial Freedom	0.723	0.221	-1.06	0.288	0.716	0.219	-1.09	0.276	0.715	0.224	-1.07	0.285	0.730	0.221	-1.04	0.299
Property Rights	0.695	0.215	-1.18	0.239	0.684	0.212	-1.23	0.22	0.698	0.221	-1.14	0.256	0.707	0.217	-1.13	0.258
Freedom From Corruption	0.729	0.222	-1.04	0.299	0.722	0.221	-1.06	0.287	0.723	0.226	-1.03	0.301	0.734	0.222	-1.02	0.306
GDP Growth	0.995	0.040	-0.12	0.907	0.983	0.038	-0.44	0.663	1.006	0.039	0.14	0.886	0.995	0.038	-0.13	0.894
Internet Users per 100	0.907	0.025	-3.49	0	0.907	0.025	-3.47	0.001	0.902	0.026	-3.63	0	0.924	0.025	-2.93	0.003
Life Expectancy	0.967	0.054	-0.6	0.547	0.922	0.053	-1.39	0.163	0.958	0.053	-0.77	0.443	0.968	0.045	-0.7	0.482
Mobile Users per 100	1.062	0.013	4.96	0	1.066	0.013	5.23	0	1.062	0.013	4.87	0	1.060	0.013	4.85	0
Population 14 or Younger	1.000	0.046	-0.01	0.993	0.999	0.046	-0.01	0.991	1.002	0.046	0.03	0.974	0.998	0.043	-0.04	0.97
Population Growth	0.954	0.151	-0.3	0.767	0.926	0.157	-0.45	0.651	0.964	0.180	-0.2	0.845	0.948	0.172	-0.29	0.77
Population Density	0.998	0.002	-1.07	0.286	0.998	0.002	-0.99	0.324	0.999	0.002	-0.57	0.57	0.999	0.001	-0.52	0.603
Govt Social Contribution	1.004	0.016	0.22	0.829	1.010	0.016	0.6	0.549	1.004	0.017	0.24	0.811	0.996	0.016	-0.27	0.787
Mixed or Majoritarian Govt	0.485	0.203	-1.73	0.084	0.449	0.186	-1.93	0.053	0.422	0.179	-2.03	0.042	0.403	0.162	-2.26	0.024
Military Expenditures (%GDP)	1.373	0.201	2.16	0.03												
Military Personnel as % of Labor									1.064	0.160	0.41	0.68				
Govt Military Expenditures (%)					1.104	0.055	2	0.046								
Total Military Personnel (log)													1.686	0.241	3.66	0

Coefficients that are highlighted in RED are significant at 1% level
Coefficients that are highlighted in GREEN are significant at 5% level
Coefficients that are highlighted in YELLOW are significant at 10% level

Table 5: Terrorist Incidents by Nation per Year from 2001 to 2006 (reported in incident rate ratio)

Terrorist Incidents (2001-2006)	12	se	T*	P-value	13	se	T*	P-value	14	se	T*	P-value	15	se	T*	P-value
Democracy Score	1.176	0.146	1.3	0.193	1.128	0.130	1.04	0.297	1.134	0.139	1.03	0.304	1.086	0.126	0.72	0.474
Business Freedom	0.954	0.020	-2.31	0.021	0.955	0.016	-2.8	0.005	0.956	0.020	-2.19	0.028	0.953	0.015	-3.14	0.002
Trade Freedom	1.021	0.022	0.96	0.339	1.028	0.020	1.36	0.173	1.024	0.022	1.11	0.265	1.027	0.019	1.49	0.136
Fiscal Freedom	0.990	0.017	-0.58	0.565	0.994	0.016	-0.4	0.693	0.992	0.017	-0.46	0.648	1.004	0.016	0.26	0.796
Govt Size	0.973	0.017	-1.57	0.118	0.978	0.016	-1.36	0.172	0.981	0.017	-1.08	0.279	0.977	0.016	-1.44	0.15
Monetary Freedom	1.004	0.024	0.18	0.861	1.015	0.024	0.61	0.539	1.011	0.024	0.47	0.64	1.020	0.024	0.85	0.397
Investment Freedom	0.973	0.014	-1.88	0.06	0.977	0.013	-1.69	0.091	0.975	0.014	-1.8	0.072	0.986	0.014	-0.95	0.344
Financial Freedom	0.954	0.016	-2.86	0.004	0.953	0.015	-3.14	0.002	0.960	0.016	-2.38	0.017	0.968	0.015	-2.07	0.039
Property Rights	1.000	0.019	-0.02	0.988	1.004	0.019	0.24	0.813	1.006	0.019	0.3	0.764	1.012	0.018	0.66	0.512
Freedom From Corruption	0.962	0.020	-1.89	0.058	0.967	0.020	-1.66	0.097	0.966	0.020	-1.73	0.084	0.966	0.019	-1.75	0.08
GDP Growth	0.928	0.020	-3.53	0	0.923	0.019	-3.9	0	0.929	0.020	-3.48	0.001	0.944	0.021	-2.64	0.008
Internet Users per 100	1.005	0.014	0.4	0.69	0.998	0.013	-0.12	0.901	1.012	0.014	0.83	0.408	1.007	0.013	0.59	0.558
Life Expectancy	1.012	0.033	0.38	0.707	1.025	0.033	0.78	0.438	0.994	0.035	-0.16	0.873	1.012	0.030	0.39	0.697
Mobile Users per 100	0.969	0.008	-3.89	0	0.969	0.007	-4.36	0	0.968	0.008	-4.03	0	0.971	0.007	-4.17	0
Population 14 or Younger	0.879	0.046	-2.44	0.015	0.874	0.048	-2.47	0.013	0.868	0.045	-2.73	0.006	0.858	0.039	-3.37	0.001
Population Growth	0.964	0.220	-0.16	0.873	0.895	0.204	-0.49	0.627	0.929	0.208	-0.33	0.744	1.025	0.250	0.1	0.918
Population Density	0.998	0.002	-1.26	0.209	0.998	0.002	-1.21	0.228	0.997	0.002	-1.43	0.154	0.999	0.001	-1.05	0.293
Govt Social Contribution	0.936	0.020	-3.11	0.002	0.929	0.020	-3.52	0	0.935	0.020	-3.14	0.002	0.913	0.019	-4.49	0
Mixed or Majoritarian Govt	1.630	0.784	1.01	0.31	1.319	0.645	0.57	0.572	1.969	1.003	1.33	0.183	0.912	0.416	-0.2	0.839
Military Expenditures (%GDP)	1.143	0.100	1.54	0.124												
Military Personnel as % of Labor									1.385	0.218	2.07	0.038				
Govt Military Expenditures (%)					1.053	0.029	1.85	0.064								
Total Military Personnel (log)													1.879	0.259	4.57	0

Coefficients that are highlighted in RED are significant at 1% level
Coefficients that are highlighted in GREEN are significant at 5% level
Coefficients that are highlighted in YELLOW are significant at 10% level

2001. These variables attempt to negate the effect that omitted variables specific to the year may introduce. The results are similar to those of model 1, in which political and economic institutions have a negative effect. However, the strength of the relationships has diminished slightly. Again, representation type and military might (measured as expenditures per GDP) were not significant.

Model 5 is similar to model 4 except the measure of military might is military expenditures as a percentage of total government expenditures. The results indicate that when years are used as fixed effects, military might is not significant. Model 6 changes the measure of military might again by utilizing data indicating the number of military personnel as a percentage of the total labor force. Again, when the fixed effects for years are included, military might is not significant. Model 7 includes a different measure of military might: the natural log of the total number of military personnel. In this regression, military might is strongly and positively significant ($p<.001$). The natural log form was used to reduce the amount of dispersion.

Table 3 represents regressions using data from only the years between 1995 and 2000. This set was selected because it should not include the effects of 9/11 and subsequent defensive and offensive strategies by nations and by terrorist groups. In all models the use of fixed effects is relegated only to year variables; nation variable fixed effects were not possible. Model 8 finds that military might as measured by expenditures as a percentage of GDP is significant. Again, this relationship is positive and the coefficient indicates a probability greater than 50/50 of a terrorist event occurring when military expenditures as a percentage of GDP increase by one percentage. In all four models analyzing data between 1995 and 2000, mixed and majoritarian government systems were positive and significant ($p<.05$). That is, government systems that were not a pure parliamentary system were victim to more terrorist incidents.

Interestingly, the control variables of internet and mobile phone users per 100 people were negative and strongly significant. Considering the years between 1995 and 2000, this should be expected since internet and mobile phone use were not as prolific as they are today. This may be a good indicator of a nations' technological advancement. Therefore, technologically savvy nations experienced fewer terrorist incidents than their non-technologically advanced counterparts. Models 9, 10, and 11 differ only in the manner they measure military might. Significance was found in two out of the three models. Only the variable that operationalized military might as military personnel in respect to the total workforce is insignificant. Therefore, between the years of 1995 and 2000, military might and terrorist events most likely shared a positive relationship.

Models 12, 13, 14, and 15 utilize data from the years between 2001 and 2006. Again, only the fixed effects for years were utilized and, in these models, the year 2001 was used as the comparison year. All four models found a negative relationship between government social contribution and terrorist events. Model 12 indicates that economic factors including business ($p<.05$), investment ($p<.10$), financial ($p<.01$), and GDP growth ($p<.001$) have a negative relationship with terrorist incidents. The only political factor significant was freedom from corruption and, as expected, the relationship is negative. Military might, measured by military expenditures as a percentage of GDP, was not significant in this regression. Model 13 utilizes military expenditures as a percentage of total government expenditures to depict military might, and again the relationship is not significant. Model 14 changes the measure of military might again, but when military personnel as a percentage of total workforce is utilized, the relationship

is significant and positive. Finally, model 15 finds a strong ($p<.001$) positive relationship between military might, as measured by the natural log of total military personnel, and terrorist incidents. In fact, according to the coefficient, if the log of military personnel increases by one, the chance of a terrorist incident is almost twice as likely.

Findings

All hypotheses and the research question are addressed in this section.

Hypothesis 1: Nations that enjoy more economic freedoms will be less likely to fall victim to terrorist incidents.

Nations that had greater business, investment, and trade freedoms had fewer terrorist incidents. In most regressions, GDP growth had an inverse relationship with terrorist events. In particular, the years after 2000 found a very strong relationship ($p<.01$) between GDP growth and terrorist incidents. This may indicate that as we further the degree of globalization, tensions may rise for those nations that are not progressing as quickly as others. One may conclude that terrorists may feel a sense of relative deprivation. This conclusion is further emphasized when the other economic indicators are considered. These finding suggest that economic freedoms should be encouraged.

Hypothesis 2: Nations that enjoy more political freedoms will be less likely to fall victim to terrorist incidents.

The degree of democracy, corruption, and property rights has influenced terrorist incidents in varying degrees since 1995. Results considering the years of and between 1995 and 2006 prove that the overall democracy of a nation is positively related to number of terrorist incidents in that nation. This finding is in accordance with previous research. The extent of corruption is also strongly related to terrorist activity. Often, nations having less corrupt governments will be rewarded with fewer terrorist incidents. Property rights may be considered either political or economic. One may argue that the government offers property rights to citizens either via legislation or judicial decision. In analyses considering all twelve years, those nations that allowed greater property rights also enjoyed fewer terrorist incidents. Overall, political freedoms play a strong role in deterring terrorist incidents, but democracy seems to encourage terrorism. It should be remembered that these analyses utilize the target nation's terrorist incidents and not the nation that is the origin of the terrorist. Therefore, more democratic nations may be targeted by terrorists. This conclusion is supported by Pape[51] who analyzed suicide terrorism. He argues that democratic nations concede to the wishes of terrorists more easily than do non-democratic nations. The findings of this study furthers Pape's argument by indicating that, more so than just being democratic, nations that have a higher level of democracy will face a greater likelihood of victimization by terrorists.

Hypothesis 3: A state's military spending will have a negative effect on terrorism incidents in that respective state.

Two indicators are used to measure military spending: military expenditures as a percentage of GDP and as a percentage of total government expenditures. Both measures only

[51] Pape, R. "The Strategic Logic of Suicide Terrorism." The American Political Science Review 97(3): 343-361.(2003)

found significance ($p<.05$ in both measures) in a positive direction in analyses considering the years between 1995 and 2000. One may conclude that since 2001, military intervention has been more effective than in the past, but its effect does not reduce the number of terrorist incidents. This is contrary to the notions of many politicians and American citizens.

Hypothesis 4: The magnitude of a state's military workforce is negatively related to the number of terrorist incidents

Military might is operationalized by using two personnel indicators: military personnel as a percentage of total labor force and the natural log of military personnel. Results indicate that the natural log of military personnel is very positively and significantly ($p<.001$) related to terrorist incidents. When the years between 2001 and 2006 are considered, military personnel as a percentage of total labor force found a positive and significant ($p<.05$) relationship with terrorist incidents. These results indicate that military force increases the chance of terrorist incidents. Although the military may enhance security, they induce a greater number of terrorist events.

Hypothesis 5: Nations having a majoritarian or mixed political system will be positively related to the number of terrorist incidents

Pure parliamentary systems between 1995 and 2000 enjoyed fewer incidents. As Lijphart[52] argues, parliamentary systems may have offered adequate representation and, thereby, stability. Unfortunately, this finding is relegated only to the years of 1995 to 2000. All other analyses indicated that representation did not reduce the number of terrorist events. One may conclude that the years after 2001 experienced a greater terrorist force that overcame any stabilizing effects that pure parliamentary systems offered.

Research Question: Can the economic, social and political institutions affect the likelihood of a terrorist event in a nation?

The frequency of terrorist incidents is strongly related to political and economic institutions. Political factors constitute a significant portion of a nation's political institutions. Stronger political institutions will, most likely, result in fewer terrorist events and, in a more general sense, offer citizens a stable government and society. But government alone cannot reduce terrorist incidents. Economic institutions are vital for a society. The analysis of this and other research studies prove that this is true.

In addition to the economic and political institutions, social institutions should also be recognized. In an effort to quantify the social institutions in a nation, government's social contribution was included as a variable. This monetary indicator found significance between the years of 2001 and 2006, indicating that the government's ability to help solve social problems is becoming more crucial in a post-9/11 world. But social institutions include more than merely government welfare programs. The culture and social dynamics of a nation are encapsulated in social institutions. Therefore, social institutions affect the financial and political environment of nation. Societies having social institutions that regard economic and political freedoms should enjoy fewer terrorist incidents. Military might in its various forms of measurement was found counter-productive, which exemplifies the crucial role of institutions. Moreover, the effects of

[52] Lijphart, A. Patterns of Democracy (New Haven, Yale University Press, 1999)

political, economic and social institutions are not mutually exclusive; instead they are intertwined. Therefore, effective policy must address all three institutions.

Limitations

The current study has several limitations that should be addressed in future research. First is the imprecision of data sources. The dependent variable, terrorist incidents by nation per year, was acquired from MIPT Terrorism Knowledge Base[53]. The database does not include all terrorist incidents, only those that were reported by media outlets. Some incidents did not get media attention and were therefore omitted. This non-random measurement error should be congruent throughout, but future research should attempt to gain more accurate records.

Independent variables acquired from Freedom House[54] can be flawed since evaluations that create the index are subjective. Although Freedom House prides itself on methodological techniques, in essence these measures are questionable. Currently, Freedom House is one of the most widely used sources of political data, but future research should attempt to find more objective instruments.

This study utilized data from 1995 to 2006, a twelve year period involving 1,980 observations from 165 nations. Although the analysis includes a significant period of time, the indicators utilized in this study should be applied to larger time periods to gain a better perspective on terrorism. That is, if political, economic, and social factors impact terrorist events, they should do so in any time period. Ideally, researchers should attempt to include a time period greater than three decades. Yet, the greatest obstacle is gaining trustworthy data from all nations over this time frame.

Policy Implications and Conclusion

In general, policies should seek more effective government, free economic markets, and encourage a society to become stable. Considering the vast array of government types and cultures of the 165 nations analyzed in this study, the aforementioned goals will be formidable. The answer may lie in custom tailored policy devised by each nation. The U.S. has an incentive to encourage nations to be democratic and capitalistic, yet depending on culture and existing economic conditions, this type of policy may be detrimental. Developing and developed nations should differ in policy initiatives. Developing nations should put greater resources into eliminating corruption and harnessing the people's trust. They should balance their economic growth with policy regulating oppressive business practices. These nations should seek U.N. coordination to assist in creating and implementing progressive policies.

Developed nations, such as China, should seek to reduce any existing corruption and encourage greater civic participation. Economic practices should be evaluated and unnecessary regulations that stifle growth should be removed; although, trust in the invisible hand should be tempered with caution. Governmental leaders should strive to inculcate a culture that embodies the government's effectiveness. To accomplish this, policies should reflect the will of the people. Legislators, judges and executive leaders should put their own agendas aside for the

[53] RAND's MIPT Terrorism Knowledgebase
[54] The Freedom House organization; www.freedomhouse.org

greater good. It is with societal stability that terrorism will be controlled; this conclusion is evident in this study's results.

In more democratic nations security is critical. Resources should be devoted to target hardening and border security. The tradeoff between civil liberties and security should be considered when adjusting security regulations. In a broad sense, the benefit from security should not exceed the cost to society. This is a difficult equilibrium to establish. The optimum level of security will not offer absolute protection. In fact, absolute security would be much too costly and infeasible. Allowing feedback from the public and accepting that some terrorist incidents will occur should assist in determining this point.

In conclusion, terrorist activity can be controlled and possibly eliminated if political, economic, and social conditions are correct. Terrorism is not the disease; merely a symptom. More secure buildings, airports, and borders only assist in preventing terrorism and have the potential of causing more harm than good. In accordance with security, policies should focus on preventing a belief that terrorism is a viable answer to changing a government or ideology. To accomplish this, the institutions of a society must be addressed. Foreign influence is likely to have unfavorable outcomes but may be necessary in extreme circumstances in an effort to regain control. Garth Evans[55] of the Crisis Group offers 8 suggestions to all nations aspiring to reduce terrorism.

1) "*The best way to prevent deadly conflict is not to start one:"* Military intervention should be avoided and used only as a last resort.

2) "*Conflict prevention effort does make a difference:"* The use of international governmental and economic institutions, such as the UN, can offer productive assistance to embattled nations.

3) "*One size analysis doesn't fit all- every conflict is different:"* Overarching theories do not reflect the conflict; instead comprehensively understanding the dynamics in each nation is necessary in effective policy changes.

4) "*Conflict is cyclical- the trick is to stop the wheel turning:"* Institutions should be created and designed to assist a nation in addressing post-conflict disagreements non-violently.

5) "*Conflict prevention requires complex strategies- one dimensional fixes rarely work:"* Managing conflicts requires an in-depth knowledge of a nation's complex dynamics; therefore, policy should address the many aspects involved.

6) "*Conflict prevention requires effective institutional structures:"* Global, regional and national governments should focus on conflict prevention.

7) "*Conflict prevention requires application of resources:"* Resources (monetary and human) should be allotted effectively and efficiently in an effort to promote stability.

[55] Evans, G. "Conflict Prevention and the EU: Setting the Scene " Retrieved Oct 1, 2008, from www.crisisgroup.org, p.1-6.(2008)

8) "*Conflict prevention requires political will:"* The nation's government and leaders must embody a conflict prevention stance.

His advice is supported by the findings of this study and offers an excellent vision for future foreign and domestic policy.