

Kis-Katos, Krisztina; Liebert, Helge; Schulze, Günther G.

Working Paper

On the origin of domestic and international terrorism

Discussion Paper Series, No. 12

Provided in Cooperation with:

Department of International Economic Policy (iep), University of Freiburg

Suggested Citation: Kis-Katos, Krisztina; Liebert, Helge; Schulze, Günther G. (2010) : On the origin of domestic and international terrorism, Discussion Paper Series, No. 12, University of Freiburg, Department of International Economic Policy (iep), Freiburg i. Br.

This Version is available at:

<https://hdl.handle.net/10419/47898>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



University of Freiburg
Department of International Economic Policy
Discussion Paper Series
Nr. 12

On the Origin of Domestic and International Terrorism

Krisztina Kis-Katos, Helge Liebert and
Günther G. Schulze

September 2010

ISSN 1866-4113

University of Freiburg
Department of International Economic Policy
Discussion Paper Series

The Discussion Papers are edited by:
Department of International Economic Policy
Institute for Economic Research
University of Freiburg
D-79085 Freiburg, Germany
Platz der Alten Synagoge 1

Tel: +49 761 203 2342
Fax: +49 761 203 2414
Email: iep@vwl.uni-freiburg.de

Editor:
Prof. Dr. Günther G. Schulze

ISSN: 1866-4113
Electronically published: 27.9.2010

On the Origin of Domestic and International Terrorism

by

Krisztina Kis-Katos

Helge Liebert

Günther G. Schulze

University of Freiburg, Department of International Economic Policy

5. May 2010

Abstract

We analyze the determinants of the origin of domestic and international terrorism in a large panel data set of 159 countries spanning from 1970 to 2007. We show that terror increases with GDP per capita, a higher POLITY score measuring a more open and competitive political system and experiences of domestic conflict, anarchy and regime transitions. Our evidence thus contradicts the notion that terrorism is rooted in economic deprivation or that strongly autocratic regimes breed more terrorists. Rather we show that weak or failing states are a hotbed for terrorism. Lastly, we show that domestic terror is determined by similar forces as international terror.

JEL classification:

Key words: terrorism, origin of terrorism, negative binomial panel

1. Introduction

Empirical research on the economics of terrorism has centered on two questions: “Where do terrorists strike?” and “What breeds terrorism?” Three groups of country characteristics have been identified as determining terrorists’ choices of targets and the likelihood of “breeding” terrorists in a particular country: (1) Economic conditions and the state of development as measured by GDP per capita and its growth rate, economic freedom, quality of institutions and infrastructure, human development index and the level of education, (2) political freedom and civil liberties, measured inter alia by composite indexes (POLITY or Freedom House index) and participation rate in elections, and (3) political stability which is influenced by the occurrence of civil wars, riots, military conflicts and also captured by regime durability, and times of transition or anarchy. Other control variables include openness of the economy and population size, among others.

Despite a growing body of sound empirical studies, no consensus has emerged on the determinants of terror; on the contrary, estimates have differed widely in sign, size, and significance (cf. sect. 2). For instance, while Blomberg and Hess (2008) and Lai (2007) find a negative impact of GDP per capita on terror activity, Krueger and Malečková (2003) find no and Kurrild-Klitgaard et al. (2006) and Freytag et al. (2009) a positive relationship. While Krueger and Malečková (2003) see political repression as a main cause for terrorism, and Kurrild-Klitgaard et al. (2006) and many others find that democracy reduces the production of terrorists, Basuchoudhary and Shugart (2007) find no effect of political and civil liberties on the origin of terror; Lai (2007) shows that democracies (and anocracies) produce more terrorists than autocracies. There is thus a need for further, comprehensive studies on the determinants of terrorism (cf. Llussá and Tavares 2008).

We provide such a comprehensive study. We analyze the determinants of terrorism in a panel approach using the *Global Terrorism Data Base* that covers the time span 1970 – 2007 and 159 countries and that includes *international and domestic* terrorism for the entire period. This unique feature of our data base allows us to separately analyze and compare the determinants for both types of terrorism.

Up to now, most studies have focused on international terrorism, despite its lesser importance: Out of the 22 studies that we survey in Table 1 only 5 study domestic terrorism also; only two give separate results for domestic terror and only for very limited time periods. Yet, domestic terror attacks are by far more numerous than international ones: In our data set, only about 14 percent of the almost 82 thousand terror incidents were international terror events. Similarly, Abadie (2006, p.50) notes that for the year 2003 the “MIPT Terrorism Knowledge Base (2004) reports 1,536 events of domestic terrorism, but only 240 events of international terrorism.” That is a share of less than 16 percent. This begs the question whether results derived from studies of *international* terrorism carry over to the case of *domestic* terrorism and thus provide insights into the determinants of the general phenomenon of terrorism.

Alternatively, international terror may be structurally different from domestic terror and it would be highly interesting to analyze in what way.

Studies on international terror have focused either on the target countries *or* on the origin countries of transnationally operating terror groups and have related country characteristics to the number terror incidences for each year.¹ Yet, in all likelihood, the decision to form a terror group in one country and to commit an act of terror in another country is determined by country characteristics of the origin country *and* the target country. Focusing on one set of countries only – target or origin – implies a potential omitted variables bias if the country characteristics of the origin countries are not orthogonal to those of the target countries. Orthogonality however is a rather strong assumption. This problem is absent in the analysis of domestic terror, which makes it particularly suited for the commonly used monadic approach.²

The almost complete neglect of domestic terrorism has been due to a lack of appropriate data. Existing data sets either cover only international terror (ITERATE, Country Reports on Terrorism by the US State Department) or have limited geographical or time coverage of domestic terror (MIPT, TWEED).³ With the help of a data set that has not been used in the economic analysis of terror we can fill this important gap in the literature. We use the *Global Terrorism Database* provided by the *National Consortium for the Study of Terrorism and Responses to Terrorism* (START) that reports international and domestic terror incidences since 1970. This allows a much more comprehensive analysis of terror as we are not limited to only about 15 percent of all terror incidents (as most of the previous studies); moreover, it enables us to compare the determinants of domestic and international terrorism. In our negative binomial regression models we use a wide array of explanatory variables that cover economic well-being, the structure of the economy and the stage of economic development, the political system and various dimensions of political stability including conflicts of various types, regime durability (by regime type), transition experiences and anarchy.

In this paper we explore the determinants of the creation of terror, as this is arguably the more fundamental question of the aforementioned two. In other words, for

¹ One exception is Blomberg and Hess (2008b) who use a gravity model approach that includes variables of origin and target country.

² Kurrild-Klitgaard et al. (2006, p. 297) write: „We would ideally want a measure of domestic/national terrorism to use as dependent variable, i.e. terrorism performed by individuals or groups from country X directed at persons, groups, property or the government or unarmed citizens of country X, and which has consequences for the domestic institutions, policies, property and citizens of country X only (Rosendorff & Sandler, 2005:172).“ With our data set we are able to provide such an analysis.

³ Cf. <http://vinyardsoftware.com/> for the most widely used ITERATE data set and <http://www.state.gov/s/ct/rls/crt/index.htm> for the State Department's *Country Reports on Terrorism*. The Terrorism Knowledge Base the *Memorial Institute for the Prevention of Terrorism* (MIPT) has been discontinued and covers domestic terrorism only for the years 1998 – 2005, see <http://www.mipt.org/>. The *Database of Worldwide Terrorism Incidents* by the Rand Corporation reports domestic terror only after 1998 (<http://www.rand.org/nsrd/projects/terrorism-incidents/index.html>). The TWEED data base covers only Western Europe (<http://folk.uib.no/sspje/tweed.htm>), the *Worldwide Incidents Tracking System* by the *National Counterterrorism Center* started only 2004 (<http://wits.nctc.gov/>).

international terror we look at the country of origin rather than the target country. We find that the likelihood of terror incidents to originate from a country increases with its level of GDP per capita and is higher for more democratic states than for strongly authoritarian regimes. Experiences of instability – domestic conflict, anarchy and regime transitions – increase the likelihood of terror originating from this country.

Our paper is organized as follows. In the next section, we survey the relevant empirical literature. Section 3 introduces our data on terror incidents and provides some stylized facts. Section 4 explains our empirical approach and describes the explanatory variables. Section 5 presents the results: First we report a set of baseline results, which we subsequently extend in various directions. Section 6 concludes.

2. Literature

The by now sizeable empirical literature on terrorism that uses large cross-country data sets to analyze the determinants of terrorist activity can be classified according to whether they study the origin of terror or the target of terror.⁴ While the research question is very different and thus answers cannot be compared between these groups, the methodology is similar: Typically these studies use a monadic approach and relate country characteristics of the origin or the target country to the frequency of terror incidences.⁵ The difference between target and origin country studies is important because most studies focus on international terrorism only. In Table 1 we survey the most important contributions. Out of the 22 studies surveyed, 17 look at international terrorism only. 9 study the determinants of the origin of terror, 16 study the determinants for target or location.

Only a very limited number of studies (six out of 22) investigate the determinants of domestic terror, which is by far the most frequent one. Abadie (2006) and Goldstein (2005) use the risk of terror attacks in the country or against the country's interest abroad as endogenous variable in a cross-section analysis that covers only 2003/04. Given his endogenous variable, they cannot differentiate between domestic and international terror. Bloomberg and Hess (2008a) as a robustness check use the RAND data base to investigate domestic terror. Their data cover only five years and they do not control for political stability/ conflict. Feldman and Ruffle (2008) focus on the role religious fragmentation and the difference between religious and secular (communist or

⁴ Of course there are a number of country-specific studies that we do not systematically survey here as it is not clear whether their findings generalize. Other strands of empirical literature on terror focus on the costs of terror, either from a macroeconomic perspective or for specific sectors such as tourism, financial and stock markets, insurance, or the defense industry. For a survey see Llussa and Tavares (2008) and Schneider et al. (2010).

⁵ A further distinction can be made between location and target. For instance, the bombing of the U.S. Navy destroyer USS Cole on October 12, 2000 had the U.S.A. as a target, but it was located in Aden/ Yemen. Of course other approaches have been used: e.g., Bloomberg and Hess (2008b) use a dyadic approach in a gravity model, Abadie (2006) uses country risk rating as endogenous variable.

nationalist) terror and use only a limited set of control variables. For instance they do not test the influence of stability or conflict on terror.

Table 1 about here

Of course Table 1 cannot report all results. Typical further controls include variables capturing size (population, GDP), population density, income distribution (Gini-coefficient), openness (exports+imports/ GDP), ethnic, linguistic and religious fragmentation, geography (climate, elevation, continent dummies etc.), as well as various other measures of the stage of development (human development index, HDI, infrastructure proxies such as telephone lines per 1000 inhabitants etc.).

The discussion on the origin of terror has centered around three main themes, the role of poverty for terror, especially for the origin of terror, the importance of the political system – democracy versus authoritarian rule – and the role of political stability and conflict for the emergence and occurrence of terror.⁶ All three issues are still contentious.

In a very influential paper Krueger and Malečkova (2003) show that deceased Hezbollah terrorists tend to be better educated and better off than the pool from which they were drawn; Berrebi (2007) corroborates this finding for terrorists of Hamas, Palestinian Islamic Jihad and the Palestinian National Authority. They conclude that terrorism, like hate crimes, is unrelated to poverty. De Mesquita (2005) explains their finding through a screening mechanism: even though more people seek to join terror groups in economic downturns, the terror organization admits only the most able one and thus the better educated and better off. Kis-Katos et al. (2010) show that terror recruitment of the Kurdish PKK is affected by the business cycle, but far less so in the heartland of the PKK.⁷

Also cross country evidence is inconclusive: Krueger and Malečkova (2003) provide evidence from cross-country sample of 143 countries that GDP per capita is not related to terror originating from that country; but countries with higher civil liberties breed fewer terrorists. Freytag et al. (2009) and Lai (2007) find that GDP per capita increases the production of terrorists. Piazza (2008) captures the state of development by the human development index (HDI) which he finds to be positively related to terrorist originating from a country. In contrast, Blomberg and Hess (2008b) show in a gravity approach that GDP per capita is negatively related to terror incidents emanating from this country. Basuchoudhary and Shughart II (2007) find the lack of economic opportunity (measured by an index of economic freedom) to significantly breed terror; political freedom seems to play a much lesser role, if any. Thus it seems fair to say that the influence of economic conditions on the “production of terror” is still a moot point.⁸

⁶ This applies likewise for the target/location and origin of terror; but since we are focusing on the determinants for the occurrence of terror, we focus on papers analyzing the origin of terror.

⁷ Honacker (2008) shows that political violence in Northern Ireland is systematically related to the unemployment rate of the respective religious group.

⁸ The existing evidence for target countries is also contradictory (see Table 1).

The role of the political system has been much debated as well. While democracies may be better able to alleviate grievances and allow pursuing goals with nonviolent means (Windsor 2003) thereby effectively reducing terrorism, they impose constraints on the executive that make law enforcement more difficult and thus makes it easier for terrorists to operate (Crenshaw 1981, Hamilton and Hamilton 1983, Lai 2007, Li 2005).⁹ The net effect is an empirical issue. Empirical studies have resulted in partly contradictory evidence: Krueger and Malečkova (2003), Krueger and Laitin (2008), Bloomberg and Hess (2008b) show that civil liberties reduce terror originating from a country. Basuchoudhary and Shugart (2007) find no influence of civil liberties on the creation of terror; political freedom increases terror only in the post cold war period. While Kurrild-Klitgaard et al. (2006) finds that democracies reduce the creation of terrorists, Lai (2007) draws the opposite conclusion. The impact of democracy on the target country is likewise subject to controversy (cf. Table 1).

Recently, the impact of political stability and national and international conflict on terror has become prominent in the discussion. Drakos and Gofas (2006a) show that international disputes increase terror incidents, Campos and Gassebner (2009) arrive at the same conclusion for civil war, guerilla warfare and riots; regime durability reduces terror incidents. Li and Schaub (2004) find no impact of interstate military conflicts on terror, Li (2005) shows military conflicts to reduce terror incidents. For the origin states, Lai (2007) finds that interstate and civil war increase terror and Piazza (2008) shows that more terror originates from failed states and from states that are at war. It seems plausible that weak states – including those that experience civil wars and riots – are less capable to fight terror, in particular if they do not control effectively their entire territory. Moreover terror may be a tactics used in civil wars, so that the positive correlation between civil war and terror incidents has a tautological element to it. For international conflicts, however, martial law and the command of military may make it more difficult for terror groups to operate in the country. Again, given the ambiguous existing evidence more analysis is called for. In particular, the role of domestic and international conflict on domestic and international terror should be analyzed separately as for instance domestic terror may be an instrument in domestic conflict, while international conflicts may not spur domestic terror to the same extent, or not at all.

3. Terror incidents

Our data on terror incidents come from the open source *Global Terrorism Database* (GTD 2009), which contains more than 80,000 incidents over the time period of 1970 to 2007. GTD is a unique data set as it has a far larger coverage than any other existing publicly available data set. It systematically documents both domestic and international terrorist incidents over 38 years, and is thus optimally suited to carry out a comparative analysis

⁹ As target countries, democracies are more attractive also because they tend to have a free(r) press compared to autocracies, which generates more publicity for terror attacks (Drakos and Gofas 2006).

of international and domestic terrorism. Other widely used datasets are either focusing on transnational terror only (like the ITERATE or the US Department of State data), or exclusively on domestic terror (like the TWEED dataset for Western Europe). The only other data set that includes both domestic and international terror incidents, the RAND-MIPT dataset, covers a much shorter time-span (1998-2005) than the GTD.

The dataset has been provided by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) of the University of Maryland. It is based on two sources, data collected by the Pinkerton Global Intelligence Service (PGIS) on a continuous basis over the years between 1970 and 1997 (GTD 1), and retrospectively collected data for the years between 1998 and 2007 (GTD 2), which resulted from joint efforts by the Center for Terrorism and Intelligence Studies (CETIS) and START.¹⁰

The final GTD dataset includes all collected incidents that can be described as an *"intentional act of violence or threat of violence by a non-state actor"*, and that meet two of the following three criteria (GTD 2009):

- "1. The violent act was aimed at attaining a political, economic, religious, or social goal;*
- 2. The violent act included evidence of an intention to coerce, intimidate, or convey some other message to a larger audience (or audiences) other than the immediate victims; and*
- 3. The violent act was outside the precepts of International Humanitarian Law."*

Thus, the dataset excludes state terror by definition, while criteria number 2 and 3 ensure that activities that are directly connected to wars/civil wars/insurgencies/etc. are not included in the dataset.

Unlike large parts of the empirical literature on the determinants of terror events, our analysis is thus not target, but origin based. Instead of looking at the properties of target nations and venues, we are investigating the roots of terrorism. Our dependent variable measures the number of domestic/international incidents originating in a given country in a given year. In order to construct this variable, we recoded the dataset by assigning every known terror group an origin nationality. Thus we do not focus on the nationality of individual perpetrators, but on the national identity of the terror groups. In almost all cases, this procedure results in unambiguous origin nationalities.¹¹ We consider all incidents as international terror where the origin and target nationalities differ or where the country of location differs from either origin or target nationality. Where perpetrators remain unknown, we assume domestic terrorism and set the origin equal to the location of the event if location and target nationality coincide. We check the robustness of our main results to this assumption by repeating the baseline regressions excluding all events with unknown perpetrator groups.

¹⁰See LaFree and Dugan (2007) for a detailed description of the dataset.

¹¹ See Appendix A for a more detailed description of the data generation procedure.

The most important terror groups by number of incidents are given in Table 2. We see that the 20 groups with most incidences account for 30 percent of all terror incidents in the period under study. Moreover, it is apparent that the groups differ widely with respect to the share of international terror incidents. While more than 10 percent of their terror acts are international for groups like the PKK (Turkey), Taliban (Afghanistan), Tupac Amaru (Peru), other very important groups are almost exclusively domestic, such as the Shining Path (Peru), Farabundo Marti National Liberation Front (El Salvador), or the South African National Congress. Focusing on international terror only thus implies that important terror groups are neglected by the empirical analysis.

Figure 1 shows the total number of domestic and international terror incidents for the period of analysis.¹² Except for the very first years of its coverage, GTD records considerably more domestic than international terror events, and the dynamics of the two series differ somewhat over time. Both domestic and international terror has been steadily increasing until the early 90es, and started decreasing afterwards. During the most recent years, the increases in domestic terror have not been completely mirrored by an increase in international incidents. Based on this descriptive evidence it remains thus unclear whether domestic and international terror follow an—at least partly—different logic.

4. Empirical strategy

In our empirical analysis we investigate the effects of economic and political characteristics on the frequency of domestic and international terror incidents (T_{it}^D and T_{it}^I), originating from country i , in year t . As the number of terrorist incidents is a highly over-dispersed count variable (with significantly larger variance than mean, cf. Table 3), negative binomial models for panel data offer an appropriate empirical tool. Thus we estimate the following negative binomial panel data model (cf. Hausman et al. 1984, Wooldridge 2002, ch. 19):

$$\Pr (T_{it}^{D,I} = t_{it}^{D,I} | X_{it}, \delta_i) = \frac{\Gamma(\lambda_{it} + y_{it})}{\Gamma(\lambda_{it})\Gamma(y_{it} + 1)} \left(\frac{1}{1 + \delta_i} \right)^{\lambda_{it}} \left(\frac{\delta_i}{1 + \delta_i} \right)^{y_{it}} \quad (1)$$

where the number of terrorist events follows a mixture of Poisson and Gamma distributions with parameters (λ_{it}, δ_i) . The first parameter is an exponential function of the vector of explanatory variables, $\lambda_{it} = \exp(X_{it}\beta)$, while the time-invariant parameter δ_i captures a country-specific fixed effect. We estimate conditional fixed effects negative binomial models where the dispersion (variance to mean ratio) δ_i is country specific. We use fixed effects negative binomial models because they rely on less restrictive assumptions than random effect models, as they allow an arbitrary correlation between the country-specific effect δ_i and the other explanatory variables.

¹² Figure 1 also shows that data on terrorist incidents is not available for the year of 1993 from GTD; the reason for this is that “cases from 1993 were lost prior to receiving the data from PGIS” (GTD 2009). We thus treat observations for 1993 as missing.

The vector of explanatory variables includes a basic set of controls in all specifications, and is extended in various directions in the subsequent analysis. All basic specifications control for past levels of terror activity, population size, GDP per capita, trade openness, overall democracy, and conflict history. Furthermore, all models include a full set of year fixed effects in order to control for shocks over the time that were common to all countries.¹³ As terrorist attacks might affect both the economy and the political system, we include all potentially affected explanatory variables either lagged by one year, or calculated over the past five years in order to mitigate concerns of reverse causality.

If terrorism persists strongly over time, lagging the explanatory variables might not be sufficient to address endogeneity issues as past levels of terror might have affected lagged economic and political outcomes as well. Moreover, terrorist organizations build up their operations over time, and both skill accumulation as well as propagation of violent forms of dissent might play an important role making present levels of terror activity dependent on past levels. In order to deal with these concerns we include in all regressions past levels of terror activity as an additional control; this variable measures the average number of terrorist incidents per year over the past five years originating in the given country. We sum both domestic and international terror events, assuming that both of them contribute to skill accumulation or organization building. Alternatively, we use both the average number of domestic and international events over the past five years as separate variables to see whether their influences differ in magnitude. Lastly, we use the number of terror events of the immediate past period instead of past event history over five years.

Economic controls are taken from Penn World Tables version 6.3 (Heston, Summers and Aten 2009).¹⁴ . The natural logarithm of the GDP per capita (in constant 2005 USD) controls for the average income level of origin countries; openness measures the value of total trade relative to the country's GDP (at current prices). The natural logarithm of total country population controls for possible scale effects. In particular we are interested whether we can find evidence for a deprivation effect on the creation of terror (e.g., Azam and Thelen 2008, Basuchoudhary and Shugart 2007, Blomberg and Hess 2008b) or whether increased per capita GDP levels give rise to more terror originating from the countries (Lai 2007, Freytag et al. 2009).

Our main measure of democracy consists of a polity score from the Polity IV project by Marshall and Jaggers (2009). The main advantage of this score is that it is consistently coded over time and hence is appropriate for panel data analysis.¹⁵ The polity score is

¹³ Additionally, year fixed effects can also capture eventual changes in data encoding procedures (like potential differences in data encoding in GTD 1 and GTD 2).

¹⁴ Additionally we derived information on former states (Czechoslovakia, USSR, and West Germany) from PWT version 5.6 and data on the West Bank and Gaza from the World Development Indicators (WDI 2009). The additional data have been converted to the same base as the PWT 6.3 data.

¹⁵ The other commonly used democracy indicators by Freedom House should not be used in this context as the scaling and general methodology has been changing over time, cf. Linder and Santiso (2003). The Freedom House website states: "Changes To The 2008 Edition Of Freedom In The World The survey's methodology is reviewed periodically by an advisory committee of political scientists with expertise in

calculated as the difference between the democracy and autocracy scores in the dataset (both scaled between 0 and 10), measuring aspects of executive recruitment (its competitiveness and openness), executive constraints, electoral regulation and competition. The overall polity score takes thus values between -10 and +10.¹⁶ We are interested to see whether the grievance alleviating effect of an open political process that allows voicing dissent non-violently outweighs the effect of executive constraints of larger civil and political liberties on the effectiveness of anti-terror policies. The former effect should give rise to less terror originating in democratic countries as would-be terrorists find other ways to influence policies and to participate in the political process, whereas the latter should have the opposite effect as it becomes easier to operate as a terror group.

Information on overall conflict history is based on the UCDP/PRIO Armed Conflict Dataset version 4-2009 (Gleditsch et al. 2002). Conflict is defined as “a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths”. Thus, the dividing line between current conflict and terrorist events is somewhat blurred as some terrorist events are directly related to and might even propagate an ongoing conflict. Since conflict and terrorist incidents are interrelated, the inclusion of current conflict as an explanatory variable would result in endogeneity bias. Instead, our measure of conflict history records in how many of the past five years the country has been reported as being involved in a domestic or international conflict. Thus, together with the control for past levels of terrorist activity, this variable captures overall instability and conflict history. We seek to understand what the role of conflict is for the creation of terror and what the dynamics of terror creation is; in particular we are interested in whether there is a differential effect of civil and international conflicts on the creation of international and domestic terror.

Starting from a baseline scenario that includes the variables described above, we further explore the determinants of the origin of domestic and international terrorism in three dimensions by including additional variables. The further analysis of the *economic dimension* repeats the baseline specifications for three country groups, based on the income grouping of countries by the World Bank (high income OECD countries, high income non-OECD and upper middle income countries, and lower middle and low income countries) to explore different effects of the exogenous variables for countries of different income group. For instance, do civil liberties and GDP per capita have different impacts on the creation of terror for different income groups? Blomberg et al. (2008a)

methodological issues. Over the years, the committee has made a number of modest methodological changes to adapt to evolving ideas about political rights and civil liberties. At the same time, the time series data are not revised retroactively, and any changes to the methodology are introduced incrementally in order to ensure the comparability of the ratings from year to year.” (http://www.freedomhouse.org/template.cfm?page=351&ana_page=341&year=2008).

¹⁶ Periods of foreign interruption and anarchy have been coded to take the neutral 0 score; during regime transitions the polity score is gradually adjusted to its new level.

show for target countries that GDP per capita is positively related to international terror incidents, for low income countries, however, it is negatively related to GDP per capita. Democracy increases international terror incidents, but not for low income countries. For domestic terror they show that a higher GDP per capita is associated with fewer terror incidents both for low income countries and the full sample. Democracy increases domestic terror, but not for low income countries. We want to understand the dynamics of terror better by analyzing whether the determinants of terror exhibit a different pattern across income groups.

An additional set of regressions exploring the effects of economic development on terror includes measures of urbanization, economic growth and infrastructure availability. Yearly growth rates of the GDP p.c. are calculated from the GDP measure and expressed in percent. The number of telephone lines (fixed and mobile) measures infrastructure quality and serves as a proxy for the average wealth level (Source: WDI 2009). Urbanization is measured as the percentage share of population living in cities; it is closely related to economic development but might affect terrorist activities also more directly: in cities it might be easier to organize and carry out terrorist activities and to reach a larger audience.¹⁷

The analysis of the *political dimension* probes into the role of the political environment for terror incidents by including additional controls for the regime history based on information from the Polity IV dataset. Analogous to conflict history, we record the number of years out of the past five that the country spent under foreign interruption, anarchy, or in transition. Foreign interruption describes periods of foreign occupation during war or other foreign interventions to assist the domestic regime. Anarchy denotes periods of interregnum with a complete collapse of the central authority. Political transition denotes provisional states when a major political transition takes place and a substantially new polity is emerging. In these situations, the central authority has little power (or no power at all) which may be conducive for increased terror activity. By the failed state hypothesis these periods should be marked by higher terrorist activity (Piazza 2008). The effects of foreign intervention on terror may be less clear-cut as they depend on whether this intervention is successful in establishing an authority.

Regime durability, measured by the number of years since the last systemic change (also based on Polity IV), captures another dimension of government's power. Systemic change is defined either as regime transition, or as an at least 3 point change of the polity score within 3 years. In some specifications we distinguish between the durability of democratic and autocratic regimes (autocracies defined by a polity score 0 or less,

¹⁷ Terrorism might not only be affected by average economic wealth but also by the distribution of it. In order to control for the effects of income distribution we have used specifications that include Gini coefficients (Source: WIID 2008). For years with no data available we build the Gini coefficients as linear projections between the two nearest years. Nonetheless, inclusion of Gini coefficients reduces sample sizes considerably. The results (not reported) however turned out insignificant for the Gini coefficient.

democracies by a score larger than zero), as stability of a democracy might not have the same effects on terror as the tightness of the autocratic grip.

We also include more direct measures of political participation and competition based on the Polyarchy Dataset version 2.0 (Vanhanen 2000).¹⁸ The degree of electoral participation is given by the share of total population who actually voted in parliamentary or presidential elections; competition describes the degree of power sharing between groups by measuring the share of votes in elections received by non-winning parties. These two variables are based on actual electoral information and hence are fairly precise. They describe two different aspects of democracy, and are included jointly in the regressions. Alone neither variable is necessarily indicative of a democracy: high electoral participation can also arise in strongly autocratic regimes with mock elections, while electoral competition can also be high if the voter base is very low and restrictive. These two variables are indicative for the quality of the democracy and thus again may capture the two countervailing effects of democracy – a terror preventing and terror enabling effect.

The analysis of the *conflict dimension* studies the effect of conflict further by looking at the nature of the conflict. International conflict, especially interstate war, may lead to less terror incidents emanating from that area as it is suppressed by martial law (as long as the government can effectively rule the country through the military) whereas domestic conflict, in particular civil war, indicates the erosion of government power and therefore may actually increase terror activities. Again the two types of conflict may have different impacts on the two types of terror (domestic and international).

We check the robustness of our results with respect to our data generation procedure by repeating the baseline regressions for the modified dependent variables where all incidents from unknown groups have been dropped from the analysis. Additionally, we investigate the stability of the results over time by repeating the basic models separately for the first and second two decades.

5. Results

5.1 Baseline results

The baseline results refer to 159 countries over the time period 1975–2007, while in further specifications sample size is reduced because of data availability. Since all models are estimated by a fixed effects negative binomial estimator, countries with all zero observations are not included in the sample. This explains the somewhat smaller sample sizes when international terror is the dependent variable, as there are more countries that were never recorded as origins for international attacks.

¹⁸ As these variables are available only up to 2001, we lose the observations of the last 6 years.

Results are presented in the form of incident rate ratios, which show by what factor the expected terror incidents increase from a unit increase in an explanatory variable; values smaller than one indicate thus a negative effect on terrorist incidents. The relative magnitude of the coefficients can be directly compared between the models. Table 4 presents the general results on the determinants of domestic and international terror events. Columns 2 and 6 show our baseline specifications. Columns 1 and 5 present the results without controlling for terror history, while the further specifications use different controls for terror history. Based on these first results, the creation of domestic and international terror seems to be governed by similar forces.

Table 4 about here

First, the number of both domestic and international events originating in a country increases significantly with GDP per capita. The magnitudes for domestic and international terror incidents are large and comparable. This underlines that it is not the poorest countries that breed terrorism. We thus corroborate the findings by Lai (2007) and Freytag et al. (2009).¹⁹

Democracy is positively related to the number terror incidents originating in a country; this holds equally for domestic and international terror. Thus the grievance alleviating effect is smaller than the effect of executive constraints that reduce the possibilities of democratic states to repress (violent) opposition. Authoritarian systems have coercive apparatuses that inhibit or reduce terror operations. Moreover, if terror groups are small splinter groups, even the most open democratic societies will not offer them much scope to impose their ideas on the majority (or to gain the majority) and thus their felt grievances may not be reduced substantially through democratic means of opposition. Our result is in line with Lai (2007) and Blomberg and Hess (2008a), but contradicts Krueger and Malečkova (2003), Krueger and Latin (2008) and Kurrild-Klitgaard et al. (2006).

As expected larger societies – as measured by populations size – experience a higher absolute number of terror incidents. Openness is not robustly related to terrorism.

Terror history increases significantly the expected number of further events. One additional terror event per year over the past five years increases the expected number of terror events by a factor of 1.002. The effect is somewhat larger if we only control for terror events during the past year (columns 4 and 8). The spillover effects are considerably larger for past international terrorism than for past domestic events. This indicates a path-dependency of terror. In order to recruit perpetrators and prepare terror attacks, an efficient organization (including a base of supporters) needs to be established. This takes time, but once established will have effects on the potential to carry out terror attacks in the future.

¹⁹ Our finding is in line with the results of an opinion poll in the West bank that showed that better educated individuals held more radical views (Krueger and Malečkova 2003).

Conflict history is also a strong determinant of domestic and international terror alike. One more year of conflict in the past five years increases the expected number of terror events by between 13 and 19 percent. This shows that conflicts are conducive to the creation of terror; either through acquisition of necessary skills in the conflict (Campos and Gassebner 2009) or because it signals the weakness of the state to effectively inhibit violent opposition in its territory.

As a robustness check we ran the baseline scenario separately for different income groups. Results are reported in Table 5. Within income groups, per capita GDP has no significant effect on *domestic* or *international* terror. The POLITY IV score is significantly positive for domestic terror, but only for high-income non-OECD and upper middle income countries for international terror. In part this may be due to smaller sample size and larger within group homogeneity. The terror increasing effect of democracy is larger for high income countries than for lower and middle income countries. Scale effects (resulting from larger population size) seem to be relevant only within the group of lower middle and low income countries.

Table 5 [about here](#)

Improvements in democracy are in almost all income groups related to more terrorist attacks. The same is true for conflict history: one additional year of conflict (over the previous five years) increases the number of terrorist events by the factor 1.03-1.26. High income OECD countries are the exception: the link between democracy as well as conflict history and international terror is not significant for this country group. Average total events exhibit a significant influence on present terror incidence for all country groups and terror forms.

5.2. The role of income and economic development

Table 6 includes further controls for economic development. Countries with larger urbanization are origin to more domestic and international effects. The effect is larger for international terror than for domestic one. Urban environments may be more conducive for planning and carrying out terrorist activities, because it is easier to hide and to change location but also because terror acts generate more publicity in urban areas than in remote rural areas. Telephone infrastructure, which proxies for both economic development and infrastructure quality, is significantly negatively related to terror events. Similarly, higher growth rates are associated with fewer terror incidents, even though the effect is rather small. In one specification we have included dummies for the GDP per capita quintiles instead lagged and logged GDP per capita. They show a monotonic and very sizeable increase in terror incidents from quintile to quintile. Especially international terror attacks are significantly and considerably less likely to originate from the poorest quintile of countries.

Table 6 [about here](#)

Economic development matters for the creation of terror. Terrorism as measured by the number of incidents is significantly more likely to originate from richer and more urbanized countries than from poorer countries. The poorest countries are significantly less likely to create domestic, but especially international terror. Yet, economic growth and better infrastructure reduces the number of terror incidents emanating from a country.

5.3. Political regime and democracy

Table 7, columns 2 and 6, reveal the underlying dynamics behind the result that higher polity scores increase terror. It shows clearly that this result is driven by the difference between the strongly authoritarian states (polity scores between -10 and -6) and all the rest. The difference between the other groups of countries is rather minimal. In other words an increase in democracy does not come at a price of increased terror if the country has already moved from the most autocratic, despotic form to a 'milder' form. Only the states that have no respect of human, civil and political rights can crush down on terrorists more effectively than other states through repressive means. Of course part of this result may also be attributable to underreporting of terror events (Drakos and Gofas 2006a,b).²⁰

Table 7 about here

Inclusion of further two controls for political participation results in a more restricted sample; while other results remain unaltered, the expected number of terrorist events decreases with political participation, but it increases with political competition. A high participation (measured by voter turnout) may indicate a higher contentedness with the political system as such and thus may provide a smaller reservoir of terror supporters. A higher share of people voting for the unsuccessful candidate *may* indicate a larger fraction of frustrated voters and thus a greater potential pool for terrorist organizations to recruit from. But this result needs further analysis to interpret it.

5.4 Failed states and the role of conflict

We probed further into the effect of regime stability and conflict by including a more detailed set of controls of regime history and democracy in our regressions. Table 8 reports the results. As expected a durable regime discourages the creation of terror. This effect is stronger for autocracies than for democracies, for domestic terror it is statistically significant only in case of autocracies. Again the effects are hardly different for domestic and international terror.

²⁰ For international terror this may be less of an issue since the terror attacks may be reported by the target country (which need not be authoritarian) even if the country of origin is authoritarian.

Table 8 about here

Anarchy, which is the closest measure of failed states, serves as a breeding ground for both domestic and international terrorism. Years of anarchy increase the creation of terror significantly and strongly and have the same magnitude for domestic and international terror: one additional year of anarchy (over the past 5 years) increases both types of terrorist incidents around 1.25 times. In contrast foreign interruptions exert no significant influence on terror.

Years of conflict again increase terrorist activities, both for domestic and international terror. Yet, hidden behind this aggregate estimate are strongly different effects of domestic and international conflict! Domestic conflict fuels terrorism, international conflict actually reduces conflict – one year of domestic conflict in the past five years increases domestic terror incidents by 17 percent whereas one year of international conflict *reduces* the number of domestic incidents by almost the same magnitude! International terror reacts in the same directions; however the extent is somewhat smaller. This difference in the effects of domestic and international conflict is plausible – domestic conflict marks an inherently weak state which might have lost control over parts of its territory and terror organizations move to fill the vacuum (Napoleoni 2003). As such domestic conflict compromises the state's ability to effectively fight terror and thus provides opportunities for terror organizations to organize and prepare terror acts. In contrast, also strong states may engage in international conflicts. In the course of these conflicts they may even tighten their grip through the introduction of martial law, military administration and the reduction of civil liberties thereby reducing the ability of terror groups to maneuver.

We also differentiated the transitions into those that deteriorated the polity score by a minimum of three points, those that improved it by at least three points without changing the regime type and those that improved the score by a minimum of 6 points including a regime change. All transitions are associated with increased terrorism; yet only the strongly democratic transition is statistically significant and has a strong impact on international and an even stronger impact on domestic terrorism.

Thus our results corroborate the results by Piazza (2008) on failed states and extend those by Campos and Gassebner (2009) by including domestic terror, and separately analyzing the effect of domestic and international conflicts. Moreover we show for the first time the differential effect of domestic and international conflict and provide evidence on the effect of regime change on the level of terrorism.

5.5 Robustness checks

In this section we report a number of robustness checks. Table 9 reports the sensitivity of the baseline results with respect to the time period covered. Most results remain unaltered and are thus stable over time. The only exception is the impact of GDP per

capita, which has a stronger terror-increasing impact in the earlier periods than in the later periods. In part this may be attributable to a smaller sample of countries in the early period.

[Table 9 about here](#)

Table 10 reports basic robustness checks with respect to the classification of terror incidents as domestic or international. Columns 1 and 4 repeat the baseline specification of Table 4 (cols. 2 and 6), but with a redefined dependent variable which excludes all terrorist incidents by unknown groups. Although this results in a reduced sample as compared to the baseline specifications, the overall results remain the same. Columns 3 and 6 classify West Bank and Gaza as a part of Israel and thus classify terror attacks of Palestinians in the West Bank against targets in Israel as domestic instead of international terror. Results remain largely unaffected by these alterations.

[Table 10 about here](#)

6. Conclusion

In this paper we have analyzed the root causes of terror in a cross country panel approach by relating country characteristics to the number of terror incidents originating from this country. Due to a newly available data set we have been able to include domestic terrorism in our analysis which makes up about 85 percent of all terror incidents. We are thus the first to analyze the determinants of domestic terrorism in a large data set that comprises 159 countries and a large time span of 1970 – 2007.

We find that the determinants of domestic terror are relatively similar to those of international terror analyzed by the country of origin. In particular, we show that terror is more likely to originate from wealthier countries and that terror incidents are monotonically increasing in GDP per capita. Countries with a higher degree of political and civil liberties as measured by the POLITY IV score are *more* prone to breed terror; however the result is driven by the difference between very strongly autocratic states (POLITY score smaller than -6) and all other states. A difference in the POLITY score for states that do not fall in the category of strongly autocratic states comes hardly at the cost of increased terror.

Conflict history plays a crucial role – while each year of domestic conflict (in the past five years) increase the number of incidents originating from that country by 17 percent, each year of international conflict reduces this variable by 15 percent. Experiences of anarchy and transition lead to increased terror – for each of the past five years the number of terror incidents goes up by between 20 and 25 percent. Yet the effect of transitions is unevenly distributed: Especially strong transitions towards democracy increase terror whereas mild democratic transitions and negative transitions are

characterized by lower increases in terror. Domestic terror reacts somewhat more strongly to transitions and conflicts than international terror. Higher durability of regimes, especially of autocratic regimes, reduces terror.

Our results thus contradict the deprivation theory on the origin of terror; it is by no means the very poor states that breed most terror. On the contrary, terror increases with GDP per capita. Likewise, our results do not lend support to the hypothesis that political repression creates terrorists; on the contrary we show that the most repressive states are best in repressing terrorism as well. Our results are in line with the failed state hypothesis: Domestic conflicts and anarchy are hotbeds for domestic and international terror alike. More stable regimes are experiencing less terror as well. Lastly, we show that there is a strong path-dependency in the creation of terror – the level of past terror affects strongly the present level.

The policy conclusions that may follow from our analysis is that a counter-terrorism strategy should focus at stabilizing regimes and solving domestic conflicts peacefully. Promotion of democracy and improvement of living conditions are valuable goals in themselves; as an element in a counterterrorism strategy they are useful to the extent that they help stabilize countries. Transitions should be managed carefully in order to avoid destabilization that may give rise to increased terror.

Yet results from cross-country panel analyses like ours should be interpreted with care as they portray average behavior and may be misleading for specific cases. Terrorism is a very heterogeneous phenomenon and what may work in Latin America with Marxist terror groups may not work for Islamist terror in the Middle East. Moreover aggregate country variables may not portray societal dynamics appropriately in each case. Thus large panel data analyses should be complemented with context-specific country studies.

7. References

- Abadie, A. (2006), "Poverty, Political Freedom, and the Roots of Terrorism," *American Economic Review*, 96(2): 50-56.
- Azam, J.-P. and V. Thelen (2008), "The Roles of Foreign Aid and Education in the War on Terror," *Public Choice* 135(3-4): 375-397.
- Basuchoudhary and W. Shughart II (2007) On Ethnic Conflict and the Origins of Terrorism, Department of Economics, University of Mississippi, mimeo.
- Berrebi, C.: 2007, Evidence about the link between education, poverty and terrorism among Palestinians, *Peace Economics, Peace Science and Public Policy*, **13**(1), Article 2., <http://www.bepress.com/peps/vol13/iss1/2> .Blomberg, B. and G.D. Hess (2008a), "From (No) Butter to Guns? Understanding the Economic Role in Transnational Terrorism," in P. Keefer and N. Loyaza (eds), *Terrorism, Economic Development, and Political Openness*, Cambridge University Press, 83-115.
- Blomberg, B. and G.D. Hess (2008b), "The Lexus and the Olive Branch: Globalization, Democratization, and Terrorism," in P. Keefer and N. Loyaza (eds), *Terrorism, Economic Development, and Political Openness*, Cambridge University Press, 116-147.
- Blomberg, B., Hess, G.D. and A. Weerapana (2004), "Economic Conditions and Terrorism," *European Journal of Political Economy* 20(2): 463-478.
- Bravo, A. and Mendes Diaz (2006) An Empirical Analysis of Terrorism: Deprivation, Islamism and Geopolitical Factors, *Defence and Peace Economics*, Vol. 17(4), 329-341.
- Cameron, A.C. and P.K. Trivedi (1998), *Regression Analysis of Count Data*, New York: Cambridge University Press
- Campos, N. and M. Gassebner (2009) International Terrorism, Political Instability and the Escalation Effect, IZA Discussion Paper No. 4061: Bonn.
- Crenshaw, M. (1981) The causes of terrorism. *Comparative Politics* 13(4): 379-399.
- de Mesquita, E. B. (2005) The quality of terror, *American Journal of Political Science* 49(3), 515-530.
- Drakos, K. and A. Gofas (2006a) In Search of the Average Transnational Terrorist Attack Venue, *Defence and Peace Economics*, 17(2): 73-93
- Drakos, K. and A. Gofas (2006b) The Devil You Know but Are Afraid to Face: Underreporting Bias and its Distorting Effects on the Study of Terrorism, *Journal of Conflict Resolution*; 50; 714.

- Dreher, A. and J. Fischer (2008) Decentralization as a Disincentive for Transnational Terror? An Empirical Test, KOF Working Papers no. 185. ETH Zurich, KOF Swiss Economic Institute.
- Eubank, W. and L. Weinberg (2001), "Terrorism and Democracy: Perpetrators and Victims," *Terrorism and Political Violence*, 13(1): 155-164
- Feldman, N. and B. Ruffle (2008) Religious Terrorism: A Cross-Country Analysis, Samuel Neaman Institute, Working Paper Series – Economics of National Security, no. 8.
- Freytag, A., J. Krüger, D. Meierrieks and F. Schneider (2009) The Origins of Terrorism: Cross-Country Estimates on Socio-Economic Determinants of Terrorism, Jena Economic Research Papers 2009 – 009, University of Jena.
- Gleditsch, N.P., Wallensteen, P., Eriksson, M., Sollenberg M. and H. Strand (2002) „Armed Conflict 1946–2001: A New Dataset”, *Journal of Peace Research*, 39(5), 615–637.
- Goldstein, K. (2005) Unemployment, Inequality and Terrorism: Another Look at the Relationship between Economics and Terrorism, Vol.1(1), article 6; <http://digitalcommons.iwu.edu/uer/vol1/iss1/6>
- GTD (2009) *Global Terrorism Database*, START, <http://www.start.umd.edu/gtd>, accessed on 15.12.2009.
- Hamilton, L. C., and J. D. Hamilton. 1983. Dynamics of terrorism. *International Studies Quarterly* 27: 39–54.
- Hausman, J., Hall, B.H. and Griliches, Z. (1984) "Econometric models for count data with an application to the patents-R&D relationship", *Econometrica*, 52(4), 909–938.
- Heston, A., Summers, R. and Aten B. (2009) *Penn World Table Version 6.3*, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, August.
- Honacker, J. (2008) Unemployment and Violence in Northern Ireland: a missing data model for ecological inference, UCLA, Dept. of Political Science, mimeo, <http://tercer.bol.ucla.edu/papers/ni.pdf>.
- Kis-Katos, K., G. Schulze and A. Turgut (2010) Business Cycles of Terrorist Recruitment, University of Freiburg, Department of International Economic Policy working paper.
- Krueger, A.B. (2007) *What Makes a Terrorist: Economics and the Roots of Terrorism*, Princeton: Princeton University Press.
- Krueger, A.B. and J. Malečková (2003), "Education, Poverty and Terrorism: Is there a Casual Connection?" *Journal of Economic Perspectives*, 17(4): 119-144.
- Krueger, A.B. and D.D. Laitin (2008), "Kto Kogo? A Cross-country Study of the Origins and Targets of Terrorism," in P. Keefer and N. Loyaza (eds), *Terrorism, Economic*

- Development, and Political Openness*, Cambridge, Cambridge University Press, 148-173.
- Kurrild-Klitgaard, P., Justesen, M.K. and R. Klemmensen (2006), "The Political Economy of Freedom, Democracy and Transnational Terrorism," *Public Choice* 128(1-2): 289-315.
- LaFree, G. and Dugan, L. (2007) "Introducing the Global Terrorism Database", *Terrorism and Political Violence*, 19(2), 181-204.
- Lai, B. (2007) "Draining the Swamp": An Empirical Examination of the Production of International Terrorism, 1968-1998, *Conflict Management and Peace Science*, 24: 297-310.
- Li, Q. (2005), "Does Democracy Promote or Reduce Transnational Terrorist Incidents?" *Journal of Conflict Resolution* 49(2): 278-297.
- Li, Q. and D. Schaub (2004) Economic Globalization and Transnational Terrorism: A Pooled Time-Series Analysis, *Journal of Conflict Resolution*, 48.(2): 230-258.
- Linder, A. and C. Santiso (2003) Not everything that counts can be counted: a critical look at risk ratings and governance indicators, *Nordic Journal of Political Economy*, 29, 105-132
- Llussá, F. and J. Tavares (2008), "Economics and Terrorism: What We Know, What We Should Know, and the Data We Need," in P. Keefer and N. Loyaza (eds), *Terrorism, Economic Development, and Political Openness*, Cambridge University Press, 233-254.
- Marshall, M. and Jaggers, K. (2009) *Polity IV project: Political regime characteristics and transitions, 1800-2008*, Center for Global Policy, School of Public Policy, George Mason University and Center for Systemic Peace, <http://www.systemicpeace.org/polity/polity4.htm>, accessed on 1.12.2009.
- Mickolus, E., T. Sandler, J. Murdock and P. Fleming. (2002) International terrorism: Attributes of terrorist events, 1991 - 2000 (ITERATE 5). Dunn Loring, VA: Vinyard Software.
- Napoleoni, L. (2003) *Modern Jihad*, Pluto Press: London.
- Piazza, J. (2006) Rooted in Poverty?: Terrorism, Poor Economic Development, and Social Cleavages, *Terrorism and Political Violence*, 18:159-177
- Piazza, J. (2008) Incubators of Terror: Do Failed and Failing States Promote Transnational Terrorism? *International Studies Quarterly*, 52, 469-488.
- Schneider, F., T. Brück and D. Meierrieks (2010) The Economics of Terrorism and Counter-Terrorism: A Survey, mimeo.

- Tavares, J. (2004), "The Open Society Assesses its Enemies: Shocks, Disasters and Terrorist Attacks," *Journal of Monetary Economics*, 51(5): 1039-1070.
- Vanhanen, T. (2000) "A new dataset for measuring democracy, 1810-1998," *Journal of Peace Research*, 37(2), 251-265.
- WDI (2009) *World Development Indicators Online*, World Bank, Washington D.C., <http://go.worldbank.org/6HAYAHG8H0>, accessed on 10.2.2010.
- WIID (2008) *UNU-WIDER World Income Inequality Database*, Version 2.0c, http://www.wider.unu.edu/research/Database/en_GB/database/, accessed on 10.02.2010.
- Windsor, J. L. 2003. Promoting democratization can combat terrorism. *The Washington Quarterly* 26(3): 43-58.
- Wooldridge, Jeffrey (2002) *Econometric Analysis of Cross Section and Panel Data*, Cambridge/Mass.: MIT Press.

8. Appendix A: Literature

Table 1: Empirical Cross-country Studies on the Determinants of Terror

Author(s)	Data set	Coverage	Econometric Method	Main results			Remarks
				Economic	Political	Stability	
International							
Target / Location							
Abadie (2006)	WMRC-GTI	186 countries, years 2003-2004	Cross-section OLS and IV	GDPpc insignificant	political rights reduce terror, inverted U shape	n.t.	Terrorist risk as endogenous variable (in the country and for interests abroad)
Blomberg and Hess (2008a)	ITERATE	179 countries years 1968-2003	Cross-country averages and panel: tobit und poisson	For all (low income) countries GDPpc is positively or insignificantly (negatively) related to terror	Democracy index for all countries positively related (in panel regress.) to terror, for low income insignificant	n.t.	
Blomberg and Hess (2008b)	ITERATE	179 countries 1968-2003	Tobit gravity model	GDPpc lowers terror in the origin country, raises terror in the target country	Democracy in origin (target) country reduces (increases) terror	n.t.	Dyadic approach, target and origin countries. Proximity increases terror.
Krueger and Laitin (2008)	State Dept.	150 countries 1997-2002, 781 "significant" events (out of 1,953)	Negative binomial cross-section model	GDPpc lowers terror in the origin country, raises terror in the target country, growth n.s.	Low civil liberties increase terror in origin and location country	n.t.	
Blomberg et al. (2004)	ITERATE	127 countries 1968 - 1991	Markov process estimation	High-income countries experience more terror	Democracies experience more terror	n.t.	Economic contractions increase the probability of terror
Bravo and Dias (2006)	MIPT	121 countries 1997-2004	OLS†	HDI reduces terror incidents	Pluralist systems reduce terror if HDI is excluded, n.s. otherwise	n.t.	

Campos and Gassebner (2009)	MIPT	130 countries 1972 - 2003	Fixed effects negative binomial panel model	GDPpc insignificant for incidences, increases fatalities	Political freedom increases terror (incidents and fatalities)	Civil war, riots, guerilla warfare and political proximity to the USA increase terror, regime duration reduces terror	Two endog. var.: # of events and # of fatalities
Drakos and Gofas (2006a)	MIPT	139 countries 1985 - 1998	Zero-inflated negative binomial panel model	GDP growth rate: n.s. Life expectancy: n.s. Education: n.s.	Polity: democracy increases terror in the neg. bin. model; it is insignificant in the zero- inflated neg. bin. model, but significant negative for explaining the countries with consistently no terror incident Minorities at risk: n.s.	international disputes increase terrorism	, ocation, not target, lagged endogenous variable Zero inflation bias due to non-reporting of terror incidents of strongly undemocratic countries.
Dreher and Fischer (2008)	MIPT	109 countries 1976 - 2000	Negative binomial panel model (RE)	GDPpc n.s.	fiscal decentralization reduces terror, political decentralization does not political freedom increases terror	n.t.	
Goldstein (2005)	WMRC-GTI	169 countries year 2003/4	OLS	GDPpc reduces terror risk in some specifications, is insignificant in most. Adult unemployment increases terror risk	Lack of political rights increase terror risk	n.t.	Follows Abadie (2006)
Li (2005)	ITERATE	119 countries 1975 - 1997	Negative binomial (FE, PA and zero- inflated)	GDPpc reduce terror incidents	Voter turnout reduces terror, government constraints increase terror,	Regime durability reduces terror, military conflicts reduce terror	Past incidents as explanatory variable
Li and Schaub (2004)	ITERATE	112 countries 1975 - 1997	Negative binomial model	GDPpc reduces terror, economic partners' GDPpc reduces terror as well, FDI and portfolio investment n.s.	Democracy increases terror incidents	Interstate military conflicts or wars n.s.	Location based Globalization and terrorism : no direct link through foreign investment, but reduces terror through increased GDP
Piazza (2006)	State Dept.	96 countries 1986-2002	OLS†	GDP growth, HDI, unemployment rate, inflation all n.s.	Increase in repression and large no. of parties increase terror incidents	n.t.	

					and casualties		
Piazza (2008)	ITERATE	197 countries Years 1973-2003	Negative binomial panel model	HDI increases terror	Executive constraints increase terror, Participation n.s.	Failed states experience more terror, regime durability reduces terror, International war increases terror	Failed state hypothesis For origin country see below
Kurrild-Klitgaard et al. (2006)	ITERATE	121 countries 1996-2002	Logistic regression, cross section, occurrence of terror as independent var. (binary variable)	GDPpc increases terror, poverty and growth n.s.	Political rights increase terror (inverse U shape)	n.t.	For origin country see below
Tavares (2004)	ICT	1987 - 2001	OLS†	GDPpc and GDP growth increase terror incidence	Political right do not reduce overall no. of terror incidents	n.t.	Endog. var. no. of terror incidents divided by population, regression by target type
Origin							
Azam and Thelen (2008)	ICT	176 countries 1990 - 2004	Negative binomial model, cross section	GDPpc reduces terror Education reduces terror	n.t.	n.t.	Foreign aid reduces terror
Basuchoudhary and Shugart (2007)	ITERATE	118 countries 1982 - 1997	FE negative binomial panel model	GDPpc reduces terror, index of economic freedom significantly reduces terror in all specifications	Political and civil freedom has no impact for entire period, political freedom increases terror in post- cold war period	n.t.	Ethnic polarization increase terror originating from the country, most important the lack of economic opportunity promotes terror
Blomberg and Hess (2008b)	ITERATE	179 countries years 1968-2003	Tobit gravity model	GDPpc lowers terror in the origin country, raises terror in the target country	Democracy in origin (target) country reduces (increases) terror	n.t.	Dyadic approach, target and origin countries. Proximity increases terror.
Krueger and Laitin (2008)	State Dept.	150 countries 1997-2002, 781 "significant" events (out of 1,953)	Negative binomial cross-section model	GDPpc lowers terror in the origin country, raises terror in the target country, growth n.s.	Civil liberties reduce terror in origin and location country	n.t.	
Krueger and Malečkova (2003)	State Dept.	143 countries 1997-2002	negative binomial regression, cross- section	GDPpc n.s., illiteracy rate n.s.	Civil liberties reduce terrorism	n.t.	

Kurrild-Klitgaard et al. (2006)	ITERATE	121 countries 1996-2002	Logistic regression, cross section, occurrence of terror as independent var. (binary variable)	GDPpc and poverty n.s.	Democracy, esp. civil liberties reduce terror	n.t.	For location country see above
Lai (2007)	ITERATE	185 countries 1968 - 1998		GDPpc increases terror (inverted U shape) Greater econ differences between groups increase terror	Democracy and anocracy increase terror	Interstate and civil war increase terror	
Freytag et al. (2009)	MIPT	95 countries 1971 - 2005	Panel: Mixed effect poisson	GDPpc increases terror; investment ratio decreases terror for full sample, increases it for Islamic countries, human capital decreases terror for full sample, increases for Islamic countries.	Institutional quality reduces terror, but increases for Islamic countries		Includes lagged terror, government ratio, investment ratio, human capital, subsamples Islamic countries, OECD etc
Piazza (2008)	ITERATE	197 countries Years 1973-2003	Negative binomial panel model	HDI increases terror	Executive constraints and participation reduces terror	More terror originates from failed states, International war increases terror	Failed state hypothesis For location country see above
Domestic*							
Abadie (2006)	WMRC-GTI	186 countries, years 2003-2004	Cross-section OLS and IV	GDPpc insignificant	political rights reduce terror	n.t.	Terrorist risk as endogenous variable
Blomberg and Hess (2008a)	RAND	179 countries 1998-2003	Panel: tobit und poisson	GDPpc lowers terror incidents both for all and low income countries	Democracy increases terror for all countries, reduces for low income countries (or is n.s.)	n.t.	Compare to intl results
Feldman and Ruffle (2008)	MIPT	91 countries 1998 - 2007	Negative binomial regressionen	GDPpc increases terror	Civil liberties n.s.	n.t.	Focus on religious vs. secular terrorism, religious diversity reduces religious terror, religious terror groups commit fewer but more lethal attacks.
Goldstein (2005)	WMRC-GTI	169 countries	OLS	GDPpc reduces terror	Lack of political rights	n.t.	Follows Abadie (2006)

		year 2003/4		risk in some specifications, is insignificant in most. Adult unemployment increases terror risk	increase terror risk		
Tavares (2004)	ICT	1987 - 2001	OLS†	GDPpc and GDP growth increase terror incidence	Political right do not reduce overall no. of terror incidents	n.t.	Endog. var. no. of terror incidents divided by population, regression by target type

Notes: n.t.: not tested; n.s.: not significant, GDPpc: GDP per capita, HDI: Human Development Index

This overview over the empirical literature considers only those papers that use data sets with a large coverage of countries (> 50). Table 1 differentiates between target and origin based studies, i.e. those that seek to analyze the characteristics that make countries more likely targets of terror attacks and those that strive at identifying the determinants for countries to generate terrorists.

† This method may be inappropriate given the nature of the data (nonnegative count data with overdispersion) as it may yield inefficient, inconsistent results for count data like terrorist incidents, cf. Cameron and Trivedi (1998), Wooldridge (2002, ch. 19). Results should thus be viewed with caution.

9. Appendix B: Data generation

Dependent variables

We generated the observations on the number of terrorist events for every origin country-year pair based on GTD data on individual incidents. Beside other incident characteristics, GTD also records for every incident the country of location, the primary and secondary target nationalities, and the name of the perpetrator group. We assigned the origin based on the perpetrator group's national identity. Out of a total of 81,799 observations 50,188 observations have known perpetrators. Based on the name of the group we identified 49,192 observations, which could be unambiguously assigned to a given country. In case of some less specific group descriptions that clearly suggest domestic roots (like "rebels", "opposition", "separatists", "religious extremists", "Neo-Nazis") we assume that the origin and the location country coincide. Finally, for the remaining observations with unknown perpetrators we set origin country equal to location. Alternatively, we also rebuild our terrorist incident variables by excluding the incidents with unknown perpetrators. Assignment by the group's identity is problematic only in the case of truly globalized terror. For instance, most incidents by Al-Q'aida have been assigned to its national branches within the GTD and can be attributed to those nations; major exceptions are the events in New York, Washington D.C., London and Spain. Our analysis excludes a handful of these latter, truly global, incidents. However, this does not affect our overall analysis; results are unchanged if we assign these global incidents to any of the potential origin countries.

List of countries

Afghanistan [LLMI] (32), Albania [LLMI] (32), Algeria [MHI] (32), Angola [LLMI] (31), Argentina [MHI] (32), Armenia [LLMI] (14), Australia [HIO] (32), Austria [HIO] (32), Azerbaijan [LLMI] (14), Bahrain [MHI] (32), Bangladesh [LLMI] (32), Belarus [MHI] (13), Belgium [HIO] (32), Benin [LLMI] (32), Bhutan [LLMI] (32), Bolivia [LLMI] (32), Bosnia and Herzegovina [MHI] (14), Botswana [MHI] (32), Brazil [MHI] (32), Bulgaria [MHI] (32), Burkina Faso [LLMI] (32), Burundi [LLMI] (32), Cambodia [LLMI] (32), Cameroon [LLMI] (32), Canada [HIO] (32), Central African Republic [LLMI] (32), Chad [LLMI] (32), Chile [MHI] (32), China, P.R.: Mainland [LLMI] (32), Colombia [MHI] (32), Comoros [LLMI] (31), Congo, Dem. Rep. of [LLMI] (32), Congo, Republic of [LLMI] (32), Costa Rica [MHI] (32), Croatia [MHI] (15), Cuba [MHI] (32), Cyprus [MHI] (32), Czech Republic [HIO] (14), Czechoslovakia [FC] (16), Côte d'Ivoire [LLMI] (32), Denmark [HIO] (32), Djibouti [LLMI] (29), Dominican Republic [MHI] (32), East Germany [FC] (14), Ecuador [LLMI] (32), Egypt [LLMI] (32), El Salvador [LLMI] (32), Equatorial Guinea [MHI] (32), Eritrea [LLMI] (14), Estonia [MHI] (15), Ethiopia [LLMI] (32), Fiji [MHI] (32), Finland [HIO] (32), France [HIO] (32), Gabon [MHI] (32), Gambia, The [LLMI] (32), Georgia [LLMI] (14), Germany [HIO] (16), Ghana [LLMI] (32), Greece [HIO] (32), Guatemala [LLMI] (32), Guinea [LLMI] (32), Guinea-Bissau [LLMI] (32), Guyana [LLMI] (32), Haiti [LLMI] (32), Honduras [LLMI] (32), Hungary [HIO] (32), India [LLMI] (32), Indonesia [LLMI] (32), Iran, Islamic Republic [LLMI] (32), Iraq [LLMI] (32), Ireland [HIO] (32), Israel [MHI] (32), Italy [HIO] (32), Jamaica [MHI] (32), Japan [HIO] (32), Jordan [LLMI] (32), Kazakhstan [MHI] (14), Kenya [LLMI] (32), Korea, Rep. [HIO] (32), Kuwait [MHI] (32), Kyrgyz Republic [LLMI] (14), Lao People's Dem. Rep [LLMI] (32), Latvia [MHI] (14), Lebanon [MHI] (32), Lesotho [LLMI] (32), Liberia [LLMI] (32), Libya [MHI] (32), Lithuania [MHI] (14), Macedonia [MHI] (15), Madagascar [LLMI] (32), Malawi [LLMI] (32), Malaysia [MHI] (32), Mali [LLMI] (32), Mauritania [LLMI] (32), Mauritius [MHI] (32), Mexico [MHI] (32), Moldova [LLMI] (14), Morocco [LLMI] (32), Mozambique [LLMI] (31), Myanmar [LLMI] (16), Namibia [MHI] (16), Nepal [LLMI] (32), Netherlands [HIO] (32), New Zealand [HIO] (32), Nicaragua [LLMI] (32), Niger [LLMI] (32), Nigeria [LLMI] (32), Norway [HIO] (32), Pakistan [LLMI] (32), Panama [MHI] (32), Papua New Guinea [LLMI] (31), Paraguay [LLMI] (32), Peru [MHI] (32), Philippines [LLMI] (32), Poland [MHI] (32), Portugal [HIO] (32), Qatar [MHI] (32), Russia [MHI] (14), Rwanda [LLMI] (32), Saudi Arabia [MHI] (32), Senegal

[LLMI] (32), Sierra Leone [LLMI] (32), Singapore [MHI] (32), Slovak Republic [HIO] (14), Slovenia [MHI] (15), Solomon Islands [LLMI] (28), Somalia [LLMI] (32), South Africa [MHI] (32), Spain [HIO] (32), Sri Lanka [LLMI] (32), Sudan [LLMI] (32), Swaziland [LLMI] (32), Sweden [HIO] (32), Switzerland [HIO] (32), Syrian Arab Republic [LLMI] (32), Taiwan Province of China [MHI] (32), Tajikistan [LLMI] (14), Tanzania [LLMI] (32), Thailand [LLMI] (32), Togo [LLMI] (32), Trinidad and Tobago [MHI] (32), Tunisia [LLMI] (32), Turkey [MHI] (32), USSR [FC] (15), Uganda [LLMI] (32), Ukraine [LLMI] (14), United Arab Emirates [MHI] (32), United Kingdom [HIO] (32), United States [HIO] (32), Uruguay [MHI] (32), Uzbekistan [LLMI] (15), Venezuela, Rep. Bol. [MHI] (32), Vietnam [LLMI] (30), West Bank and Gaza [LLMI] (12), West Germany [FC] (17), Yemen, Republic of [LLMI] (16), Yugoslavia [FC] (16), Zambia [LLMI] (32), Zimbabwe [LLMI] (32)

Note: This list contains all countries included in the baseline specifications. The income grouping (based on World Bank income groups) is given in brackets [HIO = High income OECD countries; MHI = Upper middle income and high income non-OECD countries, LLMI = Low and lower middle income countries, FC = Former countries]. Number of observations per country is in parentheses.

10. Figures and Tables

Figure 1. Total number of terror events in the GTD (2009) dataset

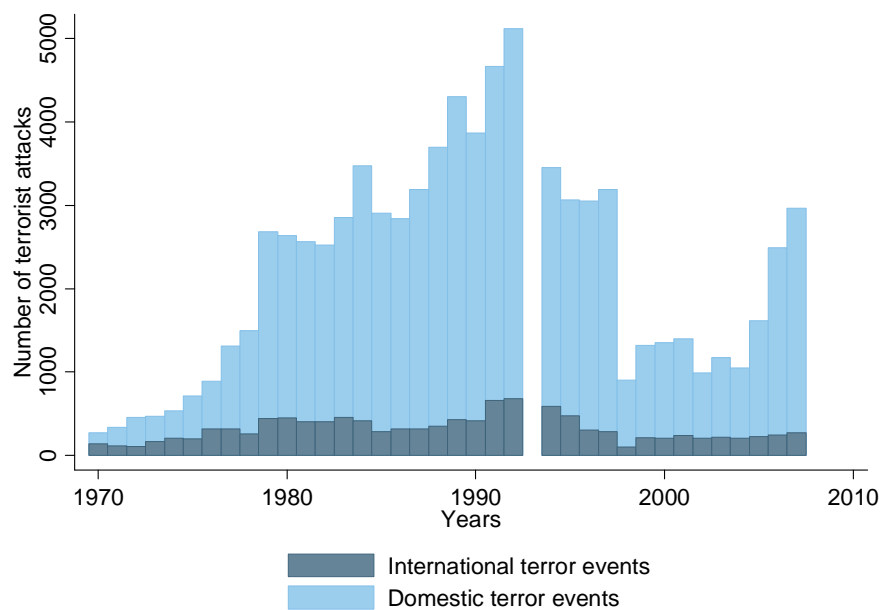


Table 2: Largest terrorist groups by event count

Group	Origin country	Total events	% of ALL	% inter-national	Total events by decade			
					1970-1979	1980-1989	1990-1999	2000-2007
Shining Path (SL)	Peru	4512	5.5	2.5	2	3247	1252	11
Farabundo Marti National Liberation Front	El Salvador	3357	4.1	1.5	1	2674	682	0
Irish Republican Army (IRA)	UK	2669	3.3	4.7	1024	940	692	13
Basque Fatherland and Freedom (ETA)	Spain	1986	2.4	10.9	459	970	391	166
Revolutionary Armed Forces of Colombia (FARC)	Colombia	1574	1.9	5.0	106	513	627	328
National Liberation Army of Colombia (ELN)	Colombia	1248	1.5	9.9	34	540	570	104
Liberation Tigers of Tamil Eelam (LTTE)	Sri Lanka	1184	1.4	9.1	3	262	722	197
Kurdistan Workers' Party (PKK)	Turkey	1148	1.4	16.2	0	114	956	78
New People's Army (NPA)	Philippines	1089	1.3	4.5	26	585	366	112
Nicaraguan Democratic Force (FDN)	Nicaragua	900	1.1	0.7	0	900	0	0
Manuel Rodriguez Patriotic Front (FPMR)	Chile	830	1.0	4.9	0	728	102	0
Taliban	Afghanistan	641	0.8	17.5	27	544	35	0
African National Congress (South Africa)	South Africa	606	0.7	1.8	149	182	182	52
Corsican National Liberation Front (FLNC)	France	565	0.7	2.8	0	381	176	0
Tupac Amaru Revolutionary Movement (MRTA)	Peru	557	0.7	11.7	66	482	6	0
M-19 (Movement of April 19)	Colombia	554	0.7	9.4	0	424	10	0
People's Liberation Front (JVP)	Sri Lanka	434	0.5	1.4	2	51	291	78
National Union for the Total Independence of Angola (UNITA)	Angola	422	0.5	13.3	31	267	8	0
Movement of the Revolutionary Left (MIR)	Chile	306	0.4	2.6	0	53	201	28
Hezbollah	Lebanon	282	0.3	58.5	170	37	47	6
20 known organizations with most events		24864	30.4	6.4	2100	13894	7316	1173
Other known perpetrators		24821	30.3	24.0	4343	7634	9069	4156
Unknown perpetrators		32114	39.3	12.8	2714	9461	12237	7702
Total		81799	100.0	14.2	9157	30989	28622	13031

Notes: Source GTD (2009), years 1970-2007. The table presents the distribution of terrorist events by the 20 largest known groups and other known and unknown perpetrators. % international shows the share of all events by any given group that fall under the definition of international terror.

Table 3: Descriptive statistics

Variable	Definition/Source	No.obs.	Mean	St.Dev.	Min.	Max.
No. domestic terror events	No. of domestic terrorist events per country-year, GTD	4567	14.84	57.09	0	1014
No. international terror events	No. of international terrorist events per country-year, GTD	4191	2.06	7.25	0	118
Avg. total events (past 5 yrs)	Av. No. of yearly international and domestic terrorist events (over past 5 years), GTD	4567	15.70	49.55	0	553
Log of population	Log of total population, PWT, WDI	4567	9.13	1.59	5.13	17.51
Log of p.c. GDP (t-1)	Log of p.c. GDP (in constant 2005 USD), PWT	4567	8.47	1.17	5.03	11.33
Openness (t-1)	Exports & imports per GDP, PWT, WDI	4567	73.11	45.83	1.98	456.9
Polity score (t-1)	Composite index of democracy, Polity IV	4567	0.75	7.39	-10	10
Years of conflict (past 5 yrs)	Years of violent conflict (past 5 years), UCDP/PRIO	4567	1.00	1.77	0	5
GDP growth (t-1)	Yearly change in GDP p.c. in %, PWT, WDI	4180	1.73	7.50	-64.36	118.2
Urbanization	% share of population in urban areas, WDI	4180	49.08	24.30	3.20	100
Telephone lines	No. of fixed and mobile telephone lines per 100 of population, WDI	4180	23.70	37.29	0.01	208.9
Political participation (t-1)	% of population who voted in parliamentary or presidential elections, Polyarchy	3580	28.69	22.18	0	74.59
Political competition (t-1)	% of votes received by the non-winning parties in elections, Polyarchy	3580	26.95	26.04	0	70
Years of transition (past 5 yrs)	Years of political transition (past 5 years), Polity IV	4550	0.09	0.41	0	5
Years of foreign interr. (past 5 yrs)	Years of foreign interruption (past 5 years), Polity IV	4550	0.06	0.48	0	5
Years of anarchy (past 5 yrs)	Years of political interregnum (past 5 years), Polity IV	4550	0.09	0.55	0	5
Regime durability (t-1)	Years since last regime transition or 3-pt change on polity score over 3 years, Polity IV	4550	22.88	28.85	0	197
Durability of democracy (t-1)	Years since last transition of a regime with a polity score above 0, Polity IV	4550	13.99	28.95	0	197
Durability of autocracy (t-1)	Years since last transition of a regime with a polity score 0 or below, Polity IV	4550	8.89	15.58	0	105
Negative transition (t-1)	Ended a transition period that involved at least 3pt worsening of the Polity score, Polity IV	4550	0.01	0.11	0	1
Mildly democratic transition (t-1)	Ended a transition that involved 3-6pt improvement of the Polity score or >6pt w/o regime change, Polity IV	4550	0.02	0.12	0	1
Strongly democratic transition (t-1)	Ended a transition period that involved at least 6pt improvement of the Polity score and regime change, Polity IV	4550	0.03	0.17	0	1
Years of domestic conflict (past 5 yrs)	Years of violent conflict btw. government and domestic groups (past 5 years), UCDP/PRIO	4550	0.92	1.72	0	5
Years of internat. conflict (past 5 yrs)	Years of violent conflict btw. government and foreign country (past 5 years), UCDP/PRIO	4550	0.14	0.60	0	5
No. domestic terror events (Reduced 1)	No. of domestic terrorist events per country-year, excluding unknown groups, GTD	4007	10.09	41.33	0	575
No. intl. terror events (Reduced 1)	No. of international terrorist events per country-year, excl. unknown groups, GTD	3222	1.50	5.63	0	110
No. domestic terror events (Reduced 2)	No. of domestic terrorist events per country-year (w. Palestine as part of Israel), GTD	4555	15.34	57.65	0	1014
No. intl. terror events (Reduced 2)	No. of intl. terrorist events per country-year (w. Palestine as part of Israel), GTD	3500	2.40	6.56	0	113

Notes: Statistics refer to the largest estimation sample.

Table 4: Baseline results, negative binomial panel regressions with fixed effects

Dependent var.	No. domestic terror events				No. international terror events			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log of population	1.1081** (0.0263)	1.1086** (0.0269)	1.0960** (0.0271)	1.1278** (0.0276)	1.1352** (0.0393)	1.1143** (0.0398)	1.0674+ (0.0398)	1.1276** (0.0402)
Log of p.c. GDP (t-1)	1.2775** (0.0407)	1.2360** (0.0409)	1.2286** (0.0407)	1.2787** (0.0423)	1.2297** (0.0533)	1.1711** (0.0531)	1.1707** (0.0531)	1.2283** (0.0552)
Openness (t-1)	0.9987+ (0.0008)	0.9991 (0.0008)	0.9989 (0.0008)	0.9994 (0.0008)	1.0008 (0.0009)	1.0013 (0.0009)	1.0007 (0.0010)	1.0012 (0.0009)
Polity score (t-1)	1.0501** (0.0048)	1.0495** (0.0050)	1.0502** (0.0050)	1.0418** (0.0050)	1.0374** (0.0056)	1.0385** (0.0061)	1.0411** (0.0061)	1.0308** (0.0058)
Years of conflict (past 5 yrs)	1.1892** (0.0155)	1.1696** (0.0165)	1.1681** (0.0165)	1.1553** (0.0158)	1.1661** (0.0196)	1.1362** (0.0213)	1.1354** (0.0213)	1.1297** (0.0200)
Avg. total events (past 5 yrs)		1.0022** (0.0003)				1.0022** (0.0004)		
Avg. domestic events (past 5 yrs)			1.0017** (0.0004)				1.0016** (0.0004)	
Avg. international events (past 5 yrs)			1.0102** (0.0026)				1.0100** (0.0023)	
Total events (t-1)				1.0032** (0.0002)				1.0025** (0.0002)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	160	160	160	160	147	147	147	143
No. observations	5166	4567	4567	4918	4742	4191	4191	4438

Notes: All models are estimated by fixed effects negative binomial panel data models, and include a full set of year dummies. Estimation results are presented in form of incidence rate ratios. Standard errors are in parentheses. **,*,† denote significance at the 1,5, and 10% level.

Table 5: Baseline results by income group, negative binomial regressions (FE)

Dependent var. Sample	No. domestic terror events			No. international terror events		
	HI OECD	HI & HMI non-OECD	LMI & LI	HI OECD	HI & HMI non-OECD	LMI & LI
	(1)	(2)	(3)	(4)	(5)	(6)
Avg. total events (past 5 yrs)	1.0052** (0.0011)	1.0009* (0.0004)	1.0034** (0.0006)	1.0029* (0.0014)	1.0022** (0.0005)	1.0016* (0.0006)
Log of population	1.0577 (0.1224)	1.0596 (0.0608)	1.1226** (0.0341)	1.1406 (0.1768)	1.0231 (0.0944)	1.1511** (0.0537)
Log of pc. GDP (t-1)	1.3452 (0.5159)	0.9778 (0.1116)	1.0776 (0.0656)	1.8977 (0.9048)	1.0432 (0.1559)	1.1770+ (0.1017)
Openness (t-1)	0.9964 (0.0037)	0.9994 (0.0018)	0.9988 (0.0010)	1.0030 (0.0055)	1.0055* (0.0023)	0.9986 (0.0013)
Polity score (t-1)	1.0637* (0.0276)	1.0596** (0.0092)	1.0143* (0.0068)	1.0420 (0.0300)	1.0580** (0.0114)	1.0131 (0.0086)
Years of conflict (past 5 yrs)	1.1207* (0.0569)	1.2628** (0.0334)	1.1600** (0.0215)	1.0343 (0.0740)	1.1617** (0.0435)	1.1422** (0.0286)
Year fixed effects	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
No. countries	25	47	83	24	45	74
No. observations	748	1311	2430	716	1247	2165

Notes: The income groups are based on the World Bank classification system and refer to high-income OECD countries (HI OECD), high-income non-OECD and upper middle income countries (HI & HMI non-OECD), and lower middle and low income countries (LMI & LI). All models are estimated by fixed effects negative binomial panel data models, and include a full set of year dummies. Estimation results are presented in form of incidence rate ratios. Standard errors are in parentheses. **,*,† denote significance at the 1,5, and 10% level.

Table 6: Exploring income effects, negative binomial panel regressions (FE)

Dependent var.	No. domestic terror events			No. international terror events		
	(1)	(2)	(3)	(4)	(5)	(6)
Avg. total events (past 5 yrs)	1.0022** (0.0003)	1.0022** (0.0003)	1.0017** (0.0003)	1.0022** (0.0004)	1.0020** (0.0004)	1.0014** (0.0004)
Log of population	1.1086** (0.0269)	1.1112** (0.0271)	1.1225** (0.0287)	1.1143** (0.0398)	1.1144** (0.0402)	1.1015** (0.0413)
Openness (t-1)	0.9991 (0.0008)	0.9990 (0.0008)	0.9995 (0.0009)	1.0013 (0.0009)	1.0010 (0.0010)	1.0018+ (0.0011)
Polity score (t-1)	1.0495** (0.0050)	1.0500** (0.0051)	1.0437** (0.0052)	1.0385** (0.0061)	1.0397** (0.0061)	1.0359** (0.0063)
Years of conflict (past 5 years)	1.1696** (0.0165)	1.1685** (0.0164)	1.1991** (0.0175)	1.1362** (0.0213)	1.1369** (0.0211)	1.1847** (0.0234)
Log GDP pc. (t-1)	1.2360** (0.0409)		1.3450** (0.0845)	1.1711** (0.0531)		1.2276* (0.1022)
GDP pc. second quintile (t-1)		1.2950** (0.1138)			1.5682** (0.1978)	
GDP pc. third quintile (t-1)		1.4766** (0.1381)			1.7775** (0.2413)	
GDP pc. fourth quintile (t-1)		1.6918** (0.1760)			1.7626** (0.2569)	
GDP pc. fifth quintile (t-1)		1.9856** (0.2157)			1.9361** (0.2951)	
GDP growth (t-1)			0.9881** (0.0033)			0.9946 (0.0036)
Urbanization			1.0043+ (0.0025)			1.0114** (0.0034)
Telephone lines			0.9936** (0.0013)			0.9910** (0.0018)
Year fixed eff.	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	160	160	154	147	147	141
No. observations	4567	4567	4180	4191	4191	3818

Notes: All models are estimated by fixed effects negative binomial panel data models, and include a full set of year dummies. Estimation results are presented in form of incidence rate ratios. Standard errors are in parentheses. **, *, † denote significance at the 1, 5, and 10% level.

Table 7: The role of democracy, negative binomial regressions (FE)

Dependent var.	No. domestic terror events			No. international terror events		
	(1)	(2)	(3)	(5)	(6)	(7)
Polity score (t-1)	1.0495** (0.0050)		1.0347** (0.0082)	1.0385** (0.0061)		1.0392** (0.0106)
Polity score cat. 2 (-6/0) (t-1)		2.7020** (0.2124)			2.1525** (0.2053)	
Polity score cat. 3 (1/7) (t-1)		2.6388** (0.2235)			2.0531** (0.2209)	
Polity score cat. 4 (8/10) (t-1)		2.6144** (0.2382)			2.1850** (0.2377)	
Political participation (t-1)			0.9883** (0.0020)			0.9934** (0.0024)
Political competition (t-1)			1.0113** (0.0023)			1.0030 (0.0029)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Further controls	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	160	160	158	147	147	144
No. observations	4567	4567	3580	4191	4191	3250

Notes: All models are estimated by fixed effects negative binomial panel data models, and include a full set of year dummies. Further controls include all variables from the baseline specifications (cf. Table 4): Avg. total events (past 5 yrs), Log of GDP p.c. (t-1), Log of population, Openness (t-1), Years of conflict (past 5 yrs). Estimation results are presented in form of incidence rate ratios. Standard errors are in parentheses. **, *, † denote significance at the 1, 5, and 10% level.

Table 8: The role of regime stability and conflict history, negative binomial regressions (FE)

Dependent var.	No. domestic terror events				No. international terror events			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Polity score (t-1)	1.0427** (0.0051)	1.0156* (0.0062)	1.0429** (0.0052)	1.0406** (0.0051)	1.0316** (0.0063)	1.0174* (0.0076)	1.0312** (0.0063)	1.0320** (0.0063)
Years of foreign interr. (past 5 y.)	1.0492 (0.0435)	1.0349 (0.0428)	1.0495 (0.0438)	1.0478 (0.0433)	1.0205 (0.0529)	1.0092 (0.0523)	1.0255 (0.0533)	1.0224 (0.0530)
Years of anarchy (past 5 yrs)	1.2525** (0.0458)	1.2101** (0.0449)	1.2671** (0.0459)	1.2366** (0.0452)	1.2709** (0.0537)	1.2406** (0.0532)	1.2794** (0.0540)	1.2629** (0.0536)
Years of conflict (past 5 yrs)	1.1533** (0.0171)	1.1439** (0.0169)	1.1516** (0.0171)		1.1254** (0.0218)	1.1222** (0.0218)	1.1245** (0.0217)	
Years of tran- sition (past 5 y.)	1.2189** (0.0447)	1.2059** (0.0442)		1.2185** (0.0445)	1.0445 (0.0497)	1.0437 (0.0494)		1.0381 (0.0495)
Regime durability (t-1)	0.9963** (0.0012)		0.9964** (0.0012)	0.9970* (0.0012)	0.9933** (0.0015)		0.9936** (0.0015)	0.9937** (0.0015)
Durability of autocracy (t-1)		0.9785** (0.0029)				0.9836** (0.0035)		
Durability of democracy (t-1)		0.9996 (0.0012)				0.9951** (0.0016)		
Negative transition (t-1)			1.4038+ (0.2527)				1.3720 (0.3466)	
Mildly democ. transition (t-1)			1.1856 (0.1569)				1.0635 (0.1764)	
Strongly democ. transition (t-1)			1.6782** (0.1553)				1.4652** (0.1712)	
Years of domest. conflict (past 5)				1.1688** (0.0173)				1.1252** (0.0216)
Years of intl. conflict (past 5)				0.8453** (0.0317)				0.9309+ (0.0398)
Year fixed eff.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Further controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	159	159	159	159	146	146	146	146
No. observations	4550	4550	4550	4550	4174	4174	4174	4174

Notes: All models are estimated by fixed effects negative binomial panel data models, and include a full set of year dummies. Further controls include all variables from the baseline specifications (cf. Table 4): Avg. total events (past 5 yrs), Log of GDP p.c. (t-1), Log of population, Openness (t-1). Estimation results are presented in form of incidence rate ratios. Standard errors are in parentheses. **, *, † denote significance at the 1, 5, and 10% level.

Table 9: Sensitivity to time windows, negative binomial regressions (FE)

Dependent var.	No. domestic terror events			No. international terror events		
	'70-'80es	'80-'90es	'90-'00s	'70-'80es	'80-'90es	'90-'00s
Time window	(1)	(2)	(3)	(4)	(5)	(6)
Avg. total events (past 5 yrs)	1.0021** (0.0005)	1.0010** (0.0004)	1.0023** (0.0004)	1.0015* (0.0006)	1.0016** (0.0004)	1.0027** (0.0006)
Log of population	0.9329 (0.0515)	1.0844** (0.0333)	1.1504** (0.0362)	1.1193 (0.0771)	1.1185* (0.0565)	1.0617 (0.0524)
Log of pc. GDP (t-1)	1.5800** (0.1089)	1.2718** (0.0576)	1.0998* (0.0467)	1.5664** (0.1454)	1.1451* (0.0752)	1.1040 (0.0705)
Openness (t-1)	0.9979 (0.0019)	0.9997 (0.0010)	0.9994 (0.0011)	1.0017 (0.0016)	1.0030** (0.0012)	0.9995 (0.0015)
Polity score (t-1)	1.0332** (0.0086)	1.0601** (0.0064)	1.0324** (0.0069)	1.0096 (0.0095)	1.0445** (0.0078)	1.0337** (0.0097)
Years of conflict (of past 5 yrs)	1.1454** (0.0304)	1.1826** (0.0220)	1.1408** (0.0218)	1.1547** (0.0391)	1.1121** (0.0271)	1.1034** (0.0299)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	112	158	154	101	142	139
No. observations	1673	2636	2536	1508	2366	2284

Notes: All models are estimated by fixed effects negative binomial panel data models, and include year dummies. Estimation results are presented in form of incidence rate ratios. Standard errors are in parentheses. **,*,† denote significance at the 1,5, and 10% level.

Table 10: Sensitivity to variable definitions, negative binomial regressions (FE)

Dependent var. Definition	No. domestic terror events			No. international terror events		
	Original (1)	Reduced 1 (2)	Reduced 2 (3)	Original (4)	Reduced 1 (5)	Reduced 2 (6)
Avg. total events (past 5 yrs)	1.0022** (0.0003)	1.0032** (0.0004)	1.0024** (0.0003)	1.0022** (0.0004)	1.0042** (0.0006)	1.0005 (0.0004)
Log of population	1.1086** (0.0269)	1.1620** (0.0349)	1.0963** (0.0273)	1.1143** (0.0398)	1.1224* (0.0514)	1.3380** (0.0379)
Log of pc. GDP (t-1)	1.2360** (0.0409)	1.2758** (0.0533)	1.2409** (0.0410)	1.1711** (0.0531)	1.1859** (0.0716)	1.1965** (0.0459)
Openness (t-1)	0.9991 (0.0008)	0.9975* (0.0011)	0.9990 (0.0008)	1.0013 (0.0009)	1.0010 (0.0012)	0.9992 (0.0010)
Polity score (t-1)	1.0495** (0.0050)	1.0468** (0.0064)	1.0502** (0.0050)	1.0385** (0.0061)	1.0266** (0.0078)	1.0364** (0.0058)
Years of conflict (of past 5 yrs)	1.1696** (0.0165)	1.2436** (0.0212)	1.1694** (0.0165)	1.1362** (0.0213)	1.1767** (0.0276)	1.1655** (0.0223)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	160	137	159	147	110	121
No. observations	4567	4007	4555	4191	3222	3500

Notes: The original definition corresponds to the baseline specifications. Definition Reduced 1 leaves out all incidents by unknown groups. Reduced 2 reclassifies West Bank and Gaza as part of Israel. All models are estimated by fixed effects negative binomial panel data models, and include year dummies. Estimation results are presented in form of incidence rate ratios. Standard errors are in parentheses. **, *, † denote significance at the 1, 5, and 10% level.