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On the Heterogeneity of Terror*

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Abstract

The existing literature on the determinants of terrorism treats terror as a uniform phenomenon and does not distinguish between different types of terror. This paper explicitly addresses the heterogeneity of terror by classifying groups according to their ideologies. We show that the pattern of terror and its determinants differ strongly for different types of terror. We analyze determinants of domestic and international terrorism, for target and origin using the *Global Terrorism Database* and show that there have been major shifts in terror activity and composition over time.

JEL Classification: D74, K4
Keywords: terrorism, terror groups, heterogeneity

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1 Introduction

Terrorism yields terrible consequences, first and foremost, the loss of life, physical and psychological integrity. Second, terrorism disrupts economic activity, it slows economic growth (Blomberg et al. 2004, Tavares 2004, Crain and Crain 2006), reduces foreign direct investment (Abadie and Gardeazabal 2008), disrupts trade (Nitsch and Schumacher 2004), hurts tourism (Neumayer 2004), and affects stock markets (Arin et al. 2008, Chen and Siems 2004). Case studies for especially affected countries underline these findings.[1] Third, terror affects the political system in a number of ways: It influences voting behavior (Berrebi and Klor 2008), reelection probabilities (Gassebner et al. 2008), and cabinet duration (Gassebner et al. 2011); moreover, states' reactions to terror may not only use up resources, but also limit civil liberties (Dreher et al. 2010).[2] In short, terrorism is very costly for the affected societies.

To design an effective counterterrorism strategy it is necessary to understand the root causes of terrorism and to empirically validate them. At the center of the debate has been whether terrorism is rooted in poverty and lacking education, lacking democracy, and instable or failing states. A small literature has analyzed microdata on deceased terrorists and found that they are better educated and better off than the pool from which they were drawn (Krueger and Malečkova 2003, Berrebi 2007, Krueger 2008a,b, all for Islamist terrorists). Kis-Katos et al. (2011b) show that PKK recruitment went up in bad economic times, and that there is a strong core-periphery pattern in recruitment pointing to non-economic factors. These studies, however, are limited in scope as there is not sufficient data on individual terrorists outside the intelligence community. Thus, results are sparse and limited to the specific contexts they study.

A second, macro-empirical approach seeks to explain the number of terror incidents originating from (or targeting) a specific country in a given year by relevant country characteristics. As data on terror incidents are available, a number of studies has appeared, but no consensus has emerged on the main determinants of terrorism.[3] Azam and Thelen (2008), Basuchoudhary and Shughart (2010), Blomberg and Hess (2008b,a), Krueger and Laitin (2008) find that less terror originates in countries with higher GDP per capita; Krueger and Malečkova (2003), Abadie (2006), and Kurrild-Klitgaard et al. (2006) find no significant relationship, while the results of Tavares (2004), Freytag et al.

[1] Inter alia, Abadie and Gardeazabal (2003) for the Basque country, Eckstein and Tsiddon (2004) for Israel, Gaibulloev and Sandler (2009) for Asian countries.

[2] Citizens' demands for a strong counterterrorist response may be exacerbated through misperceived or neglected probabilities of terror attacks, cf. Sunstein (2003).

[3] For a survey of the literature cf. Krueger (2008a), de Mesquita (2008) Schneider et al. (2010, ch.3), and Kis-Katos et al. (2011a), Appendix A.

(2011), and Kis-Katos et al. (2011a) are exactly opposite: terror originates more often in richer countries.[4]

Democracy (or civil liberties) tend to reduce terror in the origin country according to Abadie (2006), Blomberg and Hess (2008b), Burgoon (2006), Krueger and Laitin (2008), Krueger and Malečkova (2003) and Kurrild-Klitgaard et al. (2006). Yet according to Basuchoudhary and Shughart (2010) political freedom increases terror in the post cold war period, Blomberg and Hess (2008b) conclude that democracy increases terror for all countries, but reduces it for low income countries, and Freytag et al. (2011) find that institutional quality reduces terror, but for Islamic countries the relationship is reverse. Kis-Katos et al. (2011a) demonstrate a plateau effect: fewer terror incidents originate from the least democratic states compared to all the rest of the countries. Tavares (2004) finds no significant evidence.[5] Less dissent prevails regarding the role of political stability, possibly because it has been analyzed less: Regime durability and stability reduce terror originating from that country (Piazza 2008, Kis-Katos et al. 2011a), and more stable countries are also targeted less (Li 2005). Yet, Freytag et al. (2010) analyze the strategic choice between terrorism and civil war and demonstrate that terrorism occurs more often in countries with stable, established political systems whereas the opposite is true for civil war. Li and Schaub (2004) find that interstate military conflicts are not significant in explaining terrorism. Other determinants of terror analyzed include urbanization, infrastructure, economic integration, foreign aid, ethnic tensions and religious cleavages (e.g. Filote et al. (2012)).

Part of the amazing divergence in results may be explained by the use of different data bases.[6] In particular, most studies analyze international terror only; that is terror in which the nationality of the perpetrator is different from that of the victim or targeted asset or from the venue. Some studies have analyzed domestic terror as well.[7] If domestic and international terror were governed by different forces, results for these two approaches

[4]Freytag et al. (2011) however include in the same regressions consumption per capita, which is negatively related to terrorism. Piazza (2008) finds terror to increase with rising Human Development Index; Bravo and Dias (2006) finds the opposite.

[5]A number of studies find that democratic countries are *targeted* more often than non-democratic ones, e.g. Campos and Gassebner (2009), Li and Schaub (2004), Dreher and Fischer (2010); for a different view cf. Abadie (2006).

[6]Available data sets include the *International Terrorism: Attributes of Terrorist Events* (ITERATE), covering international terror only since 1968, *National Memorial Institute for the Prevention of Terrorism* (MIPT) coding international terror events since 1968 and also domestic terror events since 1998, *Terrorism in Western Europe: Event Data* (TWEED) recording internal attacks for 18 West European countries for 1950 - 2004, and the *Global Terrorism Database* (GTD) covering domestic and international terror events since 1970, the most comprehensive data base to date.

[7]In domestic terror, the nationalities of the perpetrator and the victim are identical and the terror incident takes place in the home country. Domestic terror is by far the most frequent – in our data base it accounts for 85% of all incidents.

should be different. However, Kis-Katos et al. (2011a) show that the determinants of domestic and international terror are relatively similar on average, so that the different concepts used will not be able to explain the dimension of divergence.

We argue that a major reason for the divergence of results is that these studies treat all terror acts equally, independent of the type of terror group, and thus do not take the heterogeneity of terror into account. If terror groups with different ideologies behave differently, the determinants of terror so derived are only determinants of the 'average' terror and explain little about actual terror groups' behavior. Moreover, if the composition of terror changes significantly over time the 'average' determinants depend strongly on the time frame used. In this paper we show both to be true; we provide evidence for a strong heterogeneity of terror. Terror groups with different ideologies — left-wing and right-wing terrorists, ethnic-separatist terrorists and religious terrorists — display different patterns and their relative strengths change strongly with time.

Terrorism describes a strategy, not a specific belief system. The US State Department defines terrorism as "premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents, usually intended to influence an audience." (Title 22 of the United States Code, Section 2656f(d)). The occurrence of terror requires, first, a situation in which a 'revolutionary group' of some type emerges, which, then, decides to use terror as a strategy (rather than peaceful means or civil war). These situations may be very different for different ideology-types of terror groups and thus the empirically derived determinants of terror may differ. Moreover, religious terror groups may be more effective, thus providing stronger incentives to resort to terror. This alone would change the empirical results. Berman and Laitin (2008) and Berman (2009) argue that radical religious groups provide club goods to their members and require sacrifices as signals of commitment, which allows them to screen terrorists better and thereby to avoid defection. This translates in higher lethality rates. Suitably framed, religion can justify murder more easily (Hoffman 2006). The options to end terror may also be different for religious and non-religious terror. Bernholz (2004, 2006) argues that terrorists who adhere to *supreme value ideologies* will not be responsive to incentives provided by a carrot-stick counterterrorism strategy: Since in their understanding they are following divine orders, the scope for compromise is rather limited and thus deterrence and political compromise may not work (Wintrobe 2006). This is a third reason for different estimates on the determinants of terror – secular terror may disappear more easily.[8]

[8]Counterterrorism strategy against religious terror is thus reduced to defeating or containing terrorists and to reducing incentives to join terrorists by providing social services and to stimulate religious competition, cf. Iannaccone and Berman (2006). Political participation of a 'legitimate' political wing or the provision of limited autonomy, as in the case of separatist terror of the IRA and ETA, will not lead to religious terror groups abandoning their strategy of terrorism.

This calls for a disaggregate approach to the empirical analysis of terrorism. Yet, while the distinguishing features of different types of terrorism have frequently been noted (Shughart 2006, Post 2008, Zimmermann 2009), very few macro-empirical analyses have made an attempt to classify terror incidents by the type of terror group. Freytag et al. (2011) run separate regressions for different world regions, one being Islamic countries, but they do not distinguish terror groups by their type. They find marked differences in results for different regions, which points to different behavior of different types of terror groups, given that the composition of terror differs strongly between regions. Yet, they do not address this issue. The only paper that differentiates terror by ideology is the working paper by Feldman and Ruffle (2008). They distinguish nationalist, communist, and religious terror and run a cross-section analysis on the number of domestic terror attacks (or victims) per group per geographical base. Their analysis covers 91 areas, 460 groups and 609 observations in the period 1998-2007. In contrast we analyze panel data making use of the variation over time and across space. We employ data from 1821 terror groups responsible for more than 51,000 attacks or 98% of all attacks in GTD with known perpetrators covering 155 countries and the period 1975-2008. We use domestic and international terror and a more detailed classification of terror groups. Thus our data set and empirical approach are much richer.

The paper is organized as follows. Section 2 explains our data and the empirical model. We describe the *Global Terrorism Database* and trends in overall terror and its composition, present our empirical model and the explanatory variables. Section 3 presents the results on overall terror, disaggregated by ideology type, then proceeds to the analysis of international terror for both the target and the origin countries and reports on a series of robustness tests. Section 4 briefly characterizes the different terror types on the basis of our findings. Section 5 looks at a second sort of heterogeneity, the difference between large, established terror groups and small, less organized 'hit-and-run' terror. Section 6 concludes.

2 Data and Econometric Model

2.1 Data on Terrorism and Classification of Terror Types

Our data on terrorism are taken from the *Global Terrorism Database*, GTD, (START 2011). GTD reports terror incidents and terror fatalities from 1970 onwards and includes domestic and international terror, which makes it the most comprehensive public data

base on terror. We cover the period 1970–2008, for which GTD reports 87,710 incidents.[9] Only the extensive coverage of the GTD makes a detailed analysis of the heterogeneity of terror possible. The Pinkerton Global Intelligence Services (PGIS), whose work provided the basis for the GTD, define terrorism as "the threatened or actual use of illegal force and violence by a non state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation" (LaFree and Dugan 2007, 184).[10]

As we inquire into a possible heterogeneity of the determinants for terror, we classify terror groups according to their ideology. We distinguish between 1. left-wing terror, 2. right-wing terror, 3. ethnic-separatist terror, and 4. religious terror with 5. the special subcategory of Islamist terror.To qualify as a left-wing organization, a group must have a clear socialist or communist ideology. A right-wing terror organization has to adhere to national-socialist or fascist ideologies, or actively promote racial supremacy and hatred. For an organization to be categorized as ethnic/nationalist-separatist, it must have a clearly defined ethnic base of supporters and members or engage in separatist struggle.[11] A terror group qualifies as religious if it has a declared religious ideology and the majority of its supporters and members adhere to that religion (Christianity, Hinduism, Islam etc.). Due to case numbers we run separate regressions only for Islamist terror. These main categories are not mutually exclusive (except for right and left-wing terror groups) and thus groups may be classified in more than one category; very few groups were not classified at all in these categories.[12] We are aware that ideological profiles may change over time and that classifications of this kind are always subject to a certain degree of ambiguity. For instance, while the PKK was founded as an ethnic Kurdish organization with a clear Marxist agenda, the Marxist ideology has arguably lost some of its relevance today. However, the alternative strategy of setting a date at which an organization stopped adhering to a certain ideology is even more ambiguous. In practice, classification turned out to be relatively easy and straightforward.

Out of the 87,710 terror attacks in our data base, 52,302 attacks have known perpetrators. We sought to establish the ideological profile for all identified terror groups

[9] See `http://www.start.umd.edu/gtd/` and LaFree and Dugan (2007).

[10] For an event to be included in the GTD, it has two fulfill two of the following three criteria (START 2011): "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."

[11] In a few cases groups engage in separatism or fight for liberation from occupation on a regional base, without a clear ethnic identity. However, these cases are similar enough to ethnic separatism and thus subsumed in this category.

[12] Interestingly, most of these cases are African groups that have also engaged in civil war activities or are based in countries where the rule of law has broken down. Anecdotal evidence suggests that the single aim of these groups is resource capture.

that committed two or more terror acts or, if they committed only one terror act, that killed at least two people. We thus analyzed 1585 groups (out of 2748 groups), which are responsible for 51,139 terror acts or 97.8% of all incidents with known perpetrators. This was done with the help of the terror encyclopedia by Kushner (2003), the Terrorist Organization Profile database provided by START, Wikipedia, and other online sources.[13] In addition we ran a keyword search on all remaining groups which resulted in classification of further 236 terror groups with one act.

The origin country for each incident was assigned on the basis of the national identity of the responsible perpetrators, as GTD does not list the origin country.[14] Only independent countries qualify as valid origins.[15] Truly international terror networks like Al-Qaida pose a problem for this strategy, but such groups are rare and most of their attacks are assigned to the respective regional branches. A handful of incidents from Al-Quaida are excluded from our analysis, most notably the attacks in New York and Washington D.C., London, and Madrid as well as the 1998 US embassy bombings.[16] Results are unaffected by this.[17]

2.2 Descriptive Evidence on Terrorism

The descriptive evidence of terror incidents and terror fatalities shows already a large heterogeneity between terror groups with different ideologies. Evidence for terror incidents is reported in Table 1; similar evidence on fatalities is found in Table A1 in the Appendix.

[13]The groups that were identified, but could not be classified had names like "students", "protesters", "drug cartel", or "private militia".

[14]GTD reports the country where the terror act was located, the nationality of the target, and the name of the perpetrator groups for each attack, but not the nationality of the terror group. Thus, the origin country needed to be established. Some "group names" do not represent specific groups in the true sense such as "rebels" or "separatists". As these names clearly indicate domestic roots, we set the origin equal to the location country for these cases.

[15]GTD sometimes lists regions instead of independent countries as the location or target country. All these entries were replaced by the respective countries, e.g., Corsica is part of France, Northern Ireland belongs to the United Kingdom. The Palestinian territories are registered as an independent country, separate from Israel.

[16]They are, however, included in the time profiles in Figures 1 and A1 for illustration purposes.

[17]Attacks by groups operating from areas that stretch across borders such as the PKK could have been difficult to classify as domestic or international. However, upon closer inspection of the data, assigning the groups to specific countries was straightforward. For instance, the PKK was assigned to Turkey even though they had bases also in Lebanon and Iraq. For the remaining incidents by known but unclassified groups (with one attack and less than two fatalities) and for those by unknown groups, homeland terrorism is assumed. This, however, is inconsequential for our analysis, as unclassified groups/incidents do not enter the disaggregated regressions for terror by ideology.We have experimented with different definitions, assuming homeland terrorism only for those groups that commit all their attacks in one country, and only for those attacks with unknown perpetrator where the country of location is equal to the nationality of the primary target. Our results are unaffected by the choice of assignment rule.

Table 1: Distribution of terror incidents

Distribution of incidents		All events		Unknown perpetrator		Identity defined		Left-wing		Right-wing		Ethnic/ separatist		Islamist		Religious	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Type	Domestic terrorism	75425	85.99	31098	87.83	40696	85.37	25384	89.41	810	77.59	13192	77.67	4005	62.00	10135	77.23
	Intl. terrorism	12285	14.01	4310	12.17	6973	14.63	3007	10.59	234	22.41	3792	22.33	2455	38.00	2988	22.77
	Homeland terrorism	83593	95.31	35408	100.00	43652	91.57	27017	95.16	911	87.26	14044	82.69	4655	72.06	11023	84.00
	Intl. terrorism, cross-border	4117	4.69	0	0.00	4017	8.43	1374	4.84	133	12.74	2940	17.31	1805	27.94	2100	16.00
Damage	No fatalities	44758	55.31	18539	56.12	23312	53.56	15021	58.80	673	76.39	8350	52.05	2636	43.11	5420	43.69
	At least one	36161	44.69	14494	43.88	20209	46.44	10527	41.20	208	23.61	7693	47.95	3479	56.89	6987	56.31
	No fatalities or injuries	34719	42.91	13661	41.34	18722	43.02	12480	48.81	490	58.97	6310	39.19	1674	27.26	3798	30.67
	At least one	46191	57.09	19388	58.66	24800	56.98	13087	51.19	341	41.03	9789	60.81	4466	72.74	8584	69.33
Decade	1970–1979	9867	11.25	2777	7.84	6069	12.73	4226	14.88	247	23.66	2810	16.54	290	4.49	2034	15.50
	1980–1989	31160	35.53	9480	26.77	20564	43.14	14638	51.56	320	30.65	6107	35.96	972	15.05	3315	25.26
	1990–1999	28679	32.70	12236	34.56	15111	31.70	7779	27.40	422	40.42	5794	34.11	2555	39.55	4809	36.65
	2000–2008	18004	20.53	10915	30.83	5925	12.43	1748	6.16	55	5.27	2273	13.38	2643	40.91	2965	22.59
Region	SE Asia, East Asia & Pacific	5845	6.66	2607	7.36	2948	6.18	1539	5.42	1	0.10	881	5.19	975	15.09	1035	7.89
	Europe & Central Asia	20659	23.55	6950	19.63	12568	26.37	7940	27.97	352	33.72	9280	54.64	1174	18.17	5067	38.61
	Latin America & Caribbean	28470	32.46	8916	25.18	18824	39.49	15750	55.48	271	25.96	415	2.44	3	0.05	1377	10.49
	Middle East & North Africa	11854	13.51	7486	21.14	3805	7.98	905	3.19	12	1.15	1338	7.88	2572	39.81	2649	20.19
	North America	2017	2.30	514	1.45	926	1.94	340	1.20	329	31.51	138	0.81	1	0.02	285	2.17
	South Asia	13056	14.89	5992	16.92	6217	13.04	1120	3.94	31	2.97	3802	22.39	1651	25.56	2408	18.35
	Sub-Saharan Africa	5809	6.62	2943	8.31	2381	4.99	797	2.81	48	4.60	1130	6.65	84	1.30	302	2.30
	Total	87710	100.00	35408	100.00	47669	100.00	28391	100.00	1044	100.00	16984	100.00	6460	100.00	13123	100.00

Notes: The table presents the distribution of terror incidents by ideology across type, severity, decade and geographical region (origin-based). Each block shows the distribution of incidents among mutually exclusive categories. In some cases the number of observations in one block does not sum to the number listed as total. This is due to missing observations in the original data. Data exclude the few attacks by Al-Quaida International, but not of local branches of Al-Quaida.

Terror incidents are classified as domestic or as international. If the origin country of the perpetrator, the location of the attack and the nationality of the target (people or assets) are all the same, the terror attack is classified as domestic, otherwise it is considered international. An event is defined as homeland terrorism if the country of origin is equal to the location (irrespective of the nationality of the target). The corresponding international events (cross-border) are those in which a perpetrator leaves his home country to commit an attack abroad.

We find significant differences in the distribution between domestic and international terror incidences for different terror types. While only 14 % of all terror attacks are international and only 5% are cross-border international, the figures are much higher for right-wing terror (21% and 11%, respectively) and even higher for ethnic-separatist terror (22% and 17%). Islamist terror is by far the most internationalized one: 37% of all attacks constitute international terror and 27% international cross-border terror. In other words, Islamist terror targets much more foreigners and foreign assets both at home and abroad than all other terror groups.

55% of all attacks involve no fatalities, 43% neither fatalities nor injuries. Again, these figures hide widely different patterns for the individual terror types. Left wing and particularly right-wing terror create fewer fatalities (and injuries) per attack; the most deadly form of terror is Islamist terror: in 57% of the attacks at least one person is killed, in 72% at least one person is killed or injured. The corresponding figures for all terror attacks are 45% and 57%, respectively.

Also the geographical distribution of terror is different for the ideologies: A third of all incidents originate in Latin America and the Caribbean, followed by Europe and Central Asia (24%), South Asia (15%) and the Middle East and North Africa (14%). The picture for fatalities is similar with the exception that the share of European fatalities is much lower at 8% and the shares of the Middle East and South Asian fatalities are higher at 21 and 22 %.[18] Left-wing terror is concentrated in Latin America and the Caribbean (54%) and in Europe and Central Asia (28%), right-wing terror originates in these two regions and North America in almost equal shares, while ethnic-separatist terror originates mainly from Europe and Central Asia (54%) and South Asia (22%). Islamist terror is concentrated in the Middle East and North Africa (40%, fatalities 55%) and South Asia (26%) and, to lesser extent, Europe (18%) and Southeast Asia.

[18]Interestingly, only 2.3% of all attacks are by groups from North America (i.e. including Mexico and Canada) and with 0.22% of fatalities those attacks are not nearly as dangerous as elsewhere. Likewise only 2.49% of all attacks are located in the US (1.73% of fatalities), and the majority of these attacks was committed before 1990 by Puerto Rican independence groups. Yet, 5.16% of attacks are against the US and 2.88% of all fatalities are US citizens, including the events of September 11th, 2001. In terms of terror attacks, the US is in the bottom quarter of the 20 countries with the most attacks.

The most striking difference between the types of terror, however, is the frequency of the events. The largest part of the classified terror incidents, almost 30 thousand attacks, are perpetrated by left-wing terrorists, followed by ethnic-separatist attacks (almost 18,500 attacks). Religious terror takes the third place with about 14 thousand attacks, for half of which Islamist terrorists are responsible. Right-wing terror has less than a tenth of the number for religious terror. GTD reports almost two hundred thousand terror victims in the period 1970-2008. Out of all fatalities generated by identified and classified terror attacks, 52 thousand persons were killed by leftist terrorist, 46 thousand by separatists, and 36 thousand by religious terror. Although only responsible for half of the religious terror attacks, Islamist terror makes up for more than 70% of the killings from religious attacks (more than 25 thousand).

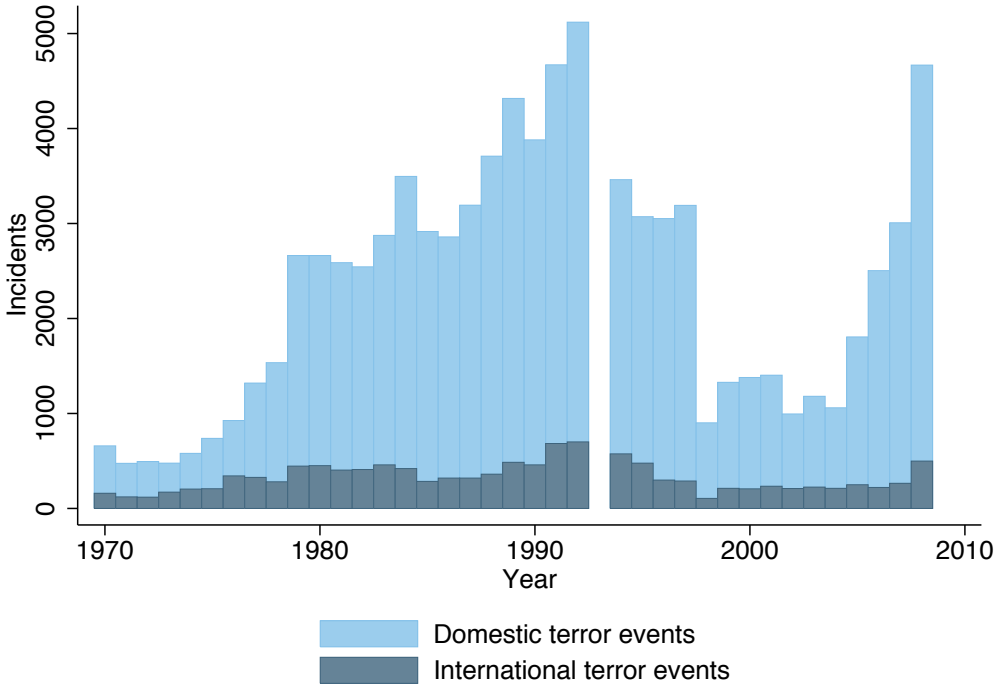
Total numbers reveal little about the dynamics in magnitude and composition of terror. The overall figures, broken down into domestic and international terror, are found in Figure 1 for incidents and Figure A1 for fatalities. They show that terrorism steadily increased after 1970, peaking in the early 1990s, after which it declined sharply. The years 2003-2008, however, saw again a steep increase. Beginning in 2003, terror levels increased each year up to 4,668 incidents in 2008. For fatalities, the first peak is less pronounced; Figure A1 shows a level of violence that oscillates between 5,000 and 10,000 casualties per year during the period with the most activity from the early 1980s until the mid 1990s. The recent spike in terrorist activity is again distinct. The share of international incidents has been relatively constant over time.[19]

Hidden behind this aggregate trend is a major shift in the composition of terror, which is shown in Figure 2 (incidents) and Figure A2 (fatalities); cf. also Table 1 and Table A1. The increase in aggregate terror starting in the mid seventies and peaking in the early nineties is attributable mainly to an increase in left-wing terror and in ethnic-separatist terror. Religious terror started to gain importance in the mid eighties, Islamist terror only in the early nineties. Right-wing terror remained of lesser significance at low levels and declined in the 2000s. The end of the cold war led to a sharp decline in left-wing terror. Religious terrorism other than Islamist terror virtually disappeared towards the end of the 1990s with the advancement of the peace process in Northern Ireland. Similarly, ethnic-separatist events declined towards the year 2000, reflecting inter alia the ceasefire agreements by the IRA and ETA and the capture of Abdullah Öcalan in 1999.

In sharp contrast is the surge in Islamist terror—80% of all incidents took place after 1990. Islamist terror has become increasingly deadly as well. A quarter of all fatalities of

[19]Figure A1 also demonstrates that the international events of 9/11 are a unique outlier, accounting for almost all of the difference in fatalities between 2001 and the adjacent years. The data for 1993 are missing. All records for this year were lost by the PGIS in an office move (LaFree and Dugan 2007).

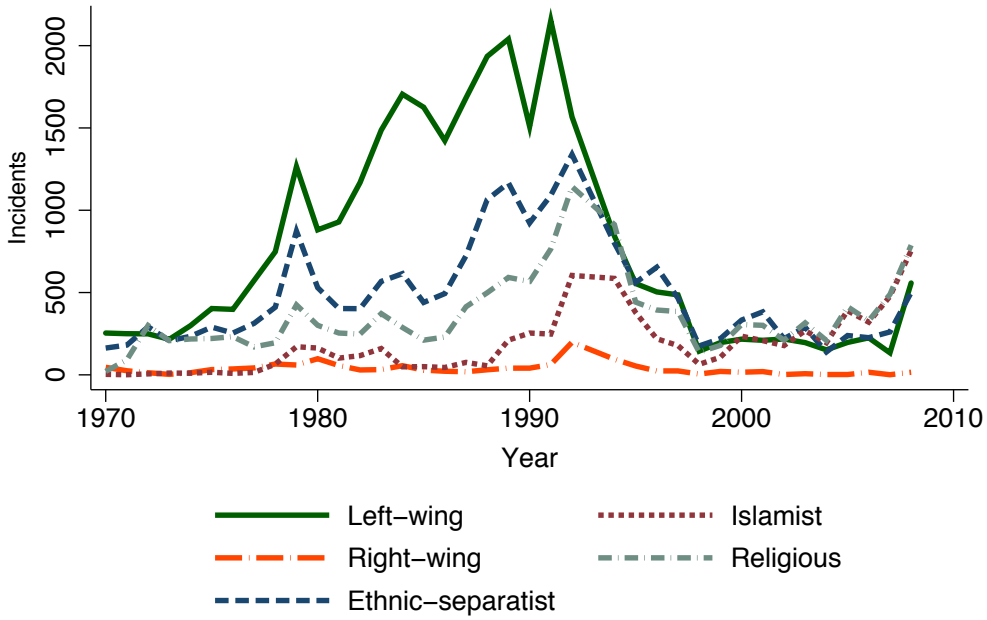
Figure 1: Domestic and international terror events worldwide from 1970–2008.



Islamist terror took place in the nineties, almost two thirds fall in the period since 2000. Even without the attacks by Al-Qaida that are excluded, the upwards trend in Figure A2 is clearly visible. Several historical developments illustrate this trend. For example, most of the Palestinian resistance was secular until the end of the 1980s. During the first Intifada Islamist terror groups were able to establish themselves. Only afterwards did Hamas and the PIJ become the mass organizations that they are today, while the influence of the secular Fatah and the Popular Front for the Liberation of Palestine (PFLP) and its many splinter groups receded (Post 2008). In Afghanistan, the Taliban first appeared on the political stage around 1994, some time after the retreat of the Soviet forces, and almost all of their attacks occurred during the American-led occupation starting in 2002. Likewise, over 80% of the Lebanese Hezbollah's attacks took place in the last two decades of our sample period. Lastly, Islamist terror in Iraq took off only after the fall of Saddam Hussein's regime and the occupation of the U.S. led coalition forces following the Iraq war which began in March 2003.[20]

[20]The more detailed decomposition (not reported) shows that a considerable share of the recent upsurge in terror activity and the earlier peak can be attributed to events by unknown perpetrators. Most countries that record a lot of attacks by unknown perpetrators (Iraq and Pakistan, Lebanon, Philippines, Afghanistan) have endured or still experience prolonged periods of civil war or regional insurgency and have experienced Islamist terror.

Figure 2: Total number of terror events by ideology from 1970–2008



Note: Missing values for 1993 have been smoothed.

2.3 Econometric Model

From the original GTD data on single terrorist incidents we constructed a panel dataset with the number of terrorist attacks originating from a country in a given year for 155 countries and each year between 1970 and 2008. This forms our primary dependent variable.

Arguably, the number of fatalities per country-year is a more meaningful measure of the severity of terror than the number of incidents because killings in particular create terror and because terror incidents range widely from 'simple' stone throwing, property damage, and injuries to mass killings. Previous research has focused on incidents as the measure of choice for terror. As we want to show how the results in the literature mask an underlying heterogeneity, we use the same measure (incidents). However, we have created the number of fatalities perpetrated by terror groups originating from a given country in a given year as a secondary dependent variable to analyze the robustness of our results with respect to the choice of the dependent variable. We run the baseline regression also for fatalities and report major differences between the results for these two measures if and when they occur. Major results on fatalities per country-year are given in the Appendix.

Our dependent variables, the number of terror incidents or fatalities ($Y_{it}^{I,F}$) in country i

per year t is highly over-dispersed count data (cf. Table A2). The probability distribution for count data is truncated at zero, and strongly skewed to the right. The regression model best suited to accommodate these data is the negative binomial, which has become the standard model in the empirical analysis of terrorism (cf. Kis-Katos et al. 2011a). We use a conditional fixed-effects negative binomial panel model (Hausman et al. 1984, Cameron and Trivedi 1986) of the form

$$\Pr(Y_{it}^{I,F} = y_{it}^{I,F} | \mathbf{x}_{it}, \delta_i) = \frac{\Gamma(\lambda_{it} + y_{it})}{\Gamma(\lambda_{it})\,\Gamma(y_{it}+1)} \left(\frac{1}{1+\delta_i}\right)^{\lambda_{it}} \left(\frac{\delta_i}{1+\delta_i}\right)^{y_{it}}, \qquad (1)$$

with parameters (λ_{it}, δ_i), where $\lambda_{it} = \exp(\mathbf{x}_{it}\beta)$ and δ_i is the dispersion parameter. $\mathbf{x}_{it}$ is the matrix of explanatory variables for all countries i and years (indexed by t). In this specific case, usually referred to as NB-1 type (Cameron and Trivedi 1986), the dispersion (variance to mean ratio) $1 + \delta_i$ is constant within each cross-sectional unit. The fixed-effects model is favored over the random-effects model as it is less restrictive by allowing an arbitrary correlation between the country specific effect δ_i and the independent variables.

2.4 Explanatory Variables

Our analysis, like all the analyses in this strand of the literature, relates the terror incidents or fatalities per country-year to country characteristics at the macro level in order to identify the causes for terror (origin perspective) or to identify what makes a country a frequent target of terror attacks (target perspective). The discussion has centered on three main factors: (i) economic prosperity and development or the lack of it, (ii) political freedom or the deprivation of political participation, and (iii) (in)stability and conflict history (cf. fn. 3).

Our choice of covariates was based on a careful review of the existing empirical and theoretical literature and guided by the idea to use an econometric specification that is representative of the literature and robust to variations in the set of covariates.[21] Thus we use a set of variables that captures all theoretically important issues and is robust to variations. Our data cover the period 1970–2008; yet due to the computation of past averages for some variables the period analyzed begins in 1975.

We arrive at an unbalanced panel dataset with 4,353 observations in the largest regression sample. Unless otherwise noted, control variables either derive from the Penn World Table (PWT) 7.0 (Heston et al. 2011) or the World Development Indicators (WDI) 2010

[21] Gassebner and Luechinger (2011) analyze 40 studies on terror using our approach or similar ones, and find 62 variables in total that were used.

by the World Bank.[22] A detailed overview of the independent variables, their sources and descriptive statistics can be found in Table A3 in the Appendix.

Terrorism is not only determined by the political and economic system, but may also affect a country's economy and its political system (e.g. Abadie and Gardeazabal 2003, Drakos and Kutan 2003, Blomberg et al. 2004, Gassebner et al. 2008, Gould and Klor 2010). To address concerns of possible endogeneity, we lag all relevant variables by one period or calculate them over a period of several past years. Additionally, all regressions include a complete set of year fixed effects to capture shocks common to all countries.

As the main economic control, our analysis includes *GDP per capita* from the PWT 7.0 in quartile splines to measure income effects and display non-linearities in the effect of economic development on the production of terrorism.[23] Quartiles are defined separately for each year, so that relative income differences are measured rather than absolute ones.[24] We also include *GDP growth*, the growth rate of GDP per capita, in order to measure changes in economic conditions in addition to levels. This variable may partly capture changing expectations on economic well-being and labor market changes. Although GDP levels and growth should be highly correlated from a theoretical perspective, in reality this is not the case. *Telephone lines*, measured as the number of telephone connections (both fixed and mobile) per 10 inhabitants, is a robust infrastructure and general development proxy.

The political system is captured by the *Polity score*, a composite index of democracy from the Polity IV dataset compiled by Marshall and Jaggers (2002).[25] The variable measures competitiveness and openness of executive recruitment, constraints on the executive as well as the regulation and competitiveness of political participation. It ranges from -10 to 10 and is included in the form of four categorical dummies. We classify those states as very autocratic that have values from -10 to -7, in the two intermediate categories are those states with values in (-6/0) and (1/7), and the highly democratic states have values between 8 and 10. The borders are set such that each interval corresponds approximately to a quartile of country-year pairs.

Years of conflict measure the years of internal or external conflict the country has

[22] We include data for now defunct or new countries, which is especially sensible for the analysis of separatist terror. Also, we refrain from the use of extrapolated data as it is unclear whether variables develop smoothly or whether spikes are particularly conducive for the creation of terror.

[23] The GDP data for former Soviet bloc countries were taken from the older PWT 5.6 and then converted to the same base year as the PWT 7.0 data.

[24] We have tested both definitions, and results remain largely unchanged.

[25] The Polity IV indicator is preferred over the more commonly used democracy indicator by Freedom House because it is consistent over time. The Freedom House index has undergone numerous changes in scaling and methodology over time and thus cannot be used in panel analyses (Linder and Santiso 2003, Freedom House 2011).

suffered from in the last five years. The variable is based on the UCDP/PRIO Armed Conflict Dataset v4-2009 introduced by 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" (Gleditsch et al. 2002). Terrorism may be an instrument in civil or interstate war in some instances, thus creating a weak endogeneity problem. To address this, we have used the number of years with conflict in the *past* five years.

Past events/fatalities measure the average number of terror events/fatalities per year over the last five years and control for temporal dependency and autocorrelation. Terrorism may be persistent over time with past terror levels affecting past economic and political outcomes. We therefore include past terror levels in all regressions which should remove effects of temporal contagion.[26]

Regime durability may affect terror as more stable regimes are more likely to counter terror effectively, while unstable regimes often create power vacuums, which terror groups may exploit. It is measured by the number of years since the last drastic regime change, indicated by at least a 3 point change in a country's polity score over three years.[27]

Urbanization measures the share of population living in urban areas. It captures the degree of agglomeration, which may facilitate the creation of terror networks and may also make a country an attractive target as the damage and terror created by it may be larger.[28] To control for size effects, we also include the natural logarithm of *population*—more populous countries create more terror incidents per year, other things being equal.

As a measure of economic integration, dependence on other countries and exposure to foreign cultural influence, *Openness* is included in the regressions. It is measured as the sum of imports and exports over GDP.

To check the robustness of our results, we repeat our baseline regression with additional control variables. We include *Inequality*, measured by each country's Gini coefficient, taken from the World Income Inequality Database (WIID). Missing values in the time series are filled by linear projections between the two nearest data points. Further robustness tests use data for *Ethnic tensions* from the International Country Risk Guide (ICRG). Lastly we divide *Regime durability* into *Durability of autocracy* and *Durability of democracy*, where autocracy is defined by a Polity score of zero or less and democracy

[26] Campos and Gassebner (2009) argue that such contagion is caused by skill accumulation and an expanding organizational base.

[27] This is an established definition in the literature, see e.g. Li (2005).

[28] Urbanization is a much better measure of agglomeration than population density, which is simply the ratio of a country's population to its area. Countries with a strong rural/urban divide or large uninhabitable areas are strongly misrepresented by population density, but not by urbanization.

by a score larger than zero.

3 Results

3.1 Baseline Results

We first present the results for the number of terror incidents originating from a given country in a given year. This includes domestic terror as well as international terror. Subsequently, we report results on fatalities and on international terror incidents (for origin and target countries) to check whether results change for different measures or different types of terror. Baseline results on terror incidents are reported in Table 2 in the form of incidence rate ratios.

Model 1 presents the results for total terror, i.e., all terror incidents disregarding the different ideologies of the groups. Terror increases monotonically with GDP per capita. Moving from the lowest quartile of countries (the omitted category) to the highest quartile increases the number of terror incidents by the factor 3.8.[29] That is a highly significant and very sizable effect. Our results thus corroborate findings in the literature that poverty is not the hotbed for terrorism (e.g., Freytag et al. 2011). Economic growth is associated with lower terrorism—a one percentage point higher growth rate reduces terror incidents by half of a percent. Better infrastructure, measured by telephone lines per 10 people, also reduces terror significantly. More democratic states have more incidents; yet the only significant difference is between the most autocratic quarter of states and the rest. This could either be a result of the most autocratic states being less restrained by civil rights and liberties in their fight against terrorism and therefore being more effective. Alternatively, the most autocratic states might be able to effectively control the media and thereby prevent terror attacks from being reported in the press and thus included in our data base. Conflict history strongly influences the level of terrorism. One additional year of conflict in the past five years increases the number of incidents by 15%; 100 additional terror events on average over the past five years increase terror incidents by almost 30%. Regime durability reduces terror incidents somewhat, but not significantly. More urban and more populous societies create more terror, openness does not play a significant role. These results are robust to changes in the variables included, as shown in Kis-Katos et al. (2011a).

Yet, hidden behind these aggregate figures is a very distinct heterogeneous pattern; thus aggregate determinants are uninformative for the behavioral determinants of different

[29] We test for equality of coefficients for the second, third and fourth quartile of income per capita and polity IV score. p-values are given in the lower panel of the tables.

Table 2: Total events by different groups (origin based)

Group ideology	All	Left-wing	Right-wing	Ethn.-sep.	Islamist	Religious
	(1)	(2)	(3)	(4)	(5)	(6)
GDP pc. 2nd	1.276***	1.202	1.721	1.178	1.568*	0.780
quartile (t-1)	(0.112)	(0.219)	(0.853)	(0.184)	(0.378)	(0.157)
GDP pc. 3d	1.610***	1.725***	2.647*	1.411	1.269	0.654*
quartile (t-1)	(0.179)	(0.363)	(1.441)	(0.339)	(0.415)	(0.168)
GDP pc. 4th	3.723***	3.490***	10.532***	10.461***	2.308*	2.258**
quartile (t-1)	(0.565)	(0.930)	(7.112)	(3.468)	(1.059)	(0.818)
GDP growth (t-1)	0.945**	0.935	1.171	1.001	1.021	1.011
	(0.024)	(0.049)	(0.161)	(0.046)	(0.048)	(0.042)
Telephone lines	0.926***	0.987	0.900**	0.893***	0.887***	0.835***
	(0.010)	(0.025)	(0.045)	(0.019)	(0.029)	(0.023)
Polity score 2nd	2.353***	1.137	2.623***	1.614***	2.476***	2.687***
cat. (t-1)	(0.176)	(0.187)	(0.927)	(0.261)	(0.474)	(0.464)
Polity score 3d	2.074***	1.860***	1.762*	2.271***	2.145***	2.750***
cat. (t-1)	(0.167)	(0.306)	(0.607)	(0.361)	(0.483)	(0.552)
Polity score 4th	2.131***	1.747***	1.034	2.274***	1.902***	2.638***
cat. (t-1)	(0.182)	(0.286)	(0.379)	(0.394)	(0.430)	(0.518)
Years of conflict	1.147***	1.280***	1.036	1.350***	1.050	1.133***
	(0.015)	(0.033)	(0.051)	(0.035)	(0.033)	(0.030)
Past events	1.296***	1.356***	1.550***	1.225***	1.393***	1.408***
	(0.036)	(0.056)	(0.141)	(0.072)	(0.094)	(0.071)
Regime durability	0.982	0.949***	1.030	0.987	0.850***	0.962
(t-1)	(0.012)	(0.017)	(0.031)	(0.024)	(0.028)	(0.023)
Urbanization	1.046**	1.117***	1.201*	0.947	1.235***	1.312***
	(0.022)	(0.041)	(0.113)	(0.046)	(0.080)	(0.068)
Log of openness	1.042	1.227**	0.865	1.035	1.395***	1.115
(t-1)	(0.053)	(0.127)	(0.226)	(0.109)	(0.167)	(0.118)
Log of population	1.141***	1.159***	1.459***	1.191***	1.101	1.122*
	(0.028)	(0.062)	(0.202)	(0.051)	(0.088)	(0.078)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	155	60	46	79	57	67
No. observations	4353	1888	1410	2337	1687	2014
GDP qt. 2nd=3rd	0.002	0.005	0.148	0.363	0.322	0.276
GDP qt. 3rd=4th	0.000	0.000	0.001	0.000	0.043	0.000
GDP qt. 2nd=4th	0.000	0.000	0.000	0.000	0.279	0.000
Polity cat. 2nd=3rd	0.064	0.000	0.164	0.017	0.415	0.883
Polity cat. 3rd=4th	0.695	0.592	0.026	0.991	0.556	0.797
Polity cat. 2nd=4th	0.189	0.003	0.002	0.026	0.159	0.907

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.

types of terror groups. Traditional analyses on the determinants of terror therefore run into something similar to the common ecological fallacy problem. While the aggregate figure (model 1) shows a monotonous increase of terror incidents with the second/third/-fourth income quartile having 1.3/1.6 and 3.8 times as many incidents as countries in the first quartile, this increase is much steeper for right-wing terror and especially for ethnic-separatist terror. The latter is concentrated on the highest income quartile countries with terror incidents being ten times more frequent than in all other countries, making ethnic-separatist terror—and to a lesser extent right-wing terror—a rich country phenomenon. In contrast, there is no clear income pattern for Islamist terror with second and fourth income quartile countries experiencing more terror than the first and third.

For the measure of political freedom, the polity score, the aggregate figures show a plateau effect: the lowest quarter of countries have significantly less terror than all the rest. This masks a strong heterogeneity as well. Right-wing terror shows an inverted U shape relationship with most terror originating from autocratic regimes in the second quartile of polity scores. Surprisingly a similar, yet not as pronounced pattern is found for Islamist terror. Left-wing terror originates far more from democratic and very democratic countries; this resembles the pattern of ethnic-separatist terror. Thus, at least for the latter two types of terror we do not find any evidence that terror is rooted in the deprivation of political rights. On the contrary! For right-wing terror, however, a democratization may actually help to reduce terror.

Conflict history plays a strong role for left-wing terror and ethnic-separatist terror, but not for right-wing and not for Islamist terror. The coefficient of 1.15 for overall terror is merely a statistical average of two different responses. Persistence of terror incidents is common to all terror groups with somewhat different magnitudes of the effect. The effect of regime stability—insignificant at the aggregate level—is strongly and significantly negative for left-wing and Islamist terror. For the latter terror type, each year of stability reduces terror incidents by 15%! In other words, stabilization of regimes is a particularly promising avenue of approach against Islamist terror; yet it might simply not affect ethnic-separatist terror.

Terror incidents increase with urbanization for political terror, both left and right-wing, and Islamist terror, but not for separatist terror. Openness has no influence on terror overall, but it significantly increases Islamist terror. This supports the hypothesis that Islamist terror is fueled by the threat to traditionalist Muslim identity posed by foreign influence through trade-induced interactions.

The vast majority of cross-country analyses on the determinants of terror use the number of terror incidents as the measure of terror intensity. Arguably, most terror is

created by violence that kills people rather than causing only property damage or injuries. As shown in Table 1, around 43 % of all attacks neither injure nor kill anyone. In 55% of all incidents nobody is killed. If, however, more than half of our cases are of lesser importance but treated equally in our empirical setup, the determinants for the 'important' terror events might be different than Table 2 suggests. In order to investigate how sensitive the previous results are with respect to the measure for terror intensity, we use fatalities per country-year as alternative endogenous variable. Results are reported in Table 3. The table does not show determinants for right-wing terror as this type of terror creates only very few fatalities, which disallows us to run regressions.

The pattern that emerges is relatively similar to the pattern of the determinants for incidents. Some differences are noteworthy. For ethnic-separatist terror, the concentration on high income countries is even more pronounced: 30 times more people are killed by perpetrators from countries of the highest income quartile compared to those from the lowest. Likewise, the concentration of left-wing and separatist terror on countries with more political freedom is more pronounced for fatalities than for incidents. The reducing effect of stable regimes on Islamist terror is even stronger for fatalities than for incidents. Past fatalities have a lower effect on present fatalities than past incidents have on present incidents. Fatalities show more clearly that ethnic-separatist terror is a rural phenomenon while left-wing and Islamist terror increases significantly with urbanization.

3.2 International Terror

The above results clearly show that there is heterogeneity among terrorist groups of different ideologies. The analyzed incidents/fatalities include domestic and international terror acts. The question arises whether international and domestic terror are governed by the same determinants. Kis-Katos et al. (2011a) have shown for the aggregate figures that domestic and international terror have very similar patterns; the same however needs not hold for specific types of terror. For some types of terror international terror may follow a different rationale than domestic terror, as foreign targets are often harder to attack and need better logistics and planning: This is what we will investigate next. Again, the few international terror incidents for right-wing terror disallow running regressions for this type of terror.

Table 3: Total fatalities by different groups (origin based)

Group ideology	All	Left-wing	Ethn.-sep.	Islamist	Religious
	(1)	(2)	(3)	(4)	(5)
GDP pc. 2nd	1.629***	1.480*	1.910***	2.760***	1.092
quartile (t-1)	(0.156)	(0.299)	(0.328)	(0.646)	(0.223)
GDP pc. 3d	1.799***	1.663**	3.431***	1.444	0.543**
quartile (t-1)	(0.230)	(0.394)	(0.881)	(0.479)	(0.152)
GDP pc. 4th	4.549***	7.726***	30.258***	6.511***	1.834
quartile (t-1)	(0.824)	(2.548)	(11.608)	(3.269)	(0.723)
GDP growth (t-1)	0.947*	0.962	1.006	0.983	1.014
	(0.030)	(0.060)	(0.056)	(0.059)	(0.050)
Telephone lines	0.884***	0.906***	0.903***	0.935*	0.887***
	(0.014)	(0.031)	(0.023)	(0.033)	(0.026)
Polity score 2nd	2.554***	1.634**	2.559***	2.649***	3.446***
cat. (t-1)	(0.226)	(0.333)	(0.474)	(0.531)	(0.636)
Polity score 3d	2.344***	3.531***	4.008***	1.678**	2.472***
cat. (t-1)	(0.217)	(0.669)	(0.721)	(0.393)	(0.522)
Polity score 4th	2.873***	3.742***	4.327***	2.382***	3.701***
cat. (t-1)	(0.284)	(0.729)	(0.852)	(0.512)	(0.714)
Years of conflict	1.248***	1.350***	1.321***	1.101***	1.238***
	(0.019)	(0.040)	(0.038)	(0.038)	(0.037)
Past events	1.068***	1.043***	1.050***	1.044***	1.045***
	(0.009)	(0.015)	(0.017)	(0.017)	(0.015)
Regime durability	0.960***	0.996	1.017	0.772***	0.953*
(t-1)	(0.012)	(0.031)	(0.027)	(0.029)	(0.027)
Urbanization	1.029	1.187***	0.854***	1.119*	1.306***
	(0.025)	(0.050)	(0.043)	(0.069)	(0.065)
Log of openness	0.995	0.955	0.966	1.239*	1.135
(t-1)	(0.009)	(0.111)	(0.109)	(0.158)	(0.118)
Log of population	1.293***	1.180***	1.400***	1.246***	1.173***
	(0.034)	(0.070)	(0.064)	(0.089)	(0.071)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
No. countries	151	51	68	42	52
No. observations	4252	1601	1998	1211	1541
GDP qt. 2nd=3rd	0.284	0.455	0.005	0.007	0.001
GDP qt. 3rd=4th	0.000	0.000	0.000	0.000	0.000
GDP qt. 2nd=4th	0.000	0.000	0.000	0.035	0.094
Polity cat. 2nd=3rd	0.268	0.000	0.004	0.018	0.055
Polity cat. 3rd=4th	0.015	0.677	0.631	0.095	0.026
Polity cat. 2nd=4th	0.183	0.000	0.003	0.574	0.667

Notes: All models are estimated by fixed effects negative binomial panel data models, and include a full set of year dummies. For reasons of numeric convergence, the openness variable is expressed w/o logarithm in column (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 respectively.

3.2.1 Origin Perspective

Results for international terror incidents by country of origin are reported in Table 4.[30] Since domestic terror incidents constitute around 86% of overall terror incidents, results for overall and domestic terror are very similar.[31] Most types of terror show a similar pattern of domestic and international terror, yet domestic and international Islamist terror are structurally different. While there is no clear pattern of GDP per capita for domestic Islamist terror—only the second quartile creates 1.66 times more incidents than all other quartiles—there is a very strong concentration of international terror originating from countries in the richest quartile: 19 times more incidents are perpetrated by individuals from countries of the highest quartile compared to those from the lowest and still 6.5 times more than from the second highest quartile. Past events are important for domestic terror attacks with a highly significant coefficient of 1.45, but not for international ones. The inverted U shape for political freedom is less pronounced for international terror than for domestic terror.

For left-wing terror regime durability and urbanization play a role for domestic terror, but not for international terror. Apart from this, the patterns for international and domestic terror are relatively similar.

3.2.2 Target Perspective

For domestic terror, target and origin country are the same; for international terror the origin perspective reported above regresses the number of attacks per country-year on the characteristics of the perpetrators' countries seeking to identify the characteristics that make countries more likely to breed terror. The target perspective relates the number of international terror attacks perpetrated against citizens or assets of a country to the characteristics of the country seeking answers to the question what makes a country vulnerable to terror attacks. Results on international terror incidents by target country are reported in Table 5.[32]

We look at the overall pattern first (column 1). Similar to domestic terror, yet more pronounced, international terror targets richer countries more often: attacks per country year increase monotonously with GDP per capita. Infrastructure provision and economic growth seem to reduce terror incidents, but the coefficients do not reach usual significance levels (as in the case of domestic terror). Domestic terror shows a plateau effect of political

[30] We concentrate on the results for incidents; results for fatalities are available upon request.

[31] Results for domestic terror are given in Table A4 in the Appendix.

[32] We also ran regressions for the target country perspective for overall terror, i.e. for domestic and international terror combined. We refrain from presenting them here as we have reported on domestic terror in Table A4 and on international terror in Table 5. Results are available upon request.

Table 4: International attacks by different groups (origin based)

Group ideology	All	Left-wing	Ethn.-sep.	Islamist	Religious
	(1)	(2)	(3)	(4)	(5)
GDP pc. 2nd	1.783***	1.877*	1.471	2.459**	1.006
quartile (t-1)	(0.234)	(0.703)	(0.401)	(1.128)	(0.354)
GDP pc. 3d	2.293***	4.332***	1.534	2.918*	0.919
quartile (t-1)	(0.377)	(1.797)	(0.643)	(1.780)	(0.399)
GDP pc. 4th	4.753***	4.828***	7.204***	19.068***	7.984***
quartile (t-1)	(1.016)	(2.318)	(3.904)	(13.765)	(4.373)
GDP growth (t-1)	0.965	0.975	1.047	1.002	0.977
	(0.030)	(0.065)	(0.058)	(0.054)	(0.053)
Telephone lines	0.898***	0.941	0.848***	0.765***	0.742***
	(0.014)	(0.040)	(0.030)	(0.039)	(0.031)
Polity score 2nd	2.247***	1.504	1.751**	2.411***	2.219***
cat. (t-1)	(0.229)	(0.381)	(0.453)	(0.790)	(0.606)
Polity score 3d	1.842***	1.665*	1.302	2.315**	2.441***
cat. (t-1)	(0.208)	(0.442)	(0.337)	(0.947)	(0.832)
Polity score 4th	2.269***	2.558***	1.594*	2.184**	2.686***
cat. (t-1)	(0.260)	(0.654)	(0.417)	(0.830)	(0.821)
Years of conflict	1.147***	1.249***	1.254***	1.043	1.072*
	(0.021)	(0.049)	(0.051)	(0.054)	(0.044)
Past events	1.203***	1.433***	1.259***	1.049	1.208***
	(0.041)	(0.077)	(0.105)	(0.107)	(0.089)
Regime durability	0.961***	1.022	1.041	0.806***	0.897**
(t-1)	(0.015)	(0.045)	(0.044)	(0.048)	(0.038)
Urbanization	1.029	0.906	0.982	1.092	1.310***
	(0.031)	(0.064)	(0.076)	(0.144)	(0.122)
Log of openness	1.087	1.376*	1.063	1.399*	1.110
(t-1)	(0.076)	(0.234)	(0.180)	(0.243)	(0.185)
Log of population	1.142***	1.001	1.352***	1.108	1.434**
	(0.046)	(0.107)	(0.129)	(0.186)	(0.203)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
No. countries	140	44	55	39	43
No. observations	3924	1394	1628	1184	1301
GDP qt. 2nd=3rd	0.021	0.000	0.907	0.658	0.733
GDP qt. 3rd=4th	0.000	0.669	0.000	0.000	0.000
GDP qt. 2nd=4th	0.000	0.002	0.001	0.000	0.000
Polity cat. 2nd=3rd	0.035	0.602	0.237	0.883	0.706
Polity cat. 3rd=4th	0.030	0.016	0.390	0.862	0.716
Polity cat. 2nd=4th	0.921	0.011	0.690	0.723	0.415

Note: 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: International attacks by different groups in target countries

Group ideology	All	Left-wing	Ethn.-sep.	Islamist	Religious
	(1)	(2)	(3)	(4)	(5)
GDP pc. 2nd	1.473***	1.532	1.984**	1.923*	1.790*
quartile (t-1)	(0.213)	(0.614)	(0.580)	(0.674)	(0.542)
GDP pc. 3d	2.732***	2.044	5.241***	2.275	2.417**
quartile (t-1)	(0.515)	(0.910)	(1.963)	(1.155)	(1.043)
GDP pc. 4th	5.492***	3.350**	15.584***	3.160*	4.195***
quartile (t-1)	(1.316)	(1.739)	(7.531)	(1.924)	(2.125)
GDP growth (t-1)	0.984	0.956	1.014	0.950	0.972
	(0.034)	(0.061)	(0.059)	(0.065)	(0.057)
Telephone lines	0.982	0.997	0.890***	0.914***	0.874***
	(0.014)	(0.033)	(0.027)	(0.027)	(0.022)
Polity score 2nd	1.780***	1.264	2.166***	2.393**	1.771**
cat. (t-1)	(0.195)	(0.296)	(0.530)	(0.887)	(0.482)
Polity score 3d	1.211	0.958	1.228	2.628**	1.676
cat. (t-1)	(0.148)	(0.253)	(0.336)	(1.134)	(0.554)
Polity score 4th	1.008	1.074	1.796**	2.942***	3.780***
cat. (t-1)	(0.123)	(0.278)	(0.476)	(1.188)	(1.140)
Years of conflict	1.071***	1.043	1.083**	1.123***	1.155***
	(0.020)	(0.035)	(0.038)	(0.043)	(0.037)
Past events	1.136***	1.189**	1.160*	1.235**	1.106
	(0.048)	(0.081)	(0.099)	(0.131)	(0.107)
Regime durability	1.033**	1.003	1.011	1.223***	1.141***
(t-1)	(0.015)	(0.021)	(0.022)	(0.083)	(0.039)
Urbanization	1.085**	1.135*	0.904	1.335**	1.275***
	(0.042)	(0.085)	(0.067)	(0.151)	(0.105)
Log of openness	1.343***	1.217	1.131	1.793***	1.644***
(t-1)	(0.115)	(0.198)	(0.195)	(0.387)	(0.305)
Log of population	1.358***	1.422***	1.204**	1.313**	1.181
	(0.059)	(0.129)	(0.100)	(0.173)	(0.122)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
No. countries	134	78	86	68	83
No. observations	3867	2444	2622	2007	2487
GDP qt. 2nd=3rd	0.000	0.196	0.001	0.651	0.326
GDP qt. 3rd=4th	0.000	0.049	0.000	0.372	0.068
GDP qt. 2nd=4th	0.000	0.021	0.000	0.320	0.036
Polity cat. 2nd=3rd	0.000	0.190	0.018	0.766	0.839
Polity cat. 3rd=4th	0.079	0.540	0.083	0.747	0.002
Polity cat. 2nd=4th	0.000	0.437	0.424	0.525	0.003

Note: 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.

freedom with the quartile of the least democratic countries being significantly less targeted than the rest. In contrast, international terror displays an inverted U shape: it targets the second lowest quartile 1.75 times more than all the rest. Years of conflict and past terror events increase domestic and international terror in a country with the effect on domestic terror being stronger. Unlike domestic terror, international terror targets stable, more open and more urbanized countries more.

Again, hidden behind these aggregate figures is a significant heterogeneity. Domestic as well as international left-wing terror targets the richer half of the countries more often. International left-wing terror does not target more democratic states more often than others; domestic left-wing terror does. More stable regimes are neither targeted less by international left-wing terror, like domestic left-wing terror does, nor are they targeted more as the overall international terror does. International ethnic-separatist terror does not differ from domestic separatist terror in any fundamental way — it targets the richest countries even more than domestic terror. Moreover, while domestic terror displays the plateau effect for political freedom, there is no clear pattern for international terror.

International and domestic Islamist terror are structurally different: While domestic terror shows no clear income pattern, international Islamist terror targets richer countries more often: countries in the highest GDP per capita quartile are targeted more than four times more often than countries in the lowest quartile. International terror targets the more democratic countries more often, while we find the usual plateau effect for domestic terror. Past events and larger urbanization increase, better infrastructure decreases both international and domestic terror. Yet, while domestic Islamist terror targets more stable countries significantly less, the opposite is true for international terror: It targets not only richer and more democratic, but also more stable countries more often.

3.3 Robustness Checks

We ran all regressions both for terror incidents per country-year and for fatalities per country-year as endogenous variables. Results on fatalities are similar to those on incidents which we report in the paper. If anything, they are more pronounced. We have reported fatalities results for total terror in Table 3 and for terror fatalities by group size in Table A6. All other results are available upon request.

In one specification, we dropped urbanization out of concern for its multicollinearity with GDP per capita. Results remained largely the same, part of the effect of urbanization was picked up by the GDP p.c. variables—the coefficients on the third and fourth income quartile increased.

We also split the regime durability variable into durable democracies and durable autocracies. This changes the picture for left-wing terror, which originates much more from durable autocracies (with an incidence rate ratio of 1.48) and less from durable democracies (0.93) than from unstable regimes. For right-wing terror the relationship is just opposite: the incidence rate ratio is 1.06 for stable democracies and 0.66 for stable autocracies. Ethnic-separatist terror is no more likely to come from stable democracies or stable autocracies (as before); Islamist terror originates significantly less from stable countries regardless their political system. All other results are basically unchanged. This decomposition shows that regime stability as such reduces Islamist terror independent of the regime type and thus supports the hypothesis that instability breeds terror. Yet, for the other terror types this hypothesis does not hold without qualifications. Instability does not affect ethnic-separatist terror, and for political terror there is a distinct pattern: left terror in its 'revolutionary drive' fights against stable autocracies while stable democracies provide disincentives for its terror, right-wing terror opposes stable democracies, but is deterred by autocracies. This is in line with their respective political rhetoric.

Lastly, we added the Gini coefficient as a measure of income inequality, which reduced sample period and sample size. The inclusion of inequality increases the terror-reducing effect of GDP growth, which becomes significant at the 1% level. The income inequality variable itself remains insignificant except for left-wing terror, which increases significantly, but slightly. This comes at no surprise — as social divergence increases, terrorist movements that proclaim equality (of income distribution) receive more support and become more active. All robustness results are available upon request. Overall our results are robust with respect to inclusion of additional variables.

4 Characterization of Terror Groups

Our results have demonstrated that there is a significant and sizable heterogeneity in the determinants of terror between groups with different ideology. Similar results emerge with respect to the nationality of the targets that groups with different ideology select. Thus terrorism cannot be regarded as a uniform phenomenon but it depends on the belief system to which the groups adhere. In what follows, we characterize the different types of terror groups as defined by their ideology.

Left-wing terrorism is the most frequent terror, both in terms of incidents and fatalities, but it is largely an issue of the past. It is overwhelmingly a domestic phenomenon; generated in richer, more democratic, more open, and more urbanized countries. Consistent with their ideology, leftist terrorists operate more in countries with high income

inequality; left terror is concentrated in Latin America and in Europe and Central Asia. It is strongly path-dependent and occurs less in stable regimes and more in conflict-ridden countries. In Europe, it is less lethal than in Latin America.

In contrast, *right-wing terror* is by far the least frequent type of terror and is also less lethal as measured by fatalities per attack. It originates mainly from Europe, North America and Latin America and is clearly concentrated in rich countries. It occurs less in very democratic countries as opposed to countries in the mid-range of the Polity index. While also strongly persistent, right-wing terror is not affected by regime stability. Starting from relatively low levels it has declined in the 2000s.

Ethnic-separatist terror is the second largest terror type; it was most prevalent in the 1980es and 1990es and declined afterwards; it is concentrated in Europe and South Asia. Ethnic-separatist terror is strongly concentrated in rich countries; it originates more often in stable and more democratic countries and in contrast to all other forms of terror it is a rural phenomenon. It is significantly more prevalent in countries with a conflict history and it is persistent. It has a share of international attacks significantly above average; especially cross-border attacks are more frequent. These international attacks are targeted even more strongly on rich countries.

Islamist terror has risen in importance very strongly; it occurs mainly from 1990 onwards. It is also by far the most lethal form of terror as measured by fatalities per incident.[33] Geographically, it is more spread out, originating from the Middle East, South Asia, Europe, and Southeast Asia. Overall, Islamist terrorism has no clear pattern with respect to the income level of the countries it originates from and it exhibits an inverted U shape for political freedom. Like other forms of terror, it is persistent and occurs more often in countries that experienced conflicts. Yet, it is much more strongly deterred by stable political regimes than other forms of terror. More open economies create more Islamist terror than others, which is not true for other types of terror. This seems to corroborate the hypothesis of cultural threat — more foreign influences stir up more violent reaction to protect the traditional identity that comes under the threat of foreign influence.

A further striking difference is Islamist terror's much higher share of international events. Four in ten attacks target a foreigner or a foreign-owned asset, a quarter of all victims are foreigners. Cross-border international terror is particularly high: While overall only 5% of all attacks fall in this category, it is 28% for Islamist terror. This international terror is structurally different from domestic terror — while there is no clear income pattern for domestic terror, international terror originates almost twenty

[33]This corroborates the results by Feldman and Ruffle (2008).

times more often from countries in the highest income quartile than from those in the lowest quartile and still almost seven times more often than from countries in the second highest quartile. While domestic terror targets (and originates in) instable countries more often, international Islamist terror targets stable countries significantly more often. Thus, instability creates Islamist terror, but international Islamist terror focuses on stable, open countries and more strongly on more democratic countries.

5 Heterogeneity II: Small versus Large Terror Groups

The determinants of terror may not only depend on the ideology of different terror groups, but also on the organizational prowess. For instance, more spontaneous terror could be sparked by disillusionment about the economic conditions and dampened by high economic growth, while large terror organizations may operate independently of the current economic situation. Likewise conflict history may be an important determinant for the establishment and operation of large groups while hit-and-run terror may be less path-dependent. If that was the case, terror might be structurally different between different forms of organization even within the same ideology.

The distribution of terror activities is strongly skewed: the largest 20 organizations commit about 50% of the attacks by the 2,749 registered groups (and about 30% off all attacks). They are responsible for 45.7% of the fatalities committed by known groups (and over 30% of all fatalities). The largest 20 terror groups are listed in table A5 in the Appendix.[34] Conversely, 52.4% of all registered groups commit only a single attack over the full time frame, and 76.8% commit less than five attacks. This shows the considerable heterogeneity of terror with a strong concentration on a core group of terror organizations and a large fringe of hit-and-run terror.

We use the number of events committed or people killed by a group as criteria for distinguishing between large and small organizations, as reliable figures on membership are impossible to obtain. We exclude mid-sized groups to show the differences more clearly. Regression results for the determinants of terror incidents are reported in Table 6; results on fatalities are shown in Table A6 in the Appendix.[35]

The first striking result is that large groups are much more likely to originate from

[34] Of the 20 largest organizations, 14 are left-wing extremists. Even among the largest groups (in terms of attacks), there is considerable heterogeneity with respect to attacks and fatalities. Table A5 shows that groups located in the more stable European countries like ETA, the IRA or the FLNC commit much more attacks than fatalities.

[35] We refrain from reporting results by group size and ideology because observations would become very few. However, the differences between total incidents of small and large groups by ideology reflect the differences in the aggregate figures. Results are available upon request.

Table 6: Total events by group size (origin based)

Group size	All	Unknown	Small gr. (< 3 events)	Nonfatal gr. (0 killed)	Large gr. (> 25 events)	Large gr. (> 50 killed)
	(1)	(2)	(3)	(4)	(5)	(6)
GDP pc. 2nd	1.276***	1.313***	1.748***	1.385	1.662***	1.898***
quartile (t-1)	(0.112)	(0.131)	(0.304)	(0.288)	(0.254)	(0.280)
GDP pc. 3d	1.610***	1.385***	1.893***	1.670**	2.150***	2.251***
quartile (t-1)	(0.179)	(0.174)	(0.448)	(0.429)	(0.404)	(0.428)
GDP pc. 4th	3.723***	2.930***	3.181***	2.911***	7.141***	13.573***
quartile (t-1)	(0.565)	(0.499)	(0.943)	(0.908)	(1.827)	(3.908)
GDP growth (t-1)	0.945**	0.948*	1.013	1.014	0.986	0.977
	(0.024)	(0.027)	(0.044)	(0.054)	(0.040)	(0.038)
Telephone lines	0.926***	0.949***	0.880***	0.915***	0.891***	0.880***
	(0.010)	(0.012)	(0.021)	(0.022)	(0.020)	(0.021)
Polity score 2nd	2.353***	2.444***	2.156***	2.397***	2.200***	2.014***
cat. (t-1)	(0.176)	(0.212)	(0.321)	(0.409)	(0.304)	(0.267)
Polity score 3d	2.074***	1.926***	2.066***	2.289***	2.434***	2.201***
cat. (t-1)	(0.167)	(0.176)	(0.351)	(0.431)	(0.3449	(0.316)
Polity score 4th	2.131***	2.038***	2.488***	2.415***	2.581***	2.046***
cat. (t-1)	(0.182)	(0.197)	(0.441)	(0.452)	(0.399)	(0.321)
Years of conflict	1.147***	1.091***	1.112***	1.036	1.344***	1.428***
	(0.015)	(0.016)	(0.029)	(0.029)	(0.030)	(0.034)
Past events	1.296***	1.176***	1.164***	1.098	1.470***	1.400***
	(0.036)	(0.037)	(0.057)	(0.068)	(0.053)	(0.052)
Regime durability	0.982	0.968***	0.952**	1.012	1.010	1.041*
(t-1)	(0.012)	(0.012)	(0.022)	(0.020)	(0.017)	(0.025)
Urbanization	1.046**	1.042*	1.018	1.090*	1.054	0.983
	(0.022)	(0.024)	(0.054)	(0.052)	(0.036)	(0.036)
Log of openness	1.042	1.074	0.903	1.055	0.988	0.707**
(t-1)	(0.053)	(0.061)	(0.097)	(0.113)	(0.083)	(0.106)
Log of population	1.141***	1.165***	1.242***	1.245***	1.069	1.106**
	(0.028)	(0.032)	(0.086)	(0.074)	(0.050)	(0.053)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	155	153	121	109	54	50
No. observations	4353	4309	3551	3202	1683	1519
GDP qt. 2nd=3rd	0.002	0.541	0.637	0.284	0.025	0.171
GDP qt. 3rd=4th	0.000	0.000	0.015	0.004	0.000	0.000
GDP qt. 2nd=4th	0.000	0.000	0.017	0.002	0.000	0.000
Polity cat. 2nd=3rd	0.064	0.002	0.745	0.761	0.366	0.433
Polity cat. 3rd=4th	0.695	0.462	0.167	0.719	0.595	0.548
Polity cat. 2nd=4th	0.189	0.031	0.301	0.962	0.206	0.906

Notes: Groups types are defined by the total number of reported events or the number of people killed by a group over the whole period of observation. For reasons of numeric convergence, in column (6) openness is included w/o logarithm. 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.

rich countries. The coefficient on the fourth quartile for GDP per capita is 4.7 times as large for groups that killed 50 people or more than for groups that killed no-one and is still double the figure for all groups with more than 25 events (which includes groups that killed more than 50 people). While the results on the growth rate, infrastructure, and political freedom are comparable, small and large terror groups are structurally different with respect to conflict history and regime stability. Every year of conflict in the past five years increases the number of incidents by small groups between 4% and 11% and for large groups by 34% to 43%. Likewise, past events play a much larger role for large than for small terror groups: coefficients are 1.10 and 1.16 for small groups and 1.40 and 1.47 for large groups. Lastly, while small terror is more likely to emanate from unstable regimes, the converse holds true for large terror organizations. In other words, stabilizing regimes may be a good idea in order to reduce hit-and-run terror, but we may not expect this to be a remedy against well-established large terror organizations.

6 Conclusion

In this paper, we have analyzed trends in and determinants of terror. We have used the empirical approach that has become 'industry standard': i.e., in a panel approach, we have related incidents or fatalities per country-year to country characteristics. Our results showthat terror originates more often from richer and more urbanized countries and that economic growth and better infrastructure reduce terror levels. Moreover, we have shown that democracy is unrelated to terror, except that terror originates significantly less from the most undemocratic states. Terror is rooted in unstable and conflict-ridden states and is strongly persistent.

Two major observations have cast doubt on the explanatory power of this approach, however. We have classified terror groups according to their belief systems into left- and right-wing political terror, ethnic-separatist terror, and religious terror, especially Islamist terror. We have shown that there have been fundamental changes in the composition of terror in our sample period 1970-2008. As a result, an aggregate analysis of past terror events may have little predictive power for the present state, even for the 'average' behavior, since it does not take into consideration the structural shifts that have taken place.

More fundamentally, the underlying heterogeneity of terror calls into question the usefulness of the aggregate approach as such. We have disaggregated terror by ideology and found significant structural differences in occurrence and determinants of the different terror types. For instance, terror increases on average monotonically with income per

capita of the country it originates from; yet for domestic Islamist terror such a relationship between income per capita and terror does not exist, while ethnic-separatist and right-wing terror is very strongly concentrated on the countries in the highest income quartile only. For democracy, we observe a plateau effect in the aggregate — only the least democratic quartile of countries experiences less terror, for all other countries the degree of political freedom does not play a role. Yet, right wing terror declines with democracy while left-wing and ethnic-separatist terror increases monotonically with democracy. In general, terror rises with urbanization, but ethnic-separatist terror is a rural phenomenon. Terror types differ also in their geographical distribution and lethality. Islamist terror is by far the most lethal. It also targets foreign nationals and foreign assets almost three times as often as the average and crosses the border to commit an attack almost six times as often. Moreover, international and domestic Islamist terror are structurally different.

A second dimension of heterogeneity exists between large, established groups and smaller groups (as measured by the number of incidents and killings). Large groups are much more concentrated on rich countries than smaller groups. Conflict history plays a much larger role for large groups and their terror depends more strongly on past terror levels in the country they originate from. This is plausible as it takes time to grow from a small into a large organization. Lastly, large groups originate more often from stable countries whereas hit-and-run terror breeds better in instable regimes.

In summary, the observed heterogeneity casts doubt on the established practice of treating terrorists with different motivations equally and analyzing them indiscriminately. Moreover, our findings have important policy implications. The large divergence in the determinants of terror across group types implies that there is no unique solution to terrorism. Rather, specifically tailored solutions need to take into account the belief system, the context, and the mode of operation of the respective terror groups and thus their different responses to specific counter-terror policies. To design a general carrot-and-stick approach may simply be too naïve.

For instance, approaches that have proven successful for ethnic-separatist groups need not carry over to the case of Islamist terror. Granting more political power or regional autonomy to disenfranchised ethnic groups and legitimizing their political representation, such as the political wing of ETA or IRA, together with a strong anti-terror approach, has had a favorable effect on the level of terror in the Basque country and in Northern Ireland. Yet, it is by no means clear that the same approach would work for Islamist terror. Our empirical results – and theoretical analyses cited above – suggest that uncritical adoptions of approaches to a different types of terror groups may not be helpful at all or may be even outright counterproductive.

A Appendix

Figure A1: Domestic and international terror fatalities worldwide from 1970–2008

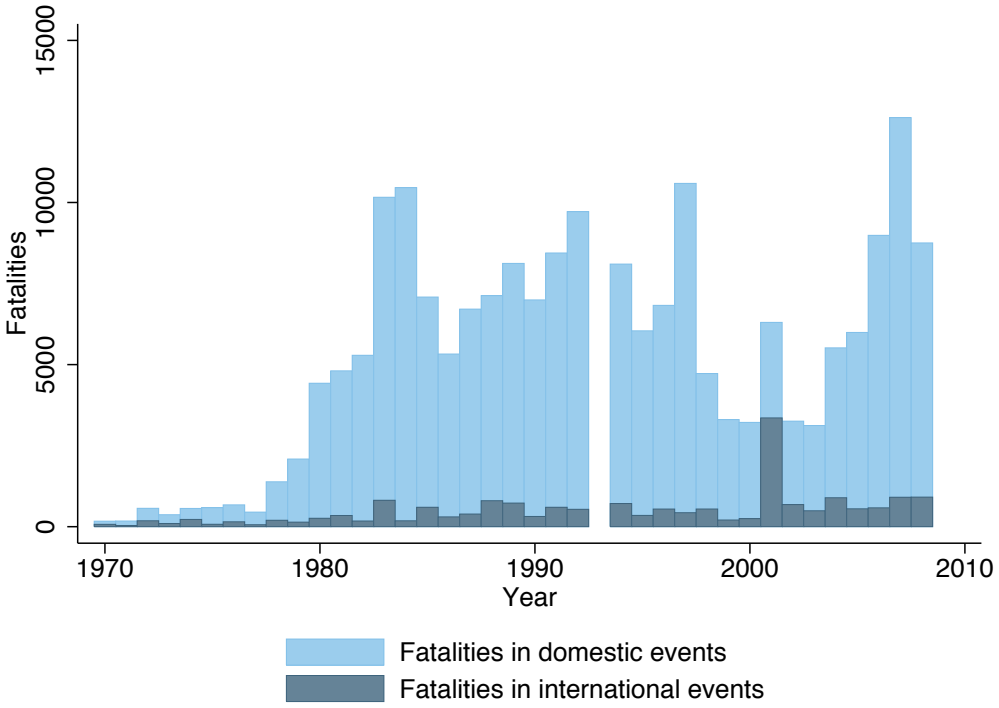
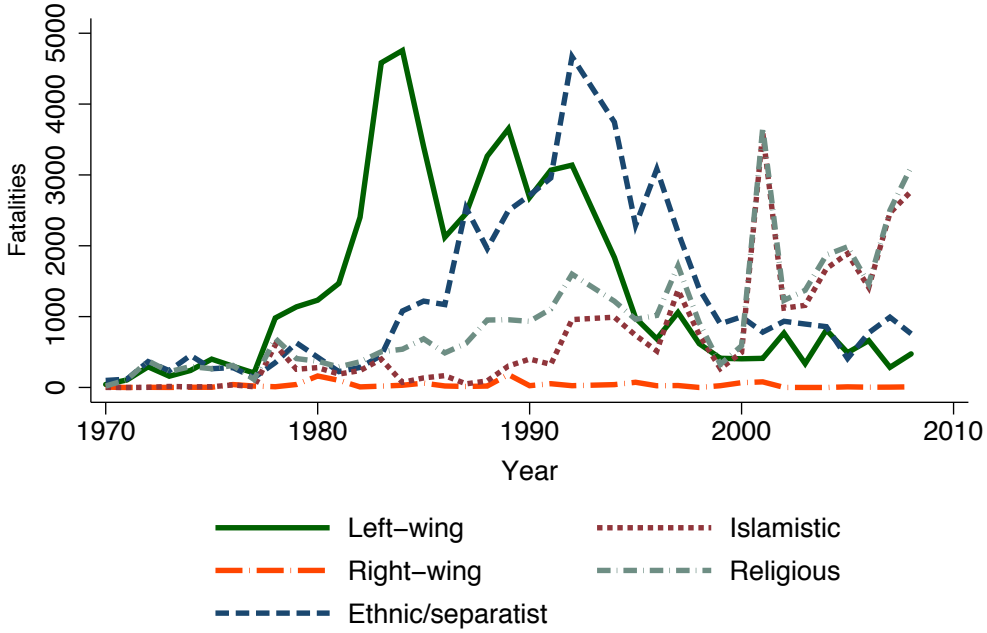


Figure A2: Total number of terror fatalities by ideology from 1970–2008



Note: Missing values for 1993 have been smoothed.

Table A1: Distribution of terror fatalities

Distribution of fatalities		All fatalities		Unknown perpetrator		Identity defined		Left-wing		Right-wing		Ethnic/ separatist		Islamist		Religious	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Type	Domestic terrorism	180335	90.6	59261	95.5	119985	90.6	50247	96.0	1126	92.8	39957	86.6	17135	66.5	26425	73.1
	Intl. terrorism	18706	9.4	2792	4.5	12520	9.4	2068	4.0	87	7.2	6161	13.4	8634	33.5	9748	26.9
	Homeland terrorism	187704	94.3	62053	100.0	124473	93.9	50937	97.4	1161	95.7	41674	90.4	19012	73.8	28465	78.7
	Intl. terrorism, cross-border	11337	5.7	0	0.0	8032	6.1	1378	2.6	52	4.3	4444	9.6	6757	26.2	7708	21.3
Decade	1970–1979	7029	3.5	1012	1.6	5985	4.5	3863	7.4	127	10.5	2936	6.4	940	3.6	2812	7.8
	1980–1989	69509	34.9	13782	22.2	55668	42.0	29329	56.1	619	51.0	11846	25.7	1929	7.5	5772	16.0
	1990–1999	64742	32.5	18193	29.3	46246	34.9	14479	27.7	292	24.1	23940	51.9	6315	24.5	9795	27.1
	2000–2008	57761	29.0	29066	46.8	24606	18.6	4644	8.9	175	14.4	7396	16.0	16585	64.4	17794	49.2
Region	SE Asia, East Asia & Pacific	11207	5.6	2985	4.8	8204	6.2	4157	7.9	13	1.1	2657	5.8	2638	10.2	2719	7.5
	Europe & Central Asia	15545	7.8	2926	4.7	12565	9.5	6988	13.4	221	18.2	10776	23.4	1065	4.1	4155	11.5
	Latin America & Caribbean	57650	29.0	10985	17.7	46637	35.2	32838	62.8	616	50.8	392	0.8	44	0.2	1532	4.2
	Middle East & North Africa	42633	21.4	25140	40.5	13430	10.1	1709	3.3	77	6.3	2917	6.3	14288	55.4	14423	39.9
	North America	441	0.2	52	0.1	382	0.3	42	0.1	37	3.1	41	0.1	19	0.1	32	0.1
	South Asia	42960	21.6	12512	20.2	30169	22.8	4627	8.8	197	16.2	19848	43.0	6728	26.1	9928	27.4
	Sub-Saharan Africa	28605	14.4	7453	12.0	21118	15.9	1954	3.7	52	4.3	9487	20.6	987	3.8	3384	9.4
	Total	199041	100.0	62053	100.0	132505	100.0	52315	100.0	1213	100.0	46118	100.0	25769	100.0	36173	100.00

Notes: The table presents the distribution of terror fatalities by ideology across type, decade and geographical region (origin-based). Each block shows the distribution of incidents among mutually exclusive categories. In some cases the number of observations in one block does not sum to the number listed as total. This is due to missing observations in the original data. Data exclude attacks by Al-Quaida International, but not the regional branches of Al-Quaida.

Table A2: Summary statistics for dependent variables: Terror events and fatalities

Variable	Mean	SD	CV	Max	Sum	N	N countries
Terror events							
All events	18.37	65.64	3.57	1105	79981	4353	155
Left-wing	14.24	52.82	3.71	591	26877	1888	60
Right-wing	0.82	4.02	4.87	105	1163	1410	46
Ethnic-separatist	6.51	26.05	4.00	370	15206	2337	79
Islamist	3.81	17.46	4.58	335	6431	1687	57
Religious	6.10	24.25	3.98	335	12278	2014	67
Terror fatalities							
All fatalities	44.29	234.47	5.29	6583	188340	4252	151
Left-wing	31.41	146.21	4.66	2392	50282	1601	51
Ethnic-separatist	20.76	102.74	4.95	1386	41479	1998	68
Islamist	17.64	79.02	4.48	1147	21361	1211	42
Religious	19.92	80.46	4.04	1147	30693	1541	52

Note: Statistics refer to the respective largest estimation sample (all events or fatalities by origin for each type).

Table A3: Descriptive statistics for independent variables

Variable	Definition, Source	Mean	SD	CV	Min	Max	N
Log of GDP p.c. (t-1)	Log of GDP per capita (in constant 2005 USD, chain series), PWT, WDI	8.27	1.31	0.16	5.05	11.72	4353
GDP growth (t-1)	Yearly growth rate of GDP p.c., measured in ten percentage points, PWT, WDI	0.20	0.79	3.89	-6.46	12.22	4353
Telephone lines	No. of fixed and mobile telephone lines per 10 people, WDI	2.64	4.03	1.53	0.00	24.23	4353
Polity score (t-1)	Composite index of democracy (-10 highly autocratic, 10 highly democratic), Polity2	1.24	7.32	5.89	-10.00	10.00	4353
Years of conflict	Years of internal or external violent conflict in past 5 years, UCDP/PRIO	1.00	1.76	1.77	0.00	5.00	4353
Past events	Average no. of yearly terrorist incidents over the past 5 years, measured in hundred incidents, GTD	0.17	0.51	3.09	0.00	5.78	4353
Past fatalities	Average no. of yearly terror fatalities over the past 5 years, measured in hundred fatalities, GTD	0.38	1.58	4.12	0.00	33.99	4252
Regime durability (t-1)	Years since last drastic regime change, defined by a 3 pt. change in the Polity score over 3 years, measured in ten years, Polity2	2.31	2.93	1.27	0.00	19.80	4353
Urbanization	Share of population in urban areas, measured in ten percentage points, WDI	4.91	2.41	0.49	0.32	10.00	4353
Openness (t-1)	Sum of exports and imports per total GDP, measured in ten percentage points, PWT, WDI	7.31	4.59	0.63	0.20	45.34	4353
Log of population	Log of total population (in thousands), PWT, WDI	9.14	1.54	0.17	5.51	17.53	4353
Inequality	Gini coefficient, WIID	40.78	10.37	0.25	18.13	73.20	2623
Ethnic tensions	Measure of the degree of ethnic tensions (0 very low, 6 very high), ICRG	3.92	1.46	0.37	0.00	6.00	2773

Note: Statistics refer to the largest estimation sample (all events by origin).
ICRG: International Country Risk Guide
PWT: Penn World Tables
WDI: World Development Indicators
WIID: World Income Inequality Database

Table A4: Domestic attacks by different groups

Group ideology	All	Left-wing	Right-wing	Ethn.-sep.	Islamist	Religious
	(1)	(2)	(3)	(4)	(5)	(6)
GDP pc. 2nd	1.295***	1.185	2.710*	1.039	1.422	0.717
quartile (t-1)	(0.120)	(0.233)	(1.435)	(0.180)	(0.365)	(0.150)
GDP pc. 3d	1.550***	1.570**	5.583***	1.134	1.124	0.565**
quartile (t-1)	(0.184)	(0.352)	(3.306)	(0.301)	(0.390)	(0.152)
GDP pc. 4th	3.789***	3.495***	13.636***	11.498***	1.600	1.423
quartile (t-1)	(0.616)	(0.983)	(9.834)	(4.265)	(0.809)	(0.554)
GDP growth (t-1)	0.942**	0.940	1.158	1.017	1.020	1.001
	(0.025)	(0.056)	(0.172)	(0.058)	(0.052)	(0.046)
Telephone lines	0.940***	0.989	0.891**	0.929***	0.923*	0.887***
	(0.011)	(0.026)	(0.051)	(0.022)	(0.039)	(0.027)
Polity score 2nd	2.417***	1.250	3.697***	1.942***	2.048***	2.454***
cat. (t-1)	(0.199)	(0.222)	(1.628)	(0.373)	(0.424)	(0.450)
Polity score 3d	2.303***	2.150***	2.445**	3.291***	1.938***	2.751***
cat. (t-1)	(0.201)	(0.381)	(1.106)	(0.614)	(0.466)	(0.578)
Polity score 4th	2.149***	1.733***	1.537	2.922***	1.680**	2.637***
cat. (t-1)	(0.204)	(0.307)	(0.720)	(0.606)	(0.412)	(0.552)
Years of conflict	1.144***	1.274***	0.941	1.385***	1.076**	1.117***
	(0.016)	(0.035)	(0.051)	(0.041)	(0.038)	(0.031)
Past events	1.316***	1.349***	1.599***	1.202***	1.408***	1.482***
	(0.038)	(0.057)	(0.157)	(0.079)	(0.099)	(0.078)
Regime durability	0.980*	0.944***	1.037	0.979	0.833***	0.965
(t-1)	(0.012)	(0.017)	(0.035)	(0.025)	(0.031)	(0.025)
Urbanization	1.034	1.172***	1.009	0.948	1.194**	1.281***
	(0.023)	(0.047)	(0.106)	(0.054)	(0.084)	(0.071)
Log of openness	1.006	1.310**	0.614*	1.102	1.616***	1.253**
(t-1)	(0.054)	(0.148)	(0.180)	(0.136)	(0.216)	(0.143)
Log of population	1.162***	1.221***	1.527***	1.191***	1.146	1.169**
	(0.030)	(0.069)	(0.241)	(0.058)	(0.101)	(0.087)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
No. countries	154	58	45	68	50	62
No. observations	4351	1822	1379	2012	1457	1850
GDP qt. 2nd=3rd	0.027	0.036	0.024	0.693	0.300	0.161
GDP qt. 3rd=4th	0.000	0.000	0.044	0.000	0.301	0.001
GDP qt. 2nd=4th	0.000	0.000	0.002	0.000	0.767	0.023
Polity cat. 2nd=3rd	0.501	0.000	0.168	0.001	0.766	0.492
Polity cat. 3rd=4th	0.338	0.074	0.071	0.449	0.513	0.801
Polity cat. 2nd=4th	0.147	0.032	0.005	0.022	0.328	0.669

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 A5: Statistics for major organizations

Group	Origin country	Ideological profile	Incidents	% of all	% intl.	Fatalities	% of all	% intl.	Events by decade			
									1970-1979	1980-1989	1990-1999	2000-2009
Shining Path (SL)	Peru	Left-wing	4513	5.15	2.53	11647	5.85	0.55	2	3247	1252	12
Farabundo Marti National Liberation Front (FMLN)	El Salvador	Left-wing	3357	3.83	1.55	8508	4.27	0.67	1	2674	682	0
Irish Republican Army (IRA)	United Kingdom	Left-wing, Ethnic, Christian	2671	3.05	4.72	1829	0.92	4.43	1024	940	693	14
Basque Fatherland and Freedom (ETA)	Spain	Left-wing, Ethnic	1991	2.27	10.95	819	0.41	2.08	429	970	391	201
Revolutionary Armed Forces of Colombia (FARC)	Colombia	Left-wing,	1668	1.90	4.86	4835	2.43	0.58	106	513	627	422
National Liberation Army of Colombia (ELN)	Colombia	Left-wing, Christian	1258	1.43	9.78	1449	0.73	4.28	34	540	570	114
Liberation Tigers of Tamil Eelam (LTTE)	Sri Lanka	Ethnic	1253	1.43	8.78	9534	4.79	5.63	3	261	721	268
Kurdistan Workers' Party (PKK)	Turkey	Left-wing, Ethnic	1173	1.34	16.28	3558	1.79	2.64	0	114	955	104
New People's Army (NPA)	Philippines	Left-wing	1168	1.33	4.37	3330	1.67	0.90	26	585	366	191
Taliban	Afghanistan	Muslim	977	1.11	22.72	2867	1.44	19.81	0	0	4	973
Nicaraguan Democratic Force (FDN)	Nicaragua	None	900	1.03	0.67	7268	3.65	0	0	900	0	0
Manuel Rodriguez Patriotic Front (FPMR)	Chile	Left-wing	830	0.95	4.94	93	0.05	4.30	0	728	102	0
African National Congress (ANC)	South Africa	Left-wing, Ethnic	606	0.69	1.82	624	0.31	1.12	27	544	35	0
Corsican National Liberation Front (FLNC)	France	Ethnic	569	0.65	2.81	13	0.01	0	149	182	182	56
Tupac Amaru Revolutionary Movement (MRTA)	Peru	Left-wing	557	0.64	11.67	560	0.28	0.54	0	381	176	0
M-19 (Movement of April 19)	Colombia	Left-wing	554	0.63	9.39	1323	0.66	1.59	66	482	6	0
People's Liberation Front (JVP)	Sri Lanka	Left-wing, Ethnic	434	0.49	1.38	891	0.45	0.56	0	424	10	0
National Union for the Total Independence of Angola (UNITA)	Angola	None	421	0.48	13.3	2562	1.29	7.92	2	51	291	77
Movement of the Revolutionary Left (MIR)	Chile	Left-wing	306	0.35	2.61	45	0.02	0	31	267	8	0
Hezbollah	Lebanon	Muslim	293	0.33	56.31	837	0.42	80.29	0	53	201	39
20 largest known organizations			25499	29.07	6.72	62592	31.45	3.92	1900	13856	7272	2471
Other known groups			26803	30.56	23.36	74396	37.38	17.73	5190	7824	9171	4618
Unknown perpetrators			35408	40.37	12.17	62053	31.17	4.5	2777	9480	12236	10915
Total			87710	100.00	14.01	199041	100.00	9.26	9867	31160	28679	18004

Note: The table presents the origin country assignment, ideological profile and the number of terror attacks and fatalities for the largest 20 groups by event count in the GTD (2010) dataset. This is augmented by each group's share of all incidents/fatalities, the share of international incidents/fatalities and the distribution of events across decades.

Table A6: Total fatalities by different organizations

Group size	Small	Small	Large	Large
	< 3 ev.	killed 1	> 25 ev.	> 50 kill
Column	(1)	(2)	(3)	(4)
GDP pc. 2nd	1.568**	0.850	2.227***	2.432***
quartile (t-1)	(0.307)	(0.351)	(0.344)	(0.342)
GDP pc. 3rd	1.847**	0.960	2.557***	2.745***
quartile (t-1)	(0.498)	(0.548)	(0.506)	(0.524)
GDP pc. 4th	4.974***	6.487**	16.912***	13.644***
quartile (t-1)	(2.016)	(5.013)	(4.903)	(3.831)
GDP growth (t-1)	0.976	1.123	1.016	0.950
	(0.061)	(0.097)	(0.048)	(0.043)
Telephone lines	0.839***	0.804***	0.851***	0.866***
	(0.036)	(0.054)	(0.023)	(0.021)
Polity score 2nd	1.922***	1.632	2.255***	2.277***
cat. (t-1)	(0.364)	(0.599)	(0.354)	(0.308)
Polity score 3rd	1.629**	1.868	2.876***	2.450***
cat. (t-1)	(0.341)	(0.772)	(0.448)	(0.340)
Polity score 4th	2.697***	1.681	3.514***	3.232***
cat. (t-1)	(0.578)	(0.723)	(0.592)	(0.494)
Years of conflict	1.163***	1.084	1.427***	1.440***
	(0.038)	(0.064)	(0.036)	(0.033)
Past fatalities	1.058***	1.057**	1.099***	1.091***
	(0.016)	(0.029)	(0.012)	(0.011)
Regime durability	0.960	0.952	1.036	1.050**
(t-1)	(0.029)	(0.068)	(0.026)	(0.023)
Urbanization	1.036	1.251	1.029	0.992
	(0.053)	(0.230)	(0.037)	(0.034)
Openness (t-1)	0.985	1.000	0.957***	0.956***
	(0.021)	(0.044)	(0.015)	(0.015)
Log of population	1.360***	1.247	1.142***	1.167***
	(0.074)	(0.310)	(0.056)	(0.052)
Year fixed effects	Yes	Yes	Yes	Yes
No. countries	96	67	50	49
No. observations	2882	2043	1553	1487
GDP qt. 2nd=3rd	0.410	0.771	0.304	0.583
GDP qt. 3rd=4th	0.001	0.000	0.000	0.000
GDP qt. 2nd=4th	0.001	0.002	0.000	0.000
Polity cat. 2nd=3rd	0.320	0.642	0.046	0.280
Polity cat. 3rd=4th	0.005	0.716	0.124	0.246
Polity cat. 2nd=4th	0.054	0.925	0.002	0.046

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. Unlike in all other tables, openness is expressed here w/o logarithm due to issues of numeric convergence. Standard errors are in parentheses. ***,**,* denote significance at the 1, 5, and 10% level.

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