

# Does government decentralization reduce domestic terror?

## An empirical test

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### *Abstract*

Using a country panel of domestic terror attacks from 1998 to 2004, we empirically analyze the impact of government decentralization on terror. Our results show that expenditure decentralization reduces domestic terror, while political decentralization has no impact.

Keywords: Domestic Terrorism, Decentralization, Federalism, Autonomy

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## 1. Introduction

According to the theory of Frey and Luechinger (2004), decentralization reduces terror. Frey and Luechinger argue that decentralized countries are politically and administratively more stable than more centralized states, and have more efficient markets – “a polity with many different centers of decision-making and implementation is difficult, if not impossible, to destabilize” (ibidem, p.512). Thus, decentralization may stabilize the polity by reducing the damage terror can exert on a country’s ability to govern its affairs, letting countries with strong local governments and administrations recover more quickly.<sup>1</sup> Consequently, terrorists’ perceived benefits of attacks decrease with government decentralization.

Similarly, according to traditional public choice arguments (Brennan and Buchanan 1980, Tiebout 1961), decentralization can yield efficiency gains in government activities and increase the effectiveness of deterring terror through national security policies: Decentralization permits residents to express their disagreement with local security policies by moving to a different jurisdiction in a Tiebout fashion (Tiebout 1961), indirectly exerting control over local decision-makers by inducing incentives for competing local governments to innovate, to work efficiently and to target their security policies effectively (Brennan and Buchanan 1980). As a consequence, the marginal costs of terrorism are increased.

Assuming that terrorists are rational decision-makers who weigh the expected costs against the benefits of their terrorist activities (see Lichbach 1987), less terror should occur in countries with stronger local governments and administrations.<sup>2</sup> This hypothesis has been confirmed with data on transnational terror in Dreher and Fischer (2010). In principle, it should also hold for domestic terror, as the goals of destabilizing the polity and economy are common to both transnational and domestic terrorists (Frey and Luechinger 2004).<sup>3</sup>

In this paper, we test the hypotheses proposed by Frey and Luechinger (2004) for the effect of government decentralization on domestic terrorism, extending work on transnational terror in Dreher and Fischer (2010). To anticipate our results, we find that expenditure decentralization reduces domestic terror, while political autonomy does not.

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<sup>1</sup> Gassebner et al. (2008) show that terrorists are at least to some extent successful in destabilizing the political system, as terror attacks increase the probability of cabinet dissolutions.

<sup>2</sup> Sandler and Enders (2004) present an application of the rational choice model.

<sup>3</sup> Media attention is a possible third goal. The predicted effect of decentralization on terrorism through influencing media attention is, however, ambiguous (for a discussion, see Dreher and Fischer 2010).

## **2. The opportunity costs argument**

Referring to *domestic* terror – terror attacks by the local population targeted at their home country – Frey and Luechinger (2003, 2004) and Li (2005) stress the importance of opportunity costs in fighting terror. Opportunity costs of domestic terrorist activities refer to alternative legal activities (e.g., regular employment or political engagement) potential domestic terrorists may derive utility from. According to Frey and Luechinger (2004), terrorists ultimately pursue long-term political goals, which they attempt to achieve through their destabilization efforts. However, decentralized structures may well allow potential terrorists to realize their political goals in a legal way instead – as decentralization gives the citizenry control over government spending activities and political decision-making. Similarly, Li (2005) argues with respect to political participation rights that a more satisfied citizenry is less likely to support terrorism. Consequently, Frey and Luechinger (2004) propose that strong local governments can increase the opportunity costs of domestic terrorists by making terror less attractive as compared to alternative legal activities.

Taken all together, these arguments suggest that government decentralization improves not only security policies, stabilizes the market economy and the political system, but also increases domestic terrorists' opportunity costs. Hence, we expect decentralization to reduce the optimal level of domestic terror, expressed in the following testable hypothesis:<sup>4</sup>

Government decentralization reduces the number of domestic terrorist incidents.

## **3. Measuring decentralization and terror**

We employ two measures of government decentralization. First, fiscal decentralization is measured as the share of expenditures of all sub-federal government tiers in total expenditures by all levels of government, based on the IMF's Government Finance Statistics (GFS). One version includes grants in expenditures, while the other subtracts grants prior to dividing sub-federal expenditures by general government expenditures. These data are available for the 1990-2004 period for about 70 countries.<sup>5</sup> Among the countries in our sample, spending decentralization is in the range of 0%-54%, with a mean of 18%, and a median of 16%.

Second, to account for the distribution of political power among the central and sub-national governments, we use a dichotomous indicator of political autonomy of second tier governments obtained from Treisman (2002). This indicator takes on unity if according to the federal constitution (1)

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<sup>4</sup> Arguably, decentralization might also imply drawbacks, implying more rather than less terrorist activity. For a summary of the arguments see Dreher and Fischer (2010).

<sup>5</sup> The data are available from <http://www.axel-dreher.de/decentralization.xls> and from <http://www.justinaavfischer.de/>.

laws of the second tier cannot be overruled by federal legislation or (2) the federal legislation is restricted to framework regulation. In our sample, about 20% of the countries are coded as having politically autonomous sub-federal tiers.

Turning to our dependent variable, we employ the measure of domestic terrorist activity from the MIPT Terrorism Knowledge Base.<sup>6</sup> Terror is defined as “violence, or the threat of violence, calculated to create an atmosphere of fear and alarm.” A ‘domestic terror act’ is committed if terror groups are ‘domestic’ (neither transnational nor foreign-based, like Al Qaeda), and if their targets are also ‘domestic’ (as opposed to ‘transnational’, such as airports and embassies). The number of domestic terror events per country and year are available from 1998 on; we assign zeros to all countries and years with no records.<sup>7</sup>

Figure 1 shows the overall number of domestic and transnational terror events for our sample over time. While both are decreasing over the sample period, the number of domestic events is substantially higher. The highest number of domestic attacks over the whole sample period appears in Colombia (404), India (340), Russia (202), and Nepal (106). The highest numbers of transnational events occur in Colombia (26), Israel (16), and Indonesia (15).

#### 4. Method

We estimate pooled time-series cross-section two-way fixed effects regressions. As our data on terror events are strongly skewed to the right and display significant overdispersion, we employ the Negative Binomial estimator. Our basic equation takes the following form:

$$terror_{it} = \alpha + \beta_1 decent_{it} + \beta_2' X_{it} + \lambda_i + \theta_t + \varepsilon_{it}, \quad (1)$$

where  $terror_{it}$  represents the number of domestic terror events in country  $i$  in year  $t$ , and  $decent_{it}$  is one of our measures of decentralization.  $X_{it}$  is the vector of control variables,  $\lambda_i$  represents the country fixed effects, and  $\theta_t$  the time fixed effects, while  $\varepsilon_{it}$  represents the disturbance. Standard errors are clustered at the country level.

In choosing our control variables, we follow Dreher and Fischer’s (2010) analysis of transnational terror – our focus on domestic rather than transnational terrorism affects only the interpretation of the control variables, while they arguably remain relevant in the domestic context. We use (log) per capita GDP and (log) population size from the World Bank (2006), government

<sup>6</sup> Available at: <http://www.mipt.org> (20 Feb 2009).

<sup>7</sup> Territories are assigned to the country formally governing the territory. Kashmir and the Persian Gulf are excluded as it is not obvious to which country they should be assigned to.

fractionalization from Beck et al. (2001), the index of political freedom and civil liberties (Freedom House, 2009), and a country's voting coincidence with the United States in the United Nations General Assembly. Since some of the data are not available for all countries or years, the panels are unbalanced with regression samples covering up to 743 observations from 110 countries, over the 1998-2004 period.

## 5. Results

Table 1 shows the results for our two indicators of expenditure decentralization. Columns 1 and 2 show that fiscal decentralization reduces the number of domestic terror events. This is in line with our *a priori* hypothesis that decentralized structures may increase the opportunity costs and direct costs of domestic terrorists, on the one hand, but equally that it may decrease the marginal benefit from such a terror act, as decentralization stabilizes the polity and the economy. Calculating the marginal effect (at the sample mean, with the country and year dummies equal to zero), the results in column 1 show that the number of terror events in a country declines by 0.001 as decentralization increases by ten percentage points. The calculated elasticity of almost 2.5% is socially relevant.

Regarding the vector of control variables, the number of domestic terror events decreases with political and civil freedom, at the 5 percent level at least, consistent with Li's (2005) hypothesis. In column 1, voting with the United States is positively associated with the number of domestic terror events (significant at the ten percent level). The remaining control variables are not significant at conventional levels.

In column 3 we exclude cases indicated as zero decentralization by our indicator (including grants, as in column 1), as these mostly refer to very small countries where there is no distinction between the central and the state/communal level (e.g., San Marino). In column 3, the coefficient on fiscal decentralization remains significant at the five percent level. In this sample, political freedom equally reduces domestic terror, also significant at the five percent level.

In column 4 we include the time-invariant political autonomy variable (and estimate a pooled model which excludes the country dummies). While its negative coefficient would be in support of our hypothesis, it is far from being significant at conventional levels.<sup>8</sup>

In columns 5 and 6 we distinguish between severe and less severe terror events.<sup>9</sup> However, the regression focusing on less severe events (column 6) does not converge when the year dummies are

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<sup>8</sup>When fiscal decentralization is added to the empirical model in column 3, political autonomy remains insignificant (while the number of observations is substantially reduced). Political autonomy also stays insignificant when the number of severe or, respectively, less severe terror events are employed as dependent variables.

<sup>9</sup> We define a terror event as severe when at least one person has been injured or killed.

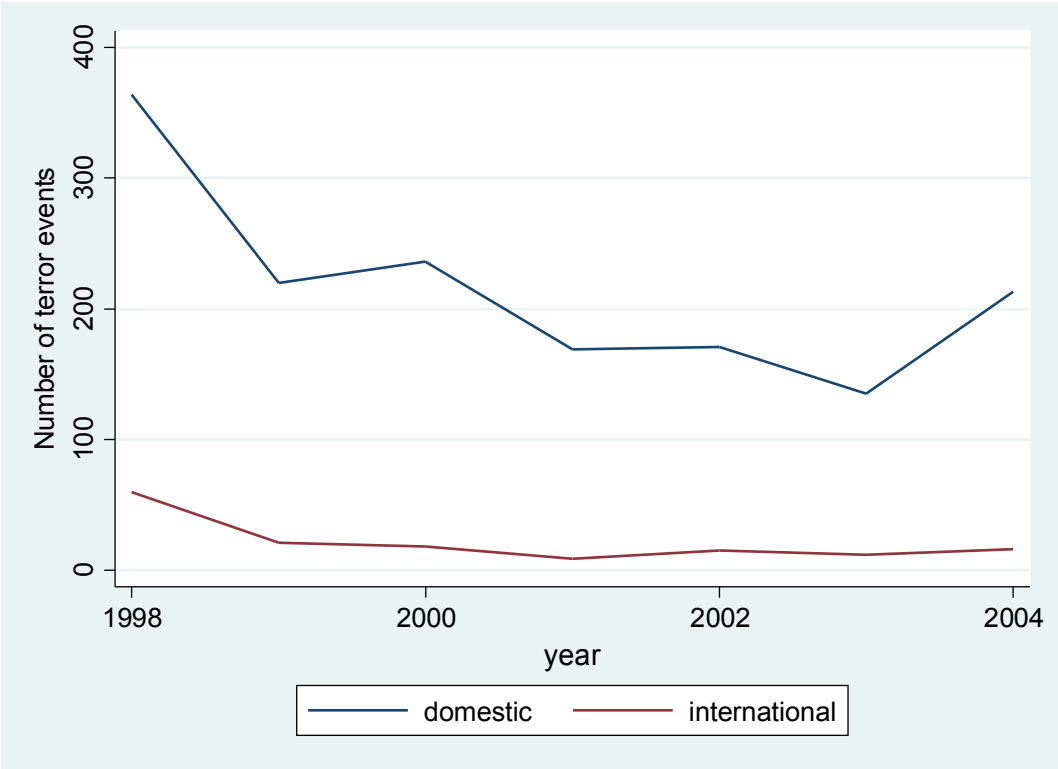
included, so we omit them. As can be seen, our previous results have been driven by severe events only. Severe terror events decrease with decentralization at the one percent level of significance, while less severe events are not affected by decentralization.

## **6. Summary and conclusion**

This paper empirically analyzes the impact of a decentralized governance structure on the occurrence of domestic terror using data for a maximum of 110 countries over the years 1998-2004. Following Frey and Luechinger (2003, 2004) and Li (2005), we argue that decentralization may affect the costs, benefits, and opportunity costs of terrorists, and thus decrease the optimal level of domestic terrorist activity. Indeed, we find that expenditure decentralization reduces the number of domestic terror events. In contrast, local political autonomy exerts no impact.

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**Figure 1: Domestic and Transnational Terror over Time**



**Table 1: Decentralization and Domestic Terror, Negative Binomial Regression, 1998-2004**

	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal decentralization	-0.142 (3.51)***				-0.173 (3.39)***	0.060 (0.50)
Fiscal decentralization (no grants)		-0.107 (3.33)***				
Fiscal decentralization (>0)			-0.109 (2.48)**			
Political autonomy				-0.050 (0.08)		
(log) GDP per capita	-2.977 (1.03)	-3.556 (1.10)	-2.581 (0.78)	0.232 (1.09)	-0.500 (0.10)	-4.329 (1.03)
(log) Population	3.785 (0.68)	3.199 (0.55)	3.961 (0.73)	1.101 (8.34)***	5.855 (0.65)	-4.010 (0.20)
Political freedom	-0.349 (2.22)**	-0.413 (2.74)***	-0.355 (2.30)**	-0.223 (1.55)	-0.374 (1.54)	0.895 (2.02)**
Government fractionalization	-0.146 (0.41)	0.089 (0.26)	-0.223 (0.56)	1.187 (1.72)*	-0.224 (0.38)	-0.847 (0.70)
Voting with U.S.	4.484 (1.66)*	4.759 (1.43)	4.064 (1.39)	6.796 (4.95)***	6.240 (1.33)	0.758 (0.20)
Number of observations	233	233	191	743	233	233
Number of countries	59	59	52	110	59	59
Country fixed effects	yes	yes	yes	no	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	no less
Dependent variable	all terror	all terror	all terror	all terror	severe terror	severe terror

Notes: The dependent variable is the number of domestic terror events in a particular year and country. Column 5 (6) focuses on severe (less severe) events. A terror event is defined as severe when at least one person has been injured or killed. Absolute value of z statistics in parentheses.\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%



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APPENDIX FOR THE ATTENTION OF THE REFEREES ONLY; NOT FOR PUBLICATION

Appendix A: Definitions and Sources

Variable	Definition	Source
Number of domestic terror events	Number of domestic terror events for each country and year, defined as “violence, or the threat of violence, calculated to create an atmosphere of fear and alarm.”	MIPT Terrorism Knowledge Base
Fiscal decentralization	Total expenditure of sub-national (local and state) government tiers divided by total spending by all levels of government.	IMF’s Government Finance Statistics
Fiscal decentralization (no grants)	Total expenditure of sub-national government tiers less grants divided by total spending by all levels of government less grants.	IMF’s Government Finance Statistics
Political autonomy	Under the constitution, subnational governments have residual powers (to legislate on areas not explicitly assigned to other levels).	Treisman (2008)
(log) GDP per capita	Gross domestic product divided by midyear population. Data are in constant U.S. dollars.	World Bank (2006)
(log) Population	Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship, except for refugees not permanently settled in the country of asylum.	World Bank (2006)
Political freedom	Average value of political rights and civil liberties, ranging from -7 to -1, where higher values reflect greater freedom.	Freedom House (2009)
Government fractionalization	Probability that two deputies picked at random from among the government parties will be of different parties (low(0)-high(1)).	Beck et al. (2001)
Voting with U.S.	Votes in agreement with the US are coded as 1, votes in disagreement as 0, and abstentions or absences as 0.5. The resulting numbers are then divided by the total number of votes in each country and year.	Dreher and Sturm (2010)

Appendix B: Descriptive Statistics (estimation sample, Table 1, column 1)

Variable	Mean	Std. Dev.	Min	Max
Number of domestic terror events	6.61	20.89	0.00	184.00
Fiscal decentralization	17.56	14.73	0.00	54.36
Fiscal decentralization (no grants)	19.26044	16.44748	0	60.1
Political autonomy	0.20	0.40	0.00	1.00
(log) GDP per capita	7.88	1.31	4.68	10.50
(log) Population	16.09	1.82	12.52	20.98
Political freedom	-3.00	1.64	-6.50	-1.00
Government fractionalization	0.36	0.32	0.00	1.00
Voting with U.S.	0.31	0.14	0.00	0.80