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Do banking crises cause terrorism?

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HIGHLIGHTS

- Examination of the effect of banking crises on domestic terrorism.
- Dataset covers 146 countries between 1972 and 2006.
- Banking crises lead to a subsequent increase in terrorism.
- This effect is only relevant in developing economies.

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ABSTRACT

We analyze the effect of banking crises on terrorist activity for 146 countries between 1972 and 2006. We show that banking crises lead to a subsequent increase in terrorism. This effect is only relevant in less developed economies.

1. Banking crises and terrorism

In a 2011 statement the *Real IRA*, a separatist terrorist group active in Northern Ireland, argued that its attacks against banks and other targets were legitimate because "working-class communities are suffering most from the effects of cuts to essential services and poverty is now endemic. Families who have lost income as a result of the financial crisis – caused by the bankers – are being intimidated and some are being evicted from their homes" (McDonald, 2011). This line of argumentation appears to have been "designed to tap into the widespread public loathing of the banks" (McDonald, 2011). It indicates that the recent financial crisis has fueled this group's activity.

Does this incidence point to a general relationship between financial sector fragility and the genesis of terrorism? Motivated by the massive strain associated with the continuing global financial–economic crisis that started in 2007, this contribution examines whether there is empirical evidence of a link between banking crises and terrorist activity during the period between 1972 and 2006.

According to the literature, financial fragility may plausibly affect terrorism through several transaction channels. First, banking crises result in poor macroeconomic performance and rising unemployment (Reinhart and Rogoff, 2009). This may exacerbate socio-economic grievances which in turn can fuel terrorist activity. Indeed, terrorism tends to thrive during economic downturns, e.g., because non-violent economic participation is limited, whereas violent means to change the socio-economic status quo become comparatively more attractive (Blomberg et al., 2004; Caruso and Schneider, 2011). Second, banking crises have a deleterious effect on government finances in that they impact negatively on tax revenues and public debt (Reinhart and Rogoff, 2009). At the same time, the remaining government resources are usually predominantly devoted to costly policy measures, such as bank

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Table 1
Summary statistics and data operationalization and sources.

Variable	Observations	Mean	SD	Minimum	Maximum	Operationalization	Source
Domestic terrorist attacks	922	45.736	158.331	0	2186	See main text	
Banking crisis	922	0.128	0.334	0	1	See main text	
Population size	922	9.124	1.534	5.426	14.077	Population size in thousands, logged	a
Per capita income	922	8.400	1.125	5.292	11.200	Real, PPP-adjusted per capita income, logged	a
Trade openness	922	69.983	44.191	9.181	417.093	Sum of exports and imports as a share of real GDP	a
Democracy	922	0.438	0.479	0	1	Dichotomous measure of democracy	b
Regime stability	922	2.868	0.903	0.693	4.913	Number of years since most recent regime change, logged + 1	b
Government size	922	18.741	9.791	3.460	65.730	Government activity as share of real GDP	a
Literacy rate	910	69.916	27.442	2.4	99.9	Percentage of people aged 15 and over who are literate	c
Ethnic fractionalization	922	0.465	0.257	0	0.930	Time-invariant index of ethnic fractionalization	d

Notes: Source refers to
[a] PENN World Tables (https://pwt.sas.upenn.edu/).
[b] Democracy and Dictatorship Revisited Dataset (https://sites.google.com/site/joseantoniocheibub/datasets/democracy-and-dictatorship-revisited).
[c] World Development Indicators (http://data.worldbank.org/data-catalog/world-development-indicators).
[d] Fractionalization Dataset of Alesina, Devleeschauwer, Easterly, Kurlat, and Wacziarg (www.anderson.ucla.edu/faculty_pages/romain.wacziarg/downloads/fractionalization.xls).

nationalizations and expansionary fiscal policies, which aim at stabilizing the financial and economic system (Laeven and Valencia, 2012). These developments may necessitate public spending cuts in other fields such as social and internal security (Brumby and Verhoeven, 2010). The subsequent decline in institutional and counter-terrorism capacities is likely to benefit terrorism, given that terrorism tends to be reined in by sound institutions associated with a social safety net (Burgoon, 2006) and the rule of law (Choi, 2010; Gassebner and Luechinger, 2011). Also, cuts in public investment may hurt future economic development (Brumby and Verhoeven, 2010), potentially further reinforcing any vicious interaction between poor macroeconomic conditions and terrorist activity (Tavares, 2004). Finally, the advent of macroeconomic and institutional decline – induced by banking crises – is likely to trigger non-violent (e.g., strikes) and violent (e.g., riots) domestic political instability. Such instability may escalate into terrorism by providing potential terrorists with certain skills (related to communication, recruitment, etc.) that are required to initiate and maintain a terrorist campaign (Campos and Gassebner, 2013).

2. Data and methodology

Previously, we argued that banking crises lead to more terrorism by inducing a larger macroeconomic crisis and simultaneously impacting negatively on institutions that would have otherwise helped to address these grievances and prevent any opportunities to rebel. To test this hypothesis, we use five-year interval data for 146 countries for the period 1972–2006. Here, we examine whether banking crises are, net of the influence of the control variables, indeed associated with an increase in terrorism in the subsequent five-year period. The summary statistics and the operationalization of the controls are reported in Table 1.

Terrorism is measured by the *number of domestic terrorist attacks*. Domestic terrorism involves only one country. Plausibly, this kind of terrorism is expected to be particularly responsive to domestic financial sector fragility. The terrorism data are drawn from Enders et al. (2011) who process raw data from the *Global Terrorism Database* (*GTD*) to identify domestic terrorist incidents and minimize data inconsistencies associated with the *GTD*.[2]

Data on banking crises are drawn from Laeven and Valencia (2012). Laeven and Valencia (2012: 4) define a *banking crisis* as an event characterized by significant signs of distress in the banking system (e.g., bank runs) and major policy intervention measures in response to this distress (e.g., bank nationalizations). Laeven and Valencia (2012: 1) stress that their dataset includes all systemic banking crises that occurred during the observation period.

In choosing a set of control variables we follow the empirical literature on the determinants of terrorism summarized by Gassebner and Luechinger (2011) and Kis-Katos et al. (2011). Specifically, we control for the effect of *population size, per capita income, trade openness, democracy*, and *regime stability* on terrorism. As a robustness check, we also consider the influence of *government size, education, ethnic fractionalization*, and a *lagged dependent variable* on terrorism.[3]

The dependent variable is a count variable (i.e., number of domestic terrorist attacks) which only assumes discrete, non-negative values and whose variance is larger than its mean. Due to these characteristics, we use the *negative binomial maximum-likelihood estimation model* for (pooled) count data.[4] We include a set of regional and year dummies and use country-clustered standard errors to account for heteroskedasticity, autocorrelation, and trending effects.

3. Main empirical results

Our empirical results are reported in Table 2. They indicate that episodes of banking crises are, on average, indeed associated with a subsequent increase in domestic terrorism in a statistically significant way.[5] The effects are also economically substantive. The calculated incidence-rate ratios suggest that a banking crisis leads to a 54% increase in domestic terrorism in the subsequent five-year interval.

[2] Our main findings remain qualitatively unchanged when terrorism is measured by the number of domestic terrorism victims or when the unprocessed *GTD* data is used (results available upon request).

[3] Our results are also robust to the inclusion of further controls indicating urbanization, religious fractionalization, population growth, fuel exports, and left-wing governments (results available upon request).

[4] Alternative estimation techniques such as random- and fixed-effects negative binomial and Poisson regressions deliver results comparable to our main findings (results available upon request).

[5] Note that endogeneity is unlikely to be an issue as we regress terrorism on episodes of banking crises in the previous five-year interval. This approach also makes sure that we actually capture the negative effects of banking crises on a country's politico-economic situation because it ought to take some time before these effects fully materialize and spill over into society. Finally, there is also little evidence that terrorist attacks negatively affect financial market stability in the long run (Eldor and Melnick, 2004), making reverse causality rather unlikely.