

IZA DP No. 9526

**Terrorism and Employment:
Evidence from Successful and Failed Terror Attacks**

Abel Brodeur

November 2015

Terrorism and Employment: Evidence from Successful and Failed Terror Attacks

Abel Brodeur

*University of Ottawa
and IZA*

Discussion Paper No. 9526
November 2015

IZA

P.O. Box 7240
53072 Bonn
Germany

Phone: +49-228-3894-0

Fax: +49-228-3894-180

E-mail: iza@iza.org

Any opinions expressed here are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but the institute itself takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity.

The Institute for the Study of Labor (IZA) in Bonn is a local and virtual international research center and a place of communication between science, politics and business. IZA is an independent nonprofit organization supported by Deutsche Post Foundation. The center is associated with the University of Bonn and offers a stimulating research environment through its international network, workshops and conferences, data service, project support, research visits and doctoral program. IZA engages in (i) original and internationally competitive research in all fields of labor economics, (ii) development of policy concepts, and (iii) dissemination of research results and concepts to the interested public.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

ABSTRACT

Terrorism and Employment: Evidence from Successful and Failed Terror Attacks*

This paper examines the economic consequences of terror attacks and the channels through which terrorism affects local economies. I rely on an exhaustive list of terror attacks over the period 1970-2013 in the U.S. and exploit the inherent randomness in the success or failure of terror attacks to identify the economic impacts of terrorism. The findings suggest that successful attacks, in comparison to failed attacks, reduce the number of jobs in targeted counties by approximately 5% in the year the attack takes place. The effects fade away after 2 years and I find no evidence that neighboring counties suffer from the successful attack. Analyzing the channels, I find suggestive evidence that the decrease in the physical capital stock of a county partially explains the temporary reduction in jobs. I also focus on economic attitudes and political preferences since these preferences have been shown to be related to economic outcomes. The results suggest that successful attacks decrease temporarily vote share for Democrat candidates in gubernatorial elections and bring a leftward shift in attitudes in targeted counties.

JEL Classification: D72, D74, C13, P16

Keywords: crime, terrorism, growth, preferences, voting behavior

Corresponding author:

Abel Brodeur
Department of Economics
University of Ottawa
120 University
Ottawa, ON K1N 6N5
Canada
E-mail: abrodeur@uottawa.ca

* I thank Cristina Blanco-Perez, Pierre Brochu, Marie Connolly, Serge Coulombe, Catherine Deri Armstrong, Jason Garred, Anthony Heyes, Louis-Philippe Morin, Francesca Rondina and Yanos Zylberberg for very useful remarks and encouragements. Financial support from SSHRC and the LABEX-OSE is gratefully acknowledged.

1 Introduction

Terrorism and its implications on contemporary society has been one of the most discussed issues since Sept. 11, 2001. Terrorism has been associated with uncertainty (Becker and Rubinstein (2011)), a decrease in tourist arrivals (Enders et al. (1992)), the real estate market (Abadie and Dermisi (2008); Besley and Mueller (2012); Glaeser and Shapiro (2002)), and net foreign direct investment positions (Abadie and Gardeazabal (2008)).¹ Unfortunately, the urgency of terrorism has never been greater. Mueller and Stewart (2014) calculate that domestic counterterrorism expenditures per year in the U.S. increased by approximately \$75 billion since Sept. 11, 2001. It is thus crucially important to determine the economic consequences of terror attacks and to better understand the channels through which terrorism affects local economies.

Identifying the causal impact of terrorism on economic outcomes is difficult for a number of reasons. For instance, economic characteristics of locations targeted by terrorists differ from non-targeted locations (see Appendix Table A1)² and other economic shocks might affect the local economy simultaneously. In this study, I address these challenges by relying on a novel identification strategy. I employ an exhaustive list of terror attacks in the U.S. from 1970 to 2013 and directly compare successful terror attacks to failed attacks. Success of terror attacks is defined according to the actual impacts of the attacks (see Section 3). This setting is attractive for at least two reasons. First, the identification assumption is that, conditional on being a location targeted by a terror attack, the success or failure of the attack may be considered as plausibly exogenous. This assumption seems reasonable given that the sample of successful and failed terror attacks is balanced across a wide range of characteristics (see Section 4). Moreover, the empirical model controls for attack type, the type of weapon used and the target to make sure that the success of a terror

¹See Landes (1978) for a seminal study of the effectiveness of counterterrorism policies and Abadie (2006), Enders and Hoover (2012), Krueger and Malečková (2003) and Krueger (2008) for the causes of terrorism. See Di Tella and Schargrotsky (2004), Draca et al. (2011) and Klick and Tabarrok (2005) for the relationship between crime, police and terrorism. Another important and debated theme is the analysis of terrorist attack trends. Enders et al. (2011) point out many methodological issues of time series analysis such as the importance of separating transnational and domestic terrorist incidents.

²Appendix Table A1 compares counties with a successful terror attack with all other counties. I find that counties targeted by a successful terror attack are relatively more populous and have less social security recipients and people in poverty per capita than non-targeted counties. Moreover, counties targeted by a successful terror attack are more likely to be coastal counties, to have an airport and to be in the Northeast or West.

attack is not related to terrorists' tactics. Comparing successful and failed terror attacks thus allows me to abstract from the empirical obstacles associated with controlling for all the employment shocks and characteristics of local economies at the moment of the attack. In other words, the empirical model identifies, for instance, the effect of an explosion in which the device detonates versus an explosion in which it does not detonate.

Second, despite its perceived economic costs in America and the other OECD countries, the study of terrorism using subnational data is a relatively recent phenomena. The large number of terror attacks and detailed information on their location and date enable me to analyze the economic consequences of terrorism at the county-level. Analyzing the impacts of terror attacks at this geographical level provides many advantages including the possibility to test empirically the channels through which terror affects local economies. The empirical strategy is also aided by the considerable variation across counties in the timing of terror attacks.

Using this identification strategy, I first quantify the economic consequences of terror attacks in targeted areas. In Section 5, I examine whether local terror attacks cause a decrease in employment in targeted counties. The findings suggest that successful attacks reduce the number of jobs by approximately 5% in the year the attack takes place in comparison to failed terror attacks. This impact is robust to the inclusion of many controls and is especially large for employment in the sectors of wholesale trade and finance and real estate. By contrast, the effects for neighboring counties and subsequent years are smaller and statistically insignificant suggesting that the employment effects are very local and fade away rapidly. Last, the estimates yield weak evidence that successful terror attacks affect earnings in the short-run in comparison to failed attacks. The point estimates are smaller than for jobs (from -2.1% to -4.2%) and statistically significant in only some econometric models.

I then examine the channels through which terror attacks temporarily affect local economies. I first test whether the economic effects of terror attacks causing more damages are greater than for non-lethal attacks. I find suggestive evidence that terror attacks leading to a larger decrease in the physical capital stock of a county have a greater impact on the number of jobs lost. This result suggests that terrorism affect local economies through the reduction in capital. But the estimates on jobs reduction are certainly too large to imply that terrorism affects employment only through building damages. Very few terror attacks in our sample led to catastrophic building damages (see Section 3).

Another plausible channel is the increased (perceived) risk of investing or visiting the local area. I thus check whether successful terror attacks affect particularly counties with a large tourism industry. I rely on the presence of an airport as a proxy for the size of the tourism industry. I find that jobs-to-population ratios in counties with an airport (medium or major hubs) decrease for the year of the attack and the subsequent year suggesting that it takes few years before the psychological effects of terrorism completely wane.

In addition, I focus on economic attitudes and political preferences since these preferences have been shown to be related to labor supply and investment. A change in attitude of the local population following a terror attack would thus provide a valid explanation for the negative impact of terror on employment. In Section 6, I examine whether terrorism causes local population to change their voting behavior and their economic attitude toward government, marriage, religion, and a woman's place in the society. The evidence supports the idea that terrorism brought a change in the political landscape. I find evidence that successful terror attacks decrease the likelihood to vote for the Democrat candidates in gubernatorial elections. The impact is local since voting behavior of neighboring counties is not significantly different for treated (successful attack) and control (failed attack) counties. The results also suggest that successful terror attacks brought a leftward shift in attitudes in targeted counties. For instance, local residents of treated counties are more likely to disagree that a woman's place is in the home. Overall, these results suggest that some attitudes and voting behavior temporarily change in locations in which the terror attack was successful. Of note, though, the effects are small and temporary which might explain the absence of long-term economic impacts of terrorism.

This paper relates to a recent literature that analyzes the economic consequences of terrorism. The results highlight some of the different channels through which terrorism may impact targeted economies. The presence of many channels may explain the lack of consensus in the literature on whether terror may have short- or long-term impact on employment and growth. Many authors argue that terrorism is unlikely to affect economic activity in the long-run (see Becker and Murphy (2001) for instance). On the other hand, many empirical papers find that the outbreak of terrorism declines GDP per capita (see Abadie and Gardeazabal (2003) for example).³

³Time-series and cross-country studies find that terrorism has heterogeneous impacts. For instance, see Blomberg et al. (2004), Crain and Crain (2006), Gaibulloev and Sandler (2008), Gries et al. (2011) and Meierrieks and Gries (2013). Sandler (2014) provides a literature review.

I provide a literature review in Section 2 and I will turn to a discussion of how my paper complements and contributes to this growing literature in the conclusion.

This study also relates to a literature that studies the impact of terrorism and war on democratic elections (Berrebi and Klor (2006); Gassebner et al. (2008); Karol and Miguel (2007); Kibris (2011); Jones and Olken (2009); Montalvo (2011)). Many studies argue that the timing of terror attacks is not random (Pape (2003, 2005)) which makes it hard to identify the causal impact of terror attacks on electoral outcomes. Gould and Klor (2010) find evidence that terrorism is an effective tool for achieving political goals. The authors exploit geographical variation in terror attacks in Israel and show that local terror attacks cause Israelis to vote increasingly for right-wing parties and that right-wing parties move to the left in response to terror. Last, my work complements studies that analyze the impact of capital destruction. For instance, Deryugina et al. (2014) provide evidence that Katrina victims' incomes fully recovered within few years and even surpass that of similar cities not affected by the hurricane. Strobl (2011) finds that a county's annual economic growth rate falls on average by 0.45 percentage points following an hurricane and that the impact is not economically important enough to affect the state-level economy.

In Section 2, I provide background on the economics of terrorism. Section 3 details the data sets and provides descriptive statistics. Section 4 presents the methodology and the model specification. Section 5 presents the results for jobs. Section 6 examines some of the channels through which terror attacks affect employment. The last section concludes.

2 Conceptual Framework

The notion that terror attacks may have short- and long-run effects on economic outcomes is not obvious, in part because there are many channels through which terrorism could impact jobs (US Congress (2002)). On the one hand, the rapid recovery from wars and natural disasters led many authors such as British political economist Mill (1848) to argue that nations recover quickly when the direct impacts on productive capital are modest. Becker and Murphy (2001) point out that the city of Kobe recovered its pre-quake GDP levels in only a little over a year after the 1995 earthquake. The authors argue that uncertainty about future terror attacks may increase the complexity of understanding the consequences of incidents such as the Sept. 11 attacks, but conclude that, ultimately, history shows that

economies adjust rapidly. On the other hand, Abadie and Gardeazabal (2003, 2008) provide empirical evidence that terrorism has large effects on economic outcomes. In a seminal paper, Abadie and Gardeazabal (2003) develop a new identification strategy that allows them to investigate the economic effects of terrorism in the Basque Country. They construct a synthetic control region without terrorism and find that, after the outbreak of terrorism, GDP per capita in the Basque Country declined by 10 percentage points relative to the control region.

- **Destruction of Capital Stock:** the human and physical capital stock of a county may be reduced as a result of a terror attack. Becker and Murphy (2001) estimated that the Sept. 11 attacks resulted in a loss of 0.2% of physical assets and 0.06% of total productive assets in the U.S. economy. But most terror attacks in the U.S. do not cause catastrophic building damages. Section 3 documents that, in our data set, the average number of deaths for counties with at least one successful terror attack is 3.8 and very few terror attacks caused over \$1 billion in property damages. I test this channel empirically by checking whether terror attacks causing more deaths and damages have greater economic impacts.
- **Migration:** terrorism may worsen individual living and working conditions and might thus impact individual migration decision (Dreher et al. (2011)). Moreover, the desire to emigrate might increase as a result of the increase in fear and uncertainty. I test this channel in Section 5 and find no evidence that successful terror attacks decrease the number of inhabitants in targeted counties in the years following the attacks.
- **Allocation of Productive Capital:** capital may tend to flow to destinations without a terrorist threat. This would reduce net foreign investment in the economies affected by terrorism and thus affect growth and employment. Abadie and Gardeazabal (2008) argue that terrorism may impact the allocation of productive capital across countries. The authors provide evidence that higher levels of terrorist risks are associated with lower levels of net foreign direct investment positions.
- **Uncertainty:** a direct effect of terrorism is to increase uncertainty (Becker and Rubinstein (2011)). Increased uncertainty may have an impact on consumer and investment behavior. Investors may move

out of riskier assets into safer (US Congress (2002)). Terrorism may also cause political instability which would translate into more uncertainty.⁴

- **Counterterrorism Expenditures:** terror attacks may lead to an increase in counterterrorism expenditures (Di Tella and Schargrotsky (2004); Draca et al. (2011)). Resources would then move out of productive sectors to unproductive sectors such as security. Mueller and Stewart (2014) calculate that domestic counterterrorism expenditures per year were about \$25 billion in 2010 dollars before the terrorist attacks of Sept. 11, 2001, and increased by about \$75 billion in the subsequent decade. Note that permanent increase in counterterrorism expenditures is generally at the national- and regional-levels.
- **Airline and Tourism Industries:** The risk of further incidents may have psychological effects on potential tourists. A decrease in tourist arrivals following a terror attack or political instability has been documented in several studies (see, for instance, Enders et al. (1992) or Sönmez and Graefe (1998)). The psychological effects should wane after some time, but the direct cost of increased airport security could have (worldwide) permanent economic consequences. I check in Section 5 whether terror attacks targeting areas with airports have greater economic impacts.
- **Economic Attitudes:** terror attacks may fuel fears and shift temporarily or permanently economic attitudes. I test in this research whether the local population changes their economic attitudes and voting behavior following a successful terror attack. I check attitudes ranging from marriage, women's place in the society to religion. Note that this channel could impact the local economy in the long-run by impacting, for instance, female labor supply. Moreover, there is evidence that partisan allegiance of U.S. governors has a causal impact on labor market outcomes (Beland (2015)). For instance, Besley and Case (1995) find that Democratic governors are more likely to raise taxes and that Republican governors are less likely to increase the minimum wage.

A key insight from this conceptual framework is that terrorism may impact local economies both in the short- and long-run. Local economies

⁴Jones and Olken (2009) provide evidence that assassinations of political leaders may impact the evolution of political institutions. Their identification strategy relies on the inherent randomness in the success or failure of assassination attempts.

might recover quickly from capital destruction and the decrease in tourist arrivals, but the increased uncertainty and changes in economic attitudes could impact employment with a lag.

Note that it is possible that the economies of control counties—those with a failed terror attack in our sample period—may be affected by failed terror attacks. A failed terror attack may increase uncertainty, for example, but it is likely that failed terror attacks have a smaller impact than successful attacks. Arguably, if the hijackers did not assume control of the planes on Sept. 11, 2001, and did not crash into the World Trade Center, there would have been less uncertainty in the following years.

3 Data Sources

3.1 Global Terrorism Database

This study relies on successful and failed terror attacks in the U.S. over the past decades. To establish an exhaustive list of terror attacks, I use the Global Terrorism Database (GTD (2014)), which is an open-source database including information on terror attacks around the world from 1970 through 2013. The GTD is maintained by a research center at the University of Maryland, College Park, the National Consortium for the Study of Terrorism and Responses to Terrorism (START). START is a Department of Homeland Security Center of Excellence which supports research on terrorism. Its main mission is to advance science-based knowledge about the human causes and consequences of terrorism. Note that the data was originally collected by the Pinkerton Global Intelligence Services (PGIS) for clients interested in knowing the terrorism risk in different countries. The database is the product of important data collection efforts relying on publicly available source materials such as media articles, electronic news archives and existing data sets. Unfortunately, all the records of terror attacks during 1993 were lost — the box of data fell off a truck while in transit (Enders et al. (2011)). As a consequence, the year 1993 is excluded from the analysis.

The GTD (2014) defines a terrorist attack 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.” In practice, an incident is considered a terror attack if (1) it is intentional, (2) it entails some level of violence or threat of violence, and (3) the perpetrators of the incidents are sub-national actors. In addition, two of the

three criteria must be fulfilled: (1) the act must be aimed at attaining an economic, political, religious or social goal, (2) there must be evidence of an intention to coerce, intimidate, or convey some other message to a larger audience than the immediate victims, and (3) the action must be outside the context of legitimate warfare activities. In this analysis, I rely solely on terror attacks for which the three criteria above are met. A very similar definition is used in many recent articles analyzing the economic causes and consequences of terrorism. The US Department of State (2003) defines terrorism as “premeditated, politically motivated violence against non-combatant targets by subnational groups or clandestine agents, usually intended to influence an audience.”

The database includes information on the date, location and a description of each terror attack, which allows me to match every incident with other data sets. Using the variables collected in the GTD, I construct a variable “Success” that is equal to one if one of the terror attacks is successful and zero if the attack(s) failed. Note that I pool all the terror attacks into each county-year cell. If one of the terror attack is successful in a given county-year cell, then the variable “Success” is equal to one. Terror attacks fail for a number of reasons. Letters containing poison are often intercepted and targets frequently survive assassination attempts. Most of the failed terror attacks involve explosive devices which do not detonate or are found and safely defused.

Success of terrorist attack is defined according to the actual impacts rather than the larger goals of the terrorists. The definition of a successful/failed attack depends on the type of attack. For instance, an assassination is considered successful if the target is killed while an explosion is considered successful if the explosive device detonates. On the other hand, a hijacking or a kidnapping is successful if the hijackers/kidnappers assume control of the vehicle/individual at any point.⁵

Figures 1 and 2 illustrate the number of observations per year for $Success = 0$ and $Success = 1$ and the number of county-year observations with at least one lethal terror attack (i.e. causing at least one death). The number of attempted terror attacks is very high in 1970-1971 and sharply goes down in 1972. Overall, there is a downward trend in terror activity over time. The number of failed terror attacks ranges from zero to 14 over this time period. The high number of failed attacks in 1999 (14

⁵An armed assault is coded as successful if the assault takes place and the person or property is hit. An infrastructure attack is successful if the facility is damaged. Last, an unarmed assault is considered successful if a victim is injured.

observations) and 2002 (12 observations) is due to several related incidents. In May 2002, a college student put eighteen pipe bombs in rural mailboxes, of which more than half did not detonate. In 1999, many researchers in different universities conducting research on non-human primates received booby-trapped letters. The two deadliest terror attacks over this time period are Sept. 11, 2001, and the Oklahoma City bombing.

The database includes information on tactics/attack types used, the weapons used and the targets. In the database, there are nine different categories for attack types, 22 categories of targets including businesses and government buildings, and 13 categories of weapons ranging from biological to incendiary and bombs. The GTD also includes information on the number of deaths, injured and property damages.

3.2 Description of the Employment Data and the Life Style Survey

To measure employment and earnings at the county-level for the years 1970-2013, I draw on the regional economic accounts of the Bureau of Economic Analysis (BEA).⁶ The guide “Local Area Personal Income Methodology” (BEA (2014)) presents the conceptual framework and data sources to estimate employment and personal income. The BEA’s employment estimates measure the number of jobs in a county, instead of the number of workers who perform the jobs. This means that all jobs held by a worker are counted. The BEA provides total full-time and part-time jobs by industry and compensation of employees. Employment estimates are based primarily on administrative records data. Some surveys and census data are also used to complement these records.

The number of jobs in a county is on a place of work basis instead of place of residence.⁷ This suggests that the estimates are more representative of a county’s industrial base than of the activities of the residents of the county (BEA (2014)). The employment estimates are annual averages of twelve monthly observations for the year. A job which lasts only part of the year has a lesser weight.

The same weight is given to full-time and part-time jobs. Therefore, I

⁶Another data set that could have been used here is the Current Population Survey (CPS), but this was excluded since the sample size does not allow reliable estimates to be obtained at the county-level. Not all counties are included in the CPS and the data are not available for most counties due to confidentiality reasons.

⁷Proprietors’ employment is usually by place of residence since the estimates reflect the addresses given in the tax returns, which are usually the proprietors’ residences.

cannot separate part-time jobs from full-time jobs. The BEA counts both proprietors jobs and wage and salary jobs, but unpaid family workers and volunteers are not counted. I calculate jobs-to-population ratios by county and year. In some analysis, I also present results for different industries such as manufacture and service.

Wages and salaries are mainly derived from the data that are reported by place of work. In other words, these data are reported by industry in the county in which the employing establishment is located. Note that wages and salaries are broadly defined to include commissions, tips, and bonuses. The wage and salary estimates also include voluntary employee contributions, gains from exercising stock options and receipts-in-kind that represent income (BEA (2014)).

I use the DDB Needham Life Style Survey (LSS) to identify the consequences of terrorism on economic attitudes. The LSS is nationally representative in the United States. It is a proprietary data archive that is freely available for the period 1975-1998 on Robert Putnam's Bowling Alone website. The Life Style Survey started when the advertising agency DDB Needham commissioned the polling firm *Market Facts* to conduct an annual survey on Americans' behaviors. The LSS has a sample of around 3,500 Americans per year. This data set is repeated cross sections and includes different questions about demographics (sex, age, education, etc.), self-reported economic characteristics, the county of residence of respondents and answers to questions about attitudes and preferences. I restrict the sample to the working age population (respondents aged 18-65 years old).

Numerous questions about political preferences, religion, women and workplace are asked repeatedly. The variables may be grouped into five categories: attitudes toward (1) political philosophy, (2) government, (3) religion, (4) marriage, and (5) a woman's place in the society. I chose to look at marriage and a woman's place in the society because of their link with female labor supply decision. (See Engels (1925) for one of the first major work on family economics.) For instance, one of the variable analyzed here is whether a woman's place is in the home. Attitudes toward the government and political philosophy used in this research include whether the respondent is in favor of having a gun in every home. I also test attitudes toward important political issues such as abortion and voting behavior in U.S. Governatorial Elections from 1970-2013.⁸ Last, I looked

⁸The main sources of election data are USA Counties (Censtats database) and the Atlas Election Data (Leip (2008)). I rely on the percentage of vote cast for each candidate

at the number of times the respondent attended church or another place of worship because of the link with labor supply and investment. (See, for instance, the seminal work of Weber (1905) on the role of religion and the advent of modern capitalism.) Appendix Table A2 reports summary statistics for the economic attitude variables used in the regression analysis.

3.3 Descriptive statistics

Table 1 reports summary statistics for terror attacks.⁹ I restrict the sample to county-years observations with at least one attempted terror attack. The main variable of interest refers to the percentage of observations in which there was a successful terror attack(s). I classify county-year observations in two categories: (1) county-year observations in which the terror attack(s) failed and (2) county-year observations in which there was at least one successful terror attack. Approximately 86 percent of the observations are classified in the second category. Note that there is more than one attempted terror attack in about 30 percent of observations. The average number of deaths and injured for county-year observations classified as successful is respectively 3.8 and 3.1. The mean for property damages (in constant 2005 U.S. dollar) is approximately \$750,000. Note that the value of property damage is unknown for almost two thirds of terror attacks. Fortunately, another variable in the database provides categorical information for about a quarter of terror attacks for which the exact extent of damages is unknown. The three categories are “Catastrophic (likely greater than \$1 billion)”, “Major (likely greater than \$1 million but smaller than \$1 billion)” and “Minor (likely smaller than \$1 million).” Slightly over 40 attacks are classified in the category major.

Up to three attack types and target information can be recorded by incident. This explains why the sum of percentages in Table 1 is often greater than 100. In the vast majority of terror attacks in the U.S., attacks are carried out through the use of explosive and bombs (i.e. bombing) or arson and various forms of sabotage (i.e. infrastructure). The rate of success is very high for attacks in the categories infrastructure and armed assault. On the other hand, attacks considered as unarmed assaults and assassinations are less likely to succeed. Hijackings produce the greatest number of deaths, injuries and damages on average. (Hijackings are included in the category “Other and Unknown”.) Infrastructure attacks cause over \$850,000 in dam-

in the U.S. Gubernatorial Elections from 1970-2013.

⁹Appendix Figures A1, A2 and A3 illustrate the evolution in tactics, weapons used and targets over the period 1970-2013.

ages on average, but do not lead to many deaths and injuries. About 27 percent of the attacks target businesses. Other common targets include government buildings, abortion clinics and private properties. The rate of success is over 80 percent for all the listed targets. Attacks targeting airports lead, on average, to the greatest number of deaths with 74 against three for government buildings and 11 for businesses. Terror attacks targeting businesses and other private properties cause over \$1 million worth of damage on average against less than half a million for the following targets: abortion related, airports and religious figures/institutions.

Table 1 shows that the vast majority of weapons are explosives or incendiary. The attack is designed melee when the terrorist(s) targets people rather than property. The number of deaths is around 95 when the weapon category is melee and the estimated damages are below the average. The rate of success is very low for biological weapons, with success in less than half the observations. (Biological weapons are included in the category “Other and Unknown”.) These weapons also have a very large number of deaths and injuries. Only 10 percent of the attacks target non-Americans. Approximately 6.5 percent of the attacks are categorized as logistically international meaning that the nationality of the perpetrator group is not American. Attacks targeting non-Americans and/or in which the nationality of the terrorist group differs from the location of the attacks are defined as transnational terror attacks. The rate of success of transnational attacks is slightly higher than for domestic attacks. Transnational terror attacks lead to less deaths and damages in comparison to domestic attacks.¹⁰

The descriptive statistics presented in this section suggest that the type of terror attack and weapon used are statistically related to rate of success, i.e. whether the terror attack succeeded or failed. The number of attempted attacks in a given county-year is also a good predictor of success. The findings reported in Table 1 also suggest that some type of terror attacks cause more damages while others lead to more deaths on average.

4 Identification Strategy

In this section, I first provide evidence that the sample of successful and failed terror attacks is balanced across a wide range of covariates. I then describe the main specification and the controls.

¹⁰The differences in deaths and damages documented between attacks targeting non-Americans and Americans are related to the year of the attacks and the locations targeted rather than by the types of weapons and target information.

4.1 Identification Assumption

The key identification assumption is that the success of a terror attack is exogenous conditional on observables. This explains my decision to control in the empirical model for the type of weapon and the type of attack because they predict success. I investigate in Table 2 whether other variables at the county-level predict whether a terror attack was successful. The first two columns of Table 2 restrict the sample respectively to county-year observations with at least one successful terror attacks and county-year observations with at least one failed terror attacks and no successful terror attack. The first two columns present the mean values of the following variables: natural log of population, natural log per-capita deaths, births, social security recipients, people in poverty, public school enrollment, violent crimes, robberies, property crimes, motor vehicle thefts, and dummies for state capitals, coastal counties¹¹, for counties with an airport that has been designated large hubs and medium hubs¹², and for the four Census demographic regions. Column 3 presents t -test for the equality of the means.

While a significant share of terror attacks happened in the Northeast and West regions and in state capitals and coastal counties (Appendix Table A1), the results suggest that the rate of success is not related to geography. The differences for the natural log of the number of people in poverty and social security recipients per capita are also non-significant. The only results where the difference between columns 1 and 2 is statistically significant are births per capita and property crimes per capita. Note that the difference observed might be related to the type of weapon used or the attack type. Moreover, it is natural that few variables are statistically significant given that 18 variables were tested.

Table 3 shows the results from probit regressions that consider some of these variables simultaneously. The equation is:

$$P(SUCCESSFUL_a) = \Phi(\gamma_1 + \gamma_2 X_a), \quad (1)$$

where a is a terror attack, whether successful or failed, and X is a set of variables among the variables considered above. Unfortunately, some of

¹¹I follow the definition of the National Oceanic and Atmospheric Administration and code counties as coastal if they meet one of the following criteria: (1) at least 15 percent of a county's total land area is located within the Nation's coastal watershed or (2) a portion of or an entire county accounts for at least 15 percent of a coastal cataloging unit.

¹²Primary airports are classified by the Federal Aviation Administration as large hubs if they account for at least 1 percent of total U.S. passenger enplanements. Medium hubs account for between 0.25 and 1 percent of total U.S. passenger enplanements.

the variables are available annually solely over the period 1991-2007. I also include in all the columns region fixed effects, attack type fixed effects, target fixed effects, weapon fixed effects, a dummy that is equal to one if the target is non-American and a variable that is equal to the number of terror attacks.

In columns 1-4, I include all the socioeconomic characteristics variables in the model and gradually add the crime variables. I find that none of the crime and socioeconomic variables are significantly related to the rate of success. Solely the dummy for state capital is significant at the 10% level (columns 2 and 4). In column 5, when all the variables are included simultaneously in the model, none of the socioeconomic characteristics variables are statistically significant at the 10% level and only one of the crime variable, the natural log of property crimes, is statistically significant at the 10%. When considering all these variables and the regions dummies jointly, the joint p -values is 0.59. These results suggest that the sample of successful and failed terror attacks is balanced across a wide range of covariates and that the identification assumption is credible.

Unsurprisingly, the variable that is equal to the number of terror attacks is statistically significant. I control for the number of attacks in the empirical analysis which follows since the chance of seeing at least one successful terror attacks will increase with the number of terror attempts. In my sample, there is one attempted terror attack for 69% of county-year cells and less than three attempted terror attacks for 83% of county-year cells.

The rate of success may also be related to counterterrorism expenses. The rate of success, measured by the variable “Success”, decreased by approximately 8 percent since Sept. 11, 2001, suggesting that the increase in counterterrorism budget might have worked. On the other hand, the rate of success is similar across Census regions suggesting that counterterrorism efforts are not related to geography. In the empirical analysis, I include region-year fixed effects to check whether the findings are related to regional crime prevention efforts.

4.2 Model Specification

The objective is to investigate the impact of successful terror attacks. To identify this effect, I restrict the sample to county-year observations with at least one successful terror attacks or at least one failed terror attacks. I thus directly compare county-year observations with at least one successful

terror attacks to county-year observations with a failed terror attack. In other words, I look at economic outcomes in two sets of counties that were targeted by terrorists in a given year. The only difference is that the terrorists succeeded in the first set of counties (e.g. the bomb did detonate) and failed in the second set of counties (e.g. the bomb did not detonate).

In my main specification, I estimate:

$$Y_{ct} = \alpha + \beta_s + \delta_t + \gamma \text{SUCCESSFUL}_{ct} + X'_{ct}\lambda + \varepsilon_{ct}, \quad (2)$$

where y is an economic outcome in county c and year t , *SUCCESSFUL* is a dummy that is equal to one if the terror attack was successful in that county and year and zero if the terror attack failed. If there are many terror attacks, *SUCCESSFUL* is equal to one if at least one of the attacks succeeded. I include state and year fixed effects to control flexibly for common shocks at the national level and to control for common state shocks.

X_{ct} is a vector of other regressors. I include attack type fixed effects (dummies for assassination, armed assault, bombing, infrastructure/facility and other attack type) and weapon fixed effects (dummies for firearm, explosive, incendiary and other weapon type) since the definition of a successful attack depends on the attack type. I follow the recommendations of Bertrand et al. (2004) and compute standard errors clustered at the county-level. I also include a dummy that is equal to one if the target is non-American, a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks.¹³

I enrich the basic model in two ways. First, to allow for common regional shocks to a given economic outcome, I estimate specifications that include interactions between calendar-year dummies and indicator variables denoting the four Census regions or the nine Census divisions. Second, I include target fixed effects (dummies for abortion related incident, buildings, businesses, educational institution, government, private property and other target) in addition to attack type and weapon fixed effects.

Estimates of equation (2) identify the difference between successful and failed terror attacks. For example, the estimates identify the impact of an infrastructure attack in which the facility is damaged versus an attack in which the facility is not damaged. (See Section 3 for a definition of a success attack for each type of attack.) In the next section, I present the

¹³I check the robustness of including the number of terror attacks in different ways. For instance, I check that adding the squared of the number of terror attacks does not affect the size and significance of the main estimates (not shown for space consideration).

impact of successful terror attacks on employment and earnings.

5 Results

5.1 Impacts on Employment and Earnings

Panel A of Table 4 present estimates of equation (2) for jobs. The dependent variable is 100 times the log of the county-year ratio of jobs-to-population. What emerges clearly is that successful terror attacks are associated with a meaningful reduction in jobs in the year the attacks take place. In column 1, I compare successful and failed terror attacks and find that successful attacks reduce the overall jobs-to-population ratio by 4.3% in the year the attacks take place. The estimate is statistically significant at the 5% level. I also add target fixed effects and time-invariant controls¹⁴ to check the robustness of the results. Furthermore, I include dummies to absorb region-by-year employment shocks (column 3) and Census division-by-year employment shocks (columns 4-5). Adding both dummies to absorb Census division-by-year employment shocks and time-invariant controls (column 6) slightly increases the absolute magnitude of the point estimate to 5.6%.

Panel B repeat these estimates for earnings. The dependent variable is 100 times the log of real average wage per job. These estimates yield weak evidence that successful terror attacks affect earnings in the year the attacks take place. The point estimates are smaller than for jobs (from -2.1% to -4.2%) and statistically insignificant in the first two columns. When the full set of controls is included in addition to interactions between year dummies and region dummies, the estimate is statistically significant at the 10% level.

Given the large variation in damages and fatalities in our sample, one potential reason why the estimates are insignificant for earnings is that only terror attacks causing many casualties or building destruction have meaningful impacts on wages. To examine this possibility, I estimate in panel A of Table 5 a set of models that compares successful terror attacks which led to at least one fatality or injury to failed attacks. In panel B, I also present estimates that compare successful terror attacks which led to a minimum of \$100,000 (constant 2005 U.S.\$) to failed attacks. The cost of this approach is that it reduces the number of county-year observations

¹⁴Time-invariant controls include dummies for coastal counties and being a state capital and a dummy for whether the county has an airport.

used in the analysis. As with the previous models, I control for target fixed effects and include dummies to absorb region-by-year employment shocks (columns 2 and 5) and division-by-year employment shocks (columns 3 and 6). I omit weapon and attack type fixed effects in this set of models because of the high correlation between these variables and damages/fatalities.

Panels A and B confirm that, on average, successful terror attacks lead to a reduction in jobs in comparison to failed attacks. The results in panel A suggest that successful lethal attacks reduce the overall jobs-to-population ratio from 5% to 12% the year the attack takes place. Of note, though, the standard errors are quite large and the estimates are significant at the 10% level solely in column 2.

The estimates for damages presented in panel B are larger than in Table 4 suggesting that the size of the economic effect is related to building damages. The point estimates are significant for both employment and earnings and suggest that successful attacks which led to a minimum of \$100,000 reduce the overall jobs-to-population ratio from 6% to 11% in the year the attack takes place.

In panel C, I use the county adjacency file from the U.S. Census to compute which county or counties are neighboring treated and control counties. I estimate the impact of a successful terror attack versus a failed terror attack on neighboring counties instead of targeted counties. This methodology allows me to check whether terror attacks cause economic spillovers to neighboring counties. The point estimates for employment are negative but not statistically significant at conventional levels, suggesting that only targeted counties suffer from terror attacks. The estimates are also very small for earnings in neighboring counties and insignificant in two columns out of three.

I next estimate the impact of terror attacks on employment levels in the years following the attack. Table 6 shows estimates for the year of the attack, the year after the attack, five years after the attack and five years before the attack. Each entry is from a separate OLS regression and the dependent variable is the log of the county-year ratio of jobs-to-population.

In panel A, I first check whether terror attacks have an economic impact five years before the attack. This robustness check is useful because it allows to check that counties targeted by a successful terror attack and a failed attack had similar jobs-to-population ratio five years before the attack. Unsurprisingly, the estimates are small and statistically insignificant.

Panel B reports the contemporaneous impacts. The estimates are the same as in Table 4, panel A. The next three panels report the estimates

for the years after the terror attacks. The estimates for the year after the attack are strikingly similar to the contemporaneous impacts reported in panel B. The estimates in panels D and E provide evidence that the impact of successful terror attacks is temporary and fades away after two years, or that these effects are too small to detect. None of the estimates in panel D and E is statistically significant at the 10% level and the size of the estimates is very small.

These short-term effects are consistent with the idea that local economies recover quickly after a terror attack (Becker and Murphy (2001)). The large estimates for “major” terror attacks also suggest that the destruction of capital stock of a county may play an important role in explaining the short-term reduction in jobs.

5.2 Robustness Checks: Estimates by Industry

Table 7 tests whether successful terror attacks affect negatively specific industries. For instance, it is well-known that terrorism is related to the tourism and hotel industries. I rely on the Standard Industrial Classification (SIC) and present estimates of equation (2) for jobs in the following industries: (1) manufacturing, (2) construction, transportation, communications and utilities, (3) wholesale trade, (4) retail trade, (5) services, and (6) finance, insurance, and real estate. The time period is 1970-2000 and target fixed effects and region times year dummies are included in even-numbered columns. The estimates are negative for all the industries which reinforces the earlier conclusions. But the size of the estimates varies across industries. The impacts of successful terror attacks in comparison to failed attacks are especially large for wholesale trade and finance and real estate. The estimates range from -9% for the latter industry to -13% for the former industry. On the other hand, the estimates are smaller for retail trade and manufacturing.

I test the hypothesis that terror attacks reduce more jobs of local economies with a large tourism industry than other counties in Table 8. The table focuses on the sample of counties with an airport that has been designated either a large hub or a medium hub and presents estimates of equation (2) for jobs. Since terror attacks may have psychological effects on potential tourists, contemporaneous estimates and estimates for the years after the attack are presented. The size of the estimates for the year of the attack and the year after the attack are large for counties with an airport and range from -7.47% to -9.12% for the year of the attack and the year

after the attack. The reduction in jobs fades away in the following years and is not statistically significant five years after the terror attack.

Last, I check whether successful terror attacks lead to movements out of the county. The results are presented in Appendix Table A4. The structure of the table is the same as panel A of Table 4, but the dependent variable is the log of population. The estimates are all statistically insignificant suggesting that successful terror attacks have no impact on the number of inhabitants in the year of the attack.

The evidence supports the hypothesis that successful terror attacks have a greater impact on jobs for counties with specific industries such as the tourism industry. Furthermore, the results indicate that business disruption caused by a successful attack is particularly harmful for business sales and inventories in comparison to business firms engaged in offering goods and services directly to consumers. This might be related to the increased uncertainty of investing. I now turn my attention to economic attitudes and voting behavior.

6 Channels: Economic Attitudes

In this section, I present the results on the impact of terrorism on economic attitudes. I rely on the Life Style Survey and data on voting behavior. I first study the impact of terrorism on gubernatorial elections over the period 1970-2013 and then check if terror attacks affect economic attitudes.

Many studies find that terrorism is related to voting behavior (for example Gould and Klor (2010)) and that political allegiance is statistically related to the local labor market (see Besley and Case (1995) and Beland (2015)). I thus test whether successful terror attacks affect voting behavior in gubernatorial elections.

In Table 9, I rely on gubernatorial elections data and estimate the impact of successful terror attacks versus failed terror attacks (equation (2)). In columns 1 to 3, the dependent variable is the percentage of vote for the Democrat candidate (scale from 0 to 100). In columns 4 to 6, the dependent variable is sum of the percentage of vote for the independent candidates. Note that I exclude in columns 4 to 6 the elections in which there were no independent candidates. I also exclude elections won by an independent candidate. The analysis is at the county-year level and I compute standard errors clustered at the county-level. I include in the model the basic set of controls, state and year fixed effects and target fixed effects. I do not include region-year fixed effects in the analysis since the sample size is quite

small (n=244).

The estimates suggest that a successful terror attack versus a failed terror attack decreases significantly the percentage of vote for Democratic candidates (coeff. -5.11, std. error 2.85). The estimate is also significant for the Independent candidates in the year of the attack. In columns 2 and 5, I add a dummy variable that is equal to one if the governor at the time of the election is a Democrat candidate. This variable is positive and significant at the 1% level when the dependent variable is the percentage of vote for the Democrat. The estimate is very large (coeff. 10.3) and the R-squared increases from 0.585 to 0.638.

In Appendix Table A5 I check whether successful terror attacks have long-term impacts on voting behavior. The estimates for the years following the terror attacks are not statistically significant at the 10% level suggesting that the impact on voting behavior does not last more than one year.

The results suggest that terror attacks have a short-term impact on voting behavior: Republican candidates obtain more votes in the year of a successful terror attack. The findings are surprising since I do not find that terror has long-term impacts on local economies. One possibility is that voting behavior of the targeted county is affected but that it does not affect the outcome of Gubernatorial elections (state-level). I thus check whether there are spillovers on neighboring counties (not shown for space consideration). The methodology is similar to Table 4. The estimate is negative for the year of the terror attack for neighboring counties but the estimate is not statistically significant at the 10% level (coeff. -3.37, std. error. 2.44). Another possibility is that terror affects the outcome of few gubernatorial elections which would make the employment estimates imprecise for the years after the terror attacks (Table 6).

In a very different political environment, Gould and Klor (2010) find that terrorism induces Israelis to vote more for right-wing parties and brought a leftward shift of the political map in Israel. I thus check in Table 10 whether economic attitudes change following a successful terror attack and whether the political landscape change in response to terror. I also look at economic attitudes since previous studies have shown that they are related to economic behavior. The dependent variables from the Life Style Survey may be grouped into four categories: attitudes toward the (1) government, (2) religion, (3) marriage, and (4) women's place in the society. Appendix Table 2 reports summary statistics for the variables used in the analysis. I rely on variables that cover the period 1977-1998.

The first group contains measures of people's attitude toward two im-

portant political issues. The questions are “There should be a gun in every home?” and “I am in favor of legalized abortions.” I code the variables as dummies. They are equal to one if respondents report that they moderately agree, generally agree or definitely agree and are equal to zero if respondents report that they moderately disagree, generally disagree or definitely disagree. The second group contains only one variable: “Attended church or other place of worship (frequency last 12 months).” I code the variable as a dummy since the answers proposed are in categories that are non-linear. The dummy is equal to one if the respondent reports that he/she went to church or another place of worship nine times or more during the past 12 months. The third and fourth groups consist of two variables each. The questions are “In today’s society there are many different life styles, and some are acceptable today that weren’t in the past. Regardless of what you may have done, or plan to do with your life, and thinking just of what would give you personally the most satisfying and interesting life, which one of these different ways of life do you think would be the best as a way of life?”, “Couples should live together before getting married?”, “Men are naturally better leaders than women?” and “A Woman’s place is in the home?” For the last three variables, I compute dummies which are equal to one if respondents report that they moderately agree, generally agree or definitely agree and are equal to zero if the respondents report that they moderately disagree, generally disagree or definitely disagree. For the question on life style, I code the variable as a dummy which is equal to one if respondents answer “traditional marriage (husband providing and wife at home with kids)” and zero if they answer “marriage where husband and wife share work, housework, and kids” or “other (e.g, staying single, living with group, etc.).”

The model is similar to equation (2) with the exception that the unit of observation is now the individual. I also control for the individual’s demographic characteristics. Specifically, I estimate:

$$Y_{ict} = \alpha + \beta_c + \delta_t + \gamma \text{SUCCESSFUL}_{ct} + \lambda X_{ct} + \theta Z_{ict} + \varepsilon_{ict}, \quad (3)$$

where y is an economic attitude for individual i in county c and year t and Z is a vector of individual characteristics. These characteristics include the individual’s gender, age, age squared, six education dummies and five marital status dummies.

Before I comment on the results on the impact of terrorism, it is useful to discuss the control variables. First, gender plays an important role in

most attitudes. Males tend to be more in favor of having a gun in every home, to believe that couples should live together before getting married, to think that men are naturally better leaders and that a woman's place is in the home. Males are also less likely to go to church or another place of worship. Educated respondents tend to disagree that men are naturally better leaders and that a woman's place is in the home. They are more in favor of legalizing abortion and they are less in favor of having a gun in every home. Last, respondents who report being married are more likely to think that a woman's place is at home and that men are naturally better leaders, they tend to go more often to a place of worship and they are less likely to support the legalization of abortion.

Table 10 shows the results from probit regressions. I first present estimates for the whole sample of respondents (panel A) and then restrict the sample to females (panel B), males (panel C), individuals between 40-65 years old (panel D) and individuals younger than 40 years old (panel E). For the whole sample of respondents, the estimate for whether there should be a gun in every home is negative and statistically significant at the 5% level for the year of the attack. The estimate is larger for males and younger respondents and suggest that terror leads young male adults to be less in favor of having a gun in every home. Note that the effects fade away after one year (Appendix Table A5). There is some evidence that terrorism affects the likelihood to agree that abortion should be legalized. The results presented in Appendix Table A5 show that counties targeted by a successful attack were less in favor of legalizing abortion before the attack, but that individuals in the two sets of counties are as likely to agree that abortion should be legalized the year after the attack.

The model finds evidence that respondents are more likely to go to church or another place of worship the year after a successful terror attack. The effect is not significant in the year of the attack for any of the demographic group and the impact seems to disappear five years after the attack.

Columns 4 and 5 repeat the exercise for traditional marriage (husband providing and wife at home with kids) and living together before getting married. I find no evidence that terrorism affects attitudes toward marriage. There is no contemporaneous impacts of terror on the two dummies for any of the demographic groups.

Last, I test attitudes toward a woman's role and place in the home. Here, a somewhat strong pattern appear. Successful terror attacks increases the likelihood to disagree that a woman's place is in the home for the year of

the attack. The estimate is significant at the 1% level for the whole sample and the effect is particularly strong for males. Females are also more likely to disagree that men are naturally better leaders than women the year of a successful attack versus a failed attack (statistically significant at the 10% level). Of note, the estimates presented in Appendix Table (A5) suggest that the consequences of terrorism are not permanent.

Overall, I find evidence that successful terror attacks affect temporarily attitudes toward a woman's place and whether everybody should have a gun. Given the lack of persistent changes in economic attitudes, the findings are in line with the short-term impact on jobs documented in the previous section.

7 Conclusion

In this paper I identify the impact of terrorism on local economies by exploiting the inherent randomness in the success or failure of terror attacks. There are two main empirical results. First, successful terror attacks reduce the overall jobs-to-population ratio by approximately 5% in the year the attack takes place in comparison to failed terror attacks. I find no evidence that successful terror attacks have long-term consequences on local economies.

Second, I try to explain the presence of a short-term impact and the absence of long-term economic consequences. I find evidence that counties victim of terror attacks leading to major damages experience a greater decrease in jobs. Furthermore, successful terror attacks affect negatively specific industries such as tourism and wholesale trade. In our analysis of the effect of terrorism on people's attitudes toward marriage, a woman's place in the society, political philosophy, government, and religion I have found a number of regularities. For example, I found on average that successful terror attacks decreases the likelihood of the county population to vote for the Democrat candidates in the gubernatorial elections and changes local residents' attitudes toward woman's place in the home. The effects fades away rapidly which is consistent with the absence of long-term effect on employment.

The findings seem to confirm that economies adjust rapidly to terror attacks (Becker and Murphy (2001)). While I document larger effects for counties with airports and "major" terror attacks, the lack of a persistent change in economic attitudes and the somewhat small destruction of human and physical capital might explain the temporary reduction in jobs

documented.

I believe further research is needed in at least two dimensions. From my results, I cannot conclude on whether a region subject to repeated terror attacks suffer economically. In order to answer this question, other identification strategies may be better suited (Abadie and Gardeazabal (2003)). Moreover, more work is needed on the national consequences of terrorism such as the rise of counterterrorism expenditures and the increased airport security.

References

- Abadie, A.: 2006, Poverty, Political Freedom, and the Roots of Terrorism, *American Economic Review* **96**(2), 50–56.
- Abadie, A. and Dermisi, S.: 2008, Is Terrorism Eroding Agglomeration Economies in Central Business Districts? Lessons From the Office Real Estate Market in Downtown Chicago, *Journal of Urban Economics* **64**(2), 451–463.
- Abadie, A. and Gardeazabal, J.: 2003, The Economic Costs of Conflict: A Case Study of the Basque Country, *American Economic Review* **93**(1), 113–132.
- Abadie, A. and Gardeazabal, J.: 2008, Terrorism and the World Economy, *European Economic Review* **52**(1), 1–27.
- BEA: 2014, *Local Area Personal Income Methodology*, Regional Economic Accounts, November.
- Becker, G. and Murphy, K.: 2001, *Prosperity Will Rise Out of the Ashes*, Wall Street Journal: October 29, 2001.
- Becker, G. S. and Rubinstein, Y.: 2011, Fear and the Response to Terrorism: An Economic Analysis, *Technical Report dp1079*, Centre for Economic Performance.
- Beland, L.-P.: 2015, Political Parties and Labor Market Outcomes: Evidence from US States, *American Economic Journal: Applied Economics* **7**(4), 198–220.
- Berrebi, C. and Klor, E. F.: 2006, On Terrorism and Electoral Outcomes Theory and Evidence from the Israeli-Palestinian Conflict, *Journal of Conflict Resolution* **50**(6), 899–925.
- Bertrand, M., Duflo, E., Mullainathan, S. et al.: 2004, How Much Should We Trust Differences-in-Differences Estimates?, *Quarterly Journal of Economics* **119**(1), 249–275.
- Besley, T. and Case, A.: 1995, Does Electoral Accountability Affect Economic Policy Choices? Evidence from Gubernatorial Term Limits, *Quarterly Journal of Economics* **110**(3), 769–798.

- Besley, T. and Mueller, H.: 2012, Estimating the Peace Dividend: The Impact of Violence on House Prices in Northern Ireland, *American Economic Review* **102**(2), 810–33.
- Blomberg, S. B., Hess, G. D. and Orphanides, A.: 2004, The Macroeconomic Consequences of Terrorism, *Journal of Monetary Economics* **51**(5), 1007–1032.
- Crain, N. V. and Crain, W. M.: 2006, Terrorized Economies, *Public Choice* **128**(1), 317–349.
- Deryugina, T., Kawano, L. and Levitt, S.: 2014, The Economic Impact of Hurricane Katrina on its Victims: Evidence from Individual Tax Returns, *Technical Report 20713*, National Bureau of Economic Research.
- Di Tella, R. and Schargrofsky, E.: 2004, Do Police Reduce Crime? Estimates Using the Allocation of Police Forces After a Terrorist Attack, *American Economic Review* **94**(1), 115–133.
- Draca, M., Machin, S. and Witt, R.: 2011, Panic on the Streets of London: Police, Crime, and the July 2005 Terror Attacks, *American Economic Review* **101**(5), 2157.
- Dreher, A., Krieger, T. and Meierrieks, D.: 2011, Hit and (they Will) Run: The Impact of Terrorism on Migration, *Economics Letters* **113**(1), 42–46.
- Enders, W. and Hoover, G. A.: 2012, The Nonlinear Relationship Between Terrorism and Poverty, *American Economic Review, Papers and Proceedings* **102**(3), 267–272.
- Enders, W., Sandler, T. and Gaibullov, K.: 2011, Domestic Versus Transnational Terrorism: Data, Decomposition, and Dynamics, *Journal of Peace Research* **48**(3), 319–337.
- Enders, W., Sandler, T. and Parise, G. F.: 1992, An Econometric Analysis of the Impact of Terrorism on Tourism, *Kyklos* **45**(4), 531–554.
- Engels, F.: 1925, *The Origin of the Family, Private Property and the State*, Charles H. Kerr & Company Cooperative, Chicago.
- Gaibullov, K. and Sandler, T.: 2008, Growth Consequences of Terrorism in Western Europe, *Kyklos* **61**(3), 411–424.

- Gassebner, M., Jong-A-Pin, R. and Mierau, J. O.: 2008, Terrorism and Electoral Accountability: One Strike, you're Out!, *Economics Letters* **100**(1), 126–129.
- Glaeser, E. L. and Shapiro, J. M.: 2002, Cities and Warfare: The Impact of Terrorism on Urban Form, *Journal of Urban Economics* **51**(2), 205–224.
- Gould, E. D. and Klor, E. F.: 2010, Does Terrorism Work?, *Quarterly Journal of Economics* **125**(4), 1459–1510.
- Gries, T., Krieger, T. and Meierrieks, D.: 2011, Causal Linkages Between Domestic Terrorism and Economic Growth, *Defence and Peace Economics* **22**(5), 493–508.
- GTD: 2014, *National Consortium for the Study of Terrorism and Responses to Terrorism (START)*, Global Terrorism Database: Retrieved from <http://www.start.umd.edu/gtd>.
- Jones, B. F. and Olken, B. A.: 2009, Hit or Miss? The Effect of Assassinations on Institutions and War, *American Economic Journal: Macroeconomics* **1**(2), 55–87.
- Karol, D. and Miguel, E.: 2007, The Electoral Cost of War: Iraq Casualties and the 2004 US Presidential Election, *Journal of Politics* **69**(3), 633–648.
- Kibris, A.: 2011, Funerals and Elections: The Effects of Terrorism on Voting Behavior in Turkey, *Journal of Conflict Resolution* **55**(2), 220–247.
- Klick, J. and Tabarrok, A.: 2005, Using Terror Alert Levels to Estimate the Effect of Police on Crime, *Journal of Law and Economics* **48**(1), 267–279.
- Krueger, A. B.: 2008, *What Makes a Terrorist: Economics and the Roots of Terrorism*, Princeton University Press.
- Krueger, A. B. and Malečková, J.: 2003, Education, Poverty and Terrorism: Is There a Causal Connection?, *Journal of Economic Perspectives* **17**(4), 119–144.
- Landes, W. M.: 1978, An Economic Study of US Aircraft Hijacking, 1961–1976, *Journal of Law and Economics* **21**(1), 1–31.
- Leip, D.: 2008, *Atlas of US Presidential Elections*, Online document: <http://www.uselectionatlas.org>.

- Meierrieks, D. and Gries, T.: 2013, Causality Between Terrorism and Economic Growth, *Journal of Peace Research* **50**(1), 91–104.
- Mill, J. S.: 1848, *Principles of Political Economy*, JW Parker.
- Montalvo, J. G.: 2011, Voting After the Bombings: A Natural Experiment on the Effect of Terrorist Attacks on Democratic Elections, *Review of Economics and Statistics* **93**(4), 1146–1154.
- Mueller, J. and Stewart, M. G.: 2014, Evaluating Counterterrorism Spending, *Journal of Economic Perspectives* **28**(3), 237–48.
- Pape, R.: 2003, The Strategic Logic of Suicide Terrorism, *American Political Science Review* **97**(03), 343–361.
- Pape, R.: 2005, *Dying to Win: The Strategic Logic of Suicide Terrorism*, Random House.
- Sandler, T.: 2014, The Analytical Study of Terrorism: Taking Stock, *Journal of Peace Research* **51**(2), 257–271.
- Sönmez, S. F. and Graefe, A. R.: 1998, Influence of Terrorism Risk on Foreign Tourism Decisions, *Annals of Tourism Research* **25**(1), 112–144.
- Strobl, E.: 2011, The Economic Growth Impact of Hurricanes: Evidence from U.S. Coastal Counties, *Review of Economics and Statistics* **93**(2), 575–589.
- US Congress: 2002, *The Economic Costs of Terrorism*, United States Congress, Joint Economic Committee.
- US Department of State: 2003, *Patterns of Global Terrorism: 2002*, Washington, DC: US Department of State.
- Weber, M.: 1905, *The Protestant Ethic and the Spirit of Capitalism*, Unwin, London.

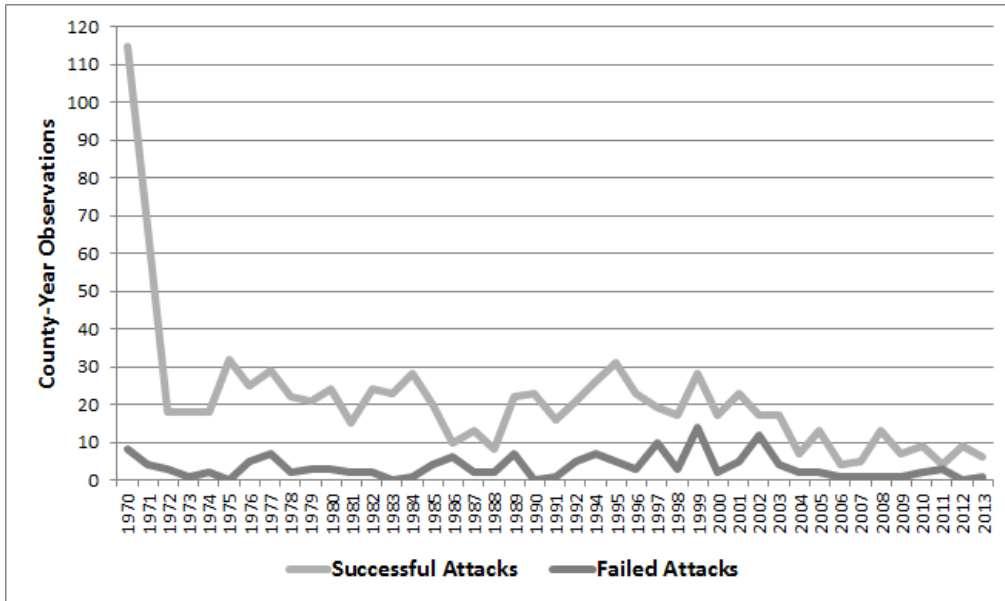


Figure 1: Number of county-year observations with at least one successful terror attack and the number of county-year observations with at least one failed terror attack and no successful terror attack.

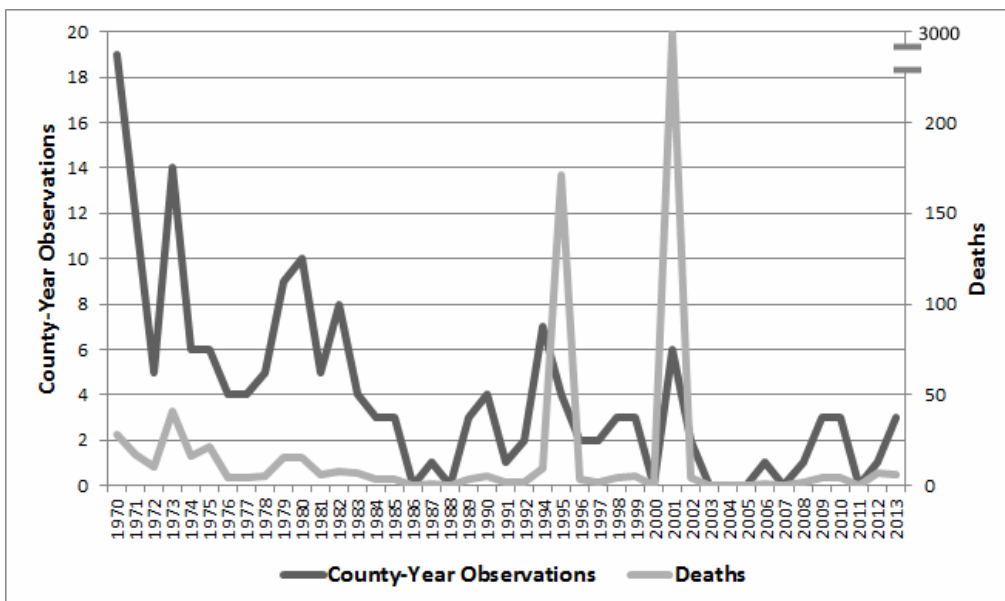


Figure 2: Number of county-year observations with at least one lethal terror attack (i.e. causing at least one death) and the number deaths caused by terror attacks. See Section 3 for more details.

Table 1: Terror Attacks: Descriptive Statistics

Attack Type	Observation	Percentage	Attack Success	If Attack Success (mean)		
				Injured	Killed	Damage
Assassination	83	7.8%	77.1%	0.64	1.20	132,324
Armed Assault	132	12.4%	96.2%	3.61	24.08	417,877
Bombing	475	44.9%	82.3%	4.04	0.72	625,012
Infrastructure	489	46.3%	93.7%	0.86	0.14	852,134
Unarmed	35	3.3%	54.3%	2.59	0.33	2,945
Other & Unknown	41	3.9%	95.1%	4.11	77.51	320,735

Target	Observations	Percentage	Attack Success	If Attack Success (mean)		
				Injured	Killed	Damage
Business	288	27.2%	91.3%	4.63	10.98	1,207,509
Government	187	17.7%	80.2%	11.50	2.97	539,084
Abortion Related	181	17.1%	89.0%	0.15	0.05	190,616
Airport	45	4.3%	91.1%	8.73	73.95	428,089
Educational Inst	102	9.7%	81.4%	1.72	0.24	1,027,569
Private Property	208	19.7%	86.5%	3.39	16.35	1,084,665
Religious Inst	65	6.1%	90.8%	0.78	0.61	471,842
Other & Unknown	302	28.6%	90.8%	5.14	11.37	445,828

Weapon	Observations	Percentage	Attack Success	If Attack Success (mean)		
				Injured	Killed	Damage
Firearms	183	17.3%	91.3%	2.11	1.17	380,496
Explosives	479	45.3%	82.3%	4.03	0.75	639,367
Incendiary	470	44.5%	93.6%	0.89	6.98	881,771
Melee	33	3.1%	97.0%	5.63	94.53	350,678
Sabotage	29	2.7%	96.6%	3.89	0.11	337,632
Other & Unknown	201	19.0%	78.1%	7.35	0.56	797,975
Multiple Attacks	332	31.4%	94.5%	4.98	9.31	795,291
Target Non-US	105	9.9%	89.5%	2.72	0.73	336,160
Logistic Int'l	69	6.5%	84.1%	7.57	20.02	755,357
Total Observations	1,056		85.9%	3.12	3.82	750,490

Notes: There are a total of 1,056 county-year observations. In this table, the variable “Multiple Attacks” equals one if there is more than one terror attack in a given county-year cell. For some terror attacks, multiple weapons were used. Moreover, up to three attack types and target information can be recorded by incident. Weapons classified as “Others & Unknown” are either (1) weapons that have been identified but does not fit into one of the categories or (2) weapons that could not have been identified. Targets classified as “Others & Unknown” include media, military, NGO, police, telecommunication, tourists, transportation and attacks carried out against foreign missions, maritime facilities, non-state militias, violent political parties, utilities and food or water supply. Note that an unarmed assault is an attack whose primary objective is to cause physical harm or death directly. Unarmed assaults include chemical, biological and radiological weapons but exclude explosive, firearm and incendiary. Attacks classified as infrastructure refers to an act whose primary objective is to cause damage to a non-human target (building, monument, train or pipeline). The attack type “Hijacking” is included in the category “Other & Unknown”. The last three columns restrict the sample to successful terror attacks. Property damages are in constant 2005 U.S. dollar.

Table 2: Predict Success of a Terror Attack

	Success	Failed	Difference
Two-Sided <i>t</i>-tests			
Log Population	13.02 (1.41)	12.96 (1.57)	0.060 (0.127)
Log Deaths per Capita	-4.80 (0.25)	-4.80 (0.27)	0.005 (0.029)
Log Births per Capita	-4.18 (0.21)	-4.23 (0.20)	0.053 (0.024)
Log Social Security Recipients per Capita	-1.98 (0.27)	-1.96 (0.27)	-0.020 (0.030)
Log People in Poverty per Capita	-2.15 (0.40)	-2.18 (0.38)	0.029 (0.057)
Log Public School Enrollment per Capita	-1.84 (0.17)	-1.82 (0.18)	-0.015 (0.023)
Log Violent Crimes per Capita	-5.31 (0.89)	-5.31 (1.05)	0.002 (0.105)
Log Robberies per Capita	-6.57 (1.25)	-6.48 (1.32)	-0.090 (0.146)
Log Property Crimes per Capita	-3.09 (0.57)	-3.21 (0.70)	0.125 (0.067)
Log Motor Vehicle Thefts per Capita	-5.48 (0.92)	-5.45 (1.01)	-0.024 (0.105)
State Capital	0.12 (0.33)	0.12 (0.33)	0.004 (0.029)
Coastal County	0.63 (0.48)	0.59 (0.49)	0.043 (0.043)
Airport (Large Hub)	0.30 (0.46)	0.32 (0.47)	-0.022 (0.041)
Airport (Medium Hub)	0.14 (0.35)	0.13 (0.34)	0.007 (0.031)
Region Northeast	0.20 (0.40)	0.19 (0.39)	0.015 (0.035)
Region Midwest	0.19 (0.39)	0.19 (0.40)	-0.004 (0.035)
Region South	0.25 (0.44)	0.23 (0.42)	0.026 (0.038)
Region West	0.35 (0.48)	0.39 (0.49)	-0.037 (0.042)
Observations	907	149	

Note: Columns 1 and 2 restrict the sample to successful terror attacks and failed terror attacks respectively. Standard deviations are in parentheses (standard errors for the last column).

Table 3: Predict Success of a Terror Attack

Probit Regression	Success (1)	Success (2)	Success (3)	Success (4)	Success (5)
Log Population	-0.036 (0.166)	-0.108 (0.162)	-0.071 (0.164)	-0.069 (0.159)	-0.058 (0.163)
Log Births	0.102 (0.129)	0.168 (0.134)	0.104 (0.134)	0.155 (0.138)	0.121 (0.131)
Log Social Security Recipients	-0.020 (0.087)	0.050 (0.083)	0.011 (0.087)	0.035 (0.085)	0.017 (0.081)
Log Public School Enrollment	-0.084 (0.137)	-0.103 (0.139)	-0.074 (0.138)	-0.102 (0.136)	-0.135 (0.135)
Log Violent Crimes	0.027 (0.030)				0.075 (0.052)
Log Robberies		-0.001 (0.026)			-0.065 (0.051)
Log Property Crimes			0.033 (0.036)		0.129* (0.073)
Log Motor Vehicle Thefts				-0.010 (0.036)	-0.059 (0.067)
State Capital	0.069 (0.046)	0.076* (0.042)	0.070 (0.046)	0.076* (0.045)	0.064 (0.043)
Coastal County	-0.005 (0.048)	0.016 (0.049)	0.006 (0.049)	0.004 (0.050)	0.018 (0.051)
Airport (Large Hub)	-0.048 (0.061)	-0.027 (0.061)	-0.028 (0.060)	-0.018 (0.062)	-0.037 (0.067)
Airport (Medium Hub)	-0.050 (0.075)	-0.069 (0.081)	-0.058 (0.082)	-0.057 (0.078)	-0.057 (0.076)
Non-U.S. Target	0.058 (0.088)	0.057 (0.087)	0.053 (0.097)	0.061 (0.092)	0.062 (0.078)
Number of Attacks	0.123*** (0.037)	0.110*** (0.036)	0.119*** (0.038)	0.117*** (0.039)	0.112*** (0.035)
Years	1991-2007	1991-2007	1991-2007	1991-2007	1991-2007
Region FE	✓	✓	✓	✓	✓
Type Attack & Weapon FE	✓	✓	✓	✓	✓
Target FE	✓	✓	✓	✓	✓
Observations	348	344	356	356	337
Pseudo R-squared	0.238	0.216	0.234	0.233	0.234
<i>F</i> -Test on Listed Variables (<i>p</i> -value)	0.85	0.94	0.89	0.93	0.59

Note: This table reports marginal effects from a probit regression. Each observation is a year-county cell with at least one terror attacks. The dependent variable is equal to one if at least one of the terror attacks is successful and zero if the attack(s) failed. Robust standard errors are in parentheses, adjusted for clustering by county. The *F*-Test on listed variables includes the region dummies.

Table 4: Relationship Between Terrorism and Employment and Earnings: 1970-2013

	100 × ln(Jobs/Population)				
	(1)	(2)	(3)	(4)	(5)
<i>Panel A</i>					
Success	-4.31** (2.06)	-3.89* (2.17)	-4.03* (2.36)	-5.82** (2.76)	-5.60** (2.73)
R-squared	0.469	0.472	0.544	0.623	0.653
	100 × ln(Average Wage)				
	(1)	(2)	(3)	(4)	(5)
<i>Panel B</i>					
Success	-2.25 (1.84)	-2.12 (1.85)	-3.35* (1.81)	-4.21** (2.06)	-3.38* (1.98)
R-squared	0.500	0.504	0.594	0.656	0.775
Year & State FE	✓	✓	✓	✓	✓
<i>Region</i> × <i>Year</i>			✓		
<i>Division</i> × <i>Year</i>				✓	✓
Time-Invariant Controls					✓
Type Attack FE	✓	✓	✓	✓	✓
Weapon FE	✓	✓	✓	✓	✓
Target FE		✓	✓	✓	✓
Observations	960	960	960	960	960

Note: Each entry is from a separate OLS regression. Robust standard errors are in parentheses, adjusted for clustering by county. The controls include a dummy that is equal to one if the target is non-American, a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks. Time-invariant controls include dummies for coastal counties and being a state capital and a dummy for whether the county has an airport. In Panel A, the dependent variable is the log of the county-year ratio of jobs-to-population. In Panel B, the dependent variable is the log of the county real average wage per job. The variable “Success” is a dummy that is equal to one if the terror attack is successful in that county and year and zero if the terror attack failed. If there are many terror attacks, “Success” is equal to one if at least one of the attacks succeeded. The time period is 1970-2013.

Table 5: Relationship Between Terrorism and Employment and Earnings: Intensity

	100 × ln(Jobs/Pop)			100 × ln(Avg Wage)		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A</i>						
Success (Min 1 Fatality/Injured)	-4.64 (3.08)	-8.98* (5.22)	-11.79 (8.53)	0.825 (1.879)	-2.44 (2.61)	-0.38 (3.03)
R-squared	0.476	0.612	0.668	0.604	0.753	0.826
<i>n</i>		377			412	
<i>Panel B</i>						
Success (Min 100,000 Damage)	-5.77* (3.35)	-10.74** (4.34)	-11.48** (5.10)	-4.01* (2.39)	-5.53* (3.10)	-5.59* (3.82)
R-squared	0.565	0.730	0.799	0.604	0.762	0.805
<i>n</i>		326			344	
<i>Panel C</i>						
Success (Counties Neighbor)	-1.31 (1.13)	-1.62 (1.26)	-0.43 (1.49)	-0.82 (0.79)	-1.94** (0.90)	-1.26 (1.00)
R-squared	0.244	0.256	0.274	0.408	0.440	0.466
<i>n</i>		4,631			4,631	
Year & State FE	✓	✓	✓	✓	✓	✓
<i>Region</i> × <i>Year</i>		✓			✓	
<i>Division</i> × <i>Year</i>			✓			✓
Target FE	✓	✓	✓	✓	✓	✓
Type Attack FE (Panel C)	✓	✓	✓	✓	✓	✓
Weapon FE (Panel C)	✓	✓	✓	✓	✓	✓

Note: Each entry is from a separate OLS regression. Robust standard errors are in parentheses, adjusted for clustering by county. The controls include a variable that is equal to the number of terror attacks. In columns 1-3, the dependent variable is the log of the county-year ratio of jobs-to-population. In columns 4-6, the dependent variable is the log of the county real average wage per job. The variable “Success” is a dummy that is equal to one if the terror attack is successful in that county and year and zero if the terror attack failed. If there are many terror attacks, “Success” is equal to one if at least one of the attacks succeeded. Panel A restricts the sample to county-year observations in which the terror attack(s) failed or the terror attack(s) was successful and led to at least one fatality or injury. Panel B restricts the sample to county-year observations in which the terror attack(s) failed or the terror attack(s) was successful and led to a minimum of \$100,000. Panel C restricts the sample to neighboring counties instead of targeted counties. The time period is 1970-2013.

Table 6: Relationship Between Terrorism and Employment: Duration Effects

	(1)	100 × ln(Jobs/Population) (2)	(3)
<i>Panel A</i>			
Success (5 years before)	-0.57 (2.68)	0.01 (2.87)	-2.38 (3.57)
<i>n</i>	714	714	714
<i>Panel B</i>			
Success	-4.31** (2.06)	-4.03* (2.36)	-5.82** (2.76)
<i>n</i>	960	960	960
<i>Panel C</i>			
Success (1 year after)	-4.23** (2.11)	-4.45* (2.41)	-5.78** (2.76)
<i>n</i>	947	947	947
<i>Panel D</i>			
Success (3 years after)	-1.29 (2.32)	-1.22 (2.64)	-2.99 (3.14)
<i>n</i>	939	939	939
<i>Panel E</i>			
Success (5 years after)	-0.20 (2.49)	0.93 (2.41)	-1.91 (2.91)
<i>n</i>	944	944	944
Year & State FE	✓	✓	✓
<i>Region</i> × <i>Year</i>		✓	
<i>Division</i> × <i>Year</i>			✓
Type Attack FE	✓	✓	✓
Weapon FE	✓	✓	✓
Target FE		✓	✓

Note: Each entry is from a separate OLS regression. Robust standard errors are in parentheses, adjusted for clustering by county. The controls include a dummy that is equal to one if the target is non-American, a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks. The dependent variable is the log of the county-year ratio of jobs-to-population. This table shows estimates for five years before the attack, the year of the attack, the year after the attack and five years after the attack. The variable “Success” is a dummy that is equal to one if the terror attack is successful in that county and year and zero if the terror attack failed. If there are many terror attacks, “Success” is equal to one if at least one of the attacks succeeded. The time period is 1970-2013.

Table 7: Estimates By Industry: 1970-2000

<i>Panel A:</i>	Manufacturing		100 × ln(Jobs/Pop) Const & Transpt		Wholesale	
	(1)	(2)	(3)	(4)	(5)	(6)
Success	-4.22 (5.56)	-5.45 (6.26)	-7.53** (3.66)	-6.24 (3.94)	-12.18** (5.83)	-13.68** (6.39)
R-squared	0.425	0.506	0.357	0.425	0.341	0.405
<i>n</i>	791		792		788	
<i>Panel B:</i>	Retail Trade		100 × ln(Jobs/Pop) Service		Finance & RE	
	(1)	(2)	(3)	(4)	(5)	(6)
Success	-3.41 (2.12)	-2.13 (2.31)	-4.50 (3.16)	-4.69 (3.45)	-9.03* (4.63)	-8.83* (5.05)
R-squared	0.454	0.515	0.629	0.666	0.394	0.457
<i>n</i>	794		792		792	
Year & State FE	✓	✓	✓	✓	✓	✓
<i>Region</i> × <i>Year</i>		✓		✓		✓
Type Attack & Weapon FE	✓	✓	✓	✓	✓	✓
Target FE		✓		✓		✓

Note: Each entry is from a separate OLS regression. Robust standard errors are in parentheses, adjusted for clustering by county. The controls include a dummy that is equal to one if the target is non-American, a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks. The variable “Success” is a dummy that is equal to one if the terror attack is successful in that county and year and zero if the terror attack failed. If there are many terror attacks, “Success” is equal to one if at least one of the attacks succeeded. Panel A: In columns 1 and 2, the dependent variable is the log of the county-year ratio of jobs in manufacturing to population. In columns 3 and 4, the dependent variable is the log of the county-year ratio of jobs in construction, transportation, communications and utilities to population. In columns 5 and 6, the dependent variable is the log of the county-year ratio of jobs in wholesale trade to population. Panel B: In columns 1 and 2, the dependent variable is the log of the county-year ratio of jobs in retail trade to population. In columns 3 and 4, the dependent variable is the log of the county-year ratio of jobs in services to population. In columns 5 and 6, the dependent variable is the log of the county-year ratio of jobs in finance, insurance, and real estate to population. The time period is 1970-2000.

Table 8: Relationship Between Terrorism and Employment: Airports

	100 × ln(Jobs/Population)		100 × ln(Avg Wage)	
	(1)	(2)	(3)	(4)
<i>Major & Medium Hubs</i>				
<i>Panel A</i>				
Success (5 years before)	-1.95 (4.44)	-4.24 (6.43)	1.32 (1.58)	1.11 (2.04)
<i>n</i>	310	310	310	310
<i>Panel B</i>				
Success	-7.47* (4.06)	-7.58 (5.83)	-1.27 (1.42)	-0.89 (1.71)
<i>n</i>	417	417	417	417
<i>Panel C</i>				
Success (1 year after)	-7.54* (4.07)	-9.12 (5.88)	-1.55 (1.55)	-1.35 (1.92)
<i>n</i>	410	410	410	410
<i>Panel D</i>				
Success (3 years after)	-3.74 (3.82)	-5.22 (6.34)	-0.85 (1.50)	-0.56 (2.13)
<i>n</i>	400	400	400	400
<i>Panel E</i>				
Success (5 years after)	-0.97 (3.90)	-2.40 (5.19)	-0.19 (1.73)	-0.10 (1.91)
<i>n</i>	396	396	396	396
Year & State FE	✓	✓	✓	✓
<i>Region × Year</i>		✓		✓
Type Attack FE	✓	✓	✓	✓
Weapon FE	✓	✓	✓	✓
Target FE		✓		✓

Note: Each entry is from a separate OLS regression. Robust standard errors are in parentheses, adjusted for clustering by county. The controls include a dummy that is equal to one if the target is non-American, a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks. The dependent variable is the log of the county-year ratio of jobs-to-population. This table shows estimates for five years before the attack, the year of the attack, the year after the attack and five years after the attack. The sample is restricted to an airport that has been designated either a large hub or a medium hub. The variable “Success” is a dummy that is equal to one if the terror attack is successful in that county and year and zero if the terror attack failed. If there are many terror attacks, “Success” is equal to one if at least one of the attacks succeeded. The time period is 1970-2013.

Table 9: Relationship Between Terrorism and Gubernatorial Elections

OLS	Vote Democrat	Vote Democrat	Vote Democrat	Vote Other	Vote Other	Vote Other
Success	-5.11* (2.85)	-4.50* (2.64)	3.07 (4.42)	2.12** (1.04)	2.20** (1.06)	0.84 (1.98)
Prev. Gov. Democrat		10.27*** (2.18)	20.16*** (5.65)		0.87 (1.67)	-0.93 (1.87)
Success * Prev. Gov. Democrat			-11.96* (6.24)			2.32 (2.61)
Year & State FE	✓	✓	✓	✓	✓	✓
Type Attack & Weapon FE	✓	✓	✓	✓	✓	✓
Target FE	✓	✓	✓	✓	✓	✓
Observations	244	244	244	199	199	199
R-squared	0.585	0.638	0.650	0.707	0.708	0.710

Note: Robust standard errors are in parentheses, adjusted for clustering by county. In columns 1 to 3, the dependent variable is the percentage of vote for the Democratic candidate (scale from 0 to 100). In columns 4 to 6, the dependent variable is sum of the percentage of vote for Independent candidates. I exclude in columns 4 to 6 the elections in which there were no independent candidates. I exclude elections won by Independent candidates. The controls also include a dummy that is equal to one if the target is non-American, a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks. The time period is 1970-2013.

Table 10: Relationship Between Terrorism and Economic Attitudes

	Government			Religion		Marriage		Women's Place	
	Gun House Probit (1)	Abortion Legalized Probit (2)	Attend Church Probit (3)	Trad Marriage Probit (4)	Together Before Probit (5)	Men Leaders Probit (6)	In the Home Probit (7)		
<i>Panel A</i>									
Success	-0.038** (0.017)	0.001 (0.026)	0.001 (0.028)	-0.003 (0.020)	0.010 (0.019)	-0.012 (0.020)	-0.072*** (0.019)		
<i>n</i>	4,150	3,160	4,082	4,059	3,146	2,101	4,154		
<i>Panel B</i>									
Success (Female Only)	-0.029 (0.028)	0.010 (0.037)	-0.001 (0.037)	-0.010 (0.031)	-0.019 (0.024)	-0.037 (0.024)	-0.037 (0.028)		
<i>n</i>	2,204	1,702	2,187	2,172	1,689	1,076	2,230		
<i>Panel C</i>									
Success (Male Only)	-0.051* (0.029)	-0.009 (0.034)	-0.007 (0.034)	0.005 (0.029)	0.036 (0.035)	0.011 (0.047)	-0.116*** (0.027)		
<i>n</i>	1,912	1,445	1,885	1,875	1,446	998	1,906		
<i>Panel D</i>									
Success (More 40 Years Old)	-0.033 (0.023)	0.018 (0.040)	0.014 (0.036)	0.008 (0.028)	-0.028 (0.032)	-0.038 (0.028)	-0.072*** (0.027)		
<i>n</i>	2,265	1,675	2,217	2,217	1,673	1,136	2,254		
<i>Panel E</i>									
Success (Less 40 Years Old)	-0.059 (0.031)	-0.024 (0.031)	0.011 (0.032)	-0.004 (0.024)	0.040 (0.037)	0.019 (0.038)	-0.071*** (0.026)		
<i>n</i>	1,870	1,463	1,851	1,818	1,460	935	1,866		
Year & State FE	✓	✓	✓	✓	✓	✓	✓		
Type Attack & Weapon FE	✓	✓	✓	✓	✓	✓	✓		
Target FE	✓	✓	✓	✓	✓	✓	✓		

Note: Each entry is from a separate probit regression. Robust standard errors are in parentheses, adjusted for clustering by county. The personal sampling weights from each wave are re-scaled to sum up to one for each year. The sample is restricted to individuals 65 years old or less. The controls include a dummy that is equal to one if the target is non-American, a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks. The variable "Success" is a dummy that is equal to one if the terror attack is successful in that county and year and zero if the terror attack failed. If there are many terror attacks, "Success" is equal to one if at least one of the attacks succeeded. Panel B restricts the sample to females. Panel C restricts the sample to males. Panel D restricts the sample to individuals 40 years old or more. Panel E restricts the sample to individuals 39 years old or less.

Appendix: NOT FOR PUBLICATION

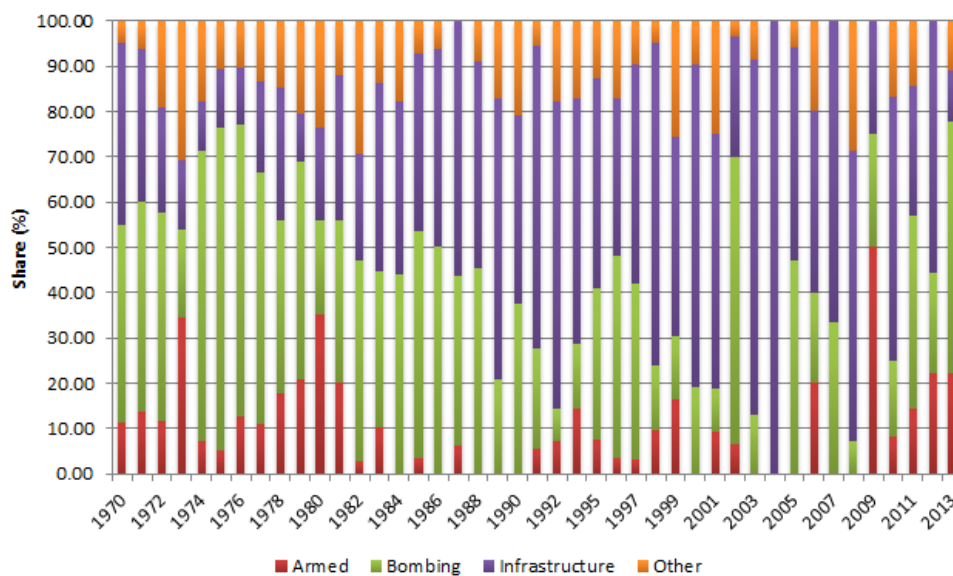


Figure A1: Share of terror attacks involving the following general methods of attack: armed assault, bombing/explosion, facility/infrastructure and other. Attack types classified as “Other” include assassination, hijacking, barricade hostage, kidnapping and unarmed assault.

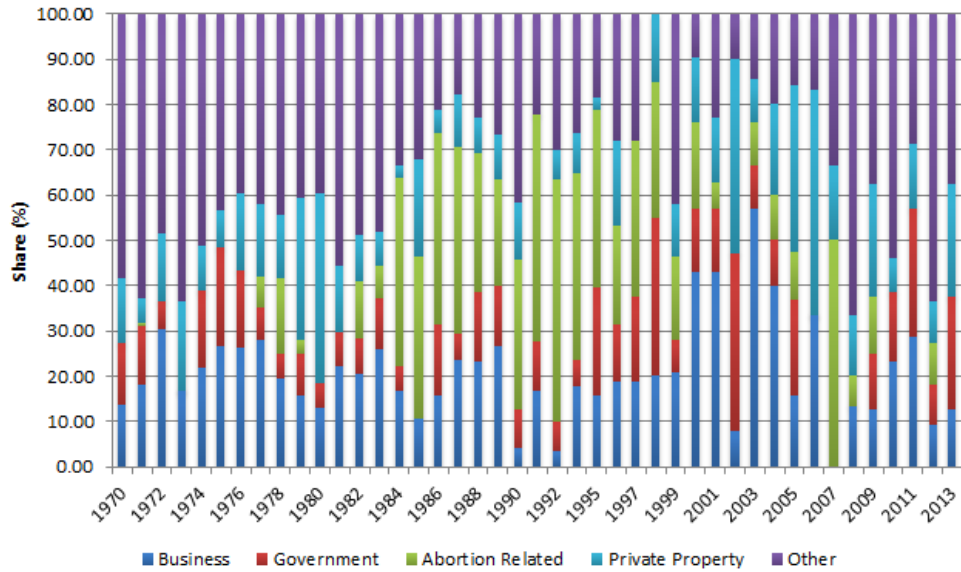


Figure A2: Share of terror attacks targeting the following victims: business, government, abortion clinics or employees, private citizens and property and other. Targets classified as “Other” include airports, educational and religious institutions, transportation, media, military, NGO, police, telecommunication, tourists and attacks carried out against foreign missions, maritime facilities, non-state militias, violent political parties, utilities and food or water supply.

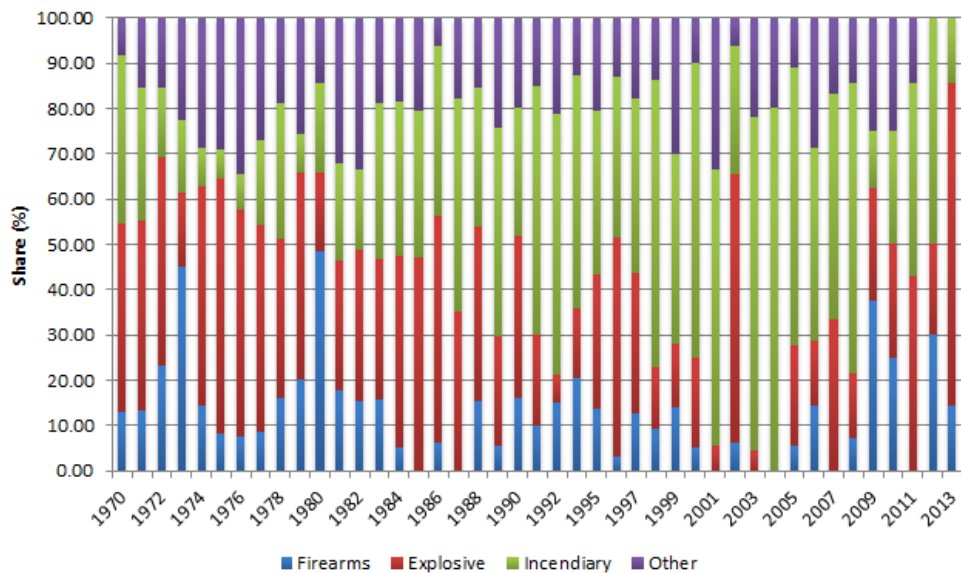


Figure A3: Share of terror attacks by the general type of weapon used: firearms, explosives, bombs or dynamite, incendiary and other. Weapons classified as “Other” are either (1) weapons that have been identified but does not fit into one of the categories or (2) weapons that could not have been identified.

Table A1: Predict Terror Attacks: Comparisons With All the Other Counties.

	Success (1)	Other Counties (2)	Difference (3)
Two-Sided <i>t</i>-tests			
Log Population	13.02 (1.41)	10.24 (1.53)	2.781 (0.052)***
Log Deaths per Capita	-4.80 (0.25)	-4.62 (0.30)	-0.163 (0.014)***
Log Births per Capita	-4.18 (0.21)	-4.36 (0.23)	0.182 (0.011)***
Log Social Security Recipients per Cap	-1.98 (0.27)	-1.66 (0.28)	-0.315 (0.012)***
Log People in Poverty per Capita	-2.15 (0.40)	-2.04 (0.41)	-0.102 (0.029)***
Log Public School Enrollment per Cap	-1.84 (0.17)	-1.75 (0.22)	-0.091 (0.013)***
Log Violent Crimes per Capita	-5.31 (0.89)	-6.34 (1.03)	1.029 (0.050)***
Log Robberies per Capita	-6.57 (1.25)	-8.16 (1.17)	1.596 (0.057)***
Log Aggravated Assaults per Capita	-5.86 (0.86)	-6.64 (1.04)	0.775 (0.051)***
Log Property Crimes per Capita	-3.09 (0.57)	-3.99 (0.92)	0.899 (0.044)***
Log Burglaries per Capita	-4.59 (0.66)	-5.30 (0.87)	0.707 (0.042)***
Log Motor Vehicle Thefts per Capita	-5.48 (0.92)	-6.76 (0.93)	1.288 (0.045)***
State Capital	0.12 (0.33)	0.02 (0.12)	0.109 (0.004)***
Coastal County	0.63 (0.48)	0.21 (0.41)	0.422 (0.014)***
Airport (Large Hub)	0.30 (0.46)	0.01 (0.11)	0.287 (0.004)***
Airport (Medium Hub)	0.14 (0.35)	0.01 (0.11)	0.128 (0.004)***
Region Northeast	0.21 (0.40)	0.07 (0.40)	0.139 (0.008)***
Region Midwest	0.20 (0.40)	0.33 (0.47)	-0.138 (0.016)***
Region South	0.26 (0.44)	0.45 (0.50)	-0.191 (0.017)***
Region West	0.34 (0.47)	0.15 (0.35)	0.191 (0.012)***
Observations	868	141,679	

Note: Columns 1 and 2 restrict the sample to successful terror attacks and counties without a terror attack respectively. Standard deviations are in parentheses (standard errors for the last column).

Table A2: Summary Statistics of Attitudes, LSS

Which Way of Life is Best For You 1977-1998	Freq.	Traditional Marriage		Both Share Work-Home		Other	
	Perc.	18,767	33%	35,637	63%	2,445	4%
Couples Should Live Together Before Marriage 1985-1998	Freq. Perc.	Def. Dis. 18,589 38%	Gen. Dis. 5,993 12%	Mod. Dis. 6,385 13%	Mod. Agree 8,929 18%	Gen. Agree 4,860 10%	Def. Agree 4,381 9%
Men Naturally Better Leaders 1989-1998	Freq. Perc.	Def. Dis. 12,019 36%	Gen. Dis. 5,768 17%	Mod. Dis. 5,635 17%	Mod. Agree 5,465 16%	Gen. Agree 2,677 8%	Def. Agree 1,575 5%
Woman's Place Is in the Home 1977-1998	Freq. Perc.	Def. Dis. 22,813 40%	Gen. Dis. 9,242 16%	Mod. Dis. 7,799 14%	Mod. Agree 8,715 15%	Gen. Agree 4,689 8%	Def. Agree 4,460 8%
Should Be Gun In Every Home 1977-1998	Freq. Perc.	Def. Dis. 23,826 41%	Gen. Dis. 7,668 13%	Mod. Dis. 7,299 13%	Mod. Agree 7,678 13%	Gen. Agree 4,442 8%	Def. Agree 6,797 12%
Favor Of Legalized Abortion 1985-1998	Freq. Perc.	Def. Dis. 14,471 30%	Gen. Dis. 3,455 7%	Mod. Dis. 3,541 7%	Mod. Agree 6,999 14%	Gen. Agree 6,323 13%	Def. Agree 14,193 29%
Attend Church Or Place of Worship 1977-1998	Freq. Perc.	None 14,155 25%	1-4 Times 8,623 15%	5-8 Times 3,766 7%	9-11 Times 2,691 5%	12-24 Times 4,196 7%	More 25 23,609 41%

Table A3: Summary Statistics, Life Style Survey

	Mean (1)	Std. Deviation (2)
Male	0.452	0.498
Age	46.50	15.95
Elementary School	0.031	0.172
Att. High School	0.077	0.267
Grad. High School	0.352	0.478
Att. College	0.284	0.451
Grad. College	0.131	0.337
Post-Grad. Educ.	0.118	0.322
Married	0.762	0.425
Separated	0.013	0.112
Widowed	0.066	0.249
Other Marital Status	0.158	0.365

Note: The personal sampling weights from each wave are re-scaled to sum up to one for each year. The sample is restricted to individuals 65 years old or less. The period covered is 1977-1998. Column 1 shows the mean for the control variables. Columns 2 shows the standard deviation for the control variables.

Table A4: Relationship Between Terrorism and Population: 1970-2013

	ln(Population)				
	(1)	(2)	(3)	(4)	(5)
Success	-0.098 (0.108)	-0.088 (0.108)	-0.120 (0.126)	-0.202 (0.144)	-0.123 (0.110)
Year & State FE	✓	✓	✓	✓	✓
<i>Region</i> × <i>Year</i>			✓		
<i>Division</i> × <i>Year</i>				✓	✓
Time-Invariant Controls					✓
Type Attack FE	✓	✓	✓	✓	✓
Weapon FE	✓	✓	✓	✓	✓
Target FE		✓	✓	✓	✓
Observations	960	960	960	960	960
R-squared	0.430	0.434	0.483	0.551	0.753

Note: Robust standard errors are in parentheses, adjusted for clustering by county. The controls include a dummy that is equal to one if the target is non-American a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks. Time-invariant controls include dummies for coastal counties and being a state capital and a dummy for whether the county has an airport. The dependent variable is the log of population. The variable “Success” is a dummy that is equal to one if the terror attack is successful in that county and year and zero if the terror attack failed. If there are many terror attacks, “Success” is equal to one if at least one of the attacks succeeded. The time period is 1970-2013.

Table A5: Relationship Between Terrorism and Economic Attitudes: Duration Effects

<i>Panel A</i>	Politics	Government		Religion
	Vote	Gun	Abortion	Attend
	Democrat	House	Legalized	Church
	OLS (1)	Probit (2)	Probit (3)	Probit (4)
Success (5 years before)	-0.41 (3.27)	0.045* (0.025)	-0.043* (0.023)	0.023 (0.029)
<i>n</i>	180	3,709	2,934	3,645
Success	-5.11* (2.85)	-0.038** (0.017)	0.000 (0.026)	0.001 (0.028)
<i>n</i>	244	4,150	3,160	4,082
Success (1 year after)	1.80 (3.74)	-0.021 (0.014)	0.024 (0.030)	0.052** (0.026)
<i>n</i>	173	4,269	3,257	4,207
Success (5 years after)	4.95* (2.98)	0.034 (0.026)	0.022 (0.029)	-0.001 (0.028)
<i>n</i>	182	3,994	3,181	3,924
<i>Panel B</i>	Marriage		Women's Place	
	Trad	Together	Men	In the
	Marriage	Before	Leaders	Home
	Probit (1)	Probit (2)	Probit (3)	Probit (4)
Success (5 years before)	0.018 (0.028)	0.011 (0.034)	0.062* (0.035)	0.010 (0.024)
<i>n</i>	3,633	2,929	2,120	3,707
Success	-0.003 (0.020)	0.010 (0.019)	-0.012 (0.020)	-0.072*** (0.019)
<i>n</i>	4,059	3,146	2,101	4,154
Success (1 year after)	-0.020 (0.026)	0.009 (0.025)	-0.041 (0.036)	0.001 (0.023)
<i>n</i>	4,171	3,258	2,052	4,263
Success (5 years after)	-0.039* (0.021)	0.021 (0.023)	-0.026 (0.037)	0.024 (0.021)
<i>n</i>	3,896	3,177	2,022	3,995
Year & State FE	✓	✓	✓	✓
Type Attack & Weapon FE	✓	✓	✓	✓
Target FE	✓	✓	✓	✓

Note: Each entry is from a separate OLS or probit regression. Robust standard errors are in parentheses, adjusted for clustering by county. The personal sampling weights from each wave are re-scaled to sum up to one for each year. The sample is restricted to individuals 65 years old or less. The controls include a dummy that is equal to one if the target is American a dummy that is equal to one if the attack is logistically international and a variable that is equal to the number of terror attacks. Panel A: In column 1, the dependent variable is the percentage of vote for the Democratic candidate. This table shows estimates for five years before the attack, the year of the attack, the year after the attack and five years after the attack. The variable "Success" is a dummy that is equal to one if the terror attack is successful in that county and year and zero if the terror attack failed. If there are many terror attacks, "Success" is equal to one if at least one of the attacks succeeded.