

Measuring the Impact of Counter-Terrorism Financing Legislation on Terrorist Activity

Abstract: Countering the financing of terrorism (CTF) has been a cornerstone of global counter-terrorism policy and practice for more than twenty years. To date, the effect of implementing CTF legislation on rates of terrorism has gone unstudied. To address this gap, this study looks at the impact of CTF legislation (through a proxy measure of when they adopted the *International Convention for the Suppression of Terrorist Financing*) on rates of terrorism over time. I find that across all measures of terrorism (number of attacks, and the number of people killed and injured in those attacks), implementing CTF legislation reduces rates of terrorism. This effect is unexpected: most critiques of CTF policy and practice suggest that its effects have been minimal in combating terrorism.

Introduction

Since 9/11, the international community has dedicated considerable resources and efforts to countering the financing of terrorism. These efforts are assumed to “disrupt the financial support network for terrorists and terrorist organizations”¹ and “prevent and suppress the financing of terrorist acts.”² CTF policies and practices were deemed successful when \$100 million was seized or frozen by the end of 2001, and financial tracking led to arrests.³ At the same time, these efforts do not seem to have inhibited terrorist attacks in Europe or Southeast Asia, or in Iraq or Afghanistan.⁴ As a result, scholars have increasingly become pre-occupied with a fundamental question: does CTF “work”? To date, little empirical work has been done that examines the impact that CTF regulations, legislation, and practices have had on terrorism, and existing answers to this fundamental question are unsatisfying.

Even more puzzling is the data on rates of terrorism. According to the Global Terrorism Database (GTD),⁵ the number of terrorist attacks has increased since the terrorist attacks of September 11, 2001, illustrated in Figure 1. However, data from another terrorism incident database, the International Terrorism Attributes of Terrorist Events (ITERATE),⁶ show a decline in the number of terrorist attacks over a similar time period, illustrated in Figure 2.

¹ “Executive Order 13224,” *United States Department of State* (blog), accessed October 5, 2020, <https://www.state.gov/executive-order-13224/>.

² United Nations Security Council, “Resolution 1373 (2001),” S/RES/1373 (2001) § (2001), <http://www.tandfonline.com/doi/abs/10.1080/13642980008406913>.

³ Phil Williams, “Terrorist Financing,” in *Fighting Back What Governments Can Do About Terrorism*, ed. Paul Shemella (Palo Alto: Stanford University Press, 2011), 58.

⁴ Williams, 58.

⁵ National Consortium for the Study of Terrorism and responses to Terrorism (START), “Global Terrorism Database,” 2019, <https://www.start.umd.edu/gtd/about/>.

⁶ Vinyard Software Inc, “The International Terrorism Attributes of Terrorist Events (ITERATE) Dataset.” (Dunn Loring, VA: Vinyard Software Inc., 2016).

Figure 1 Terrorist attacks per year, 1970-2018 (GTD)

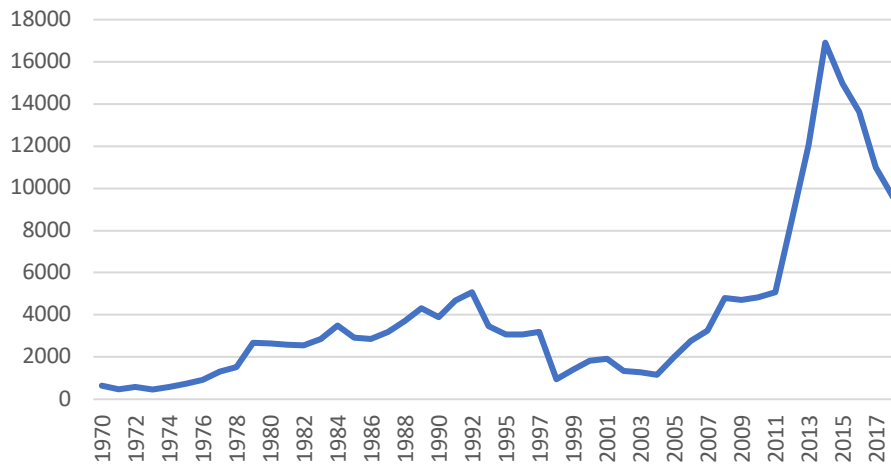
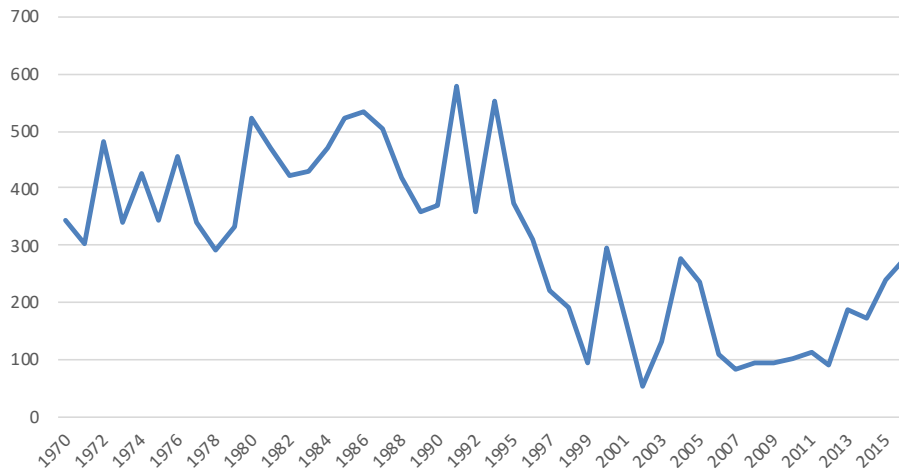


Figure 2 Terrorist attacks per year, 1970-2016 (ITERATE)



Definitional differences between ITERATE and GTD account for some of this puzzle. The GTD measures both domestic and international / transnational terrorist incidents, while ITERATE only measures transnational terrorism. However, questions persist about levels of terrorism worldwide, and more specifically the effects of CTF policies and practices on the ability of terrorists to conduct attacks, and the role of financing therein. These two datasets contain very different attack data, which should generate different results in tests of effects of CTF policy.

CTF policies and practices are not without costs to the countries required to implement them. States spend millions of dollars each year tackling terrorist financing through the implementation of global norms and regulations.⁷ Failure to meet international standards on CTF can result in

⁷ Ronald F. Pol, "Uncomfortable Truths? ML=BS and AML= BS2," *Journal of Financial Crime* 25, no. 2 (January 1, 2018): 294–308, <https://doi.org/10.1108/JFC-08-2017-0071>.

being “blacklisted” by the Financial Action Task Force (FATF), sanctions, and financial exclusion.⁸ Understanding what effects FATF-supported CTF policies and practices have, and whether they do what they purport to do, is important because FATF’s policies have a direct impact on states in terms of resource allocation, access to international loans and funding, and integration into the global financial system.

After nearly 20 years of CTF being lauded as a critical component of counter-terrorism policy and practice, it is time to evaluate the effects of these practices, assess the utility of these approaches, and determine whether or not they actually reduce the level of funds available to terrorists, and if, in turn, this has any impact on the level of terrorism. As a starting point, this analysis will seek to answer a subset of the larger question about the effects and outcomes of CTF policies and practice on terrorism through a specific question: *what is the impact of CTF legislation on terrorism?*

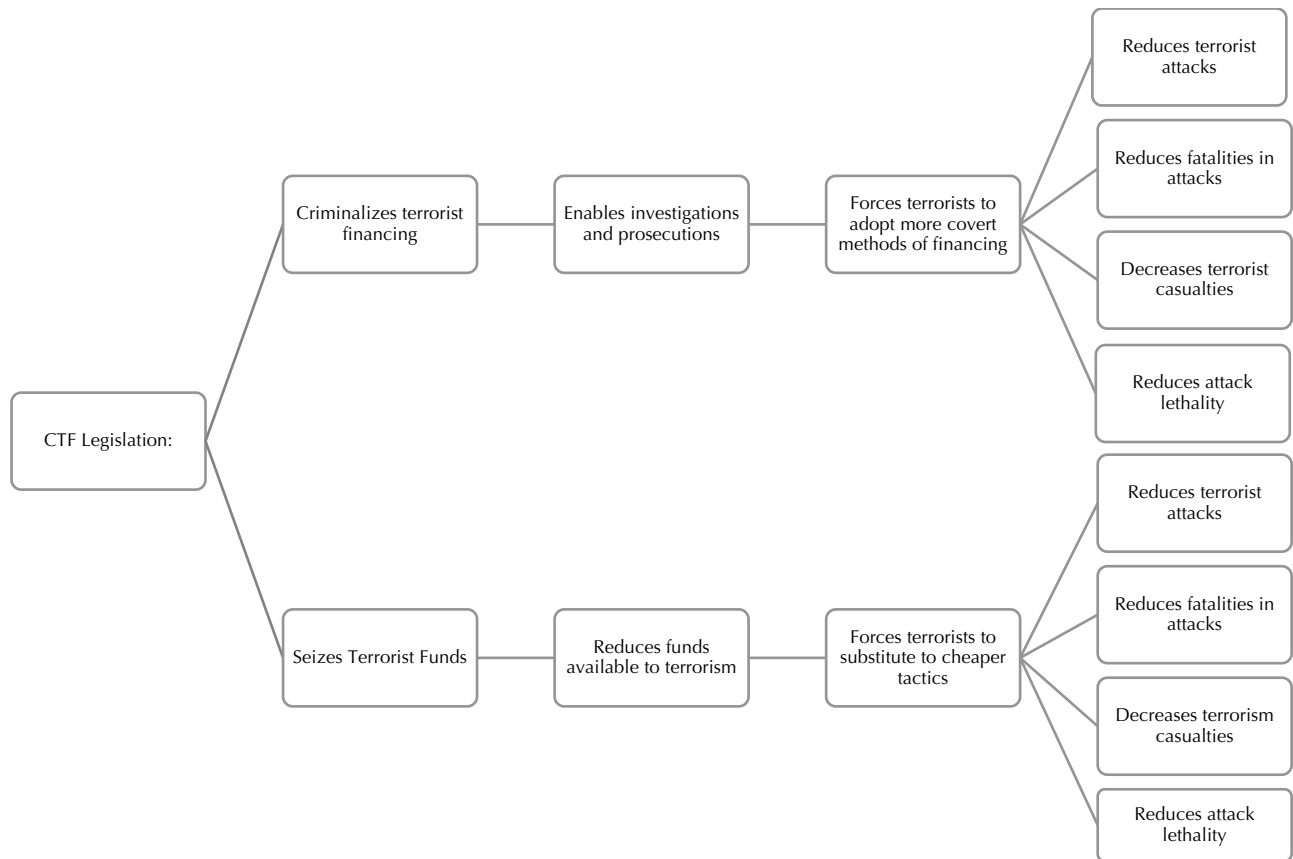
Over the last twenty years, terrorists have adopted new tactics and techniques, and in many cases, conducted less costly attacks, and have increasingly relied on self-financing for those attacks. Terrorism scholars have observed a shift from large-scale terrorist organizations directing spectacular terrorist attacks like September 11, 2001 to lone-actor or small-cell terrorism,⁹ a trend primarily seen in Western democracies. For instance, between 2014 and 2016, fully half of the 75 ISIL-linked plots against the West were conducted by lone actors.¹⁰ This change in terrorist tactics could be due to enhanced CTF policies and practices, specifically the adoption of CTF legislation by over one hundred states. The causal logic of this process is outlined in Figure 3:

⁸ Jessica Davis, “Chapter 15: Prevention of Terrorist Financing,” in *Handbook of Terrorism Prevention and Preparedness*, ed. Alex P. Schmid (The Hague: ICCT, 2021), <https://icct.nl/app/uploads/2021/01/Handbook-ch-14-Davis-FINAL.pdf>.

⁹ Bart Schuurman et al., “End of the Lone Wolf: The Typology That Should Not Have Been,” *Studies in Conflict & Terrorism* 42, no. 8 (August 3, 2019): 771–78, <https://doi.org/10.1080/1057610X.2017.1419554>; Paul Gill, John Horgan, and Paige Deckert, “Bombing Alone: Tracing the Motivations and Antecedent Behaviors of Lone-Actor Terrorists,” *Journal of Forensic Sciences* 59, no. 2 (2014): 425–35, <https://doi.org/10.1111/1556-4029.12312>.

¹⁰ Home Security Committee, “#Terror Gone Viral: Overview of the 75 ISIS-Linked Plots Against the West 2014–2016,” March 2016, <https://www.hsdl.org/?view&did=791035>.

Figure 3 Causal logic of CTF legislation implementation on terrorism



Following this logic, CTF legislation forces terrorists to substitute to cheaper tactics and adopt more covert methods of funding their attacks. This means they are less likely to engage in costly, spectacular attacks, and more likely to engage in small-scale, logistically simple attacks. The results of this process are hypothesized to include a reduction in terrorism, where terrorism is measured four ways: the number of attacks, the number of people killed and injured in each attack, and attack lethality. CTF legislation functions here as a proxy or signal of a state’s intentions to deploy greater and more effective CTF tools and practices.

Current state of the evidence: CTF policies and practices

There are few, if any, empirical studies that seek to measure the effects of CTF policy and practice on levels of terrorism. However, there are a number of quantitative studies that seek to understand the factors that influence terrorism and the resulting variation in terrorist attacks across jurisdictions and over time. These studies have found that countries that are less developed, that have non-democratic regimes, low literacy levels, and less dependence on international trade experience more terrorism.¹¹ Economic growth might reduce terrorist violence,¹² although a non-linear relationship exists between terrorist violence and per-capita income, and terrorist attacks are

¹¹ Ana Bela Santos Bravo and Carlos Manuel Mendes Dias, “An Empirical Analysis of Terrorism: Deprivation, Islamism and Geopolitical Factors,” *Defence and Peace Economics* 17, no. 4 (August 2006): 329–41, <https://doi.org/10.1080/10242690500526509>.

¹² Thomas Gries, Tim Krieger, and Daniel Meierrieks, “Causal Linkages Between Domestic Terrorism and Economic Growth,” *Defence and Peace Economics* 22, no. 5 (October 2011): 493–508, <https://doi.org/10.1080/10242694.2010.532943>.

most concentrated at the middle-income range.¹³ Regime types have been found to matter for terrorism, and some research finds that dictatorships experience less terrorism,¹⁴ although this finding is challenged in other empirical work.¹⁵ Some research finds that democratic participation reduces transnational terrorist incidents in a country, and that proportional representation systems experience the fewest transnational terrorist incidents.¹⁶ Other research explores the relationship between poverty,¹⁷ inequality, and poor economic development as root causes of terrorism.¹⁸ Similar work also finds that minority economic discrimination is a cause of terrorism.¹⁹

This brief survey of the quantitative research on terrorism demonstrates a strong tradition of examining the relationship between specific factors and the rate of terrorism. Most of these studies use some variation of attack data (including casualties) as the dependent variable, and the factor under study as the independent variable. These papers all work together to present a somewhat coherent picture of how particular factors affect terrorism. Within this literature, and specifically applicable to this research project, are five papers that address causes of terrorism with a financial component.

Causes of Terrorism: Financing of Terrorism

Within the quantitative literature on causes of terrorism, four articles relate specifically to research on CTF legislation and terrorism. These articles examine patterns of transnational terrorist incidents, the effect of schooling and GDP on terrorism, opium production in Afghanistan, and remittances. These articles all present unique insights that can frame the theoretical basis for this research, and in some cases identify unique variables to be considered.

In their paper from 2002, Enders and Sandler use alternative time-series methods to investigate patterns of transnational terrorist incidents between 1970 and 1999.²⁰ They examined six interventions meant to reduce terrorism and/or deaths from terrorism. From this analysis, they conclude that terrorists respond to “higher prices” for one method of attack that results from a policy intervention²¹ (such as better metal detectors, or perhaps in the case of this research, CTF legislation) and substitute to an alternative method where a policy intervention has not been made. They also hypothesize, based on the findings of their research, that efforts to freeze terrorist assets

¹³ Walter Enders, Gary A. Hoover, and Todd Sandler, “The Changing Nonlinear Relationship between Income and Terrorism,” *Journal of Conflict Resolution* 60, no. 2 (March 2016): 195–225, <https://doi.org/10.1177/0022002714535252>.

¹⁴ Deniz Aksoy, David B. Carter, and Joseph Wright, “Terrorism In Dictatorships,” *The Journal of Politics* 74, no. 3 (July 2012): 810–26, <https://doi.org/10.1017/S0022381612000400>.

¹⁵ Khusrav Gaibulloev, James A. Piazza, and Todd Sandler, “Regime Types and Terrorism,” *International Organization* 71, no. 3 (2017): 491–522, <https://doi.org/10.1017/S0020818317000169>.

¹⁶ Quan Li, “Does Democracy Promote or Reduce Transnational Terrorist Incidents?,” *Journal of Conflict Resolution* 49, no. 2 (April 2005): 278–97, <https://doi.org/10.1177/0022002704272830>.

¹⁷ Alberto Abadie, “Poverty, Political Freedom, and the Roots of Terrorism” 96, no. 2 (2006): 8.

¹⁸ James A. Piazza, “Rooted in Poverty?: Terrorism, Poor Economic Development, and Social Cleavages,” *Terrorism and Political Violence* 18, no. 1 (March 1, 2006): 159–77, <https://doi.org/10.1080/095465590944578>.

¹⁹ James A. Piazza, “Poverty, Minority Economic Discrimination, and Domestic Terrorism,” *Journal of Peace Research* 48, no. 3 (May 1, 2011): 339–53, <https://doi.org/10.1177/0022343310397404>.

²⁰ Walter Enders and Todd Sandler, “Patterns of Transnational Terrorism, 1970–1999: Alternative Time-Series Estimates,” *International Studies Quarterly* 46, no. 2 (June 1, 2002): 145, <https://doi.org/10.1111/1468-2478.00227>.

²¹ Enders and Sandler, 162.

(specifically Al-Qaeda's), would reduce the resources of terrorists and/or increase the difficulty associated with all modes of attack. However, they do not test this concept empirically.²²

Piazza seeks to identify root causes of terrorism, and finds that opium production in Afghanistan is an important contributor to terrorist activity.²³ In this research, the author finds that Afghan provinces with high levels of opium poppy cultivation are also those with the highest levels of terrorist and insurgent attacks,²⁴ and suggests that opium production generates enormous revenues that can be used to recruit, train, and pay members, acquire weapons, equipment and safe houses, establish training and command bases, bribe officials, obtain fraudulent legal and documents, forge alliances, and generally help terrorists become more effective and deadly.²⁵ The opium market also fuels secondary illegal markets in weapons, documents, cross-border movements in persons, money laundering, and financial transactions exploited by terrorist movements.²⁶ These findings suggest that sources of terrorist funding matter for terrorist attacks, and that CTF legislation (and its implementation) could have an impact on terrorism when they address these sources of funds and financing mechanisms.

In their paper from 2014, Mascarenhas and Sandler investigate remittances and their impact on terrorism. They find that remittances have a positive impact on domestic and international terrorism, although their results are more robust for domestic terrorism, and that remittances are a greater concern for transnational terrorism when they are sent to the home country of the perpetrator. This study suggests that terrorists benefit directly from remittances;²⁷ this benefit could accrue as a result of direct funding from diaspora communities, or as a form of taxation on the remittances. Following this logic, enhanced CTF practices (such as implementing legislation and regulatory effectiveness of anti-money laundering and CTF policies) could have an effect on terrorist actors' ability to raise funds through taxation or direct remittances.

Korotayev et al examine the impact of schooling and GDP on terrorism and find a curvilinear relationship between GDP per capita and terrorism intensity, and seek to explain this relationship by looking at education expansion.²⁸ When they also control for education levels, GDP growth in middle and high income countries is found to be a factor that increases the intensity of terrorist attacks.²⁹ Their study also finds that there is a sharp increase in terrorism at the lowest levels of GDP per capita, and a steep decrease at the highest levels.³⁰ These findings have implications for the study of CTF legislation and terrorism, as they could suggest that financial resources for terrorism (GDP per capita) might be insufficient in the least developed countries, while in the most highly developed countries, underlying grievances (such as lack of economic opportunity) have been mitigated, thus affecting the financing of terrorism and rates of terrorism.

²² Enders and Sandler, 162.

²³ James A. Piazza, "The Opium Trade and Patterns of Terrorism in the Provinces of Afghanistan: An Empirical Analysis," *Terrorism and Political Violence* 24, no. 2 (April 2012): 213–34, <https://doi.org/10.1080/09546553.2011.648680>.

²⁴ Piazza.

²⁵ Piazza, 215.

²⁶ Piazza, 217.

²⁷ Raechelle Mascarenhas and Todd Sandler, "Remittances and Terrorism: A Global Analysis," *Defence and Peace Economics* 25, no. 4 (July 4, 2014): 331–47, <https://doi.org/10.1080/10242694.2013.824676>.

²⁸ Andrey Korotayev, Ilya Vaskin, and Sergey Tsirel, "Economic Growth, Education, and Terrorism: A Re-Analysis," *Terrorism and Political Violence*, May 9, 2019, 1–24, <https://doi.org/10.1080/09546553.2018.1559835>.

²⁹ Korotayev, Vaskin, and Tsirel.

³⁰ Korotayev, Vaskin, and Tsirel.

These papers, and the quantitative terrorism literature in general, provide a foundation for research into the effects of CTF legislation on terrorism. They identify common variables and factors that are believed to impact rates of terrorism, and (in some cases) explain the variation in terrorist attacks across countries. At the same time, none of these papers look directly at CTF practices and approaches; as a result, this paper fills a gap in the literature, while also building on some of the theoretical foundations laid by these authors. Methodologically, this study is also a significant contribution to the CTF literature as few studies on the topic employ quantitative methods.

Rational Choice Theory Applied to CTF

The majority of these studies use (explicitly or implicitly) rational choice theory to explain changes in terrorist behavior over time and in response to counter-terrorism pressures. Other theoretical approaches in the existing literature on CTF include deterrence, collective action, and one that can be inferred from the policy debate. Deterrence theory is used to suggest that CTF works by deterring terrorist donors³¹ and that sanctions are part of the coercive diplomacy applied to states to deter them from financing terrorist groups.³² CTF is also theorized as a collective action problem in which all countries are better off cooperating through CTF initiatives, but these efforts are spoiled by free-riders³³ and defectors from the regime create spaces where terrorists can finance their activities.³⁴ This theory is interesting in that it suggests that terrorists will displace their activities to states with more permissive operating environments (from a financial perspective), thus engaging in “jurisdictional arbitrage”.³⁵ The third theory that applies to CTF is the one that can be inferred from the policy debate.³⁶ CTF originated as an international endeavour to counter terrorism in the fallout from the terrorist attacks of September 11, 2001.³⁷ We can infer from this that CTF policies and practices aim to reduce terrorism by reducing the funds available to terrorists. However, none of these theories provide an explanatory framework for understanding the effects of CTF legislation on terrorism, which is why I turn to rational choice theory.

Economic analyses of conflict use the organizing principle of rationality and draw on models of consumer choice.³⁸ These analyses assume that consumers have consistent preferences and choose their best alternative when they have to choose between two baskets of commodities, like food and entertainment. These models assume that consumers have fixed incomes and operate with a budget constraint.³⁹ Consumers get a certain amount of utility from a particular combination of goods but how much they can consume is constrained by their budget and

³¹ Matthew Levitt and Michael Jacobson, “The U.S. Campaign to Squeeze Terrorists’ Financing,” *Journal of International Affairs* 62, no. 1 (Fall 2008): 81.

³² Michael A. Berger, “Interdicting Terrorist Financing with Coercion: Strategies for Policy-Makers to Cut the Cash Flow of Terrorist Organizations,” *Defence Studies* 10, no. 3 (September 2010): 392–93, <https://doi.org/10.1080/14702436.2010.503681>.

³³ Anne L. Clunan, “The Fight against Terrorist Financing,” *Political Science Quarterly* 121, no. 4 (December 2006): 571, <https://doi.org/10.1002/j.1538-165X.2006.tb00582.x>.

³⁴ Clunan, 573.

³⁵ Phil Williams, “Warning Indicators, Terrorist Finances, and Terrorist Adaptation,” *Strategic Insights* IV, no. 1 (January 2005): 6.

³⁶ Stephen Van Evera, *Guide to Methods for Students of Political Science*, E-Book (Ithaca and London: Cornell University Press, 1997), 262.

³⁷ “Shutting Down the Terrorist Financial Network December 4, 2001,” U.S. Department of the Treasury, December 4, 2001, <https://www.treasury.gov/press-center/press-releases/Pages/po841.aspx>.

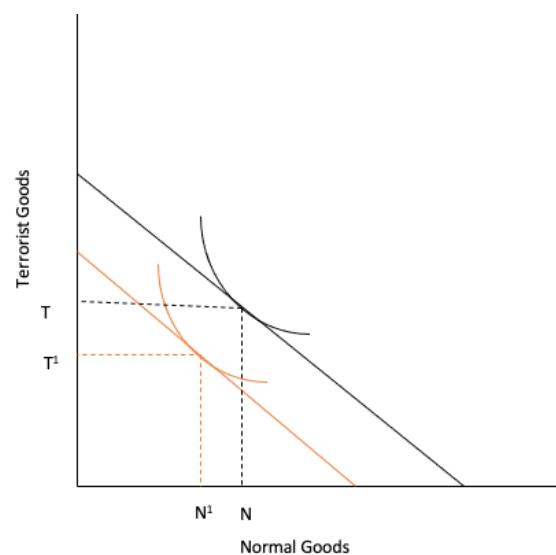
³⁸ Charles H. Anderton and John R. Carter, *Principles of Conflict Economics: The Political Economy of War, Terrorism, Genocide, and Peace*, 2nd ed. (Cambridge: Cambridge University Press, 2019), 59, <https://doi.org/10.1017/9781316875506>.

³⁹ Anderton and Carter, 59.

changes in price affect the individual demands for particular goods and their consumption possibilities.⁴⁰

We can extend this framework to consider terrorist groups, cells, and individuals. Terrorists get a certain amount of utility from their terrorist attacks,⁴¹ and they seek to consume some combination of “normal” goods (such as food and shelter), and “terrorist” goods (such as bombs, weapons, operational security measures and technologies). Terrorists have a budget constraint defined by how much money they can raise from various sources like state sponsors, identity-based support networks, criminal activities, etc.⁴² More complex attacks will have a higher price or cost than less complex attacks.⁴³ To reduce the level of terrorism that a terrorist can “consume”, we need to make terrorist goods more expensive, and/or reduce the amount of money that a terrorist has available to spend on their basket of terrorist and normal goods. The effect of reducing a terrorist’s budget is illustrated in Figure 4, which demonstrates a decrease in a terrorist’s budget and a corresponding decrease in the consumption of terrorist goods, denoted by the move from T to T¹.⁴⁴

Figure 4 Terrorist budget line



CTF policies and practices have a number of effects that can be understood in terms of rational choice models. Financial surveillance⁴⁵ increases the cost of operational security measures that terrorists need to employ (such as using financial tradecraft⁴⁶ while moving funds), while other

⁴⁰ Anderton and Carter, 64–65.

⁴¹ Mascarenhas and Sandler, “Remittances and Terrorism,” 335.

⁴² Jessica Davis, *Illicit Money: Financing Terrorism in the 21st Century* (Lynne Rienner Publishers, 2021).

⁴³ Mascarenhas and Sandler, “Remittances and Terrorism,” 336.

⁴⁴ Jessica Davis, “Understanding the Effects and Impacts of Counter-Terrorist Financing Policy and Practice,” *Terrorism and Political Violence* 0, no. 0 (June 9, 2022): 1–17, <https://doi.org/10.1080/09546553.2022.2083507>.

⁴⁵ Mark. Pieth, Daniel. Thelesklaf, and Radha. Ivory, eds., “Measures to Counter the Financing of Terrorism,” in *Countering Terrorist Financing the Practitioner’s Point of View* (Bern ; Peter Lang, 2009); Martin Rudner, “Using Financial Intelligence Against the Funding of Terrorism,” *International Journal of Intelligence and CounterIntelligence* 19, no. 1 (January 2006): 32–58, <https://doi.org/10.1080/08850600500332359>.

⁴⁶ Jessica Davis, “New Technologies but Old Methods in Terrorism Financing,” *Royal United Services Institute for Defence and Security Studies*, CRAAFT Research Briefing, no. 2 (July 22, 2020): 7.

measures decrease the amount of funds available to terrorists such as through the criminalization of terrorist financing and the application of sanctions.⁴⁷

The rational choice model has been used to explain changes in terrorist targeting between civilian and political targets, with terrorists substituting away from political targets when they become hardened (more expensive) and instead increasing their attacks against civilian targets⁴⁸ or away from states with more counter-terrorism measures and towards states with less.⁴⁹ For example, counter-terrorism in general directed at a particular mode of attack (such as skyjackings and metal detectors in airports) will raise the unit price of an attack and cause a substitution to relatively cheaper attack modes.⁵⁰ This analysis can be extended to our understanding of the effects of CTF policies and practices on terrorist targeting practices as well, and can offer some possibilities for explaining the effects of CTF legislation on terrorism.

The critical elements for understanding the rational choice of terrorists in the face of budget constraints include the number of attacks they are able to conduct each year, and how many people are killed and injured in attacks, and how lethal attacks are. This theoretical framework suggests four main hypotheses:

H₀: If countries adopt CTF legislation, there will be no measurable impact on terrorist attacks and casualties caused in those attacks.

H₁: If countries adopt CTF legislation, then the number of terrorist attacks will decrease.

H₂: If countries adopt CTF legislation, then the number of people killed in terrorist attacks will decrease.

H₃: If countries adopt CTF legislation, then the number of people injured in terrorist attacks will decrease.

H₄: If countries adopt CTF legislation, then attack lethality will decrease.

Methods

The impact of CTF legislation is, as part of broader CTF policies and practices, difficult to quantify.⁵¹ There is no single dataset of dates when countries have implemented domestic CTF policy; however, a list of the dates of signing the *International Convention for the Suppression of Terrorist Financing* is available from the United Nations treaties repository. This convention is a key policy tool to combat the financing of terrorism,⁵² and states usually implement their domestic

⁴⁷ Aurel Croissant and Daniel Barlow, "Following the Money Trail: Terrorist Financing and Government Responses in Southeast Asia 1," *Studies in Conflict & Terrorism* 30, no. 2 (January 2007): 139, <https://doi.org/10.1080/10576100600959721>.

⁴⁸ Anderton and Carter, *Principles of Conflict Economics*, 69.

⁴⁹ Todd Sandler and Walter Enders, "Transnational Terrorism: An Economic Analysis," *The Economic Impact of Terrorist Attacks* 134 (2005): 269.

⁵⁰ Mascarenhas and Sandler, "Remittances and Terrorism," 336.

⁵¹ Nicholas Ryder, *The Financial War on Terrorism: A Review of Counter-Terrorist Financing Strategies since 2001* (Routledge, 2015), 181.

⁵² Mark Pieth, ed., "International Convention for the Suppression of the Financing of Terrorism," in *Financing Terrorism* (Dordrecht: Springer Netherlands, 2002), 161–75, https://doi.org/10.1007/0-306-48044-1_11.

legislation within three months of signing the convention. To examine the impact of that CTF legislation on terrorism, we can look at changes in the rates of terrorism in countries before and after they have signed the convention as a proxy for the adoption of domestic terrorism legislation.

Data and Definitions

In this analysis, various measures of terrorism are used as the dependent variable, as I seek to explain variation in terrorist attacks across time and countries. Terrorism is measured in four ways: number of attacks per country per year, number of people killed per country per year in terrorist attacks, casualties caused by the attacks (the number of people killed or injured in terrorist attacks per country per year), and lethality of attacks, measured as a function of the number of people killed per attack per country per year.⁵³ These variables are derived from two data sources: GTD and ITERATE. The use of two independent datasets is desirable for a robustness check.

The main explanatory variable is a dummy variable for the signing of the *International Convention for the Suppression of Terrorist Financing*. This variable is actually a proxy for the adoption of domestic legislation to combat the financing of terrorism. The models in this study are also informed by other studies on rates of terrorism. I measure levels of autocracy and democracy, drawn from the Polity dataset,⁵⁴ as regime types have been demonstrated to have an effect on levels of terrorism.⁵⁵ I also include a measure of regulatory quality (drawn from World Bank data). As the regulatory approach to CTF is one of the most commonly-applied approaches,⁵⁶ it is useful to measure a state's regulatory effectiveness,⁵⁷ in addition to some of the other factors identified above. Regulatory effectiveness will help determine whether or not a state is able to effectively implement their CTF policies and approaches and increase the cost to terrorist groups of conducting operations. This variable is meant as a proxy measure for the implementation of financial regulation as part of domestic anti-money laundering / counter-terrorist financing legislation, a key international requirement. Better regulatory quality is estimated to decrease levels of terrorism. I also include a measure of inward remittances. According to Mascarenhas and Sandler, remittances contribute to terrorist income, which in turn is used to fund attacks.⁵⁸ The variables, sources, and operationalization are outlined in Table 1.

Table 1: Concepts, variables, sources & operationalization (quantitative methods)

Concept	Variable	Source	Operationalization
<i>CTF policy / legislation Terrorism</i>	Criminalization of TF	United Nations	Dummy variable (0/1), year of implementation
	Number of attacks	ITERATE and GTD	Count variable, per year per country
	Number of people killed	ITERATE and GTD	Count variable, per year per country

⁵³ Mazhar Yasin Mughal and Amar Iqbal Anwar, "Do Migrant Remittances React to Bouts of Terrorism?," *Defence and Peace Economics* 26, no. 6 (November 2, 2015): 567–82, <https://doi.org/10.1080/10242694.2014.921359>.

⁵⁴ Center for Systemic Peace, "Polity Project," 2020, <https://www.systemicpeace.org/polityproject.html>.

⁵⁵ Gaibullov, Piazza, and Sandler, "Regime Types and Terrorism"; Bravo and Dias, "AN EMPIRICAL ANALYSIS OF TERRORISM."

⁵⁶ Davis, *Illicit Money: Financing Terrorism in the 21st Century*.

⁵⁷ Thomas J Biersteker, "Targeting Terrorist Finances: The New Challenges of Financial Market Globalisation," in *Worlds in Collision: Terror and the Future of Global Order*, ed. Ken Booth and T. Dunne (Palgrave and MacMillan, 2002), 79.

⁵⁸ Mascarenhas and Sandler, "Remittances and Terrorism."

	Number of people injured	ITERATE and GTD	Count variable, per year per country
	Lethality of attacks	ITERATE and GTD	Ratio: killed/number of attacks
	Lagged terrorism variable	GTD/ITERATE	Two-year lag on terrorism incidents.
<i>Regime type</i>	Democracy	Polity	Measure of democracy from the polity dataset, scale 0-10 where 10 is more democracy.
	Autocracy	Polity	Measure of autocracy, scale of 0-10 where 10 is more autocracy.
<i>Implementation of CTF in financial sector</i>	Regulatory Quality	World Bank	Regulatory quality scale of -2.5 to 2.5
<i>Inward Remittances</i>	RemInGDP	World Bank	Inward Remittances as a share of GDP, current US\$ (Remittance data is not adjusted to a constant dollar)
<i>GDP</i>	GDP per capita	World Bank	Gross domestic product per capita, constant US\$.
<i>Interact</i>	Interactive variable	United Nations / World Bank	An interacted variable of lagged international convention and regulatory quality

This data set for the analysis is an unbalanced panel, as many countries have missing observations for variables in some years. The data coverage is 190 countries between 1980 and 2018. While there is significant missing data for earlier years, it becomes much more consistent after 2000. The variance of the count data is larger than the mean for the dependent variable, which rules out the use of a Poisson model, and given the overdispersion of the count data, a negative binomial model is appropriate for estimation.⁵⁹ As is often found with this type of analysis, the data includes a large number of zero-counts for terrorist events.⁶⁰

Prior to running the models, I performed a series of diagnostic tests on the data in Stata. Stationarity tests using *xtunitroot* fisher with 1, 5, and 10 lags did not reveal any evidence of unit roots in any of the variables. I ran both the *dfuller* and *pperron* versions and found no issues. Heteroskedasticity was found in the dataset, but this is to be expected for this type of count and panel data, so no corrections were deemed necessary.

In these models, the degree of correlation and definitional overlap between the variables has been minimized to the greatest extent possible, but some overlap might exist between some variables (such as regulatory quality and democracy, for instance). Using a variance inflation factor and checking the correlation between the variables, it does appear that regulatory quality and democracy are positively correlated, and that regulatory quality is negatively correlated to autocracy. However, the correlation does not appear to be significant, and the effects of multicollinearity are therefore acceptable and no remedy was applied.

⁵⁹ Mascarenhas and Sandler, 339.

⁶⁰ Mascarenhas and Sandler, "Remittances and Terrorism."

To determine whether or not this analysis should be run using random effects or fixed effects, I ran a Hausman test. In this case, fixed effects were identified as most appropriate. Given that the data is relatively inclusive, this also suggests fixed effects.

Findings and Discussion

I used eight different models to measure the effects of domestic CTF legislation on levels of terrorism and account for any measurement differences that can arise from different definitions of terrorism rates. These models use different dependent variables to measure the levels of terrorism: the number of attacks, number of people killed, casualties, and lethality of attacks, all of which are derived from two different data sources, GTD and ITERATE. This functions as a robustness check on the findings of this research, as these variables are all measured differently and reveal variation in the possible impact of CTF legislation. All of the variables are lagged, and both models include a lagged independent variable (number of attacks), and an interactive variable outlined above. The results are found in Table 2 and Table 3. Through a stepwise reduction, I found that GDP PC and Democracy were statistically insignificant variables and I removed them from the specifications.

Table 2: Terrorism (GTD) and International Convention for the Suppression of Terrorist Financing (1980-2018): Estimated incident rate ratios

Dependent Variable	Number of terrorist attacks	Number killed	Number of casualties	Lethality of attacks
Variables	Model 1	Model 2	Model 3	Model 4
International Convention Year (lagged)	.8581(0.000)***	.7502(0.000)***	.8095(0.000)***	.7120(0.000)***
Autocracy	.9503(0.000)***	.9518(0.000)***	.9520(0.000)***	.9329(0.000)***
Regulatory Quality	.7354(0.000)***	.6516(0.000)***	.6620(0.000)***	.7199(0.000)***
RemInGDP	.9435(0.001)***	.8999(0.001)***	.9268(0.001)***	.9204(0.003)***
Interact	1.236(0.000)***	1.246(0.003)***	1.300(0.000)***	1.145(0.112)
Lagged DV (attack)	1.001(0.000)***	1.001(0.000)***	1.001(0.000)***	1.001(0.000)***
Constant	.3280 (0.000)	.1688(0.000)	.1559(0.000)	.5379(0.000)
Pseudo R ^{2,61}	0.059	.9645	.9441	.1867
Observations	4550	4352	4511	4311

Note: IRR, p value in parentheses, *p<0.1; **p<0.05; ***p<0.01, except model 4, which is the coefficient using xtreg as this variable is a ratio.

⁶¹ R² is measured through xtreg.

Table 3 Terrorism (ITERATE) and International Convention for the Suppression of Terrorist Financing (1980-2016)

Dependent Variable	Number of terrorist attacks	Number killed	Number of casualties	Lethality of attacks
Variables	Model 5	Model 6	Model 7	Model 8
International Convention Year (lagged)	.3592(0.000)***	.5096(0.000)***	.5830(0.000)***	.6250(0.000)***
Autocracy	.9535(0.000)***	.9395(0.000)***	.9178(0.000)***	.9508(0.004)***
Regulatory Quality	.9511(0.430)	.8363(0.093)*	.7928(0.025)**	.8499(0.155)
RemInGDP	.9358(0.005)***	.9872(0.620)	.8370(0.039)**	1.013(0.701)
Interact	.7445(0.001)***	.7261(0.026)**	.8185(0.145)	.8274(0.204)
Lagged DV (attack)	1.024(0.000)***	1.024(0.000)***	1.024(0.000)***	1.027(0.000)***
Constant	.8842(0.055)	.1214(0.000)	.0927(0.000)	.1598(0.000)
Pseudo R ²	0.013	.5784	.6390	0.0862
Observations	3862	3145	2998	3145

Note: IRR, with p value in parentheses. *p<0.1; **p<0.05; ***p<0.01, except model 8, which is the coefficient using xtreg as this variable is a ratio.

Across all 8 models, adopting the *International Convention for the Suppression of Terrorist Financing* (and by extension, adopting domestic CTF legislation) is associated with a statistically significant reduction in all measures of terrorism used in this study. In models 1 through 4 (GTD data) adopting the convention was associated with a 14% decrease in terrorist attacks, a 25% decrease in the number of people killed in attacks, a 19% decrease in the number of people injured in attacks, and a 29% decrease in lethality of attacks illustrated in Table 2. From this analysis, we can conclude that hypotheses 1 through 4 hold and that adopting CTF legislation is associated with a decrease in all measures of terrorism using GTD data. GDP per capita, while statistically significant in some quantitative research on terrorism, had no real effect on rates of terrorism, nor did more democracy, so these variables were removed in a stepwise reduction of the models. Higher autocracy scores were associated with more significant decreases in levels of terrorism, and were associated with a 5% decrease in the number of terrorist attacks, a 5% decrease in the number of people killed in attacks, a 5% decrease in the casualties, and a 7% decrease in lethality.

Better regulatory quality was also associated with a decrease in terrorism. I hypothesize that this reflects a measure of overall good governance that is generally suppressing terrorist activity. The interact variable is a variable of the lagged international convention and regulatory quality variables. In models 1 through 3, the interact term was associated with a statistically significant increase in terrorist casualties and the lethality of attacks. The interact term had no statistically significant effect in the other models. This suggests that as regulatory quality increases and the international convention is signed, the number of casualties associated with an attack will increase in domestic terrorist attacks. However, on their own, these variables suggest that the casualties involved in a terrorist attack will decrease. Taken together, the effect of the interact variable suggests that as regulatory effectiveness increases and CTF pressures increase (following the adoption of the convention), that terrorists may shift towards attacks that result in more casualties – possibly attacks involving softer targets. The mechanisms of this shift, and its applicability to other

models, could benefit from further study, including through qualitative analysis of specific policies and approaches.

Inward remittances were also associated with a statistically significant decrease in terrorism across all models using GTD data. This is unexpected: based on the work of Mascarenhas and Sandler, we should expect to see inward remittances associated with increases in terrorism.⁶² The authors use remittances as a proxy for terrorist income, but do not investigate how remittances actually fund terrorism. Indeed, a body of research on terrorist financing considers the issue of diaspora financing, which is the funding of terrorist groups by diasporas with a geographic or ethnic affiliation with a terrorist group,⁶³ which are often sent to their home / origin country through remittance companies. For example, the Islamic State benefited from remittances in Iraq / Syria by controlling and taxing money remitters.⁶⁴ The most pronounced example of the taxation of diaspora remittances is Al Shabaab in Somalia. Somalia's economy is heavily reliant on diaspora remittances, which are surveilled and taxed by Al Shabaab.⁶⁵ The group has monitored cash flows in the area and demanded information on incoming and outgoing transactions,⁶⁶ presumably to augment their intelligence collection and related taxation activities. The taxation rate applied to these transactions is unknown, but is likely a relatively small percentage of the total transaction amount. But because of the high volume of transactions, the group generates significant amounts of money in this way. Mascarenhas and Sandler also use a number of other variables in their analysis that I have excluded. Many of these variables are likely correlated with increases or decreases in levels of terrorism, but the direction of causality is unclear (even in theory), making these additional variables less useful for this model of understanding the effects of CTF legislation on terrorism levels. Indeed, in their study, Mughal and Anwar found no empirical evidence of remittances causing terrorism, although they did find that every casualty from a terrorist attack is associated with \$.83 million in additional remittances per month, suggesting that remittances respond to terrorist attacks.⁶⁷ This help explain that while remittances may, on the surface, appear to increase rates of terrorism through the mechanisms explored above, when combined with other variables, specifically CTF implementation, these effects are changed, and in fact remittances may work to reduce terrorism by alleviating some of the underlying conditions that may lead to terrorism.

Using ITERATE data, which focuses on transnational terrorism, the effects of signing the *International Convention for the Suppression of Terrorist Financing* (and by extension, adopting domestic CTF legislation) are even more pronounced. Signing the convention is associated with a 64% decrease in transnational terrorist attacks, a 49% decrease in the number of people killed in attacks, a 42% decrease in the number of people injured, and a 37.5% decrease in the lethality of attacks, illustrated in Table 3. Models 5-8 (ITERATE data) found that signing the convention was associated with a decrease in terrorism, and hypotheses 1 through 4 also hold for these models. The association between signing the convention and rates of terrorism may be more pronounced in these models because transnational terrorism is specifically the type of terrorism that this

⁶² Mascarenhas and Sandler.

⁶³ Byman et al., Trends in Outside Support for Insurgent Movements xv; Michel Hess, "Substantiating the Nexus between Diaspora Groups and the Financing of Terrorism," *Terrornomics*, 2007, 49–63.

⁶⁴ Onur Burcak Belli et al., "Islamic State: The Business of the Caliph," *Die Zeit*, December 4, 2014, <https://www.zeit.de/feature/islamic-state-is-caliphate>.

⁶⁵ Keatinge, The role of finance in defeating al-Shabaab, p.5

⁶⁶ Vilkko, Al-Shabaab: From External Support to Internal Extraction, p.17

⁶⁷ Mughal and Anwar, "Do Migrant Remittances React to Bouts of Terrorism?," 577.

convention (and domestic CTF policies and practices) was designed to tackle: they were specifically designed to counter 9/11 style terrorism that involved cross-border financing, was relatively large-scale (and expensive), and had a large financial footprint.

In these models, regime type only mattered if the regime was autocratic. Autocracy was associated with reductions in terrorism in all models, including a 5% reduction in the number of people killed, a 6% reduction in people killed, an 8% reduction in casualties, and a 5% decrease in the lethality of attacks. Inward remittances were, like in previous models, associated with a decrease in terrorism (casualties and lethality of attacks), but these findings were only statistically significant in models 5 and 7.

The goodness of fit for the models is higher using the GTD data than it is for using the ITERATE data, and the goodness of fit improved following the stepwise reduction. This suggests that the GTD data, and the variables used in this analysis, are a better fit for this model than ITERATE data. This may be due to the highly selective nature of the ITERATE data (with a focus on transnational terrorism events). Using both GTD and ITERATE data, models measuring the effects on lethality of terrorist events had the poorest fit, suggesting that this variable has the most discrepancy with the articulated model.

To assess the sensitivity of the specification, I omitted the interact term and, separately, ran the specifications with a lagged dependent variable. The results described above were consistent with and without the interact term, with only minor variation in the effects. Lagging the dependent variable in the equation resulted in a greater predicted decrease in all measures of terrorism (number, killed, and casualties) when the international convention was signed. There was very little change in GDP, although some variation in the effects of democracy and autocracy was observed, sometimes affecting the levels of terrorism, and sometimes not. It also resulted in some changes for regulatory quality: in models 1-4, using GTD data, the specification with the lagged DV suggested a stronger effect from enhanced regulatory quality, while the other models showed very little difference. The lagged DV results in the same overall effect as seen in the original specification, but with some variation and magnification of the effect.

As some countries in both data sources had zero counts for terrorism during the time period under study, I removed them from the models. The overall results are very similar, although the effect of adopting CTF legislation is more muted. It is unclear why, as this is a counter-intuitive result. Similarly, I also re-ran the models with three countries (Iraq, Pakistan, and Afghanistan) removed, as these countries had significantly more terrorism than other countries over this time period. The results changed as follows: the GDP variable became statistically insignificant in model 2 and 3. Otherwise, the effect of removing countries with the largest number of terrorism incidents did not change the results.

Policy implications

The findings of this study raise interesting policy implications. It appears that adopting CTF legislation is associated with a reduction in terrorism, a finding that is at odds with much of the literature on CTF, which is quite critical of international policies and approaches to terrorist financing. For example, Clunan articulates an opinion shared by many scholars studying CTF

when she argues that international efforts on terrorist financing have largely been superficial.⁶⁸ Despite these critiques, a long-accepted assertion in CTF practice is that financing is the lifeblood of terrorist organizations⁶⁹ and that without financing, terrorist activity is impossible. The findings of this research suggest preliminary support for the implied effects of CTF policy and practice. Further, this research suggests an answer to the question of what CTF policies may achieve: a reduction in terrorism. While these findings do not demonstrate a causal link between the implementation of CTF legislation and a reduction in terrorism, the results are suggestive and worthy of further investigation.

These findings also suggest that there is a disparity in terms of the type of terrorism that CTF legislation affects, which relates to a key debate in the CTF literature (as well as in CTF practice). The low-cost of terrorism has been raised as a principal critique of CTF policy and practice.⁷⁰ The cost of terrorist attacks, and their reduced financial footprint, are invoked as a critique against the effectiveness of the regime.⁷¹ Bures notes that measures of effectiveness of the CTF regime may be hindered by the low cost of terrorism,⁷² while Napoleoni takes a particularly grim view of CTF policies and practices, noting that policies implemented to combat terrorism financing since 9/11 are obsolete. The structure of terrorism financing is no longer transnational, but instead occurs in individual countries with small-scale attacks funded with “clean money”, and very little movement of money and people taking place.⁷³ However, as has been discussed, the actual purpose of the CTF regime remains unsettled, and disrupting terrorist attacks by reducing funds available may be only one of the many desired outcomes, and there remains a lacuna of empirical evidence supporting either critiques or the CTF regime itself. The findings of this study suggest that the effects of CTF legislation are more pronounced on transnational terrorism than domestic terrorism, but provide little insight in terms of their effectiveness against low-cost terrorism. At the same time, these findings suggests that these critiques might have some merit, and that CTF policies and approaches may need to be further refined in order to impact domestic terrorism (which might tend towards being cheaper due to the lack of travel / transportation expenses involved).

⁶⁸ Clunan, “The Fight against Terrorist Financing,” 579.

⁶⁹ An Official of the Northern Ireland Office., “Tackling Terrorist Finance,” *Commonwealth Law Bulletin* 18, no. 4 (1992): 1482–85.

⁷⁰ Ryder, *The Financial War on Terrorism*, 20.

⁷¹ Peter R. Neumann, “Don’t Follow the Money: The Problem with the War on Terrorist Financing,” *Foreign Aff.* 96 (2017): 93.

⁷² Oldrich Bures, “EU’s Fight Against Terrorist Finances: Internal Shortcomings and Unsuitable External Models,” *Terrorism and Political Violence* 22, no. 3 (June 15, 2010): 418–37, <https://doi.org/10.1080/09546550903463434>.

⁷³ Loretta Napoleoni, “Terrorist Financing: How the New Generation of Jihadists Funds Itself,” *The RUSI Journal* 151, no. 1 (February 2006): 60–64, <https://doi.org/10.1080/03071840609442004>.

Finally, while the results are statistically significant and demonstrate that signing the *International Convention for the Suppression of Terrorist Financing* (implementing domestic CTF legislation) has a strong effect on levels of terrorism, this study does not pinpoint the causal mechanisms at play in this reduction. It is likely that actions beyond simply implementing legislation are critical, and there might be intervening variables affecting these outcomes (such as other counter-terrorism policies and practices). This raises interesting questions in terms of what CTF policies and practices work best at reducing levels of terrorism, and in what contexts.

This study, as a preliminary step in understanding the effects of CTF policies and practices, introduces empirical evidence to the debate on CTF and raises residual issues that are promising areas of study and analysis. Overall, signing the *International Convention for the Suppression of Terrorist Financing* and implementing domestic CTF legislation is associated with a statistically significant reduction in terrorism across most measures of terrorism using two different datasets, and this effect is most pronounced for transnational terrorism. However, the mechanisms of this relationship have yet to be explored, and this initial study is far from the last word on the issue.

Bibliography

- Abadie, Alberto. "Poverty, Political Freedom, and the Roots of Terrorism" 96, no. 2 (2006): 8.
- Aksoy, Deniz, David B. Carter, and Joseph Wright. "Terrorism In Dictatorships." *The Journal of Politics* 74, no. 3 (July 2012): 810–26. <https://doi.org/10.1017/S0022381612000400>.
- An Official of the Northern Ireland Office. "Tackling Terrorist Finance." *Commonwealth Law Bulletin* 18, no. 4 (1992): 1482–85.
- Anderton, Charles H., and John R. Carter. *Principles of Conflict Economics: The Political Economy of War, Terrorism, Genocide, and Peace*. 2nd ed. Cambridge: Cambridge University Press, 2019. <https://doi.org/10.1017/9781316875506>.
- Belli, Onur Burcak, Andrea Böhm, Alexander Bühler, Kerstin Kohlenberg, Stefan Meining, Yassin Musharbash, Mark Schieritz, et al. "Islamic State: The Business of the Caliph." *Die Zeit*. December 4, 2014. <https://www.zeit.de/feature/islamic-state-is-caliphate>.
- Berger, Michael A. "Interdicting Terrorist Financing with Coercion: Strategies for Policy-Makers to Cut the Cash Flow of Terrorist Organizations." *Defence Studies* 10, no. 3 (September 2010): 387–404. <https://doi.org/10.1080/14702436.2010.503681>.
- Biersteker, Thomas J. "Targeting Terrorist Finances: The New Challenges of Financial Market Globalisation." In *Worlds in Collision: Terror and the Future of Global Order*, edited by Ken Booth and T. Dunne. Palgrave and MacMillan, 2002.
- Bravo, Ana Bela Santos, and Carlos Manuel Mendes Dias. "An Empirical Analysis of Terrorism: Deprivation, Islamism and Geopolitical Factors." *Defence and Peace Economics* 17, no. 4 (August 2006): 329–41. <https://doi.org/10.1080/10242690500526509>.
- Bures, Oldrich. "EU's Fight Against Terrorist Finances: Internal Shortcomings and Unsuitable External Models." *Terrorism and Political Violence* 22, no. 3 (June 15, 2010): 418–37. <https://doi.org/10.1080/09546550903463434>.
- Byman, Daniel, Peter Chalk, Bruce Hoffman, William Rosenau, and David Brannan. *Trends in Outside Support for Insurgent Movements*. Santa Monica, CA: Rand, 2001.
- Center for Systemic Peace. "Polity Project," 2020. <https://www.systemicpeace.org/polityproject.html>.
- Clunan, Anne L. "The Fight against Terrorist Financing." *Political Science Quarterly* 121, no. 4 (December 2006): 569–96. <https://doi.org/10.1002/j.1538-165X.2006.tb00582.x>.
- Croissant, Aurel, and Daniel Barlow. "Following the Money Trail: Terrorist Financing and Government Responses in Southeast Asia ¹." *Studies in Conflict & Terrorism* 30, no. 2 (January 2007): 131–56. <https://doi.org/10.1080/10576100600959721>.
- Davis, Jessica. "Chapter 15: Prevention of Terrorist Financing." In *Handbook of Terrorism Prevention and Preparedness*, edited by Alex P. Schmid. The Hague: ICCT, 2021. <https://icct.nl/app/uploads/2021/01/Handbook-ch-14-Davis-FINAL.pdf>.
- . *Illicit Money: Financing Terrorism in the 21st Century*. Lynne Rienner Publishers, 2021.
- . "New Technologies but Old Methods in Terrorism Financing." *Royal United Services Institute for Defence and Security Studies, CRAAFT Research Briefing*, no. 2 (July 22, 2020): 7.
- . "Understanding the Effects and Impacts of Counter-Terrorist Financing Policy and Practice." *Terrorism and Political Violence* 0, no. 0 (June 9, 2022): 1–17. <https://doi.org/10.1080/09546553.2022.2083507>.
- Enders, Walter, Gary A. Hoover, and Todd Sandler. "The Changing Nonlinear Relationship between Income and Terrorism." *Journal of Conflict Resolution* 60, no. 2 (March 2016): 195–225. <https://doi.org/10.1177/0022002714535252>.

- Enders, Walter, and Todd Sandler. "Patterns of Transnational Terrorism, 1970–1999: Alternative Time-Series Estimates." *International Studies Quarterly* 46, no. 2 (June 1, 2002): 145–65. <https://doi.org/10.1111/1468-2478.00227>.
- United States Department of State. "Executive Order 13224." Accessed October 5, 2020. <https://www.state.gov/executive-order-13224/>.
- Gaibulloev, Khusrav, James A. Piazza, and Todd Sandler. "Regime Types and Terrorism." *International Organization* 71, no. 3 (2017): 491–522. <https://doi.org/10.1017/S0020818317000169>.
- Gill, Paul, John Horgan, and Paige Deckert. "Bombing Alone: Tracing the Motivations and Antecedent Behaviors of Lone-Actor Terrorists,," *Journal of Forensic Sciences* 59, no. 2 (2014): 425–35. <https://doi.org/10.1111/1556-4029.12312>.
- Gries, Thomas, Tim Krieger, and Daniel Meierrieks. "Causal Linkages Between Domestic Terrorism and Economic Growth." *Defence and Peace Economics* 22, no. 5 (October 2011): 493–508. <https://doi.org/10.1080/10242694.2010.532943>.
- Hess, Michel. "Substantiating the Nexus between Diaspora Groups and the Financing of Terrorism." *Terrornomics*, 2007, 49–63.
- Home Security Committee. "#Terror Gone Viral: Overview of the 75 ISIS-Linked Plots Against the West 2014-2016," March 2016. <https://www.hsdl.org/?view&did=791035>.
- Korotayev, Andrey, Ilya Vaskin, and Sergey Tsirel. "Economic Growth, Education, and Terrorism: A Re-Analysis." *Terrorism and Political Violence*, May 9, 2019, 1–24. <https://doi.org/10.1080/09546553.2018.1559835>.
- Levitt, Matthew, and Michael Jacobson. "The U.S. Campaign to Squeeze Terrorists' Financing." *Journal of International Affairs* 62, no. 1 (Fall 2008).
- Li, Quan. "Does Democracy Promote or Reduce Transnational Terrorist Incidents?" *Journal of Conflict Resolution* 49, no. 2 (April 2005): 278–97. <https://doi.org/10.1177/0022002704272830>.
- Mascarenhas, Raechelle, and Todd Sandler. "Remittances and Terrorism: A Global Analysis." *Defence and Peace Economics* 25, no. 4 (July 4, 2014): 331–47. <https://doi.org/10.1080/10242694.2013.824676>.
- Mughal, Mazhar Yasin, and Amar Iqbal Anwar. "Do Migrant Remittances React to Bouts of Terrorism?" *Defence and Peace Economics* 26, no. 6 (November 2, 2015): 567–82. <https://doi.org/10.1080/10242694.2014.921359>.
- Napoleoni, Loretta. "Terrorist Financing: How the New Generation of Jihadists Funds Itself." *The RUSI Journal* 151, no. 1 (February 2006): 60–65. <https://doi.org/10.1080/03071840609442004>.
- National Consortium for the Study of Terrorism and responses to Terrorism (START). "Global Terrorism Database," 2019. <https://www.start.umd.edu/gtd/about/>.
- Neumann, Peter R. "Don't Follow the Money: The Problem with the War on Terrorist Financing." *Foreign Aff.* 96 (2017): 93.
- Piazza, James A. "Poverty, Minority Economic Discrimination, and Domestic Terrorism." *Journal of Peace Research* 48, no. 3 (May 1, 2011): 339–53. <https://doi.org/10.1177/0022343310397404>.
- Piazza, James A. "Rooted in Poverty?: Terrorism, Poor Economic Development, and Social Cleavages." *Terrorism and Political Violence* 18, no. 1 (March 1, 2006): 159–77. <https://doi.org/10.1080/095465590944578>.
- . "The Opium Trade and Patterns of Terrorism in the Provinces of Afghanistan: An Empirical Analysis." *Terrorism and Political Violence* 24, no. 2 (April 2012): 213–34. <https://doi.org/10.1080/09546553.2011.648680>.

- Pieth, Mark, ed. "International Convention for the Suppression of the Financing of Terrorism." In *Financing Terrorism*, 161–75. Dordrecht: Springer Netherlands, 2002. https://doi.org/10.1007/0-306-48044-1_11.
- Pieth, Mark., Daniel. Thelesklaf, and Radha. Ivory, eds. "Measures to Counter the Financing of Terrorism." In *Countering Terrorist Financing the Practitioner's Point of View*. Bern ; Peter Lang, 2009.
- Pol, Ronald F. "Uncomfortable Truths? ML=BS and AML= BS2." *Journal of Financial Crime* 25, no. 2 (January 1, 2018): 294–308. <https://doi.org/10.1108/JFC-08-2017-0071>.
- Rudner, Martin. "Using Financial Intelligence Against the Funding of Terrorism." *International Journal of Intelligence and CounterIntelligence* 19, no. 1 (January 2006): 32–58. <https://doi.org/10.1080/08850600500332359>.
- Ryder, Nicholas. *The Financial War on Terrorism: A Review of Counter-Terrorist Financing Strategies since 2001*. Routledge, 2015.
- Sandler, Todd, and Walter Enders. "Transnational Terrorism: An Economic Analysis." *The Economic Impact of Terrorist Attacks* 134 (2005).
- Schuurman, Bart, Lasse Lindekilde, Stefan Malthaner, Francis O'Connor, Paul Gill, and Noémie Bouhana. "End of the Lone Wolf: The Typology That Should Not Have Been." *Studies in Conflict & Terrorism* 42, no. 8 (August 3, 2019): 771–78. <https://doi.org/10.1080/1057610X.2017.1419554>.
- U.S. Department of the Treasury. "Shutting Down the Terrorist Financial Network December 4, 2001," December 4, 2001. <https://www.treasury.gov/press-center/press-releases/Pages/po841.aspx>.
- United Nations Security Council. Resolution 1373 (2001), S/RES/1373 (2001) § (2001). <http://www.tandfonline.com/doi/abs/10.1080/13642980008406913>.
- Van Evera, Stephen. *Guide to Methods for Students of Political Science*. E-Book. Ithaca and London: Cornell University Press, 1997.
- Vinyard Software Inc. "The International Terrorism Attributes of Terrorist Events (ITERATE) Dataset." Dunn Loring, VA: Vinyard Software Inc., 2016.
- Williams, Phil. "Terrorist Financing." In *Fighting Back What Governments Can Do About Terrorism*, edited by Paul Shemella, 44–63. Palo Alto: Stanford University Press, 2011.
- . "Warning Indicators, Terrorist Finances, and Terrorist Adaptation." *Strategic Insights* IV, no. 1 (January 2005): 16.