Foreign Aid as a Counterterrorism Tool:
Can Democracy Aid Reduce Terrorism?*

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ABSTRACT

Over the last two decades, democracy assistance programs have become an important component of foreign aid budgets of many Western democracies. The recent assessment of these programs revealed that democracy aid helps countries in their transition to democracy. This article identifies an additional rationale for the continued international support for the use of democracy aid. We argue that democracy aid can provide important second-order security benefits for aid-receiving countries. In particular, democracy aid can dampen the frequency of domestic terrorist attacks in aid-receiving countries by reducing the participation in, and support for, extremism as well constraining the ability of terrorist organizations to operate and carry out attacks. We expect countries that receive high levels of democracy assistance to experience fewer terrorist incidents than countries that receive little or no aid. Using a negative binomial regression and a hybrid variant of a hurdle model and traditional Heckman model to account for potential endogeneity concerns, we find support for our argument. The results show that democracy assistance programs are particularly effective in dampening domestic terrorism in countries that are not experiencing other forms of domestic political violence. We conclude that foreign aid, in particular democracy assistance programs that strengthen the rule of law and improve the level of civil liberties in aid-receiving countries, can have significant positive security externalities.

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I. Introduction

Preventing terrorist attacks is one of the most significant challenges that nation-states face today. The urgency and importance of this problem creates strong incentives for policymakers to design efficient counterterrorism policies. It is against the backdrop of this imminent threat that foreign aid came to the forefront of the American foreign policy as a potential counter-terrorism tool (Windsor 2003). Over the last decade, policymakers of most Western democracies have embraced the idea that in order to eradicate terrorism, one must first fight poverty. Although fighting terrorism by foreign aid continues to find resonance in the policy circles, the scholarly community is more skeptical of this policy given the scant empirical evidence linking poverty to terrorism (e.g., Krueger and Maleckova 2003; Krueger 2007). Since poverty is not a root cause of terrorism, it has been argued, improving the economic conditions of a country by extending foreign aid is unlikely to deter terrorism.

We argue that it is premature to conclude that foreign aid is not an effective counter-terrorism tool. While we agree that poverty may not be the main catalyst of terrorism and hence economic assistance may not be a panacea to terrorism, we contend that foreign aid can work through channels other than improving economic growth to fight terrorism. Building upon the insights from the recent foreign aid and terrorism literatures, we emphasize an alternative causal pathway through which foreign aid can reduce the frequency of terrorist attacks in aid receiving countries. We postulate that foreign aid earmarked for democracy promotion, i.e., good governance and civil society aid, can reduce terrorism by improving “political conditions” of a
country, which affect both the support for terrorism and the ability of terrorist organizations to operate.  

Our argument rests on two empirically verifiable observations. First, the recent scholarship has accumulated substantial evidence linking the political conditions of a country, in particular the level of civil liberties and the strength of the rule of law, to the frequency of terrorist attacks. We now know that it is political rather than economic conditions of a country that increase its vulnerability to terrorist attacks (e.g., Krueger and Laitin 2008; Krueger and Maleckova 2003; Krueger 2007; Blomberg and Rosendorff 2006, Choi 2010; Piazza 2011, 2014). Political repression and weak rule of law reduce state legitimacy, radicalizes political moderates and hence push the aggrieved individuals towards terrorism by not providing peaceful channels to express discontent (Krueger 2007; Choi 2010; Piazza 2014). In addition, weak rule of law and poor governance create a permissive environment for terrorist organizations to recruit and train volunteers, transfer funds from internal and external sympathizers, and carry out attacks.

The second empirical observation that motivates our research is the recognition that not all types of foreign aid are aimed at improving economic conditions of a recipient country (Finkel, Pérez-Liñán, and Seligson 2007; Dietrich 2011; Winters and Wright 2010). Some aid programs address health, education, environmental problems, while others are extended with the purpose of democracy promotion. It is this latter category of aid programs that, we believe, has a unique capacity to effectively address the root causes of terrorism, i.e., poor political conditions. Recent scholarship provides evidence for the effectiveness of democracy assistance programs in

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1 We use “democracy aid”, “democracy assistance programs”, and “governance and civil society aid” interchangeably.
improving the level of democracy and quality of governance in recipient countries (e.g., Finkel et al. 2007; Kalyvitis and Vlachaki 2010; Scott and Steele 2011).

Bringing these two separate empirical findings together, we deduce that the number of domestic terrorist attacks in a country that receives high levels of democracy aid is likely to be lower than that of countries that receive little or no aid. Governance and civil society aid dampens terrorism by providing alternative venues for people to express their discontent with the regime and hence reducing the willingness of individuals to join terrorist organizations as well as constraining the ability of terrorist groups to run clandestine operations and carry out attacks.

Our article makes several important contributions to the foreign aid and counterterrorism literatures. First, it shows that foreign aid can be used to accomplish foreign policy goals beside economic growth and democracy promotion: it can be an effective counter-terrorism tool. By highlighting a possible positive externality of foreign aid, our article joins the recent revisionist literature that challenges the dominant pessimistic view of aid efficacy. Second, this article identifies an overlooked channel through which foreign aid can reduce the frequency of terrorism in aid-receiving countries. It shows that democracy assistance programs may be an effective tool to dampen both an individual’s willingness to turn to extremism and terrorist groups’ ability to operate.

The article proceeds as follows. In the next section, we review the recent literature on the causes of terrorism. In the third section, we explain how democracy assistance programs can dampen terrorism by strengthening political institutions and rule of law, empowering pro-reform civil society organizations and supporting community development programs. Then, we outline our research design and test our hypothesis using a sample of democracy aid eligible countries between 1996 and 2011. We find that government and civil society aid is associated with lower
rates of terrorist attacks, in particular in countries where terrorism is not a part of a broader civil war. We conclude with a brief review of our argument and discuss the potential policy implications of our findings and avenues for future research.

II. Causes of Terrorism: Economic versus Political Conditions

The September 11, 2001 attacks sparked a critical policy debate on the use of foreign aid as a counterterrorism tool. President George W. Bush, in his oft-quoted 2002 speech, posited a positive association between poverty and terrorism, implying that fighting poverty in countries hosting terrorist organizations would reduce the number of terrorist attacks.² If poverty breeds terrorism and aid reduces poverty by promoting socioeconomic development, it has been argued, foreign aid can be an effective counter-terrorism tool.³

While the idea that poverty causes terrorism seems intuitively plausible, it failed to receive consistent empirical support (e.g., Abadie 2006; Krueger and Maleckova 2003; Krueger and Laitin 2008, Piazza 2006).⁴ A number of economists demonstrated that terrorist operatives are more likely to come from the mid-income and highly educated strata of society (Krueger and Maleckova 2003; Krueger 2007).⁵ These findings suggest that improving a country’s economic

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⁴ A number of scholars find a positive correlation between low socio-economic development and the incidence of terrorism (e.g., Blomberg and Hess 2008, Burgoon 2006).
⁵ On the other hand, Bueno de Mesquita (2005) shows that when the economic conditions are bad in a country, unemployment is steep, and hence there is a higher supply of volunteers willing to engage in terrorism, including
conditions does not necessarily decrease the willingness of its citizens to join terrorist networks and carry out terrorist attacks.\(^6\)

If it is not economic deprivation that causes people to turn to terrorism, what does?\(^7\)

While there are many reasons why people may adopt extremist ideology and it is therefore not possible to have a “standard” profile of a terrorist, the recent discussions in policy circles suggest that poor political conditions provide a breeding ground for extremists. For example, at the 2012 Global Counterterrorism Forum, Secretary of State Hillary Clinton stated: “Experience tells us that democracies are better equipped than autocracies to stand up against terrorism. They offer constructive outlets for political grievances, they create opportunities for mobility and prosperity that provide alternatives to violent extremism, and they tend to have more effective institutions” (Clinton 2012).

The recent scholarly literature provides strong macro-level empirical evidence backing this contention. Low level of civil liberties, state repression, and weak rule of law are shown to be associated with greater participation in terrorism (e.g., Blomberg and Rosendorff 2006; Burgoon 2006; Choi 2010; Krueger and Laitin 2008; Piazza 2006, 2011, 2014). Micro-level evidence points to the same direction. For example, in their analysis of terrorist activities in West

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\(^6\) The recent literature on hate crimes, a close cousin to terrorism, similarly rejected the earlier findings that poor economic conditions are positively associated with lynching and crimes against foreigners (e.g., Raper 1933; Hamm1994; Krueger and Pischke 1997).

\(^7\) We believe that the jury is still out on the relationship between poverty and terrorism. The macro level evidence is mixed and the data for micro level evidence comes only from Israel and the Palestinian territories.
Bank and Gaza, Krueger and Maleckova (2003) and Krueger (2007) show that low levels of political and civil rights is the strongest predictor of participation in, and support for, terrorism.

States characterized with weak rule of law and excessive repression can be a breeding ground for terrorism for two major reasons. First, the lack of democratic principles in a state encourages participation in, and support for, terrorism. There are two ways weak democratic governance can increase support for terrorism. Repression and weak rule of law suggests limited presence of legal avenues for political dissent. The lower the ability of citizens to redress their grievances through legal channels, publicly express their political views and hold government responsible for incompetence, the higher the likelihood that disenchanted and dissenting citizens will resort to extra-legal measures such as terrorist attacks (Piazza 2014; Crenshaw 1981). As Piazza (2014) suggests, “in conditions under which the political system is “inaccessible,” dissidents are more likely to see value in engaging in political violence and terrorist activity, despite the risks of doing so, than would be the case if legal avenues to engage in dissent were present.” (9). In sum, state repression often drives political opposition underground, placing the moderates at a disadvantage and encouraging political extremism (Windsor 2003, 45). The extant literature on terrorism provides strong support for the argument that the unavailability of legal channels and opportunities for airing grievances is associated with higher participation, and support for, terrorism (Bravo and Dias 2006; Aksoy et. al. 2012; Wilson and Piazza 2013)

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8 We use Davenport’s (2000) definition of repression as “the behavior that is applied by governments in an effort to bring about political quiescence and facilitate the continuity of the regime through some form of restriction or violation of political and civil liberties” (6).

9 Research on political protest similarly shows that harsh state repression escalates anti-government mobilization and increases the incentives of individuals to protest against the government (e.g., Francisco 1995; Opp and Roehl 1990; Wood 2003).
A second way weak rule of law and state repression can encourage support for terrorism is by generating grievances and dissatisfaction with the government (Bueno de Mesquita 2005; Sánchez-Cuenca and de la Calle 2009). Low levels of civil liberties and high state repression create grievances among the individuals, reducing their trust in political institutions and loyalty to the state. The social contract that binds citizens and the state is forfeited when the legitimacy of the state is questioned (Rotberg 2002). Collective grievances against the state, in turn, help terrorist groups overcome collective action problems in mobilization and recruitment (Crenshaw 1981; Ross 1993; Piazza 2011, 2014).

Weak democratic governance and rule of law not only encourage support for terrorism by closing peaceful avenues of dissent and creating collective grievances against the government but also offer attractive venues for terrorist groups to recruit and train volunteers and carry out attacks. Due to the clandestine nature of their activities, terrorist organizations tend to flourish in environments where the central government is incapable of projecting power and asserting authority within its own borders (Rotberg 2002). Similarly, identification and capture of terrorists is harder in states where the rule of law is weak. Terrorist organizations have an easier time soliciting financing and transferring funds from internal and external sympathizers in states where there is no functioning judicial system. Repressive states also provide an environment that can be easily exploited by terrorist groups. It is much easier for terrorist groups to distort information about government behavior, galvanize public and turn attacks into propaganda tools.
in repressive environment (Piazza 2014). Therefore, terrorist nodes and hubs are more commonly found in states where political conditions are particularly poor (Rotberg 2002).\(^{10}\)

If it is poor political conditions that increase a state’s vulnerability to domestic terrorism, one potential way international community can help terrorism-stricken countries is to provide external democracy promotion assistance, which is shown to be effective in improving democratic credentials of aid-recipients.\(^{11}\) This implies that “democracy promotion” and the “fight against terrorism” abroad are not necessary mutually exclusive foreign policy objectives as some skeptics suggest (Carothers 2003; Whitaker 2008). Rather, democracy promotion programs can have important second-order security benefits by reducing both the appeal of terrorism and the ability of terrorist groups to operate in aid-receiving countries.

### III. Democracy Aid to the Rescue: Using Democracy Aid to Fight Terrorism

While the use of economic assistance was the modus operandi of the foreign aid programs of most Western countries and the Soviet Union during the Cold War, democracy promotion programs, especially by the United States, have seen a dramatic increase since 1990s (Carothers 1999; Diamond 1995). For example, the amount the U.S. Agency for International

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\(^{10}\) Terrorist nodes are small, closely knit local cells that commit terrorist attacks, whereas terrorist hubs facilitate centralized communication among the nodes and provide financial support, ideological guidance and resources to enable node attacks (Sageman 2004).

\(^{11}\) There is some evidence suggesting that democratic countries are more likely to be targeted by international terrorists (e.g., Eubank and Weinberg 2001; Li 2005; Schmid 1992). However, the empirical evidence for this supposition is mixed (Chenoweth 2013). For example, Savun and Phillips (2009) show that controlling for the foreign policy disposition of a country, the type of domestic political institutions is not a significant predictor of transnational terrorism. Nevertheless, our focus in this article is domestic terrorism.
Development (USAID) has spent on democracy promotion programs has increased from $179 million to $1,065 million per year from 1990 to 2003 in constant 2011 US dollars (Scott and Steele 2011).\textsuperscript{12}

According to Carothers (1999), democracy promotion programs consist of “aid that is specifically designed to foster a democratic opening in a non-democratic country or to further a democratic transition in a country that has experienced a democratic opening (6).”\textsuperscript{13} Following the increase in the supply of democracy assistance programs around the world, the effectiveness of such programs has been a target of scholarly investigation. While the earlier studies on democracy aid were not uniformly sanguine about its effectiveness, they suffer from important limitations, such as relying on case studies of a particular country or region and/or using aggregate measures of foreign aid rather than aid earmarked for democracy promotion.\textsuperscript{14} Finkel et al. (2007) provide the first comprehensive examination of democracy assistance programs extended by the U.S Agency for International Development (USAID) and show that democracy aid is a significant predictor of democratization in recipient countries. Recent empirical studies give additional credence to Finkel et al.’s (2007) finding: democratic aid flows are positively 

\textsuperscript{12} The original Scott and Steele data are in constant 1995 USD, which we converted to 2011 measures using the CPI calculator available at http://data.bls.gov/cgi-bin/cpicalc.pl?cost1=722&year1=1995&year2=2011.

\textsuperscript{13} This definition excludes the imposition of democracy by covert or overt means and indirect support for democracy (such as aid for education and economic growth).

\textsuperscript{14} A number of studies conclude that democracy aid is either ineffective or counterproductive, i.e., it retards democratic development (e.g., Djankov, Montalvo, Reynal-Querol 2008; Knack 2001, 2004). However, these studies conflate the effect of democracy assistance programs with the effect of aid given for purposes other than democratization by utilizing Official Development Assistance (ODA) as a measure of aid.
associated with a move towards democracy in recipient countries (e.g., Kalyvitis and Vlachaki 2010; Scott and Steele 2011; Wright 2009).

External democracy assistance can promote democracy and thereby reduce the appeal of terrorism in aid recipient countries in a number of ways. One important component of democracy assistance programs is to help democratizing states develop and strengthen political institutions that are central to democratic governance. Democracy assistance programs, for example, can increase the legislature’s capacity to shape and monitor policy and strengthen its oversight capacity by training state officials and providing necessary financial resources. An effective and legitimate law-making institution, in turn, increases citizens’ trust in political institutions and thereby reduces their dissatisfaction with the regime. The more satisfied an individual is with the government, the lower the appeal of terrorism as a strategy to express frustration. For instance, the USAID’s recent initiative in Burma to help the central government design transparent and democratic organizational structures that are open and accountable to the citizens was a response to a growing public dissatisfaction with the regime.15

Democracy assistance programs also contribute to democratic governance by strengthening a country’s judicial institutions and the rule of law. Aid funds can be used for legal reforms, administration of justice, training judges, and providing resources to improve citizens’ access to justice. Strengthening the judiciary is important for political stability as a strong judiciary implies the rule of law and increased legitimacy of the state. Increased legitimacy in turn improves a state’s credibility in the eyes of the society (Savun and Tirone 2011, 235-236). Only when citizens have confidence in legal procedures and courts are they more likely to

subscribe to established laws as a means of dispute resolution rather than turning to physical violence (Choi 2010, 944). Therefore, a strong rule of law is associated with a reduction in participation, and support for, terrorism (Choi 2010).

A strong rule of law and effective state institutions not only reduce participation in terrorism but also curtail the ability of terrorist organizations to function. For example, it is much harder for terrorist organizations to recruit and train volunteers where there are functioning state institutions (Krueger 2007, 50). Similarly, a strong rule of law disrupts funding sources and transfer mechanisms of terrorist organizations, starving them of the material support they require. Promoting democracy by the strengthening the judicial system, reducing corruption and increasing citizens’ confidence in legal procedures, therefore, decreases the attractiveness of a state to serve as a safe haven for terrorist organizations.

Providing support to pro-reform civil society organizations is another central component of democracy promotion programs (Scott and Steele 2005). One important function of civil society organizations is to limit state power and subject the government’s actions to close public scrutiny. They do so by monitoring public institutions and disseminating reliable information about the government’s actions. Democracy assistance programs can increase the watchdog capabilities of civil society organizations and NGOs by providing technical and financial assistance (Savun and Tirone 2011, 236). A strong civil society presence reduces the state’s ability to repress and curtail the civil liberties of its citizens, which are shown to affect an individual’s willingness to support terrorism (Piazza 2006, 2011; Walsh and Piazza 2010; Wilkinson 2011).

Relatedly, external democracy assistance can dampen citizens’ participation in terrorism by supporting community participation and action programs, which are designed to bring citizen

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groups and local leaders together to address local grievances and problems through community-driven projects. The ability to participate in local governance through local councils and town hall meetings empowers individuals and enhances the communication between the citizens and the government. Community participation programs increase the trust in state institutions, making citizens stakeholders in the regime and thereby reducing the appeal of terrorism as a strategy to express grievances. For example, in early 2000s, the USAID was heavily involved in conflict mitigation and community stabilization programs in Chad’s remote north and helped the Association of Nomads and Herders to create a youth branch of its organization. As the USAID Senior Deputy Assistant Administrator for Africa stated in his 2009 testimony to the Senate Subcommittee on African relations: “The promotion of youth participation in organizations such as this one helps to build stronger ties between youth and their communities, and provides them with a voice in society. Empowering youth in this way can greatly reduce the feeling of marginalization that feeds recruitment into extremist groups.”

In sum, we expect foreign aid earmarked for democracy promotion to reduce the frequency of terrorist attacks in aid-receiving countries by improving poor political conditions, such as weak political institutions, low levels of civil liberties and weak rule of law, that affect both the participation in terrorism and the ability of terrorist organizations to function. Therefore,

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17 For more information on the USAID’s work on Chad, see http://www.usaid.gov/news-information/congressional-testimony/written-testimony-usaid-senior-deputy-assistant. A similar USAID program was launched in Yemen in 2012 to support the National Dialogue Conference, which includes representatives of Yemen’s political parties, youth community members, civil society organizations, and various ethnic groups, with the goal of reducing further violence and instability in the country. More information on this program can be found at http://www.usaid.gov/results-data/success-stories/yemenis-take-airways-plan-country’s-future. Accessed on April 20, 2014.
we hypothesize that:

**Hypothesis:** States that receive high levels of democracy aid experience fewer terrorist incidents than states that receive no or low levels of democracy aid, holding everything else constant.

Before we test the empirical validity of our hypothesis, it is important to address three potential concerns about our argument. First, one might argue that a more direct, and perhaps more effective, way to reduce terrorism abroad is to encourage countries to adopt strict counter-terrorism legislation and increase their efforts in counter-terrorism measures. We believe that pressuring countries to pass anti-terrorism legislation is not an optimal foreign policy, and may even be counterproductive, for a number of reasons. First, there is evidence suggesting that authoritarian countries are more likely to pass anti-terrorism legislation than democracies and tend to use such measures to justify further encroachment of civil liberties and other anti-democratic practices, which in turn further aggravates the risk of terrorist incidents (Whitaker 2007). Second, anti-terrorism legislation puts new democracies in a bind as anti-terrorism laws tend to limit civil liberties and expand law enforcement powers of the state, the practices associated with previous authoritarian regimes. For example, in new democracies, such as in Kenya, Indonesia, and South Korea, extensive legislative debates and public controversy surrounded the passage of domestic anti-terrorism laws. Strong opposition from civil society organizations delayed the adoption of such bills and intensified anti-American sentiment among the public (Whitaker 2007). There is evidence suggesting that aggressive foreign policy practices

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18 For example, in 2003, the US ambassador to Trinidad and Tobago warned the government of Trinidad and Tobago about a possible reduction in US investment if the anti-terrorism bill was not implemented (Whitaker 2007, 1021).
increase the vulnerability of the Western democracies to terrorist attacks from abroad (Savun and Phillips 2009). Therefore, pressuring countries to pass domestic anti-terrorism legislation is a suboptimal foreign policy for reducing the risk of terrorism compared to extending democracy aid to promote democratization abroad.

A second potential criticism against our argument is the possibility that democratization process may intensify a state’s vulnerability to terrorism. Due to weak state authority and nascent institutions in new regimes, regime transitions are often associated with an increased risk of political violence (e.g., Mansfield and Snyder 1995, 2005; Snyder 2000; Hegre et al. 2001). If democratization is associated with an increased risk of terrorism, then democratization may not be a sound policy to pursue to reduce the risk of terrorism. However, the recent research shows that democratizing states that receive high levels of external democracy aid are less prone to civil war onset than democratizing states that receive no or low levels of democracy aid (Savun and Tirone 2011). Democracy assistance programs can act as a constraining force on the risk of domestic political violence by providing an exogenous source of state strength and institutional credibility to smoothen the regime transition. Therefore, external democracy promotion is not necessarily at odds with the fight against terrorism.

Finally, it is important to note that democracy assistance is usually most effective when it is extended to countries that are already experiencing some democratic opening but in need of external support to move forward. Therefore, we do not expect democracy promotion programs to dampen terrorism in an aid-receiving country unless there is some internal impetus and opening for democratic rule.
IV. Research Design, Empirical Models and Findings

Data and Methods

Following Enders and Sandler (2006), we define terrorism as “the premeditated use or threat to use violence by individuals or sub-national groups in order to obtain a political or social objective through the intimidation of a large audience beyond that of their immediate victims” (3). Terrorism is considered domestic “when an incident involves perpetrators, victims, and an audience of the country in which the incident occurs” (Enders and Sandler 2006, 6). Our focus is on domestic terrorism, which is far more common and costlier than transnational terrorism (Abadie 2006; Sánchez-Cuenca and de la Calle 2009).19 We also expect democracy aid to have greater impact on domestic rather than foreign policy of an aid receiving country. By making domestic politics more inclusive and reducing incentives for engaging in terrorism, democracy aid should dampen the willingness of citizens to attack their own government. However, there is little reason to anticipate that democracy assistance programs will change a government’s foreign policy (save, perhaps, for advocates of a “democratic peace”).

We test our hypothesis on a sample of democracy aid eligible countries for the 16-year period from 1996 to 2011.20 The unit of observation is country-year. Our dependent variable, Total Attacks, is a count of the number of domestic terrorist attacks occurring in a country-year. The original source for data on terrorist attacks is the National Consortium for the Study of Terrorism and Responses to Terrorism’s Global Terrorism Database (2012). However, the GTD does not distinguish between domestic and transnational attacks, so to make this distinction we

19 According to the MIPT Terrorism Knowledge Base, from 1998 to 2008, only 9.2 percent of recorded terrorist events were international in nature.

20 Since OECD member countries are generally ineligible for democratization aid, we exclude OECD member countries from our sample, leaving 155 countries under analysis.
utilize the data from Enders et al. (2011), who separate the GTD data into the two types.\textsuperscript{21} We sum the number of incidents by country year to convert the data from the incident format to the country-year format of our analysis. The number of domestic terrorist attacks varies widely: many countries experience zero attacks in a year, the average number of attacks is around 7, while the maximum observed value is 673 in 2007. The summary statistics for \textit{Total Attacks}, as well as each of the other variables used in the analysis, are available in Table 1.

[Table 1 about here]

The primary explanatory variable is \textit{Government and Civil Society Aid}, the amount of aid given to a recipient earmarked for good governance and civil society. In our primary models, we use the data from AidData.org, which reports figures in constant of millions of 2009 US dollars (Tierney et al. 2011).\textsuperscript{22} AidData principally draws on the data from the OECD’s Creditor Reporting System Database. The OECD defines aid aimed at good governance as aid intended to enhance “the accountability, efficiency, and effectiveness of the official sector,” while aid for civil society is intended to “integrate participation and pluralism, including the right of opposition, into the political life of the country and provides a basis for legitimacy of the government” (OECD 2010).\textsuperscript{23}

The OECD also codes aid given for conflict prevention, peace and security under the broader umbrella of government and civil society aid. These programs include assistance for participation in civilian peace building, participation in international peacekeeping operations, government.

\textsuperscript{21} See Enders et al. (2011) for details on the rules distinguishing domestic terrorist incidents from transnational ones.

We thank Todd Sandler for providing their updated data for the period from 2008-2010.

\textsuperscript{22} Specifically we use Version 2-1, which was accessed August 7, 2013.

\textsuperscript{23} For all aid measures, we use aid commitments rather than aid disbursements due to differences in the availability and accuracy of each type of reported flow over time.
land mine removal, and the demobilization of child soldiers, among others. We separate this aid from the *Government and Civil Society Aid* measure and include it as an additional regressor, *Conflict Aid*.

While the poverty-terrorism linkage has been questioned in the scholarly community, it is possible that economic assistance programs can affect the rate of terrorist incidents in a country either directly by reducing poverty or indirectly by changing the structural conditions that influence terrorism. *Official Development Assistance* measures the total aid received by a country minus the corresponding amount of aid under the broader umbrella of government and civil society aid.

Another form of foreign aid is military aid, which consists of aid given by the United States for the purpose of assisting military development in recipient states. For military aid, we use *U.S. Military Aid* which is a record of U.S. military assistance to the recipient country in millions of constant 2011 U.S. dollars. The data for this measure come from the US Agency for International Development (USAID).  

It is likely that the number of terrorist incidents in the immediate past affects the number of present incidents (Li and Schaub 2004; Li 2005). To ascertain the underlying propensity of a particular country to experience a terrorist attack, we generate a measure of incidents in prior years. *Average Prior Attacks* is the average number of terrorist incidents in a particular country over the preceding three years.  

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25 Admittedly, 3 years is an arbitrary cut-point. However, the results are robust to various measures of *Average Prior Attacks* over the preceding years, including 2, 4, and 5 year periods.
In addition to prior attacks, our models include three common country-level variables that intend to measure a state’s vulnerability to terrorist incidents. GDP is the gross domestic product of a country, measured in millions of constant 2005 US dollars, while Population is the country’s population measured as millions of individuals. Data for each of these two measures come from the World Bank’s World Development Indicators. Democracy measures a country’s regime type and we use data from the Polity IV project’s 21-point measure of autocracy and democracy, where -10 is a consolidated autocracy and +10 consolidated democracies (Marshall et al. 2011).

We estimate our models using zero-inflated negative binomial regression. The dependent variable, Total Attacks, is a count variable with a variance exceeding the mean, indicating over-dispersion. Due to the large number of observations with no terrorist attacks, we use the zero-inflated model to distinguish between “meaningful” zeroes from others, which we envision as the difference between countries at risk of an attack and those with negligible risk. The coefficients estimate the log difference in the expected number of terrorist attacks as predicted by an explanatory variable. Since this metric is difficult to understand intuitively, creating an incident rate ratio by raising e to the estimated log makes interpretation easier. Negative values indicate a decrease in the incidence rate, while positive values represent an increase. All the right-hand side variables are lagged two periods prior to our observation of Total Attacks to reduce the likelihood of simultaneity between aid and terrorist attacks and to also account for the fact that aid programs generally take some time to produce desired outcomes (Clemens et al. 2012).

Results

We begin by examining simple descriptive statistics. The first striking element of the data is the large number of total terrorist attacks in the sample. As shown in Table 1, the maximum number of terrorist attacks in a single year in the sample is 673, while the average is
approximately 7 attacks per year. Given that terrorism is generally understood as a relatively rare phenomenon, these figures require further exploration. Sambanis’ (2012) recent discussion of the relationship between terrorism and civil war sheds some light on this puzzling pattern. Sambanis (2012) argues that when states are “in the midst of a civil war, violence is used regularly and in such situations, we cannot easily distinguish terrorism from routine political violence” (6). The causes of terrorism that takes place during a civil war are, therefore, likely to be distinct from those that occur outside a civil war. The logic of the former follows a similar pattern as civil wars and is better explained by economic factors while the latter form of terrorist incidents, i.e., those that take place outside civil wars, is affected more by political conditions (Sambanis 2012, 19). Based on this observation, Sambanis (2012) urges researchers to distinguish between terrorism that takes place “during” a civil war and “outside” a civil war context to be able to explain terrorism as a distinct phenomenon (6). We follow Sambanis’ (2012) suggestion and split our sample into countries with an active civil war and countries without a civil war incidence in a given year.  

Splitting the sample in this manner reveals marked differences between the two populations. The average number of terrorist attacks in countries without an active civil conflict dropped to almost 1, while the corresponding figure for countries with active conflicts increased to 32. Furthermore, nearly 80% of the non-conflict countries experienced no terrorist attacks in a given sample year, while only 25% of active conflict countries recorded no terrorist incidents.

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26 To identify whether a state in a given year is experiencing an active civil war, we use civil war incidence data from the Peace Research Institute of Oslo’s (PRIO) and Uppsala Conflict Data Program (UCDP) Armed Conflict Dataset v.4-2012 (Gleditsch et al. 2002; Themnér and Wallensteen 2012) and utilize the 25-battle death threshold.
As a point of comparison, Figure 1 shows the total number of terrorist incidents between 2000 and 2010 by splitting countries based on the presence of an active civil conflict.

[Figure 1 about here]

Figure 1 suggests that pooling conflict and non-conflict countries in our estimations may be inappropriate. The stark differences between the two samples indicate that a better strategy would be to analyze each population separately (Sambanis 2012). In addition, the international community’s ability and choice of policy tools to help aid recipients to reduce terrorism is likely to be different when terrorism is motivated by issues such as political grievances versus when it is a tactic employed in the execution of a broader societal conflict.

[Table 2 about here]

Table 2 presents the results of the zero-inflated negative binomial models. Model 2-1 shows the results of our estimates for the entire pooled sample, while models 2-2 and 2-3 show the results for samples including only countries without civil conflict and with civil conflict, respectively. Each model uses a parsimonious specification including only our aid measures and average prior attacks to make sure that the observed relationship between democracy aid and the dependent variable is not an artifact of model specification.

We utilize a zero-inflated negative binomial model because the dependent variable Total Attacks is over-dispersed and has a large number of zeroes. We believe that there may be

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27 Merely controlling for the presence of conflict in our models is a suboptimal approach given the significant differences in the two samples. Given the high likelihood that there are two different effects of democracy aid on terrorism in countries which are experiencing civil conflict and those which are not, estimating a single coefficient in a pooled sample would result in an estimated effect of aid which is an intermediate value between the two different effects in each situation, and consequently would be biased. Given that the data generating process in each sample appears markedly different, the better approach is to analyze the each sample separately.
structural differences between countries which are at risk of terrorism but have not experienced an event in that year versus those which have a negligible risk of an event overall. This distinction also has theoretical importance for the impact of our measure of Government and Civil Society Aid. For aid to reduce the likelihood of a terrorist attack, there has to be a positive risk that the country would experience an attack. Since the risk of a terrorist attack has a natural lower boundary of zero, it would be impossible for aid to decrease the risk of terrorism further if it is already nearly zero. Therefore, distinguishing between countries at risk of a terrorist attack from countries that have no or negligible risk has both methodological and theoretical value to our estimations.

We account for the risk of terrorism in the zero inflated negative binomial model by using a lagged value of Total Attacks in the first-stage inflation equation to distinguish between zeroes in the period of observation. The first stage, i.e., inflation model, estimates the likelihood that a zero in the second stage is an “excess” zero, or not an outcome generated by the variables included on the right hand side of the model predicting terrorism. In the inflation model, the lagged value of Total Attacks is negative, although it is only statistically significant for the pooled sample and non-conflict countries, indicating that an increase in the number of attacks in the immediate past reduces the likelihood of a zero in the observed year. The statistically significant alpha shows that the negative binomial regression is a more appropriate modeling choice over a standard poisson estimator.

The second stage estimates the impact of the explanatory variables on the number of terrorist attacks after the excess zeroes have been controlled for in the first stage. Government and Civil Society Aid is statistically insignificant in model 2-1, which includes the entire sample. As we discuss above, however, the most theoretically appropriate sample for our analysis is
those countries which are not experiencing an active civil conflict. Model 2-2 shows that once we exclude countries with an ongoing civil conflict, *Government and Civil Society Aid* becomes negative and statistically significant. Figure 2 presents the substantive significance of the estimated effect of democracy aid on terrorism.

[Figure 2 about here]

Figure 2 predicts the number of domestic terrorist attacks at varying levels of democracy aid and different levels of average prior attacks, with all other variables set to their means.\(^{28}\) We see that increasing levels of democracy aid results in lower levels of predicted terrorist incidents. When a country does not receive governance and civil society aid and the average level of prior attacks is zero, the predicted number of attacks is approximately 1. This number drops to nearly zero when democracy aid increases to its maximum value. When the average number of prior attacks increases to 20, which is nearly the observed maximum in the sample, the predicted number of attacks is almost 3 without aid, and decreases as aid increases, once again nearly becoming zero as aid approaches the sample maximum.

Also significant in Model 2-2 are *Official Development Assistance* and *Average Prior Attacks*, both of which increase the rate of terrorism. Evidence in support of our separation of conflict and non-conflict countries is seen in Model 2-3, where the coefficient on *Government and Civil Society Aid* is statistically insignificant. The lack of significance in Model 2-3 suggests that running the sample together would attenuate the terrorism-reducing properties of democracy aid in non-conflict countries, as seen in Model 2-1, and would induce Type II error.

\(^{28}\) To predict and graph the estimated number of attacks using Stata’s *margins* command, we converted the continuous aid measure to a categorical measure and substituted this into Model 2-2 to generate the results presented in Figure 2. As with the original continuous measure, this new categorical measure was itself statistically significant and negative.
Table 3 displays models with additional control variables. As before, democracy aid is insignificant in the pooled sample (Model 3-1), but negative and statistically significant at the 5% level in countries without an ongoing civil conflict (Model 3-2). Turning to the magnitude of the estimated effect of democracy aid on terrorism in Model 3-2, calculating $e^{-0.00157}$ produces an incidence rate ratio of 0.9984, indicating that a million dollar increase in Government and Civil Society Aid reduces the incidence of terror attacks by 0.16%, ceteris paribus, while the mean aid allocation (around $60 million) would reduce the threat by approximately 9.6%. While these values are admittedly small, it is worth pointing out that for most countries the likelihood of a terrorist attack is small. To provide a rudimentary sense of this risk, we added up the total number of attacks experienced by each country within the sample and then divided this figure by 16 to generate a country-specific measure of average terrorists attacks by year. The median value of this measure for countries without an active a civil conflict is 0.125, meaning that they will experience one terrorist attack approximately every 8 years, while at the 75% percentile it is one terrorist attack every year and a half. The underlying risk of terrorism is, therefore, rather small, meaning that even small decreases in the likelihood of an attack can be meaningful.

Of the remaining variables, Official Development Assistance, Conflict Aid, U.S. Military Aid, and Average Prior Attacks all achieve statistical significance in at least one of the models, and all increase the rate of terrorist attacks. Government and Civil Society Aid is also positively signed and statistically significant in Model 3-3. However, this result is driven primarily by the Iraq and Afghanistan conflicts, as when we re-run Model 3-3 excluding these countries the coefficient becomes statistically insignificant.
Robustness tests

There are two primary potentially confounding issues in our models that deserve further consideration. The first issue is related to the construction of the zero-inflated negative binomial estimator, while the second pertains to potential endogeneity in the relationship between terrorism and aid flows.

With regards to the zero-inflated negative binomial model, the results we obtain in the second stage are admittedly sensitive to the construction of the inflation model in the first stage. While we have confidence that prior attacks provide useful information regarding the distribution of zeroes in the following year, it is worth assessing the robustness of our results with other methods of estimation to see if the results still hold under different specifications or if they may in part be an artifact of the zero-inflated negative binomial model.

The second issue to investigate is potential endogeneity between aid flows and terrorism. If donors give greater amounts of governance and civil society aid to countries that experience a high frequency of terrorist incidents, then the model would be possibly nonrecursive and the results would be biased. While this case of endogeneity may be less likely to induce Type I error than Type II, since higher levels of aid would be associated with more terrorism and should therefore exhibit a positive effect, we account for these dynamics with additional estimations.

Having evaluated a number of possible alternatives, a hybrid variant of a hurdle model and traditional Heckman model appears to give us the greatest leverage over both of these issues. Each model uses a two-stage estimator in which the first stage estimates the likelihood of observing a positive, non-zero outcome in a particular observation, and the second stage estimates the impact of the independent variables on the observed count of the dependent variable using a truncated sample of only positive observation. In this case, a hurdle model
would consist of a logit first stage estimating whether a terrorist attack occurred or not, and a zero truncated negative binomial estimation in the second stage using only cases with 1 or more terrorist attacks. The potential drawback to this approach is that it assumes statistical independence between models. Given our concerns over endogeneity, this is not a plausible assumption: if aid follows terrorist attacks then it should affect both the presence and frequency of attacks.

The Heckman model, by contrast, allows for the second stage to incorporate the impact of included variables in the first stage by estimating the inverse Mills ratio and then including it in the second stage equation. The first stage accounts for the possibility that aid is extended to countries at a higher risk of experiencing terrorism. If this bias is present, it would present itself as a positive relationship between aid flows and terrorist attacks. In the second stage, the dependent variable is the number of positive (non-zero) attacks, which is regressed on the explanatory variables plus the inverse Mills ratio. The inverse Mills ratio is a proxy for the underlying likelihood of an attack as estimated in the first stage, and thus removes any possible bias from limiting the sample to only instances where an attack was observed. The coefficient in the second stage, therefore, represents the relationship between aid flows and terrorist attacks controlling for a possibly endogenous relationship between aid distribution and terrorism. The over-dispersed nature of Total Attacks, however, makes the OLS approach used in traditional Heckman selection models inappropriate for our purposes.

We, therefore, adopt a hybrid approach, where we use a dichotomous measure of terrorist attacks in the first stage, predict and store the generated non-selection hazard and include it as a regressor in a second stage of the zero-truncated negative binomial regression. The hybrid approach has two desirable properties. It allows us to condition our estimation on the underlying
probability of a terrorist attack (represented by the inverse Mills ratio) in a manner different than the one used by the zero-inflated negative binomial estimator. Second, because we use our aid measures in the creation of the non-selection hazard in the first stage, the second stage equation then estimates the impact of aid flows on the number of terrorist attacks having already accounted for their impact on the underlying probability of an attack. This allows us to address both issues within a single estimation approach.

[Table 4 about here]

Table 4 presents the results of this estimation strategy.\textsuperscript{29} Model 4-1 is the first stage equation using a dichotomous dependent variable derived from \textit{Total Attacks}, while Model 4-2 is the second stage zero-truncated negative binomial estimation including the estimated non-selection hazard. We also introduce a series of regional dummies for Asia, Latin America and the Middle East in the first stage (but not the second stage) for purposes of model identification. In the first stage, \textit{Government and Civil Society Aid} is positively and statistically significantly associated with the likelihood of experiencing a terrorist event, which is consistent with our endogeneity concerns. This suggests that democracy aid is more likely to go places at high risk of terrorism. However, in the second stage, which estimates the positive count of \textit{Total Attacks} when the number is greater than zero, the estimated effect of democracy aid is negative and statistically significant.\textsuperscript{30} The incidence rate ratio indicates a decrease in number of attacks by 0.4\%, conditional on the other factors in the model. The non-selection hazard is also statistically

\textsuperscript{29} In these models, we use only observations without an active conflict.

\textsuperscript{30} We omit the region fixed effect dummies from the second stage to avoid issues of collinearity with the non-selection hazard.
significant, supporting our contention that the processes are not independent from one another and that the use of a pure hurdle model would be inappropriate.

To further assess the robustness of our main result, we included regional dummies in the model specification from model 2-2 and their inclusion did not impact the results. To control for country fixed effects, we also ran an additional model where we subtracted the country-specific mean for each variable from its observed value. *Governance and Civil Society Aid* remained negative in this estimation, though it barely missed out on statistical significance on a two-tailed test. However, further testing confirmed that the estimated coefficient in the fixed effects model was not statistically different from the results obtained in the original model.

**V. Conclusion**

Terrorism is still an imminent threat to many states around the world. Designing effective counter-terrorism policies, therefore, remains to be a priority for policymakers. In this article, we propose that a particular type of foreign aid, i.e., democracy assistance programs, can be an effective tool in reducing the number of domestic terrorist attacks. We argue that democracy aid can help aid-receiving countries to fight terrorism by improving the domestic political conditions that affect both support for terrorism and the ability of terrorist organizations to operate and carry out attacks.

Our general finding that democracy aid has the potential to reduce domestic terrorism is an encouraging one. Contrary to the arguments that suggest that terrorism is immune to the effects of aid because it is not borne out of economic circumstances, we show that governance and civil society aid provides a potentially peaceful way to assist afflicted governments without having to resort to invasive counter-terrorism responses. Our findings, therefore, provide
additional rationale for policymakers to continue using democracy assistance programs to promote both democracy and security in aid-receiving countries.

Our results also suggest a number of interesting directions for future research. One potential question we plan to explore is whether the identity of aid donors makes a difference in the effectiveness of democracy aid in reducing the risk of terrorism. In particular, we are interested to know whether foreign aid from the United States is more or less effective in improving the political conditions of a country and thereby reducing the support for terrorism than aid from the European or other donors. We suspect that aid from the United States may have a stronger backlash from the citizens of the aid-receiving countries than aid from other donors.

Another interesting angle we would like to explore is whether the type of aid-delivery channels donors use, i.e., government-to-government or government-to-non-state actors, conditions the effectiveness of democracy aid in providing security benefits to aid-receiving countries. The recent literature suggests that aid delivered through NGOs can be more effective than aid given directly to governments of aid-receiving countries (Dietrich 2011; Radalet 2004).

In this paper, we did not make any distinction between different types of domestic terrorist incidents. We assumed that poor political conditions affect all types of terrorism in the same way. However, terrorist organizations pursue different goals, i.e., some seek regime change and others pursue territorial changes (Hoffman and McCormick 2004). Therefore, it is possible that repression and weak rule of law is more pertinent for some terrorist attacks than others. It would be worthwhile to take into consideration the differences among different types of terrorist attacks when investigating the effectiveness of foreign aid as a counter-terrorism measure. We leave these questions and tasks to future work and for now conclude that foreign aid can be used to reduce the risk of domestic terrorism in countries not involved in active civil wars.
Works Cited


OECD. 2010. Reporting Directives for the Creditor Reporting System. Available at


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Figure 1. Average Attacks by Year and Presence of Civil Conflict
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**Inflation Model**

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Observations: 1,404, 1,168, 236

Robust standard errors clustered by country in parentheses

*** p<0.01, ** p<0.05, * p<0.1
### Table 3. Zero-Inflated Negative Binomial Estimations, Full Models

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Robust standard errors clustered by country in parentheses

*** p<0.01, ** p<0.05, * p<0.1
### Table 4. Modified Hurdle Model

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<td>Nonselection Hazard</td>
<td></td>
<td>-2.659***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.733)</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.909***</td>
<td>-12.90***</td>
</tr>
<tr>
<td></td>
<td>(0.0888)</td>
<td>(1.086)</td>
</tr>
<tr>
<td>ln(alpha)</td>
<td>18.69***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0577)</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>643</td>
<td>174</td>
</tr>
</tbody>
</table>

Robust standard errors clustered by country in parentheses

*** p<0.01, ** p<0.05, * p<0.1
Figure 2. Predicted Attacks by Democracy Aid and Average Prior Attacks