Foreign Aid and Transnational Terrorism: The Role of International Counterterrorism Agreements

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Abstract

Transnational terrorism transcends international boundaries, making interstate cooperation important for its prevention. However, high sovereignty costs and preference heterogeneity between targets of and havens for terrorism make counterterrorism cooperation difficult to achieve. This paper considers whether and how the UN conventions for the suppression of transnational terrorism, which have neither formal enforcement provisions nor delegated authority, are successful in fostering international cooperation. Using a game-theoretic model, I argue that multilateral agreements operate via an informal, decentralized, enforcement mechanism – foreign aid. Agreements improve the ability of donors of foreign aid to monitor counterterrorism efforts of aid recipients, which makes threats to withdraw aid more credible. I find empirical support for two key implications of the model. Ratification: 1) increases receipts of foreign aid, and 2) makes aid more effective at reducing transnational attacks. This paper contributes to the study of informal enforcement mechanisms in international institutions and illustrates the importance of international institutions for facilitating cooperation for counterterrorism.

Transnational terrorism poses an acute threat to states and individuals worldwide. Weak states with limited resources provide a haven from which terrorists can launch attacks on foreign states. The inability of some states to control the transnational behavior of violent actors poses a severe threat to international security. International cooperation to suppress transnational terrorism is essential yet challenging to achieve, since counterterrorism measures are costly and often unpopular domestically due to associated reductions in civil liberties (Ackerman 2006, Dragu 2011, Holmes 2007). Furthermore, the costs of transnational attacks are borne primarily by foreign states, leading many haven states[1] to prioritize other issues over transnational terrorism.[2]

Because transnational terrorism strikes a gray area outside of both the laws of war and criminal law (Morrow 2014), the international community has created a series of United Nations conventions for the suppression of transnational terrorism. These treaties define certain acts as transnational terrorism and set requirements for measures that ratifying states must take in order to prevent transnational attacks.

However, it may seem doubtful that these conventions actually produce cooperation because they have no formal provisions for enforcement, likely due to the concerns over sovereignty costs, preference heterogeneity among participants, and uncertainty in this issue area.[3] However, these same factors and the multilateral nature of the agreements suggest that without enforcement provisions these agreements would not successfully produce international cooperation (Koremenos 2013*b*).[4] This raises the question of whether international agreements can be successful at preventing transnational terrorism in spite of these challenges. And if so, why?

In this paper I argue that the answer to this question lies in the ability of international agreements to improve the monitoring of recipients of foreign aid for counterterrorism. Aid provides both the incentive to ratify counterterrorism conventions and their informal enforcement mechanism. Cooperative relationships in which targeted states give aid to haven states have been a prominent part of the global fight against transnational terrorism. However, aid is often misappropriated because haven states have different preferences regarding transnational attacks than targeted states (Bapat 2011, Boutton 2014).

International agreements help mitigate the misappropriation of foreign aid by creating clear standards for what ratifying states must do to prevent their nationals from attacking foreign states. By providing information to donors about recipients' counterterrorism activities, agreements increase the credibility of threats to withdraw aid if it is misappropriated. This threat constrains the ability of recipients to misappropriate aid and induces them to invest in ways that reduce transnational terrorism. By improving monitoring which makes threats to withdraw aid credible, international agreements, even in this highly sensitive and politically delicate area of counterterrorism, can foster international cooperation.

The case of terrorist kidnappings in Colombia illustrates the role of counterterrorism agreements well. Throughout the 1990's and early 2000's Colombia had more terrorist kidnappings of foreigners than any other country in the world. Kidnapping foreigners was a popular terrorist strategy used to raise funds for the FARC and other militant groups. Additionally, witnesses claim that Colombian military personnel engaged in kidnapping disguised as paramilitaries (Nations and the United Nations Human Rights Council 2008, p. 16). Colombia was reluctant to ratify the UN convention against hostage taking due to this potential liability and concerns that commitments to international law would derail the peace process with the FARC. The United States was particularly concerned that amnesty for kidnappings of

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[1]Haven states refer to states from which international terrorism is produced. Often, these states are those "weak" states with limited ability to control non-state actors in their territory (Lai 2007).

[2]The challenges to achieving international cooperation are well illustrated by the failure of over two decades of negotiations to draft a *Comprehensive Convention on International Terrorism* in the United Nations General Assembly (Saul 2015).

[3]Abbott and Snidal suggest these factors make such provisions untenable in international institutions (2000).

[4]For instance, based on data from the Continent of International Law sample of international treaties (Koremenos 2013*a*), Koremenos identifies the United Nations Convention for the Suppression of the Financing of Terrorism as misclassified, without a formal punishment provision, yet predicted to include given the characteristics of this issue area with a probability greater than one-half (2013*b*, 149).

foreigners would be a condition of the peace in Colombia, meaning hostages would remain in captivity and terrorist kidnappers would not be brought to justice.

However, in 2005 Colombia ratified the convention against hostage taking, committing to criminalize, police, prosecute and extradite in cases of kidnapping of foreigners even in the context of a peace agreement. The United States understood this to be a signal that policy in Colombia had shifted, and it drastically increased foreign aid to assist Colombia in suppressing transnational kidnappings as a consequence. The Colombian government used this aid to take aggressive measures to prevent and prosecute terrorist kidnappings. They also complied with extradition requests by the US and others to bring kidnappers to justice. As a result, terrorist kidnappings decreased substantially.

The example of terrorist kidnapping of foreigners in Colombia illustrates the mechanism. The UN hostages convention created clear standards for what the Colombian government was required to do in response to kidnappings of foreigners by its nationals. Colombia received an increase in aid to accomplish these tasks, but they also opened themselves up to greater transparency about how they used aid. Donors could observe whether the agreed upon standards of the convention were met by the Colombian government, and this observation made threats to withdraw aid more credible. Capacity building through foreign aid was successful because the threat to withdraw foreign aid operated as an informal enforcement mechanism for the UN convention. In this paper I provide a formal model of how this mechanism operates and test implications of the theory using country-year level ratification data for the time period between 1968 and 2008.

In the next section, I outline the challenges to international cooperation for counterterrorism, explain why interstate cooperation is important for suppressing transnational terrorism, and discuss the main forms such cooperation takes. Next, I investigate the role of international counterterrorism agreements[5] for addressing these challenges. Then, I present a formal theory of international counterterrorism agreements. I then statistically test implications of the theory using data on state ratification of UN counterterrorism conventions. The final section concludes with a discussion of the role of informal enforcement mechanisms in international agreements and the importance of international regimes for facilitating international cooperation for counterterrorism.

International Cooperation and Transnational Terrorism

Because the costs of transnational attacks are paid primarily by foreign states rather than the haven states in which terrorist groups are based, states targeted by transnational attacks often have a greater interest in preventing transnational attacks than haven states.[6] Because transnational terrorism is a highly salient issue and one of international security, we should expect cooperation to be especially difficult to achieve (Mitchell and Hensel 2007). Recent research suggests that cooperation in this issue area may be particularly difficult because it may invite attacks by terrorist groups wishing to spoil it (Conrad and Walsh 2014).[7]

However, terrorist groups often base their operations in states with low capacity to prevent their activities (Lai 2007), and military intervention and other forms of direct coercive intervention often are

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[5]To ease exposition, this paper uses the term "counterterrrorism agreements" and "counterterrorism conventions" to refer to the United Nations Conventions for the supression of transnational terrorism. There are also a number of bilateral and regional agreements. Due to the diversity of design of and participants in these regional agreements they promise to be a fruitful area of future research on how international counterterrorism agreements, and international institutions more broadly, operate. However, the focus of this paper is the United Nations counterterrorism conventions.

[6]This preference heterogeneity suggests that there is a substantial adjustment of policy on the part of haven states if cooperation occurs rather than simply what scholars have identified as "harmony" in which states engage in policies that they would have anyway without an agreement (Keohane 1984).

[7]This finding points to the need for information about actual counterterrorism activities of haven states, rather than observation of attacks alone, in order to achieve sustainable cooperation for counterterrorism.

counterproductive and unpopular (Azam and Thelen 2010). Therefore cooperative relationships, in which target states offer aid to haven states with the expectation that it will be used to reduce attacks, are particularly important for suppressing transnational terrorism.

While early literature on international agreements focused on whether or not international institutions are effective for encouraging international cooperation,[8] later scholarship has moved from asking simply if international organizations work toward examining the mechanisms by which they operate (Martin and Simmons 1998). The question of why the UN counterterrorism agreements help facilitate international cooperation is particularly puzzling because there are no formal enforcement mechanisms in any of the conventions. While the importance of informal enforcement is increasingly recognized,[9] whether international agreements operate by informal enforcement and what mechanisms they operate through are unknown (Koremenos 2013*b*).

Scholars have as yet done little to explore the connections between international institutions and transnational terrorism. In this paper I suggest that foreign aid is an important informal enforcement mechanism for counterterrorism treaties, contributing to the "new wave of research on informalism in international law" (Koremenos 2013*b*).[10] In doing so, this paper shows a novel way in which donors of foreign aid can provide informal enforcement mechanisms for international institutions.

The theory I present below builds on the burgeoning literature on the role of international institutions for aid allocation (Urpelainen 2010, Vreeland 2011), contributing to the debate about the relationship between capacity building, enforcement, and the effectiveness of international agreements. How international institutions may help mitigate principal-agent problems in foreign aid relationships have not been explored by scholars.[11] In the next section, I discuss the literature on transnational terrorism and foreign aid.

Transnational Terrorism and Foreign Aid

The United Nations treaties for the suppression of transnational terrorism do not address domestic attacks, only transnational attacks.[12] Terrorism is transnational when it involves attacks by terrorists of one nationality upon victims of another. Because the costs of attacks are mainly borne by foreign targets but require the cooperation of haven states to successfully prevent, transnational terrorism presents unique challenges to international security and is likely driven by different processes than domestic terrorism

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[8]See Downs, Rocke and Barsoom (1996) and Chayes and Chayes (1993) for prominent examples of each side of this debate.

[9]In addition to the challenges of incorporating formal enforcement measures or other elements of "hard law" into counterterrorism treaties identified above, informal enforcement favors major powers by giving them discretion over enforcement (Stone 2011), and may therefore be particularly appealing in this issue area.

[10]The argument presented below that foreign aid for counterterrorism is often bilateral, but forms the basis for informal enforcement of multilateral agreements, builds on recent arguments that bilateral diplomacy is often an efficient component of multilateral agreements, rather than a substitute for multilateralism (Verdier 2008).

[11]See Nielson and Tierney (2003), Copelovitch (2010), and Stone (2011) for examples of agency problems and international organizations. While these studies consider how international organizations as an agent may be controlled by states as principals, more research is needed on how international organizations may be useful in addressing problems of incomplete contracting in principal-agent relations *between* states. See Abbott (1993), Mitchell (1994, 1998), and Dai (2002) for discussions of the role of international institutions in increasing transparency.

[12]While there is no universally accepted definition for what constitutes transnational terrorism, for the purposes of this paper I adopt the inclusive definition used by the ITERATE dataset which defines transnational terrorism as:

> "The use, or threat of use, of anxiety-inducing, extra-normal violence for political purposes by any individual or group... when such action is intended to influence the attitudes and behavior of a target group wider than the immediate victims and when... its ramifications transcend national boundaries." (Mickolus et al. 2011)

For an interesting discussion of the definition of terrorism in international law, see Young (2006). For a recent discussion of the importance and challenges of defining terrorism for quantitative research see Young and Findley (2011*b*). One of the major functions of counterterrorism agreements may be to create common expectations for what constitutes terrorist activity.

(Young and Findley 2011*b*, Enders, Sandler and Gaibulloev 2011).

Because terrorist groups base themselves in states that have a limited capacity to prevent their attacks (Hendrix and Young 2014, Huepel 2007, Lai 2007, Piazza 2008), foreign aid donors believe that giving aid will reduce incentives for terrorism and foster capacity to curb terrorism in these states (Azam and Delacroix 2006, Azam and Thelen 2008, 2010, 2014, Bandyopadhyay, Sandler and Younas 2011, Young and Findley 2011*a*). In this cooperative relationship of counterterrorism aid delegation, donors give aid with the expectation that it will be invested by recipient states in social services or to bolster state capacity, leading to a reduction in transnational terrorism.

However, recent research suggests that aid recipients may not use aid for its intended purpose (Bapat 2011). For instance, counterterrorism aid recipients may siphon aid funds into military spending for arming against a rival (Boutton 2014, Collier and Hoeffler 2007) or into patronage spending in order to bolster their political power (Steinwand 2014). These studies suggest that foreign aid has no effect on transnational terrorism, or may even increase the frequency of attacks. However, the following question: if such pervasive problems exist in aid delegation, why does it continue to be used as an instrument to reduce transnational terrorism?

Because it is difficult to observe how aid is used by recipients which may misappropriate it, donors face a dilemma: If aid is being used faithfully, withdrawing aid may further destabilize an already weak state, possibly leading to state collapse and an increase in terrorism. However, if aid is not being used faithfully, donors are simply wasting foreign aid funds that could be more productively used elsewhere.

While threats to withdraw aid may help curb such principal-agent problems, such threats are often not possible when noncompliance is not observable to the donor (Gibson et al. 2005, Svensson 1999, Montinola 2010).[13] Recent work on foreign aid finds that aid agencies may help mitigate principal-agent problems (Martens 2005), building on work that suggests institutions may be used to improve an agent's incentives to use aid in concordance with the preferences of the principal (Paul 2006). In the next section, I discuss how the UN counterterrorism treaties are designed to improve the ability of donors to monitor recipients of foreign aid, and how this increase in transparency helps mitigate principal-agent problems between donors and recipients of foreign aid.

International Counterterrorism Agreements

Transnational terrorism can take many forms, and this variety is reflected in conventions designed to curtail it. Table 1 lists each of the United Nations counterterrorism agreements, which span a diverse set of issue areas including nuclear, maritime, aviation, financing, bombings, and protections for diplomatic agents.[14] The development of the international counterterrorism regime has been in progress for decades, and treaties have tended to be reactionary after terrorist outrages.[15]

The treaties establish written down and publicly agreed to benchmarks about what constitutes transnational terrorism and what measures states are expected to accomplish for counterterrorism by requiring ratifying states to criminalize, investigate, and prosecute transnational attacks. Each treaty defines what constitutes a terrorist offense[16] and requires signatories to incorporate legislation into their corpus of

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[13]Another key condition for successful aid conditionality is credibility of the donor. See Dunning (2004) and Bearce and Tirone (2010) Stone (2008) for discussions of the role of donor credibility and aid conditionality. Recent research has argued that effectiveness of aid can be bolstered by certain donor strategies such as directing aid through non-governmental organizations (Savun and Hays 2011) and to specific sectors (Young and Findley 2011*a*).

[14]While negotiations for a comprehensive treaty for the suppression of transnational terrorism have been unsuccessful, the separation of different types of terrorism into separate treaties may actually be beneficial for establishing "firewalls" similar to the laws of war so that defection in one issue area does not lead to the breakdown of cooperation in other issue areas (Morrow 2014).

[15]For more on the importance of focusing events for influencing counterterrorism policy see (Crenshaw 2001).

[16]Maritime Convention, art. 3 (1988); Plastic Explosives Convention, art. 1 (1991); Terrorist Bombing Convention art. 2

Table 1: United Nations Conventions for the Suppression of Transnational Terrorism

Short Name	Full Name	Year
Aircraft Convention	Convention on Offences and Certain Other Acts Committed On Board Aircraft	1963
Unlawful Seizure Convention	Convention for the Suppression of Unlawful Seizure of Aircraft	1970
Civil Aviation Convention	Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation	1971
Diplomatic Agents Convention	Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons	1973
Hostages Convention	International Convention against the Taking of Hostages	1979
Nuclear Materials Convention	Convention on the Physical Protection of Nuclear Material	1980
Maritime Convention	Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation	1988
Plastic Explosives Convention	Convention on the Marking of Plastic Explosives for the Purpose of Detection	1991
Terrorist Bombing Convention	International Convention for the Suppression of Terrorist Bombings	1997
Terrorist Financing Convention	International Convention for the Suppression of the Financing of Terrorism	1999
Nuclear Terrorism Convention	International Convention for the Suppression of Acts of Nuclear Terrorism	2005

domestic law, criminalizing the conduct or support of terrorist offenses and making them punishable by severe penalties.[17] Additionally, states agree to investigate terrorist incidents and to take suspects into custody,[18] either prosecuting or extraditing terrorist offenders residing in their territory.[19] Provisions for transferring prisoners or evidence between states for the purposes of extradition, investigation, or prosecution are also made in these agreements.[20] Additionally, many agreements require measures for the prevention of terrorist activity.[21]

Furthermore, each of these measures is directly observable by aid donors. Because they are formally written down and publicly agreed to, these agreements create shared strategic expectations about what donor states expect recipient states to do regarding counterterrorism measures. If these goals are not achieved, donor states may update their beliefs about how an aid recipient utilized aid because the benchmarks provide information about how much effort the recipient devoted to counterterrorism measures.[22]

Donors can directly observe whether the benchmarks are met or not. For instance, the passage of a domestic law, whether terrorists are prosecuted, and whether states regulate banks to prevent terrorist financing, are each directly observable. Because they cannot be attained without significant investments in counterterrorism, they are not cheap talk. It is by observing whether these costly to obtain benchmarks are met that donors can better assess the counterterrorism investments of recipient states. In addition, many of these agreements also have requirements ratifying states to self-report the measures they have taken to reduce transnational terrorism by their nationals.[23] However, self-reporting is not informative to donors without reference to these costly benchmarks required by these agreements. Indeed, in self-reports, states focus on how they obtained these costly benchmarks. Without the costs of implementing these measures, reporting would not be informative; because benchmarks are directly observable, reporting is not central to how these agreements work.

Previous research on United Nations counterterrorism conventions has primarily focused on the determinants of ratification itself rather than the effects of ratification on levels of transnational terrorism or the mechanisms by which counterterrorism conventions may influence international politics (Stiles and Thayne 2006, Whitaker 2010). An exception to this focus is a study by Enders et al. of the influ-

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[17](1997); Nuclear Terrorism Convention art. 2 (2005).

[17]Aircraft Convention, art. 3 (1963); Unlawful Seizure Convention art. 2 & 5 (1970); Civil Aviation Convention, art. 2 & 5 (1971); Diplomatic Agents Convention, art. 3 (1973); Hostages Convention, art. 2 (1979); Nuclear Materials Convention, art. 4 & 7 (1980); Maritime Convention, art. 5, art. 7 & art. (1988); Plastics Explosives Convention art. (1991); Terrorist Bombing Convention art. 4 & art. 5 (1997); Terrorist Financing Convention art. 4, art. 5 & art. 18 (1999); Nuclear Terrorism Convention art. 5 & art. 6 (2005).

[18]Aircraft Convention, art. 13 (1963); Unlawful Seizure Convention, art. 6 (1970); Civil Aviation Convention, art. 6 (1971); Hostages Convention, art 6. (1979); Nuclear Materials Convention art. 9 (1980); Maritime Convention, art. 7 (1988); Terrorist Bombing Convention art. 7 (1997); Terrorist Financing Convention, art. 9 (1999); Nuclear Terrorism Convention art. 10 (2005).

[19]Unlawful Seizure Convention, art. 7 & 8 (1970); Civil Aviation Convention, art. 7 (1971); Diplomatic Agents Convention, art. 7 (1973); Nuclear Materials Convention, art. 10 (1980); Maritime Convention art. 10 (1988); Terrorist Bombing Convention art. 8 (1997); Terrorist Financing Convention, art. 10 (1999); Nuclear Terrorism Convention art. 11 (2005).

[20]Diplomatic Agents Convention, art. 8 (1973); Nuclear Materials Convention, art. 13 (1980); Terrorist Bombing Convention art. 9 (1997); Nuclear Terrorism Convention art. 13 (2005).

[21]Civil Aviation Convention art. 10 (1971); Diplomatic Agents Convention, art. 4 & art. 5 (1973); Hostages Convention art. 4 (1979); Maritime Convention, art. 12 (1988); Nuclear Materials Convention art. 3, art. 4 & art. 5 (1980); Maritime Convention, art. 12 & art. 13 (1988); Plastics Explosive Convention art. 2, art. 3 & art. 4 (1991); Terrorist Bombing Convention art. 15 (1997); Terrorist Financing Convention, art. 18 (1999); ; Nuclear Terrorism Convention art. 7 & art. 8 (2005).

[22]For example, Boulden and Weiss argue that "One preliminary indication of government's readiness to clamp down on terrorists is ratification of or accession to the multilateral conventions criminalizing violent action or outlining preventive measures." 2004, p. 192.

[23]Unlawful Seizure Convention, art. 11 (1970); Civil Aviation Convention, art. 13 (1971); Diplomatic Agents Convention, art. 6 & 11 (1973); Hostages Convention, art. 7 (1979); Nuclear Materials Convention, art. 14 (1980); Maritime Convention, art. 15 (1988); Plastic Explosives Convention, art. 8 (1991); Terrorist Bombing Convention art. 16 (1997); Terrorist Financing Convention, art. 19 (1999); Nuclear Terrorism Convention art. 18 (2005).

ence of the United Nations counterterrorism regime on the number of transnational attacks perpetrated (1990). This study performed a time-series intervention analysis of the worldwide aggregate levels of transnational terrorism. Using a simple indicator for when the first counterterrorism agreement was introduced in 1963, they found no statistically significant impact of the introduction of the international legal regime on the world total number of transnational attacks (Enders, Sandler and Cauley 1990). However, the study did not account for whether the state where attacks took place had ratified, or other county-specific factors.

In the next section, I use a game-theoretic model to unpack this null finding for the effectiveness of international agreements. I focus on the way agreements influence international politics to show a more nuanced political relationship between target and haven states in which foreign aid provides both the inducement for haven states to ratify treaties as well as their informal enforcement mechanism.

Model

Consider a model with two actors: a potential aid recipient, *Home*, and a potential aid donor, *Foreign*. The game has three parts. First, there is a Ratification Stage in which *Home* decides whether or not to ratify a counterterrorism agreement. Second, there is an Aid Stage in which *Foreign* provides a level of aid, a, to *Home*. *Home* invests some portion of this aid in counterterrorism, which influences the probability that a terror event occurs. Third, there is a Conditionality Stage in which *Foreign* decides to either sustain the amount of aid provided in the Aid Stage or reduce the level of aid provided by c.

At the outset of the game in the Ratification Stage, *Home* decides whether to ratify an international counterterrorism agreement. This decision selects between two potential equilibria: a Ratify equilibrium, in which the common and publicly agreed to benchmarks counterterrorism agreements establish provide some information about the level of effort *Home* puts toward counterterrorism, and a ¬Ratify equilibrium in which *Foreign* only observes whether a terrorist event occurs or not.

Home and *Foreign* have a finite amount of resources, $r_F > 0$ and $r_H > 0$, respectively. Terrorist attacks cause negative externalities β_F to *Foreign* and β_H to *Home*, where $\beta_F \in [1, \infty)$ and $\beta_H \in [1, \theta)$, where $\theta \leq \beta_F$. This constrains types such that *Home* faces less severe negative externalities from transnational terrorism than *Foreign*, capturing the preference divergence central to principal-agent models. Let t_1 serve as an indicator for whether a terror event happens in the Aid Stage and let t_2 serve as an indicator for whether a terror event happens in the Conditionality Stage.

In the Aid Stage, *Foreign* decides whether to provide a level of aid, a, to *Home*. After this aid decision is made, *Home* may then invest some resources, denoted by ε_1, in counterterrorism. The maximum amount *Home* can invest are its resources (r_H) plus any aid received. The severity of terrorist activity is stochastically related to the level of investments made in counterterrorism by *Home*. This relationship is given by the conditional density function $f(\varepsilon_1) = e^{-\varepsilon_1}$. If *Home* ratified the agreement, then a noisy signal of how much effort *Home* put into counterterrorism by whether or not it met the benchmarks set out by the agreement, $m \in \{\text{Benchmark}, \neg\text{Benchmark}\}$ is observed, where $Pr(m = \text{Benchmark}) = 1 - e^{-\varepsilon_1}$. If $m = \neg\text{Benchmark}$ then *Home* did not meet the benchmarks outlined by the agreement; if $m = \text{Benchmark}$, then *Home* did meet the agreement benchmark.[24]

In the Conditionality Stage, *Foreign* has the opportunity to either sustain aid at level a or reduce the level of aid provided by amount $c \leq a$, which I refer to below as enacting aid conditionality. *Home* may then again invest some of its resources in counterterrorism denoted by $\varepsilon_2 \in [0, r_H + a_2]$ where $a_2 = a$ if *Foreign* sustains aid and $a - c$ if *Foreign* reduced the level of aid. As in the Aid Stage, the severity of

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[24]The similarity with the conditional density function for the probability of a terrorist event occurring is incidental and chosen to ease exposition. The substantive results presented here are robust to other functional forms without major complication for functions which are continuous and monotonically increasing in *Home* counterterrorism investment.

Figure 1: Model Timeline

1. Ratification Stage:

   (a) *Home* Choose {Ratify, ¬Ratify}

2. Aid Stage

   (a) *Foreign* Choose $a \geq 0$

   (b) *Home* Choose ε_1

   (c) *Nature* Choose {Terror, ¬Terror}

   (d) If and only if *Home* Chose Ratify, *Nature* Choose $m \in$ {Favorable, Unfavorable}

3. Conditionality Stage

   (a) *Foreign* Choose {Sustain, Reduce}

   (b) *Home* Choose ε_2

   (c) *Nature* Choose {Terror, ¬Terror}

terrorist activity in the conditionality stage is stochastically related to the level of investments made in counterterrorism by *Home*. This relationship is given by the conditional density function $f(\varepsilon_2) = e^{-\varepsilon_2}$. Figure 1 provides a timeline of the game.

Neither *Home*'s type, β_H, nor *Home*'s actions, ε_1, are observed or known with certainty by *Foreign* in either equilibrium because both the occurrence of terror events and the agreement benchmarks are only probabilistic indicators of *Home's* level of counterterrorism effort. Assume *Home*'s type, β_H, is drawn randomly from a Unif$(1, \theta)$ distribution, where θ is common knowledge to all players. Table 2 provides the utility functions for *Home* and *Foreign* as the top and bottom row, respectively. The left column presents the utility functions if *Foreign* does not enact conditionality and the right column presents the utility functions if *Foreign* does enact conditionality. Home receives utility from resources (r_H), aid received in the Aid and Conditionality Stages (a), less any investments in counterterrorism (ε_1 in the Aid Stage, ε_2 in the Conditionality Stage) and utility of $-\beta_H$ should a terror event occur (indicated by t_1 in the Aid Stage and t_2 in the Conditionalty stage). If conditionality is enacted, c is subtracted from the utility Home receives from aid in the Conditionality Stage.

Table 2: Utility Functions

	No Conditionality	Conditionality
Home	$r_H + a - \varepsilon_1 - \beta_H t_1 + r_H + a - \varepsilon_2 - \beta_H t_2$	$r_H + a - \varepsilon_1 - \beta_H t_1 + r_H + a - c - \varepsilon_2 - \beta_H t_2$
Foreign	$r_F - a - \beta_F t_1 + r_F - a - \beta_F t_2$	$r_F - a - \beta_F t_1 + r_F - a + c - \beta_F t_2$

The level of *Home's* investment in counterterrorism is not perfectly revealed in the Ratify equilibrium. The problem of false positives and negatives still exists because whether or not *Home* meets the benchmarks established by the counterterrorism agreement is itself a probabilistic function of the amount of *Home's* counterterrorism investment. *Foreign* updates its beliefs according to Bayes rule based on whether or not a terror event occurred. In the Ratify equilibrium, *Foreign* has an additional point of in-

formation on which to condition their beliefs, whether or not *Home* met the counterterrorism agreement benchmark. *Foreign* cares about *Home's* type because the level of investment *Home* makes in counterterrorism is a simple one to one and onto mapping from type, thus learning about type allows *Foreign* to better match the level of aid provided to the amount *Home* will faithfully invest. The next section considers the role of this information structure.

Information Structure: learning about recipient counterterrorism effort

Foreign begins the game believing all possible types of *Home* are equally likely. The first opportunity for *Foreign* to learn about *Home's* type is by observing whether or not *Home* ratifies. As I derive in the supplementary materials, in equilibrium[25] types $\beta_H \geq \beta_R$ ratify while types below this threshold do not ratify. Thus the ratification decision truncates the support of *Foreign's* beliefs. Given that cutpoint β_R determines *Home's* ratification decision and *Foreign's* uniform prior, beliefs after observing ratification are simply uniform with bounds β_R and θ and uniform with bounds 1 and β_R if no ratification is observed.

First, consider the information environment if *Home* does not ratify. The only opportunity for learning about *Home's* type without a ratified agreement is observing whether or not a terrorist event occurred in the Aid Stage. This is a noisy indicator of *Home's* counterterrorism effort because the probability there is a terror event is a mapping from equilibrium counterterrorism investment, ε_1^*, such that $Pr(\text{Terror}|\varepsilon_1^*) = e^{-\varepsilon_1^*}$. where ε_1^* is the equilibrium level of counterterror investment that *Home* expends.

Second, consider the information environment if *Home* ratifies. When *Home* ratifies, *Foreign* observes an additional piece of information about the level of counterterrorism investment that *Home* made, whether or not *Home* met the benchmark laid out by the agreement. Whether or not *Home* meets the benchmark is a function of their equilibrium counterterrorism investment, ε_1^*, such that $Pr(\text{Benchmark}|\varepsilon_1^*) = 1 - e^{-\varepsilon_1^*}$. *Foreign* observes whether Home met the benchmark in addition to whether a terror event occurs.

Deciding to Ratify

As I show below, ratification increases the amount of aid *Home* receives, but it also increases the risk of conditionality because *Foreign* is better informed. Therefore, when deciding to ratify or not, *Home* balances potential aid increases due to ratification with the increased risk of conditionality that counterterrorism agreements elicit. Formally, *Home* ratifies if $\beta_H \geq \beta_R$, a cutpoint defined in the supplementary materials.
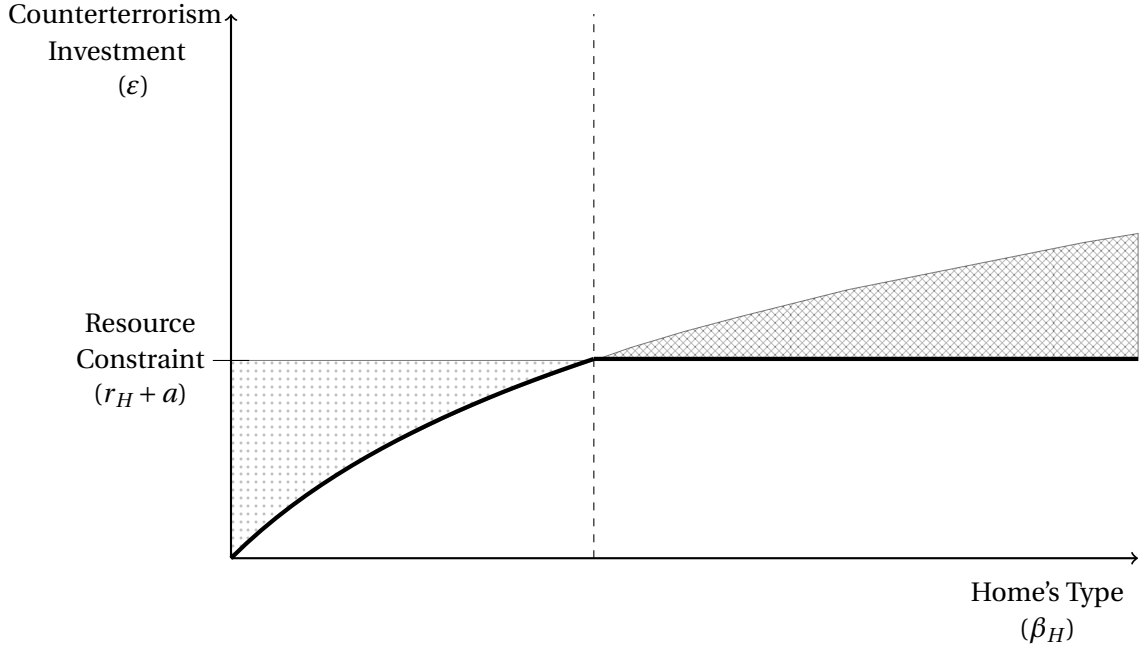
This shows that ratification does have some screening properties, only types greater than cutpoint β_R ratify. However, this screening only occurs when agreements increase the risk of conditionality. In this way, the agreements ability to screen is dependent on its ability to constrain. The screening that does occur is dependent on the higher risk of aid conditionality due to increased transparency that counterterrorism agreements introduce. Ratification creates an expectation of high political will, however it also allows donors to better observe whether ratifiers fulfill that promise.

Aid Levels, Aid Conditionality, and Counterterrorism Spending

Note that counterterrorism spending is a mapping from *Home's* type, β_H, resource constraint r_H, and the level of aid which *Foreign* provides in equilibrium, a^*. *Home's* type determines how much *Home* would like to spend and the amounts of aid and resources determine the upper bound on what *Home* can spend.

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[25]This analysis focuses on Perfect Bayesian Equilibrium of the model described above.

Figure 2: Equilibrium Enforcement

$$\varepsilon_2^* \equiv \min\{\ln(\beta_H), r_H + a - \mathbb{1}_{\text{withdraw}}(c)\} \tag{1}$$

The black line in Figure 2 shows the equilibrium mapping from type (β_H) on the horizontal axis to counterterrorism investment (ε) on the vertical axis. Types to the left of the vertical dashed line invest less than their resource constraint ($r_H + a$). The dotted area thus represents the loss from giving more aid than *Home* actually invests in counterterrorism. The types to the right of the dashed line invest less than they would if more aid was received; this loss is represented by the cross-hatched area to the right of the dashed line.

Let $f(\varepsilon_2^c)$ denote the probability of a terrorist event if Foreign reduces aid and $f(\varepsilon_2^{\neg c})$ denote the probability of a terrorist event if it does not. *Foreign*'s choice is between reducing aid, which reaps a savings of c but may increase the likelihood of a terror event occurring because it tightens the budget constraint on *Home*. Given this equilibrium investment in the Conditionality Phase from equation 1 and balancing these two types of loss, *Foreign* enacts conditionality if:
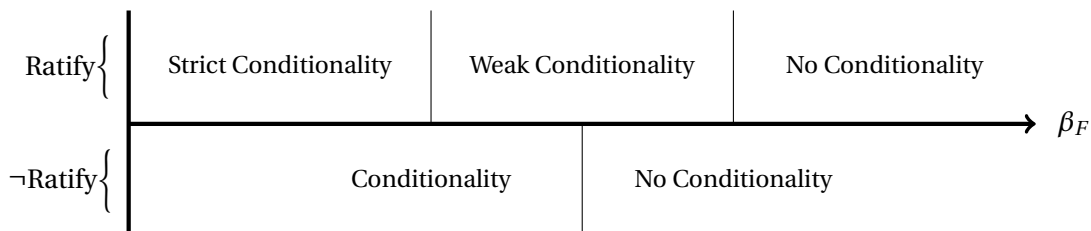
$$\beta_F < E_F \left[\frac{c}{f(\varepsilon_2^c) - f(\varepsilon^{\neg c})} \right] \tag{2}$$

Equation 2 shows that *Foreign* withdraws aid if the level of negative externalities it experiences from terrorism in *Home* are less than the savings from reducing aid divided by its subjective expectation of the increased risk of a terrorist attack when aid levels are reduced.

Foreign balances the tradeoff between the risk of a terrorist event occurring if aid is withdrawn and the expected savings due to a reduction in aid given its now more pessimistic beliefs about *Home's* type. There are a limited number of conditionality strategies that *Foreign* may pursue. In the ¬Ratify equilibrium the only possible strategy for conditionality is to withdraw aid if a terrorist event occurs. In the Ratify equilibrium, *Foreign* has an additional point of information to condition on, whether or not the benchmark of the agreement was met. This gives *Foreign* two possible conditionality strategies in

the Ratify equilibrium: 1) strict conditionality, in which *Foreign* reduces the aid level if either a terrorist event occurs or *Home* does not meet the benchmarks of the agreement, and 2) weak conditionality, in which Foreign only reduces the level of aid if *both* a terrorist event occurs *and* the benchmark is not met. *Foreign's* level of interest in counterterrorism in *Home* (β_F) determines the counterterrorism strategy it can credibly pursue in equilibrium. The more negative externalities it feels from transnational terrorism, the less it is able to credibly threaten to reduce aid provided to *Home*. Similarly, the less informed *Foreign* is, the less willing it is to reduce aid. Figure 3 shows equilibrium conditionality strategies.

Figure 3: Equilibrium Behavior

Foreign's conditionality strategy influences how much *Home* is willing to invest in the Aid Stage. If aid is reduced when *Home* fails to meet the benchmarks of the agreement or a terrorist event occurs, *Home* invests more in counterterrorism in order to reduce the risk of aid being reduced. Let ε_1^*, defined in the supplementary materials, denote the equilibrium counterterrorism investment in the Aid Stage.

Given this and that $\beta_F > \theta$, *Foreign* chooses a level of aid such that

$$a^* \equiv E[\varepsilon_1^*] - r_H \tag{3}$$

The first observable implication is that when *Home* ratifies it receives more aid in equilibrium than when it does not. Formally,

$$a^R - a^{\neg R} > 0 \tag{4}$$

As Figure 3 illustrates, aid is provided for a wider range in equilibrium when *Home* ratifies. Additionally, *Foreign* is willing to pay a larger amount of aid, *a*, if *Home* ratifies. Below, I test the implication that states that ratify counterterrorism agreements receive more foreign aid than states that do not as Hypothesis 1:

> Hypothesis 1: *States that ratify international counterterrorism agreements receive more aid than states that do not ratify them.*

There are many examples of this type of behavior by donors of aid. For instance, in early 2004, the Philippines ratified *The Convention for the Suppression of Terrorist Financing*. This ratification was associated with a twelve million dollar increase in average security and counterterrorism related aid per year form the United States. Similarly, when Pakistan acceded to the *Convention for the Suppression of Terrorist Bombings* in 2009, it saw an increase of almost 5.5 million average security and counterterrorism aid dollars per year from the United States.

The second implication I test is that agreement ratification makes foreign aid more effective at reducing transnational terrorism. This is because, as shown in the levels of counterterrorism effort derived in the supplementary materials in Equations 21-24, the increased transparency counterterrorism agreements introduce causes aid recipients to hedge against the risk of conditionality in equilibrium by investing more of the aid in counterterrorism.

Effectively, the risk of conditionality shifts the line in the left half of Figure 2 upwards, such that all types who ratify invest more of the aid they receive in counterterrorism. I test this implication as

Hypothesis 2:

> Hypothesis 2: *Foreign aid is marginally more effective at reducing transnational terrorism when states have ratified counterterrorism agreements.*

The model presented in this paper assumes that ratifying a counterterrorism convention creates an agreed upon standard for what states must do to prevent transnational terrorism by their nationals. This standard operates as a benchmark; donors can observe whether recipients who ratify have met the standard that they agreed to upon ratification. The donor state can directly observe whether these benchmarks are met, which is an informative (although noisy) signal about the amount of effort aid recipients put toward counterterrorism measures.

Because there is a lack of consensus in the international community about what actions should be considered "terrorist" and what actions states are expected to take in response to transnational terrorism within their state, these agreements create a valuable signal by establishing a common set of strategic expectations about what constitutes a terrorist event and what states are to do about terrorism. [26]

This noisy signal is an assumption of the model rather than a result that emerges endogenously in as part of an equilibrium. Future research should unpack this assumption to consider when information transmission endogenously arises in equilibrium. However, this paper establishes the effects of agreements when they do provide such information. In the next section, I test empirical implications of the model regarding the influence of ratification on aid allocation and whether aid reduces transnational attacks.

Research Design

To test the hypotheses outlined above, I consider two outcomes of interest between 1968 and 2008. One dependent variable is the level of foreign aid received, and the other is the number of transnational attacks perpetrated by each country's nationals. To test the implications of the model, I use country-year level data on ratification of the UN conventions for the suppression of transnational terrorism. I first test the hypothesis that ratification increases receipts of foreign aid before turning to the second hypothesis that ratification makes aid more effective at reducing transnational attacks.

Ratification data was assembled based on historical data of the United Nations status of each of the UN conventions for the suppression of transnational terrorism listed in Table 1. To measure the ratification of each state I create an index of "Counterterrorism Treaty Capital," which is the total number of agreements ratified by a state minus the worldwide average number ratified.[27] Formally, the Counterterrorism Treaty Capital Index, denoted by K_{it}, is:
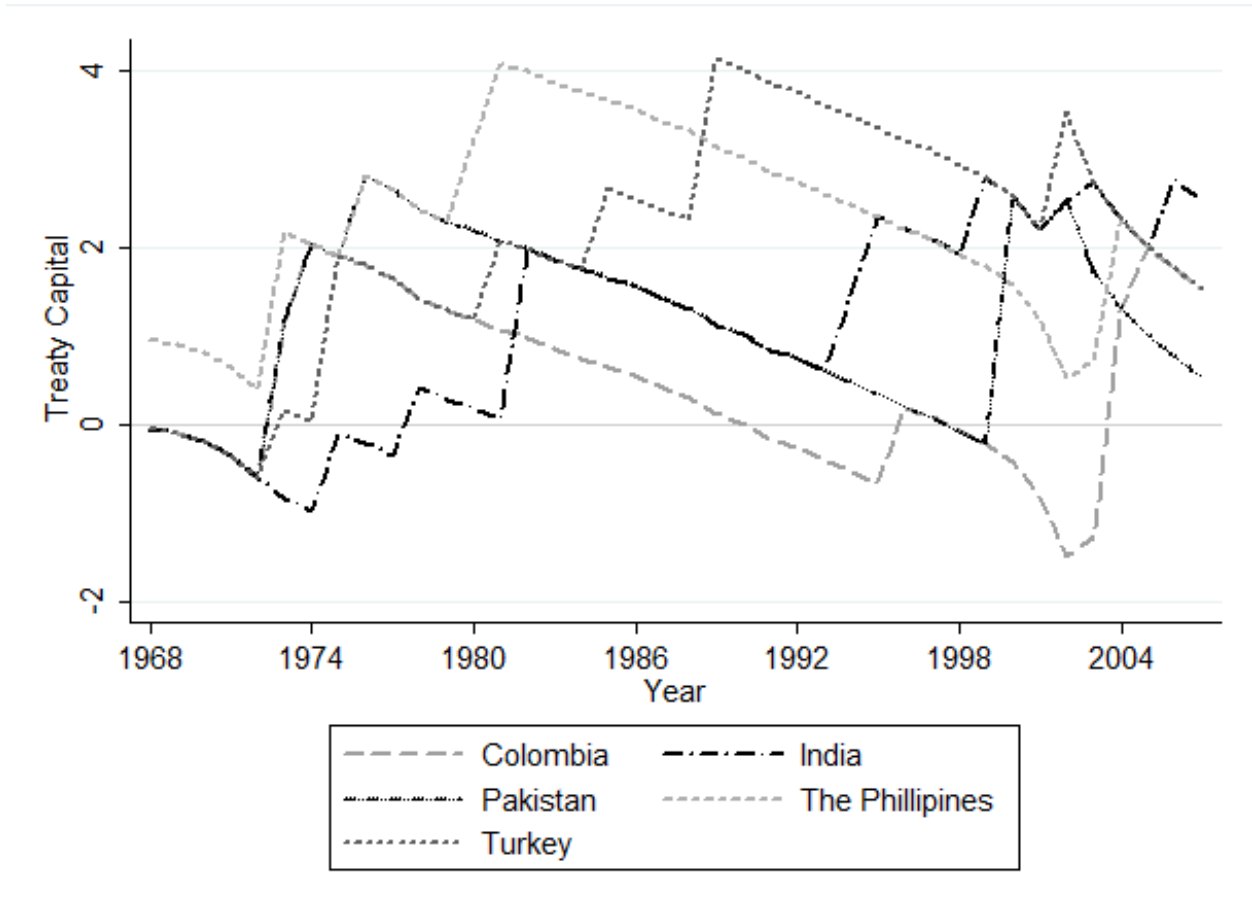
$$K_{it} \equiv T_{it} - W_t \tag{5}$$

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[26]For instance, The International Convention for the Suppression of the Financing of Terrorism defines specific financial activities as transnational terrorism:

> "Any person commits an offence within the meaning of this Convention if that person by any means, directly or indirectly, unlawfully and willfully, provides or collects funds with the intention that they should be used or in the knowledge that they are to be used, in full or in part, in order to carry out: (a) An act which constitutes an offence within the scope of and as defined in one of the treaties listed in the annex; or (b) Any other act intended to cause death or serious bodily injury to a civilian, or to any other person not taking an active part in the hostilities in a situation of armed conflict, when the purpose of such act, by its nature or context, is to intimidate a population, or to compel a government or an international organisation to do or to abstain from doing any act." Terrorist Financing Convention, art. 2 (1999)

[27]This approach is similar to recent index based measures of human rights treaty ratification (Magesan 2013).

Figure 4: Counterterrorism Treaty Capital

where T_{it} is the total number of conventions ratified by state i at time t and W_t is the average number ratified worldwide at time t. This helps account for concerns of spurious inferences due to non-stationarity of the measure of treaty ratification because the average Treaty Capital is zero by construction. Figure 4 plots the Treaty Capital over time of some key haven states: Pakistan, The Philippines, Colombia, India, and Turkey. As the figure illustrates, Treaty Capital for these countries spiked in 1971 and after 2001.

Despite the advantages of the Treaty Capital Index, there may be concerns that the results only hold for relative measures of the Treaty Capital Index, but not for absolute measures. To address this, I estimate models using the proportion of conventions ratified and a simple count of the number of agreements ratified as robustness checks. The results for these alternate measures accord substantively with the results of the Treaty Capital Index models.

In the theoretical discussion above, aid is posited to affect terrorism broadly by building opportunity as well as bolstering the capacity of the state. Therefore, I measure foreign aid using the AidData recipient aggregates from state donors and international organizations (Tierney et al. 2011). To ease interpretation, foreign aid is measured in tens of millions of dollars.

The number of transnational attacks perpetrated by each state's nationals is drawn from the ITERATE dataset on transnational terrorism (Mickolus et al. 2011). This dataset only includes transnational attacks, making it the most appropriate for testing the theory. Because ITERATE is based on media reports, one potential issue with this dataset is that non-reporting may bias estimates if both the likelihood of an event being reported and the perpetrator nationality being known correlates with the independent

variables of interest. This is unlikely to be the case, and if anything the enhanced transparency brought about by the ratification of treaties should bias estimates of the impact of treaty membership against the predicted relationship, because events in ratifying states will be more likely to be included.

In tests of both of the hypotheses, I estimate models that include the lagged dependent variable as a regressor to account for temporal affects, following the approach of Beck and Katz (2009). I also include temporal dummy variables for years post-2001, due to possible changes in state and terrorist strategy following the World Trade Center bombings (Enders and Sandler 2005), and for post-Cold War years, in order to account for possible changes in strategies of foreign aid after the fall of the Soviet Union. To take into account the panel structure of the data, I employ clustered standard errors (Beck and Katz 1995).

To address potential endogeneity I take into account the ratification process in three ways. First, in the results presented in the main text, I include fixed effects to control for unobserved unit heterogeneity (Wilson and Butler 2007). Second, I lag Treaty Capital by one year to ensure proper timing. Third, in the supplementary materials, I employ instrumental variable models to account for state selection into the convention as a robustness check.

Hypothesis One: Ratification And Foreign Aid

I first test Hypothesis 1 with a series of log-linear fixed-effects models. These models use logged foreign aid as the dependent variable to estimate the impact of ratification on foreign aid receipts. The models include country-level fixed effects to help account for unobserved differences between countries.

I also include covariates that reflect findings in the extant literature on foreign aid. These include GDP per Capita, to account for the influence of country wealth on foreign aid receipts, and the population of the country (Bolt and van Zanden 2014). I also control for whether the country is in a civil conflict using the UCDP/PRIO Armed Conflict Dataset (Thermer and Wallensteen 2014), as this may drastically influence rates of terrorism (Findley and Young 2012). I use the Polity/Freedom House combined imputed regime type variable as a measure of regime type to account for the finding that democratic participation may reduce transnational terrorist incidents a country.[28] To account for heterogeneous allocation of aid based on general similarity of preferences, I also include UN ideal point estimates (Voeten, Bailey and Strezhnev Forthcoming).

Table 3 presents the results for models testing Hypothesis 1, that states which ratify will receive more foreign aid. The positive and statistically significant coefficient on Treaty Capital suggests that states which ratify more treaties relative to other states are more likely to receive aid. Furthermore, the fixed-effects models suggest that states see an increase in foreign aid after they ratify additional conventions.

These results indicate that a one unit increase in Treaty Capital, in substantive terms the ratification of one additional counterterrorism agreement, results in a 17 percent increase in foreign aid in the model without instrumental variable. Moving from the mean value of 0 on Treaty Capital to the ninetieth percentile value of 2.3 thus results in about a about 40 percent increase in foreign aid. However the models with instrumental variables suggest that a one unit increase in Treaty Capital results in an estimated increase in foreign aid of 83 to 175 percent. These models suggest that increases of one thousand USD in GDP per capita result in an estimated 19 to 35 percent reduction in foreign aid. A one unit increase in UN ideal point leads to a 123 to 227 percent increase in foreign aid. Years after the Cold War are associated with an increase of between 100 and 200 percent in foreign aid.

To ease interpretation, Figure 5 presents the marginal effects of moving from the mean of each variable to the 90th percentile value of that variable on the percent change in foreign aid, other variables held constant, for the right hand column full model with fixed effects, instrumental variable, and lagged

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[28]For example, see Li (2005). This variable is a average of Freedom House and Polity indexes. This imputed version allows for better coverage and fewer missing values than alternative measures. Hadenius & Teorell show that this average index performs better both in terms of validity and reliability than its constituent parts (2005).
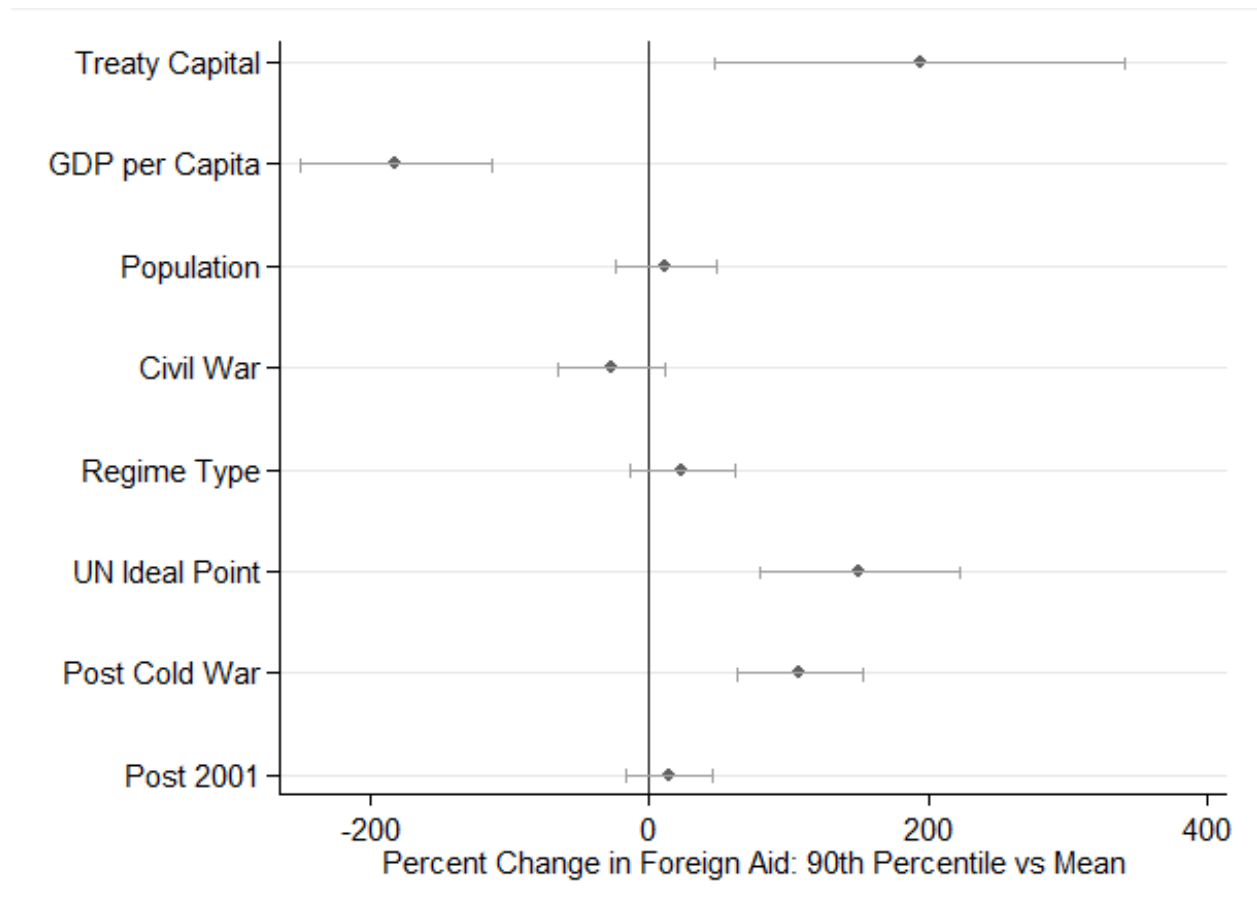
Table 3: Foreign Aid Allocation: Fixed Effects Models

	Foreign Aid (logged)	Foreign Aid (logged)	Foreign Aid (logged)
Treaty Capital (lagged)	0.174*	1.752**	0.831**
	(0.0711)	(0.557)	(0.321)
GDP per Capita	-0.311***	-0.363***	-0.195***
	(0.0703)	(0.0701)	(0.0374)
Population	0.0154	0.00780	0.00443
	(0.0138)	(0.0139)	(0.00696)
Civil Conflict	-0.503	-0.555	-0.273
	(0.303)	(0.355)	(0.197)
Regime Type	0.0847	0.0775	0.0527
	(0.0788)	(0.0798)	(0.0431)
UN Ideal Point	2.278***	2.145***	1.233***
	(0.568)	(0.532)	(0.299)
Post Cold War	2.071***	2.154***	1.079***
	(0.345)	(0.354)	(0.232)
Post 2001	0.592**	0.551	0.145
	(0.185)	(0.298)	(0.159)
Lag Foreign Aid (logged)			0.463***
			(0.0359)
Fixed Effects	YES	YES	YES
Instrumental Variable	NO	YES	YES
Observations	4703	4693	4693

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 5: Ratification and Aid: Percent Change in Foreign Aid Moving from Mean to Ninetieth Percentile of Variable

dependent variable. These results suggest that Treaty Capital does have a statistically significant and substantive effect on expected levels of foreign aid. States that ratify at the 90th percentile of Treaty Capital see a 200 percent increase in the amount of foreign aid they receive over what those at the mean value of Treaty Capital.

Hypothesis Two: Ratification and Transnational Terrorism

Next I test the second hypothesis, that aid is a more effective counterterrorism tool when a recipient state has ratified counterterrorism agreements. The dependent variable for these models is the number of transnational attacks perpetrated by a country's nationals in each year. I therefore estimate a series of fixed-effects Negative Binomial event count models. To capture the proposition that aid is marginally more effective in states that ratify, I include an interaction term between treaty ratification and foreign aid as well as lower order terms for each.

I also include covariates to control for factors that the quantitative literature on transnational terrorism suggests may be associated with levels of terrorism. Many of these overlap with controls in the models testing the first hypothesis, including GDP per Capita, population, civil conflict, and regime type. In the models testing Hypothesis 2, I also control for colonial legacy (Alesina and Dollar 2000), interstate rivalry (Thompson and Dreyer 2011), and the Amnesty International measure of state use of torture and extrajudicial killings.

Table 4 presents the results of the Negative Binomial count models used to test Hypothesis 2. The first model on the left is a fixed effects Negative Binomial model. The second model is the same, except it does not include foreign aid or its interaction with Treaty Capital. The third model is the same as the first, except it includes the lagged dependent variable. The fourth model is the same as the third, except it does not include the foreign aid terms. Overall, these results indicate that the interaction between Treaty Capital and foreign aid is significant and negative for a wide range of model specifications.

Figure 6 illustrates the marginal effect of foreign aid on the number of transnational terrorism events for different values of Counterterrorism Treaty Capital. This shows that for states that have not ratified the UN conventions, foreign aid is associated with an increase in transnational attacks. This finding echoes recent arguments that due to moral hazard problems in the use of aid for counterterrorism (Bapat 2011). Without agreements, foreign aid does not reliably reduce the number of attacks originating from the recipient. However, these results suggest that as states ratify the UN conventions this misappropriation of aid is constrained. Strikingly, when states have ratified more than the worldwide average ratified, foreign aid is predicted to have a negative and significant reduction transnational attacks.

This negative and statistically significant interaction coefficient between Treaty Capital and foreign aid suggests that treaty ratification can help mitigate misappropriation of foreign aid by increasing transparency. I include models without foreign aid and the interaction term and find that while the sign of Treaty Capital is negative, it is not statistically significant. This suggests that the UN conventions foster cooperation for counterterrorism through the foreign aid mechanism presented in the formal model.

Conclusion

In this paper I have shown how international agreements help mitigate problems in the allocation of foreign aid for counterterrorism by increasing the observability of recipients' actions. The statistical results support the hypotheses that states that ratify receive more foreign aid, and that the aid is marginally more effective as a counterterrorism tool when recipient states have ratified.

The promise of future aid is an inducement for states to ratify. For haven states, the agreements provide a way to get more foreign aid in exchange for policy concessions in the area of counterterrorism. However, the threat of the withdrawal of aid if the benchmarks of the conventions are not met means that
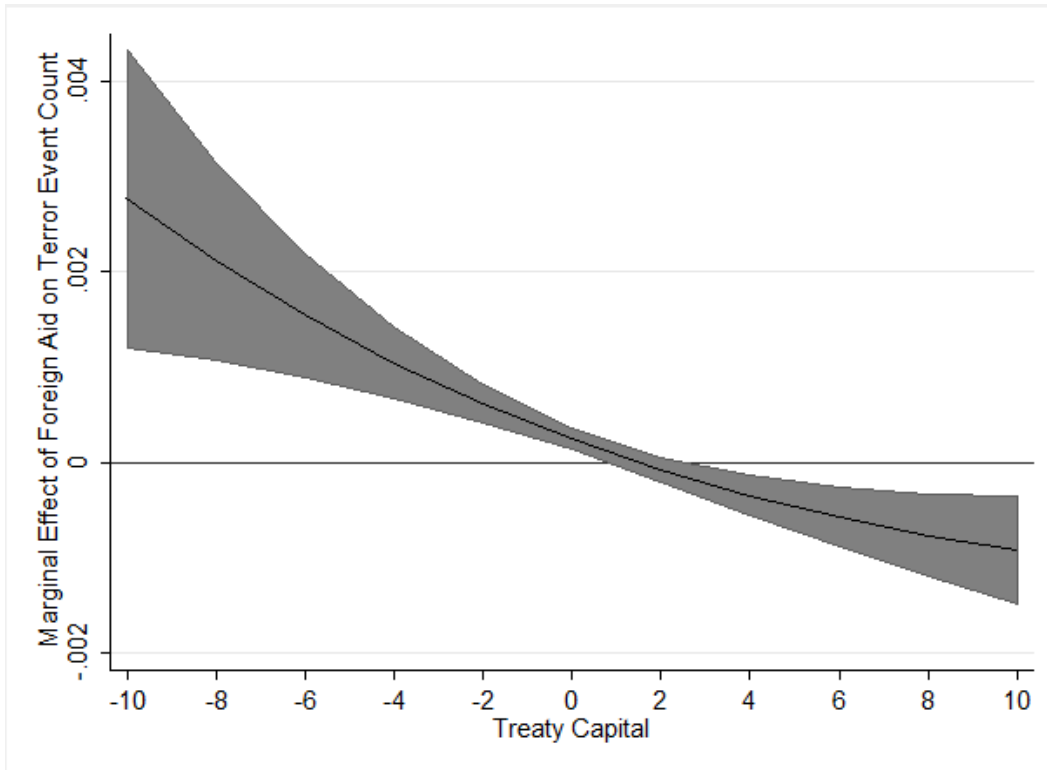
Table 4: Fixed Effects Negative Binomial Models

	FE Neg. Binomial	FE Neg. Binomial	FE Neg. Binomial	FE Neg. Binomial
Treaty Capital	0.000245	-0.0425	-0.00582	-0.0424
(lagged)	(0.0248)	(0.0234)	(0.0248)	(0.0234)
Foreign Aid	0.000563***		0.000458***	
	(0.000124)		(0.000122)	
Treaty Cap.x For. Aid	-0.000371***		-0.000304***	
	(0.0000622)		(0.0000604)	
Population	-0.000713*	-0.000611	-0.000656	-0.000582
	(0.000351)	(0.000333)	(0.000351)	(0.000335)
GDP per Capita	0.00000467	0.00000621	0.000000281	0.000000572
	(0.0000119)	(0.0000117)	(0.0000120)	(0.0000118)
Regime Type	0.0741***	0.0847***	0.0679***	0.0764***
	(0.0157)	(0.0155)	(0.0157)	(0.0156)
Political Terror	0.374***	0.376***	0.334***	0.335***
	(0.0405)	(0.0406)	(0.0409)	(0.0410)
Civil Conflict	0.343***	0.317***	0.330***	0.300***
	(0.0841)	(0.0845)	(0.0840)	(0.0842)
Post Cold War	-0.368***	-0.391***	-0.373***	-0.391***
	(0.0662)	(0.0662)	(0.0661)	(0.0661)
Post 2001	-0.691***	-0.658***	-0.624***	-0.586***
	(0.0936)	(0.0932)	(0.0941)	(0.0936)
Rivalry	0.264**	0.255**	0.275**	0.273**
	(0.0954)	(0.0952)	(0.0957)	(0.0956)
Colonial Legacy	-0.343*	-0.307*	-0.309*	-0.283*
	(0.142)	(0.140)	(0.142)	(0.141)
Lagged DV			0.0156***	0.0167***
			(0.00212)	(0.00209)
Constant	-1.911***	-1.961***	-1.793***	-1.827***
	(0.219)	(0.218)	(0.219)	(0.219)
Observations	3030	3030	3030	3030
Fixed Effects	YES	YES	YES	YES
Instrumental Variable	NO	NO	NO	NO

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 6: Treaty Capital and Transnational Terrorism: Marginal Effects at Means

foreign aid is also the informal enforcement mechanism of the conventions. Some states do not ratify because they fear not complying, which could result in receiving less aid than under the non-ratification status quo. This informal design allows the agreement to serve the interests of powerful states without exposing them to the risk of punishment because they do not receive foreign aid. This suggests a novel approach to how transnational political economy[29] may often be a vital part of international organizations. Future research should further explore the role of transnational actors for facilitating cooperation between states.

Future research should also consider the role of international institutions in mitigating contracting failures in principal-agent relationships. In particular, at least two unanswered questions are raised by the analysis above. First, do these agreements reduce terrorism generally or only acts that are of strategic interest to donor states? It may be the case that aid recipient states strategically engage in counterterrorism such that only nationals of donor states are protected. Future research should consider this using a dyadic design to see if donor states are targeted differently than non-donor states.

Second, how might strategic behavior, such as spoiling strategies, influence the relationship described above? The literature on peace agreements has long been concerned with the impact of third parties on the breakdown of cooperation. However, perhaps due to its state-centric focus, scholars of international agreements have not considered how third parties may spoil interstate cooperation. While the literature on international agreements has focused on state-level compliance, much of international law concerns the behavior of non-state entities such as terrorist groups, transnational crime organizations, corporations, and individuals (Paust 2011).

A recent body of literature has argued that domestic political actors are a possible mechanism for

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[29]In this case the allocation of foreign aid.

the enforcement of international institutions and agreements.[30] These studies have focused on how a domestic political actor's ability to influence a leader's domestic political survival creates indirect enforcement mechanisms for international institutions. However, there is a need for more research about the much more direct influence non-state actors can have on the effectiveness of, and state compliance with, international agreements by violating the terms of an international agreement unilaterally. Because the UN conventions for the suppression of transnational terrorism criminalize non-state actor behaviors and call upon states to adopt domestic policies to curb them, it may be the case that non-state actors could adopt strategies to erode trust in the counterterrorism aid delegation relationship outlined above.

Future research should also consider whether international institutions would be useful for improving the ability of aid to accomplish other goals. For instance, global health conventions regarding medical protocols, disease prevention, investigation of and response to epidemics and other measures may help reduce negative externalities from diseases thriving in places with limited capacity and political will to address public health issues. Principal-agent problems have long been lamented by policy makers and scholars of foreign aid. It is possible that agreements following the design of counterterrorism conventions could be effective at mitigating such principal-agent problems.

The impact of the information that these international institutions provide are likely not limited to foreign aid. Information about terrorism prevention measures should be valuable to international business, those making sovereign loans, and alliance partners. Whether and how the UN conventions for the suppression of transnational terrorism are important for these relationships is an open question. These multilateral agreements provide information that may be useful to these audiences, much as in the way they are useful to donors of foreign aid.

While my theory highlights that heterogeneous preferences cannot be ignored in international cooperation – in fact I show that agreements are often created to constrain aid recipient states whose preferences may differ from those of donors – both ability and will are necessary for cooperation to occur. In an international system in which many states do not completely control their territory (Wagner 2007, Milner 1991), the need for capacity building to accomplish cooperative measures is clear. However, capacity building can only be effective if divergent preferences can be constrained through enforcement. The benchmarks established by international agreements make enforcement through aid conditionality more credible and thus augment the efficacy of foreign aid as a tool to build counterterrorism capacity.

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[30]For example see Dai (2005), Mansfield, Milner and Rosendorff (2002), Leeds (1999).

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Supplementary Materials

Information Structure: Beliefs and learning about recipient counterterrorism spending

$$\mu_F(\beta_H|Ratify) = \frac{\mathbb{1}_{\beta_H \geq \beta_R}}{\theta - \beta_R}. \tag{6}$$

Similarly, if Home does not ratify then foreign updated beliefs are uniform and bounded above by β_R, formally

$$\mu_F(\beta_H|\neg Ratify) = \frac{\mathbb{1}_{\beta_H < \beta_R}}{\beta_R - 1}. \tag{7}$$

$$\mu_F(\beta_H|\neg Ratify, Terror) = \frac{\mu_F(\beta_H|\neg Ratify)Pr(Terror|\beta_H)}{\int \mu_F(\beta_H|\neg Ratify)Pr(Terror|\beta_H)d\beta_H} \tag{8}$$

$$= \frac{e^{-\varepsilon_1^*}}{\int e^{-\varepsilon_1^*}d\beta_H}\mathbb{1}_{\beta_H < \beta_R}. \tag{9}$$

$$\mu_F(\beta_H|\neg Ratify, \neg Terror) = \frac{\mu_F(\beta_H|\neg Ratify)Pr(\neg Terror|\beta_H)}{\int \mu_F(\beta_H|\neg Ratify)Pr(\neg Terror|\beta_H)d\beta_H} \tag{10}$$

$$= \frac{1 - e^{-\varepsilon_1^*}}{\int 1 - e^{-\varepsilon_1^*}d\beta_H}\mathbb{1}_{\beta_H < \beta_R}. \tag{11}$$

in the most pessimistic case after observing both a terror attack and Home not meeting the benchmark its beliefs about home's type are given by:

$$\mu_F(\beta_H|Ratify, Terror, \neg Benchmark) = \frac{\mu_F(\beta_H|Ratify)Pr(Terror, \neg Benchmark|\beta_H)}{\int \mu_F(\beta_H|Ratify)Pr(Terror, \neg Benchmark|\beta_H)d\beta_H} \tag{12}$$

$$= \frac{e^{-2\varepsilon_1^*}}{\int e^{-2\varepsilon_1^*}d\beta_H}\mathbb{1}_{\beta_H \geq \beta_R}. \tag{13}$$

However if a terror event occurs and but Home meets the benchmark, their belief is more favorable

$$\mu_F(\beta_H|Ratify, Terror, Benchmark) = \frac{\mu_F(\beta_H|Ratify)Pr(Terror, Benchmark|\beta_H)}{\int \mu_F(\beta_H|Ratify)Pr(Terror, Benchmark|\beta_H)d\beta_H} \tag{14}$$

$$= \frac{e^{-\varepsilon_1^*}(1 - e^{-\varepsilon_1^*})}{\int e^{-\varepsilon_1^*}(1 - e^{-\varepsilon_1^*})d\beta_H}\mathbb{1}_{\beta_H \geq \beta_R}. \tag{15}$$

In the most optimistic case, When a terror event does not occur and home meets the benchmark beliefs are given by

$$\mu_F(\beta_H|Ratify, \neg Terror, Benchmark) = \frac{\mu_F(\beta_H|Ratify)Pr(\neg Terror, Benchmark|\beta_H)}{\int \mu_F(\beta_H|Ratify)Pr(\neg Terror, Benchmark|\beta_H)d\beta_H} \tag{16}$$

$$= \frac{(1 - e^{-\varepsilon_1^*})^2}{\int (1 - e^{-\varepsilon_1^*})^2 d\beta_H}\mathbb{1}_{\beta_H \geq \beta_R}. \tag{17}$$

However if a terror event does not occur and home does not meet the benchmark they are more

pessimistic, and beliefs are given by

$$\mu_F(\beta_H|Ratify, \neg Terror, \neg Benchmark) = \frac{\mu_F(\beta_H|Ratify)Pr(\neg Terror, \neg Benchmark|\beta_H)}{\int \mu_F(\beta_H|Ratify)Pr(\neg Terror, \neg Benchmark|\beta_H)d\beta_H}$$

(18)

$$= \frac{e^{-\varepsilon_1^*}(1 - e^{-\varepsilon_1^*})}{\int e^{-\varepsilon_1^*}(1 - e^{-\varepsilon_1^*})d\beta_H} \mathbb{1}_{\beta_H \geq \beta_R}.$$

(19)

Aid Allocation, Counterterrorism spending

conditionality cutpoint

$$\beta_F < E_F \left[\frac{c}{f(\varepsilon_2^c) - f(\varepsilon^{\neg c})} \right]$$

(20)

counterterrorism spending As a baseline, if there is no conditionality, then *Home* plays

$$\varepsilon_1^* \equiv \min\{\ln(\beta_H), r_H + a\}$$

(21)

If there is conditionality and *Home* does not ratify then *Home* invests more in counterterrorism in the aid stage in order to reduce the risk that aid is withdrawn in the conditionality stage given by Equation 22.

$$\varepsilon_1^* \equiv \min\{\ln(\beta_H + c), r_H + a\}$$

(22)

If there is strict conditionality after ratification, meaning that *Foreign* reduces aid if either terror event occurs *or* the benchmark is not met, then *Home* plays same as conditionality in no ratify given above in Equation 22.

If there is weak conditionality in the Ratify equilibrium, enacting conditionality only if a terror event occurs *and* the benchmark is not met, then *Home* invests Equation 23.

$$\varepsilon_1^* \equiv \min \left\{ \ln \left(\frac{\beta_H + \sqrt{\beta_H^2 + 8c}}{2} \right), \ r_H + a \right\}$$

(23)

Which is more than if there is no conditionality, but less than if there is strict conditionality.

Aid Allocation Let β_R denote the cutpoint on *Home*'s type for ratification. Therefore if there is no ratification and no conditionality *Foreign* plays

$$a^{\neg R \neg C} \equiv \frac{\beta_R \ln(\beta_R)}{\beta_R - 1} - 1 - r_H$$

(24)

However, if *Home* does not ratify and there is conditionality, then the equilibrium level of aid is greater than when there is not conditionality and is given by

$$a^{\neg RC} \equiv \frac{(\beta_R + c)\ln(\beta_R + c) - (1 + c)\ln(1 + c)}{\beta_R - 1} - 1 - r_H$$

(25)

If *Home* ratifies and and no conditionality, then equilibrium level of aid is

$$a^{R \neg C} \equiv \frac{(\theta)\ln(\theta) - (\beta_R)\ln(\beta_R)}{\theta - \beta_R} - 1 - r_H$$

(26)

27

If instead there is weak conditionality, in which aid is only reduced if a terrorist event occurs and *Home* does not meet the benchmarks of the agreement, then the equilibrium level of aid is

$$a^{RCW} \equiv \frac{1}{\theta - \beta_R} \left(\theta \ln \left(\frac{\theta + \sqrt{\theta + 8c}}{2} \right) - \beta_R \ln \left(\frac{\beta_R + \sqrt{\beta_R + 8c}}{2} \right) + \sqrt{\beta_R^2 + 8c} - \sqrt{\theta^2 + 8c} \right) \qquad (27)$$

If strict conditionality on one bad event and Home ratifies, then equilibrium level of aid is

$$a^{RCS} \equiv \frac{(\theta + c) \ln(\theta + c) - (\beta_R + c) \ln(\beta_R + c)}{\theta - \beta_R} - 1 - r_H \qquad (28)$$

Deciding to Ratify

Define p as the probability of aid being withdrawn in equilibrium, where p^R denotes the probability if Home ratifies and $p^{\neg R}$ denotes the probability of aid being withdrawn if Home does not ratify. This probability is a function of Home's equilibrium enforcement decision in the aid stage and Foreign's conditionality strategy. Formally Home ratifies if:

$$\beta_H > \beta_R \equiv \frac{2 \left(a^R - a^{\neg R} \right) \varepsilon_1^{\neg R} - \varepsilon_1^R + \varepsilon_2^{\neg RS} - \varepsilon_2^{\neg RS} + p^R \left(\varepsilon_2^{RS} + \varepsilon_2^{RC} - c \right) + p^{\neg R} \left(c - \varepsilon_2^{\neg RC} \right)}{f \left(\varepsilon_2^{RS} \right) - f \left(\varepsilon_2^{\neg RS} \right) + p^R \left(f \left(\varepsilon_2^{RC} \right) - f \left(\varepsilon_2^{RS} \right) \right) - p^{\neg R} \left(f \left(\varepsilon_2^{\neg RC} \right) - f \left(\varepsilon_2^{\neg RS} \right) \right)} \qquad (29)$$

Rare Events and Instrumental Variable Models

Relative to the number of units of observation, terrorism is a rare event. Cite shows that rare events may bias coefficients. To account for this, I employ a zero-inflated binomial model of the event count terrorism data.The results of the rare events models are presented in Table 5. The left-most column reports of the following tables reports the results from the zero inflated Negative Binomial (ZINB) model, the column on the right reports the same ZINB model results with the addition of a lagged dependent variable. (Beck and Katz 2009).

The percent of adjacent states ratifying is used as instrumental variable for treaty ratification. This approach requires an instrumental variable that is associated with ratification, but not associated with the errors of the second stage model. I use neighboring state ratification, measured as the average treaty capital of neighboring states, as an instrument for ratification. It is a associated with ratification because other the pressures driving ratification are at the regional level. However it is not likely associated with deviations in aid allocation or terror attacks from the predicted values in the second stage of each model. Ratification by neighboring states is indicative of pressure for a state to ratify however, it is unlikely that ratification by neighboring states directly effects levels of terrorism or that levels of terrorism influence neighboring ratification.[31] The t-statistics for the instrumental variable in the first stage are all highly significant and the F-statistics of excluding the instrument are highly significant. This variable is lagged in order to correct for potential endogeniety.

Table 6 presents the results from Negative Binomial models without fixed effects or instrumental variables in the two leftmost columns and the results from instrumental variable models in the two columns on the right. These results show broad support for the findings of the fixed effects models presented in the main text.

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[31] The use of neighboring state ratification as an instrumental variable due to diffusion and norms follows (Buthe and Milner 2008).

Table 5: Zero Inflated Negative Binomial Models

	Zero-Inf. Neg. Binom.	Zero-Inf. Neg. Binom.
Count Stage		
Treaty Cap.x For. Aid	-0.000201	-0.000325**
	(0.000336)	(0.000113)
Foreign Aid	0.00121**	0.000437
	(0.000435)	(0.000267)
Treaty Capital (lagged)	0.0329	0.0716
	(0.0669)	(0.0437)
Population	-0.00119*	-0.000475
	(0.000544)	(0.00328)
GDP per Capita	0.0000291	-0.0000218
	(0.0000506)	(0.0000225)
Regime Type	0.0710	0.0264
	(0.0375)	(0.0605)
Political Terror	0.334**	0.258**
	(0.108)	(0.0974)
Civil Conflict	0.454	0.256
	(0.239)	(0.275)
Lagged DV		0.0655***
		(0.0108)
Inflation Stage		
Foreign Aid	0.00134	-0.000651
	(0.000900)	(0.00447)
Treaty Capital (lagged)	0.0314	0.106
	(0.140)	(0.254)
Treaty Cap.x For. Aid	-0.000183	-0.000892
	(0.000458)	(0.00310)
Population	-0.0129	-0.000855
	(0.0212)	(0.0238)
GDP per Capita	-0.0000942	-0.000128*
	(0.0000918)	(0.0000557)
Regime Type	-0.117	-0.0683
	(0.0714)	(0.169)
Political Terror	-1.077***	-0.683***
	(0.223)	(0.167)
Civil Conflict	-1.693	-0.763
	(1.468)	(0.523)
Lagged DV		-1.810
		(0.967)
Observations	3661	3661

Standard errors in parentheses.
Coefficients for Intercepts, Colonial Legacy, Rivalry, Post2001 and Post Cold War included in estimation but omitted in table due to space constraints.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Instrumental Variable Models

	Neg. Binomial	Neg. Binomial	IV Neg. Binomial	IV Neg. Binomial
Treaty Capital	0.0285	0.0490*	0.244**	0.282**
(lagged)	(0.0274)	(0.0242)	(0.0945)	(0.0976)
Foreign Aid	0.000982***	0.000508*	0.00129***	0.000888***
	(0.000243)	(0.000215)	(0.000199)	(0.000218)
Treaty Cap.x For. Aid	-0.000227*	-0.000203*	-0.000564***	-0.000501***
	(0.000105)	(0.0000903)	(0.000143)	(0.000148)
Population	-0.000339	0.000223	-0.000539*	-0.0000449
	(0.000373)	(0.000297)	(0.000215)	(0.000215)
GDP per Capita	0.0000803***	0.0000552***	0.0000469***	0.0000317**
	(0.0000118)	(0.00000989)	(0.0000103)	(0.0000105)
Regime Type	0.0873***	0.0611***	0.0704***	0.0344*
	(0.0167)	(0.0148)	(0.0159)	(0.0164)
Political Terror	0.673***	0.510***	0.621***	0.469***
	(0.0509)	(0.0451)	(0.0335)	(0.0348)
Civil Conflict	0.707***	0.425***	0.660***	0.395***
	(0.108)	(0.0955)	(0.0670)	(0.0707)
Post Cold War	-0.416***	-0.329***	-0.401***	-0.280***
	(0.0891)	(0.0811)	(0.0622)	(0.0657)
Post 2001	-0.981***	-0.660***	-0.946***	-0.643***
	(0.114)	(0.102)	(0.0791)	(0.0811)
Rivalry	0.930***	0.669***	0.847***	0.605***
	(0.0851)	(0.0763)	(0.0564)	(0.0591)
Colonial Legacy	-0.472***	-0.263**	-0.465***	-0.235***
	(0.106)	(0.0932)	(0.0670)	(0.0706)
Lagged DV		0.196***		0.166***
		(0.0120)		(0.00755)
Constant	-2.890***	-2.751***	-2.558***	-2.438***
	(0.217)	(0.191)	(0.144)	(0.149)
$\ln(\alpha)$	1.304***	0.945***		
	(0.0458)	(0.0496)		
Observations	3661	3661	3655	3655
Fixed Effects	NO	NO	NO	NO
Instrumental Variable	NO	NO	YES	YES

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$