Games Rivals Play: Terrorism in International Rivalries

Michael G. Findley
Brigham Young University
James A. Piazza
The Pennsylvania State University
Joseph K. Young
American University

The quantitative terrorism literature has largely overlooked interstate relations when evaluating predictors of transnational terrorist attacks, opting to focus on state, group, or individual-level factors to explain patterns of terrorism using analytical methods that are limited to either the origin or target of the attack. In this piece we argue that this is both incongruous with the larger conflict literature and limiting in terms of theoretical impact. Transnational terrorism in many cases is more accurately considered a component of conflicting relations between two states generally hostile towards each other, which necessitates an examination of both states. We demonstrate, by conducting a series of statistical analyses using politically relevant directed dyads, that interstate rivalries are reliable positive predictors of transnational terrorism. We find that interstate rivalries explain a great deal of variation in cross-national patterns of terrorism, a result that is robust to different rivalry measures. Application to Pakistani-Indian terrorism further illustrates the cross-national results.

Interstate rivalries have played an important role in terrorist campaigns in recent decades. Several examples, spanning world regions, illustrate this process. Relations between Colombia and Venezuela have been strained by border and maritime disputes for the past two decades. Beyond impairing regional counterterrorism cooperation, the fallout from this dispute has culminated in allegations that the governments of Venezuela, under Hugo Chavez, and Ecuador, under Rafael Correa, provide resources and safe haven for the Marxist National Liberation Army (ELN) and the Revolutionary Armed Forces of Colombia (FARC) terrorist movements as part of their strategic conflict with Bogota (Forero 2010; Kuffner 2009). An important motivation for Iranian and Syrian support for the Hezbollah and Hamas terrorist movements is the protracted border and regional-strategic disputes each country has with Israel (Baghat 2006; Parsi 2005). The November 2008 terrorist attacks in Mumbai that killed 172 and wounded 308 people were launched by Muslim extremists associated with the Lashkar-e-Taiba terrorist movement, alleged to be supported by Pakistani intelligence (Cronin et al. 2004). A key motivator for the Mumbai attack seems to be grievances associated with Indian and Pakistani military rivalry over the Muslim-majority Indian state of Kashmir (Rabasa et al. 2009). North Korea, like Iran and Syria, is believed to have orchestrated terrorist attacks against South Korean government officials and civilians in 1983, 1987, and 1996 and harbored Japanese Red Army terrorists due to its decades-old political and military dispute with South Korea and Japan (Niksch 2010).

To what extent, therefore, do interstate rivalries empirically predict transnational terrorist activity? Unfortunately, the existing literature sheds little light on this question. The importance of rivalries for armed interstate conflict and the frequency and intensity of general conflict in world politics is well...
established (Diehl and Goertz 2000; Goertz and Diehl 1992; Thompson 2001). Rivalries have also been shown to affect the dynamics of civil wars (Akcinaroglu and Radziszewski 2005) and to increase the likelihood of intervention into civil wars (Findley and Teo 2006). Almost no attention has been paid to the specific effects of rivalries on terrorist activity, however, even though terrorism has been a relatively frequent form of transnational violence. This is puzzling because almost all theories of rivalry share expectations about the occurrence of low-level forms of violence, including, in theory, terrorism (e.g., Colaresi, Rasler, and Thompson 2007; Diehl and Goertz 2000; Hensel 1999; Senese and Vasquez 2005). At the same time the empirical literature on terrorism has mainly confined its focus to state-, group-, and individual-level factors that explain patterns of terrorism, paying little attention to interstate relations as important factors. (See, for example, Abadie 2006; Asal and Reythemeyer 2008; Krueger and Maleckova 2003; Piazza 2008). Some notable exceptions to this are Li (2005), who controls for interstate military conflict in his study of regime type and transnational terrorism, and Braithwaite and Sobek (2005), who find that change in U.S. dominance over the international system is a significant predictor of patterns of global terrorism.

The failure of the rivalry literature to evaluate terrorist violence and the neglect of interstate rivalries in empirical studies of terrorism can be explained by several factors. Terrorism has not been a focus in the existing rivalry literature because it is perceived to be out of the hands of state leaders. Rivalry theories pin the locus of decision making at the state level whereas terrorism is assumed to be carried out independently by non-state actors. Likewise, three reasons explain the narrow focus adopted within the terrorism literature that has precluded an investigation of international rivalry. First, scholars in the field tend to regard terrorism as substantially different from large-scale, traditional manifestations of violence, such as civil war or interstate war (Badey 1998; Sambanis 2008), and this forms the expectation that terrorism is less affected by interstate relations.3 Second, recent empirical literature rightly points out that the volume of direct financial and military support by governments to terrorist movements has declined since the end of the Cold War (Byman 2008). This prompts a view that interstate rivalry is an outmoded cause of terrorism that deserves less attention.4 Finally, cross-national time-series country-year models preclude effective investigation of interstate relations (Young and Findley 2011). As a result, scholars of terrorism are only able to model the effects of features of national environments from which terrorists hail or the features of the countries they target (Krueger and Laitin 2008; Lai 2007).

Therefore, we address theoretical and empirical limitations in the terrorism literature imposed by state-, group-, and individual-level analyses by conducting a series of statistical tests of the effect of interstate rivalries on patterns of terrorism using politically relevant directed dyads as the unit of analysis. In the next section we outline our theoretical expectations for why interstate rivalries might drive terrorist activity and then proceed to empirical analysis and a discussion of the implications of our findings, including application to Pakistani-Indian terrorism.

### Interstate Rivalries and Terrorism

The examples in the introduction suggest that states provide what Byman (2005, 2006) identifies as active support and/or passive tolerance to terrorist movements that conduct attacks against rival states in order to impose costs upon each other. In doing so, states either substitute for or complement more conventional means of striking at rivals, such as enacting economic sanctions or engaging in direct armed conflict, and derive strategic benefits for doing so that can be observed at the interstate and domestic levels. Specifically, states and policymakers derive several complementary strategic benefits from actively or passively supporting terrorism against a rival.5

First, states might use terrorist groups to manage the strategic and political costs of rivalries. This scenario has several manifestations. Laqueur (1996) considers support for terrorist proxies an optimal strategy for contemporary states because traditional interstate “wars of aggression” are currently too costly and uncertain. States now use terrorist movements to “manage” their interstate rivalries by using them to exact real costs on rivals—the targeted state must spend resources on counterterrorism and often

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3This literature contrasts with attempts to build general theories that apply across forms of violence (e.g., Lake 2003).

4This trend is a product of the Soviet Union’s demise, which meant an end to large-scale funding for leftist movements (Gray 2005), and state support for terrorist movements that may be covert, passive, or permissive in nature.

5We are informed here by Byman et al. (2001) who determine that ideological, co-ethnic and co-religious affinities between state supporters and terrorist groups rarely explain patterns of state support for terrorism.
sustains casualties—while preventing higher stakes and more costly military conflict. Using much the same strategy the United States and the Soviet Union employed when supporting guerrilla insurgencies like the Afghan Mujahideen or the Salvadoran Faribundo Marti National Liberation Front (FMLN) during the Cold War, rivals such as India and Pakistan use sponsorship of groups like the Baluchistan Liberation Army and Jaish ul-Muhammad as tools to impose lower military costs rather than provoke formal interstate military confrontation.

Also many contemporary venues of political and military conflict within rivalries make terrorist proxies more desirable than the formal use of state militaries. For example, the security, legal, and international political conditions in contemporary Iraq and Somalia make direct military involvement by bordering states precarious and costly. Therefore, rather than committing state military assets, Saudi Arabia actively provides clandestine support to Sunni extremist groups in Iraq to counter Iranian influence while Eritrea provides assistance to the Islamic Courts Union in Somalia to stymie Ethiopian intervention (Gamage 2007). The post-Cold War patchwork of failed and precarious international regimes that direct attacks against their rivals and then hold out implied offers to terminate support or hand over terror suspects in order to gain concessions from the rival. Syria directly supported the Kurdish Workers Party (PKK), an anti-Turkish secessionist group, in the early 1990s, for example. Syria had little interest in encouraging militant Kurdish nationalism, given its own Kurdish population, but chose to arm the PKK to develop a bargaining chip with Turkey over Turkey’s Euphrates river water policy (Criss and Çetiner 2000; Olson 1997). Syrian support for the Lebanese Shi‘i Hezbollah movement is frequently seen in the same vein: motivated by a desire to compel Israel to make concessions on the Golan Heights.

Fourth, state sponsorship of terrorist groups that target rival states may also confer strategic benefits in the realm of domestic politics. This can develop in a couple of ways that involve both active and passive support for terrorist groups. Government officials of states engaged in an interstate rivalry who figure prominently in domestic political discourse, and that have shaped public opinion, may opt to support terrorist movements whose objectives are met with widespread popular sympathy in the country. In this instance, leaders hope to manipulate the nationalist passions of their citizens to garner or maintain domestic political support (Byman 2005).

Likewise, state support of terrorism may be the result of intraregime political maneuvering between hard-liners and moderates. Hard-line elements within regimes that seek a more aggressive foreign policy stance against rivals may work to secure state support

Byman (2005) furthermore notes that states suffering from hard power deficits vis-à-vis rivals, or diminished international status, sometimes support terrorist movements to bolster international prestige, to match or counter rivals, or to assert an informal influence in international affairs. Byman cites the example of Saddam Hussein’s former practice of providing financial endowments to the families of Palestinian suicide bombers associated with Hamas, Palestinian Islamic Jihad, and the Al Aqsa Martyr’s Brigade. He regards this as a strategic decision by the Iraqi government to compensate for its limited ability to project soft and hard power in the face of its standing rivalry with Iran and Saudi Arabia, both of which are important financial backers of Palestinian terrorism.

Third, states often support terrorist movements to cultivate bargaining assets with rivals. States actively or passively cultivate relationships with terrorist movements that direct attacks against their rivals and then hold out implied offers to terminate support or hand over terror suspects in order to gain concessions from the rival. Syria directly supported the Kurdish Workers Party (PKK), an anti-Turkish secessionist group, in the early 1990s, for example. Syria had little interest in encouraging militant Kurdish nationalism, given its own Kurdish population, but chose to arm the PKK to develop a bargaining chip with Turkey over Turkey’s Euphrates river water policy (Criss and Çetiner 2000; Olson 1997). Syrian support for the Lebanese Shi‘i Hezbollah movement is frequently seen in the same vein: motivated by a desire to compel Israel to make concessions on the Golan Heights.

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Likewise, state support of terrorism may be the result of intraregime political maneuvering between hard-liners and moderates. Hard-line elements within regimes that seek a more aggressive foreign policy stance against rivals may work to secure state support.
for terrorists in order to neutralize moderate political actors. Hard-liners may also favor supporting terrorists in the hopes of precipitating an interstate crisis that can be exploited to stoke nationalism, sideline moderates, and shape policy. Though this could be regarded as a narrow way that interstate rivalries might be causally linked to terrorism, it is a consequence of rivalry that appears in the histories of many states.

Governments in the Arab World and in Sub-Saharan Africa regularly gave support to various national liberation movements, such as the Palestine Liberation Organization or the armed wing of the African National Congress to bolster regime popularity at home and to distract their publics from domestic problems. The hard-line politicians within the apartheid government of South Africa promoted government support of anticomunist and reactionary insurgents in neighboring Angola and Zimbabwe as a means to foster a “siege mentality” and climate of perpetual imminent crisis to outmaneuver moderate voices and quell dissent (Byman et al. 2001; Price 1992). Perhaps the most contemporary and salient example of interstate rivalries prompting politicians to offer support to terrorists to bolster their popularity with domestic constituents and to outflank interregime opponents is one that we address later in the article: Pakistani support for Kashmir-based terrorist movements during the Zia al Haq and the Pervez Musharaf periods (Nelson 2009).

In addition to these four direct processes, indirect factors also explain why states engaged in rivalries experience more transnational terrorism. Interstate rivalries erode cooperation between countries, and this extends to cooperation on intelligence, policing and counterterrorism efforts. Walsh and Piazza (2010) discuss international cooperation as an important element of effective counterterrorism strategies and mention examples where political tensions between countries, caused not by general rivalry but rather by controversial human rights violations, have adversely affected the capacity of the United States to prosecute its War on Terror. It is not difficult to see how interstate rivals are less likely than states with good relations to coordinate counterterrorism efforts, thereby passively offering a potential boon for terrorist movements that seek to recruit, organize, finance, plan, and launch attacks with minimal interference from government agents.

Second, states engaged in rivalries may not provide direct assistance to terrorist movements but may passively encourage terrorist activity against rivals through the general domestic political and security climate interstate rivalry cultivates. This climate heightens tensions, promotes jingoism in society, and normalizes extremism. The highly contentious relations between the United States and Communist Cuba under Fidel Castro that helped to nurture anticomunist, Cuban exile terrorist movements such as Omega 7, Brothers to the Rescue, and Alpha 66 between the 1960s and 1990s is an example of this connection. Though there is some evidence of direct clandestine training and support of right-wing Cuban exile terrorism by U.S. officials, a large degree of the sustenance enjoyed by armed anti-Castro groups is derived from the climate of strong hostility against the Castro regime in the United States (Matthews 2005).

These possibilities shape our empirical expectations that the presence of interstate rivalries should predict patterns of terrorism. Each of these logics suggests strategic benefits that states obtain by actively or passively supporting terrorism. And collectively they yield a common prediction: terrorism is more likely in the context of rivalry than in the absence of rivalry. Finding interstate dyadic effects linking rivalry to terrorism would chart new theoretical and empirical territory in both literatures.

We now outline our research design to test for such effects. We do so, however, keeping in mind that the ultimate relationship between interstate rivalries and terrorism might be qualified and nuanced. In our empirical analysis we seek to determine, as a first cut, the existence of a relationship between rivalries and transnational terrorism, but realize that international relations theory suggests that factors such as congruous regime type—whether or not rivals are both democracies—and the relative strength—whether or not they are of equal or unequal strength—might be important. Our study focuses on the basic question of rivalry as a predictor, but is careful to test covariates measuring dual regime type and relative state capacity in recognition of their theoretical salience.

Research Design

We test the hypothesis that states engaged in rivalries are more likely to experience transnational terrorist activity. This hypothesis emphasizes strategic interaction between states, and thus we need to account for information about more than one actor. We thus adopt directed dyads as our unit of analysis. We regard this technique as useful for evaluating hypotheses related to the strategic interaction of states. Similar modeling decisions are made when investigating interstate war (Bremer 1992). However, with the exception of two recently published pieces by Plümper and Neumeyer (2011) and Neumeyer and Plümper (2010), two chapters by Blomberg and Hess (2008) and Krueger and Laitin (2008) in an edited
book, and a forthcoming article (Young and Findley 2011), the quantitative terrorism literature has not used a dyadic framework.

More specifically, we regard the analysis of dyads, rather than country-years, as crucial for establishing causal chains between indicators and patterns of terrorism because it permits us to examine the interplay of both origin countries for terrorism—the countries from which terrorists hail—and target countries that experience terrorist attacks. A couple of reasons prompt us to make this claim. Our immediate research topic is examined best using dyads as rivalry is, at its core, a strategic concept (Bennett 1996; Goertz and Diehl 1992; Thompson 2001). We need to include information about each rival in a dyad to accurately model the terrorist attacks between them. We chose to use directed, rather than nondirected, dyads based on the assumption that certain aspects of the origin country—the country of national origin of the perpetrators of the attack—lead to greater attacks on the target country—the country where the attack occurred. Directed dyads are also appropriate because certain aspects of the target country may make them a more plausible target for actors from the origin country. The choice between different types of dyads as well as between a dyadic design and a single country is important as the theoretical inferences can change (Bennett and Stam 2000).

Also, following practice in the interstate war literature, in which an impossibly large number of possible dyads muddy the theoretical and empirical waters, we reduce the sample to politically relevant dyads. These dyads include contiguous states or dyads with at least one major power. Arguably, there exists a higher probability of serious disputes between states in these contexts, thus offering the motivation for frequent and sustained hostile interactions (Lemke and Reed 2001).⁶

We present the politically relevant dyad results because including all possible dyads may be more problematic by including hundreds of thousands of dyads that have no possibility of interacting and therefore are not an equivalent comparison set. Mahoney and Goertz argue that cases should be selected on the basis that relationships of interest are at least possible. Discussing the trade-offs, they note: “scholars in the quantitative tradition often seek to allow as many observations as possible to be relevant for theory testing... Yet the approach can also inflate the pool of irrelevant cases that are mistakenly considered relevant... analysts must avoid blindly maximizing the number of cases included in analysis and instead carefully weigh the costs and benefits of inclusive versus exclusive approaches to case selection” (2004, 662–63). Moreover, including such large numbers of observations strains good statistical practice as it makes statistically significant results much more likely based on numbers of observations alone.

Despite a lack of acceptable standards in the terrorism literature, we show below that neither the substantive nor statistical results hinge on the choice of politically or nonpolitically relevant dyads. And as recent transnational terror events within rivalries, such as those between India and Pakistan or the United States and Afghanistan, show, this is a defensible modeling choice.⁷

Estimation Strategy and Model Specification

In this study, we use politically relevant directed state dyads from 1968 to 2002 as our unit of analysis. The key decision in estimating a directed-dyad model for transnational terrorism surrounds the identification of the origin and target countries. This is a difficult task because terrorist attacks are not carried out directly by the state and are sometimes in locations other than the target country. Because of these complexities, we employed two separate specifications using data from the ITERATE database (Enders and Sandler 2006; Mickolus et al. 2008). First, we define the origin country as the nationality of the terrorists and the target country as the country (location) in which the

⁶Of the overall number of rivalry years in the dataset, 89% of them occur within politically relevant dyads, underscoring the importance of contiguity and major power status that underpins rivalry relationships. Furthermore, whereas 1.3% of terrorism observations occur in politically relevant dyads, less than 0.1% occurs in nonpolitically relevant dyads. While the choice to limit the analysis to politically relevant dyads drops potentially important cases of rivalry and transnational terrorism, we note that the terrorism literature has not developed strong expectations about dyadic case selection. As dyadic studies become more frequent and establish solid empirical patterns, there will be a need to use this information to identify the proper set of cases for inclusion in most analyses.

⁷We suspect that most arguments about the causes of transnational terrorism likely require a dyadic design to adequately test their subsequent hypotheses and that a dyadic framework would be a more efficient means to determine the factors that explain patterns of transnational terrorism. For example, some empirical research suggests that weak or failing states experience more transnational terrorist activity because their weakened policing capacities make them low risk venues for terrorist groups to recruit, finance operations, and commit attacks (Piazza 2008). However, stronger, wealthier states that are more prominent in the international system might be more promising targets, meaning that an attack in a stable, affluent country is more likely to generate attention for terrorist attacks. Therefore, terrorist movements may form, train, and gain strength in weak states but launch attacks against strong states. To test this, information from each state is necessary to understand why terrorism is “exported” from one to another.
terrorist event occurred. Second, we define the origin country as the nationality of the terrorists and the target country as the nationality of the victims. The origin country can be conceived as the exporter of violence while the target is the importer.

We estimate a series of models. First, we estimate negative binomial regression models with a small set of covariates and then an expanded set with traditional controls from both the rivalry and terrorism literatures. Second, we also estimate a series of zero-inflated negative binomial models. Third, in the appendix, we consider a rare-events logit regression model, in which the terrorist events are collapsed to a binary indicator of whether terrorism occurred or not. This latter check is recommended due to the nonstandard distribution of terrorist events across dyads and because it allows us to mitigate the effect of outlier observations on the results.

The dependent variable across all of our models is a count of terror events from the ITERATE database. The ITERATE database is most appropriate for our study because it confines itself to transnational terrorist attack—those we would theoretically expect to occur in the context of an interstate rivalry. As described above, this count is constructed in two primary ways and is also dichotomized as a robustness check. This dependent variable follows standard practice of considering terrorist events as the key outcome of interest (Braithwaite and Li 2007; Enders and Sandler 1999; Li 2005), rather than the number of terrorist groups.

Our primary independent variable of interest is the presence of a rivalry between two states. There is debate in the rivalry literature over the best way to conceptualize and measure rivalry. One of the points of contention in this debate surrounds the issue of whether to use a dispute-density measure of rivalry (Klein, Goertz, and Diehl 2006) or one that is based on a careful reading of history to identify strategic rivalry (Rasler and Thompson 2006). A key contention is that the dispute-density approach uses militarized disputes as part of the measure of rivalry but then attempts to predict outcomes such as war, which is one type of dispute (Thompson 1995). But even measuring rivalry based on a close reading of history will produce a set of rivalries with many militarized disputes, thereby not fully resolving the problem even for the critics. In this piece, we do not try to resolve this debate. But we note that our approach avoids some of the problems just mentioned. Rather than focusing on militarized interstate disputes or war as an outcome, our dependent variable is terrorism. Thus, even based on a dispute-density approach, terrorism should not be wrapped up in the measurement of rivalry. To avoid the measurement problems, nonetheless, we estimate all of our models using both the Klein, Goertz, and Diehl (2006) measure (reported in the main text) as well as the Rasler and Thompson (2006) measure (reported in the appendix). If our results are robust to these different coding schemes, we can be confident that the results are not sensitive to different inclusion criteria.

We specify a small and full set of covariates as control variables and include additional information about each of the covariates in the appendix. In the small set, we include only dyadic variables: rivalry, joint democracy, contiguity, and capability ratio. In addition to rivalry, joint democracy, contiguity, and capability ratios capture three central themes in both the interstate conflict and terrorism literature. According to this body of work, joint democracy is expected to have a dampening effect on conflict (Kinsella 2005; Maoz and Russett 1993), contiguity to have an amplifying effect (Lemke and Reed 2001; Senese 2005), and capability ratios to have a number of effects depending on the context (Bremer 1992; Xiang, Xu, and Keteku 2007). In the terrorism literature, the balance of studies determines that democracy encourages more terrorism (Eubank and Weinberg 1994, 2001; Lai 2007; Pape 2003), though this has been the subject of much recent debate (Abadie 2006; Findley and Young 2011; Li 2005).

In the models, this approach is referred to as Terror Counts 1 and the other approach as Terror Counts 2. Because multiple nationalities could be involved in a single attack, and thus possibly not related to a bilateral rivalry, we also conducted sensitivity analyses in which we dropped all cases with multiple nationalities. When we re-estimate all of the Terror Counts 1 models this way, they are robust in nearly every case to excluding the additional nationalities. Because the results are so similar, we do not report them here. They are available in the appendix.

In both cases, the origin and target could be different countries, but they could also be the same country. For example, a terrorist originates in one country but attacks a foreign entity, such as a diplomat, within that same country.

Blomberg and Hess (2008) use this analogy when estimating models of terrorism. They use gravity models adapted from the study of international trade to estimate the importing and exporting of terrorism.

See Sandler (1995) for a detailed defense of the use of counts of terrorist attack events as a measure for overall terrorist activity.

Of course, rivals may not only prompt their own citizens to commit terrorist attacks against each other, but rather may motivate a group or population in a third country to serve as a terrorist proxy. An example of this might be Iran or Syria prompting Hezbollah to attack Israel. These sorts of incidents would not show up in our data as prompted by rivalry, thereby inserting a conservative bias into our results, making them more robust.
Terrorism is often considered a strategy used against stronger opponents (Lake 2003), suggesting that terrorism is most likely when the capability ratio is further from parity. Less emphasis has been placed on contiguity in the transnational terrorism literature, though ample anecdotal evidence—for example India and Pakistan, Colombia and Venezuela, Turkey and Iraq—suggests a connection. Together these additional controls capture some of the most important factors in the extant literature. In the full set of covariates, we include other potentially important and confounding measures: history of terrorism in the origin and target countries, interstate war and civil war in both the origin and target, and an indicator for the Cold War. These additional controls capture other important factors identified in the terrorism literature (for example, Lai 2007; Li 2005).

Results

The results of the models appear in Tables 1 and 2, and they demonstrate that rivalry is a positive predictor of transnational terrorism. Table 1 displays the results of our negative binomial estimates using the Klein, Goertz, and Diehl (2006) measure of rivalry while varying across models the group of covariates by small specification (Models 1 and 2) and full specification (Models 3 and 4), operationalization of the dyad and dependent variable by origin country (Terror Counts 1 in Models 1 and 3) and by targeted country (Terror Counts 2 in Models 2 and 4). We repeat these same general presentations in the other tables. Regardless of how the models are estimated in Table 1, rivalry consistently has a positive and statistically significant relationship with terror counts within dyads. Across the four models, the presence of a rivalry increases terror counts by at least 120% (Model 3) and at most by 313% (Model 2) while holding all other variables at their means.\textsuperscript{13}

Table 2 estimates a similar set of models as those selected in Table 1. The only difference is the choice of estimator and how the inflation equation is specified. Zero-inflated models have been used in previous studies of terrorism to address the abundance of the zeroes in the data (Drakos and Gofas 2006a) as well as to potentially correct for underreporting bias (Drakos and Gofas 2006a, 2006b). In Models 5 and 6, we use the same set of covariates in the inflation and count equations. Li (2005) casts doubt on this approach, but lacking stronger theoretical predictions to differentiate between the two portions of the model, this is a reasonable alternative specification. We follow Drakos and Gofas (2006a) in Models 7 and 8 and use a measure of democracy in the inflate portion of the model. The only difference is that we use the joint democracy measure rather than a country-level democracy score. As long as both states are democracies, we expect that these events will be adequately reported in the press, thus reducing the problems of underreporting.

Regardless of how we specify the inflate equation or operationalize the dyads, rivalry is positively associated with increases in expected terror counts. Across the models in Table 2, the presence of a rivalry as defined by Klein, Goertz, and Diehl (2006) increases expected terror counts by at least 77% (Model 6) and at most by 477% (Model 5) holding all other variables at their means.

Figure 1 provides a graphic example of how the presence of rivalry affects the expected percent change in transnational terror attacks. As the figure demonstrates, rivalry produces a strong positive increase in the percent change in transnational terror attacks in 15 of the 18 models. The uncertain models all employ the Rasler and Thompson measure, and two of the three use a zero-inflated model. The results are generally supportive of the claim that interstate rivalry tends to generate more terrorism between states when controlling for other factors and using different specifications and estimators. These analyses suggest that the terrorism literature should continue to devote more attention to such interstate dynamics.\textsuperscript{14}

\textsuperscript{14}In our study, we theorize that the existence of rivalry between two countries facilitates transnational terrorist activity between the two rivals mostly because the rivals at some level support or tolerate terrorist movements that target each other. It is, of course, also possible that the experience of transnational terrorist attacks contribute to the development of rivalries. Qualitative historical accounts of rivalries that involve transnational terrorism—India and Pakistan, Israel and Iran, Colombia and Venezuela—mostly point to the rivalry developing before the onset of state-supported or tolerated terrorist activity. But the relationship between interstate rivalry and state-supported terrorism in Chad and Sudan, for example, presents a murkier order of events: poor political relations between the two countries in the 1960s and 1970s did motivate Sudan to back antigovernment insurgents allied to the Muslim Brotherhood in Chad, but in 2005 Chad issued a formal declaration of war against Sudan in response to cross-border incursions of Khartoum-supported tribal militias and insurgent groups to strike at Darfurian refugees and to loot Chadian farms. In this situation, it is difficult to determine whether the larger rivalry caused terrorist or insurgent activity or if the rivalry developed as non-state actors launched attacks across the border. We considered a number of statistical procedures to account for possible endogeneity, such as two-stage least squares, bivariate probit, and lagging/leading variables, which are all available with the replication materials. Although we cannot rule out endogeneity completely, the results of many additional analyses suggest that endogeneity does not threaten the basic results reported in this article.

\textsuperscript{13}These percentage changes in expected counts are computed using Long and Freese’s (2006) SPOST Stata module.
Portions of our theoretical argument suggest that capability exercises an important mediating effect on the rivalry-terrorism relationship. Accordingly, we considered whether the rivalry relationship is stronger in states where the origin country is weaker than the target and find evidence in support of this idea. When estimating the analysis on the part of the sample in which dyads were unequal in capabilities, we find that rivalry leads to a higher expectation of terrorism than the equal dyads. Capability ratios generally have a negative effect on terrorism, although the results are inconsistent across the models. The additive effect of capability ratios appears consistent with our expectations that terrorism should be less likely as the origin state grows stronger relative to the target state.

The results for joint democracy are not straightforward—in some cases democracy has a positive and significant effect whereas in other cases the effect is opposite. We suspect that the variation occurs because democracy may exert countervailing effects (Li 2005). According to the interstate conflict literature, joint democracy should generate peaceful relations (Maoz and Russett 1993), but the terrorism literature suggests that democracy may lead to more terrorism (Eubank and Weinberg 1994, 2001). A more sustained dyadic examination of democracy and terrorism is needed to sort out these differences. Finally, other covariates produce results that are generally expected—terrorism is more likely when states are contiguous, when there is an interstate war, or a civil war in the origin state. Interestingly, civil war in the target state is associated with less terrorism, perhaps because transnational terrorism has less of an effect when the target is laden with heavy violence.

### Robustness of the Results

Although some might argue that using politically relevant dyads could induce selection or measurement problems, Lemke and Reed (2001) argue that neither issue affects the substance of interstate conflict research in consequential ways. We nonetheless estimated models using the entire population of dyads in this time period and find similar results. Using all observations, rather than only politically relevant dyads, increases the substantive effect of rivalry dramatically in all of our models, and the results remain statistically significant. We estimated rare events logit models across the different models from Tables 1–2 and A1–A2 (in the appendix). The results for a dichotomized dependent variable (terrorism present or not) show that rivalry increases the likelihood of at least one terrorist attack in all eight models. The effects are again positive and statistically and substantively significant. Finally, we considered a host of additional covariates that might influence the relationship between rivalry and terrorism.

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**Table 1** Negative Binomial Models of Transnational Terrorist Attacks using Dyads 1968–2002

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rivalry (KGD)</td>
<td>1.287***</td>
<td>1.420***</td>
<td>0.793***</td>
<td>0.903***</td>
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<tr>
<td></td>
<td>(0.259)</td>
<td>(0.198)</td>
<td>(0.248)</td>
<td>(0.166)</td>
</tr>
<tr>
<td>Joint Democracy</td>
<td>1.115***</td>
<td>1.063***</td>
<td>-0.175</td>
<td>-0.204</td>
</tr>
<tr>
<td></td>
<td>(0.202)</td>
<td>(0.133)</td>
<td>(0.256)</td>
<td>(0.134)</td>
</tr>
<tr>
<td>Log(Capability Ratio)</td>
<td>-0.054</td>
<td>-0.258***</td>
<td>0.0827</td>
<td>-0.588***</td>
</tr>
<tr>
<td></td>
<td>(0.043)</td>
<td>(0.022)</td>
<td>(0.110)</td>
<td>(0.056)</td>
</tr>
<tr>
<td>Past Terror (Origin)</td>
<td>0.441***</td>
<td>0.749***</td>
<td>0.774***</td>
<td>0.637***</td>
</tr>
<tr>
<td></td>
<td>(0.077)</td>
<td>(0.041)</td>
<td>(0.088)</td>
<td>(0.042)</td>
</tr>
<tr>
<td>Past Terror (Target)</td>
<td>0.411***</td>
<td>0.749***</td>
<td>0.774***</td>
<td>0.637***</td>
</tr>
<tr>
<td></td>
<td>(0.077)</td>
<td>(0.041)</td>
<td>(0.088)</td>
<td>(0.042)</td>
</tr>
<tr>
<td>Cold War</td>
<td>-0.426***</td>
<td>-0.074</td>
<td>0.250***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.140)</td>
<td>(0.100)</td>
<td>(0.094)</td>
<td></td>
</tr>
<tr>
<td>Interstate War (Origin)</td>
<td>0.410**</td>
<td>0.296**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.168)</td>
<td>(0.130)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interstate War (Target)</td>
<td>-0.262</td>
<td>0.250***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.168)</td>
<td>(0.094)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contiguity</td>
<td>0.886***</td>
<td>0.004</td>
<td>1.652***</td>
<td>0.836***</td>
</tr>
<tr>
<td></td>
<td>(0.260)</td>
<td>(0.174)</td>
<td>(0.257)</td>
<td>(0.152)</td>
</tr>
<tr>
<td>Civil War (Origin)</td>
<td>0.692***</td>
<td>0.621**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.224)</td>
<td>(0.130)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil War (Target)</td>
<td>-0.229</td>
<td>-0.408**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.205)</td>
<td>(0.125)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-4.701***</td>
<td>-3.544***</td>
<td>-5.845***</td>
<td>-5.137***</td>
</tr>
<tr>
<td></td>
<td>(0.219)</td>
<td>(0.109)</td>
<td>(0.246)</td>
<td>(0.141)</td>
</tr>
</tbody>
</table>

In Models 1 and 3: origin country = nationality of the terrorists; target country = location where event occurred. In Models 2 and 4, target country = nationality of the victims. KGD = Klein, Goertz, and Diehl (2006) rivalry. Robust standard errors in parentheses clustered on dyad; *** p < 0.01, ** p < 0.05, * p < 0.1.

---

15 We also considered whether joint democracy has a moderating effect, but find no evidence of this when interacting rivalry and joint democracy.

16 When we use a dichotomous variable, we can no longer use the ZINB estimator.
tests incorporating monadic variables, accounting for possible endogeneity, and checking for a potential spurious relationship and find that the results are robust. Each of these additional tests is described and reported in the appendix.

### Pakistani-Indian Terrorism: Evaluating the Causal Mechanisms

Our empirical results reveal that states are more likely to produce and sustain transnational terrorist activity if they are engaged in a rivalry. Previously we theorized about various direct and indirect avenues by which rivalries make terrorism more likely to occur, although the statistical analysis can only reveal correlations between the two factors. In this section we consider the plausibility of the causal mechanisms posited using the case of Pakistani-backed terrorism in the context of rivalry between India and Pakistan to reinforce our empirical findings and to outline the internal logic of our hypothesized relationship between rivalry and terrorism.

Interstate rivalry appears to be a compelling motivator for transnational terrorist attacks sustained by both India and Pakistan. The case of the November 2008 Mumbai attacks in India that killed 172 people and wounded 308 underscores the role of rivalry in prompting terrorist activity between the South Asian rivals. The attacks were launched by a group widely suspected to be aided by Pakistan, with Muslim extremist grievances motivated by the Indian and Pakistani military and political rivalry over the disputed state of Kashmir and, secondarily, over the treatment of Muslim minorities in India and India’s strategic alliances with the United States and Israel (Ganguly 2009). The attackers came from Pakistan

### Table 2: Zero-Inflated Negative Binomial Models of Transnational Terrorist Attacks Using Dyads 1968–2002

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rivalry (KGD)</td>
<td>1.753*** (0.625)</td>
<td>0.568** (0.251)</td>
<td>1.538*** (0.429)</td>
<td>1.003*** (0.241)</td>
</tr>
<tr>
<td>Joint Democracy</td>
<td>-0.749*** (0.278)</td>
<td>0.155 (0.160)</td>
<td>-0.865** (0.380)</td>
<td>-0.186 (0.200)</td>
</tr>
<tr>
<td>Log(Capability Ratio)</td>
<td>0.862*** (0.209)</td>
<td>-0.834*** (0.112)</td>
<td>0.163 (0.118)</td>
<td>-0.627*** (0.0805)</td>
</tr>
<tr>
<td>Past Terror (Origin)</td>
<td>0.519*** (0.152)</td>
<td>0.524*** (0.111)</td>
<td>0.494** (0.0835)</td>
<td>0.854*** (0.0599)</td>
</tr>
<tr>
<td>Past Terror (Target)</td>
<td>0.711*** (0.169)</td>
<td>0.662*** (0.087)</td>
<td>1.057*** (0.0912)</td>
<td>0.771*** (0.058)</td>
</tr>
<tr>
<td>Cold War</td>
<td>-0.738*** (0.276)</td>
<td>-0.265 (0.203)</td>
<td>-1.002*** (0.194)</td>
<td>-0.174 (0.158)</td>
</tr>
<tr>
<td>Interstate War (Origin)</td>
<td>-0.284 (0.358)</td>
<td>0.299 (0.215)</td>
<td>-0.0219 (0.236)</td>
<td>0.247 (0.161)</td>
</tr>
<tr>
<td>Interstate War (Target)</td>
<td>0.462 (0.439)</td>
<td>0.197 (0.153)</td>
<td>-0.105 (0.254)</td>
<td>0.264*** (0.106)</td>
</tr>
<tr>
<td>Contiguity</td>
<td>-0.186 (0.535)</td>
<td>1.651*** (0.281)</td>
<td>1.928*** (0.247)</td>
<td>1.230*** (0.197)</td>
</tr>
<tr>
<td>Civil War (Origin)</td>
<td>0.340 (0.323)</td>
<td>0.0578 (0.199)</td>
<td>0.744*** (0.231)</td>
<td>0.646*** (0.141)</td>
</tr>
<tr>
<td>Civil War (Target)</td>
<td>-0.782** (0.371)</td>
<td>-0.510*** (0.176)</td>
<td>-0.696** (0.286)</td>
<td>-0.649*** (0.149)</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.898*** (0.779)</td>
<td>-4.688*** (0.438)</td>
<td>-6.053*** (0.412)</td>
<td>-5.771*** (0.185)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inflated Terror</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rivalry (KGD)</td>
<td>0.795 (1.259)</td>
<td>-1.168** (0.463)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint Democracy</td>
<td>-0.542 (0.401)</td>
<td>1.073*** (0.357)</td>
<td>-14.500*** (1.102)</td>
<td>13.64*** (2.655)</td>
</tr>
<tr>
<td>Log(Capability Ratio)</td>
<td>1.035** (0.410)</td>
<td>-0.756** (0.316)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past Terror (Origin)</td>
<td>-0.153 (0.307)</td>
<td>-0.866*** (0.133)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past Terror (Target)</td>
<td>-0.714** (0.289)</td>
<td>-0.240 (0.185)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold War</td>
<td>0.332 (0.644)</td>
<td>-0.212 (0.431)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interstate War (Origin)</td>
<td>-0.829 (0.561)</td>
<td>-0.158 (0.553)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interstate War (Target)</td>
<td>1.347* (0.720)</td>
<td>-0.219 (0.290)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contiguity</td>
<td>-4.373*** (1.430)</td>
<td>1.739** (0.750)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil War (Origin)</td>
<td>-0.442 (0.560)</td>
<td>-2.319*** (0.885)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil War (Target)</td>
<td>-0.378 (0.605)</td>
<td>0.483 (0.385)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.955** (1.267)</td>
<td>-0.217 (1.102)</td>
<td>-0.491 (0.868)</td>
<td>-16.21*** (0.271)</td>
</tr>
</tbody>
</table>

Observations 39,756 39,756 39,756 39,756

In Models 5 and 7: origin country = nationality of the terrorists; target country = location where event occurred. In Models 6 and 8, target country = nationality of the victims. KGD = Klein, Goertz, and Diehl (2006) rivalry. Robust standard errors in parentheses clustered on dyad; *** p < 0.01, ** p < 0.05, * p < 0.1.
and were later demonstrated to have been associated with the militant Islamist Lashkar-e-Taiba (*Army of the Pure*), a movement with strong ties to Pakistani military and intelligence agencies (Fair 2004). Karachi continues to deny that the perpetrators of the 2008 Mumbai attacks were aided by Pakistani officials, but in a statement of unusual candor, Pakistani President Asif Zardari confirmed that in the past militant Islamist groups like Lashkar and Jaish al Muhammad (*Army of Muhammad*) were created and sponsored by the Pakistani government as a tool of Pakistani strategic and international policy. The attacks also illustrate many of the previously theorized avenues by which rivalries make terrorism more likely to occur. Both the direct and indirect scenarios we map out in the earlier section are present in the Mumbai attacks. Pakistan, and to a lesser extent India, appear to support terrorism as a means to manage its military rivalry, to compensate for its strategic weaknesses, to cultivate bargaining assets, and to service domestic political imperatives. The intense climate of mistrust and radicalization in the country vis-à-vis India also provides sustenance to terrorism.

Since 1998, the rivalry between India and Pakistan has been a nuclear one, making all-out military confrontation a highly costly prospect. Because of this, they have limited their formal military conflicts to small operations, such as the three-month Kargil War in 1999. Pakistan has further cultivated terrorist proxies, such as Lashkar-e-Taiba, to impose low-level military costs on India. This has certainly damaged relations between the two countries but has not increased the chance of a large-scale war between the rivals, effectively managing the conflict.

Pakistan and India’s support for terrorist movements has also lengthened the reach of state coercive power. For example, after the Mumbai attacks, President Zardari acknowledged that the Pakistani Inter-Services Intelligence agency (ISI) had played a key role in the formation, training, arming, and deployment of Muslim extremist groups as a means to put pressure on the Indian military presence in Indian-controlled Kashmir and to develop a proxy in the Taliban movement for Pakistani security and political interests in its unstable northern neighbor, Afghanistan. In his statements, however, Zardari denied Pakistani involvement in the 2008 attacks, highlighting moves Karachi had taken to arrest Lashkar supporters and front groups and explained that after 9/11 Pakistan broke all official ties with terrorist proxies (Nelson 2009).
are either politically or strategically difficult for the Pakistani army to directly operate in. Likewise, Rashid (1999) documents Indian financial support for the anti-Taliban Northern Alliance movement as a means to counter Pakistan interests in Afghanistan. Pakistan, however, consistently denies or downplays the links between its military and intelligence establishments and groups like Laskhar-e-Taiba in order to prevent larger conflict with India, to maintain its relationship with important countries like the United States, and to not run afoul of international norms.

The other direct avenues are present in the Pakistan-India case. Pakistan is a poorer, less populous country with much less strategic depth than India. This perhaps explains why Pakistan has lost four regional wars to its rival. Pakistan has compensated for its strategic weakness and conventional military disadvantages in relation to India in two ways: by hastening to acquire nuclear weapons in the 1980s and 1990s and by arming and supporting terrorist movements in Afghanistan and in Kashmir (Roy 2002; Sathasivam 2002). The latter of these allows Pakistan to project power in the absence of military parity with its rival India. Both Pakistan and India support terrorist groups as a potential bargaining chip to obtain larger goals and to extract concessions out of one another. While Kashmiri militants are the most prominent and dangerous groups backed by Pakistan, the ISI has also been alleged to provide financial resources to separatist movements in India’s restive Northeast such as the United Front for the Liberation of Assam (ULFA). Pakistan has little ideological affinity for such groups, and they are not important for its larger strategic objectives, but Pakistani support for groups like ULFA could be traded for concessions from India in the future.

Zardari’s admission corroborates longstanding Indian allegations that Pakistan is a state sponsor of terror and independent analysis also documents Pakistani support for terrorism (see, for example, Bajoria and Kaplan 2009). But India has been similarly charged with supporting terrorist movements that target Indian interstate rivals. Some evidence suggests that India’s external intelligence agency, the Research and Analysis Wing (RAW), provided support for the anti-Karachi Al Zulfikar terrorist movement in the 1970s and continues to provide training and military support to ethnic Baluchi separatists in Western Pakistan (Bajoria 2008). Again, India does not sympathize with the aims of these groups but rather supports them as a means to compel Pakistan to drop its support of Kashmiri militants.

Finally, there is a significant domestic politics dimension to Pakistani support for terrorism that ties into the rivalry with India. There is substantial public sympathy for the plight of Muslim Kashmiris in Pakistan while hard line politicians, military officials, and ISI chiefs in Pakistan prefer a more aggressive brinksmanship with India. Expressions of support for extremist groups like Lashkar-e-Taiba help mobilize hard line constituencies and pressure or limit alternative options for moderate forces (Witchell 2003). What the case of Pakistan-India reinforces is that there is a causal logic to the empirical findings linking rivalry to terrorism that we corroborate in our statistical models. Additionally, the probing of these direct and indirect avenues of the link between rivalry and terrorism provides plausibility for the empirical results.

**Conclusion**

The general results from the models support the contention that interstate rivalries are important predictors of terrorism, and this finding is robust to different measurements of rivalry and to different modeling techniques and specifications. We think this is a noteworthy finding because it suggests that disputes between states have implications for a type of security threat—terrorism—that has commonly been regarded as a phenomenon driven by economic, political, and social features of individual states. This finding wedds empirical terrorism studies to the larger conflict and war literature and opens the door to consider how many elements of that literature, such as deterrence, arms races, alliances, theories of democratic peace, concepts of state power asymmetries, trade, and general conflict management might be used to explain transnational terrorism. We also think that the findings help to round out scientific understanding of the relationship between state strategic choices and terrorism, adding to the mostly qualitative and theoretical literature on state supported terrorism. Our results are consistent with a view that states engaged in interstate rivalries or party to serious interstate disputes may regard support of terrorist groups as one viable tool among a menu of other more traditional—and more frequently studied—coercive means.

The results of the study, however, constitute a first generation analysis that we suspect will be complemented by future studies. In particular, a useful line of inquiry may involve testing which of the causal mechanisms identified in the current article best explains why rivalry makes terrorism more likely to occur. Because we suspect that the relationship between interstate rivalry and transnational terrorism is complex, future studies may also...
examine the role played by minority communities, social networks and boomerang effects in the context of rivalries that prompt terrorism. Our hope is also that our study prompts scholars who empirically study terrorism to consider a wider range of units of analysis, including dyads (also similar to Plümper and Neumayer 2010; Young and Findley 2011). We regard dyads as a more accurate means to model features of both source and target countries experiencing transnational terrorism. We have only specified two types of dyads, but there are likely more. As better group-level data become available, for instance, future research could specify group level variables and then create state-group dyads. We urge scholars to pay greater attention to this choice in future transnational terrorism research.

Acknowledgments

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References


Michael G. Findley is Assistant Professor of Political Science at Brigham Young University, Provo, UT 84602.

James A. Piazza is Associate Professor of Political Science at the Pennsylvania State University, University Park, PA 16802.

Joseph K. Young is an Assistant Professor in the School of Public Affairs at American University, Washington, DC 20016.