

**Avalanches and Olive Branches:
Natural Disasters and Peacemaking between Interstate Rivals**

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Abstract

Do natural disasters pacify rival states? If so, how? Natural disasters are hypothesized to serve as catalysts of peacemaking when public support for improved relations is activated by compassion for the rival. Compassion is more likely in the absence of routine, rival-related violence, including communal violence, because the presence of such violence serves only to reinforce fear and intolerance of the rival. When violence is not present and catastrophe strikes, ordinary people may respond with compassion and tolerance toward the rival, creating an impetus for rapprochement. Disaster events, then, are shocks that create opportunities for a warming of relations between rivals, but rapprochement remains elusive unless there is a willingness to make peace – a willingness that can arise only in the absence of violence. Content analysis and time-series analysis are utilized to demonstrate the extent to which natural disasters effect rivalry change in two cases, the India-Pakistan and Greece-Turkey rivalries. Novel data analysis demonstrates support for the disaster-induced rapprochement phenomenon, but only in one of two cases. Comparative case study analysis demonstrates that the presence of violence in the India-Pakistan case helps account for the divergent outcomes.

Introduction

Do natural disasters pacify rival states? Advocates of “disaster diplomacy” argue that while earthquakes, floods, windstorms, and tsunamis result in human tragedies, these events also generate opportunities for international cooperation, even between enemies. If such cooperation leads those enemies to seek peace with each other, natural disasters have the potential to act as catalysts of peacemaking. We examine in comparative perspective the effect of natural disasters on two enduring interstate rivalries in an effort to better understand if, when, and how such disasters facilitate rapprochement, a warming of relations between rivals. Combining statistical analysis of novel data with analytical case studies, the investigation demonstrates that while disaster diplomacy can catalyze peacemaking, it is also easily derailed by a lack of public support for rapprochement when rivals experience routine violence. Ordinary citizens’ influence on international rivalry dynamics is evident here, both as facilitator and spoiler of peacemaking. Our analysis of mass publics’ role in interstate rivalries, particularly in the wake of natural disasters, contributes to our understanding of both the domestic politics of rivalry and the effects of exogenous shocks on rivalry dynamics.

Although disaster diplomacy has drawn the attention of diplomats, journalists, and scholars, few have addressed the question, “Do disasters lead enemies to make peace, and if so, how?” We fill this gap in the international relations literature by merging the concept of disaster diplomacy with rigorous scholarship on interstate rivalries — which, as we argue below, provides a logical point of entry for a study of the effects of disaster on diplomacy. The study offers two contributions: first, it presents a systematic investigation of natural disasters’ impact upon rivalry relations, and second, it builds toward a reliable understanding of *how* enemies might move from a disaster to peace.

To that end, we provide both theory and evidence to help identify conditions under which disaster diplomacy is likely to emerge. First, we argue that a natural disaster can catalyze rapprochement between rivals by stimulating change in societal attitudes toward the rival state. Unlike most investigations of interstate rivalries that focus on government officials to the relative exclusion of ordinary people, we explicitly highlight mass publics as a crucial link in the causal chain from disaster to rapprochement. Doing so helps to expose some of the microfoundations of rivalry persistence and to identify obstacles that hinder disaster diplomacy. One such obstacle that accounts for variation in our cases is routine, rivalry-related violence, especially institutionalized communal violence within rival states.

Empirically, we show how content analysis of newspaper coverage of rival relations and time-series analysis can be utilized to precisely determine whether natural disaster occasions rivalry change. Two widely recognized rival dyads are analyzed: Greece-Turkey and India-Pakistan. The archetypal example of disaster diplomacy is the “earthquake diplomacy” between longtime rivals Greece and Turkey, which in 1999 appears to coincide with a dramatic improvement in relations. A causal linkage between the earthquake and the rapprochement is often assumed but rarely substantiated with evidence. Our novel empirical analysis of the 1999 Izmit earthquake’s effect on the Greece-Turkey rivalry demonstrates that natural disasters can promote peacemaking through public support for rapprochement. To better understand the conditions under which disaster diplomacy is likely to succeed, we extend the analysis to a comparable disaster, the 2005 Kashmir earthquake, and its effect—or more appropriately, relative lack thereof—on the India-Pakistan rivalry.

We adopt a multi-method empirical investigation that supports our conjectures about the role of mass publics in rapprochement and the potential for rivalry-related violence to spoil the

potential for disaster-induced peacemaking between rivals. We begin by reviewing the relevant literature, discussing interstate rivalries and highlighting existing conventional wisdom about how natural disasters can lead to peacemaking. Next, we advance a theory of disaster-induced rapprochement by specifying conditions under which disasters are likely to catalyze peace processes. We then discuss research design, our newly collected data, and findings from time-series analysis of our data. Next, we briefly discuss the two cases, substantiating our theoretical argument and addressing alternative explanations. We close with observations about our research and its implications.

Rivalry, Disaster Diplomacy, and Peacemaking

The research program on interstate rivalries has generated a number of valuable insights into these long-term conflict relationships between sovereign states (e.g., Colaresi et al., 2007; Diehl and Goertz, 2000; Thompson, 2001). Yet one of the processes we understand least is how interstate rivalries end. Research links rivalry de-escalation and termination with factors that alter rival leaders' expectations of the future, including settlement of outstanding disputes that otherwise would fuel rivalry and the impact of 'shocks' that alter the circumstances of the rivalry. Bennett (1996) and Gibler (1997) point to the settlement of issue disputes, but such settlements rarely emerge without being preceded by a protracted negotiation, outside intervention, or war. Diehl and Goertz (2000) argue that rivalry termination typically is preceded by a 'shock', a disruptive event or change in the international or domestic political environment that alters expectations of the future and thus provides an opening for a change in the relations between rival states. Colaresi's (2001) analysis of global leadership cycles provides additional evidence that shocks — namely, global wars — generally precede rivalry endings, at least among Great Powers.

To better understand how shocks can catalyze change in rivalries, we think of enduring rivalries as stable systems rooted in relationships that tend to resist change. Understanding how such systems change often requires us to introduce shocks as changes in the value of some meaningful model parameter attributable to some factor exogenous to the system.¹ The concept of exogenous shock, common in economics, is reflected in the International Monetary Fund’s definition: “an event that has a significant negative impact on the economy and that is beyond the control of the government” (IMF, 2008). Rivalry researchers have good reason for rejecting the first part of that definition, since it seems that shocks to rivalries can have felicitous effects. The second part, however, suggests a problem with extant rivalry research. Repeated demonstrations of the empirical relevance of shocks have not overcome the critique that the types of shocks under consideration—wars, changes in the distribution of power among states, decolonization and the birth of new states, and domestic regime change—are inherently political and therefore endogenous to rivalry relationships between states.²

Natural disasters, unlike wars or changes in the systemic distribution of power, are events caused by forces exogenous to the political processes between and within rival states. In the case of earthquakes, we can attribute these exogenous shocks to tectonic shifts. Inasmuch as these shifts can cause natural disasters, which in turn can create opportunities for peacemaking, they provide clues about how rivals begin to shift from acrimony to rapprochement—and without relying on factors that are inherently political and endogenous to rivalry. Consequently, the study of earthquakes as exogenous shocks offers purchase for researchers both of rivalry termination and of disaster diplomacy.

¹ We thank Jeff Ritter for this point.

² Note that we use the term “endogenous” differently than do Goertz and Diehl (1995) and Diehl and Goertz (2000); we use it to denote endogeneity vis-à-vis a rivalry dyad, while they use it to denote endogeneity vis-à-vis a rival state.

Disaster diplomacy scholarship, building loosely on earlier studies linking disasters and politics (e.g., Abney and Hill, 1966; Quarantelli and Dynes, 1976; Ember and Ember, 1992), is beginning to gain traction in international relations and other disciplines (e.g., Kelman and Koukis, 2000; Ker-Lindsay, 2000), and has generated enough evidence to draw fire from skeptics who argue that natural disasters lead to conflict rather than cooperation (e.g., Bhavnani, 2006; Brancati, 2007; Miguel et al., 2004; Nel & Righarts, 2008). Indeed, recent analyses of natural disasters' political consequences generally associate disasters with intensified conflict; however, evidence for this phenomenon appears to be limited to violent conflict within, not between, states. For example, Brancati (2007) presents evidence supporting her claims that natural disasters promote civil conflict because they create or exacerbate resource scarcities, and because they attract international aid, which can be pilfered and used to strengthen combatants. Brancati's findings suggest that common methods of disaster relief may require rethinking, especially in war-torn countries.

Our analysis differs from the aforementioned studies in at least two important ways. First, we seek to understand rapprochement between rival states, not conflict resolution within a rival state. Since we wish to avoid conflating interstate and intrastate conflict processes, we focus on how international disaster diplomacy may arise, and what obstacles hinder its progress. One such obstacle, violence, suggests a second important difference. Brancati (2007) and others treat intrastate violence as a dependent variable to be explained, in part by earthquakes and other natural disasters; by contrast, we treat preexisting intrastate violence as a potential explanatory variable. As we discuss in sections to follow, violence interacts with public attitudes to inhibit rapprochement between rivals.

One other notable development in the disaster diplomacy literature provides an important lead for our investigation: an emerging consensus that the hypothesized causal relationship between natural disaster and peacemaking is not direct (e.g., Pelling and Dill, 2006). Instead, disasters act as accelerants of ongoing interstate diplomacy, giving negotiations a boost by increasing the frequency of official contacts, inspiring solidarity through joint recovery projects, or fostering humanitarianism that challenges stereotypes and creates atmospheres conducive to cooperation between enemies (Quarantelli and Dynes, 1976; Ker-Lindsay, 2000; Kelman, 2003). According to most scholars, natural disasters thus serve either as intervening variables that alter the prospects of ongoing intergovernmental relations or as antecedent variables that trigger more proximate “causes” of diplomacy and, occasionally, peace. We build on this emerging consensus by advancing an explanation of disaster-related rapprochement that highlights the impact of mass publics’ responses to disasters on governments’ approaches to continued rivalry. Societal attitudes in rival states, we argue, can be a positive precipitant of rapprochement and peaceful change in rivalries.

People-Led Initiatives toward Rivalry Change

We argue that one key mechanism behind disaster diplomacy is *popular support for the idea of rapprochement*, in part because ordinary citizens are in a special position to generate and signal a willingness to make peace with the rival. In the absence of such willingness, windows of opportunity opened by shocks like natural disasters will shrink and close without successful peacemaking.³ Popular support for rapprochement can in principle either (1) motivate policymakers to seek peace, or (2) provide momentum for ongoing talks and pressure policymakers to find an accommodation.

³ We adopt the language of “opportunity and willingness,” similar to that of Most and Starr (1989).

Why would a natural disaster make a difference in rival relations? Rivalries are resistant to change, and leaders have few incentives to move toward greater cooperation (e.g., Diehl and Goertz, 2000; Hensel, 1996, 1999). Even when security concerns have diminished and political leaders seek improvement in rival relations, such moves may be politically risky when the rivalry is “locked in” and history of negative interactions makes it difficult to take steps toward reconciliation (Colaresi, 2005). Many scholars, however, agree that shocks—developments that upset the rivalry’s equilibrium—can alter the domestic political incentives or disincentives associated with continued rivalry and compel individuals to perceive the rival differently. Natural disasters can act as shocks and thus have a potential to change the rivalry’s dynamic.

In the wake of a natural catastrophe, disaster or disaster-related activities can in principle prompt peacemaking between rivals through government and people-led activities (Kelman, 2006). Consider the potential role of governments. Post-disaster cooperation may highlight the ability of the rival states’ government officials to work together in common cause; positive gestures of support in the wake of a disaster by one rival may inspire reciprocity on the part of the aid recipient, which in turn may initiate a virtuous cycle, known as “tit-for-tat disaster diplomacy” (Kelman, 2006); or individual political leaders who meet in the wake of a catastrophe to discuss disaster relief might find that the meeting ‘breaks the ice’ for high-level diplomacy. In this case, disaster-related activities provide an *opportunity* for peacemaking; however, none of them guarantees a *willingness* on the part of either rival to engage in rapprochement. Moreover, without the support of the public, an official who proffers an olive branch to a rival faces potentially damaging domestic political consequences.

A focus on the people, we argue, is the most important one for ending decades of hostility between enemy states. Popular support for rapprochement is vital for at least two reasons: 1) it

can affect the prospects for bargaining and negotiation between rivals, and 2) it affects the domestic politics of rivalry. First, ordinary citizens are in a special position to generate and signal a willingness to make peace with the rival. Natural disasters may provide opportunities for rapprochement, but in the absence of a willingness to make peace, windows of opportunity will shrink. Public support for peace helps to send a signal to the rival state that diplomatic overtures are not just cheap talk or attempts at exploitation, and thus it encourages movement toward peace before the “window” closes.

Second, within rival states, the public mood pushes and pulls government leaders, especially in those regimes where they are accountable to the public, by creating incentives (or disincentives) for seeking peace with the rival state. On the positive side, popular support for rapprochement can in principle motivate policymakers to seek peace, provide momentum for ongoing talks, pressure policymakers to find an accommodation, and occasionally to make some concessions. On the negative side, a public mood that is hostile to the rival can either prevent policymakers from extending an olive branch or derail emergent attempts to cooperate. Without the support of the public, an official who offers friendship to the rival may suffer serious consequences. Anwar Sadat’s peace negotiations with Israel, for example, outraged many anti-Israeli Egyptians, and Sadat was assassinated by critics after signing the Camp David Accords.

Compassion and humanitarianism are important elements in the process of attitudinal change in disaster’s wake. For instance, disaster-related activities – particularly those requiring individuals from both rival states to physically cooperate—can demonstrate to people on both sides the humanity of the rival population. Enemy images and xenophobia are challenged by the realization of similarities on a basic human level and may diminish as interactions persist and increase in scope. Negative images may be most likely to erode in cases where rescue efforts

involve individuals from both states working side-by-side, such as the freeing of survivors from rubble or the reconstruction of a hospital or school. Indeed, social psychologists have found experimental evidence that hostile camps will set aside acrimony and resentment if they share a mutual interest in achieving a superordinate goal—that is, a goal that requires the cooperation of both sides (Sherif, 1966). By breaking down the perception of social-psychological opposition and creating in its place a more inclusive “us” (*sans* “them”), disaster-related activities may not only create an opportunity but also a willingness among the peoples on both sides to work toward a reduction of tensions.

The argument advanced here is related to people-led disaster diplomacy, but is distinctive for several reasons. First, it focuses not on the interactions among ordinary citizens—ordinarily limited to a select few, such as emergency first-responders—but rather on mass sentiments among a large portion of the population. Second, the argument here does not suggest that ordinary people take the lead in bringing about rapprochement. We acknowledge that government officials are generally responsible for negotiating concessions and cooperative endeavors with the rival, but emphasize that the public mood heavily conditions government leaders’ incentives to cooperate with the rival state or to maintain tensions.

While natural disaster may serve as a shock that creates an opportunity for compassion and reconciliation, it is not a cure-all. Citizens do not always react to natural disasters in rival states with humanitarianism; sometimes, domestic publics are indifferent to the suffering of their counterparts in a disaster-stricken rival state. Individuals may be underwhelmed by any feelings of compassion when, at the same time, they feel threatened by violence against themselves and their family. When identity-based communal violence reflects cross-border identity conflict between the rival states, a willingness to make peace with those people is highly unlikely to

emerge. When communal violence is exploited for political purposes (Brass, 1997; Tambiah, 1997)—and thus continues to recur in one’s neighborhood—enemy images and anxieties are rarely put to rest.

In cases with routine violence, there is no domestic political reward for choosing to cooperate with the rival; rather, leaders are likely to face domestic costs for accommodating the enemy. Routine, rivalry-related violence thus creates incentives for rivalry maintenance or escalation with deleterious effects on the prospects for cooperation in disaster’s wake. We expect such effects to be particularly strong in societies suffering from identity-based communal violence associated with the rivals’ interstate conflict, because feelings of threat and insecurity associated with the rival are manifested closer to home.

The argument, then, is that natural disasters provide opportunities for rival states to cooperate and to move toward peaceful relations, but may not become catalysts of peacemaking for two interrelated reasons: domestic politics and violence. First, state leaders confront political costs and benefits associated with taking steps toward peaceful cooperation with the rival state. Rivalry-related domestic politics plays a crucial role in shaping the incentives and disincentives for rapprochement — specifically, leaders will be reluctant to proffer olive branches to enemy states if they fear that conciliation will provoke opposition from their own citizens and threaten their governmental positions. Once the image of the enemy has been popularized among citizens, the mass public tends to be intolerant of conciliatory moves, and may punish leaders for engaging in what is perceived as appeasement of the rival state (Colaresi, 2005). The public, therefore, acts as a gatekeeper for rapprochement. A tolerant public mood lowers the domestic political costs of conciliation and therefore makes rapprochement politically viable. The public mood is, however, shaped not only by expectations of the future, but also by the past and the

current situation. Collective memories of rivalry-related violence temper public tolerance for conciliatory moves. The more routine the violence, the less tolerant the public—which, in turn, makes rapprochement a less attractive option for political leaders. The interplay of the track record of rivalry-related violence and the public mood helps explain when disasters catalyze peacemaking between rival states. We thus propose:

Hypothesis: Natural disasters will trigger people-led rapprochement between hostile states in the absence of routine, rivalry-related violence.

Research Design

To determine the extent to which a natural disaster may affect rival relations, we selected two cases, the 2005 earthquake in Pakistan and the 1999 earthquake in Turkey. Our selection is based on the variation in the dependent variable, a design appropriate for deriving causal inferences (King et al., 1994). Initial and mostly anecdotal evidence portrayed the disaster in Pakistan as having limited impact on rival relations, while the opposite was noted in the case of the earthquake that struck northwestern Turkey (e.g., Yalcinkaya, 2003). To assess the veracity of such claims, we begin by analyzing empirically the extent to which the disaster affected relations in the two rivalries. We then test our hypothesis by examining specific conditions under which natural disasters facilitate improvement in rival relations by showing the similarity of the two cases on many dimensions except for the presence of routine, rivalry-related violence, a factor that plays an important role in explaining the divergent outcome.

We measure change in rivalry, our dependent variable, by examining newspaper coverage of developments involving the “enemy,” before and after the occurrence of the disaster or the shock, in this case the 2005 earthquake in Pakistan and the 1999 earthquake in Turkey. Change in rivalry, as we conceptualize it, involves improvement or deterioration of rival

relations as reflected by societal, organizational, and political developments in one country with respect to its rival. Measuring change in this way improves our understanding of rival relations by capturing the short term dynamics often left unmeasured by existing rivalry data sets. To our minds these are precisely the sort of data needed to identify tipping points that lead to permanent changes in rivalries.

We employ content analysis of newspapers' news and feature stories to measure change in rival relations. By exploring societal mood, policies of organizations, and political initiatives (e.g. Gamson and Modigliani, 1989), content analysis can be useful in capturing the developments that reflect change (Mutz and Soss, 1997) in the country's approach to the enemy. Our focus is on daily newspapers in India (*The Times of India*), Pakistan (*Dawn*), Greece (*Athens News*) and Turkey (*Hurriyet*). By selecting independent newspapers we ensure that subjective coverage, which may bias the results, is minimized. Turkish newspapers are censored on a number of sensitive topics, including the role of Islam and the Kurdish issue, but reporting on domestic party politics, economic developments, and foreign policy is unrestricted (Tunc, 2003). *Hurriyet*, the newspaper we utilized in this study, appeals to mass centrist interests and boasts a circulation of over 600,000 (Ozkaya, 2006). Our choice of a Greek newspaper, *Athens News*, was based on the newspaper's more independent approach to reporting in contrast to ideologically-driven coverage by such dailies as *Ta Nea* or *Eleftherotypia*, which have leftist orientations, and *Akropolis* or *Eleftheros*, which fall strongly to the right of the political spectrum (Greece Press, 2008). The *Times of India* has a circulation of over 2.4 million and has no explicit pro-Hindu or anti-Muslim interests. As a result we chose this medium for our analysis to measure rivalry change from India's perspective. Lastly, *Dawn*, a Pakistani daily newspaper with a circulation of 138,000, is considered the most objective source of news in the country even by

India's leading journalists (Maharaj, 1999). While the government's influence on the media is still felt in Pakistan, *Dawn* has made strides towards independent reporting.

Reflecting six and a half months of coverage prior to the disaster and after, the data report the number of positive, negative, and neutral stories involving the rival.⁴ We randomly selected to trace the coverage every third day. A story was considered positive if its content placed the rival or rival relations in a good light, reflecting on cooperation between the two populations at the societal, organizational, and political level. For example, a story reporting about Indians traveling to Pakistan on business or holiday and returning with pleasant memories would be coded as a positive story since it portrays the enemy in a friendly manner (Thanki, 2005). Similarly, an article highlighting the meeting of the Pakistan-India Joint Working Group on the proposed Iran-Pakistan-India gas pipeline project would suggest an opening for greater economic cooperation between the rival groups, and thus it would be coded as positive (*The Times of India*, 11 July 2005). A story was considered negative if it delivered information about the rival that reinforced stereotypes or focused on tensions in the rival relations. For example, an article featuring a general reminiscing about the Indo-Pakistan war "1965 Indo-Pak War Was Too Short," would be coded as negative since it reminds readers about historical animosity between the two groups (Singh, 2005). In a similar way, a story that focuses on Pakistan's negotiations with China to buy several nuclear power reactors would be an example of a negative story since such an article could raise security concerns about the rival (*The Times of India*, 4 January 2006). Stories that stress neither positive information about the rival nor negative aspects of the rival or rival relations are coded neutral. For example, a news story reporting about flooding in the rival's territory would be considered neutral (*The Times of India*, 7 July 2005), as would an

⁴ We do not focus on editorials in our analysis as they directly reflect the media's opinions rather than the actual developments in the country that would be subject of news and feature stories.

article reporting on the patriarch in Istanbul who ousted an unpopular North American archbishop (*Athens News*, 1999). Neutral value would also be assigned to a story if it has both negative and positive information about the rival.

We relied on human coders to obtain data on newspaper coverage, with two individuals coding articles into three categories to increase reliability. Computer assisted content analysis has become popular because it aids in the interpretation of large volumes of text and avoids inconsistencies (Fish et al., 2002), but its validity relies on correctly identifying phrases that represent concepts of interest. Using hand content analysis is better suited for capturing the change in rivalry relations because rapprochement may be manifested in different ways, ranging from sports competitions to friendly visits and enhanced trade relations. The existence of multiple dimensions may compromise the validity of the analysis when inference relies on targeted terms as is the case in computer coding. Hand coding, on the other hand, allows interpretation of each text separately, thereby maximizing information from news content.

We used an autoregressive integrated moving average (ARIMA) interrupted time series technique to model the effect of natural disasters on the Turkey-Greece and India-Pakistan rivalries. Time series data is often non-stationary and using OLS in the face of serial correlation makes estimation of the coefficients inefficient (Box et al., 1975). ARIMA models provide a means to estimate time series data in the face of serial correlation. We summarize the conceptualization of our variables in the model as the following:

Dependent Variable:

Rivalry Level: We measure the level of rivalry by subtracting the number of negative articles about the rival from the number of positive ones. This allows us to see the net attitude towards the rival. This variable ranges from -8 to 16, with data covering 131 observations in each country

(India, Pakistan, Turkey, and Greece), 65 preceding the disaster, one on the day of the disaster, and 65 following it. Change in rivalry is observed by comparing rivalry levels before/after the disaster.

Independent Variable:

Disaster Shock: Shocks are the 1999 Turkish earthquake in the Turkish-Greek case and the 2005 Pakistani earthquake in the India-Pakistan case, coded as 1 for $t \geq 17/08/1999$ for the Turkish-Greek model (0 otherwise) and 1 for $t \geq 8/10/2005$ for the India-Pakistan model (0 otherwise).

We used the three-stage model selection suggested by Box Jenkins (1976) to identify and estimate the two models. In the first stage, we identified the model based on Autocorrelation (ACF) and Partial autocorrelations (PF) functions. Based on the plots, Turkish views of the rivalry were identified as an ARMA(1,1) model, the Greek and Pakistani views were modeled as an AR(1) process while the Indian perceptions were shown to be stationary with no autoregressive and moving average components. In the second stage, the parameter estimation was done by using the maximum likelihood method. In the last stage we completed diagnostic checking to check for evidence of remaining serial correlation. The Q Ljung Box statistics confirmed white noise residuals, and we also resorted to formal test procedures such as Augmented Dickey Fuller and Phillips Peron tests to conclude that all the series were stationary.

Results: Natural Disaster and Change in Rivalry?

Our data indicate a substantial change in newspaper coverage of the rivalry in both Turkey and Greece after the 1999 disaster in Izmit, but not in India and Pakistan after the Kashmir earthquake. Positive coverage of the rival increased dramatically in Turkey and Greece after the August 17th earthquake devastated the country, allowing us to conclude that some form of a shift in the rivalry has begun to occur (Table I). Before the disaster, positive news or feature stories in

Turkey constituted 13% of the total number of rival-related stories, while negative stories dominated at 67%. The figures for Greece were 16% and 60% respectively. Yet after the earthquake, negative coverage in both countries diminished substantially (to 0.05% in Turkey and 13% in Greece) with 69% of rival-related stories in Turkey and 44% in Greece reflecting a positive image of the rival. While our data analyze six and half months of coverage before and after the disaster, the shift in rival relations appears to persist. Positive change is reflected in increased cooperation between the rivals at the societal, organizational, and political levels (see Appendix 1 for specific examples of events illustrating long-term positive interactions between the enemies).

| Table I about here |

Contrary to the findings in the Turkish-Greek case, the 2005 earthquake in Pakistan failed to improve rival relations. Surprisingly, the change in relations was clearly negative in both countries. Peace initiatives undertaken by the two prime ministers a few months before the earthquake had resulted in artificially high positive coverage before the disaster. Yet instead of increasing or at least sustaining the positive atmosphere, the earthquake seems to have occasioned an increase in the negative and neutral stories relative to positive stories. Before addressing this unexpected finding, we first examine results from time-series analysis to see if these confirm initial descriptive statistics.

Time-series analysis supports our initial observations. Figures 1-4 show the level of rivalry between Turkey and Greece and between India and Pakistan over time. The exogenous shocks reflect the exact dates of the actual natural disasters. While there is a clear increase in the level of net positive coverage for both the Turks and the Greeks in the Turkish-Greek case, the

shift in the Pakistan-Indian rivalry is tilted towards the negative for both sides, with Indian coverage reflecting a more negative attitude than its Pakistani counterpart.

| Figures 1, 2, 3,4 about here |

Tables II and III show the results of our time series analysis. The ARMA(1,1) model is appropriate for the Turkish perceptions as the autoregressive and moving average components are statistically significant. The statistical significance of the shock variable demonstrates that the earthquake in Turkey did indeed change the level of rivalry between the two countries. Visual depiction of the shock in figure 3 indicates an abrupt change in the level of positive attitude towards the rival. The Greeks share the same positive change in attitude after the earthquake.

| Table II about here |

The India-Pakistan results, however, suggest that far from improving the two nations' relations, the 2005 earthquake led to popular backlash against the leaders' diplomatic initiatives (Figures 1 and 2).⁵ The coefficient of the shock variable is negative in both India and Pakistan, and is statistically significant in the former—suggesting that the earthquake not only failed to improve rival relations, but actually made the situation worse. What accounts for this finding? The evaporation of the feeble positive atmosphere before the disaster hit Kashmir can be attributed to the resurgence of terrorist activities in India. The earthquake, which mostly occurred in Pakistani-administered Kashmir, inflicted economic damage to an already impoverished region. When disasters exacerbate resource scarcities, conflict management may

⁵ We do not test for changes in the trend as the level of positive/negative coverage is a function of the number of stories that appear about the rival, which vary daily. As a result of this natural variation, it would not be appropriate for us to make any predictions about the magnitude of the trend measured on a daily basis. Even if positive interactions increase between the two rivals, such interactions are unlikely to generate daily stories on regular basis. A positive development, for example, could result in a story on day x, but on the next day might be deemed less newsworthy. Such natural variation then potentially biases any emerging trends.

be impeded (Brancati, 2007). In Pakistan, the disaster contributed to scarcities and frustrations, factors that inspired violence and terrorist activities against the Indian government. In light of renewed violence, the opportunity for compassion vanished and so did an opening for tangible political reconciliation.

| Table III about here |

Having demonstrated the earthquakes' varying impacts on rivalry relations, we next examine conditions under which such a phenomenon creates an opportunity for change. Below we move toward causal inferences by comparing the cases on several dimensions to examine the plausibility of our main argument about the interaction of public attitudes and violence.

Case Selection: The Method of Difference

Our case selection follows Mill's method of difference design (1970) in which cases have similar characteristics but different values on the dependent variable. Such case selection is well suited for controlled comparison (Van Evera, 1997) and for understanding causality. The rivalries are similar in many ways (see Appendix 2). Both have considerable longevity, involve neighboring states that share a land border, involve at least two longstanding territorial disputes, and have averaged approximately one crisis every five years throughout the tenure of the rivalry. Both dyads also involve states with mixed political regimes.

The most notable difference between the two rivalries emerges in the context of violence, with the India-Pakistan dyad facing somewhat greater security threat than Greece and Turkey. While the two pairs of states have fought several wars, India's disputes with Pakistan over Kashmir continue to consume lives, whereas the violence between Greece and Turkey has decreased since 1974. India, as we will later demonstrate in our case study, is also plagued by communal violence and Hindu-Muslim riots, some of which are connected to violence in

Kashmir. By contrast, Turkish and Greek disputes have not resulted in violence since 1974, possibly because NATO membership has been a stabilizing factor (though that condition predates 1974). Perhaps more importantly, the two countries have virtually no recent history of rivalry-related communal violence.

Levels of violence are clearly an important part of the story of reconciliation. We will demonstrate in our cases, however, that focusing solely on levels of violence is insufficient for explaining the change after the disaster in Turkey. Absence of routine, rivalry-related violence may reduce security concerns and create willingness for the leaders to reconcile, but the right opportunity needs to be present to signal that doing so is politically acceptable. The cases below will illustrate our argument and demonstrate how people-led compassion in the midst of a disaster creates an opening for such reconciliation.

Turkey-Greece: Natural Disaster and Rivalry Change

The 1999 earthquake in Turkey provided an extraordinary opportunity to ease decades of hostilities that accompanied Turkish-Greek rivalry. The strained relationship in the pre-earthquake context was put aside as neighbors rushed to each other's aid and old images of enemy began to vanish. Changes at the societal level have inspired a series of political steps (see Appendix 1) that have paved the road to reconciliation. Why did the disaster inspire change in public attitudes and help trigger political rapprochement? Our argument focuses on the absence of routine, rivalry-related violence as a factor that made it possible for humanitarianism to emerge and replace negative perceptions of the past. In the absence of security threats, especially domestically from a rival minority, the Greek and Turkish populace could begin to perceive the enemy in a different light when the opportunity, in this case the disaster, occurred.

Positive developments at the people's level then legitimized political initiatives so vital in the process of rapprochement.

Enmity between Greece and Turkey was instigated when both nations fought each other in wars of liberation. Modern Greece was the outcome of a struggle to gain independence from the Ottoman Turks in 1832, and modern Turkey was born with the defeat of Greek forces in Western Anatolia following World War I (Aydin, 2004). Greek-Turkish rivalry was further kindled by competing claims in the Aegean Sea and the conflict over the future of Cyprus, home to both Greeks and Turks (Wilkinson, 1999). Both nations have continuously challenged their rights in the Aegean Sea concerning sea territorial limits, air traffic, and the continental shelf. The Greek government-supported 1974 coup in Cyprus aimed at uniting Cyprus with Greece and Turkey's intervention to halt that effort have created a lasting impasse between the two nations.

The Greek-Turkish rivalry remained intact a century after both nations achieved their independence. Partially, the hostilities of that generation were transferred through historical books to new generations where war of liberation from the enemy was reiterated (Millas, 2004). Yet beneath the veneer of animosity also lay memories of peaceful coexistence under the Ottoman Empire's banner for 400 years (Wilkinson, 1999). The assimilation of the populations after centuries of togetherness was to such an extent that when Athens and Ankara activated the exchange of populations following the defeat of the Greeks in Anatolia, it was hard to decide the fate of many communities. Thus the original conflict between Orthodox Greeks and Muslim Turks in the 19th century was aggravated not by ordinary people, who managed to coexist, but by politicians (Wilkinson, 1999).

The existence of rival minorities can, in principle, stir violence and inflame the antagonism among populations that may be difficult to overcome even when a natural disaster

inflicts suffering on the enemy. The presence of a Greek minority in Turkey and the Turkish minority in Greece, however, is rather limited—a factor that helps to explain why violence against such minorities has been rare and not politically exploited (Sedgwick, 1955; Wilson, 1984). The exchange agreement of 1922, which excluded the Greeks residing in Istanbul, Imvros, and Tenedos, and the Muslims of Thrace (Keyder, 2005), sealed the fate of hundreds of thousands of Greeks and Muslims⁶ and guaranteed small minority presences. Apart from communal tensions, a war between Greece and Turkey could provide another avenue to steer the emotions of the two populations towards further animosity. Yet except for the confrontation in Cyprus in 1974, the two nations have not experienced frequent explosions of violence during much of their long rivalry, especially between Greeks and Turks within each state.

The absence of communal or inter-state violence since 1974 along with mutual alliance membership in NATO indicate that security concerns are relatively lower in this dyad compared with other enduring rivals despite unresolved issues in Cyprus and the Aegean Sea. Although the two countries came to brink of war in 1996 over the sovereignty of uninhabited rocks (Imia/Kardak, off the Turkish coast), and in 1997 after Cypriots ordered Russian missiles (Wilkinson, 1999), these crises ended peacefully. Yet despite the relatively low security concerns, the rivalry has been “locked in” (Diehl & Goertz, 2000) in the absence of an opportunity for reconciliation.

We argued that even when leaders are willing to improve relations their efforts may be stymied by negative public opinion. In the case of Greece and Turkey, the policies of both countries towards each other have been limited by populist constraints and unsupportive publics

⁶ 130,000 Muslims and 110,000 Greeks by 1934 lived as minorities. Over the years, the minorities in Istanbul decreased into thousands.

(Evin, 2004), often tying the hands of the leaders who were attempting to resolve conflicts (Ikonomaki & Orkun, 2000). When Turkish Prime Minister Turgut Ozal and his Greek counterpart, Andreas Papandreou, attempted to engage in bilateral negotiations in 1988, for example, they stumbled under domestic pressure (Wilkinson, 1999; Heraclides, 2004). The talks collapsed in 1989 as Papandreou and Ozal faced electoral defeat in parliamentary and municipal elections respectively (Onis and Yilmaz, 2008). The latest initiative by the governments was taken in 1999 when foreign ministers agreed to initiate a dialogue on issues of limited antagonism (Heraclides, 2004). This modest undertaking would likely have failed like the previous ones were it not for the fact that the earthquake, which occurred 17 days after the meeting, led to an extraordinary change in public attitude towards the enemy hence providing the support that that was missing in previous attempts at rapprochement.

Although the majority of Greeks and Turks were highly suspicious of each other in 1989, the attitudes clearly shifted following the earthquake in 1999 (Volkan and Itzkowitz, 1994; Theodossopoulos, 2007). In spite of deteriorating relations due to the politics of the day, the lack of violence targeting the enemy either through the treatment of minorities or by involvement in a territorial war restrained the animosity between peoples. More importantly, Greek and Turkish memories were not tainted by images of recent violence. Thus, when the news of an earthquake in Turkey was first heard on television with the portrayal of an enemy as a ‘suffering human being’, the images set forth an unprecedented wave of gestures and popular emotion on both sides (Ayman, 2004; Aydin & Ifantis, 2004). The mutual empathy expressed in the Greek and Turkish media following the earthquake indicated an intense bonding at the societal level (Gundogdu, 2001). After the disaster, for example, the most widely circulated Greek newspaper *Ta Nea* declared, “We are all Turks” (cited in Gondogdu, 2001), and a Turkish newspaper

replied in Greek: “Thank You, Neighbor” (*Hurriyet*, 21 August 1999). It was this change in the perceptions of the public that finally provided the mandate for governmental elites to take positive steps towards reconciliation. As our theory suggests, the natural disaster inspired popular change in rival perceptions because it activated a strong level of compassion for the enemy. That compassion was possible because the rival groups had not experienced routine rivalry-related violence, especially at the communal level.

The public’s support for good relations following the earthquake created willingness for change, prompting leaders to improve relations in the political and economic arena. For the first time, Greece acknowledged Turkey’s European Union candidacy at the Helsinki Summit by lifting the lifelong Greek veto. The level of exports-imports between the two countries nearly doubled, while investments increased by almost 800% by 2000, a development heralding a new era in business relations. Nine bilateral agreements were ratified on issues such as economic cooperation, combating crime and terrorism, investments, tourism, maritime transport, cultural cooperation and customs administration (Aydin & Ifantis, 2004) and new diplomatic initiatives were embraced to address the Cyprus problem (Bahceli, 2004). Although the Greek-Turkish rivalry is by no means over, the earthquake has served as a catalyst for change. The relations between the Turkish and Greek populace have come a long way from over 80% of Greeks mistrusting Turks in 1989 to 50% supporting their EU entry in 2004 (Volkan and Itzkowitz, 1994; ‘Turkey’s EU bid’). Even if public perceptions should rebound in the future, the positive steps taken in the political and economic sphere, for example support of Turkey’s EU candidacy, have set into motion important and durable constraints to prevent future crisis between the two countries.

India-Pakistan: Natural Disaster and Failed Reconciliation

Why is it that the 2005 earthquake in Pakistan failed to transform the country's relations with India while a similar catastrophe inspired improvement in Turkish-Greek relations? Our theory suggests that a bottom-up approach to rivalry change would be most conducive to improving relations between enduring rivals. We claim that a natural disaster might serve as a catalyst in mobilizing positive public attitude towards the rival, making it acceptable for the leaders not only to begin but also to sustain the process of reconciliation. In the case of India and Pakistan such mobilization was difficult to achieve as the two countries have experienced routine, rivalry-related violence, marked in particular by communal hostility, a phenomenon that prevents the people from changing their perceptions of the rival. This, in turn, sabotages the road to genuine political transformation even when the opportunity emerges.

India and Pakistan have experienced high levels of rivalry-related violence since the time the British Indian Empire was partitioned in 1947, with Muslim-Hindu divisions dating back to the 16th century (Kapur, 1995). While the countries have fought three wars in the past, two over the status of Kashmir, a territory divided between India, Pakistan, and China, in 1947-48, 1965, and 1971, militant attacks in the region are common to this day. Despite Pakistan's denials, India has accused its rival of engaging in a proxy war by supporting insurgents in Indian-administered Kashmir. The insurgents, whose goals range from autonomy to independence to incorporation within Pakistan, have been joined by Islamist militants, increasing terrorist activities and security concerns in the region. In the summer of 2000, for example, nearly 1,000 people died from violent clashes between militants and Indian security forces (Bowers, 2004). In the summer of 2008 some 500 people were injured in the largest protest in the region in two decades, threatening the fragile peace talks between Indian and Pakistan (Ridge, 2008). In total, over

65,000 civilian lives have been taken since 1989. Given that insurgents have received moral and, to some extent, logistical support from Pakistan at least until 2004, violence has made it difficult to foster compassion for the enemy even when the catastrophic disaster, which devastated parts of Pakistani-administered Kashmir and claimed over 70,000 casualties, might have created an opportunity for change.

In addition to violence in Kashmir, India has experienced routine communal violence in various parts of the country, particularly before local and national elections. Such violence has further increased insecurity among ordinary citizens, making it a challenge for national leaders to pursue meaningful reconciliation. Unlike many enduring rivals, India and Pakistan were at one point one country, a factor that accounts for the presence of Muslim population in India. Muslims constitute approximately 13% of India's population, and the country is home to the third-largest Muslim population in the world (Demographic Data for India, 2001). Both populations have a strong rival consciousness, and historical memory of animosity runs deep. Whether it involves the historical memory of violence by Muslim kings or the memory of Pakistan's creation, history and discourse keep myths alive and demonize the enemy (Kakar, 1996).

The role of myths and stereotypes in the India-Pakistan rivalry cannot be underestimated. Rumors invoking stereotypes of the rival as inhumane have been a salient part of communal riots in post-independence India (Brass, 1997). Whether they portray Muslim men as rapists of Hindu women or contaminators of milk and water, stereotypes have been an obstacle to seeing the enemy in a more positive light (Engineer, 2004; Das, 1998). Because such inflammatory, dehumanizing rhetoric accompanies and often triggers Muslim-Hindu violence in India, the

image of the rival is further associated with a threat, making it difficult to initiate a bottom-up change in rivalry.

The enemy myths are not only deeply embedded in the society, but are often exaggerated and reinforced repeatedly for political purposes. When unemployment and implementation of reforms prove daunting for political parties, many rely on Muslim-Hindu tensions to divert attention from the country's problems. Some benefit from violence especially in local elections (Chakravarty, 1994). Parties such as the BJP, Shiv Sena, Jana Sangha, Congress, and Jamaat-e-Islami have created an institutionalized system of riots that can exist precisely because it consistently devalues the rival and infuses a sense of fear among the population (Brass, 1997). The number of Muslim-Hindu riots per 100,000 population for Uttar Pradesh has ranged anywhere from four to 27 every year since 1948 (Brass, 1997).⁷ Other states in the country experience similar levels of communal violence with religion and collective memory often utilized in episodes of rioting (Gizewski and Homer-Dixon, 1995). The regularity of riots demonstrates that unlike in the case of Greece-Turkey rivalry, routine violence, especially communal violence, may sabotage rapprochement as our theory would predict. Even when a natural disaster hits a rival country, the level of compassion cannot develop fully and inspire people to initiate a meaningful change in rival perceptions. In other words, the opportunity is present, but the willingness is missing.

How do we know that political reconciliation failed to materialize because of limited change in public perceptions and not as a result of national leaders' reluctance to begin peace talks? We argue that an elite-driven explanation, particularly at the national level provides little understanding for the failure in rivalry change when the opportunity was there. Evidence

⁷ Our discussion focuses on communal violence in India. Given that over 96% of Pakistan's population is Muslim, Hindu-Muslim riots are a rare occurrence.

suggests that instead of bashing the rival, India's national elites began to pursue limited peaceful interactions with the Pakistani elite as evident by talks about economic initiatives, such as building of railroads, before and after the disaster (*The Times of India*, 26 June 2005- 22 January 2006). In the period before and after the earthquake, none of the newspaper articles or feature stories indicated any particular increase in negative attitudes towards Pakistan among India's national elites. As a result, national elites are less likely to be blamed for sabotaging the potential opportunity for reconciliation in the wake of the disaster. Even though progress on resolving the issue of Kashmir has been slow, India's leaders have made some attempts to address the thorny issue (Ridge, 2008).

The story becomes problematic, however, when we focus on local elites. Local politicians have an interest in maintaining the riot system that exploits rival tensions and makes it difficult for people to change their perceptions and put pressure on national leadership to move towards rapprochement. Ultimately, local politicians are an integral component of rival tensions, but their role cannot fully explain why reconciliation could not take place. We argue that many communities, while to an extent being victims of political manipulation have done little to actively combat stereotypes. After the earthquake majority of Indian population still associated Muslims with negative traits, including selfishness (64%) and violence (67%) and only 31% saw them as generous (Wike and Grim, 2007). Although public opinion in India and Pakistan have ostensibly favored peace talks between the two countries (Parikh, 2006), the existence of Hindu-Muslim violence and prevalence of negative perceptions have made it politically costly for the leaders to engage in substantive compromise that may be necessary to create major improvement in rival relations.

In conclusion, we have argued that failure in rival reconciliation after the earthquake in Pakistan is traceable to the presence of routine, rivalry-related violence created by insurgency in Kashmir and the institutionalized riot system that exacerbates Hindu-Muslim tensions. While the insurgency has indeed created a tangible security concern, the institutionalized riot system has manufactured a perception of a much wider threat among the people. In light of such developments, willingness to change perceptions of the enemy has been slow, resulting in missed opportunities for tangible rapprochement.

Conclusion

Research on interstate rivalries relies on the idea that dramatic events can open windows of opportunity for changes in the rivalry, possibly including rapprochement and even rivalry termination. What continues to remain unclear are the conditions under which the governments of rival states choose to jump through such open windows and actually extend olive branches to sworn enemies. In order to make such an explanation complete, we need to make more theoretically explicit and empirically concrete the treatment of *willingness* to engage in rapprochement.

We have examined one specific type of dramatic event – natural disaster – as a catalyst of peace processes between rival states, and we have moved in a different direction from most extant rivalry literature by conceptualizing the willingness to engage in rapprochement as having a strong societal component. Most other treatments of rivalry rapprochement, de-escalation, and termination tend to be focused on government officials and official policies. By contrast, we have argued that popular attitudes toward the rival can have meaningful effects, either by driving changes in government policies, or by reinforcing positive feelings generated by temporary interstate cooperation and therefore helping to generate a sense of legitimacy for the idea of

making that cooperativeness permanent. As such, we have attempted to make theoretical and empirical contributions both to the rivalry and ‘disaster diplomacy’ literatures.

Further, we have employed time-series analysis of novel data drawn from newspaper coverage to measure whether the level of rivalry has incrementally changed, a concept that previous studies have failed to capture. Findings from our case analysis suggest that routine, rivalry-related violence—especially domestic, communal violence—is an obstacle to change. Thus, when a natural disaster occurs, the public’s level of compassion for the enemy cannot develop fully enough to motivate attitudinal change, thus reducing incentives and raising costs for policymakers considering reconciliation. In the absence of routine, rivalry-related violence, as we have seen in the case of Turkey-Greece rivalry, a disaster resulting in massive casualties can appeal to common aspects of humanity, activate positive attitudes toward the enemy, and in turn serve as a catalyst for change.

One implication of our study is that ordinary citizens’ attitudes matter for rivalry politics. Whether expressed through or reflected by the popular media, the opinions of average citizens can and do have substantial effects on interstate relations. The negative aspects of this phenomenon are on display in the India-Pakistan case; however, in the Greece-Turkey case its positive aspects are apparent. Even though we might disagree with James Ker-Lindsay (2000) over the relative impacts of government-led and people-led diplomacy in the rapprochement process, we do agree with Ker-Lindsay’s point that, “the true impact of the earthquakes in both Greece and Turkey has to be seen at the level of ordinary citizens of both countries” (2000: 229). In a world of states increasingly characterized by representative governments, the potential influence of ordinary people gives us reason for cautious optimism concerning the prospects for sustainable peace between long-term rival states.

Our optimism about pacifying effects of shifting public attitudes is tempered, however, by a concern that knowledge of this phenomenon could make political leaders complacent. Responsible policymakers who purport to represent their constituents and the interests of the nation must keep in mind that rapprochement requires *both* willingness *and* opportunity. In those cases where the public may be willing to explore peace, but no opportunity (natural disaster or otherwise) avails itself, leaders should consider taking a risk and creating an opportunity (hopefully *not* a disaster) for peacemaking. Responsible policymakers should not rely on the public to undergo an attitudinal shift on its own; rather, forward-thinking leaders should prime their constituents, so that when an opportunity for diplomacy arises, the willingness to seek peace will follow briskly and make an initial rapprochement possible.

Table I: Change in Rivalry Level: Content Analysis of Newspaper Coverage

Case	Positive Coverage	Negative Coverage	Neutral Coverage	<i>Total</i>
Turkey: Pre-Disaster	16 (13%)	80 (67%)	24 (20%)	<i>120</i>
Turkey: Post-Disaster	85 (69%)	6 (0.05%)	33 (27%)	<i>124</i>
Greece Pre-Disaster	7 (16%)	27 (60%)	11 (24%)	<i>45</i>
Greece Post-Disaster	32 (44%)	9 (13%)	31 (43%)	<i>72</i>
India: Pre-Disaster	101 (47%)	63 (29%)	50 (23%)	<i>214</i>
India: Post-Disaster	58 (25%)	83 (35%)	95 (40%)	<i>236</i>
Pakistan: Pre-Disaster	89 (46%)	52 (27%)	53 (27%)	<i>194</i>
<i>Pakistan: Post-Disaster</i>	<i>56 (29%)</i>	<i>46 (24%)</i>	<i>92 (47%)</i>	<i>194</i>

Figure 1: Negative, Minor Change in Pakistani Perception of Rivalry

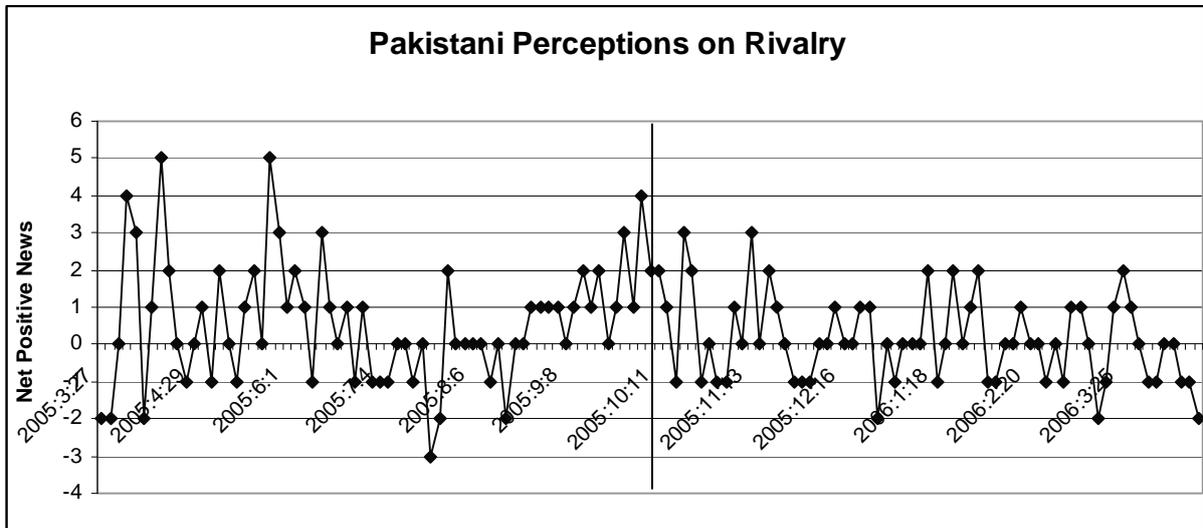


Figure 2: Negative, Substantial Change in Indian Perceptions of Rivalry

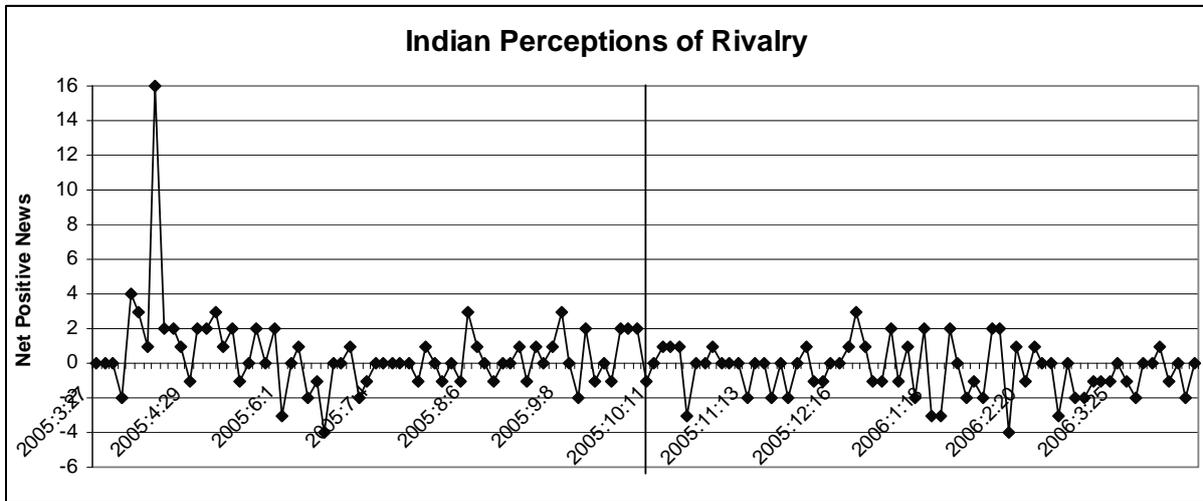


Figure 3: Substantial, Positive Change in Turkish Perceptions of Rivalry

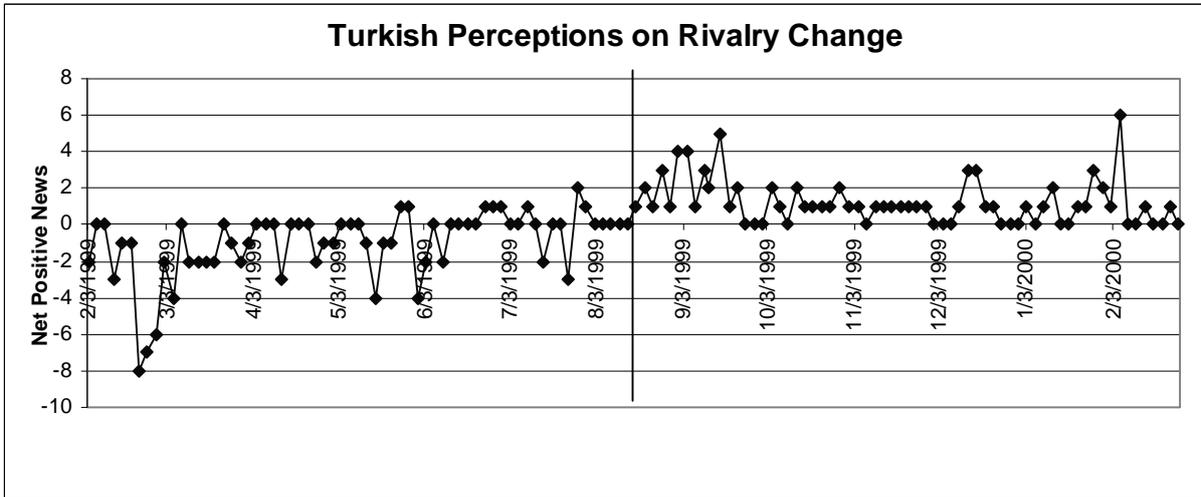


Figure 4: Substantial, Positive Change in Greek Perceptions of Rivalry

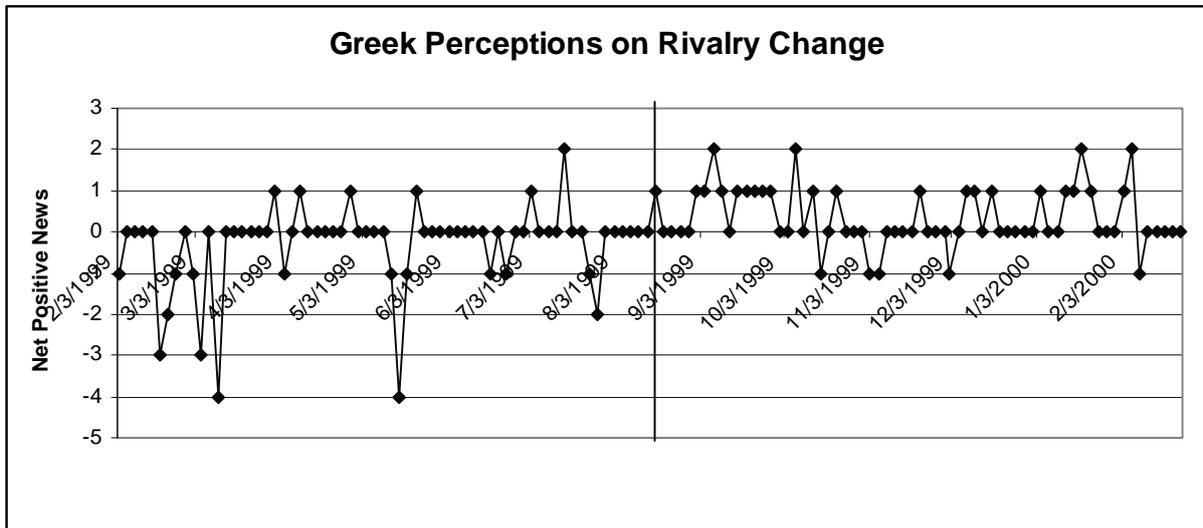


Table II: Natural Disaster's Impact on the Level of Rivalry between Turkey and Greece

	Turkish Perceptions	Greek Perceptions
Constant	-0.900* (0.406)	-0.296* (0.138)
Rivalry _{t-1}	0.759** (0.134)	(0.198)* (0.087)
e _{t-1}	-0.483** (0.179)	
Shock	2.048** (0.548)	0.650 (0.193)**
Sign. Level of Q	0.99	0.70
DW	1.96	2.01
N	130	130

*p<0.05, **p<0.01

Table III: Natural Disaster's Impact on the Level of Rivalry between India and Pakistan

	Indian Perceptions	Pakistani Perceptions
Constant	0.585* (0.251)	0.632** (0.230)
Rivalry _{t-1} e _{t-1}		0.240** (0.086)
Shock	-0.963** (0.353)	-0.500 (0.322)
Sign. Level of Q	0.89	0.32
DW	1.89	1.99
N	131	130

*p<0.05, **p<0.01

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Appendix 1: Positive Developments between Greece and Turkey after the 1999 Earthquake

<i>Date</i>	<i>Event/Development Category</i>	<i>Event/Development</i>
Sept. 10, 1999	Societal (involves initiatives/participation of the public)	For the first time, independence of Izmir is celebrated without staging the retreat of Greek soldiers to the sea
Oct. 16, 1999	Societal	Large increase in the sale of Greek music CDs
Dec. 11, 1999	Societal	Greek and Turkish movie directors create a mobile movie festival that will travel between the two countries
Dec. 18, 1999	Societal	Women from both countries write a joint cook book
Dec. 20, 1999	Societal	The Orthodox Patriarchy in Istanbul initiates a conference on friendship between the two countries
Dec. 22, 1999	Societal	Koc University (Turkey) and Kokkalis University (Greece) begin a program that funds exchange students from both countries
June 23, 2000	Societal	Famous Turkish basketball player invited to join the Greek team
Aug. 27, 2000	Societal	Turkish and Greek movie directors participate in a joint festival
Nov. 12, 2004	Societal	Turkish TV series "Foreign Groom," which explores a romantic relationship between a Turkish man and a Greek woman, receives top ratings in both countries
July 15, 2005	Societal	Popular Turkish soccer player, Erol Bulut, transferred to a Greek team
Nov. 23, 2005	Societal	Publication of the first Turkish-language newspaper in Athens
June 4, 2006	Societal	Turkish-Greek media conference held in Istanbul
Nov. 8, 2006	Societal	Joint, Greek-Turkish, exercise on handling natural disaster is held
June 10, 2008	Societal	The start of Defne, Turkish-Greek friendship festival
June 24, 2008	Societal	The start of a 12-day celebration of Greek culture in Ankara
July 12, 2008	Societal	Joint, Turkish-Greek, orchestra begins a concert tour in Turkey
Sept. 3, 2008	Societal	Turkish and Greek swimmers

		celebrate World Peace Day as they meet in the Aegan Sea
Feb. 4, 2000	Organizational (involves initiatives/participation of governmental bureaucracies in the sphere of trade, tourism, etc. but excludes political initiatives)	Economic Cooperation Agreement is signed, promoting cooperation between the two countries in such areas as ship building, telecommunications, tourism, environment, and health care
Feb. 19, 2001	Organizational	The establishment of Greek-Turkish Chamber of Commerce
Oct. 22, 2003	Organizational	George Papandreou, Greek foreign minister, and Abdullah Gul, Turkish foreign minister, conclude talks to eliminate double taxation
Feb. 23, 2003	Organizational	An agreement is signed between Greece and Turkey to create gas interconnector that would deliver gas supplies from Turkey to Greece
Nov. 13, 2006	Organizational	Turkish-Greek tourism protocol is signed
Oct, 12, 2006	Organizational	Turkey emerges as the major trading partner for Greece in 2005, according to Panhellenic Exporters' Association
July 20, 2007	Organizational	Turkey and Greece sign electrical power exchange protocol
May 12, 2007	Organizational	Agreement is signed for 2 nd cross-border bridge between the two countries
Dec. 6, 2007	Organizational	Greek-Turkish business council is established in Athens
Dec, 2007	Organizational	Bilateral trade between the two countries increased from 200 million dollars in 1999 to 3 billion dollars in 2007
Dec. 10, 1999	Political (involves initiatives aimed at reducing security concerns and building confidence between the rivals)	Greece approves Turkey's candidate status for full membership in the EU at the Helsinki Summit
Jan.20, 2000	Political	Greece signs the Agreement for Cooperation on Citizen Security and Fight with Terror in Ankara. Marked great improvement in the relations between the countries considering that just before the earthquake, Greece had helped

		PKK leader Ocalan to hide from the Turkish authorities.
Apr., 2001	Political	Both sides agree on the prohibition of the use, stockpiling, production, and transfer of anti-personnel land mines and their destruction along the Evros/Meriç River border between the two neighbors.
Dec. 10-12, 2002	Political	Greece supports Turkey's membership in the EU at the Copenhagen Summit, pushes for an early conditional date for negotiations on full membership
Oct. 13, 2003	Political	Greece, Turkey, and Cyprus cancel annual military exercises in Cyprus
Dec. 5, 2007	Political	Greek and Turkish prime ministers agree on new confidence-building measures that include, among others, establishment of a joint operational military unit to participate in NATO peacekeeping missions, visits of military leaders, visits of unit commanders at the Greek-Turkish border, and creation of a joint all-branch military unit to manage natural disasters and offer humanitarian aid
Sept. 4, 2008	Political	The start of reunification talks in Cyprus after initial referendum in Cyprus fails to pass

* Sources: *Hurriyet*, (News-September 1999-May 2008), Onis and Yilmaz (2008), Hellenic Embassy Republic of Greece (News-2003-2008), Ferentinou (2007), *Washington Times* (2008), Bilgic and Karatzac (2004)

Appendix 2: Rivalry Comparison: Greece-Turkey and India-Pakistan

	<i>Greece-Turkey</i>	<i>India-Pakistan</i>
<i>Rivalry Duration</i>	Over 50 years*; plus earlier rivalry dated to independent statehood of Greece	Over 60 years*; since independent statehood of both rivals
<i>Geographical Proximity</i>	Contiguous by land	Contiguous by land
<i>Territorial Disputes</i>	Yes Cyprus, Aegean Islands	Yes Kashmir, Rann of Kutch
<i>Recent Crises or Militarized Disputes</i>	Yes 1996 Imia/Kardak crisis (3 years prior to earthquake)	Yes 1999 Kargil conflict (6 years prior to Kashmir earthquake)
<i>Crisis Density</i>	One crisis per 4.75 years	One crisis per 4.90 years
<i>Political Regime Type</i>	Mixed dyad Greece: democracy Turkey: relatively weak democracy	Mixed dyad India: democracy Pakistan: relatively weak democracy
<i>Demographics</i>	Greece: relatively homogenous Turkey: large minority (Kurds)	Pakistan: relatively homogenous (97% Muslim, though Pakistan combines several large, distinct ethnic groups) India: large minority (Muslims: 13%)
<i>Intrastate Communal Conflict that Reflects Rivalry</i>	Greece – NO Turkey – NO (some conflict between Turkish government and Kurdish [not Greek] minority)	India – YES (routine violence) Pakistan – No
<i>Violent Disputes</i>	Decrease-none since 1974	Continue-most recent, 2001 attack on India's parliament by Kashmiri and Islamic militants
<i>Stabilizing Alliances</i>	Yes-both are members of NATO	No
<i>Nuclear Asymmetry</i>	No (both non-nuclear)	No (both nuclear)

* Rivalry duration data from Klein et al. (2006).