

Reliability, Reputation, and Alliance Formation*

MARK J.C. CRESCENZI
Department of Political Science
University of North Carolina
crescenzi@unc.edu

JACOB D. KATHMAN
Department of Political Science
University of Mississippi
kathman@olemiss.edu

KATJA B. KLEINBERG
Department of Political Science
Binghamton University
kkleinbe@binghamton.edu

REED M. WOOD
Department of Political Science
University of North Carolina
rmwood@email.unc.edu

August 11, 2009

Abstract

In this paper we examine how the past alliance behavior of nations affects the likelihood that these states will be involved in alliance formation. We contend that nations evaluate the reputations of potential allies when searching for alliance partners. Reputation information is processed by governments along with other immediate concerns. By introducing a model and developing subsequent measures of reputational alliance histories we improve upon our current understanding of the factors that drive alliance formation.

*Prepared for the 2009 Annual Meeting of the American Political Science Association, Toronto, CA. Author names are listed alphabetically. Data assembly was conducted with the help of EUGene 3.03 (Bennett and Stam, 2000). The authors would like to thank Brian Lai and Timothy Nordstrom for their helpful comments. The authors also thank Ashley Leeds both for her assistance and for sharing her data.

Introduction

By the turn of the twentieth century, in the years leading to the First World War, Great Britain sought an alliance partner with whom to counter a growing threat. That threat was not yet Germany, and the rigid alliance system so often blamed as the cause of WWI was still considerably elastic. Britain in particular enjoyed a measure of flexibility in its “splendid isolation,” being geographically separate from the continent. But as dangers on the continent grew, Britain became increasingly concerned with formalizing alliances to counter those rising threats. Russian expansion to the East was the threat deemed particularly worrisome. British interests in China and the Pacific required the UK to shore up its continental defenses while committing greater resources to the Far East. Many have argued that Germany was the only alliance partner that could conceivably assist the UK (Langer, 1951; Monger, 1963). Yet even as the value of a prospective alliance grew with the rising threat from Russia, alliance negotiations between the UK and Germany broke down in large measure due to British perceptions of Germany’s increasingly evident reputation for unreliability. In the midst of Anglo–German alliance negotiations, Germany failed to comply with its treaty commitment terms with Japan and the UK over Russian incursions into China. Britain would come to fear that an alliance with Germany posed too great a risk. Should the UK commit to an alliance with Germany, British vulnerability on the continent may in fact increase if Germany were to shirk on its responsibilities to the UK in any subsequent crisis with Russia. Unsurprisingly, negotiations between the states broke down, as Britain believed that it was better served by avoiding alliances on the continent altogether rather than allying with a state whose reputation was suspect. As such, Britain never drew closer to Germany and the other members of the Triple Alliance, a decision that would critically affect the future of alliance and conflict relations in Europe.¹

The motivation for the UK’s decision to avoid an alliance with Germany was undoubtedly complex. However, this example begs the broader question of how alliance behavior affects reputation, and how such reputational information might influence future international political phenomena. An interesting question is whether states generally value compliance reputations

when making their alliance formation decisions. Indeed, from the example above, it appears that reputations for reliability may be an important dimension of the alliance formation calculus. We seek to address this issue both theoretically and empirically in this research. Our specific focus is on the question of whether a state's historical reputation for alliance reliability influences its likelihood of being sought as an ally. We argue that a state's reputation plays a significant role in the choice between potential allies. In other words, while states hope to satisfy a number of interests by carefully considering the characteristics of potential allies, the expected reliability of future partners is also an essential component of an alliance seeker's decision calculus.

States form alliances for multiple reasons, including interests in increasing their security (Waltz, 1979; Walt, 1987) or autonomy of action (Morrow, 1991), signaling resolve to (and thus deterring aggression from) other states in the international system (Sorokin, 1994), reducing the resource commitments necessary for an effective defense (Altfeld, 1984; Conybeare, 1994*b*; Morrow, 1993), improving the prospects of peace between treaty signatories (Long, Nordstrom and Baek, 2007), among others. However, behind each of these justifications for alliance formation is an assumption of reliability – that is, states only choose to ally with partners when they can be reasonably assured that the alliance will hold in the event of conflict; otherwise, the entire basis for the alliance is undermined. Any alliance in which a partner fails, or is expected to fail, to live up to its commitments is essentially devoid of its initial merit. Moreover, failure of an alliance likely renders the abandoned partner *more* vulnerable than it was prior to the formation of the alliance. Indeed, the level of security that a state hopes to achieve by forming an alliance is only relevant to the extent that the alliance seeker believes its potential partner will live up to its responsibilities when called. Consequently, states choose their partners carefully, preferring those likely to live up to their agreements to those whose credibility is suspect.

Based on this intuition, we investigate whether reliability reputation plays a role in alliance formation choices. In the following pages, we briefly outline the role of state reputation in international relations research. We then delineate our theory of alliance reputation which in turn generates the functional form of our reliability reputation model. This model is used to construct several measures of alliance reliability to test our arguments on the formation

of alliances. Results are generated using a probit model on the global population of alliance agreements for the years 1816–2000. The findings indicate strong support for our theory.

State Reputation and International Relations Research

Reputation as a motivator of state behavior has received growing attention in international relations research. Similar to arguments in economics about the behavior of firms in the marketplace (see Dollinger, Golden and Saxton, 1997; Weigelt and Camerer, 1988; Wilson, 1985), scholars have invoked processes of reputation formation and learning to explain phenomena as diverse as military deterrence (Alt, Calvert and Humes, 1988; Huth, 1988; Nalebuff, 1991; Schelling, 1966), recurring conflict (Diehl and Goertz, 2000; Leng, 1983, 1988; Crescenzi, 2007; Crescenzi, Kathman and Long, 2007), multilateral cooperation (Downs and Jones, 2002; Milgrom, North and Weingast, 1990) and international lending (Simmons, 2000; Tomz, 2007).

Given the similarities between them, firms in the marketplace have often been used by scholars as a metaphor for states in the international system (Waltz, 1979). Interestingly research in the business, economics, and marketing fields has demonstrated that the historical reputation of a firm in the open market is an important predictor of its future economic performance. Findings on the role of reputation in the formation of joint ventures, a process which speaks to the dynamics of alliance formation among states, suggest that the better the reputation of the firm, the more likely it is to be selected by competitors for profitable mergers in the future (Dollinger, Golden and Saxton, 1997). Provided that one's reputation is public knowledge, actors should be interested in maintaining a positive reputation so as to enjoy the future benefits that a good reputation bestows, including setting higher price points (Shapiro, 1983) and attracting higher quality employees (Chauvin and Guthrie, 1994). By defecting on agreed transactions, firms lose market share and earning potential by effectively selecting themselves out of future transactions. In fact, the true intention of a firm is of less consequence to potential business partners. In a world of incomplete information where firms have an inability to portray their true intentions, a firm's reputation acts as the primary information source on which potential

partners make their transaction decisions. Firms therefore have distinct incentives to build and maintain a positive reputation in the market so as to derive future rents.

While a healthy literature exists in the business and economics literature on the importance of corporate reputation, relatively little, though growing, work in interstate conflict processes has approached the issue of reputation in affecting international phenomena. Within the reputation literature, select quantitative studies report a significant effect of reputation on deterrence outcomes, especially in repeated interactions (Huth, 1988, 1997; Huth and Russett, 1984). While some research using case analyses have also cast doubt on the logic of reputations in rational deterrence and interstate bargaining (Mercer, 1996; Press, 2005), recent and promising work suggests that reputation plays a role in affecting alliance dynamics. In examining the First Morocco, Bosnia–Herzegovina, and Agadir Crises, Miller (2003) specifically addresses the effect of state reputation on alliance formation. He notes that reputations were an important factor in Britain’s choice of alliance partners in the early 20th century. Specifically, he finds that “the more reliable a state appears to be, the more autonomy it will have in its alliance choices (Miller, 2003: 77).” Most recently, Gibler (2008) has presented some support for his expectation that heads of state form reputations that affect their prospects of forming future alliances. These findings provide initial evidence of the role of reputation in alliance formation.

In this manuscript, we seek to build upon the promising advances of this recent research indicating a significant effect of reputation on alliance formation. In doing so, we introduce a more refined conceptualization of alliance reliability reputation, one that accounts for states’ historical experiences as well as the way in which this information is processed. We argue that alliance seekers measure one another’s reliability by observing how potential partners have performed in upholding their alliance commitments to other states in the system, assigning a reputation for (un)reliability to each of its potential partners and determining the relevance of that historical information based on the similarity between the alliance seeker and the potential ally’s previous partners. Below we elaborate on the nature of alliance agreements and our theoretical expectations on the importance of reputation in the alliance formation process.

Dimensions of Alliance Formation

A substantial literature on alliance phenomena provides a basis of knowledge about the conditions under which states are likely to form alliances. Excepting those above, few studies have tapped the underlying intuition that potential allies must exhibit a history of past alliance credibility in order to be considered as viable partners. We agree that states typically choose to form alliances in order to increase their military capabilities, deter a common threat, or advance other mutual goals. An additional factor in the decision process is the past performance of potential partners in honoring their commitments. Given multiple possible alliance partners in the system, states need not settle for any available partner with complementary capabilities and interests. State reputation is a vital factor in this calculus. All else being equal, states choose to form alliances with other states that possess a reputation for upholding past alliance commitments rather than with states that have poor reputations for meeting their obligations.

Alliances are formal agreements made between two or more states to coordinate their actions. They spell out the commitments between the parties and the conditions under which these commitments are activated. In other words, states forming an alliance agree to take certain actions when specified conditions arise. A variety of specific benefits motivate decision makers to pursue alliances. States may enter formal agreements with other states as an attempt at external balancing. Classic statements of this thesis can be found in balance of power theory (Liska, 1962; Morgenthau, 1967; Powell, 1999). Increased coalition capabilities enhance defensive strength by increasing each ally's ability to prevail in war, yet they also enhance one's deterrent threat, as formal agreements signal the intentions of allies to come to one another's aid in times of crisis. This raises the costs of fighting for potential attackers and diminishes their prospects for winning. Relative power gained through an alliance may also enhance a state's bargaining position in crisis negotiations, enabling the state to compel an adversary to acquiesce to demands rather than risk war (Morrow, 1994; Smith, 1995, 1998). Other scholars have drawn attention to potential economies of scale in security provisions as an additional advantage arising from alliances. Alliances allow partners to divert some portion

of their resources that would have been spent on security to the provision of other domestic goods, such as economic or societal welfare (Conybeare, 1994*a*; Lake, 1999).

Despite the clear advantages offered by forming alliances, an underlying issue remains: the aforementioned benefits from alliances only materialize if an ally upholds (or is expected to uphold) its commitments. Unreliable allies are unlikely to add to a state's security regardless of how much additional capability they offer. To the extent that the existence and terms of the formal agreement are public knowledge, an alliance member's failure to fulfill its obligations is observable to all states in the international system. As a consequence, for instance, a potential adversary is less likely to be deterred by the combined strength of a coalition if either alliance partner is perceived as unreliable. In fact, previous research suggests that states consider the credibility of their target's alliances before attacking (Gartner and Siverson, 1996; Smith, 1996). Furthermore, a state contemplating conflict initiation will likely only proceed if it is reasonably assured that its partners will aid it in this endeavor. Entering into conflict with unreliable partners will decrease the *ex ante* likelihood of victory, thus constraining the state's willingness to use force. Similarly, the bargaining strength of a state embroiled in a crisis is determined at least in part by its allies and the perceived reliability that they bring to the bargaining table.

In addition to providing specific benefits, alliances also impose costs upon their signatories. These costs can be thought of as a tradeoff between security and autonomy because all alliances require some degree of foreign policy coordination between partners (Altfeld, 1984; Morrow, 1987, 1991, 2000). Such coordination may mean that one or both allies must abandon some preferred policies. Military coordination may limit the tactical flexibility of each ally if war should come. Similarly, the specialization of forces may leave an ally exposed to other threats (Morrow, 1994). States are loath to incur these costs if the benefits from an alliance are uncertain because an ally may prove unreliable. In the event of crisis, unreliable alliance partners instill a greater measure of uncertainty for the crisis states. Such uncertainty generates risks that states wish to avoid. The very nature of an alliance is meant to condition a state's expectation of their alliance partner's future actions. Yet alliances are essentially unenforceable contracts. While technically binding, there typically exists limited recourse for states whose

partners breach the terms. Consequently, the abandoned partner absorbs the total cost of defection. Since alliances operate “in the shadow of war” (Morrow, 2000: 63), the losses incurred from defection are likely to be quite large indeed, resulting in a potentially devastating military defeat or, at minimum, a reduced capability to negotiate a satisfactory conclusion.

The primary obstacle to choosing reliable allies is that in the anarchic system, the intentions of states and the credibility of their commitments function as private information. Moreover, states likely to renege on their commitments have an incentive to mask this quality in order to persuade other states to join into an alliance with them, thereby accruing the benefits outlined above at little cost. Thus, signaling one’s true intention to honor international commitments relies on the credibility of such claims, as states lack the institutional framework necessary to enforce cooperation terms in an anarchic system. Consequently, states seeking alliance partners must, by some mechanism, assess the likely reliability of potential partners beyond the assurances by heads of state given that such “assurances” may rapidly evaporate with the onset of a crisis. One way that states achieve this objective is by observing one another’s historical reliability to judge the credibility of signals. Thus, in international relations, the shadow of the future can benefit actors who forego defection and immediate gains in favor of greater long-term gains generated through cooperation. Since maintaining a reputation for reliability can be costly, a positive reputation can serve as a credible signal.

Indeed, states do not typically commit to alliances unless they believe that they will honor their commitments. States are knowledgeable about their own capabilities and goals, they are also aware of their ability and willingness to abide by different alliance terms. Thus when forming alliances, states specify promises that they expect to uphold. Due to the risks and costs involved, states form alliances when they believe there is a reasonable probability of successful cooperation (Downs, Rocke and Barsoom, 1996; Leeds, 1999). By disaggregating the specific provisions of agreements, Leeds, Long and Mitchell (2000) show that depending on the type of alliance and the stipulations of the agreement, the majority of alliance commitments are actually upheld. This finding prompts questions regarding the nature of alliance formation: if abiding by alliance commitments entails costs, what drives states to so often fulfill their

obligations despite the incentives to shirk? One answer is that by limiting their commitments to obligations that they are willing and able to fulfill, states help to ensure that they will not have to renege on their promises at a later date thus detrimentally affecting the reputation for reliability. Similar to firms in the free market, states that preserve their positive reputations put themselves in a position for obtaining future rents. In this sense, the maintenance of a strong reputation for reliability plays an integral role in the alliance formation process.

Despite the intuitive nature of the reliability thesis, existing research has focused largely on common interests and regime characteristics to explain the credibility of alliances. Recent research on regime characteristics as a source of credibility indirectly hints at the reliability thesis. For example, Leeds (1999) suggests that the commitments of democracies are more credible because democratic executives are held accountable at home for breaking international commitments. However, this should not be taken to mean that nondemocratic forms of government lack all means of credibly signaling their intentions, much less forming reputations as reliable alliance partners.² Also, capability aggregation models of alliance formation often implicitly take reliability as given. When alliances form on the basis of a common interest in balancing a rising power or countering a common threat, reliability is assumed to flow from a common goal. However, the temptation to shirk makes collective action on any common interest difficult.

Thus, states must use some credibility assessment criteria in order to choose among potential alliance partners. Reputations for reliability serve as one such factor that figures into this calculus. We suggest that states have access to a readily available source of information about a prospective ally's future reliability: historical behavior. States prefer to choose partners that possess reputations for upholding their prior alliance commitments. By picking allies on the basis of their reputations, states are more likely to realize the benefits of an alliance while at the same time limiting their risk of abandonment.

As such, we argue that the way in which alliance seekers calculate one another's reliability is by observing (1) how potential partners have performed in upholding their alliance commitments to other states in the system, assigning a reputation for (un)reliability to each of its potential alliance partners and (2) determining the relative significance of that historical information

based on the similarity between the alliance seeker and the potential ally's previous partners.

The arguments made above can thus be summarized in the following simple **hypothesis**: *A state is more likely to select an alliance partner that has a reputation for honoring its alliances.* This hypothesis indicates how historical information is processed by states as they choose alliance partners. We do not argue that this is the only factor governing alliance formation. Rather, we consider reputation as one factor in the decision calculus. Below, we first justify our use of *state* reputations over other types. We then operationalize our reputation concept, allowing us to conduct empirical analyses of our arguments on alliance formation.

Conceptualizing Reputation as a State Characteristic

Before we can empirically evaluate this hypothesis about the impact of alliance reputations, we first need to get specific about how states perceive these reputations. Here we set out a particular conceptualization of alliance reputation that is specific to the state seeking allies. We seek a concept of reputation that reflects the notion that reputation is in the eyes of the beholder. We also model the concept of reputation at the state level rather than focusing on leaders. Are alliance agreements the product of state decisions or policymaker decisions? In other words, do states join alliances or do leaders? Do states form reputations for alliance reliability, or are these reputations assigned to heads of state. The answer to these questions is inevitably 'both,' with individual cases varying based on the degree of leadership change and the unique qualities of leaders. While others have focused on the reputations formed by state executives (Gibler, 2008), we argue for modeling alliance reputations as a state characteristic for three reasons.

First, alliance agreements are sticky. They often persist beyond the tenure of individual leaders. Therefore decisions by executives to fulfil or violate treaties are often made on agreements that were formalized under previous regimes. Yet honoring agreements made by previous leaders are still observed by other states in the system when calculating reputation. Leaders know this when formalizing the agreements. They understand that alliances formed during

their time in office are likely to persist beyond their tenure. As a result, agreements are generally made to reflect the short- *and* long-term goals of the state rather than individualistic goals of narrowly focused leaders. While the foreign policy of the state may be influenced by the opinions of individuals, the realm of possibilities is constrained by state-related factors, including the nation's capability, geopolitical stature, existing relationships with other states, and the similarity of its national interests with others in the system. Given that treaties persist even when leadership change may occur routinely, we focus on state reputations at the expense of measuring the reputations of individual leaders.

Second, given that leadership turnover occurs regularly in many states, especially in democracies, there is the practical difficulty of assigning reputations to leaders who have little time and opportunity to form them. Leadership reputations would then need to be conceptualized as resetting with each new administration, reflecting a recurrence of empty reputations, providing no information about the historical behavior of the state. Theoretically, this practice of resetting reputations requires a peculiar assumption about the way in which information is processed for a resetting of leadership reputations to reflect reality. Such a practice would require other states and their leaders to know nothing about their historical relationships as soon as leadership changes occur. Do states erase their knowledge of prior interactions with changes of administrations? This seems unlikely. For example, consider the current leadership change in the United States. By all accounts, this change appears to signal a dramatic change in foreign policy strategy. Yet the commitments of the United States remain largely unchanged, and while global leaders have often responded to this change with optimism, the world waits for behavioral evidence of change. As the new administration matures and creates its own established foreign policy, the impact of the previous administration may fade. Our conceptualization of reputation attempts to account for the decaying effect on information as time passes yet allowing this information to persist across changes in leadership within states.³

Third, the process by which states choose to honor or violate their agreements is the product of domestic processes that vary widely. In some autocracies, this may indeed be the consequence of a single policymaker's decision that is then implemented by the state apparatus without other

significant internal influences. This may be true in those states in which power is the most centrally concentrated, although this need not be true in all autocracies. In democracies, the process of signing and fulfilling agreements is far less individualistic. The process is often less centralized. Indeed, a common aspect of democracies is that separate branches of government have institutional checks on one another in making national decisions. Therefore, alliance reliability and conflict behavior may not be easily assigned to individuals, as such decisions are more accurately described as the product of a political bargaining process between individuals or institutions. Therefore, assigning reputations to executive leadership alone may be unwise. For these reasons, the model delineated below focuses on state reputations, leaving aside the effect of leadership reputation for additional research that may build off of this basic platform model.

Modeling Alliance Reputations

One may be tempted to argue that evidence of any past violation of an alliance agreement should condemn an ally as wholly unreliable. However, assessments of reliability are substantially more complex. On the one hand, a measure of ally reputation should take into account the observed behavior of the potential ally. States may have fulfilled some past commitments but not others, causing them to acquire a mixed record in the eyes of future allies. On the other hand, not all observations of past alliance behavior may be equally relevant to current alliance seekers. The way a state has acted toward a past ally is thus not necessarily indicative of how that state will act toward a future partner that is sufficiently dissimilar from its prior alliance partner. There are thus two main components to the model of each state's reliability reputation: information about a state's alliance reliability and the relevance of that information to potential allies. The first component requires a model of alliance reliability dynamics, and the second requires a model of reputation as it pertains to alliance reliability. In both cases, the goal is to approximate the information used by a state's foreign policy decision makers when crafting new alliances. Our approach undoubtedly oversimplifies this process, but the models we present are

transparent and customizable for individual cases, and we believe we succeed in representing basic dynamics of how this information changes and evolves over time. Ultimately, the success of the modeling stage can only be evaluated in the empirical analyses that follow.

Direct Alliance Reliability Dynamics

The first step in modeling alliance reputation is to specify the way states develop a dyadic history of alliance behavior. Here we mirror the process laid out in Crescenzi, Enterline and Long (2008) and their *International Interaction Score*. In this context we seek to generate a specific concept of alliance history that is in the directed dyad format. That is, for any two states j and k , we wish to specify γ_{jk} : j 's history of upholding or reneging on alliance obligations with k . These histories, illustrated in Figure 1, occur throughout the population of dyads in the system. States develop specific alliance histories with other states, based on their actions in the past. Upholding one's alliance obligations creates a positive change to the alliance history, failing to do so imparts a negative change. In the absence of the opportunity to uphold or fail to meet obligations, as time passes the age of past information renders it less relevant to the current assessment. We also assume that sporadic, rare events provide less information than frequent ones. At the same time, dyads with a lot of alliance behavior opportunities (both positive and negative) generate histories that are more permanent. We reflect this quality in the speed of information decay: as a dyad experiences more and more alliance events, the rate of decay of old information slows down. This set of assumptions can be formalized as follows:

$$\gamma_{jkt} = \left(e^{-\alpha \left(\frac{\text{Event Temporal Distance}_t}{\text{Event History} + \lambda} \right)} \right) \gamma_{jk(t-1)} + \beta_1 \left(\frac{\text{Uphold Agreement}_t}{\text{Event Temporal Distance}_t} \right) - \beta_2 \left(\frac{\text{Fail to Uphold}_t}{\text{Event Temporal Distance}_t} \right). \quad (1)$$

Our model of direct alliance history allows the researcher considerable flexibility. For instance, one could weight the relevance of positive vs. negative alliance behavior by altering the beta constants, perhaps to test an argument about the psychological impacts of the two qualitatively different types of events. The speed at which information from old events diminish

can be customized by changing the alpha constant, perhaps matching unique constants to types of governments (democracies vs. autocracies) or leadership tenure. For simplicity, we bound this function between 1 (j perfectly upholds its obligations) and -1 (j perfectly fails to uphold its obligations), with 0 representing no information, or a neutral state.⁴ The result is a simple but dynamic representation of the evolution of j 's alliance history directed toward k .

[FIGURE 1 ABOUT HERE]

Beyond the Dyad: Perceiving Alliance Reputations

Now that we have in place this first component, the direct dyadic alliance history, how then can we evaluate how a state i perceives the alliance reputation of state j ? That is, after all, the concept we need to model in order to test our hypothesis. We accomplish this by assuming that i can observe j 's alliance behavior with all the other k states in the system, and thus it aggregates and processes this extra-dyadic information to observe an overall reputation for j 's alliance behavior. The basis for the model is the idea that states observe other states' behavior over time beyond their direct dyadic experience. Our reputation model draws on previous research that considers the effect of extra-dyadic reputations on the likelihood of interstate conflict (Crescenzi, 2007; Crescenzi, Kathman and Long, 2007). Similar to this research, we argue that states learn of their dyadic partner's reputation for alliance reliability by observing its historic behavior toward other states outside the dyad and determining the relevance of those actions to their own dyadic relationship.

To illustrate this process, think of state i as the alliance seeker and j as its potential alliance partner, where j is any state in the pool of all potential partners (N).⁵ State i is able to observe every potential partner's reputation for living up to its alliance responsibilities. We label this reputation information R_{ijN} , which suggests that j 's reputation is relative. Indeed, j 's reputation is contextual to the way i processes j 's alliance histories with the other states in the international system. State i learns of j 's reputation for reliability by observing j 's interactions with all other k states in the international system with whom j has shared an

alliance commitment. State j 's historical alliance performance in each $j - k$ dyad is represented in the first component of our alliance reliability model, γ_{jk} . At its most basic, R_{ijN} is simply an aggregation of the set of alliance histories that j has with all the states in the system that are *not* i . The direct alliance history between i and j is important too, as illustrated in Figure 1, but it is important to note that the ij direct alliance history does not contribute to i 's perception of j 's extra-dyadic reputation for being a good (or bad) ally.

With this basic structure in place, the second component of our model introduces a relevance criterion into state i 's calculation of j 's reputation.⁶ This component is represented by ϕ_{ik} which reflects the similarity between the alliance seeker (i) and all states (k) with whom the alliance seeker's potential partner (j) has shared an alliance obligation. In this sense, i 's observation of j 's historical reliability to k is only relevant to i in as far as i and k are similar to one another. For instance, suppose that i observes that j has been exceptionally reliable in its commitment to k . If i is different from k in a fundamental way, the information that i can glean from the $j - k$ relationship is fundamentally limited with regard to i 's expectation of j 's reliability in a potential $i - j$ alliance. However, if states i and k are very similar to one another, the fact that j has been a reliable partner to k will lead i to assign j with a positive reputation, as i will expect j to be a dependable partner in a potential $i - j$ alliance. Both the $j - k$ alliance history component and the $i - k$ similarity component are represented in the full model below, where j 's dependability in the $j - k$ alliance is observed as ranging between completely unreliable (-1) to fully reliable (1) and where the similarity between states i and k can range between entirely dissimilar (0) to identical (1). The combination of components is then normalized by the size of the system.

$$R_{ijN} = \frac{\sum_{k \neq i, j}^N \gamma_{jk} \phi_{ik}}{N - 2} \quad (2)$$

where N is the size of the system
 γ_{jk} is the alliance relationship between j and k , $\gamma_{jk} \in (-1, 1)$,
 ϕ_{ik} is the similarity between i and k , $\phi_{ik} \in (0, 1)$.

Data and Methods

To test our theory empirically, we construct a dataset to reflect the onset of an alliance between each pair of states. The dependent variable takes on a value of 1 for the first year of an alliance and 0 otherwise. For consistency, since we use ATOP data in generating our independent variables of interest, we also employ ATOP for the dependent variable, as the most comprehensive data available on the honoring or violating of alliances are provided by ATOP. Our reputation model necessitates that we have data on instances in which states were obligated by their alliance agreements to come to the aid of their alliance partner and subsequently make a decision to either honor its commitment or shirk on its alliance duties. The ATOP project codes alliance data with a specific emphasis on the actual terms under which each alliance member is obligated to fulfill its commitments to its partner. This attention to alliance agreement terms allows for the coding of instances in which states honor or violate their commitments.⁷ Note also that R_{ijN} contains information that is directional within the dyad, meaning i 's reputation for reliability as viewed by country j is conceptually distinct from j 's reputation as perceived by i . As a result, we conduct our analysis at the directed-dyad-year level.⁸ Our method of analysis is a standard probit model with robust standard errors clustered on each directed dyad.

Operationalizing Alliance Reputation

To keep the labels of our concept of alliance reputation distinct from its empirical measurement, let *Alliance Reputation* $_{ijN}$ represent the operationalization of R_{ijN} . To operationalize this model, we must represent γ_{jk} and ϕ_{ik} with measures of j 's historical commitment to the $j - k$

alliance and the similarity between i and k , respectively. We operationalize γ_{jk} to reflect j 's commitment to all of its alliance partners, k . Relative to our interest in accounting for a direct alliance reliability history between states j and k , we conceptualize these positive and negative shocks as events during which an ally is obligated by the terms of its treaty to act in fulfillment of those terms. The two types of shocks are parsed into separate streams: one stream of information reflects whether an alliance was upheld by j in a given year (a positive shock), and one stream reflects whether j violated the alliance (a negative shock).⁹

In the absence of further shocks, the relationship decays toward no information, which we characterize with a value of zero. The speed of decay depends on how long it has been since the last shock and the number of shocks within the dyad. Long time spans during which no shocks occur increase the decay rate, but as more events occur, the rate slows. For simplicity we bound the measure between -1 and 1. The actual values range from -0.33 to 0.68. Negative values indicate a net history of violation of j toward k , and positive values indicate a history of j upholding its obligations to k . The measure thus provides an assessment of direct alliance reliability, processing both obligations that were honored or violated.

Thus the γ_{jk} component represents the alliance seeker's (i) observation of its potential ally's (j) historical behavior toward all of its past and current alliance partners (k). Values produced by the model define the nature of the alliance relationship between j and k . Again, we use data from the Alliance Treaty Obligations and Provisions (ATOP) project (Leeds et al., 2002) to generate AH_{jk} (*Alliance History*), representing the γ_{jk} component.

$$Alliance\ Reputation_{ijN} = \frac{\sum_{k \neq i, j}^N AH_{jk} S_{ik}}{N - 2} \quad (3)$$

where N is the size of the system
 AH_{jk} is the Alliance History score between j and k ,
 S_{ik} is the similarity between i and k .

To capture the dimension of state k 's proxy relevance to state i , we use Signorino and

Ritter's (1999) S-Similarity Score. This measure captures the foreign policy similarity of i and k . Similarity of foreign policies is important to i 's calculation. If the foreign policies of i and k were to be divergent, i would be unlikely to gain useful information from its observation of j 's (un)reliability to k . Therefore, although the S-Similarity Score ranges from -1 to 1, we constrain the measure to values that fall between 0 and 1 by changing all negative values to zero. In this way, we are able to represent that as the foreign policies of i and k become increasingly similar, i can intuit that j is likely to treat i similarly to the way it has historically treated k in the $j - k$ alliance. As the foreign policies of i and k become increasingly divergent, the value of k as a proxy for i decreases toward zero. In the model, S_{ik} is used to represent the ϕ_{ik} component.¹⁰

State i 's calculation of j 's reputation for reliability is thus represented by *AllianceReputation_{ijN}*. State i updates this assessment at each time point, which in our measure occurs every year. Our reputation variable is generated for four separate samples to determine the robustness of our reputation argument across different alliance types. As such, *Alliance Reputation_{ijN}* is generated for (1) all alliance types, which include both multilateral and bilateral alliances, (2) all bilateral alliance types, and (3) multilateral and bilateral defensive alliances. Each operationalization theoretically ranges from -1 to 1, e.g. a completely unreliable reputation to one that is fully reliable, with actual values varying from -0.318 to 0.611.

Control Variables

To account for other explanations of alliance formation, we include a number of control variables in an effort to be sure that our models do not suffer from omitted variable bias. Several of the variables are taken from Lai and Reiter (2000), where a fuller description of the borrowed variables can be found.¹¹ Two control variables addressing the regime type of the dyadic pairs are employed to determine the effect of joint democracy and regime similarity. Both measures are constructed using Polity IV data (Jagers and Gurr, 1995). *Joint Democracy* is a dummy variable that codes whether or not both states in the dyad are democratic. Each state must have a score of 5 or above on the Polity scale for this variable to take a value of 1. *Polity*

Difference measures the similarity of regime types between states in each dyad. This variable is coded by taking the absolute value of the difference between the regime scores of each state in the dyad. As this value increases, the dyadic regime types become increasingly dissimilar. Also, we control for whether both states in the dyad face a shared threat. *Joint Enemy* is a dichotomous variable reflecting whether or not both states have engaged in a dispute with the same country over the last ten years. The variable is coded using the Militarized Interstate Dispute (MID) dataset (Jones, Bremer and Singer, 1996). *Distance* measures the number of miles between capital cities of each state in the dyad. In line with Lai and Reiter, we take the square root of the total distance between capitals. If the states are contiguous, the distance is measured as zero. *Major Power Status* is a dichotomous variable coding whether at least one of the states in the dyad is a global power. Both *Distance* and *Major Power Status* are drawn from COW data. Each of the Lai and Reiter variables are updated from 1992 to 2000.

Three other controls not addressed in the Lai and Reiter work are included here. First, *Direct Alliance History* is constructed using a component of the reputation model described above. However, whereas reputation refers to extra-dyadic information that state i gains about j through j 's historical treatment of all other states k , *Direct Alliance History* considers the historical information within the $i - j$ dyad. In other words, i learns from the way that j has treated i over time. We expect that the more positively i is treated by j , the more likely it will be that further alliance ties will be formalized in the dyad. Second, *Portfolio Similarity* judges the level of similarity between the alliance portfolios of each pair of countries (Signorino and Ritter, 1999). Where states share a number mutual alliance partners, their likelihood of allying with one another should increase given the overlap of their foreign policy preferences. Lastly, *Interstate Interaction* is similar to *Direct Alliance History*. Rather than assessing alliance behavior, *Interaction History* uses Crescenzi, et. al.'s (2008) Interstate Interaction Model which assesses the overall tenor of the conflictual or cooperative relationship between i and j . The model records negative shocks to represent conflictual interactions and positive shocks representing cooperative interactions, both of which decay over time.

These controls account for several broader categories of alliance formation explanations

including shared interests, interstate similarities, capability aggregation, and threat approximation. Therefore, a significant finding for our reputation variables should provide strong evidence in support of our theoretical propositions. The inclusion of our independent variables yields a dataset for all directed dyads from 1816 to 2000.

Results

The results of our analyses are reported in Table I. Each of the six models presented below addresses a separate subsample of alliance formation. Model 1 is the most comprehensive, including all alliance types for the entire time period. Models 2, 3, and 4 replicate the analysis from model 1 while restricting the temporal domain to important periods which include the pre-WWI period, world war and interwar period, and the post-WWII period, respectively. Model 5 attempts to determine whether multilateral and bilateral alliance types have distinct explanations by employing a reputation predictor based only on bilateral performance. Model 6 only considers defensive alliances. Whether states assign reputations to one another based strictly on the type of alliance considered is an open question. Model 6 therefore seeks to test the robustness of our reputation argument. Each of our reputation variables are adjusted to reflect the formation of reputations for the alliance type being addressed. Therefore, although only one variable (*Alliance Reputation*, we drop the subscript here for ease of exposition) is listed, the reputation scores reported by this variable coincide with the alliance types addressed by each model.

Across the models, we note considerable consistency for the results produced by the control variables. In general, we find that the expected relationships are borne out by the statistical analyses. Judging from Table I, a number of conclusions can be drawn. First, in many instances regime type appears to be significantly related to alliance formation. States that are increasingly divergent in their regime types are significantly less likely to form a partnership, as models 2, 3, and 6 report significant and negative coefficients for *Polity Difference*. However, these results do not appear to be highly robust to alternative specifications, noted by the insignificant

findings in the other models. Also, jointly democratic dyads display some inconsistency, showing both positive and negative relationships on alliance formation depending upon the time period analyzed and the type of alliance considered.¹² Furthermore, conflict histories play an important role in the forming of alliance ties. Where states share the a common enemy, represented by the *Joint Enemy* variable, an alliance is more likely to form no matter the time period or alliance type addressed. Furthermore, with the exception of insignificant findings in the pre–WWI and the world war eras, *Interaction History* produces a positive coefficient. In other words, the more cooperative and less conflictual states are with one another in other areas of their foreign relations, the more likely they are to ally.

An increasing distance between two states also has a diminishing effect on the likelihood of alliance formation, as the efficacy of an alliance is inversely related to distance. Similarly, as the foreign policy distance between states decreases, their likelihood of forming an alliance increases, indicated by the *Portfolio Similarity* variable. However, we find somewhat surprising results when the model is constrained to the 1914–1945 period. Lastly, the presence of at least one global power in the dyad increases the potential for an alliance formation. Given the global interests of major powers, these states tend to form more alliance ties in an effort to fulfill their global ambitions. Again, the 1914–1945 period produces a contradictory result. Model 3 thus produces a number of confounding results, which, as we argue below, is likely due to the special circumstances of the time period that appear to play havoc with alliance formation dynamics.

[TABLE I ABOUT HERE]

Lastly, *Direct Alliance History* is insignificant across each model, and little of substance can be said about its effect. Still, this result may not be terribly surprising. The variable captures the historical reliability of states as it measures how reliable state i has been toward its partner j . For this variable to be positive and significant, state i would need to attract additional alliance ties from j on top of its existing agreement as a consequence of i 's reliability in past performance opportunities within the dyad. Formalizing additional alliance ties on top of those that already exist occurs less frequently, and the continued addition of alliance ties would be

unnecessary. Rather, one should more reasonably expect that the information produced by i 's performance toward its partner j would be more important to other states k in the system that are seeking alliance partners. It is to these reputational expectations that we now turn.

Model 1 is the most comprehensive, accounting for all alliance types included in the ATOP data. Here we find a positive and significant effect of a state's reputation for upholding its agreements. This result indicates that the more reliable states are in upholding their commitments, the more likely they are to be chosen by other states seeking partnerships. We therefore determine that this is a general phenomenon, as model 1 does not distinguish between multi-lateral or bilateral alliances nor by the nature of the alliance. Reliability is valued by alliance seekers irrespective of the types of alliances that were honored or violated in past agreements.

Models 2 through 4 attempt to determine whether the result in model 1 are a product of different time periods. Thus, we run separate models to address the years leading up to World War I, the world wars and interwar period, and the years following World War II. The results from model 1 remain unchanged in models 2 and 4, providing further support for our reputation argument. However, model 3 reports a negative relationship. This is a peculiar finding. However, the context of this particular time period may assist in more fully comprehending this result. We note that this time period produces somewhat inconsistent results for several variables relative to the other models. The years of both global conflicts and the brief interim between them were a period of extreme systemic instability. The rapidly changing power relationships among the major power states likely had a special effect on explanations of alliance formation. With regard to the role of reputation, it appears that a state's historical reliability becomes substantially less valuable to alliance seekers when an extreme threat to systemic stability is present. While it may seem that this would be the *most* relevant circumstance under which strong compliance reputations should matter, this is not the case. Instead, the result in model 3 points to different explanations. For instance, it may be that when an extreme international threat to system stability and state survival exists, countries deemphasize the importance of reputation in exchange for commitments from states that can offer substantial capability in defending against what comes to be recognized as a common and ubiquitous threat.

Excepting the 1914 to 1945 period, the remaining models are supportive of our reputation hypothesis. Models 5 and 6 seek to determine whether the effect of reputation holds for more narrowly defined alliance terms. Concerned that multilateral and bilateral alliance adherents may face various incentives to honor or violate their obligations, we consider reputations only for bilateral agreements in model 5. It may be that states consider it easier to uphold multilateral agreements since fulfillment of such terms may require a less costly commitment than would be the case for bilateral ties. Since multiple states share the responsibility for aiding their threatened alliance partner in its time of need, the cost of fulfilling multilateral terms would be lower relative to a state in a bilateral accord that is required to bear the full burden of aiding its ally. Similarly, violating multilateral agreements may be notably less visible, whereas violations of bilateral agreements should be more manifestly evident given that the violated partner is left without a safety net when its lone partner shirks on its responsibilities. We thus separately consider reputations formed in bilateral alliances. The result on *Alliance Reputation* is positive and significant, indicating that states which perform honorably in their prior commitments are more likely to be sought for future alliances. Reputations for reliability are thus also an important component of the bilateral alliance formation decisions made by states.

Model 6 further specifies the alliance type subsample, and our reputation variable is adjusted to determine whether reputations are relevant to the nature of the terms. We find that a reputation for honoring defensive alliances increases a state's likelihood of being sought for defensive agreements. Defensive alliances are a common type. Signing agreements in an effort to defend against outside threats is critical to a state's security and survival calculus. Allying with reputable states is clearly preferred to the alternative of relying upon an alliance partner that has demonstrated an inability or an unwillingness to support its previous partners. Indeed defensive alliances with disreputable partners creates a dangerous situation, as a violated alliance may make the jilted partner less capable of defending itself in a crisis, given the specialization of forces and the reductions in manpower and military spending that often follow alliance formation.

In addition to the models reported, we conducted several robustness checks of our results. First, we believe that foreign policy similarity is the primary relevance criterion considered

by states when judging one's reputation. Not only should foreign policy similarity act as a reflection of similar preferences, but it should also account for situational aspects of compliance events. In other words, when states i and k have similar foreign policy orientations, alliance seeker i can intuit that j will treat i similarly to how it has treated k in those past compliance situations. However, we understand that states may also take into consideration other criteria. Given the primacy of security concerns, the power similarity between i and k may be pertinent. Scholars have noted that alliances are formed as a means to achieve various ends. In particular, alliances formed within a dyad of symmetric or asymmetric power combinations may have different dynamics (Morrow, 1991). As a robustness check, we generated reputation variables that included a power similarity criterion between states i and k . Thus j 's historical treatment of k would be more relevant to alliance seeker i as the power symmetry embodied in the j - k alliance is increasingly reflected in a potential i - j alliance.¹³ We re-estimated each of the models, and the results were identical in the direction and significance of the coefficients reported in Table I, lending further support to our reputation arguments.

Alternatively, a criticism may be that our system of weighting historical information with relevance criteria only acts to obscure simpler means by which states judge reputation. In this line of argument, states simply observe how potential alliance partners performed in upholding their past agreements without concern for relevance criteria. If this is the case, an "irrelevant" foreign policy similarity criterion may be driving our results. We thus removed all relevance criteria from our measures and re-estimated each model. Again, the results were consistent with those reported in Table I. Still, given our theoretical expectations with regard to the value of relevance criteria, and the importance of interstate (dis)similarities in predicting a variety of international political phenomena, we report the results produced by our original models.

Next, given that we are attempting to explain alliance formation, there is little reason to include a lagged dependent variable in the analysis as might be more appropriate for analyses of alliance prevalence. Yet, we have noted this practice in previous work (Gibler and Wolford, 2006), and for consistency, we replicated each model by including the lagged presence of an alliance within each dyad. However, this did not change the direction or significance of our

reputation variable. Also, noting the prevalence of zeros and the small number of ones on the dependent variable, we reconsidered each of our reported models using a rare events logit. Again, the results for our reputation variable remained consistent with the results reported. Lastly, given the dispersion of our variables of interest and the large number of standard deviations necessary to encompass the full range of observations, we generated new reputation variables that dropped all extreme outliers which included any observation that fell outside of five standard deviations from the mean. Once again, the results were very similar to those presented in Table I. The one exception was that upon dropping the outliers, our reputation variable produced a positive and significant effect on alliance formation during the 1914–1945 period. This change, however, is actually in line with our theorized expectation and is thus more supportive of our theory than the result reported in the manuscript. With this exception, the analyses indicated that our results were not being driven by outliers.

Discussion and Conclusion

Overall, these findings provide support for the idea that when nations seek alliance partners they pay close attention to the past alliance behavior of their potential partners. While this may seem like an intuitive conclusion to an intuitive discussion about the role of history in foreign policy, it is worth pointing out that scholars have often questioned the relevance of reputation and history in determining the foreign policy choices of governments (Mercer, 1996; Press, 2005). Our results point to the value of the reputations that states form by their actions toward others over time, providing further support for work in the literature that highlights the importance of historical information.¹⁴ Our analysis suggests that the dismissal of past actions is premature, at least with respect to states' pursuit of alliance partners.

In fact, our analysis notes that state reputations weigh rather heavily in the decision making process. Looking more closely at the results produced in model 1, we generated the predicted probabilities of forming an alliance when *Alliance Reputation* is varied from low to high values while simultaneously holding all of the continuous control variables at their means and all

dichotomous controls at their modal values.¹⁵ Figure 2 displays this relationship graphically, noting the positive slope of the curve produced by a state's improving reputation on its ability to attract alliance partners. Substantively, varying *Alliance Reputation* from its lower to upper extremes produces a massive increase in the likelihood of alliance formation, increasing the probability of an alliance from nearly zero to over 2.5%. Given the low ex ante likelihood of any two states joining in an alliance with one another (.2%) that results from the high prevalence of zeros and the small number ones, this increase is substantial. However, we note that the range of our reputation variable has a rather high dispersion. Therefore, we also generated predicted probabilities that moved the values of *Alliance Reputation* from three standard deviations below to three standard deviations above the mean value. This increase in alliance reliability reputation increased the likelihood of an alliance formation by approximately 38%, a substantial rise in the likelihood that states will be sought for alliance relationships. Thus, even when controlling for a number of other relevant explanations, state reputation plays an important role in the process of alliance formation.

[FIGURE 2 ABOUT HERE]

On further investigation, we also note that the effect of a state's reputation also appears to have an increasingly notable effect on the likelihood of alliance formation in more recent time periods. In two additional analyses, the predicted probabilities of alliance formation were conducted for the Cold War and the post-Cold War eras, again using a range of three standard deviations above and below the mean for *Alliance Reputation*. The calculation for the Cold War era revealed an increase of 64%, while the post-Cold War period produced a massive 417% increase in the likelihood of alliance formation.¹⁶ This thus provides initial evidence that state reputations have become increasingly important in informing alliance formation decisions.

This is an interesting finding with regard to broader theories of international relations. For one, realist balance of power theories argue that the world is least stable during periods of multipolar competition. The model analyzing the 1914 to 1945 period addresses one such period. A multipolar system lacks a clear power hierarchy, is highly complex, and thus tends toward

instability. One might think that state reputations for reliability would be most valuable during these periods given system complexity and the potential for costly conflict. However, *Alliance Reputation* produces an unexpected effect, as do many of the variables in this model. Thus it appears that our understanding of alliance dynamics during periods of highly unstable major power relations may be under-informed, even though classic explanations like those embodied in *Joint Enemy* still perform consistently. In more stable eras, however, states appear to rely heavily upon historical reputations when making decisions relevant to their national security. This is interesting in part because the Cold War and post-Cold War systems are quite dissimilar, at least in terms of major power competition. During the Cold War, East-West bloc politics tended to make alliance systems rather rigid as a result, in the realist explanation, of states' shared threats. Yet, even in this period, state reputations were critically relevant to alliance decision making. Thus, even the ubiquitous and unifying threat posed by contending blocs does not reduce reputation to an immaterial issue. Rather, our results point to the weighty importance of reputation during such periods. Even though a bipolar system may be expected to tend toward stability, the value states place on the historical reliability of their partners may be particularly important to their balancing calculations. Similarly, in the post-Cold War period when superpower competition has receded, and when great powers are not posed with a unifying threat to their survival, state reputations appear to be most relevant. In this line of thinking, when no omnipresent shared enemy exists, reputations may serve as one of very few tools by which states can punish the shirking of shared security responsibilities. While rigid bloc politics may act to limit the ability and willingness of states to violate alliance terms, in the post-Cold War world such unified positions need not necessarily exist. As a result, reputation becomes increasingly important as an informational tool used by states in selecting reliable partners since the fear of subjugation by an opposing bloc is no longer present.

More generally, the results presented above indicate that a state's reputation for honoring or violating its prior alliance commitments is an important predictor of that state's ability to attract alliance partners in the future. Our findings are indicative of the calculations states make when selecting their allies. The formalization of an alliance agreement may fulfill a

number of essential state requirements. Alliances may improve the strength and security of a state, offer more autonomy of action, join like-minded states in common ventures, resolve collective action problems, or reduce the resource burden of maintaining self-sufficient forces. However, these benefits that accrue to states as a result of forming an alliance only obtain when the agreements are upheld. As such, states are particularly interested in formalizing agreements that they expect to be honored when called into effect.

Yet, the information available to states regarding future compliance is necessarily limited, as no state can perfectly predict the future circumstances under which alliance partners will be obligated to act. However, reputations for (non)compliance are an important factor that shapes state expectations of a potential alliance partner's willingness and ability to uphold its promises. When a potential partner has shown little willingness to honor its prior commitments, alliance seekers should likewise have little faith in the potential partner's likelihood of respecting a prospective future agreement. As such, states with negative reputations have difficulty obtaining allies. Those with positive reputations, on the other hand, are far more capable of securing the agreements that they require because their reputations as historically compliant partners are observed by and appeal to other alliance seekers in the international system.

It goes without saying then that policymakers should, and often do, carefully consider issues of reputation when making decisions on compliance with existing treaties. Maintaining a sound reputation is critical to a state's flexibility in dealing with future threats. Furthermore, these results point to future research avenues yet to be explored. Our theoretical and empirical analysis is limited here to a single issue area. It may also be that foreign policymakers take care to manage their reputations within a broader realm of issues.

This may already be the case, of course, and we need only to return to our discussion of the historic alliance negotiations of the early twentieth century to underscore our point. Germany had carved out a new reputation for lacking the willingness to uphold its agreements, causing negotiations between it and the UK to break down. However, Japan was simultaneously in search of a partner for protection against Russian expansionism in the Far East. Britain was considered an excellent potential ally, and this was not lost on Japan. As Miller (2004) states,

“When Komura Jutarō became foreign minister in September 1901...one of his first acts was to have the Foreign Ministry determine whether Britain had ever violated her obligations under an alliance. The response...was that it had never abandoned an ally (119).” For Japan, the subsequent Anglo–Japanese alliance that materialized offered a balance of power against Russian advances in Asia. For the British, other issues were addressed, including colonial interests and the maintenance of secure and open trade routes. It thus may be reasonable to argue that states also value their reputations in one area of interstate relations because they translate to payoffs in other issue areas. One valuable course of future research, it seems, would be to examine how a state’s reputation for behavior in one dimension of politics (i.e. alliance behavior) translates into political or economic opportunities along additional dimensions. Such research would improve our understanding of the effects that historical events and state reputations have in manipulating future expectations.

References

- Alt, James E., Randall L. Calvert and Brian D. Humes. 1988. "Reputation and Hegemonic Stability: A Game-Theoretic Analysis." *American Political Science Review* 82(2):445–466.
- Altfeld, Michael A. 1984. "The Decision to Ally." *The Western Political Quarterly* 37:523–544.
- Altfeld, Michael A. and Bruce Bueno de Mesquita. 1979. "Choosing Sides in War." *International Studies Quarterly* 23:87–112.
- Bennett, D. Scott and Allan Stam. 2000. "EUGene: A Conceptual Manual." *International Interactions* 26:179–204.
- Chauvin, Keith W. and James P. Guthrie. 1994. "Labor Market Reputation and the Value of the Firm." *Managerial and Decision Economics* 15(6):543–552.
- Conybeare, John A. C. 1994a. "Arms versus Alliances: The Capital Structure of Military Enterprise." *Journal of Conflict Resolution* 38(2):215–235.
- Conybeare, John A. C. 1994b. "The Portfolio Benefits of Free Riding in Military Alliances." *International Studies Quarterly* 38(3):405–419.
- Crescenzi, Mark. 2007. "Reputation and Interstate Conflict." *American Journal of Political Science*. 51(2):382–396.
- Crescenzi, Mark J. C., Andrew J. Enterline and Stephen B. Long. 2008. "Bringing Cooperation Back In: A Fully Informed Dynamic Model of Interstate Interaction." *Conflict Management and Peace Science* 25(3):264–280.
- Crescenzi, Mark J. C., Jacob D. Kathman and Stephen B. Long. 2007. "Reputation, History, and War." *Journal of Peace Research*. 44(6):651–667.
- Diehl, Paul F. and Gary Goertz. 2000. *War and Peace in International Rivalry*. Ann Arbor: University of Michigan Press.

- Dollinger, Mark J., Peggy A. Golden and Todd Saxton. 1997. "The Effect of Reputation on the Decision to Joint Venture." *Strategic Management Journal* 18(2):127–140.
- Downs, George W., David M. Rocke and Peter N. Barsoom. 1996. "Is the Good News about Compliance Good about Cooperation." *International Organization* 50(3):379–406.
- Downs, George W. and Michael J. Jones. 2002. "Reputation, Compliance, and International Law." *Journal of Legal Studies* 31(1):95–114.
- Gartner, Scott Sigmund and Randolph M. Siverson. 1996. "War Expansion and War Outcome." *Journal of Conflict Resolution* 40(1):4–15.
- Gibler, Douglas M. 2008. "The Costs of Reneging: Reputation and Alliance Formation." *Journal of Conflict Resolution* 52(3):426–454.
- Gibler, Douglas M. and Meredith Sarkees. 2004. "Measuring Alliances: The Correlates of War Formal Interstate Alliance Dataset, 1916–2000." *Journal of Peace Research* 41(2):211–222.
- Gibler, Douglas M. and Scott Wolford. 2006. "Alliances, Then Democracy: An Examination of the Relationship between Regime Type and Alliance Formation." *Journal of Conflict Resolution* 50(1):129–153.
- Huth, Paul K. 1988. *Extended Deterrence and the Prevention of War*. New Haven and London: Yale University Press.
- Huth, Paul K. 1997. "Reputation and Deterrence." *Security Studies* 7(1):72–99.
- Huth, Paul K. and Bruce Russett. 1984. "What Makes Deterrence Work? Cases from 1900 to 1980." *World Politics* 36(4):496–526.
- Jagers, Keith and Ted Robert Gurr. 1995. "Tracking Democracy's Third Wave with the Polity III Data." *Journal of Peace Research* 32(4):469–482.

- Jones, Daniel M., Stuart A. Bremer and J. David Singer. 1996. "Militarized Interstate Disputes, 1816–1992: Rationale, Coding Rules, and Empirical Patterns." *Conflict Management and Peace Science* 15(2):163–216.
- Kimball, Anessa L. 2006. "Alliance Formation and Conflict Initiation." *Journal of Peace Research* 43(4):371–389.
- Lai, Brian and Dan Reiter. 2000. "Democracy, Political Similarity, and International Alliances, 1816–1992." *Journal of Conflict Resolution* 44(2):203–227.
- Lake, David A. 1999. *Entangling Relations: American Foreign Policy in Its Century*. Princeton, NJ: Princeton University Press.
- Langer, William. 1951. *The Diplomacy of Imperialism, 1890–1902*. New York: Knopf.
- Leeds, Brett Ashley. 1999. "Domestic Political Institutions, Credible Commitments, and International Cooperation." *American Journal of Political Science* 43(4):972–1002.
- Leeds, Brett Ashley, Andrew G. Long and Sara McLaughlin Mitchell. 2000. "Re-Evaluating Alliance Reliability: Specific Threats, Specific Promises." *Journal of Conflict Resolution* 44(5):686–699.
- Leeds, Brett Ashley, Jeffrey Ritter, Sarah McLaughlin Mitchell and Andrew Long. 2002. "Alliance Treaty Obligations and Provisions, 1815–1944." *International Interactions* 28:261–284.
- Leng, Russell J. 1983. "When Will They Ever Learn? Coercive Bargaining in Recurrent Crises." *Journal of Conflict Resolution* 27(3):379–419.
- Leng, Russell J. 1988. "Crisis Learning Games." *American Political Science Review* 82(1):179–194.
- Leng, Russell J. 2000. *Bargaining and Learning in Recurring Crises: The Soviet-American, Egyptian-Israeli, and Indo-Pakistani Rivalries*. Ann Arbor: University of Michigan.

- Liska, George. 1962. *Nations in Alliance: The Limits of Interdependence*. Baltimore, MD: Johns Hopkins University Press.
- Long, Andrew, Timothy Nordstrom and Kyeonghi Baek. 2007. "Allying for Peace: Treaty Obligations and Conflict between Allies." *Journal of Politics* 69(4):1103–1117.
- Mercer, Jonathan. 1996. *Reputation and International Politics*. Ithaca, NY: Cornell University Press.
- Milgrom, Paul R., Douglass C. North and Barry R. Weingast. 1990. "The Role of Institutions in the Revival of Trade." *Economics and Politics* 2(1):1–23.
- Miller, Gregory. 2004. *The Shadow of the Past: The Influence of Reputation on Alliance Choices*. Dissertation The Ohio State University Columbus, OH: .
- Miller, Gregory D. 2003. "Hypotheses on Reputation: Alliance Choices and the Shadow of the Past." *Security Studies* 12(3):40–78.
- Monger, George. 1963. *The End of Isolation: British Foreign Policy, 1900–1917*. London: Thomas Nelson.
- Morgenthau, Hans J. 1967. *Politics Among Nations*. 4 ed. New York, NY: Knopf.
- Morrow, James D. 1987. "On the Theoretical Basis of a Measure of National Risk Attitudes." *International Studies Quarterly* 31(4):423–438.
- Morrow, James D. 1991. "Alliances and Asymmetry: An Alternative to the Capability Aggregation Model of Alliances." *American Journal of Political Science* 35:904–933.
- Morrow, James D. 1993. "Arms Versus Allies: Tradeoffs in the Search for Security." *International Organization* 47(2):207–233.
- Morrow, James D. 1994. "Alliances, Credibility, and Peacetime Costs." *Journal of Conflict Resolution* 38(2):270–297.

- Morrow, James D. 2000. "Alliances: Why Write Them Down?" *Annual Review of Political Science* 3:63–83.
- Nalebuff, Barry. 1991. "Rational Deterrence in an Imperfect World." *World Politics* 43(3):313–315.
- Powell, Robert. 1999. *In the Shadow of Power*. Princeton, NJ: Princeton University Press.
- Press, Daryl G. 2005. *Calculating Credibility: How Leaders Assess Military Threats*. Ithaca, NY: Cornell University Press.
- Schelling, Thomas. 1966. *Arms and Influence*. New Haven, CT: Yale University Press.
- Shapiro, Carl. 1983. "Premiums for High Quality Products as Returns to Reputations." *Quarterly Journal of Economics* 98(4):659–680.
- Signorino, Curtis S. and Jeffrey M. Ritter. 1999. "Tau-b or Not Tau-b: Measuring the Similarity of Foreign Policy Positions." *International Studies Quarterly* 4(1):115–144.
- Simmons, Beth. 2000. "International Law and State Behavior: Commitment and Compliance in International Monetary Affairs." *American Political Science Review* 94(4):819–835.
- Simon, Michael W and Erik Gartzke. 1996. "Political System Similarity and the Choice of Allies: Do Democracies Flock Together or Do Opposites Attract?" *Journal of Conflict Resolution* 40(4):617–635.
- Singer, J. David, Stuart Bremer and John Stuckey. 1972. Capability Distribution, Uncertainty, and Major Power War, 1820–1965. In *Peace, War, and Numbers*, ed. Bruce M. Russett. Beverly Hills: Sage Publications pp. 19–48.
- Siverson, Randolph M and Juliann Emmons. 1991. "Birds of a Feather: Democratic Political Systems and Alliance Choices in the Twentieth Century." *Journal of Conflict Resolution* 35(2):285–306.

- Small, Melvin and J. David Singer. 1991. Formal Alliances, 1816–1965: An Extension of the Basic Data. In *Measuring the Correlates of War*, ed. J. David Singer and Paul F. Diehl. Ann Arbor, MI: University of Michigan Press pp. 159–190.
- Smith, Alastair. 1995. “Alliance Formation and War.” *International Studies Quarterly* 39(4):405–425.
- Smith, Alastair. 1996. “To Intervene or not to Intervene: A Biased Decision.” *Journal of Conflict Resolution* 40(1):16–40.
- Smith, Alastair. 1998. “Extended Deterrence and Alliance Formation.” *International Interactions* 24(4):16–40.
- Sorokin, Gerald L. 1994. “Alliance Formation and General Deterrence: A Game-Theoretic Model and the Case of Israel.” *Journal of Conflict Resolution* 38(2):298–325.
- Tomz, Michael. 2007. *Reputation and International Cooperation*. Princeton, NJ: Princeton University Press.
- Tomz, Michael, Jason Wittenberg and Gary King. 2001. *CLARIFY: Software for Interpreting and Presenting Statistical Results*. Version 2.0 ed. Cambridge, MA: Harvard University. <http://gking.harvard.edu>.
- Walt, Stephen. 1987. *The Origins of Alliances*. Ithaca, NY: Cornell University Press.
- Waltz, Kenneth. 1979. *Theory of International Politics*. New York, NY: Random House.
- Weigelt, Keith and Colin Camerer. 1988. “Reputation and Corporate Strategy: A Review of Recent Theory and Applications.” *Strategic Management Journal* 9(5):443–454.
- Wilson, Robert. 1985. Reputation in Games and Markets. In *Game-Theoretic Models of Bargaining*, ed. A. E. Roth. Cambridge: Cambridge University Press.

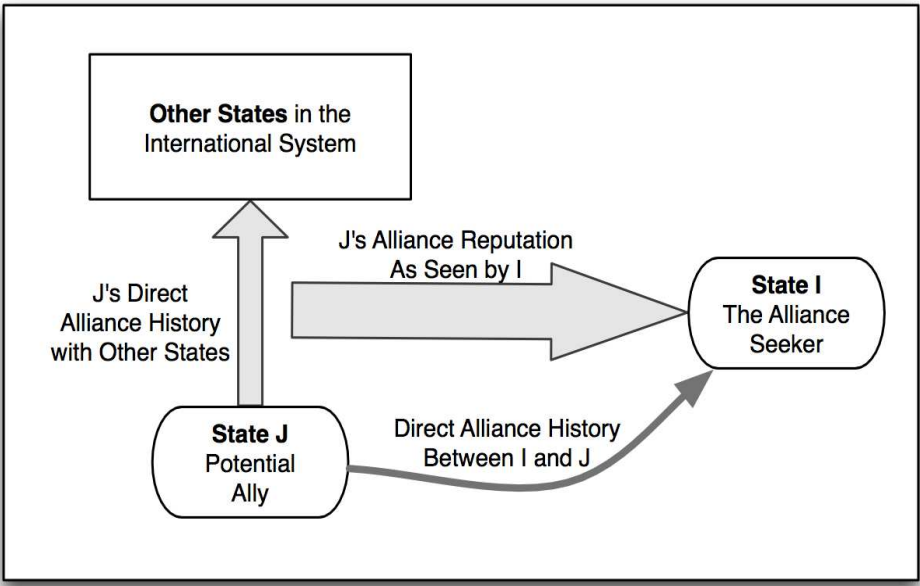


Figure 1: Alliance Reputation and Direct Alliance History

Table I: Probit Analysis of Alliance Onset

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	All Alliances	All Alliances	All Alliances	All Alliances	Bilateral Alliances	Defense Pacts
	1816–2000	1816–1913	1914–1945	1946–2000	1816–2000	1816–2000
<i>Alliance Reputation</i>	1.44*** (.20)	13.38*** (4.19)	-1.08*** (.30)	2.82*** (.48)	1.52*** (.23)	0.56** (.19)
<i>Direct Alliance History</i>	0.62 (.61)	-1.33 (6.56)	0.26 (.67)	1.20 (2.43)	0.63 (.61)	1.00 (.61)
<i>Portfolio Similarity</i>	0.62*** (.04)	2.28*** (.46)	-1.31*** (.07)	1.30*** (.06)	0.62*** (.04)	0.79*** (.06)
<i>Interaction History</i>	0.20** (.06)	-0.27 (.15)	0.15 (.12)	0.22* (.09)	0.20** (.06)	0.45*** (.10)
<i>Joint Enemy</i>	0.55*** (.01)	0.74*** (.05)	1.10*** (.03)	0.17*** (.02)	0.55*** (.01)	0.80*** (.01)
<i>Distance</i>	-0.01*** (.00)	-0.02*** (.00)	-0.007*** (.00)	-0.02*** (.00)	-0.01*** (.00)	-0.01*** (.00)
<i>Major Power Status</i>	0.12*** (.01)	0.67*** (.06)	-0.15*** (.03)	0.38*** (.02)	0.12*** (.01)	0.04* (.02)
<i>Polity Difference</i>	-0.001 (.00)	-0.02*** (.01)	-0.005* (.00)	0.001 (.00)	-0.001 (.00)	-0.01*** (.00)
<i>Joint Democracy</i>	0.21*** (.01)	-0.22* (.11)	-0.49*** (.06)	0.30*** (.02)	0.21*** (.01)	-0.05** (.02)
<i>Constant</i>	-2.54*** (.04)	-4.64*** (.42)	-1.08*** (.09)	-2.91*** (.05)	-2.54*** (.04)	-3.00*** (.06)
Observations	1,045,707	104,360	99,098	842,249	1,045,707	1,045,707
Wald χ^2 (9)	10,226.43***	955.99***	2,895.49***	7,033.80***	10,242.20***	9,012.84***
Pseudo R ²	.14	.31	.20	.18	.14	.16
Log-likelihood	-36816.32	-1304.38	-7566.24	-24950.54	-36817.63	-24247.92

***=significant at the .001 level, ** = .01, * = .05

Robust standard errors clustered by directed dyad in parentheses

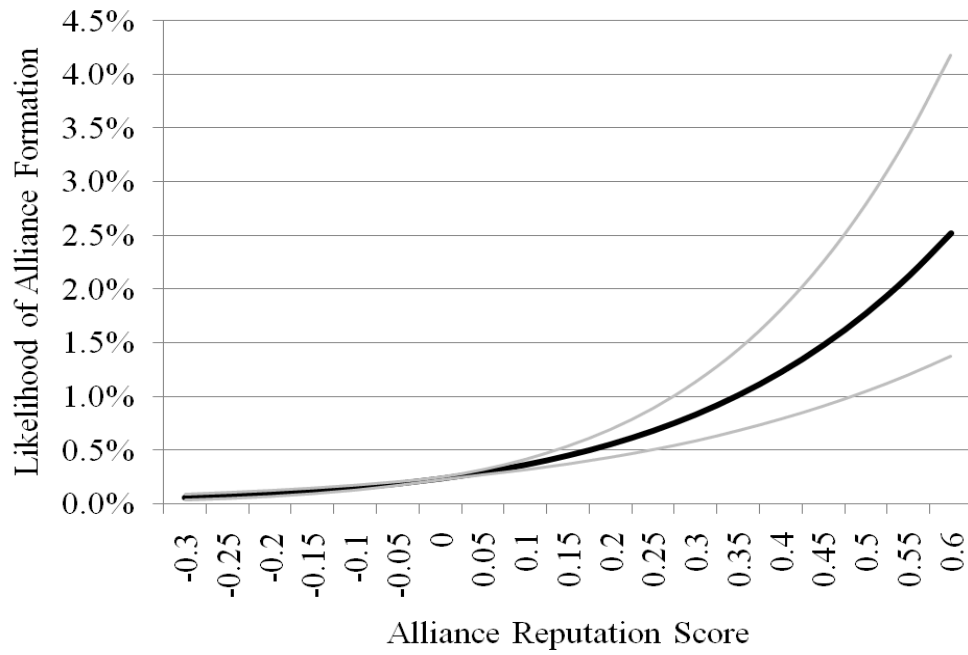


Figure 2: Predicted Likelihood of Alliance Formation, 1816–2000

Endnotes

¹For a full analysis of Germany’s reputation and Britain’s avoidance of an alliance, see Miller (2004: 108–122).

²In fact, the literature on this topic has come to somewhat different conclusions (Simon and Gartzke, 1996; Siverson and Emmons, 1991). Still, these studies do not directly account for the historical reliability of states.

³Gibler (2008) offers an interesting tool to account for the persistence of leadership reputation beyond regime transitions. In a robustness check, he includes a variation on one of his reputation variables by allowing leader reputations to persist for ten years beyond the end of each leader’s tenure. Our approach is similar, we simply prefer the functional form of the exponential decay over the ten year constant (we specify this function in the next section).

⁴See Crescenzi, Enterline and Long (2008) for the bounding function.

⁵In this research, the pool of potential alliance partners is every state in the international system.

⁶This additional nuance to the model is optional, although it is supported by our conceptual discussion above. One could easily model R_{ijN} without weights on the individual extra-dyadic streams of information.

⁷We also replicated the work by Lai and Reiter (2000) using a dependent variable generated from COW Alliance Data (Small and Singer, 1991; Gibler and Sarkees, 2004). We adjusted their dependent variable slightly to reflect alliance formation and included each of the predictors from their primary model. The results for *Alliance Reputation* are consistent with the direction and significance of the findings reported below.

⁸Employing the directed-dyad-year format is useful since each state has a distinct reputation. Our emphasis on alliance seekers asks that we focus on the decisions of each potential partner. Ideally we would prefer to use data delimiting those states that were the initiators of agreements. Lacking data at this level, the directed–dyad–year data format provides the necessary design to account for individual state decisions. However, a potential issue arises when state i is deemed reliable while j is

considered unreliable. If in this case i and j were to ally, the j - i dyad would support our hypothesis while i - j would not. Such a scenario should bias against supportive findings. Thus support found for our hypothesis should be considered more rather than less dependable.

⁹In constructing our measure, state decisions to honor or violate their treaties are coded in the Alliance Treaty Obligations and Provisions dataset by Leeds et al. (2002). If more than one alliance obligation is met or violated in a directed dyad-year, these components aggregate the number of events per year. If in a directed dyad-year there are no violations or fulfilled obligations, there are simply no shocks to the historical measure.

¹⁰A concern with this approach to modeling reputation may be that situational aspects of compliance events go unaccounted for. Yet, we argue that the similarity of foreign policies between i and k is the primary relevance criterion used by states in judging one another's reputations. As Morrow notes " 'Other states judge the commitment of the allies to one another by the similarity of their foreign policies (Altfeld and Bueno de Mesquita, 1979)' . . . Differences in perceived interests between the allies can lead to doubts about the reliability of the alliance in the eyes of others; they may think that the allies can be divided on this issue. Alliances thus gain credibility as the allies indicate a broad range of shared interests through their foreign policies (Morrow, 2000: 69)." We argue that features of compliance situations are captured by our foreign policy similarity relevance criterion. If states i and k have very similar foreign policy orientations, they are likely to have similar interests in the outcomes of crises in which alliance partners are obligated to act. We thus believe that increasing the complexity of the model to reflect the specific characteristics of each compliance situation unnecessarily complicates the model without adding a great deal of additional traction.

¹¹See Lai and Reiter (2000), Gibler and Wolford (2006), and Gibler (2008) for analyses using several variables mentioned below. Our dependent variable differs from Lai and Reiter's in that we address alliance formation whereas Lai and Reiter analyze the yearly presence of an alliance. Still, the results we present on our control variables match rather well with those produced in previous research. For examples, see Lai and Reiter (2000), Gibler and Wolford (2006), and Kimball (2006).

¹²These results thus provides some support for contradicting arguments contending that either states of similar regime types are likely to align with one another (Siverson and Emmons, 1991) or that the

alignment of like states is a post–WWII phenomenon (Simon and Gartzke, 1996).

¹³The power similarity weights between i and k were generated using Composite Index of National Capabilities scores from Singer, Bremer and Stuckey (1972). The power similarity component ranged from 0 to 1, with 0 representing complete dissimilarity of power between i and k and 1 indicating perfect similarity.

¹⁴For example, work on interstate rivalry (Diehl and Goertz, 2000), state learning (Leng, 2000), and more recent research on a dynamic understanding of historic information and state reputations (Crescenzi, 2007; Crescenzi, Kathman and Long, 2007) all point to the importance of past events in shaping future phenomena.

¹⁵Predicted probabilities were computed using Clarify Software (Tomz, Wittenberg and King, 2001).

¹⁶The Cold War was coded as occurring between 1950 and 1989, whereas the post–Cold War era was coded as all years beyond 1989. Although these models are not reported, the coefficient signs and significance levels produced by the models are very similar for each of the variables to those reported in Table I.