



Dependent Diplomacy: Signaling, Strategy, and Prestige in the Diplomatic Network¹

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Diplomatic recognition is an essential tool of statecraft but remains largely unanalyzed by political scientists. Two recent trends in diplomatic practice raise notable puzzles: (i) use of diplomatic ties to signal (dis)approval of a regime or its policies, based largely on cues from diplomatic partners, and (ii) reliance on diplomatic missions as a means of securing prestige in the international system. I argue that both trends are the result of network influences. States face resource constraints and must choose diplomatic partners wisely, but they lack complete information about the risks and benefits of extending diplomatic recognition. To solve this informational dilemma, they condition recognition on the diplomatic activity of others. First, states send missions to countries that host missions from their own diplomatic partners, which increases the strength of diplomatic signals and reduces political risks. Second, states send missions to countries that host large numbers of missions in general (that is, “prestigious” countries), which increases their capacity for information gathering. In general, a state’s decision to extend or retract diplomatic recognition depends heavily on the decisions of other states. Employing novel network methodologies, I show that these endogenous network influences are among the most consistent and substantively powerful determinants of diplomatic recognition.

In mid-2011, as Muammar Gaddafi’s regime intensified its repression of the Libyan opposition, countries across the globe began shifting support from the incumbent Libyan leader to the nascent National Transitional Council (NTC). While some merely described the NTC as a “valid interlocutor” or “discussion partner,” others recognized it as the legitimate authority of the Libyan state, even moving their diplomatic missions from Tripoli to Benghazi (Talmon 2011). The process of recognition began slowly but quickly gained momentum. At end of May, only eight countries had recognized the NTC. By end of July, that number had increased to 33. And by end of September, it had reached 99. Around the same time, not far to the south, the newly independent state of South Sudan initiated an ambitious campaign of diplomatic expansion, hoping to establish 54 missions within just a few years. It targeted its first missions, unsurprisingly, at global and regional powers like the United States, China, Germany, Egypt, and South Africa. But it also established ties to countries like Canada, Norway, Belgium, and Australia, whose attractiveness as diplomatic partners lay not in their power or proximity, but in the breadth of their diplomatic activity.

The politics of diplomatic recognition are endemic to modern statecraft.² Yet, aside from a handful of studies in the late 1960s and early 1970s,³ the international relations (IR) literature is virtually devoid of large-scale analysis of diplomatic ties.⁴ This oversight is unfortunate, as recent trends in diplomacy offer intriguing puzzles. The

above anecdotes illustrate two particularly prominent trends: first, the usage of diplomatic ties as signals of (dis)approval, where states condition their signaling on cues from their partners, and second, the reliance on diplomatic missions as a source of prestige or status. Such trends reflect prevailing notions of diplomacy as an inherently social phenomenon, but they also pose empirical puzzles about the extent to which diplomatic relations are in fact interdependent, as well as theoretical puzzles about why states respond to such interdependent influences in the first place.

I argue that signaling and prestige, though they may appear symbolic, are a consequence of strategic responses to the costs and informational asymmetries imposed by the global diplomatic network. States face resource constraints and must be selective in choosing diplomatic partners (Neumayer 2008). At the same time, they lack valuable information about which diplomatic ties are likely to yield benefits and which are instead likely to provoke retaliation from third parties. To ameliorate these informational deficits, states take cues from other states. Thus, when selecting diplomatic partners, governments respond not only to exogenous factors like geography, wealth, and power, but also to the diplomatic activity of current and potential partners. In short, diplomatic ties are partially determined by *network influences*; states condition their ties on the ties of others.

Mechanisms of network influence connect to prestige and signaling in two ways. First, when extending diplomatic missions, states attempt to maximize their capacity for information gathering. Highly central or “prestigious” partners—that is, states that host large numbers of diplomatic missions—act as information hubs and put senders into direct contact with diplomatic, political, and economic actors from multiple third parties. The attraction of states toward these highly prestigious targets yields a preferential attachment effect in diplomatic relations. Second, when recognizing new regimes, states wish to avoid retaliatory punishments from powerful third parties, and, when withdrawing recognition, they wish to effect some change in policy or behavior. Conditioning diplomatic ties on the

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² I use “diplomatic recognition” to refer strictly to the establishment of formal diplomatic relations from a “sender” to a “receiver” state, in the form of a chargé d’affaires, a minister, or an ambassador.

³ See, for example, Alger and Brams (1967); Brams (1966); Russett and Lamb (1969); Singer and Small (1966); Small and Singer (1973).

⁴ Neumayer (2008) is a notable exception.

ties of one's partners furthers both goals. *Ceteris paribus*, recognition of a new regime is less likely to provoke punishments if one's own partners also recognize the regime. Likewise, the withdrawal of recognition is more likely to effect change if one's partners also withdraw. This strategic logic produces a friends of friends or transitivity effect, where, to increase the efficacy of signals, states pattern their behavior after that of their partners.

While at least two prior studies have recognized the network characteristics of diplomatic relations,⁵ this project is, to my knowledge, the first to model these characteristics directly. The network approach offers two benefits. First, it allows precise theoretical specification of the interdependencies that drive diplomacy. If states do indeed condition their diplomatic behavior on the behavior of others, then diplomatic ties are interdependent; the creation or dissolution of a tie between one pair of actors influences the creation or dissolution of ties elsewhere. Such influences are well known to scholars through concepts like complex interdependence (Keohane and Nye 1989) and system structure (Waltz 1979). Yet, contemporary IR scholarship too often views the system as a collection of discrete dyads, where interdependencies are the exception rather than the rule (cf. Ward, Siverson, and Cao 2007). Second, network methodologies provide a novel means of modeling endogenous influences. The statistical techniques most commonly utilized in international relations assume independence across observations. Yet, if interstate relations are *interdependent*, then this *independence* assumption fails to hold, and traditional techniques may yield biased estimates. Network methods offer a promising alternative. This project thus contributes to burgeoning literatures on both international networks⁶ and statistical modeling of dyadic dependencies in IR data.⁷

The article proceeds in four sections. First, I review prior research on diplomacy. Second, I develop a network theory of diplomatic recognition. Third, I discuss research design and introduce a statistical model of network evolution. Fourth, I present empirical results, showing that network influences are more consistent and substantively powerful determinants of diplomatic recognition than virtually all other influences, including wealth, power, and geography.

Prestige, Signaling, and Diplomatic Recognition

Diplomacy has deep historical roots.⁸ Contemporary diplomatic practice—whether the Wilsonian “new diplomacy” that emerged in the early twentieth century or the more clandestine Cold War variant—deliberately tethers diplomats to the interests of their home states (Russett and Lamb 1969).⁹ Among these interests, information gather-

ing is paramount (Berridge 1995; Jönsson and Hall 2003; Barston 2006). Even today, states rely on embassies for information on one another's economies, foreign policies, armed forces, governing coalitions, and various other facets of government and society (Berridge 1995:41). Communications technologies and summitry may offer alternatives to traditional diplomacy (Sofer 1988), but they do nothing to diminish incentives for states to strategically misrepresent their interests and capabilities (Fearon 1995); in an information-scarce environment, diplomatic channels offer one of the more credible sources of strategic information. Diplomatic ties also generate economic and security gains. For example, the promise of commerce has factored into many decisions of the United States to diplomatically recognize new governments, from the First French Republic to the Soviet Union (Hershey 1921), and large-scale empirical analysis shows a strong positive correlation between diplomacy and trade flows (for example, Pollins 1989). In security relations, the foreign service is often billed as the “first line of defense” in protecting national interests abroad (Keeley 2000), and diplomats continue to play key roles in negotiation of high-level military agreements, such as those on status of armed forces and overseas bases (Berridge 2011:87).

Yet, contemporary diplomatic practice often seems more symbolic than practical.¹⁰ I focus on two trends in particular. First, states increasingly rely on diplomatic ties as a source of prestige. As Barston observes, when a “policy of prestige” drives diplomacy, states view “diplomatic real estate” as “part of the accoutrements of power” (2006:22). Examples of this logic are myriad. In the 1960s, the newly independent postcolonial states treated diplomatic missions “more as a sign of prestige and friendship than as an institution serving a positive function” (Zartman 1966:70). In the early 1970s, North Vietnam doggedly sought “prestige of recognition” from Japan—the most powerful regional actor at the time.¹¹ When India controversially recognized Cambodia's new marxist regime in July 1980, the Asian press characterized the move as a boost to the prestige of both states.¹² In the late 1980s, when the United Kingdom briefly downsized its diplomatic missions, the Foreign Affairs Select Committee issued a report emphasizing “the role of a [diplomatic] residence as a symbol of British prestige.”¹³ Most recently, in response to the US halving of its embassy in Iraq, the Shiite cleric Muktada al-Sadr stated: “I ask the competent authorities in Iraq to open an embassy in Washington, equivalent to the size of the U.S. Embassy in Iraq, in order to maintain the prestige of Iraq.”¹⁴ In short, concerns about prestige permeate the politics of diplomatic recognition.

Second, states increasingly rely on diplomatic ties as signals.¹⁵ While diplomatic channels have long been used as conduits of information,¹⁶ the act of signaling by severing or creating the diplomatic tie itself is somewhat more puzzling. Indeed, severing of ties runs

⁵ See Small and Singer (1973) and Hafner-Burton, Kahler, and Montgomery (2009).

⁶ Recent examples include Cao (2012); Cranmer, Desmarais, and Kirkland (2012); Dorussen and Ward (2008); Hafner-Burton et al. (2009); Kinne (2012); Maoz (2010).

⁷ See, for example, Cranmer and Desmarais (2011); Franzese and Hays (2007); Hoff and Ward (2004); Neumayer and Plümper (2010); Signorino (1999).

⁸ The preamble to the 1961 *Vienna Convention on Diplomatic Relations* observes that “peoples of all nations from ancient times have recognized the status of diplomatic agents.”

⁹ See Mayer (1959) for an overview of new diplomacy, and Sofer (1988) for a more contemporary angle. See Berridge (2011) for discussion of the Cold War “counter revolution” in diplomatic practice.

¹⁰ See Sharp (1997) on symbolism in diplomacy.

¹¹ *New York Times*, September 22, 1973.

¹² *BBC Summary of World Broadcasts*, September 8, 1981; *BBC Summary of World Broadcasts*, July 11, 1980.

¹³ *The Independent* (UK), July 22, 1989.

¹⁴ *New York Times*, February 7, 2012.

¹⁵ I do not here consider the costliness or credibility of these signals, or their success in effecting policy changes, as these are separate questions beyond the scope of this article (cf. Fearon 1995).

¹⁶ See, for example, Barston (2006:42–44) and Jönsson and Hall (2003).

counter to the pursuit of strategic information, which would be best served by *maintaining* relations during crises (Russett and Lamb 1969; Barston 2006). Such signals tend to be rooted in the historical connection between diplomatic recognition and legitimacy. While recognition bestows legitimacy and, in some cases, enables statehood (Barston 2006:21), nonrecognition is an overt denial of legitimacy and is thus the “symbolically most severe form of sanctions” a state can adopt (Christopher 1994:439). Indeed, policymakers often employ the language of legitimacy when issuing diplomatic punishments. In the late 1980s, as part of its efforts at diplomatic isolation, the United States branded Noriega’s Panamanian dictatorship an “outlaw regime.” When the UK expelled Libyan diplomats in March 2011, Downing Street described the move as a “strong political message about the legitimacy of the Gaddafi regime.”¹⁷ In the early days of the 2009 Iranian election protests, Abbas Milani and Larry Diamond penned a widely circulated editorial encouraging European governments to engage in the “diplomatic act of denying legitimacy.”¹⁸

Some of these aspects of diplomacy featured prominently in a cluster of social-scientific studies in the late 1960s and early 1970s.¹⁹ Singer and Small (1966) used time series cross-sectional diplomacy data to construct a global “status ordering,” where the importance of states could be inferred from the “number and rank of the diplomatic missions accredited and dispatched to each of their capitals” (Small and Singer 1973:578). The prevailing insight from this early research—to which I later return—is that diplomatic missions reveal a state’s strategic value to others. In the only recent large-scale analysis of diplomacy, Neumayer agrees that sending and hosting large numbers of embassies “symbolizes and represents power,” but he concludes that “diplomatic representation goes far beyond the symbolic” and thus focuses on more traditional material and ideological determinants of diplomacy (2008:233). His large-*N* analysis finds significant effects for geographic distance, military power, and preference similarity, among others.

Strategy and Interdependence in Diplomatic Networks

I argue that while exogenous geographic and other factors are important determinants of diplomatic ties, prestige and signaling also matter. These influences are not merely symbolic, but are instead driven by underlying strategic interests.²⁰ States face a strategic dilemma: they desire the gains of diplomatic missions, but they possess limited resources. No country has diplomatic ties to every other country. States must choose diplomatic partners wisely. At the same time, they lack complete information about the relative payoffs to choosing some partners over others and about the political, economic, and security consequences of extending and retracting recognition. The pursuit of ties to prestigious partners and the coordinated use of diplomatic ties as signals of (dis)approval are both strategically motivated attempts at

maximizing the benefits of diplomacy while minimizing costs.

To draw out the strategic elements of signaling and prestige, I conceptualize diplomatic missions as constitutive of an international network. The network characteristics of diplomacy were first recognized by Small and Singer (1973), who defined diplomatic relations as a “global communication network” and invoked network terminology like “nodes” and “status.” More recently, Hafner-Burton et al. (2009) describe diplomatic data as “the most valuable” example of network relations in world politics. Empirically, a network requires three elements: (i) a set of actors or nodes; (ii) a set of ties or relations connecting the nodes; and (iii) interdependencies, such that the ties influence one another (Wasserman and Faust 1994). This last element is the key distinguishing factor between network approaches and the more common dyadic approach to international relations. Consider Figure 1, which illustrates a network conception of diplomacy using snapshots of diplomatic ties in Asia. Countries toward the center of the graphs tend to have ties to larger numbers of partners and are thus more central in the network. The graphs show that despite improvements in communications technology and increased reliance on summitry, diplomatic ties have grown over time, resulting in a denser, more connected network. The graphs also indicate substantial shifts in network position. For example, South Korea (ROK) is an isolate in 1950 but a highly central state in 2000.

Dyadic approaches assume that each of these diplomatic relations forms and dissolves independently of the others, in virtual isolation; the strategy of states in selecting partners is strictly confined to the dyad. Thus, the tie between, say, Bangladesh (BNG) and Pakistan (PAK) is entirely independent of—and has no bearing on—the tie between Bangladesh and India (IND). Such assumptions challenge *prima facie* plausibility and are inconsistent with prevailing views of international relations as a complex, interdependent system. Network approaches instead assume that ties influence other ties, such that the overall structure of the network conditions the formation, maintenance, and dissolution of the ties themselves (Wasserman and Faust 1994). Indeed, the structure of a network at a given moment in time can have a profound impact on the subsequent evolution of that network. Because network influences take many forms, they must be precisely specified. Methodologically, a network influence is a statistical dependency, where the value of a given y_{ij} observation of some y variable is dependent on other observations of that same variable (for example, y_{ji} or y_{ik}). These dependencies exist at three levels (Ward et al. 2007). I focus primarily on first- and third-order dependencies, while also controlling for (less theoretically interesting) second-order dependencies.

First-order dependencies are perhaps most well known to political scientists from time series analysis, where the behavior of actors at t is endogenous to their behavior at $t-1$. In networks, first-order dependencies arise from the propensity of some actors to send or receive more ties than others (Ward et al. 2007). Consider the graphs in Figure 2, where i indicates the initiator of a diplomatic tie (the home country or sender), j represents the potential target (the receiver), and k represents any number of third parties with whom either i or j (or both) share diplomatic relations. (I use this convention for i , j , and k throughout the article.) Figure 2A illustrates a first-order network influence, *preferential attachment*, where i targets j

¹⁷ *The Mirror* (UK), March 31, 2011.

¹⁸ “Let’s Hear the Democracies,” *The New York Times*, July 7, 2009.

¹⁹ See footnote 3 for references.

²⁰ This generally accords with Neumayer’s assertion that “the substance and symbolism of diplomatic missions are crucial in defending the precarious role of the state in an era of globalization” (2008:235).

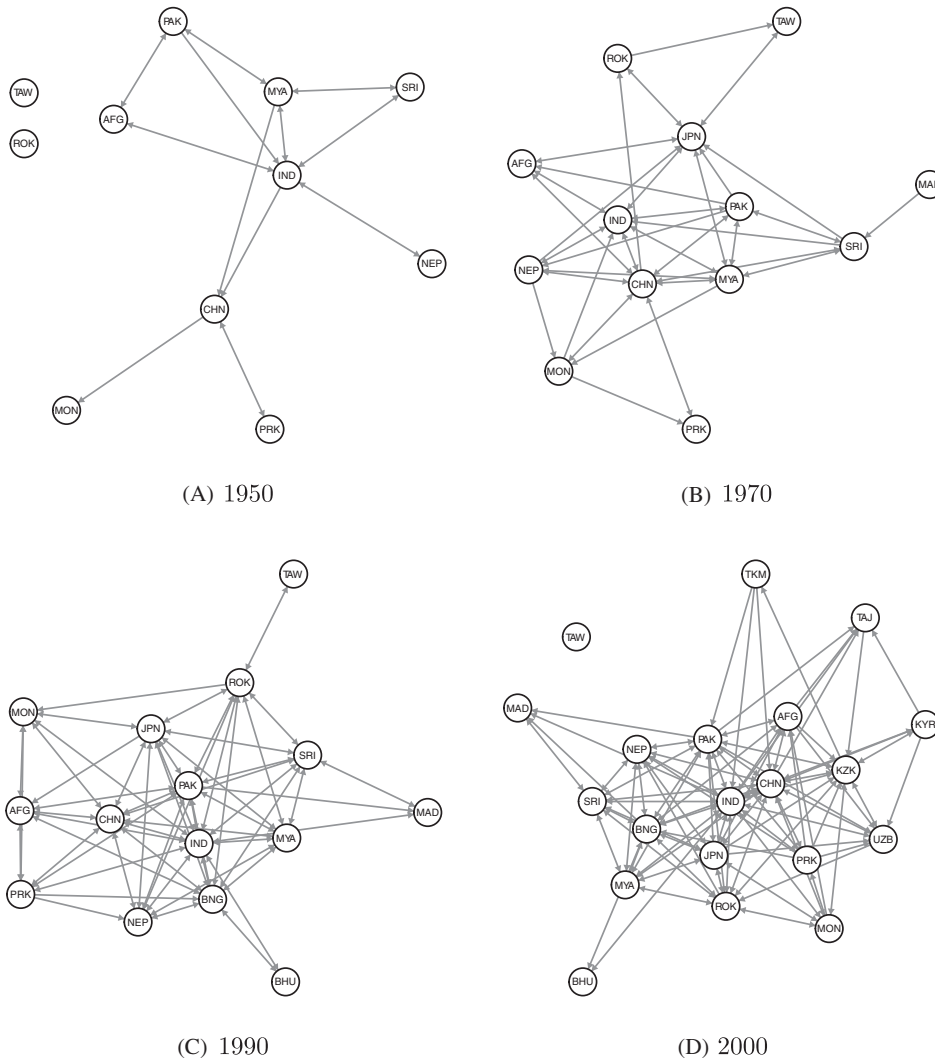


FIG 1. Evolution of the Diplomatic Network in Asia

(Note. Arrows indicate sent diplomatic missions (chargé d'affaires, minister, or ambassador). Node positions determined by Fruchterman–Reingold algorithm. See online appendix for county codes.)

for a network tie precisely because of j 's extensive incoming ties.²¹ In social networks, an actor's received ties define its level of prestige (Wasserman and Faust 1994:174–175). Thus, the $i \rightarrow j$ tie is here endogenous to or dependent on those extra-dyadic $k \rightarrow j$ ties that define j as a prestigious actor. This preferential attachment effect mirrors Small and Singer's twofold contention that (i) "the diplomatic importance of a state will be high if it has diplomatic bonds with many other states and low if it has few such bonds," and (ii) "the number of diplomatic missions found in a given capital at t_1 will be both a consequence of the relative importance attached to that nation by the others in the system at t_0 , and a cause of its relative importance at t_2 " (1973:583).

A preference for attachment to prestigious partners reflects a rational interest in maximizing the returns from diplomatic ties, especially in terms of information gathering. Indeed, such practical interests have long infused the pursuit of prestige. Berridge recounts that in

seventeenth century Constantinople, where the modern notion of the diplomatic corps first emerged, Ottoman sultans welcomed foreign diplomats not only because they "flattered their power," but also because they were "indispensable sources of intelligence" (2011:19). Con-

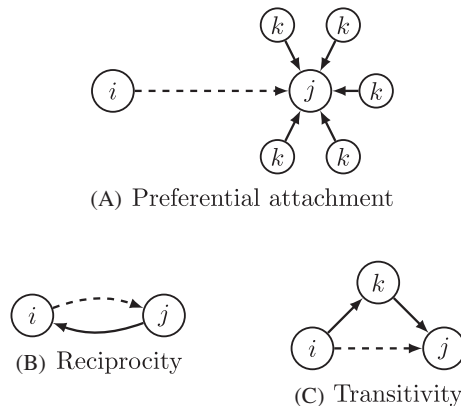


FIG 2. Three Network Effects

(Note. Solid lines indicate extant diplomatic ties. Dotted lines indicate prospective ties.)

²¹ Barabási and Albert (1999). In principle, preferential attachment should lead to a "scale-free network," where the degree distribution in the network follows a power law. IR networks are typically too small—and composed of too many competing influences—for such emergent properties to be clearly evident (but see Maoz (2012) for notable exceptions).

stantinople itself was, in the words of English ambassador Sir Thomas Roe, a “concourse of all nations,” valuable as a target for missions precisely because of its diplomatic salience.²² Small and Singer give this insight more specificity: “the relative ability of states to be important to others at a given time will clearly be a function, *inter alia*, of their place in the global communication network”; further, “a node into which a great many channels flow will be more critical and salient to the overall network than a node at which very few such channels intersect” (1973:583). In short, prestigious states—that is, those with many resident missions—function as information hubs. They allow diplomatic officials from resource-constrained states to directly engage with diplomatic and other governmental officials—as well as private economic and political actors—from numerous third parties. Because of these greater informational resources, when faced with a *ceteris paribus* choice between a prestigious target and a more disconnected state, a rational actor will choose the former.

Hypothesis 1: *States are more likely to send diplomatic missions to targets that host large numbers of missions (“preferential attachment”)*

Second-order dependencies involve *reciprocity*, as illustrated in Figure 2B. Reciprocity is a basic network influence (Wasserman and Faust 1994), as well as a fundamental principle of international relations (Keohane 1986), but its role in the diplomatic network is somewhat idiosyncratic. A reciprocity effect implies that states prefer to establish missions in countries that send missions in return. However, reciprocity is effectively mandated by international convention, which diminishes its voluntariness; not only do the rules of diplomacy imply an *exchange* of representation, but they also allow states whose missions have been expelled to retaliate in kind.²³ Thus, although I expect a strong reciprocity effect throughout the network,²⁴ this effect is of less substantive interest than first- and third-order dependencies.

Hypothesis 2: *States are more likely to send diplomatic missions to countries that send missions in return (“reciprocity”)*

Third-order dependencies involve interactions among three or more actors. The most fundamental third-order network influence is *transitivity*, illustrated in Figure 2C. An *ikj* triad is transitive if $\{i \rightarrow k, k \rightarrow j, i \rightarrow j\}$.²⁵ Transitivity thus reflects a preference toward forming ties with “friends of friends,” with the caveat that, in the diplomatic network, such influences are not based on affect, but strategy. Substantively, transitivity means that states prefer to establish diplomatic missions in countries where their diplomatic partners also have missions. Thus, *i* conditions its diplomatic activity on the activity of its *k* partners. If those partners send a mission to some *j* target, *i* is more likely to send a mission to that same target. If

those partners withdraw a mission from some *j* target, *i* is more likely to withdraw its own mission.

Just as preferential attachment reflects the pursuit of prestige, transitivity reflects signaling. While the language of legitimacy imbues signaling with a sense of symbolism, legitimacy carries practical benefits, such as the ability to enter into legal contracts and engage in financial, military, and other transactions.²⁶ Legitimization of new regimes may be politically controversial, especially when it impacts powerful third parties. A prospective sender of a diplomatic tie must balance the material benefits of recognition against the potential risks of negative externalities; a tie that sours relations with important third parties may generate more costs than gains. For example, China long adhered to a policy of diplomatic retaliation against those who recognized the independence of Taiwan. More recently, Kosovo’s declaration of independence has raised the specter of punishment from Russia, Serbia, and others. This risk of retaliation creates an informational dilemma for states, as they cannot easily forecast political repercussions. States thus take cues from the diplomatic activities of their partners; *ceteris paribus*, partners who themselves recognize a new state are unlikely to retaliate against others who do the same. Third-party ties provide credible information about the risks of recognition.

Consider again the controversy over Kosovo’s declaration of independence. Pristina currently hosts nearly two dozen embassies, virtually all of them from Western European/NATO states. Russia, China, and India—who jointly denounced Kosovo’s declaration—together comprise an opposing bloc. The diplomatic allies of this bloc, covering a wide swath of Eastern Europe, Asia, and North Africa, have steadfastly withheld recognition, largely in deference to their stronger diplomatic partners. For example, Bangladesh—who has historical reasons for supporting movements of national self determination—entertained multiple requests to recognize Kosovo, including from the United States and Albania. Yet, both Russia and India’s diplomatic ties to Dhaka are stronger than the West’s, and both have pressured Bangladesh to withhold recognition; it has thus far complied.²⁷ Georgia’s policy toward Kosovo is even more illustrative. Most of those countries with embassies in Pristina host Georgian embassies themselves. The principle of transitivity implies that Georgia, too, should recognize Kosovo. Intriguingly, Georgian leaders appear highly cognizant of this fact, even invoking the “friends of friends” language that typifies transitivity; in early 2008, in response to a journalist’s query about whether Tbilisi would recognize Kosovo, prime minister Lado Gurgenedze confirmed, “As all of our friends now.”²⁸ This comment proved highly controversial and, in an illustration of the influence of transitivity, led to veiled retaliatory threats from Georgia’s other, less enthusiastic diplomatic partners, most notably Russia.

Similarly, the seemingly symbolic act of delegitimizing a regime through withdrawal of diplomatic recognition has underlying strategic goals—in particular, effecting a change in policy or in the regime itself. Because legitimacy requires consensus (Franck 1988), the success of these goals depends on the actions of others. States are more likely to sever or downgrade diplomatic relations if they have reasonable confidence that salient third parties will do likewise; at the same time, as the number of sanc-

²² Quoted in Berridge (2011:19).

²³ See Small and Singer (1973:585–586), Berridge (2011:71–72), and the *Vienna Convention on Diplomatic Relations*.

²⁴ Neumayer (2008:235) finds that about 90 percent of ties are reciprocated, which is confirmed by the present analysis. The 10 percent unreciprocated ties present their own puzzle. See Small and Singer (1973:586) for discussion of why reciprocity may not occur.

²⁵ Wasserman and Faust (1994:243). The triad is also transitive if $\{i \rightarrow k, k \rightarrow j, k \rightarrow i\}$. The measure of transitivity accounts for both possibilities.

²⁶ Krasner (1999). Also see Murphy (1999).

²⁷ *The Daily Star* (Bangladesh), November 16, 2009.

²⁸ *Georgian Daily*, April 4, 2008.

tioning states increases, pressures for those states' partners to sanction in kind also increase. Indeed, states frequently attempt to rally coordinated support for diplomatic sanctions, as the United States did with regard to Iran and Libya in the 1980s. Diplomatic isolation of South Africa, in particular, required substantial informal coordination (Christopher 1994). Secretary of state George Shultz clarified the logic: "something done on a coordinated basis has greater potential impact than something done unilaterally."²⁹ More recently, the effects of transitivity were illustrated by diplomatic reactions to Syria's civil war. In May 2012—in response to the massacre of civilians in Houla by pro-government forces—the United States, France, Australia, the United Kingdom, Canada, and numerous others coordinated a mass global expulsion of Syrian diplomatic officials. British foreign secretary William Hague called the move a "stark message" that conveyed Western resolve. Leaders again invoked "friends of friends" language, with the Australian minister of foreign affairs declaring that "[w]e are moving [...] with our friends in the world."³⁰

The strategic logic behind signaling implies that states do not simply manipulate diplomatic ties at will, as might be the case if signals were merely symbolic, but that they instead condition the extension and retraction of ties on the actions of their partners. Some states nonetheless resist transitive influences. Russia formally recognized the independence of South Ossetia and Abkhazia—and exchanged diplomatic missions with both polities—despite receiving little support from its partners. Similarly, the United States continued to withhold recognition from Iran and Libya despite declining enthusiasm from its European allies. Such unilateralism is largely a luxury of the powerful.³¹ The impact of transitivity is probabilistic, not absolute. When influences like power and wealth are held constant, strategically motivated states will attempt to maximize the benefits of diplomacy and minimize political risks by taking cues from their partners.

Hypothesis 3: *States are more likely to send diplomatic missions to countries where their diplomatic partners also send missions ("transitivity")*

Methodology and Data

Network influences present methodological difficulties. The statistical models commonly used to study international outcomes assume that observations of the dependent variable are identically and *independently* distributed (Greene 2003:66, 878). Yet, as the theoretical discussion makes clear, diplomatic ties influence one another. When statistical dependencies exist, as with network data, then a standard logit or probit model will necessarily be misspecified, and parameter estimates may be biased.³²

The dilemma of interdependencies in IR data has attracted increased scrutiny. Scholars have proposed numerous alternatives to traditional models, including

strategic interaction specifications (Signorino 1999), spatial regression techniques (Franzese and Hays 2007; Ward and Gleditsch 2008; Neumayer and Plümper 2010), and latent space models (Hoff and Ward 2004; Ward et al. 2007). Given our knowledge of the data generating process underlying the creation and dissolution of diplomatic ties, I employ a stochastic actor-oriented model (SAOM) of network evolution.³³ The key benefit of network models is that they do not simply "control for" interdependencies but instead model those interdependencies directly, as phenomena of substantive interest—a necessary requirement for the hypotheses. Further, while some network models, such as the commonly employed exponential random graph model (Robins, Pattison, Kalish, and Lusher 2007), are estimable only on cross-sectional data,³⁴ SAOMs are designed for longitudinal network data. Below, I briefly describe the model's basic properties. The online appendix provides a detailed formal discussion.

Model of Network Evolution

Let \mathbf{Y} represent an $n \times n$ matrix, where n is the number of independent countries in the international system. The y_{ij} elements are dichotomous, where $y_{ij} = 1$ indicates that country i sends a diplomatic tie to j —in the form of either a chargé d'affaires, minister, or ambassador—and $y_{ij} = 0$ indicates that no tie exists. Because diplomatic ties are sometimes not reciprocated, $y_{ij} \neq y_{ji}$. This \mathbf{Y} matrix thus represents, at a given moment in time, the entirety of the global diplomatic network. We observe this network at m moments (for example, annually), yielding a $\mathbf{Y}(t_m)$ time series of network observations. As actors extend new diplomatic ties and retract extant ones, the overall structure of the network necessarily changes. This change in structure—evident, for example, in the difference between the $\mathbf{Y}(t_2)$ and $\mathbf{Y}(t_1)$ matrices—defines network evolution.

In a network model, the \mathbf{Y} matrix itself is the dependent variable. We must therefore model the causes of change in the matrix from one observation moment to the next, where those causes may be exogenous monadic or dyadic attributes of actors or country-pairs, or properties of the larger network. The SAOM offers a novel estimation approach. It assumes that each of the t_m observations is a discrete "snapshot" in a continuous process of network evolution, such that the network evolves gradually between moments.³⁵ Evolution of the network is driven by the choices of individual actors, who extend and retract ties in such a way as to maximize their subjective utility. This "actor-oriented" component of the model ensures that network evolution remains within the control of individual states, and it is substantively consistent with prevailing strategic choice approaches to international relations (Lake and Powell 1999). Specifically, when actors extend and retract ties, they attempt to maximize an "objective function," $f_i(\beta, \mathbf{y})$, which, as in general-

²⁹ *The Washington Post*, July 26, 1986.

³⁰ *Al Arabiya*, May 29, 2012.

³¹ In a case-study analysis of sub-Saharan African states, Gitelson (1974) finds that small states use diplomatic recognition pragmatically and are generally wary of severing relations with powerful countries.

³² See Hays, Kachi and Franzese (2010) for a discussion of the biases that result from data dependencies.

³³ See Snijders (1996, 2001, 2005). Snijders, van de Bunt, and Steglich (2010) provide a non-technical introduction. In international relations, this model has been employed in the study of alliances (Warren 2010) and preferential trade agreements (Manger, Pickup, and Snijders 2012).

³⁴ But see Cranmer and Desmarais (2011) for a recent extension to longitudinal networks.

³⁵ See Snijders (2001:366). The initial observation moment—in this case, 1950—is not modeled but is instead taken as the starting point for network evolution.

ized linear models, is simply a weighted sum or linear combination of specified effects:³⁶

$$f_i(\beta, \mathbf{y}) = \sum_{h=1}^L \beta_h s_{ih}(\mathbf{y}). \quad (1)$$

Here, $\mathbf{y} = \mathbf{Y}(t)$ is a given observation of the network, and the $s_{ih}(\mathbf{y})$ functions are user-specified effects, which may include endogenous network influences (centrality, reciprocity, transitivity), as well as exogenous covariates (geography, wealth, power, etc.). In the following subsection, I specify each of these effects. $\beta = (\beta_1, \dots, \beta_L)$ are the estimable parameters of the model. In general, a positive β_h estimate indicates that the corresponding $s_{ih}(\mathbf{y})$ effect increases tie creation and discourages dissolution, while a negative estimate indicates that the effect discourages tie creation and encourages dissolution.

The objective function is too complex for explicit calculation of probabilities. I instead use simulated method of moments estimation, as detailed in Snijders (2005:234–238), where parameter estimates are determined by fitting the observed values of the network statistics to their expected values. The observed values are obtained by calculating a specific $s_{ih}(\mathbf{y})$ statistic over all i actors and m observations. Expected values, on the other hand, are unknown and cannot be explicitly calculated and are thus estimated through simulations. In brief, the estimation proceeds by repeatedly simulating the evolution of the network using randomly sampled values of the $\beta = (\beta_1, \dots, \beta_L)$ parameters and comparing the simulated to the observed networks. The estimates are given by the vector $\hat{\beta}$ that minimizes the difference between the simulated and observed networks. Because the model shares important characteristics with traditional approaches, the results are relatively easy to interpret. As in logit and probit models, hypothesis testing is conducted through the use of t-statistics, and the parameter estimates themselves are similar to multinomial logit coefficients.

Data for the diplomacy network are from Bayer (2006). Given early twentieth century fluctuations in diplomacy, I limit analysis to the 1950–2000 period.³⁷ Diplomacy data are recorded at 5-year intervals, yielding a total of $M = 11$ observation moments. The data set records the presence of $i \rightarrow j$ diplomatic ties at the level of chargé d'affaires, minister, or ambassador.³⁸ I use codings of the \mathbf{Y} network based on diplomatic ties of any variety, as well as only ambassadorial ties.

Network Effects

The model incorporates network influences as $s_{ih}(\mathbf{y})$ components of the objective function, defined in equation 1. I include three network effects.³⁹ The first, *Indegree*, is defined as

$$s_{i1}(\mathbf{y}) = \sum_j^n y_{ij} \sum_k^n y_{kj}. \quad (2)$$

This measure tests Hypothesis 1 using an index of indegree centrality, or a “count” of each j target’s received diplomatic missions, which is the social networks definition of prestige (Wasserman and Faust 1994:174–175). Figure 3A illustrates indegree centrality scores across the system in the year 2000.⁴⁰ Unsurprisingly, major powers like the United States, France, Russia, and China host many missions, but so too do regional powers like Brazil, South Africa, Nigeria, India, and Japan. If Hypothesis 1 is correct, then, ceteris paribus, preferential attachment should be strongest toward those states that, based on their incoming ties, occupy the most prestigious positions in the network.

The second measure, *Reciprocity*, is defined as

$$s_{i2}(\mathbf{y}) = \sum_j^n y_{ij} y_{ji}. \quad (3)$$

This statistic, which tests Hypothesis 2, is a necessary inclusion in the model but, given the rule-based nature of diplomatic reciprocity, is of less substantive interest than the other two effects.

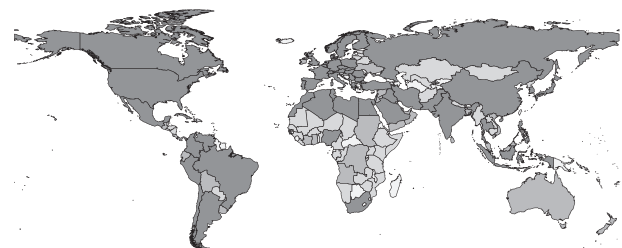
The third network influence, *Transitivity*, is defined as

$$s_{i3}(\mathbf{y}) = \sum_{j,k}^n y_{ij} y_{jk} y_{ki}. \quad (4)$$

This statistic captures signaling dynamics and thus tests Hypothesis 3. Figure 3B maps transitivity scores for the year 2000. For purposes of illustration, I weight each node’s number of transitive ties—as determined by equation 4—by its total number of sent missions or “outdegree.” Figure



(A) Indegree / Prestige



(B) Transitivity

FIG 3. Prestige and Transitivity in the Diplomatic Network, 2000 (Note. Darker shading indicates greater indegree or transitivity. Interval breaks determined by dividing the range of each variable into four equal parts. Transitivity scores weighted by nodal outdegree.)

³⁶ See Snijders (2005:225).

³⁷ See Hamilton and Langhorne (1995:chapter 5) for a thorough analysis of twentieth century shifts in diplomacy.

³⁸ This data set contains two “structural breaks.” First, prior to 1965, all diplomatic ties are coded equally, with no differentiation among status of missions. Second, after 1980, the data do not include multiple accredited diplomatic ties, wherein a sent mission is accredited to and resident in one receiving state but serves additional countries. See Bayer (2006). I estimated separate models on pre-1965 and pre-1985 data, with no major difference in results.

³⁹ Operationalization of the network effects is based on Ripley, Snijders and Preciado (2012).

⁴⁰ Map created with CShapes for R (Weidmann, Kuse, and Gleditsch 2010).

3B thus indicates a state's preference for transitive ties, relative to its baseline level of diplomatic activity. The prevalence of darker shading in the figure suggests that although states vary substantially in their diplomatic activity, they generally place great emphasis on transitivity. For example, many states in Latin America, Southeast Asia, Eastern Europe, and the Arab World do not extend large numbers of diplomatic missions, but they exhibit a preference for transitive ties equal to that of major powers in North America, Western Europe, or East Asia.

Exogenous Covariates

I incorporate control variables as additional $s_{ih}(y)$ components of the objective function.⁴¹ The selection of covariates generally follows Neumayer (2008) and includes controls at both the dyadic and monadic levels. Geography is perhaps the most fundamental influence on diplomacy. Few countries are able to maintain large numbers of diplomatic missions across vast distances. The variable *Distance*, which should be negatively related to diplomatic ties, measures the log-transformed distance between i and j 's capital cities (Gleditsch and Ward 2001). I also include a dummy variable for shared borders, *Contiguity*, which should have a positive effect (Correlates of War Project 2006).

To control for economic influences, I include two sets of covariates. *Trade* is total trade between i and j in year 2000 US dollars, log transformed (Gleditsch 2002). Given the role of diplomacy in promoting and managing commercial relations, I expect this covariate to have a positive effect on diplomatic ties. At the monadic level, I include log-transformed per capita measures of gross domestic product, GDP_i and GDP_j , as well as the interaction of these measures (Gleditsch 2002). Again, the long-standing relationship between economics and diplomacy implies that, *ceteris paribus*, wealthy states should be more profitable targets. As well, wealthy states face fewer constraints in sending and maintaining diplomatic missions.

I also include two sets of covariates to capture political influences. *IGOs* is a count of i and j 's shared IGO memberships (Pevehouse, Nordstrom and Warnke 2004). While shared IGO membership may signal an interest in cooperation (Russett and Oneal 2001), a number of scholars—see, in particular, Alger et al. (1967), Small and Singer (1973), and Watson (1982:147)—argue that IGOs provide alternative avenues of communication and thus diminish the need for diplomatic missions. At the monadic level, I include Polity IV scores for each state, denoted $Polity_i$ and $Polity_j$, as well as an interaction term (Jagers and Gurr 1995; Gleditsch 2007).⁴² Insofar as diplomatic recognition is a form of legitimization, states may reserve their missions for regimes that adhere to principles of democratic governance (cf. Franck 1992; Murphy 1999).

To account for security influences, I again include two sets of covariates. *Alliance* is a dummy variable that equals 1 if i and j share either an entente, neutrality pact, or defense treaty (Gibler and Sarkees 2004). Because diplomacy is an oft-used tool of military relations, I expect alliances to increase the probability of diplomatic ties. At the monadic level, I control for military capabilities using log-transformed Correlates of War CINC scores, $Power_i$ and $Power_j$ (Singer, Bremer and Stuckey 1972; Singer 1987).

As above, I also interact these two effects. As with wealth, military power should increase the value of diplomatic targets. At the same time, powerful states have both the incentive and the capacity to extend their global presence by sending missions abroad.

Finally, to capture any residual effects of preference (dis)similarity, I include the *S* index (Signorino and Ritter 1999). The effect of preference similarity is somewhat ambiguous. On the one hand, states with similar preferences should find more areas of mutual interest and face fewer impediments to cooperation. On the other hand, as Zbigniew Brzezinski frequently observed, diplomatic ties are most valuable between highly dissimilar states, especially “alien and hostile” ones (Watson 1982:143). In the first case, the effect of *S-Score* should be positive, while in the latter case it should be insignificant or negative.

Empirical Analysis

I first estimate a model with only the exogenous covariates (as well as a *Density* effect, which is analogous to a constant). The first column of Table 1 shows the results of this estimation, which are generally consistent with expectations.⁴³ The estimated coefficients are log odds ratios. Exponentiating the estimates indicates the relative change in the probability of i sending a diplomatic tie to j , given a one-unit increase in the covariate of interest. For example, $e^{-0.04671} = 0.95436$ indicates that a one-unit increase in *Distance* reduces the probability of an $i \rightarrow j$ tie by a factor of 0.95436, or about 4.5 percent. More substantively, the probability of i sending a diplomatic tie to a j target whose capital is, say, 500 miles away is greater than the probability of i sending a tie to a j target whose capital is 5,000 miles away, by a factor of $\exp[(\ln(500) - \ln(5,000)) \times -0.04671] = 1.11355$, or a little more than 11 percent. Contiguity has an even stronger effect; i is about 25 percent more likely to send a diplomatic tie to a contiguous rather than a noncontiguous j . Sharing an alliance increases i 's probability of sending a tie to j by 78 percent. Trade has an especially powerful effect; an increase in dyadic trade from, say, \$40 million per year to \$400 billion per year increases the probability of a diplomatic tie by more than 300 percent. The effects of IGOs and preference similarity, on the other hand, are statistically insignificant.

Of the monadic covariates, Polity effects are uniformly positive and significant. States at the top of the 21-point Polity scale are about 24 percent more likely to be targeted for diplomatic ties and about 18 percent more likely to send diplomatic ties, than are states at the bottom of the scale. The interaction term further indicates that two fully democratic regimes are 103 percent more likely to exchange diplomatic missions than are two fully autocratic regimes, all else equal. Power also exercises a strong effect. If we compare a country at the level of the United States to a country at the level of, say, South Africa, the former is about 270 percent more likely to be targeted for diplomatic ties than the latter and nearly 300 percent more likely to send diplomatic ties. However, based on the interaction term, powerful states are, *ceteris*

⁴¹ See Ripley et al. (2012) for operationalization of the covariates. The online appendix includes robustness checks of additional covariates.

⁴² I rescale the 21-point Polity measure such that 0 indicates fully autocratic regimes and 20 indicates fully democratic regimes.

⁴³ Estimations were performed with the RSiena package (Ripley et al. 2012) in R 2.12.0 (R Development Core Team 2011). For each estimation, convergence is checked using “T-ratios,” based on deviations between simulated and observed values of model statistics. The T-ratios <1 indicate excellent convergence (Ripley et al. 2012). I do not report specific T-ratios in the Tables, as they are below .1 for all models.

TABLE 1. Stochastic Actor-Oriented Network Model of Diplomatic Ties

	(1) <i>Diplomatic tie</i> [†]	(2) <i>Diplomatic tie</i> [†]	(3) <i>Diplomatic tie</i> [†]	(4) <i>Ambassador tie</i> [‡]
Network effects				
Indegree		0.01538 (0.00049)**	0.00402 (0.00032)**	0.01437 (0.00052)**
Reciprocity		1.32986 (0.01799)**	1.62194 (0.01694)**	1.22542 (0.01991)**
Transitivity		0.00773 (0.00046)**	0.01347 (0.00034)**	0.00839 (0.00048)**
Density	-0.4772 (0.00888)**	-1.92035 (0.0164)**	-1.60355 (0.01241)**	-2.03353 (0.02001)**
Dyadic effects				
Distance	-0.04671 (0.00119)**	-0.04465 (0.0011)**		-0.04158 (0.00126)**
Contiguity	0.21919 (0.03842)**	0.20878 (0.03702)**		0.26785 (0.04139)**
IGOs	0.00112 (0.00136)	-0.02039 (0.00123)**		-0.01566 (0.00124)**
Alliance	0.57544 (0.03694)**	0.59756 (0.03199)**		0.45859 (0.03363)**
Trade	0.15338 (0.00502)**	0.06927 (0.00436)**		0.05733 (0.00465)**
S-Score	-0.06237 (0.03471)	-0.02035 (0.02983)		0.02693 (0.03456)
Monadic effects				
Polity _i	0.00823 (0.00134)**	0.02068 (0.00117)**		0.01833 (0.00128)**
Polity _j	0.01056 (0.00127)**	0.01096 (0.00113)**		0.0039 (0.0012)*
Polity × Polity	0.00177 (0.00015)**	0.0017 (0.00013)**		0.0018 (0.00014)**
Power _i	0.2951 (0.00577)**	0.28151 (0.00593)**		0.26262 (0.00631)**
Power _j	0.2666 (0.00542)**	0.01783 (0.00525)**		0.00469 (0.00611)
Power × Power	-0.04292 (0.00245)**	-0.0163 (0.00231)**		-0.01681 (0.00244)**
GDP _i	0.01125 (0.01032)	-0.03308 (0.00886)**		-0.02782 (0.00902)*
GDP _j	0.03547 (0.00917)**	-0.06493 (0.00814)**		-0.02284 (0.00864)*
GDP × GDP	-0.01327 (0.00723)	0.0179 (0.00628)*		0.0171 (0.00617)*
Iterations β	2,286	2,311	1,203	2,210
Iterations SE (β)	5,001	5,001	5,001	5,001

(Notes. * $p < .01$; ** $p < .001$. $N_{1950} = 75$. $N_{1965} = 125$. $N_{2000} = 169$. Standard errors in parentheses. All convergence T-ratios < 0.1 .)

[†]Includes chargé d'affaires, minister, or ambassador ties, 1950–2000. [‡]Includes only ambassador ties, 1965–2000.

paribus, significantly less likely to send ties to one another. Finally, of the GDP metrics, only target GDP is significant. A state with a per capita GDP of \$35,000 (in year 2000 US dollars) is about 9 percent more likely to receive a diplomatic tie than a state with a per capita GDP of only \$3,500.

Model 2 introduces the network effects. Note, first, that the inclusion of network effects changes the estimates for some of the covariates. The estimated effect of IGOs is now significantly negative, confirming the argument that IGO memberships substitute for diplomatic ties (Small and Singer 1973). The estimated effect of *Trade*, while still highly significant, is reduced by more than half. Of the monadic covariates, the GDP measures show the most dramatic changes. Once we account for network influences, states in fact do not prefer ties to wealthy targets but instead *avoid* wealthy targets. And wealthy states are, in general, *less* likely to send diplomatic ties. However, mutually wealthy countries do appear to cooperate at higher levels than less developed states. These effects suggest that the apparent impact of economic development on diplomacy is largely epiphenomenal to network influences. Rather than conditioning diplomatic ties on wealth, states instead look to prestige and transitivity.

The network effects themselves are positive and highly significant, consistent with all three of the hypotheses. When deciding among diplomatic partners, states prefer to send ties to countries that (i) host many diplomatic missions; (ii) reciprocate by sending missions in return; and/or (iii) host missions from their own diplomatic partners. By implication, states avoid ties to countries that lack these qualities, and sever ties when an extant partner diminishes in these qualities. Substantively, the estimates of network effects can be interpreted similarly to the covariates. A one-unit increase in *Indegree* increases the probability of an $i \rightarrow j$

tie by a factor of $\exp(0.01538) = 1.01550$, or about 1.6 percent. This marginal effect is small, but large gaps in indegree dramatically magnify the impact of preferential attachment. For example, in the map shown in Figure 3A, Egypt hosts 116 diplomatic missions—more than any other state in the Middle East or North Africa—while its neighbor to the south, Sudan, hosts only 38 missions. Based on the *Indegree* estimate, a gap of 78 ties implies a 230 percent greater probability that a prospective partner will send a tie to the more prestigious target, all else equal. Importantly, this effect is due entirely to the prestige of countries' positions within the diplomatic network, not to power, wealth, regime type, or any other exogenous covariate.

Transitivity also exercises a substantively powerful effect. A one-unit increase in *Transitivity* increases the probability of an $i \rightarrow j$ tie by a factor of $\exp(0.00773) = 1.00776$, or just under 1 percent. As with indegree, this marginal effect increases substantially as the number of potentially transitive triads increases. For example, based on ties present in the year 2000 observation moment, the establishment by South Africa of a diplomatic mission in the Federal Republic of Yugoslavia would produce 90 transitive triads. On the other hand, a mission to Yugoslavia from South Africa's neighbor, Botswana, would yield only 13 transitive triads. The estimate for *Transitivity* implies that, if all else were equal, South Africa would be about 81 percent more likely than Botswana to send a tie to Yugoslavia. As with preferential attachment, this effect is due entirely to the prevailing structure of the network, independent of dyadic and monadic covariates.

To further explore the substantive implications of the model, I examine the evolution of diplomatic ties to Iran in the 1980s. I first apply the model to the years 1950–1985 as a training period. I then use the resulting parameter estimates to generate 1,000 simulations of the net-

work over the subsequent 1985–1990 period. For each ij dyad, I calculate the number of times the model predicts an $i \rightarrow j$ tie (out of 1,000 possible). Higher values of this prediction ratio increase our expectation of the $i \rightarrow j$ tie being present in the observed 1990 network. Figure 4 shows those six countries that yielded the highest prediction ratios but, as of 1985, lacked diplomatic missions in Iran: Egypt (EGY), Lebanon (LEB), Iraq (IRQ), Canada (CAN), the United States (USA), and the United Kingdom (UKG). The bottom panel of Figure 4 reveals that, consistent with the expectations of the model, four of these states in fact established ties to Tehran by 1990—of only seven countries to do so during this period. Indeed, of the 20 countries with the highest prediction ratios, 15 established missions in Tehran by the year 2000. Importantly, three of the five holdouts—Egypt, the US, and Israel—harbor obdurate relation-specific motivations for opposing recognition. Overall, then, the model's substantive implications are highly consistent with reality.

To assess the robustness of the results, I employ a number of alternative model specifications. First, I estimate a “rule of three” model, which excludes the exogenous covariates and leaves only the main network effects (Achen 2002). As shown in Model 3 of Table 1, the results are highly robust to this specification. I also constructed an ambassador-only operationalization of the data, where $y_{ij} = 1$ only if i has an embassy and resident ambassador in j . This coding effectively excludes relations in which i is represented in j only by a chargé d'affaires or minister, thus focusing on more obdurate diplomatic ties.⁴⁴ Again, as shown in Model 4, the network effects are highly robust to this alternative specification. Notably, the effect

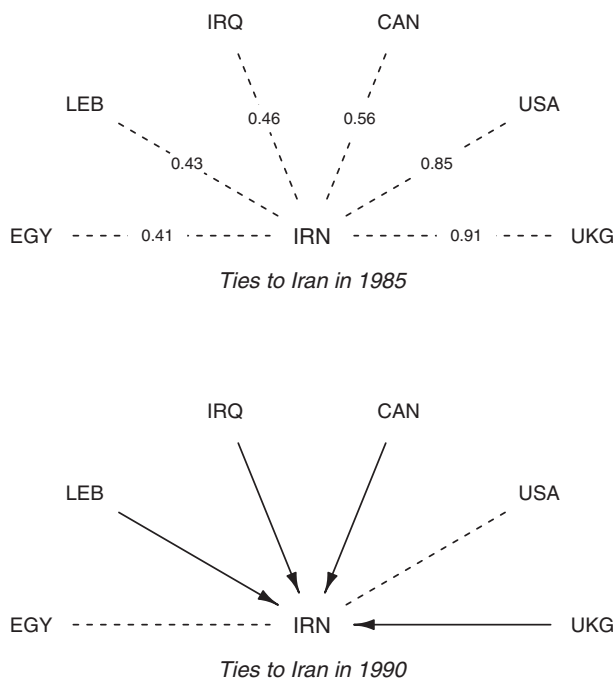


FIG 4. Evolution of Diplomatic Ties to Iran.

(Note. Solid lines indicate extant diplomatic ties. Dashed lines indicate prospective ties. Figures indicate predicted tie probabilities based on 1,000 simulations of 1985 network.)

⁴⁴ Because the diplomacy data distinguish between levels of representation only from 1965 onward, this analysis necessarily excludes the pre-1965 period. See footnote 38.

of *Transitivity* is even stronger with ambassadorial ties than with the other levels of representation.

Finally, to assess the applicability of the model to the great diversity of states in the system, I disaggregate the data into five regional subsamples: (i) Europe; (ii) the Americas; (iii) sub-Saharan Africa; (iv) Middle East/North Africa; and (v) Asia. I then re-estimate Model 2 on each regional subsample.⁴⁵ Figure 5 illustrates the results. Network influences are strongly apparent across all regions, with only one exception: *Transitivity* is significantly *negative*, rather than positive, in the Middle East/North Africa. This anomalous result is likely driven by Arab-Israel tensions and the concomitant diplomatic ripples created by Egypt and Jordan's recognition of Israel. In contrast to the network influences, exogenous covariates are inconsistent. For example, while *Distance* generally decreases diplomatic ties, it significantly *increases* ties in the Middle East/North Africa. Both *Contiguity* and *Trade* are insignificant in the Americas and Asia, while *Alliance* is significant only in Europe and Asia. Shared IGO membership discourages diplomatic ties in sub-Saharan Africa, but encourages ties in Europe. Preference similarity increases diplomatic ties in sub-Saharan Africa but, consistent with Brzezinski's expectation, *decreases* ties in Europe and the Middle East/North Africa. Only *Power*, and the *Polity* interaction are positive and significant in all five regions.

Discussion

The analysis supports a twofold conclusion. First, at the empirical level, diplomatic recognition is clearly endogenous to the prevailing structure of diplomatic ties in the international system. States prefer to send diplomatic missions to receivers that host large numbers of missions, such that a potential sender's outgoing diplomatic tie is endogenous to the entirety of the target's incoming ties. States are also more likely to send missions to targets that host missions from their diplomatic partners, in which case a sender's tie is endogenous to the outgoing ties of its own partners. Not only do both scenarios involve complex interdependencies among large numbers of actors, but they also directly reflect patterns of prestige and signaling in diplomatic behavior. The South Sudan case suggests that states favor missions not only to powerful and geographically significant targets, but also to diplomatically salient states like Canada, Norway, Australia, and Belgium. The Libya case further suggests that diplomatic signaling is a heavily interdependent phenomenon, with states taking cues from one another in determining whether and when to extend or retract recognition. This analysis, based on data covering a 50-year period, shows that these anecdotal insights are highly generalizable. Indeed, endogenous network effects are among the most consistent and substantively powerful determinants of diplomacy. An important implication of the analysis is that if we wish to assess a given state's prospects for diplomatic recognition, we are likely to find better infor-

⁴⁵ Regional groupings are based on Correlates of War country codes. With smaller networks, the estimation algorithm is highly sensitive to changes in the composition of the network, such as exit and entry of actors. In particular, the compositions of both sub-Saharan Africa and Europe change dramatically during the 1950–2000 period (due to decolonization and the collapse of the Soviet Union, respectively), which leads to nonconvergence in the estimation algorithm. Thus, for sub-Saharan Africa, I limit analysis to the postcolonial 1965–2000 period, and for Europe, I limit analysis to the 1950–1990 period.

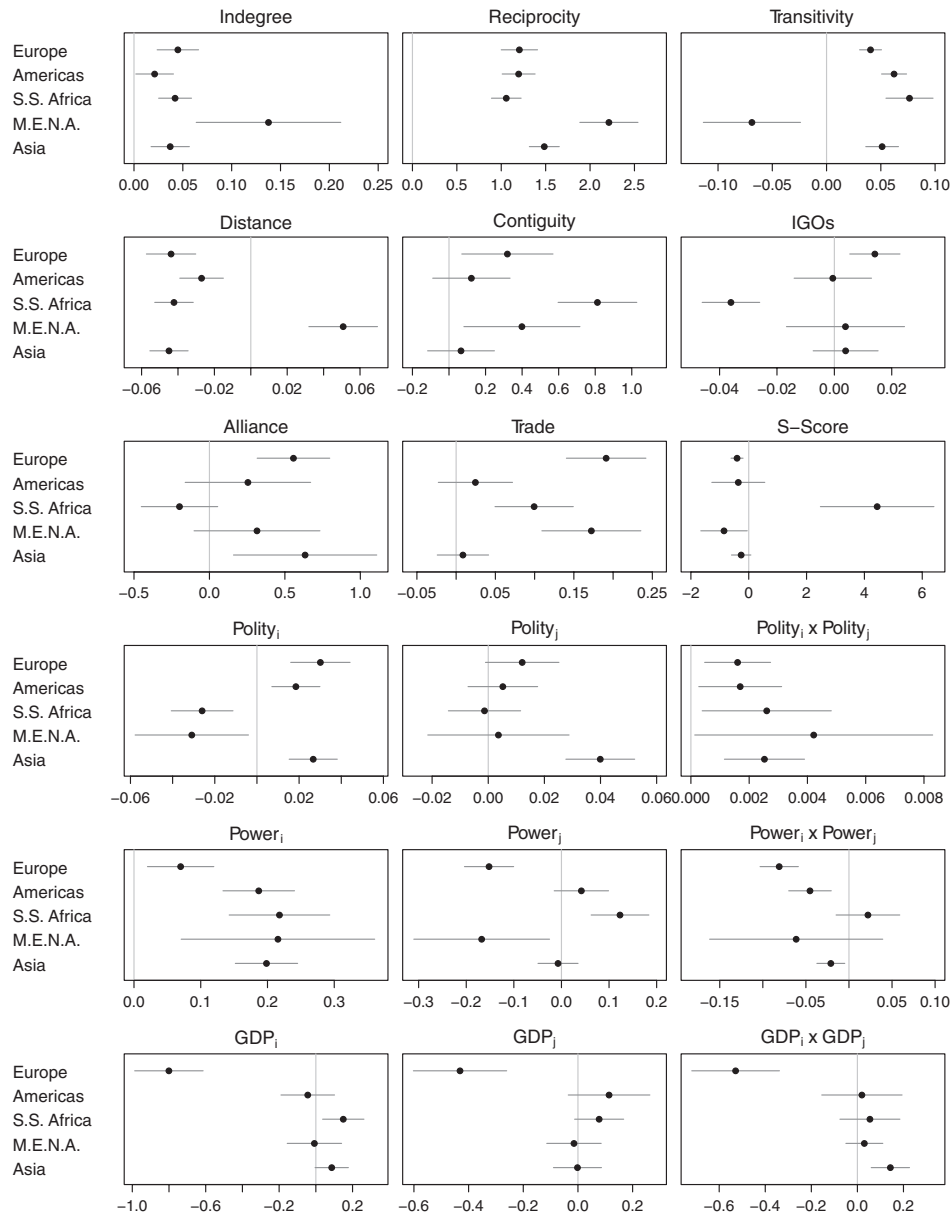


FIG 5. Models of Network Evolution by Region.

(Note. Dots are point estimates. Lines are 95 percent confidence intervals. Estimates for Sub-Saharan Africa based on 1965–2000 period. Estimates for Europe based on 1950–1990 period. All convergence T-ratios < 0.1.)

mation in the structure of the diplomatic network itself than in exogenous covariates.

Second, at the theoretical level, the network perspective reveals an underlying strategic logic to these endogenous influences. If mere prestige were the end goal of states, then, presumably, by incorporating covariates into the model that capture diffuse notions of prestige (power, wealth, democracy, etc.), we should see a reduction in the statistical impact of preferential attachment. Yet, as shown by the models in Table 1, the *Indegree* effect is generally *strengthened*, not weakened, by the inclusion of covariates. A plausible explanation, with long roots in diplomatic history, is that states pursue ties to prestigious partners precisely because highly integrated states offer greater informational resources. This effect appears not to be lost on leaders. South Sudan justified its costly

embassy in the United States by noting that “Washington is a crossroads for everything.”⁴⁶ Similarly, Belgium is a desirable target precisely because it proxies for access to virtually the entire European Union. At the same time, states respond to the cues of their diplomatic partners because signals are more likely to yield policy changes—and less likely to generate negative political externalities—when confirmed by analogous signals from others. This argument is corroborated by the fact that “unilateral signaling” is relatively uncommon and, when it does occur, largely limited to wealthy, powerful actors—that is, those least likely to be affected by retaliations and punishments. Importantly, if we restrict our theoretical focus only to the monadic attributes of individual countries or the dy-

⁴⁶ *Washington Post*, December 27, 2011.

dic relations of country-pairs, the strategic logic underlying prestige and signaling dissipates. Grasping the motivations behind a given $i \rightarrow j$ tie requires consideration of both i and j 's third-party relations.

Given the salience of diplomatic recognition in contemporary politics—and the amount of coverage accorded to diplomatic events by both policymakers and popular media—the scholarly inattention to this topic is perplexing. Possibly, the lack of large-scale research reflects the methodological difficulties of modeling those aspects of diplomacy that are of most immediate interest to outside observers. Traditional statistical methods can only measure the impact of such influences as geography, wealth, and power; they cannot determine, for example, the extent to which processes of diplomatic recognition are influenced by cues sent between diplomatic partners or by the prestige of potential targets. Conceptualizing and empirically modeling diplomatic ties as a global network provides leverage over those aspects of diplomacy that, arguably, are most fundamental to everyday diplomatic practice. In methodological terms, network effects involve endogeneities and statistical dependencies, but, at a more intuitive level, they provide insight into colloquial perceptions of diplomacy as a social phenomenon, with in-groups and out-groups, popular states and pariahs, where symbolism and social dynamics matter more than rationality and material gains. Network analysis reveals that while such influences are in fact widely apparent, they are also firmly rooted in the logic of strategic action.

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