The President and International Commitments: Treaties as Signaling Devices[1]

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Abstract

U.S. presidents can choose the form of international agreements that they negotiate. Using the constitution's Article II procedure to gain ratification of a formal treaty is a costly and time-consuming endeavor, so presidents frequently turn to executive agreements that do not require approval by 2/3 of the Senate. Given this alternative, why do presidents ever choose the Article II procedure? This paper argues that treaties serve as a costly signal of intent to comply with the terms of international agreements. The choice between treaties and executive agreements is therefore a strategic executive decision that takes into account the anticipated reactions of other states. A signaling model predicts that high-benefit agreements should take the form of treaties. The predictions of purely domestic models of a positive relationship between the reliability of a government and the probability that an agreement is a treaty should not hold. These propositions are tested on a large dataset of U.S. international agreements between 1980 and 1999.

Introduction

U.S. presidents can choose the form of international agreements that they negotiate. Using the constitution's Article II procedure to gain ratification of a formal treaty is a costly and time-consuming endeavor, so presidents frequently turn to executive agreements that do not require approval by 2/3 of the Senate. Given this alternative, why do presidents ever choose the Article II procedure? International agreements can take many different forms. They can be informal understandings, more formal agreements that require domestic approval, treaties that require explicit legislative ratification, or they may create new organizations. The major distinction among these lies in the domestic ratification process. It is worth noting that the same agreement may be subject to different ratification processes in the various states that are parties to it.[2] That is, what the United States considers an executive agreement may be a treaty in other signatory countries.

This paper explores a basic distinction, that between executive agreements and treaties.[3] Few explicit rules govern the choice of agreements' form, so the form that any particular agreement takes is the result of strategic considerations, both international and domestic. The form that an international agreement takes is a unilateral presidential prerogative, like the issuance of an executive order. However, as this article will show, in practice presidents are more constrained in exercising this prerogative than they are in purely domestic policy, because they must take into account the signals that their actions send to other governments. This finding is surprising from the usual perspectives that

contrast American foreign and domestic policy, in that the conventional wisdom is that presidents are substantially *less* constrained when it comes to foreign affairs.

Scholars of both international relations (Abbot and Snidal 1998, Lipson 1991) and of American politics (King and Ragsdale 1988, Margolis 1986) have considered why agreements take particular forms. However, the theorizing about this choice has been largely ad hoc, not grounded in any particular theoretical framework or model. Empirical studies have likewise been limited, in particular because the data have been analyzed only at a highly aggregate level. This paper addresses both of these issues by introducing a basic signaling model of treaties versus executive agreements, and by analyzing a new data set of nearly 5000 U.S. agreements with other countries.

Foreign affairs is an area where most scholars of American politics see the president as operating with a relatively free hand. Because international relations involve rapid responses to crises or complex negotiations with other countries, these scholars have argued, Congress cannot and does not constrain the president in this realm as in domestic politics. The long saga of the War Powers Act is frequently cited as showing the inability or unwillingness of Congress to effectively control what the president does in international politics. When it comes to the form that international agreements take, and therefore the level of congressional involvement, it is true that the president can make a unilateral decision that is essentially unconstrained by legal or constitutional provisions. However, as this paper demonstrates, in fact the president is quite constrained in this choice by considerations of whether agreements will be effectively implemented and the signal that their form sends to other parties to the agreement. While this paper concentrates on international agreements, the same dynamics may hold in

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domestic affairs. When a president chooses to use unilateral devices to impose policies, this choice sends a signal of potential resistance to such policy change, and thus may undermine the policy's credibility.

The first section of the paper explains why the choice of agreement form is an interesting question and discusses the existing literature on the use of executive agreements and treaties. It then argues that many approaches to the choice of institutions implicitly or explicitly assume that this choice serves a signaling function. The second section presents a simple signaling model of the choice of treaties. This model gives rise to a number of testable comparative statics results. It implies that the likelihood that any particular agreement takes the form of a treaty should increase as the anticipated benefits of the agreement increase. Purely domestic models, which ignore strategic interaction with other countries, predict that presidents that will have a hard time getting agreements ratified will choose executive agreements over treaties as a way of avoiding domestic opposition. On the international level, such a maneuver would signal a lack of reliability and lead to a failure to conclude any agreement.[4] Thus, the signaling model predicts that this positive relationship between reliability and treaties should not hold; if anything, we should see a negative relationship. The third section subjects these implications of the model to a test using data on U.S. international agreements between 1980 and 1999. The results largely support the model, while indicating the promise of additional research.

Literature and Motivation

The premise of this paper is that the choice of an international agreement's form is a strategic one, taking into account both domestic and international considerations. This choice is of interest because it tells us something about the president's freedom of maneuver in international affairs and the factors that constrain his choices. The existing literature on U.S. international agreements has, for the most part, looked only at the domestic considerations that go into the choice of form. The model presented here introduces international strategic considerations and finds that the major expectation derived from the purely domestic perspective cannot be sustained in equilibrium. The president does face domestic constraints, but he must also address the concerns that other governments have about the president not living up to the terms of an agreement. A president attempting to advance his policy agenda needs to consider the interaction of both sets of constraints.

The choice between executive agreements and treaties lies with the president, and induces strategic behavior on his part (Moe and Howell 1999a, 164). As specified in the Constitution, treaties must receive the approval of two-thirds of voting Senators to go into effect. Executive agreements are not mentioned in the Constitution, and can be approved through a number of different mechanisms, from a legislative vote to sole executive approval (Millett 1990).[5] Congress has at times attempted to set binding guidelines for the choice of agreement form, but without success, so this choice remains a strategic decision by the executive branch (Setear 2002, S12). A substantial legal literature has emerged asking whether, in fact, the president is unconstrained in his choice. While some have argued, on legal or normative grounds, that the president should limit reliance on executive agreements so that Congress is not bypassed (Tribe 1995), in practice the

"doctrine of full interchangeability" has prevailed (Ackerman and Golove 1995; Yoo 2001, 759).[6] This doctrine means that all international agreements have the same standing in domestic courts, regardless of the ratification procedure.

The political-science literature on executive agreements sees them as a mechanism by which the president can evade legislative constraints, thus as a way for the president to enhance his dominance over the legislature in foreign affairs. Since executive agreements create binding commitments to other countries (they have the same legal standing as treaties), but do not involve the Senate in its constitutionally-prescribed formal "advise and consent" role, they could be a potent source of executive power. By the 1990s, the president was signing hundreds of these agreements each year, while the number of treaties signed each year is just a couple of dozen (CRS 1993). Nathan and Oliver (1994, 99) summarize the consensus view of American politics scholars about the use of executive agreements: "Presidents … have developed and employed the executive agreement to circumvent Senate involvement in international agreements almost altogether."

The analysis of executive agreements thus has much in common with studies of executive orders and other unilateral presidential instruments in the domestic-policy realm. The American politics literature on executive orders and related devices thus provides an important backdrop to this study. Broadly speaking, scholars who concentrate on executive orders would agree with those who study executive agreements that such devices allow a substantial exercise of unilateral presidential power, and that presidents have not been seriously constrained by congressional action.

Legal scholars have long been concerned about the constitutionality and legitimacy of unilateral presidential action, and have seen devices such as executive orders as powerful mechanisms for the president to evade Congress. For example, Fleishman and Aufses (1976, 38) conclude that "executive orders allow the President, not only to evade hardened congressional opposition, but also to preempt potential or growing opposition…." More recently, political scientists have echoed the same theme and elaborated the political logic behind these concerns. Moe and Howell (1999b) argue that the president has substantial powers of unilateral action because the Constitution is an incomplete contract, that the president has incentives to exploit this incompleteness to enhance the powers of the office, and that Congress and the courts can do little to resist. Statistical analysis by Deering and Maltzman (1999) largely supports this claim, although they also find that a cohesive Congress can sometimes threaten to overturn executive orders and so constrain the president.

William Howell (2003), in an extended and systematic study of executive orders, finds that Congress is in fact quite diffident when it comes to overturning or opposing the use of executive orders. He concludes that such devices allow the president to exercise power unilaterally, without the need to persuade other branches of government to support his efforts. However, his work really cannot be read to directly support the idea that executive orders allow the evasion of congressional opposition. For example, he finds that the president relies more heavily on executive orders during periods of unified than divided government; we would expect the opposite pattern if executive orders were merely evasive devices. Mayer (1999, 460) also finds more use of executive orders under unified government.

The hypothesis that executive agreements allow the president to evade congressional opposition has been labeled the "evasion hypothesis" (Martin 2000). It has at least one implication that can be tested quantitatively: that when the president expects the most congressional opposition to an international agreement, he should be the most likely to choose an executive agreement rather than a treaty. Thus, we should expect to see a higher percentage of international agreements taking the form of executive agreements when Congress (or at least the Senate) is in different partisan hands than the presidency, or when the president receives low levels of support in general from Congress.

Martin (2000) has examined the evasion hypothesis and found little support for it. Earlier studies, such as Margolis (1986), claimed to find empirical support, in that the percentage of agreements completed as executive agreements increased under divided government. However, these studies used crude statistical techniques and no control variables. Martin (2000) relies on the same aggregate data, a simple count of the number of executive agreements and treaties completed each year. However, using more appropriate statistical methods and introducing a few controls, she finds that support for the evasion hypothesis disappears. These highly aggregated data do not allow for direct tests of more plausible hypotheses about the choice of agreement form. Without a dataset in which each individual agreement can be coded, we cannot tell what characteristics of particular agreements lead to institutional choice. This paper provides the first test using such micro-level data.

There are many reasons to question the logic of the evasion hypothesis, as simple and compelling as it may appear initially. One difficulty is that most executive

agreements do in fact require some legislative action, such as appropriating funds, and thus are not likely to allow the president complete freedom of maneuver. Few agreements, even formal treaties, are self-executing. They thus require implementing legislation of some sort. Even agreements that do not require explicit implementing legislation can be overturned by congressional action, as legal doctrine provides that the most recent action takes precedence in the courts. Therefore, executive agreements do not allow the president the unfettered freedom to make commitments that many assume. Attempting to evade congressional can backfire, as Congress has many methods it can use to void or refuse to implement executive agreements.

Perhaps even more telling, the evasion hypothesis completely neglects the process of negotiation with other countries. Assume that the hypothesis was correct, and that the president used executive agreements to evade legislative opposition. Other states would then see these agreements as a sign of lack of domestic support for the agreement, and would therefore become more reluctant to sign on to it. Signing an agreement that the president then reneges on can be highly costly for other states. Consider, for example, a trade agreement. If individuals expect an agreement to be implemented, investments will flow to those sectors that now have enhanced opportunities to export to the United States (Hathaway 1998). If the president fails to live up to the terms of the agreement, these investments will fail to produce the expected returns. In addition, to the extent that assets are specific to a particular sector, they cannot be easily redeployed to another sector, implying further losses. Thus governments should follow domestic debates about agreements closely, and take them as signals about the likelihood that the president will actually live up to the terms of the agreement. While an agreement's form likely has a

number of consequences, one of the most important may be its impact on the beliefs of other parties to it. That is, agreements are signaling devices. The idea that unilateral presidential actions can send signals to other political actors has been mentioned in the American politics literature (e.g., Mayer and Price 2002), but this insight has not been developed.

The proposition that treaties can serve as signals rests on two crucial assumptions. The first is that there is some uncertainty about whether the president will live up to the terms of the agreement. Empirically, this seems a reasonable assumption. The United States does sometimes renege on its international commitments. Such reneging rarely takes the form of legal abrogation of a treaty. More often, the president simply does not fully implement the terms of the agreement, or chooses to "reinterpret" the agreement in such a manner that it does not behave as the other parties anticipated it would.

That the United States, as well as other states, sometimes fails to live up to the terms of an agreement is exemplified in the elaborate dispute-resolution mechanisms now found in international trade agreements, and the fact that the United States is frequently charged in these settings with violations. For example, from 1948 through 2002, the United States was the defendant in 193 disputes in the GATT/WTO (Reinhardt forthcoming; Busch and Reinhardt 2003). Formal rulings were issued in 81 of these cases, and 56 of these rulings found against the United States, while another 14 resulted in mixed verdicts. In 70 cases in which the dispute was resolved prior to a formal ruling, the United States made substantial concessions in 32 cases, and partial concessions in another 12. These figures indicate that the United States does, in fact, fail to live up to the understood terms of trade agreements with some frequency.[7]

On security commitments as well, the president is sometimes unreliable. A well-known example of unreliability regards the Anti-Ballistic Missile (ABM) Treaty with Russia. This treaty constrained the United States and Russia to build no more than two ABM installations, one to protect the capital city and one elsewhere. Beginning under Ronald Reagan, and continuing through recent administrations, these limitations conflicted with the desire to pursue defensive systems that would shoot down incoming missiles, whether from Russia or small attacks from rogue states. Rather than simply stating that the United States was withdrawing from or abrogating the ABM treaty, administrations have engaged in a contorted attempt to "reinterpret" it to allow large-scale development of these anti-missile systems. While debate has ensued regarding the legalities of reinterpretation, there is no doubt that development of ABM systems is a substantial deviation from the behavior expected under the terms of the ABM treaty. Thus, other states can reasonably ask when reaching an agreement with the United States whether the president will, in practice, live up to the terms of the agreement. In the signaling model presented here, I use the shorthand of "reliability" and "unreliability." A reliable president is one that live up to the terms of the agreement, and an unreliable president is one that will renege on it. Other parties to agreements estimate the probability that a president is reliable.

Why renege on international agreements? Typically, the reason lies in domestic politics. While some domestic groups benefit from the terms of agreements, others see these commitments as costly and would prefer to renege. This dynamic is very clear on trade agreements, where exporters and consumers gain from liberalized trade, but import-competors are harmed by it. Trade policy is the result of complex bargaining and

struggle among these different interests. If import-competors are well-organized and have access to government decisionmakers, there is a reasonable probability that the president will fail to implement trade liberalization fully. Similarly, on arms-control agreements, if actors who believe that these commitments are too costly and constraining are in positions of decisionmaking authority, there is an increased chance of reneging. Thus, the chance that the president will live up to the terms of an agreement is a direct function of the level of domestic support for and opposition to the agreement. A president that has a high probability of being reliable is one who enjoys high domestic support for the agreement and a low level of opposition.

Considering the level of domestic opposition to an agreement leads us to the second crucial assumption of a signaling model: that the signals sent are costly, and the costs vary for different sorts of actors. Here, we are interpreting treaties as a signal of the reliability of the president. They can only serve as such a signal if treaties are more costly to conclude than executive agreements; and if there is a cost differential so that reliable types bear lower costs for treaties than do unreliable types. Both aspects of this assumption are highly plausible. Consider first whether it is more costly for a president to gain approval of a treaty than an executive agreement. If the agreement is a sole executive agreement, the comparison is obvious: treaties require gaining the support of 2/3 of the Senate, which involves bargaining, arm-twisting, concessions, and sometimes delays. None of this is necessary for a sole executive agreement.

More serious questions may arise when comparing treaties to executive agreements that involve some degree of ex ante legislative participation. Is it always the case that treaties will be more costly? While there may be exceptions, I would argue that

the assumption that treaties are more costly for the president is reasonable. Consider what would be the most costly form of a congressional-executive agreement, one that required majority support from both the House and Senate.[8] Would the president have to pay a higher cost to get this agreement approved than a treaty? No, unless the distribution of preferences in the House diverges substantially from that in the Senate. If the distribution of preferences is similar, then the median voter in the House will be similar to that in the Senate. Satisfying this median voter will be less difficult than satisfying the swing voter when 2/3 of the Senate is required, since this swing voter will be more extreme. There may be occasions when preference outliers in the House are able to hold an agreement hostage and demand high side-payments or concessions from the president. However, these occasions should be rare, and the assumption that the president bears higher costs to gain approval for treaties than for nearly any executive agreement is plausible.

It is useful to contrast the signaling perspective adopted here to other strategic models of international agreements, such as Helen Milner's (1997). Milner and others have considered how ratification requirements influence the outcome of international negotiations. One hypothesis, known as the Schelling conjecture, postulates that presidents that have their hands tied, for example through stringent ratification procedures, should have enhanced bargaining strength and so do better in international negotiations. Of course, this bargaining advantage comes at a cost. Presidents whose hands are tightly bound may have trouble making the necessary concessions to reach agreements at all, so that negotiations may fail more often. Models of domestic ratification procedures combined with application the Nash bargaining solution at the

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international level have led to rich insights about the nature of agreements that are reached.

The signaling approach here can be contrasted to models such as Milner's by focusing on what is held exogenous and what is endogenous. Milner treats the ratification procedure as exogenous and endogenously determines the content of the agreement, in terms of the concessions that the United States is expected to get from other countries. In contrast, I hold the content of the agreement, conceptualized here as the potential benefits it offers, exogenous and endogenously determine the ratification procedure used. Both approaches are essentially partial equilibrium models. Ideally, we would like to endogenize both the ratification procedure and the content of the agreement. However, as a step toward that general equilibrium model, I offer a way of thinking about the endogeneity of ratification procedures.

Anecdotal evidence suggests that the image developed here of treaties as signaling devices is one held by governments. If other states believe that treaties signal that the president intends to live up to the terms of an agreement, they should under some conditions (as specified in the following section, when the potential benefits of the agreement are relatively high) demand that an agreement take the form of a treaty rather than an executive agreement. In fact, such demands are easy to find. Negotiations between the United States and Russia on Nuclear Arms Reduction found Russian president Putin working hard to persuade U.S. president Bush to sign a "full-blown" treaty to provide "certainty" (*San Francisco Chronicle*, 14 May 2002; *New York Times*, 12 April 2002). Bush had preferred a "gentlemen's agreement" that would avoid high negotiation costs (*Deutshe Presse-Agentur*, 13 May 2002).

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The Strategic Arms Limitation Treaty (SALT II) negotiations in 1977-1979 showed a similar dynamic, as the Soviet foreign minister objected that an executive agreement would not require the approval of 2/3 of the Senate and so would have an "inferior" status (*Washington Post*, 11 May 1979). At times, U.S. allies demand that long-standing executive agreements be transformed into formal treaties, explicitly stating that such changes would signal U.S. long-term commitment. This has been the case, for example, in security agreements with Pakistan (*Washington Post*, 18 January 1980; *The Economist*, 26 January 1980) and aid agreements with Turkey. The Turkey case is especially interesting, as it was complaints that Washington had not lived up to the terms of previous executive agreements that led to calls for a treaty (*New York Times*, 21 March 1986). Even participation in the space station has been subject to these kinds of demands, as European states argued that executive agreements are easy to breach and subject to misunderstanding (*Aviation Week and Space Technology*, 22 October 1984). The following section presents a simple signaling model building on the insights developed above.

Model

As the previous section illustrates, many arguments about the use of formal institutions for international cooperation implicitly or explicitly assume that formality is a signal of intent to comply with the terms of the agreement. If a treaty is more costly to sign than an executive agreement, due to increased ratification costs, it may screen out those states that do not intend to live up to the agreement. This logic suggests a signaling

model of the choice between executive agreements and treaties. This section presents a model where the president makes the choice between an executive agreement and a treaty, and another state then decides whether to conclude the agreement.

[Figure 1 about here]

Assume a bilateral game, between the president (P) and another state (B), as shown in Figure 1. The president and the other state are deciding whether to sign an agreement. If an agreement is completed and P lives up to its terms, it is worth value z to P, and x to B; both $z>0$ and $x>0$. I assume that B will always comply with the agreement after signing. However, P may not comply after signing.[9] P can be one of two types: a type that is reliable and will always comply, or a type that is unreliable and will always renege. P is reliable with probability r and unreliable with probability $1-r$. P knows its type, but B does not. As discussed above, we can understand the label "type" to mean the degree of domestic opposition to the agreement. When domestic opposition is high, r is low, as even a well-intentioned president may not be able to overcome this opposition to fully implement the agreement.

Nature moves first and determines P's type. P then moves, and decides whether to offer B an executive agreement or a treaty. It is more difficult for P to gain approval of treaties than of executive agreements, since treaties need to go through a formal ratification process with a high threshold for legislative approval. Thus, offering a treaty means that P bears a cost. We can understand this cost to refer to the difficulties of putting together a legislative coalition in support of the agreement, which might involve significant lobbying, side-payments, and other costs. The cost of offering a treaty is higher for unreliable than for reliable types, because being unreliable means facing more

domestic opposition, thus requiring higher side-payments and greater lobbying efforts. Summarizing these assumptions, for a reliable type that completes a treaty with B, the payoff to P is $z-b$; for an unreliable type it is $z-a$, with $a>b$. The cost of offering an executive agreement is normalized to zero, as is the payoff to no agreement for both P and B. If P decides to offer a treaty, it bears cost a or b regardless of whether B actually signs the agreement; the cost inheres in putting together a legislative coalition and must be borne before the treaty is actually implemented.

B knows that P is reliable with prior probability r, as defined above. If B signs an agreement with P but P then reneges, B is left worse off than if it had completed no agreement at all. As discussed above, this may be due to specific investments that are lost when P reneges. Thus, B's payoff to signing an agreement with an unreliable P is $-y$, with $y>0$. y is likely to vary tremendously, depending on the issue at stake. For some agreements, the costs to B if P reneges will be minimal, as it can simply revert to its pre-agreement policy with few attendant costs. This may be the case, for example, on certain cultural agreements. On the other hand, sometimes y will be very large, as reverting to the pre-agreement policy could be impossible or prohibitively costly. Consider a military alliance that leads B to change the structure of its military forces, for example. If P reneges on this agreement, the costs attached to reconfiguring the military to allow for self-defense could be extremely large. As we will see below, y is a parameter that plays an important role in determining equilibrium strategies. I assume that y is always positive, which means assuming that an unreliable president always reneges on agreements. Since reliability is defined as having payoffs that make reneging a dominant strategy for unreliable types, this assumption follows directly.

B observes whether P offers a treaty or an executive agreement, and uses this information to update its beliefs about P's type, then decides whether to sign the agreement. All parties then realize their payoffs. Since treaties are more costly for unreliable than reliable types ($a>b$), under some conditions B will be able to determine from the offer of a treaty or an executive agreement whether it should go ahead and sign. These conditions describe separating equilibria, which are efficient. Under other conditions, P's action provides no information. These are pooling equilibria, which may be inefficient in that possible mutually-beneficial agreements between a reliable P and B are not realized.

The equilibria of this game are shown in Table 1.[10] Proofs of the equilibria are in Appendix 1. Equilibrium strategies are described as functions of two key parameters: the potential benefits of the agreement to P (z) and the prior probability that P is reliable (r).

[Table 1 about here]

First focus on the case where reliability is low. When benefits to P and reliability are low, no agreements are reached. With low reliability and a moderate level of benefits, unreliable and reliable types will separate from one another. With benefits in this intermediate range, reliable types are able to fully differentiate themselves from unreliable types, since it is worthwhile for them to offer treaties, but not for unreliable types. In this region we find that reliable types offer treaties and unreliable types do not. B signs all treaties but no executive agreements under these conditions.

When benefits are high but reliability is low, unreliable types have an incentive to offer a treaty with some probability less than one; that is, they have an incentive to bluff. Thus reliable types cannot fully distinguish themselves, and B decides probabilistically

whether to sign any treaties that are offered. B does not sign any executive agreements, and refuses to sign some treaties. This is the only region in which we would see B declining to sign some treaties; we would also see P reneging on some signed treaties here.

Now consider equilibria when the probability that P is reliable is high. P's strategy will depend on the potential benefits of the agreement. For low-benefit agreements, even reliable types are not willing to bear the cost of a treaty. Recognizing this, and that the probability of reliability is high, B will sign all executive agreements in this region. When benefits to P are in the intermediate range, we get the same separating equilibrium described above, with reliable types offering treaties and B refusing to sign executive agreements. When benefits are high, all types will offer treaties and B will sign all treaties. In practice, this is a region in which we would observe P reneging on signed treaties.

Tables 2 and 3 show how these equilibrium strategies will translate into observed patterns of no agreements, executive agreements, and treaties. The only time that signed executive agreements will be observed is when reliability is high and the benefits of the agreement are low. The high proportion of U.S. agreements that take the form of executive agreements thus implies that the president is generally reliable (at least relative to the potential benefits of agreements to other states). Since we are not able to observe cases of no agreement with the data available, Table 3 presents the predicted outcomes excluding the cases of no agreement. This table then allows us to derive clear predictions about the relative incidence of treaties and executive agreements in practice.

[Tables 2 and 3 about here]

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The following comparative statics can be derived from this model. I highlight the ones that I go on to test in this article. Predictions about the relative frequency of executive agreements and treaties are stated relative to all *completed* agreements. That is, the hypotheses here take into account the potential for selection bias that has characterized other studies of agreement form, which neglect the fact that some potential agreements are never reached. Because the formal model presented here leads to expectations about when no agreements will be reached, as well as the form of agreements that are reached, these hypotheses are not subject to the same selection bias problem.

1. **The chance that a completed agreement takes the form of a treaty *increases* as the benefit of an agreement to P grows**.

2. **The chance that a completed agreement takes the form of a treaty *decreases* as the reliability of P increases.** This prediction is in direct contrast to the predictions of a purely domestic perspective. Previous studies have argued that it is precisely the inability of the president to generate approval from the Senate that gives rise to the use of executive agreements. However, in this model such a move is seen as a signal of unreliability.

3. As the costs to B of signing an agreement with an unreliable P increase, we will observe fewer total agreements signed and a higher proportion of agreements as treaties.

4. As the benefits to B of signing an agreement with a reliable P increase, we will observe more total agreements and a higher proportion as executive agreements.

I will focus on the first two implications here. They follow from an inspection of Table 3. In general, the probability of observing a treaty increases as the benefits to P increase. Implication 2 states that there should be a negative relationship between the probability that the president is reliable and the percentage of agreements that take the form of treaties. This stands in stark contrast to the claims of previous analyses that see executive agreements as a mechanism by which the president can evade opposition in the Senate. If in fact executive agreements are only meant to evade legislative opposition, other countries should be unwilling to sign them in many circumstances. Thus taking into account strategic interaction on the international level calls into question models that consider only U.S. domestic politics.

Overall, the simple signaling model presented here leads to a rich set of expectations about the form that agreements will take. Some of these expectations diverge sharply from existing informal studies of agreement form, as well as from propositions in the American politics literature about the use of executive orders. The next section tests implications one and two quantitatively.

Data

The dataset analyzed here contains 4953 international agreements signed by the United States between 1980 and 1999 (and a few agreements from 2000). The data were obtained from Oceana, a firm that collects such data for the use of lawyers. While perhaps not a fully comprehensive list, Oceana claims that it includes all significant agreements signed during those years. The list is far more comprehensive than that

available from official government sources. Oceana indicates the country, countries, or international organization that completed the agreement, its subject, and whether the agreement took the form of a treaty. Just over four percent of the agreements in this dataset are treaties. I have supplemented these data with data describing the countries involved and the political context in the United States.

The agreements in the data set cover all issue-areas. They range from fairly routine scientific and cultural understandings to major military and economic agreements. About 16.1% of the observations are military agreements. 13.4% are trade agreements, 8.6% finance, and 11.7% other economic agreements. Another large economic category is agreements relating to agriculture and commodities, accounting for 8.0% of the total.

The signaling model suggests two hypotheses that I test using these data. The first is that the probability that an agreement takes the form of a treaty should increase as the agreement becomes more valuable to the president. The second is that, contrary to claims by advocates of the evasion perspective, there should be a negative relationship between the existence of divided government and the probability that an agreement takes the form of a treaty.

Of course, measuring the value of an agreement to the president is not easy. Here, I suggest three proxies. One is whether the agreement is multilateral. On average, multilateral agreements should be higher value than bilateral agreements. This is not to deny that some bilateral agreements are of great value. However, it seems reasonable to assume that, *ceteris paribus*, agreements with more countries provide greater benefits than those with just one country. Take our running example of a generic trade agreement to illustrate this logic. Given similar breadth of issues covered and depth of cooperation

(the *ceteris paribus* clauses), an agreement with more countries will result in greater economic benefits. Approximately 7.4% of the agreements in this data set are multilateral.

As a check on whether this proxy is a plausible measure of agreements' benefits, 25 multilateral and 75 bilateral agreements were chosen at random from the dataset. For each, a search of the *New York Times* was undertaken for the three months surrounding the signing of the agreement, identifying the number of references to the agreement. Within this subset, the multilateral agreements on average had 4.9 references in the *Times*, while the bilateral agreements had only 0.49 references on average. This figure suggests that the multilateral agreements were, indeed, much more substantial and consequential than the bilateral agreements. However, the figure on multilateral agreements was heavily influenced by one outlier (the START treaty) that received 84 references. Excluding this outlier, the mean number of references to multilateral agreements drops to 1.6. However, this is still triple the number of references to the average bilateral agreement, suggesting a significant difference and supporting the plausibility of this indicator. Figure 2 shows a histogram of the number of references to bilateral and multilateral agreements, excluding the multilateral outlier.

[Figure 2 about here]

The second proxy for an agreement's potential benefits is the per capita GNP of the country that the agreement is with. Focusing on bilateral agreements, it seems likely that agreements with richer countries are on average of more potential benefit to the president than those with poor countries. The measure used here is the log of per capita

GNP. A third proxy is the total GNP of the other country. The logic here is that larger

markets should result in higher benefits for the president. The log of GNP is used.

I include three other variables as controls. One is the party of the president. This

allows for the possibility that, even controlling for divided government, one party is

inclined to sign more treaties than the other. Another control allows for the possibility

that the president is simply attempting to avoid legislative gridlock by using executive

agreements. Senate LPPC is the Senate's "legislative potential for policy change" score.

This is constructed by multiplying by the majority and minority party sizes by their

voting unity scores (from *Congressional Quarterly*), and subtracting the latter from the

former. A higher score indicates that the party controlling the Senate should be more

likely to push a treaty through, so the evasion perspective would expect a positive

coefficient on this variable, as on the Senate majority variable.[11] I also control for

whether an agreement is with an international organization (IO). While I have no strong

expectations here, it is possible that agreements with IOs tend to take a particular form.

[Table 4 about here]

Table 4 presents results of rare-events logit estimations. Rare-events logit is the

appropriate method to use as treaties are rare events in this dataset (about 4% of all

agreements); that is, the dependent variable is unbalanced (Tomz, King, and Zeng 1999).

However, the results are identical in both substance and statistical significance to those

using standard logit. The dependent variable is the probability that any particular

agreement is a treaty. Multilateral is a dummy variable indicating whether an agreement

is multilateral. IO is another dummy, indicating whether the agreement is with an

international organization. Republican president is a dummy, coded one if the president

is a Republican (about 60% of the time in these years). Divided government is a dummy, coded one if the Senate is controlled by a different party than the presidency. During this period, if the Senate was controlled by a different party, so was the House. Per capita GNP is a purchasing-power-parity measure, as is GNP. Descriptive statistics are in Appendix 2. Only one pair of explanatory variables has a correlation above 0.2, log of per capita GNP and log of GNP. They are correlated at 0.61. Otherwise, multicollinearity is not a concern.

Models 1 and 2 in Table 4 present results using the multilateral agreements indicator for the benefit of an agreement to the president. Model 1 includes all observations. Model 2 eliminates science and cultural agreements, which never take the form of treaties in the period covered by this data set. Substantively, excluding these agreements makes no difference in the results. The results are as predicted on multilateral agreements. They strongly increase the probability that an agreement will be a treaty. For a Democratic president facing a Democratic Senate, moving from a bilateral to a multilateral agreement will increase the probability that it is a treaty from 4.5% to 30.9%.

The other explanatory variable of most interest is divided government. The evasion perspective expects a negative coefficient on this variable, as presidents facing a Senate controlled by the other party will be more likely to use executive agreements. We instead find a *positive* and statistically significant coefficient on divided government, as predicted by the signaling model. Divided government increases the probability of a treaty from 4.5% to 6.1%.

The result on the Senate LPPC score is interesting, as it is significant and negative. This indicates that when the Senate has greater capacity to change policy, because of a large and unified majority party, we are *less* likely to see an agreement take the form of a treaty. This is the opposite of what would be predicted by the evasion model, which would instead expect the president to be most willing to go the treaty route under these conditions. This result indicates that the president does not merely turn to executive agreements to avoid legislative gridlock, as a purely domestic perspective would suggest.

Agreements with international organizations are less likely than other agreements to take the form of treaties. If the agreement is with an IO, the probability of a treaty decreases from 4.5% to 0.2%. We also find that Republican presidents are significantly less likely to use treaties. Having a Republican president reduces the chance of a treaty from 4.5% to 1.7%.

Models 3 and 4 look only at bilateral agreements, so that we can introduce a measure of the wealth and size of the country signing the agreement with the United States. Model 4 again eliminates science and culture agreements, with no impact on the results. As expected, we find that agreements with wealthier countries are more likely to take the form of treaties. Again taking the baseline of a Democratic president facing a Democratic Senate, consider moving from a country with its per capita GNP at the 20th percentile to one at the 80th percentile. The chance that an agreement will be a treaty will increase from 3.8% to 12.0%, a large and significant difference. Divided government continues to have a positive effect in this specification, although the coefficient is somewhat smaller and estimated with slightly higher error, so that it falls short of

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statistical significance. The effect of Republican presidents remains the same, as does the effect of Senate potential for policy change.

We find, contrary to expectations, that the total GNP of a country has a negative effect on the probability that an agreement will take the form of a treaty. As the GNP moves from the 20th percentile to the 80th percentile, the probability that an agreement is a treaty decreases from 3.8% to 2.0%. While not a large effect, this finding is puzzling and deserves further exploration. Collinearity between per capita wealth and overall GNP could account for this result.

[Table 5 about here]

Some legal scholars suggest that the executive branch may not be as unconstrained in choosing the form of an agreement as the signaling model assumes. For example, the constitutionally-prescribed role of Congress in trade agreements might mitigate against the treaty form in this instance. The weight of history and customary law might channel certain types of agreements into certain forms. To take account of this possibility, I include in the models in Table 5 dummy variables that identify the subject-area of the agreement. If certain subjects are typically handled as treaties by tradition or because of legal constraints, these dummy variables should begin controlling for these constraints.

The omitted dummy variable in these specifications is financial agreements, which have approximately the average distribution between executive agreements and treaties. Models 5 and 6 suggest that these issue-area controls are potentially interesting.[12] Certain types of agreements – military, agriculture and commodities, energy, trade, traditional diplomacy (embassies and the like), and travel agreements – are

less likely than average to take the form of treaties. Others, including police agreements and economic agreements other than trade and finance (general commitments to cooperate, tax treatment, investment), are more likely to take the form of treaties. Further exploration of the legal or other substantive reasons behind these findings is promising.

Adding these controls has no effect on the results reported above for the major measures of the benefits of an agreement to the president.[13] Multilateral agreements continue to be more likely to take the form of treaties, as do agreements with richer countries. The puzzling finding about larger countries less often using treaties disappears here, as the coefficient on GNP is not distinguishable from zero. The effect of divided government, however, is not robust to including these indicators of subject area, as the coefficient is not significantly different from zero. As above, we find no support for the evasion hypothesis; the coefficient on the LPPC score remains negative and significant. However, the predicted negative relationship between reliability and the frequency of treaties disappears in this specification. This finding suggests that we need to consider selection effects. The president may find it particularly difficult to negotiate agreements on some subjects under conditions of divided government, so that introducing these controls leads to bias in our estimation of the effect of divided government. This issue demands further exploration.

Studying the choice of agreement form in a large dataset has the advantage of establishing generalizability. However, it also has weaknesses, in that finding appropriate proxies for the parameters of the model for such a wide range of agreements is difficult. For example, I have argued that, all else equal, agreements with richer states are likely to have higher potential benefits than agreements with poor states. However,

this assumption may not hold up well for some types of agreements, such as military agreements.

Therefore, a next step in this project is to subdivide the data by issue-area, allowing the choice of more appropriate proxies for different issues. As a first step in this direction, Table 6 presents results using only trade agreements. The assumption that agreements are especially valuable if they are with rich countries should hold especially true for such agreements, since the potential market for U.S. exporters in rich countries is large. Thus, we should expect the coefficient on per capita GNP to have a pronounced effect when we restrict our attention to trade agreements.

[Table 6 about here]

As expected, per capita GNP has a strikingly large impact when we consider trade agreements. Its effect is about three times as large as in the full dataset. We find that the puzzling negative effect of total GNP disappears in this estimation. Another interesting finding is that the significant negative coefficient on Republican presidents disappears as well; the effect of Republican presidents on whether trade agreements will be treaties is indistinguishable from zero. It appears that Republicans are not as reluctant to offer treaties on trade issues as they are on other types of issues. The effect of divided government is also negligible, and the sign on the LPPC score remains negative but is no longer significant. Thus, the agenda of subdividing the agreements by type and using more appropriate proxies for the model's parameters seems a promising one.

I have run logit specifications using additional variables that other authors have suggested might have an impact. For example, presidents in their first year in office might have a hard time getting treaties signed; they might also turn to executive

agreements in election years in order to create an image of foreign-policy activism. Neither of these indicators has any effect. Alternative measures of reliability, such as presidential victories on votes in the Senate, have similar effects to divided government. Overall, the expectations of the signaling model are the only propositions to receive substantial support in this large data set, although an unexplained puzzle arises in that larger (measured by GNP) states give rise to fewer treaties. Models that do not take into account strategic interaction with other states and therefore expect more executive agreements to be used when support for the president is low find no empirical support.

Summary

Why does the president sometimes conclude an international agreement in the form of a treaty, and other times as an executive agreement? Authors have offered various answers to this question, but none have integrated the domestic and international levels of strategizing that presidents must undertake. I suggest that one mechanism for thinking about the strategic problem, as well as for integrating various theoretical perspectives, is to consider a treaty a costly signal of the likelihood of living up to its terms. Under some conditions, presidents that are likely to comply with a treaty will be willing to bear the higher costs of getting it ratified, thus distinguishing themselves from presidents that will renege. The likelihood of reneging is understood here as a function of the level of domestic support for or opposition to the agreement.

A signaling model of treaties implies that treaties should be more likely on high-benefit agreements, since presidents will then be willing to bear the costs of signaling

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their reliability. On the other hand, we should expect a negative relationship between the reliability of a president and the percentage of agreements that take the form of treaties. Unreliable presidents cannot simply turn to executive agreements to evade domestic opposition, as this reveals their unreliability. Thus the conventional wisdom that presidents facing partisan opposition will more frequently use executive agreements is called into question when we consider the international strategic problem.

These hypotheses were tested on a new dataset of nearly 5000 agreements signed by the United States between 1980 and 2000. The implications of the signaling model hold up well, with proxies for high-benefit agreements having positive and significant effects. As expected, we find that indicators of the reliability of the president generally have a *negative* relationship to the probability that an agreement is a treaty. This result is not as robust as we might like, in part due to proxies that are imperfect instruments for reliability. We also find that Republican presidents are less likely to sign treaties than Democrats, even after controlling for divided government, and that agreements with international organizations are unlikely to take the form of treaties. The idea that presidents use executive agreements to evade legislative gridlock receives no support (again, consistent with the signaling model), as we see *fewer* treaties when the Senate has the greatest potential for policy change.

While the model presented here is promising and the data a major advance on previous studies, future empirical analysis could improve on the results presented here in a number of ways. The proxies used, both for the potential benefits of the agreement to the president and for reliability, are quite crude. Future research should focus on finding more precise measures of potential benefits. For example, per capita GNP is a good

proxy for potential benefits of trade agreements, and we find that it has a large effect

when we consider only the trade issue-area. It is also necessary to explore the puzzling

finding that states with larger GNPs are less likely to sign treaties, as opposed to

executive agreements, with the United States. Yet, these results do add an important

dimension to our thinking about the unilateral use of executive powers. Other approaches

to this issue have considered only domestic policy instruments, and only domestic

constraints on the president. However, when we consider foreign policy, another

strategic dimension emerges, the international one. This additional constraint changes

the president's decision calculus in fundamental ways, as he now has to worry that his

exercise of unilateral powers will send undesirable signals to other countries. The model

and results presented here, compared with those in other papers in this volume, suggest

the intriguing possibility that the president's hands are actually *more tightly* tied on
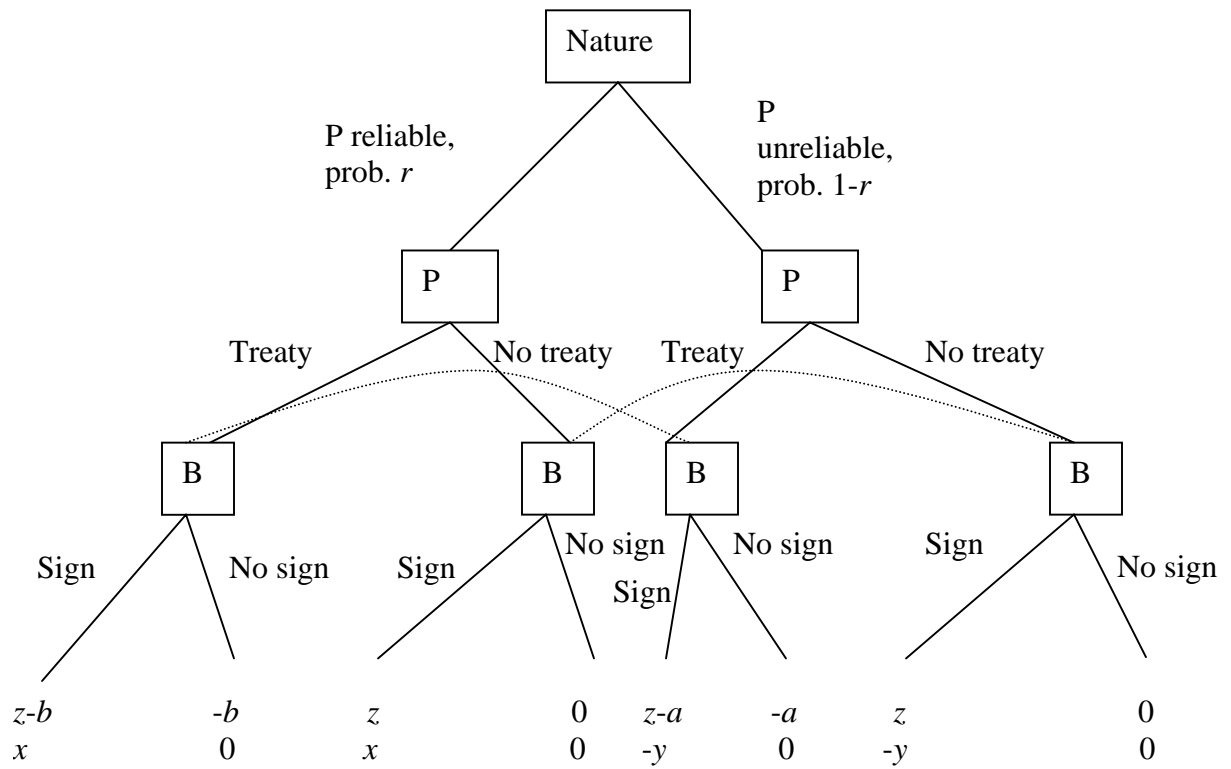
international than on domestic issues.

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Figure 1

Signaling Game

Nature

P reliable,
prob. *r*

P
unreliable,
prob. 1-*r*

P

P

Treaty

No treaty

Treaty

No treaty

B

B

B

B

Sign

No sign

Sign

No sign

No sign

Sign

No sign

Sign

Sign

z-b
x

-b
0

z
x

0
0

z-a
-y

-a
0

z
-y

0
0

The top line of payoffs refers to P's payoff from each outcome; the bottom line refers to
B's payoff. The dotted lines indicate B's information sets.

Figure 2
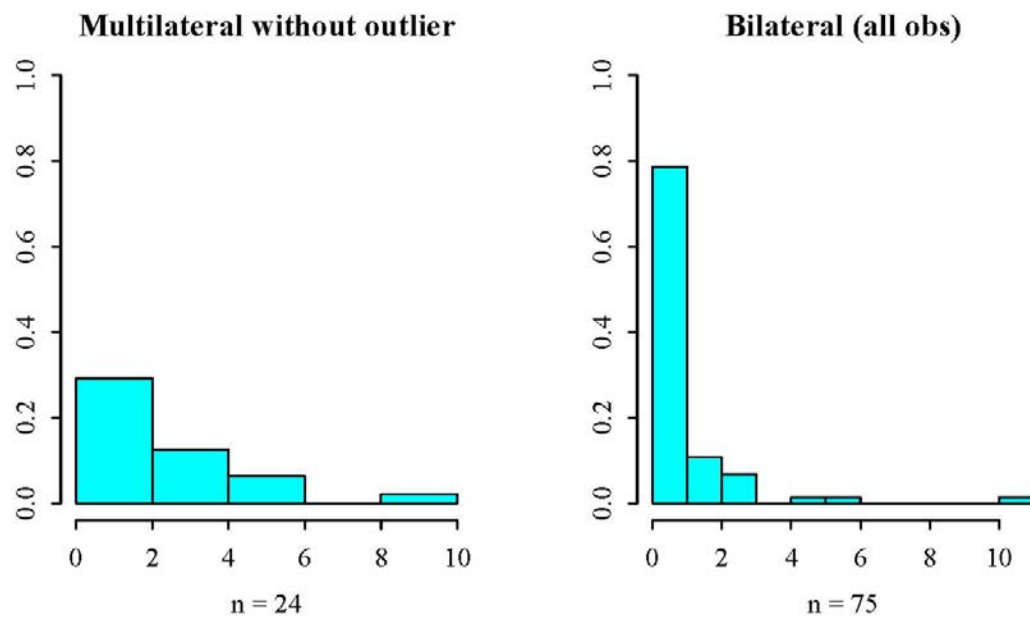**Number of References in *New York Times* to Multilateral and Bilateral Agreements**

Multilateral without outlier

n = 24

Bilateral (all obs)

n = 75

Table 1

Equilibria of Signaling Game

	Probability that P is reliable (r)	
Benefits of potential agreement to P (z)	$r<y/(x+y)$	$r>y/(x+y)$
$z>a$; **Benefits greater than cost of treaty for both types**	*Semi-separating equilibrium*: Reliable types always offer treaties, unreliable types offer treaties with probability $xr/(y(1-r))$. B signs the agreement only if a treaty is offered, then with probability a/z.	*Pooling equilibrium*: All types offer treaties. B signs all agreements.
$a>z>b$; **Benefits greater than cost of treaty for reliable but not unreliable types**	*Separating equilibrium*: Reliable types offer treaties, unreliable types offer executive agreements. B signs only treaties.	*Separating equilibrium*: Reliable types offer treaties, unreliable types offer executive agreements. B signs only treaties
$z<b$; **Benefits less than cost of treaty for all types**	*Pooling equilibrium*: All types offer executive agreements. B does not sign any agreements.	*Pooling equilibrium*: All types offer executive agreements. B signs all agreements.

Parameters: z is the value of the agreement to P; x is the value of the agreement to B; r is

the prior probability that P is reliable; a is the cost to an unreliable type of offering a

treaty; b is the cost to a reliable type of offering a treaty; y is the cost to B if P reneges on

the agreement.

Table 2

Pattern of Treaties, Executive Agreements, and No Agreement in Equilibrium

Benefits of potential agreement to P (z)	**Probability that P is reliable (r)**	
	$r<y/(x+y)$	$r>y/(x+y)$
$z>a$; **Benefits greater than cost of treaty for all types**	Mix of treaties (with probability r^2xa/yz) and no agreements	All treaties
$a>z>b$; **Benefits greater than cost of treaty for reliable but not unreliable types**	Mix of treaties (with probability r) and no agreements	Mix of treaties (with probability r) and no agreements
$z<b$; **Benefits less than cost of treaty for all types**	No agreements	All executive agreements (no treaties)

Parameters: z is the value of the agreement to P; x is the value of the agreement to B; r is the prior probability that P is reliable; a is the cost to an unreliable type of offering a treaty; b is the cost to a reliable type of offering a treaty; y is the cost to B if P reneges on the agreement.

Table 3

Pattern of Treaties and Executive Agreements in Equilibrium

	Probability that P is reliable (*r*)	
Benefits of potential agreement to P (*z*)	*r<y/(x+y)*	*r>y/(x+y)*
z>a; **Benefits greater than cost of treaty for all types**	Treaties	Treaties
a>z>b; **Benefits greater than cost of treaty for reliable but not unreliable types**	Treaties	Treaties
z<b; **Benefits less than cost of treaty for all types**	XXX	Executive agreements

Parameters: *z* is the value of the agreement to P; *x* is the value of the agreement to B; *r* is the prior probability that P is reliable; *a* is the cost to an unreliable type of offering a treaty; *b* is the cost to a reliable type of offering a treaty; *y* is the cost to B if P reneges on the agreement.

Table 4

Rare Events Logit Results
Dependent variable=1 if agreement is treaty, 0 otherwise

Variable	Model 1	Model 2	Model 3	Model 4
Constant	-2.14**	-2.00**	-3.49**	-3.60**
	(0.325)	(0.327)	(4.41)	(0.665)
Multilateral	2.29**	2.24**		
	(0.182)	(0.185)		
IO	-3.58**	-3.59**		
	(1.03)	(1.03)		
Log per capita GNP			0.365**	0.373**
			(0.0920)	(0.0915)
Log GNP			-0.157**	-0.140**
			(0.0540)	(0.0547)
Republican president	-1.02**	-1.11**	-1.18**	-1.28**
	(0.153)	(0.155)	(0.192)	(0.193)
Senate LPPC	-0.000933**	-0.000920**	-0.000737*	-0.000711*
	(0.000326)	(0.000329)	(0.000380)	(0.000386)
Divided government	0.289*	0.343**	0.202	0.243
	(0.152)	(0.154)	(0.184)	(0.186)
N	4953	4403	3973	3549

Estimated using the relogit command in Stata 6.0. Coefficients with two asterisks
indicate statistical significance at the .01 level; coefficients with one asterisk indicate
statistical significance at the .05 level. Robust standard errors in parentheses. Models 2
and 4 omit science and culture agreements, which are never treaties. Models 3 and 4
include only bilateral agreements.

Table 5

Rare Events Logit Results, Issue-Area Controls
Dependent variable=1 if agreement is treaty, 0 otherwise

Variable	Model 5	Model 6
Constant	-1.54** (0.451)	-4.04** (0.831)
Multilateral	3.31** (0.283)	
IO	-4.76** (1.06)	
Log per capita GNP		0.234** (0.101)
Log GNP		-0.0636 (0.0558)
Divided government	-0.0756 (0.173)	-0.204 (0.197)
Republican president	-1.07** (0.177)	-1.26** (0.213)
Senate LPPC	-0.00100** (0.000369)	-0.00104** (0.000425)
Military	-2.23** (0.447)	
Agriculture and commodities	-1.66 (0.486)	
Borders	-0.228 (0.648)	0.989 (0.752)
Environment	-0.692 (0.438)	0.681 (1.02)
Energy	-3.49** (1.05)	
Intellectual property	0.0863 (0.446)	
Other economic	0.657** (0.300)	2.31** (0.299)
Police	2.12** (0.288)	3.61** (0.278)
Trade	-1.47** (0.433)	-0.205 (0.630)
Traditional diplomacy	-1.72** (0.526)	-0.197 (0.760)
Travel	-1.99** (0.645)	
N	4403	3549

(*Notes to Table 5*) Estimated using the relogit command in Stata 6.0. Coefficients with two asterisks indicate statistical significance at the .01 level; coefficients with one asterisk indicate statistical significance at the .05 level. Robust standard errors in parentheses. Science and culture agreements, which are always executive agreements, are excluded. Model 6 includes only bilateral agreements. The excluded issue-area category is financial agreements. When GNP measures are included, some indicators of issue-area could not be included because of multicollinearity problems.

Table 6
Rare Events Logit Results, Trade Agreements Only
Dependent variable = 1 if agreement is treaty, 0 otherwise

Variable	Model 7
Constant	-9.42**
	(2.18)
Log per capita GNP	1.04**
	(0.137)
Log GNP	-0.212
	(0.2373)
Republican president	-1.16
	(1.35)
Senate LPPC	-0.000374
	(0.00323)
Divided government	-0.163
	(1.73)
N	542

Estimated using the relogit command in Stata 6.0. Coefficients with two asterisks

indicate statistical significance at the .01 level. Robust standard errors in parentheses.

Only bilateral agreements are included.

Appendix 1

Equilibria of model

I solve for Bayesian perfect equilibria. B believes that P is reliable with prior probability r. B observes whether P offers a treaty and uses this information to update its belief about P's type using Bayes' Rule. I concentrate on the equilibrium in which B makes its strategy contingent on whether P bears the cost of offering a treaty.[14]

Pooling equilibrium, no types offer treaty: A pooling equilibrium exists if no types find it worthwhile to bear the costs of offering a treaty. In this case, all P types offer executive agreements. This conveys no information to B, and B does not update its beliefs about P's type. So B is willing to sign the agreement if the expected payoff, $rx + (1-r)(-y) > 0$; $r > y/(x+y)$. Thus, whenever r is above this threshold, all P types will offer only executive agreements, and B will always sign them. A pooling equilibrium also exists if $r < y/(x+y)$, as long as $z < b$. This is the case of low benefits to P and low probability that P is reliable. Because benefits are so low, even a reliable P is not willing to bear the costs of a treaty. B does not update its beliefs, and is unwilling to take the chance of signing a treaty when the chance that P is reliable is below the threshold. In this case, we observe no agreements being signed.

The pooling equilibrium where no agreements are signed is inefficient. Here, there are potential agreements between Reliable types and B that would benefit both, but that are not achieved in equilibrium. The existence of many Unreliable types means that it is not worthwhile for Reliable types to attempt to differentiate themselves, given the relatively low benefits of potential agreements.

Separating equilibrium: A separating equilibrium exists if Reliable types are willing to offer a treaty but Unreliable types are not. This occurs when z takes on an intermediate value, $a>z>b$ and $r<y/(x+y)$. In this case, the signal tells B with precision P's type. So B will sign treaties when they are offered, but not executive agreements. Given B's strategy, does an Unreliable type have an incentive to offer a treaty? No, because even if a treaty is completed, the benefits z are less than the cost a to this type.

Semi-separating equilibrium: When the benefits of the agreement are high ($z>a$), but the chance that P is reliable is low ($r<y/(x+y)$), neither a pooling nor a separating equilibrium can exist. The pooling equilibrium where all offer treaties cannot exist, because the offer of a treaty will provide no information to B and the expected payoffs to signing a treaty are too low to B, given the high probability that P is unreliable. Thus P does not have an incentive to always offer treaties, in spite of the high potential benefits, because they will not be signed. A separating equilibrium cannot exist, because Unreliable types have an incentive to bluff. The benefits of the agreement are high enough to encourage an Unreliable type to offer a treaty if it will be accepted, as in a separating equilibrium. But we have established that treaties will not be accepted when $r<y/(x+y)$ unless the choice of the agreement's form provides some information about P's type.

So with high benefits and low reliability, the only equilibrium that can exist requires that Unreliable types randomize and offer a treaty with probability $0<q<1$. Reliable types will always offer a treaty. B will observe whether a treaty is offered and update its beliefs about P's type using Bayes' Rule. B will never sign if an executive agreement is offered. If a treaty is offered, B will sign with probability $0<s<1$.

B will choose *s* so as to make Unreliable types indifferent between offering a treaty and offering an executive agreement. Unreliable types' expected payoff from offering a treaty is $s(z-a) + (1-s)(-a)$; the payoff from offering an executive agreement is 0. So an Unreliable type is indifferent when $s=a/z$.

Unreliable types will choose *q* so as to make B indifferent between signing and not signing after observing a treaty. If B observes a treaty, B's updated belief that P is reliable is $r/(r+q(1-r))$. B's updated belief that P is unreliable is $q(1-r)/(r+q(1-r))$. So B's payoff from signing after observing a treaty is $xr/(r+q(1-r)) - yq(1-r)/(r+q(1-r))$. B will be indifferent between signing and not signing when this is equal to the value of no agreement, 0. So B will be indifferent when $q=xr/y(1-r)$.

Thus, in the semi-separating equilibrium, Reliable types offer treaties with probability 1. Unreliable types offer treaties with probability $q=xr/y(1-r)$. B does not sign if an executive agreement is offered; if a treaty is offered, B signs with probability $s=a/z$.

Given B's strategy, will the Reliable type be tempted to save the costs of a treaty by sometimes offering an executive agreement? No, because this increases the probability that no agreement will be signed, which can only reduce the Reliable type's payoff when $z>a$.

This equilibrium is also inefficient. Some treaties that are offered by Reliable types are turned down by B, to the detriment of both. Reliable types cannot fully differentiate themselves from Unreliable types because the high benefits of an agreement to P make it worthwhile for Unreliable types to sometimes bluff.

Pooling equilibrium, all offer treaty: An "all-treaty" pooling equilibrium exists if all P types offer a treaty and if B always chooses to sign a treaty but refuses to sign executive agreements. In this case, the offer of a treaty conveys no information to B, so B does not update its beliefs about P's type. The value to B of signing a treaty in this case is $rx + (1-r)(-y)$. B will sign if this is greater than the value of no agreement, 0. So B will sign if $r > y/(x+y)$. Given this strategy, an Unreliable type will receive the payoff $z-a$ from offering a treaty. So an Unreliable type will offer a treaty if the payoff is greater than 0, or $z > a$. In this case, the Reliable type receives a payoff of $z-b > 0$ for offering a treaty, so all types will offer a treaty. So a pooling equilibrium where all types offer a treaty exists if $z > a$ and $r > y/(x+y)$.

Appendix 2

Descriptive statistics and data sources

Variable	Mean	Std. Dev.	Minimum	Maximum	Source
Treaty	.0416	.1996	0	1	Oceana
Multilateral	.0741	.2620	0	1	Oceana
International organization	.0283	.1657	0	1	Oceana
Log of per capita GNP, constant dollars	7.96	1.54	4.51	10.8	World Development Indicators, 2000 CD-ROM
Log of GNP	10.77	2.35	3.66	15.5	World Development Indicators, 2000 CD-ROM
Republican president	.6032	.4893	0	1	Stanley and Niemi 2001
Senate LPPC scores	967	236	580	1419	Congressional Quarterly
Divided government	.5501	.4975	0	1	Stanley and Niemi 2001

Notes

[1] I thank Jim Alt, Jeff Frieden, Michael Hiscox, William Howell, Robert Keohane, Andy Kydd, Helen Milner, Beth Simmons, Ken Shepsle, Joel Trachtenberg, and participants in seminars at Yale, Harvard, NYU, and Dartmouth College for valuable feedback on earlier versions of this paper. I also thank Liliana Botcheva-Andonova, Olivia Lau, Phillip Lipscy, and Sarah Michaels for excellent research assistance.

[2] For example, revisions to European Union treaties must be approved by procedures that are specified by each member state, and that vary from sole executive approval to popular referenda.

[3] I use the term "treaties" to refer to agreements that undergo the Article II procedure (requiring approval by 2/3 of Senators present and voting) in the United States. In international law, the term "treaties" is often used to refer to all formal international agreements, regardless of the ratification procedure. In this paper, "executive agreements" refers to all agreements other than treaties.

[4] Some legal scholars have also argued that treaties serve as signals of U.S. intent to comply with its commitments (Setear 2002). However, their approaches cannot explain the observed pattern of variation in the form of agreements and rest on mistaken empirical assumptions, for example that agreements regarding national security are more likely to take the form of treaties.

[5] The legal literature draws distinctions among sole executive agreements, congressional-executive agreements, and executive agreements that are subsequent to previous congressional approval. While this more fine-grained distinction may prove important, at this stage I examine only the broad difference between treaties and all forms of executive

agreements. This is motivated by data availability (no data are readily accessible differentiating among types of executive agreements) and by the presumption, justified below, that treaties impose higher domestic costs on the president than other forms of agreements.

[6] Spiro 2001 disagrees with Ackerman and Golove's conclusion, arguing that sole executive agreements are constitutionally unacceptable under some conditions. However, this reasoning has found no support in the courts.

[7] I should note that I am using the term "reneging" in a political sense: whether states live up to the understood terms of agreements. This should be distinguished from legal compliance. In these GATT/WTO cases, legal scholars could argue that the United States had actually "complied" because once a ruling went against the United States, it typically changed its trade policies or offered compensation. However, this type of legal compliance is not the behavior of interest here, or when states are considering whether the president is reliable. The fact that compliance only comes about after long delays and lengthy legal procedures means that U.S. actions impose significant costs on other parties. For discussions of compliance, see Chayes and Chayes 1993, Downs, Rocke, and Barsoom 1996, and Simmons 2000.

[8] I would note that very few executive agreements require this high level of legislative participation.

[9] A more realistic model would also allow B to renege. This complication would introduce more parameters to the model, but would not change its basic insights.

[10] Note that a second class of equilibria, in which country B does not demand a treaty when P's reliability is high, also exists. As is typical in applications of signaling models,

I do not discuss this equilibrium here. However, the predictions about the overall patterns of treaties and executive agreements are the same for the two classes of models.

[11] Another commonly used measure of legislative gridlock potential would simply be the size of the majority party in the Senate. However, this variable is highly correlated (0.8) with the LPPC score, and does not have any explanatory power in the model, so it is dropped from the estimations here.

[12] Model 6 includes measures of GNP and per capita GNP, and it proved impossible to include all subject dummies simultaneously with these variables, as the model would not converge. It is likely that this is due to complex multicollinearity, as certain subjects are only negotiated with particular countries.

[13] I should note that in all of these subject categories, the agreements run the gamut from consequential to trivial. It seems unlikely that they are directly capturing the level of potential benefits to the president.

[14] Another equilibrium, which could be called an accommodating equilibrium, also exists. In the accommodating equilibrium, B recognizes that even a reliable P would prefer to avoid bearing this cost and therefore does not make its policy contingent, as long as the probability that P is reliable is high enough. However, as in most applications of signaling models, I do not explicitly analyze it here. However, the comparative statics generated are the same for both classes of equilibria.