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What is This?
Constituencies and Preferences in International Bargaining

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Previous formal models of two-level games, which try to determine whether a domestic ratification constraint provides an executive with bargaining leverage in international negotiations, pay little attention to the exact nature of the executive’s constituency and the source of the constraint. The author uses a game-theoretic model to show that an executive with a national constituency such as a nationally elected president benefits by being constrained. An executive with a constituency distinct from that of the ratifying legislators, however, is worse off under greater constraints, when the constraints come from constituencies other than his or her own. This can occur, for instance, in a minority or coalition parliamentary government consisting of parties with different and in fact opposing constituencies. Testable hypotheses are derived on the effect of the party composition of the legislature on the executive’s constraint.

Keywords: international bargaining; international negotiations; two-level games; domestic constraints

Putnam (1988) introduced the “two-level game” metaphor as a way of thinking about international bargaining, especially the link between domestic politics and international bargaining outcomes. The two-level game metaphor conceives of international bargaining as a multilevel “game.” In addition to the bargaining directly going on between the executives of the countries (level I bargaining), the executives are simultaneously bargaining with domestic groups in their respective countries (level II bargaining), when their ratification is necessary for the agreement to be implemented. For instance, in many countries, treaties and other major international agreements are subject to legislative or some other type of ratification (e.g., by the Senate in the United States).

The main idea that emerges from the two-level game metaphor is that if an agreement between the executives is finally reached and ratified, it will to some extent reflect the preferences of domestic groups in each country. Because of the need for domestic ratification, the executives to some extent have their “hands tied” during the bargaining at level I and have to take into account the preferences of domestic groups whose ratification is necessary, even if they do not play a direct role in the negotiation.

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process. It has been conjectured that having one’s hands tied in this manner can be a bargaining advantage in international negotiations, insofar as an executive can use the prospect of ratification failure to extract concessions from the other side (Schelling 1960; Putnam 1988; Milner 1997 calls this the “Schelling conjecture”). As Putnam (1988, 440) notes, “The difficulties of winning congressional ratification are often exploited by American negotiators.”

Since Putnam’s (1988) seminal article, there have been a large number of formal models of two-level games that attempt to ascertain the conditions under which a domestic constraint is or is not a bargaining advantage (Hammond and Prins 1999; Iida 1993, 1996; Milner 1997; Milner and Rosendorff 1997; Mo 1994, 1995; Pahre 1997, 2001; Smith and Hayes 1997; Tarar 2001). For the most part, however, these models pay little explicit attention to the different types of preferences or constituencies the executive and legislators might have. Iida (1993, 1996) and Tarar (2001), for instance, assume that the executive and the legislators have identical preferences: they only care about the international agreement’s overall allocation of benefits to their country, and they differ only in their evaluation of the status quo (lack of an agreement). In a sense, these models assume that all domestic actors have a national constituency. In reality, however, legislators often have local constituencies (e.g., a local electoral district and the strongest interests in that district), and executives can have local or national constituencies. A politician with a local constituency will primarily care about the share of benefits that go to his or her own constituency (e.g., district), rather than the country’s overall share of the benefits.

In this article, I analyze formal models of two-level games that examine how these different constituencies and preferences affect the executive’s bargaining power in international negotiations. I first present a model in which the executive has a national constituency but the legislators who have to ratify the agreement have local ones. In this setting, which resembles the U.S. presidential case, it turns out that the executive benefits by being constrained (up to the point where the constraint becomes so high that no agreement is possible), in line with the Schelling conjecture.

However, I then analyze a model in which the executive has a constituency distinct from that of some of the ratifying legislators. In particular, I assume that the executive only gets utility from the country’s share of the benefits that do not have to be offered to these legislators to obtain their ratification votes. This resembles a minority or coalition parliamentary government in which the coalition members have rather different constituencies (e.g., recent Labor-Likud coalition governments in Israel) or a divided government in the United States. It turns out that in this case, the executive is in fact worse off under greater domestic constraints, when the constraints come from legislators with constituencies different from his or her own.

In the last section, I use a game-theoretic model to analyze how the executive’s constraint depends on the party composition of the legislature. I find that the party that is the strongest domestically can be the worst off in terms of international agreements because it may be the hardest to satisfy, and hence the executive may avoid it when seeking ratification votes. I show how the executive’s constraint can depend in a complicated way on the pattern of domestic political coalitions and the party composition of the legislature.
The article is organized as follows. In the next section, I review the formal literature on two-level games and discuss how the models of this article fill gaps in that literature. Following that, I present two formal models of two-level games: one in which the executive has a national constituency and the legislators who have to ratify the agreement have local ones, and then one in which the executive also has a distinct constituency. In each case, I analyze how the executive’s utility is affected by having greater domestic constraints. Following that, I analyze how the executive’s constraint depends on the party composition of the legislature. I conclude by discussing the empirical implications of these results and their bearing for the broader two-level game literature.

FORMAL MODELS OF TWO-LEVEL GAMES

Existing formal models of two-level games can be divided into two categories, depending on the type of international agreements that they examine. One class of models, which includes Hammond and Prins (1999), Milner (1997), Milner and Rosendorff (1997), Mo (1995), and Pahre (1997), examines agreements that can be represented as points in a spatial policy space over which the actors have Euclidean preferences (i.e., each actor has an ideal point in the policy space, and utility is decreasing in distance from the ideal point). For lack of a better term, I will call these spatial agreements. These works have come to somewhat different conclusions about whether the Schelling conjecture holds in a spatial setting. Milner (1997) uses the Nash bargaining solution (Nash 1950) and finds that an executive can never use the prospect of legislative ratification failure to extract concessions from the other side. In fact, in Milner’s model, the constrained executive is either the same or worse off by the presence of a legislative ratification constraint and never better off. In Milner’s model, in other words, the Schelling conjecture never holds.

Mo (1995) analyzes a similar spatial model but, instead of using the Nash bargaining solution, allows the unconstrained executive to make a take-it-or-leave-it offer. He finds that under complete information, a domestic ratification constraint can be a bargaining advantage. Milner and Rosendorff (1997) allow the constrained executive to make a take-it-or-leave-it offer in a two-dimensional spatial setting and find that the executive can benefit by having a domestic constraint, but only when the legislature’s ideal point is not too far from his or her own. Finally, Hammond and Prins (1999) and Pahre (1997) do not specify an exact bargaining procedure and instead look at the set of possible agreements (i.e., the set of agreements that are preferred to the status quo by both executives and their domestic veto players). Hammond and Prins (1999, 138) conclude that, in their model, almost anything can happen:

Under most conditions, domestic veto institutions will not affect a chief of government’s bargaining power at all. Under some conditions, the chief of government is hurt by the

1. Most models of two-level games allow only one executive to be constrained. Tarar (2001) shows that this simplification can be very problematic when generalizing the results of these models to situations in which both executives can be constrained. In this article, I allow both executives to be constrained.

2. However, the major focus of Mo’s (1994) article is on the effects of incomplete information.
presence of a domestic veto institution. Only under a very few conditions will the chief of
government be helped by the presence of a domestic veto institution.

The second class of models includes Iida (1993, 1996), Mo (1994), and Tarar
(2001), which examine distributive agreements, which resemble a dividing of a “pie”
among the actors. In a distributive agreement, there is a fixed supply of goods to be
divided, and each actor cares only about how much it gets for itself and wants more
rather than less.

Iida (1993) analyzes a model in which agreements are distributive in nature, but
there is no distributional conflict between the executive and the legislators or among
the legislators. That is, there is distributional conflict at the international level but not
at the domestic level. In Iida’s model, the executives of two countries try to reach an
agreement on a division of a pie between their two countries. An agreement is a divi-
sion of the form \( x = (x_1, x_2) \), where \( x_i \) is country \( i \)'s share of the pie. If this agreement is
ratified by the legislature of country 1 (he treats country 2 as a unitary actor), then the
executive and the legislators of country 1 all receive utility \( x_1 \). In other words, all of the
actors in country 1 get the same utility from any given agreement, and they differ only
in their evaluation of the status quo (lack of an agreement). In this framework, each
actor, the executive as well as the legislators, has a national constituency in the sense
that he or she only cares about the country’s overall share of the benefits.

Iida (1993) finds that under complete information about the magnitude of executive
1’s domestic constraint (which in this model turns out to be the status quo payoff of
country 1’s median legislator), the Schelling conjecture does hold, in that executive 1
obtains a more favorable agreement (a larger share of the pie) the higher his or her
domestic constraint, up to the point where the constraint becomes so high that no
agreement is possible. Tarar (2001) generalizes this model to allow both executives to
be constrained and finds that if one executive has a high constraint and the other’s is
only low or medium, the former gets a better deal (a larger share of the pie) than if nei-
ther side were constrained, and the latter is worse off. Thus, both Iida (1993) and Tarar
(2001) find that a form of the Schelling conjecture holds under complete information
when the agreement being negotiated is distributive, and the executive as well as the
legislators have national constituencies.

In reality, however, legislators often tend to have local constituencies and care pri-
marily about how the international agreement benefits their particular districts (and
the major interests therein) rather than the country as a whole. In this regard, Mo’s
(1994) model is innovative in that it allows the actors to have local constituencies.
However, he perhaps goes too far in requiring that the executive also has a local con-
stituency, whereas in reality this is only sometimes the case.

Mo (1994) considers a distributive model of two-level games in which there are
three domestic groups in one country, among whom there is pure distributional con-

\[ \text{footnote} \]

3. Again, this result holds only up to the point where the constraints become so high that no agree-
ment is possible.

4. Under incomplete information, however, the Schelling conjecture need not hold; see Tarar (2001)
for details.
2, one of which is probabilistically chosen to make a proposal whenever it is country 2’s turn to make an offer. Country 1 is treated as a unitary actor, with no domestic groups, and no domestic ratification necessary. To be ratified, an agreement requires the approval of country 1 (a unitary actor) and at least two of the three domestic groups in country 2. Unlike in Iida (1993) and Tarar (2001), an agreement takes the form $x = (x_1, x_{21}, x_{22}, x_{23})$, where $x_1$ is country 1’s share of the pie, and $x_{2i}$ is the share of the pie for country 2’s domestic group $i$ ($i = 1, 2, 3$). In this model, then, every actor in country 2 has a distinct constituency and only derives utility from the share of the benefits that goes to that constituency.

Mo (1994) designates domestic group 1 as country 2’s “negotiator” and examines how its expected payoff in the game changes as its domestic constraint, which is measured primarily by domestic group 3’s discount factor, changes. Mo finds equilibria in which domestic group 1’s expected payoff is increasing in its domestic constraint, as well as equilibria in which it is decreasing. Mo’s conclusion, then, is that the Schelling conjecture sometimes holds and sometimes does not when each actor has a distinct constituency.

While Mo’s (1994) model is innovative in that it allows actors to have local constituencies, it perhaps goes too far by assuming that even the executive (the negotiator in his model) has a local constituency. While this may be reasonable in some circumstances, it is probably unreasonable in most. Moreover, Mo’s model is problematic for investigating the Schelling conjecture even in that particular setting because country 2 does not have a well-defined executive with which the executive of country 1 has to bargain (more on this later).

In this article, I make the distinction between local and national preferences more explicit than in previous formal models of two-level games and analyze two scenarios. I begin with a model in which the executive has a national constituency but the legislators who have to ratify the agreement have local ones. I then consider a model in which the executive has a constituency distinct from that of the ratifying legislators. It turns out that the executive benefits by being constrained in the former scenario but not in the latter. The empirical implications of these results are discussed after describing and analyzing the models.

**MODEL I: EXECUTIVE HAS A NATIONAL CONSTITUENCY**

The model, building on the foundations of the Rubinstein (1982) two-player bargaining model and the Baron and Ferejohn (1989) model of legislative bargaining, is as follows. The executives of two countries bargain over a “pie” of size 1 (this can be considered to be the gains from cooperation), according to an alternating-offers procedure. The two executives take turns making offers and counteroffers until one executive accepts an offer, at which point the agreement is sent to the two countries’ legislatures for ratification.

In the first period, indexed by $t = 0$, executive 1 can make any proposal $x = (x_1, x_2) \in R^2$, where $x_1 + x_2 = 1$ and $0 \leq x_1, x_2 \leq 1$. The interpretation is that $x_i$ is country $i$’s share of the pie. If executive 2 accepts this proposal, the agreement is sent to the two countries’
legislatures for ratification. If executive 2 rejects the proposal, the game moves to the next period, \( t = 1 \), wherein executive 2 can make any proposal \( y = (y_1, y_2) \), such that \( y_1 + y_2 = 1 \) and \( 0 \leq y_1, y_2 \leq 1 \). If executive 1 accepts this proposal, the agreement is sent to the two countries’ legislatures for ratification. If executive 1 rejects the proposal, the game moves to the next period, \( t = 2 \), wherein executive 1 makes some new proposal. In this way, the two executives take turns making offers and counteroffers until one executive accepts an offer, at which point the agreement is sent to the two countries’ legislatures for ratification.

The payoffs for the executives are as follows. Future payoffs are discounted, with executive \( i \) discounting future payoffs with discount factor \( 0 < \delta_i < 1 \) (\( i = 1, 2 \)). Therefore, if an agreement \( x = (x_1, x_2) \) is reached in period \( t = 0, 1, 2, 3, \ldots \) and is ratified by the two countries’ legislatures, then executive \( i \)’s payoff is \( \delta_i^t x_i \) (\( i = 1, 2 \)). Thus, in this first version of the model, an executive’s reward if an agreement is ratified is determined by the overall share of the pie that goes to his or her country and not by how he or she allocates it among his or her domestic groups (see below). If an agreement fails to be ratified by either legislature, both executives receive payoff 0 (thus, the pie that is being divided represents the total benefits from cooperation or, in a multidimensional setting, the contract curve between the executives’ ideal points). If an agreement is never reached and the two executives bargain forever (never submitting an agreement to the legislatures for ratification), both obtain utility 0.

To model the legislative ratification (sub)game, I use the closed-rule (no amendments) version of the Baron and Ferejohn (1989) model of legislative bargaining. The Baron-Ferejohn model is particularly useful for this purpose because it also takes place in a distributive (“divide-the-pie”) setting. In the Baron-Ferejohn model, the members of a legislature have to decide how to divide a pie of size 1 among themselves (or among their districts). In the first period of the model, \( t = 0 \), a member of the legislature is randomly chosen (each with probability \( 1/n \), where \( n \) is the number of legislators—later on, I will relax the assumption that the legislators all have the same recognition probabilities) to propose a division of the pie. Since there are \( n \) members in the legislature, a proposal is a vector \( z = (z_1, z_2, \ldots, z_n) \in \mathbb{R}^n \), with the restrictions that \( 0 \leq z_i \leq 1 \) for all \( i \) and \( z_1 + z_2 + \ldots + z_n \leq 1 \). Of course, \( z_i \) is legislator \( i \)’s proposed share of the pie.

A simple vote is then taken on the proposal. Each legislator votes either yes or no, with no abstentions allowed. If at least a simple majority (\((n + 1)/2 \) when \( n \) is odd, and \((n/2) + 1 \) when \( n \) is even) votes yes, the proposal is accepted, each member receives its proposed share, and the game ends. Otherwise, the proposal is not accepted and the game moves to the next period, \( t = 1 \), wherein a member is randomly chosen to make a new proposal, with the same recognition probabilities as before (in the closed-rule version of the game, which is what I consider here, the previous proposer can be chosen again). The game continues until a proposal \( z = (z_1, z_2, \ldots, z_n) \) is approved in period \( t = 0, 1, 2, \ldots \) by at least a simple majority, in which case legislator \( i \)’s payoff is \( \delta^t z_i \) (\( \delta \) is the legislators’ common discount factor). If a proposal is never approved and the game goes on forever, each legislator receives payoff 0.

Baron and Ferejohn (1989) show that there is a unique stationary subgame-perfect equilibrium in this game, in which the legislator recognized in the first period randomly chooses a minimal majority (i.e., when \( n \) is odd, he or she randomly chooses \((n – 1)/2 \)
other members, who along with him or her comprise a minimal majority) and offers each of them their discounted continuation values (what they expect to get in the next period of the game, if everyone sticks to their strategies), which in equilibrium turn out to be $\delta/n$, and keeps the rest of the pie, $1 - ((n - 1)/2)(\delta/n)$, for himself or herself. The other members are offered 0. The members of the minimal majority vote yes, and the proposal is approved. What is important for our purpose is that in this equilibrium, the ex ante expected value of this game to each member is $1/n$. That is, before the game begins, each legislator’s expected payoff for the game that is about to begin is $1/n$.

Now consider the following ratification game. If the two executives reach agreement on $x = (x_1, x_2)$ in period $t$ ($t = 0, 1, 2, \ldots$), the proposal is submitted to the two countries’ legislatures for ratification. The interpretation is that $x_i$ is country $i$’s share of the pie. In legislature 1 (everything is analogous in legislature 2), in the first period of a modified Baron-Ferejohn bargaining game, executive 1 makes an $n_1$-way division of country 1’s share of the pie $x_1$, where $n_1$ is the number of legislators in country 1. That is, he or she makes a proposal $z = (z_1, z_2, \ldots, z_{n_1})$ such that $1 \geq z_i \geq 0$ for all $i$ and $z_1 + z_2 + \ldots + z_{n_1} = x_1$. Of course, $z_i$ is legislator $i$’s proposed share of the benefits from the international agreement (i.e., the share of the benefits that goes to legislator $i$’s particular district or constituency).

If at least a simple majority votes yes on this proposal and the agreement is also ratified by country 2’s legislature, the agreement $x = (x_1, x_2)$ is ratified and the game ends. Legislator $i$ (in country 1) receives payoff $\delta_1 L_iz_t (0 < \delta_1 \leq 1$ is the common discount factor for the legislators in country 1), and executive 1 receives $\delta_1 x_t$. Thus, the executive, having a national constituency, is rewarded for the overall share of the pie that he or she brings home from the international negotiations, whereas the legislators care only about their own shares, which they can allocate among the interest groups in their districts to increase their chances of reelection.

If the agreement fails to be ratified in either country, the two executives receive payoff 0, and the two legislatures begin the Baron-Ferejohn bargaining game to develop policy on the issues that the international agreement was meant to address. Hence, in contrast to most previous formal models of two-level games (exceptions include Mo 1994; Pahre 2001), the (status quo) reversion point of an agreement not being reached is endogenized. As seen below, this means that the executive’s domestic ratification constraint is endogenous as well.

In the Baron-Ferejohn game that begins in the legislature of country $i$ upon the agreement’s failure to be ratified in either country, suppose that the legislators have a pie of size $\Delta_i \geq 0$ available to divide among themselves. In the usual Baron-Ferejohn model, of course, $\Delta_i = 1$; following Jackson and Moselle (2002), we relax this assumption since we have already normalized the payoff from cooperation (i.e., the pie that the two countries are dividing between themselves) to be 1. The fact that $\Delta_i$ is variable

5. Later in the article, I provide a simple example that provides some intuition for this result. In fact, as Baron and Ferejohn point out (1989, n.16), there are other stationary subgame-perfect equilibria in which the legislators do not randomly choose the members of their minimal majority but instead choose specific members. In all of these stationary subgame-perfect equilibria, however, each legislator’s ex ante expected value for the game is $1/n$, which is what is important for our purpose. In fact, Eraslan (2002) generalizes this result and shows that, for any vector of discount factors and any vector of recognition probabilities, the stationary subgame-perfect equilibrium payoffs are unique.
captures the idea that the legislature can as a whole be satisfied (if $\Delta$ is high) or dissatisfied (if it is low) with the status quo (lack of an agreement).\footnote{The idea here is that if an international agreement is not reached, the legislators have to decide on a domestic resolution of the issues that the international agreement was meant to address. The legislators have certain expectations about the payoffs they would obtain from the domestic resolution, which in the model is captured by allowing them to divide their own pie. In this way, I am able to analyze how the executive’s constraint depends on the party composition of the legislature.}

For the Baron-Ferejohn game that begins in legislature $i$ upon the agreement’s failure to be ratified in either country, the ex ante expected value of each member of the legislature (in the unique stationary subgame-perfect equilibrium discussed earlier) is $\Delta_i/n_i$ (which reduces to the usual $1/n_i$ when $\Delta_i = 1$). Therefore, for the agreement $x = (x_1, x_2)$ to be ratified in country $i$, executive $i$ at the very least needs to be able to offer the members of a minimal majority of his or her legislature ($(n_i + 1)/2$ when $n_i$ is odd) their discounted values for the domestic bargaining game, $(\delta_i \Delta_i/n_i)$. That is, it is necessary that $x_i \geq ((\delta_i \Delta_i)/n_i)((n_i + 1)/2)$.

If we set $C_i = ((\delta_i \Delta_i)/n_i)((n_i + 1)/2)$, then $C_i$ is the effective (i.e., minimal) domestic ratification constraint that executive $i$ faces. An agreement $x = (x_1, x_2)$ reached in any period $t$ will be ratified in country $i$ if and only if $x_i \geq C_i$, for only then will executive $i$ be able to offer a minimal majority of his or her legislators at least as much as they expect to obtain in the domestic bargaining game that occurs in the absence of ratification, thus obtaining their ratification votes. The better the legislators expect to do in the domestic bargaining game, the more they demand from the executive to vote for the international agreement, and hence the higher the executive’s domestic ratification constraint. The executive’s constraint is determined endogenously by the domestic bargaining game.

As an example, if a U.S. senator expects to receive a lot of “pork” for his or her district in the next defense budget that Congress chooses, he or she will presumably not vote for an arms control agreement that does not also allow the senator’s district to receive a lot of pork (or other benefits). The better the senator expects to do in the domestic bargaining game, the more he or she will demand from the executive to vote yes on the international agreement.

As another example, the agreement might be an international agreement to reduce nontariff barriers to trade, such as the Tokyo and Uruguay round General Agreement on Tariffs and Trade (GATT) negotiations. Although the U.S. Congress stopped setting tariff rates in 1934 (O’Halloran 1994), nontariff barriers pertain primarily to issues of domestic law, which Congress would choose in the absence of a ratified trade agreement. The more nontariff protection a given legislator’s constituents receive under existing (or future anticipated) law, presumably the more he or she will have to be compensated to vote for a trade agreement that reduces that protection. The better a legislator expects to do in the domestic bargaining game, the more he or she demands to vote yes on the international agreement.

Because the model takes the form that an agreement $x = (x_1, x_2)$ reached in any period $t$ will be ratified in both countries if and only if $x_1 \geq C_1$ and $x_2 \geq C_2$, the model is essentially equivalent to that of Tarar (2001), in which $C_i$ is simply taken to be the exogenous status quo payoff (i.e., the payoff if an agreement fails to be ratified) of...
country i’s median legislator. All the results of that study hold, particularly what is called the “generalized Schelling conjecture”: under complete information, if one executive’s constraint \( C_i \) is high and the other’s \( C_j \) is only low or medium, the former gets a better deal (a larger share of the pie) than if neither side were constrained, and the latter is worse off. That is, the side with the relatively higher constraint benefits, and the other side is worse off than it would be if there were no constraints.

Thus, a generalized version of the Schelling conjecture holds in a presidential setting in which the executive has a national constituency but the legislators whose support he or she needs to get the agreement ratified have local constituencies. The more a minimal majority of the legislators are demanding to vote yes on the international agreement, the greater the country’s share of the pie, up to the point where the constraint becomes so high that no agreement is possible. An executive with a national constituency benefits from that greater share of the pie and hence is better off under greater domestic constraints.

### MODEL II: EXECUTIVE HAS A LOCAL CONSTITUENCY

I now consider a version of the previous model in which the executive also has a local constituency or at least a constituency distinct from that of some of the ratifying legislators. Before continuing, I need to discuss Mo’s (1994) model, which also considers this setting. In Mo’s model, an international agreement takes the form \( x = (x_1, x_{21}, x_{22}, x_{23}) \), where \( x_1 \) is country 1’s share of the pie (country 1 is a unitary actor, with no domestic ratification necessary), and \( x_{2i} \) is the share of the pie for country 2’s domestic group \( i (i = 1, 2, 3) \). In odd-numbered periods \( (t = 1, 3, 5, \ldots) \), when it is country 2’s turn to make a proposal, domestic group \( i \) is chosen to make the proposal with probability \( p_i \) (0 ≤ \( p_i \) ≤ 1 for all \( i \) and \( p_1 + p_2 + p_3 = 1 \)). An interpretation of this (although this is not Mo’s interpretation) is that a probabilistic election is held to choose country 2’s executive, who then gets to make the proposal. However, in even-numbered periods \( (t = 0, 2, 4, \ldots) \), in which country 1 makes a proposal, there is no executive in country 2 with whom country 1 has to bargain because the assumption is made that country 1’s proposal is ratified in country 2 if it meets the approval of any two of the three domestic groups in country 2.

However, in actual international bargaining situations, the executive branches generally conduct the negotiations, and an agreement would not be submitted to the legislature for ratification unless the executive approves it. For instance, if the United States and a foreign country are negotiating an arms control treaty that requires ratification in the Senate, if the foreign executive proposes an agreement that would easily meet the approval of two-thirds of the Senate, and if the president does not also approve the treaty, the Senate and the foreign executive are out of luck because the treaty will never reach the Senate floor. That is, the executive’s approval is always needed.

7. However, the payoff structure and the structure of the ratification game are quite different in the two models.
Mo’s (1994) model avoids this feature of actual international negotiations by allowing country 1 to directly make offers to country 2’s domestic groups, rather than through an executive. Mo designates domestic group 1 as country 2’s “negotiator” and examines how its expected payoff in the game changes as its domestic constraint, which is measured primarily by domestic group 3’s discount factor, changes. Mo finds equilibria in which domestic group 1’s expected payoff is increasing in its domestic constraint, as well as equilibria in which it is decreasing. Mo’s conclusion, then, is that the Schelling conjecture sometimes holds and sometimes does not in this setting. However, because half of the time there is no executive in country 2 in Mo’s model (namely, in even-numbered periods, when country 1 makes a proposal), it is not well suited for examining the Schelling conjecture.

A variant of the model analyzed previously can be used to examine whether the Schelling conjecture holds in Mo’s (1994) scenario in which the executive has a constituency distinct from that of some of the legislators. Suppose that, in the model analyzed previously, if agreement \( x = (x_1, x_2) \) is reached between the two executives in period \( t (t = 0, 1, 2, \ldots) \) and is ratified by both legislatures, executive \( i \) ’s payoff is \( \delta_i(x_i - C_i) \) rather than \( \delta_i x_i \), where \( C_i \) is the share of the pie being demanded by legislators from parties other than the executive’s own, as might be the case in a minority or coalition parliamentary government or a divided government in the United States.

In this case, when the legislators (from parties other than the executive’s own) in countries 1 and 2 are respectively demanding \( C_1 \) and \( C_2 \) to ratify the agreement, the executives have a utility-providing pie of size \( 1 - C_1 - C_2 \) to divide between themselves. In the unique subgame-perfect equilibrium, country 1 is allotted \( C_1 \) to satisfy its legislature, country 2 is allotted \( C_2 \), and the executives divide the remaining pie, \( 1 - C_1 - C_2 \), between themselves in the Rubinstein (1982) ratio, with executive 1 receiving \( \left[ (1 - \delta_1)(1 - \delta_2)(1 - C_1 - C_2) \right] \) and executive 2 obtaining \( \left[ \delta_2(1 - \delta_1)/(1 - \delta_1 \delta_2) \right] (1 - C_1 - C_2) \).

(The proof is in the technical supplement to this article, which is available at http://www.yale.edu/unsy/jcr/jcrdata.htm. We are assuming that \( C_1 + C_2 < 1 \); otherwise, the constraints are too high for a ratifiable international agreement to be possible, and there exists an infinite number of equilibria, all resulting in ratification failure or infinite bargaining by the executives.)

In the situation where the executive has a distinct constituency, then, contrary to Mo (1994), an executive is never better off under greater domestic constraints and is in fact always worse off. As \( C_1 \) or \( C_2 \) increases, the two executives have a smaller utility-providing pie \( 1 - C_1 - C_2 \) to divide between themselves, which they divide in a fixed ratio that depends only on \( \delta_1 \) and \( \delta_2 \) (the time preferences of the executives), and hence both of their payoffs decrease. That is, both executives do worse when either of the two constraints (or both) increases. An executive with a local constituency is worse off under greater constraints when the constraints come from constituencies other than his or her own.8

8. It is important to note here that, as in the previous model, as \( C_i \) increases, country \( i \) as a whole gets a larger share of the pie (i.e., \( dx_i/dC_i > 0 \)), up to the point where the constraint becomes so high that no agreement is possible. However, this increase in country \( i \)’s benefits goes to legislators from other parties, and the executive is strictly worse off \( (dx_i - C_i)dC_i < 0 \). This is substantively important because it reduces the executive’s incentive to negotiate international agreements in the first place. This is further discussed below.
One substantive interpretation of this model is that it is a minority or coalition parliamentary government in which the coalition members have rather different and in fact opposing constituencies (e.g., recent Labor-Likud coalition governments in Israel). In this case, the constraint \( C_i \) can be thought of as the share of the pie being demanded by parties in the government other than the prime minister’s own and from which the prime minister would not necessarily benefit if it antagonizes his or her own constituents. The model predicts that in this case, the prime minister is worse off under greater constraints and should therefore have less of an incentive to negotiate international agreements. This provides additional motivation for why a prime minister constructing a coalition government would want to include parties with constituencies similar to his or her own.

But the model can also apply to single-party governments in which ratification requirements are higher than the requirements for domestic government formation (König and Hug 2000). For example, ratification of the Maastricht Treaty on the European Union and then the Amsterdam Treaty required bicameral approval, approval by legislative super-majorities, and/or approval by referendum in various members of the European Community/Union (König and Hug 2000; Hug and König 2002). In these cases, even single-party governments often had to obtain the approval of domestic groups whose interests conflicted with their own core constituents and might therefore have been made worse off by the need for domestic ratification.

In the United States, this scenario can arise under divided government since trade agreements negotiated under “fast-track” trade negotiating authority require bicameral approval by simple majorities. However, because treaties require a super-majority in the Senate, the problem can even arise under unified government.

For instance, President Truman chose to sign the GATT in October 1947 as an executive agreement not requiring legislative ratification rather than as a formal treaty. Truman (a Democrat) faced a protectionist Republican Congress, and naive two-level game reasoning would predict that a protectionist opposition party controlling the legislature should increase the president’s bargaining leverage at the international level, but the Congress was too protectionist, and Truman decided to sign the agreement as an executive agreement instead, thereby avoiding the necessity of legislative ratification (O’Halloran 1994, 88). When ratification requires the support of groups whose constituencies conflict with one’s own, the executive may be worse off by the need for domestic ratification.

To summarize, the two models suggest that an executive benefits from a domestic constraint only when it comes from his or her own core constituency or in those cases when the executive has a truly national constituency. When the constraint comes from other constituencies, although the country as a whole may obtain a bigger share of the pie, the executive may be worse off. Even under complete information, the Schelling conjecture only holds under certain circumstances.

The following empirical implications can be drawn from this analysis. Model I, in which the executive has a national constituency, is most similar to a presidential system. Model II, in which the executive has a constituency distinct from that of some of the ratifiers, is most like a minority or coalition parliamentary government. The models thus predict that for the most part, presidents benefit by being constrained, whereas
minority or coalition prime ministers are worse off. Hence, we can derive the prediction that, for a given level of domestic constraints and other things equal, we should expect to see minority or coalition parliamentary governments be less eager to negotiate international agreements than presidential governments, with majority parliamentary governments (and perhaps dictatorships, in which domestic ratification is not necessary) having an intermediate level of eagerness (since they generally do not have domestic constraints, so it neither hurts nor helps them). Moreover, as the domestic constraint increases, this should increase the willingness of presidential governments to negotiate international agreements, decrease the willingness of minority and coalition parliamentary governments, and have no effect on majority parliamentary governments and dictatorships. Examining the number of international agreements negotiated by different regime types is a possible way of testing this empirical implication of the models.

The analysis and review of the preceding sections are summarized in Table 1. Of course, in reality, not many international agreements fit neatly into the spatial/distributive divide or into one of the categories of Table 1. A potentially fruitful avenue for future research is the analysis of a model in which the agreement being negotiated involves a spatial (perhaps ideological) as well as a distributive component, perhaps representing side payments.

### THE PARTY BASIS OF DOMESTIC CONSTRAINTS

In this final section, I explore in more detail the domestic bargaining game that occurs in the absence of an international agreement to examine how the executive’s constraint changes as the party composition of the legislature changes. In particular, I relax the assumption that the legislators all have the same recognition probabilities.

For purposes of tractability, I use the two-session, three-party version of the Baron-Ferejohn model. Baron and Ferejohn (1989) characterize the subgame-perfect equi-
libria for the two-session model when there are $n$ legislators with equal recognition probabilities, and they present an example in which there are three parties with recognition probabilities of $1/3 + \varepsilon$, $1/3$, and $1/3 - \varepsilon$ for small $\varepsilon > 0$. I consider this example as well as others to examine how the constraint that the executive faces changes as the party composition of the legislature changes. Because the executive does not play a major role in the domestic bargaining game in the legislature, the analysis of this section really only applies to the presidential case. Relaxing this assumption would be worthwhile in future research.

The two-session Baron-Ferejohn model is identical to the infinite horizon model except that the legislators have only two periods in which to reach an agreement. In the first period, $t = 0$, party $i$ ($i = 1, 2, 3$; with nonequal recognition probabilities, it is better to interpret the actors as being parties whose members have identical preferences and who vote as a bloc rather than individual legislators—more on this later) is chosen to make a proposal with probability $p_i$ ($0 \leq p_i \leq 1$ for all $i$ and $p_1 + p_2 + p_3 = 1$). The main difference here is that the parties can have different recognition probabilities. If the recognized party proposes $x = (x_1, x_2, x_3)$ ($x_i \geq 0$ for all $i$ and $x_1 + x_2 + x_3 \leq 1$; to simplify the presentation, we will assume that the pie is of size $\Delta = 1$; for the general case, just multiply all subsequent payoffs by $\Delta$) and at least two of the three parties vote yes, then the game ends with party $i$'s payoff being $x_i$.

Otherwise, the game moves to the next period, $t = 1$, in which a party is again chosen to make a proposal, with the same recognition probabilities as before. If the recognized party proposes $y = (y_1, y_2, y_3)$ and it is approved by at least a simple majority, party $i$'s payoff is $\delta y_i$, where $\delta$ is the parties' common discount factor. Otherwise, the game ends with each party receiving a payoff of 0.

Thus, the parties have only two periods in which to reach an agreement. The assumption is made that a party accepts an agreement if it is indifferent between accepting and rejecting it.

Thus, in the second period $t = 1$, the party that is recognized to make a proposal can propose to keep the entire pie for itself since the other parties will vote yes on this proposal, as they will receive a payoff of 0 if the proposal is accepted and 0 if it is rejected. Thus, in the first period $t = 0$, party $i$'s ($i = 1, 2, 3$) discounted continuation value if an agreement is not reached is $\delta p_i$ (with probability $p_i$, party $i$ will be recognized in the next period and will receive the entire pie, and with probability $1 - p_i$, another party will be recognized and party $i$ will receive nothing). Thus, in period $t = 0$, the party recognized will choose the nonrecognized party with the lowest $\delta p_i$, offer it its discounted continuation value $\delta p_i$, and keep the rest of the pie, $1 - \delta p_i$, for itself. Agreement is thus reached in the first period ($t = 0$), with one party receiving no pie.

9. My approach is similar to Milner and Rosendorff (1997), who assume that if an international agreement is not reached, the legislature imposes its ideal policy, independently of the executive. See Pahre (1997) for a formal two-level game model in which parliamentary parties endogenously form the government.

10. More precisely, the assumption is made that a party votes yes if the agreement offers the party at least as much as its discounted continuation value for the agreement being rejected and votes no otherwise, regardless of how the other parties are voting in the current period. That is, the parties are not allowed to play weakly dominated strategies, which would give rise to implausible equilibria.
First consider the case of equal recognition probabilities (i.e., \( p_1 = p_2 = p_3 = 1/3 \)). In this case, each party’s discounted continuation value in period \( t = 0 \) is \( \delta/3 \). In this case, the party recognized in period \( t = 0 \) finds the other two parties to be equally “expensive,” with each of the other parties demanding a share of \( \delta/3 \) to vote yes. Therefore, as Baron and Ferejohn (1989) point out, there exists a multiplicity of subgame-perfect equilibria since the party recognized in the first period can choose to offer \( \delta/3 \) to either of the other two parties or can randomly decide which party to offer \( \delta/3 \) to. In what follows, I examine how the executive’s constraint depends on the legislative coalitions that form in the domestic bargaining game.

**CASE 1**

First consider a symmetric equilibrium in which each party’s strategy is that, if it is recognized in the first period (\( t = 0 \)), it offers \( \delta/3 \) to one of the other two parties with probability 1/2 and, with probability 1/2, offers it to the other party. That is, no party shows any bias toward any other party. Therefore, party \( i \)’s (\( i = 1, 2, 3 \)) expected value for the game is

\[
\nu_i = \frac{1}{3}(1 - \frac{\delta}{3}) + \frac{1}{3} \left( \frac{\delta}{3} \right) + \frac{1}{3} \left( \frac{\delta}{3} \right) = \frac{1}{3},
\]

where the first term corresponds to party \( i \) being recognized (with probability 1/3) and getting to keep \( 1 - \frac{\delta}{3} \) for itself, and the other two terms correspond to one of the other two parties being recognized (each with probability 1/3) and, with probability 1/2, offering \( \delta/3 \) to party \( i \). Since \( \nu_1 = \nu_2 = \nu_3 = 1/3 \) (i.e., each party expects to receive the same payoff in the domestic bargaining game that occurs in the absence of an international agreement), the executive finds each of the parties to be equally expensive, with each of the parties demanding \( \delta/3 \) to vote yes on the international agreement. Since the executive needs the support of no more than two of the three parties to achieve ratification, the effective constraint the executive faces is \( C = 2\delta/3 \).\(^{11}\)

**CASE 2**

Now suppose that parties 1 and 2 form a “coalition,” in that they choose to offer pie \( (\delta/3, \text{as usual}) \) to each other, if recognized in the first period, and not to party 3. Suppose that party 3, if recognized in the first period, tosses a coin (as previously) to decide which of the other two parties to offer pie \( (\delta/3, \text{as usual}) \) to. Then, for parties 1 and 2, their expected value for the game is

\[
\nu_1 = \nu_2 = \nu = \frac{1}{3}(1 - \frac{\delta}{3}) + \frac{1}{3} \left( \frac{\delta}{3} \right) + \frac{1}{3} \left( \frac{\delta}{3} \right) = \frac{1}{3} + \left( \frac{\delta}{18} \right).
\]

Note that, for parties 1 and 2, their value for the domestic bargaining game in this equilibrium is higher than in the symmetric equilibrium of the previous case. That is, by forming a “coalition,” they expect to do better in the domestic bargaining game. However, this increase in their expected value comes at the expense of party 3. For party 3, \( \nu_3 = \frac{1}{3}(1 - \frac{\delta}{3}) + \frac{1}{3}(0) + \frac{1}{3}(0) = \frac{1}{3} - \left( \frac{\delta}{9} \right) \), which is lower than in the symmetric equilibrium of the previous case. Because none of the other two parties are offering pie to party 3, it expects to do worse in the domestic

\(^{11}\) Note that this is the two-session equivalent of the executive’s constraint in the stationary subgame-perfect equilibrium of the infinite horizon model: setting \( \Delta_i = 1 \) and \( n_i = 3 \), we obtain \( C_i = (\delta^i I/n_i)((n_i + 1)/2) = 2\delta i/3 \).
bargaining game. Therefore, the executive finds party 3 to be the cheapest and parties 1 and 2 to be equally expensive. Hence, the effective constraint the executive faces is
\[ C = \delta (v + v_3) = (2\delta/3) - (\delta^2/18). \]
Note that this is lower than the constraint of \( 2\delta/3 \) that the executive faces in the symmetric equilibrium of the previous case. (The intuition behind this result will be made clear after discussing the next case.)

**CASE 3**

In the equilibrium just described, party 3 is the weakest in the domestic bargaining game (because it is excluded from the offers of parties 1 and 2), and parties 1 and 2 are equally strong (in the sense that they have the same expected payoff). The net effect was to lower the executive’s constraint, relative to the symmetric equilibrium in which all three parties were equally strong. We now make party 1 even stronger (henceforth, *strength* will refer to how well a party expects to do in the domestic bargaining game, regardless of the size of the party) and party 2 weaker (an increase in party 1 ’s strength can only come at the expense of party 2 since party 3 cannot be made weaker than it already is, as none of the other parties are offering it pie as it is) by supposing that party 3 always offers pie to party 1, if recognized in the first period, rather than equally randomizing between parties 1 and 2. Parties 1 and 2 are still in a coalition, in that they always offer pie to each other if recognized in the first period. In this case, \( v_3 \) is the same as before (as before, no one is offering pie to party 3). Party 1 is always offered pie, and \( v_1 = (1/3)(1 – \delta/3) + (2/3)(\delta/3) = (1/3) + (\delta/9) \). Note that this is higher than it was in the previous equilibrium because party 3 is now offering pie to party 1 with certainty. Party 2 is only offered pie by party 1, and so \( v_2 = (1/3)(1 – \delta/3) + (1/3)\delta/3) + (1/3)(0) = 1/3 \), which is the same as in the symmetric equilibrium (case 1) but less than in the previous equilibrium (case 2), in which party 3 offered pie to party 2 with probability 1/2. Party 2 has been weakened relative to the previous case but is still stronger than party 3 since \( v_1 = (1/3) – (\delta/9) \) (at least party 1 is offering pie to party 2—no one is offering pie to party 3). The executive finds parties 2 and 3 to be the cheapest, and so the effective constraint the executive faces is
\[ C = \delta (v_1 + v_3) = (2\delta/3) – (\delta^2/9). \]
This is lower than the constraint of the previous equilibrium.

The general pattern in these three cases is that the stronger the strongest party (party 1) becomes, the lower the constraint that the executive faces. In case 2, in which two parties were made stronger at the expense of the third party, the constraint decreased relative to the symmetric case in which all three parties were equally strong. When one of the two strong parties was made even stronger yet, at the expense of the other strong party, the constraint decreased even more. The intuition behind this result is that as one of the three domestic parties is made stronger (by being in tighter coalitions with other parties), it expects to do better in the domestic bargaining game, and the other two parties expect to do less well in net terms, and hence it becomes easier for the executive to satisfy them. Because the two weak parties together comprise a majority, the executive only needs their support and does not need the support of the strong party. As the strongest party becomes stronger, the other two parties do less well in the domestic bargaining game (in net terms), and hence what they can credibly demand from the executive
to vote yes on the international agreement decreases. Therefore, the executive’s constraint decreases.\textsuperscript{12}

The model therefore makes the interesting prediction that the party that is the strongest domestically (i.e., the one that expects to do the best in the domestic bargaining game because it is in the tightest coalitions with the other parties) can be the worst off in terms of the international agreement because it is the hardest for the executive to satisfy, and hence the executive may choose to avoid it when seeking ratification votes. This leads to the following hypothesis:

\textit{Hypothesis 1:} In presidential systems in which there is no majority party in the legislature, the party that is the strongest domestically can be the worst off in terms of international agreements.

It is important to note here that the strongest party will not necessarily be the worst off: if the executive secures a larger share of the pie than the minimal constraint, the strongest party might get a substantial share of the pie. But if the executive achieves just the minimal amount, the strongest party will be left out. The following hypothesis also follows:

\textit{Hypothesis 2:} In presidential systems in which there is no majority party in the legislature, the executive’s constraint decreases as the party that is the strongest domestically becomes even stronger (but still less than a majority).

Until now, we have maintained the assumption of equal recognition probabilities. In this setting, we increased the domestic “strength” of a party by increasing the likelihood that other parties would include it in their domestic bargaining proposals, in a situation in which all of the parties are formally indiff erent as to whom to include in their bargaining proposals. An alternative, more structural way in which a party’s strength may be increased is by increasing its proposal power.

Following Baron and Ferejohn (1989), we interpret a party’s proposal power as corresponding closely to its proportion of seats in the legislature. That is, if party \( i \)’s recognition probability is \( p_i \), we take this to indicate that its proportion of seats in the legislature is \( p_i \) (later on, I discuss the case where a majority party has absolute agenda-setting power). For the time being, we will only consider cases in which \( p_i < 1/2 \) for all \( i \), so that no party possesses a majority and at least two of the three parties must vote yes for a proposal to be accepted, under the maintained assumption of majority rule. Later on, I relax this restriction.

\textbf{CASE 4}

First consider the Baron-Ferejohn (1989, 1189) example, where \( p_1 = 1/3 + \varepsilon, p_2 = 1/3, \) and \( p_3 = 1/3 – \varepsilon \), for small \( \varepsilon > 0 \). Party 1 has the highest recognition probability and

\textsuperscript{12} More formally, the explanation for the trend is as follows. Let \( j \) denote the party with the highest \( v_j \) (so in the above examples, \( j = 1 \)). Since in any equilibrium \( v_1 + v_2 + v_3 = 1 \), the constraint that the executive faces is \( C = \delta (1 – v_j) \). That is, \( C \) is entirely determined by the expected payoff of the “strongest” party. As \( v_j \) increases, \( C \) decreases.
party 3 the lowest. In this case, with common discount factor $\delta$, party 3’s discounted continuation value $\delta p_3$ in period $t = 0$ is the strictly smallest, and party 1’s discounted continuation value $\delta p_1$ is the strictly highest. Thus, there exists a unique subgame-perfect equilibrium in the domestic bargaining game in which parties 1 and 2, if recognized in period $t = 0$, offer $\delta p_1$ to party 3, and party 3 offers $\delta p_3$ to party 2. (In other words, the recognized party offers pie to the smallest nonrecognized party to maximize its own share of the pie, resembling the logic behind minimal-winning coalitions.) Therefore, $v_1 = (1/3 + \epsilon)[1 - \delta(1/3 - \epsilon)]$, $v_2 = (1/3)[1 - \delta(1/3 - \epsilon)] + (1/3 - \epsilon)(\delta/3) = 1/3$, and $v_3 = (1/3 - \epsilon)(1 - \delta/3) + (2/3 + \epsilon)\delta(1/3 - \epsilon)$.

To maintain our requirement (for the time being) that $p_i < 1/2$ for all $i$ (i.e., no party is a majority), we require that $p_1 = 1/3 + \epsilon < 1/2$, or $\epsilon < 1/6$. As $\epsilon \to 1/6$ (from below), $p_1 \to 1/2$ (from below), $p_2 = 1/3$ (as always), and $p_3 \to 1/6$ (from above). That is, the party composition of the legislature approaches $\{1/2, 1/3, 1/6\}$ (one large party that is almost a majority, one medium-sized party, and one small party).

Figure 1 shows the constraint that the executive faces, for four different values of $\delta$, as $\epsilon$ increases from 0 to 1/6, that is, as $p_1$ increases from 1/3 to 1/2 (and $p_3$ decreases from 1/3 to 1/6). For very low values of $\epsilon$ (i.e., for $p_1$ only marginally higher than 1/3), $v_1$ is the highest and $v_3$ is the lowest ($v_1 > v_3 > v_2$), despite the fact that party 3 has the lowest recognition probability (is the smallest party) and party 1 the highest ($p_3 < p_2 < p_1$). The reason is that, for very small $\epsilon$, party 1’s recognition probability $p_1 = 1/3 + \epsilon$ is only marginally higher than that of the other two parties, and so party 1 is only marginally more likely to get to make the proposal, but party 1 is being excluded entirely from the proposals of the other two parties because its discounted continuation value $\delta p_1$ at period $t = 0$ is strictly the highest. Therefore, $v_1$ is the lowest. On the other hand, for small enough $\epsilon$, party 3’s recognition probability $p_3 = 1/3 - \epsilon$ is only marginally lower than the other two, and so party 3 is only marginally less likely to get to make the proposal, but the other two parties are always proposing to party 3 because its discounted continuation value $\delta p_3$ in period $t = 0$ is strictly the lowest. Therefore, $v_3$ is the highest.

Therefore, for small $\epsilon$, party 3 is the most expensive for the executive to satisfy, despite the fact that its recognition probability is the lowest (i.e., it is the smallest party). Hence, the effective constraint that the executive faces is $C = \delta(v_1 + v_3)$. As $\epsilon$ increases, $v_1$ increases because party 1’s recognition probability $p_1 = 1/3 + \epsilon$ is increasing ($dv_1/d\epsilon > 0$; with higher probability, party 1 is being recognized and getting a payoff of $1 - \delta p_1$ rather than 0)—moreover, this payoff is itself increasing since $p_1$ is decreasing). Therefore, as $\epsilon$ increases, the executive’s constraint $C = \delta(v_1 + v_3)$ increases ($v_3$ remains constant at 1/3). This is seen in the left part of the graphs in Figure 1, in the region where $v_1$ is the highest.

At a certain point, however, $v_1$ becomes equal to $v_3$. In fact, at this point, $v_1 = v_2 = v_3 = 1/3$. (Note that $dv_1/d\epsilon < 0$; as $\epsilon$ increases, party 3’s expected payoff decreases because (1) it is less likely to be chosen to make a proposal, and (2) what the other parties offer to party 3 when they are chosen to make a proposal, $\delta p_3$, is decreasing.) As $\epsilon$ increases

13. Formally, this occurs when $\epsilon$ increases to $\epsilon_{\text{critical}}$, where $\epsilon_{\text{critical}} = (-9 + \sqrt{81 + 368^2})/(188)$. More details are given in the technical supplement to this article, which is available at http://www.yale.edu/unsy/jcr/jcrdata.htm.
Figure 1: Executive’s Constraint as a Function of Largest Party’s Recognition Probability, $p_1$ $(1/3 < p_1 < 1/2)$
beyond this point, $p_1$ is now high enough that $v_1$ is now the highest (in fact, $v_1 > v_2 > v_3$). Therefore, the executive finds party 1 (the largest) to be the most expensive, and hence the constraint that the executive faces is $C = \delta (v_2 + v_3)$. As $\varepsilon$ increases even more, $v_3$ decreases because party 3’s recognition probability is decreasing. Therefore, the executive’s constraint $C = \delta (v_2 + v_3)$ decreases ($v_2$ remains constant at $1/3$, as always). This is seen in the right part of the graphs in Figure 1, in the region where $v_1$ is the highest.

Hence, as seen in Figure 1, the executive’s constraint $C$ is a nonmonotonic function of $\varepsilon$ (or $p_1$). For very low values of $\varepsilon$, the party with the lowest recognition probability (party 3) is the most expensive for the executive to satisfy because it expects to do the best in the domestic bargaining game. Therefore, the executive seeks the support of the party with the highest recognition probability (party 1) when looking for ratification votes. However, as this party’s recognition probability increases (i.e., as $\varepsilon$ increases), it expects to do better in the domestic bargaining game, and hence it demands more from the executive to vote yes on the international agreement. Up to a certain point, the executive still finds this party to be cheaper than the one with the lowest recognition probability (party 3) and therefore chooses to satisfy its increasing demands. Therefore, the constraint increases. At a certain point, however, its demands come to exceed those of the party with the lowest recognition probability, and the executive switches these two parties in and out of its minimal ratification coalition (large party 1 is out, small party 3 is in). As $\varepsilon$ increases even more, the party with the lowest recognition probability (party 3), which is now in the executive’s ratification coalition, expects to do worse in the domestic bargaining game (as its recognition probability is decreasing even further), and hence what it can credibly demand from the executive decreases. Therefore, the executive’s constraint decreases.

The general trend here is that the executive’s constraint decreases as the strongest party in the domestic bargaining game (party 1) becomes even stronger (but not yet a majority). This is the same pattern that we found when the parties had equal recognition probabilities. The intuition in both cases is essentially the same. As the strongest party in the legislature becomes stronger, this increase in its strength comes at the expense of the two weaker parties. Because the strongest party is still less than a majority, the executive can avoid it and seek the support of the two weaker parties. Because they become even weaker as the strongest party becomes even stronger, what they can credibly demand from the executive decreases. Therefore, the executive’s constraint decreases. Note that hypotheses 1 and 2 therefore hold even in the case of nonequal recognition probabilities.

In presidential systems in which there is no majority party in the legislature, the model predicts that as the largest party becomes larger (but still less than a majority), the executive’s constraint diminishes, which should decrease the executive’s bargaining leverage at the international level. However, achieving ratification should be easier.

**CASE 5**

Until now, we have increased the size of one party to examine the effect on the executive’s constraint but have not allowed that party to become a majority. Now consider
the case where \( p_1 > 1/2 \) (i.e., party 1 is a majority).\(^{14}\) In the domestic bargaining game, everything is the same in period \( t = 1 \), with the party recognized being allowed to keep the entire pie for itself because the other parties are indifferent between this proposal and the status quo of zero that results if the proposal is rejected. In period \( t = 0 \), however, the approval of party 1 is now needed for a proposal to be accepted because the other parties together comprise less than a majority. Therefore, if party 2 or 3 is recognized to make a proposal in period \( t = 0 \), it offers \( \delta p_t \) to party 1 and keeps \( 1 - \delta p_t \) for itself. If party 1 is chosen to make a proposal in period \( t = 0 \), it proposes to keep the entire pie for itself, and this proposal is approved because party 1 itself comprises more than a majority. Therefore, \( v_1 = (p_1)(1) + (1 - p_1)(\delta p_t) \).

Because party 1 comprises a majority, the executive needs it to vote yes on the international agreement (unlike previously, the executive cannot choose to avoid party 1), and so the effective constraint that the executive faces under majority rule is \( C = \delta v_1 \). It is easy to verify that \( v_1 \) is increasing in \( p_1 \) (\( dv_1/dp_1 > 0 \)) because as \( p_1 \) increases, (1) with greater probability party 1 gets to keep the entire pie for itself, and (2) if one of the other two parties is recognized, it offers a larger amount (\( \delta p_t \)) to party 1. Therefore, as the majority party becomes even larger, it expects to do even better in the domestic bargaining game, and so the executive’s constraint \( C = \delta v_1 \) increases.\(^{15}\) This is shown graphically in Figure 2, which plots the constraint as a function of \( p_1 > 1/2 \) for four different values of \( \delta \).\(^ {16}\)

Figure 3 combines Figures 1 and 2 and shows the executive’s constraint as a function of \( 1/3 < p_1 < 1 \) (where for \( p_1 < 1/2 \), the constraint is given by the \( p_1 = 1/3 + \epsilon \), \( p_2 = 1/3 \), and \( p_3 = 1/3 - \epsilon \) case) for four different values of \( \delta \). The constraint makes a discontinuous jump at \( p_1 = 1/2 \) because the bargaining changes in a qualitative way when one party becomes a majority. When party 1’s share of the seats in the legislature is just below \( 1/2 \) but higher than that of the other parties, the executive can afford to exclude party 1 from its minimal ratification coalition. In fact, as party 1 becomes even larger

14. If we interpret the three domestic actors to be individual legislators rather than parties, then the trend in Figure 1 would continue as \( p_1 \) increases beyond \( 1/2 \) (i.e., as actor 1 becomes a “super-legislator” with recognition probability of greater than \( 1/2 \) but still only a single legislator): namely, the executive’s constraint would continue to decrease as \( p_1 \) increases beyond \( 1/2 \), and actor 1 would continue to be excluded from the executive’s minimal ratification coalition because it is the most expensive to satisfy and the executive does not need its support.

15. Note that this result also holds in the infinite horizon model, which has a unique stationary subgame-perfect equilibrium when there is a minority party (i.e., when \( p_1 > 1/2 \)). Whenever party 2 or 3 is chosen to make a proposal, it offers party 1 its discounted continuation value, \( \delta v_1 \), and keeps the rest of the pie, \( 1 - \delta v_1 \), for itself. If party 1 is recognized to make a proposal, it keeps the entire pie for itself. Therefore, we have the recursive equation \( v_1 = p_1(1) + (1 - p_1)(\delta v_1) \), which can be simplified to obtain \( v_1 = p_1(1 - \delta(1 - p_1)) \). It can be shown that \( dv_1/dp_1 > 0 \), and so \( C = \delta v_1 \) is increasing in \( p_1 \).

16. An alternative assumption we could have made is that when \( p_1 > 1/2 \) (i.e., party 1 comprises a majority), party 1 has absolute control over agenda power in the domestic bargaining game, and hence its recognition probability is 1. In this case, party 1 would receive the entire pie in the domestic bargaining game with certainty (\( v_1 = 1 \)), and so the executive’s constraint would be \( C = \delta v_1 = \delta \). In this case, the executive’s constraint would remain constant at \( C = \delta \) (which is the highest value it attains in Figure 2, namely, when \( p_1 = 1 \)) for all \( p_1 > 1/2 \). Because minority parties in presidential systems often can propose amendments, and hence the majority party’s agenda control is not always absolute, in the main body of the text, I assume that party 1’s recognition probability is equal to its proportion of seats in the legislature even when it is a majority party.
Figure 2: Executive's Constraint as a Function of Largest Party's Recognition Probability, $p_1$ ($\frac{1}{2} < p_1 < 1$)

(a) $\delta = 0.1$

(b) $\delta = 0.5$

(c) $\delta = \frac{6}{7}$

(d) $\delta = 0.99$
Figure 3: Executive's Constraint as a Function of Largest Party's Recognition Probability, \( p_1 \) \((1/3 < p_1 < 1)\)
but still less than a majority, the other parties, who together comprise a majority, expect to do less well in the domestic bargaining game. Hence, the executive’s constraint decreases. However, once party 1 passes the majority threshold, the executive can no longer avoid it, and the ratification coalition must include party 1. Therefore, the constraint makes a discontinuous jump. As party 1 becomes even larger, it expects to do even better in the domestic bargaining game and hence demands more from the executive to vote yes on the international agreement. Therefore, the executive’s constraint increases.\(^\text{17}\)

Note that this suggests the following final hypothesis:

**Hypothesis 3:** In presidential systems in which there is a majority party in the legislature, the executive’s constraint increases the greater the seat share of the majority party.

An implication of this is that the greater the seat share of the majority party, the greater the executive’s bargaining leverage at the international level, up to the point where the constraint becomes so high that no agreement is possible. However, achieving ratification will be more difficult.

**CONCLUSION**

I began this article by noting that previous formal models of two-level games have for the most part paid little attention to the exact nature of the executive’s constituency and the source of his or her constraint. The models analyzed here suggest that these are crucial factors in determining whether a domestic constraint is a bargaining advantage or a bargaining liability in international negotiations and hence whether an executive would want to be constrained in the first place.

It turns out that an executive with a national constituency such as a nationally elected president benefits by being constrained, up to the point where the constraint becomes so high that no agreement is possible. An executive is also better off when the constraint comes from his or her own constituency. An executive with a constituency distinct from those of some of the ratifiers is in fact worse off under greater constraints when the constraints come from constituencies other than his or her own. The closest empirical analog to this situation is a minority or coalition parliamentary government consisting of parties with different and in fact opposing constituencies (e.g., recent Labor-Likud coalition governments in Israel). This can also be the case in single-party governments where the requirements for ratification are greater than those for domestic government formation (König and Hug 2000)—for example, when ratification requires bicameral approval, legislative super-majorities, and/or approval by referendum. In the United States, this situation can arise under divided government (e.g., trade agreements negotiated under the fast track have to be approved by Congress) and even under unified government for treaties that require a two-thirds super-majority in

\(^{17}\) Under the alternative assumption that a majority party possesses absolute agenda control in the domestic bargaining game, the constraint would make an even more dramatic jump at \(p_1 = 1/2\); namely, it would jump all the way to \(C = \delta\) (which is the maximum value it attains in Figure 3, namely, when \(p_1 = 1\)), at which it would remain constant as \(p_1\) increases from 1/2 to 1.
the Senate. The model predicts that in these cases, the executive is in fact worse off by being constrained, which would diminish his or her incentive to negotiate international agreements in the first place. The likelihood of international cooperation depends crucially on domestic factors such as the breadth of the executive’s constituency and the source of his or her ratification constraint.

Empirically, this suggests the testable implication that for a given level of domestic constraints and other things equal, we should expect to see minority or coalition parliamentary governments be less eager to negotiate international agreements than presidential governments, with majority parliamentary governments (and perhaps dictatorships, in which domestic ratification is not necessary) having an intermediate level of eagerness. Moreover, as the domestic constraint increases, this should increase the willingness of presidential governments to negotiate international agreements, decrease the willingness of minority and coalition parliamentary governments, and have no effect on majority parliamentary governments and dictatorships. Examining the number of international agreements signed by different regime types is a possible way of testing the hypothesis of this study that domestic ratification constraints differently affect the personal welfare of executives with national constituencies and those with more narrow ones.

The next goal of this article was to explore how the executive’s constraint depends on the party composition of the legislature in presidential systems. Three testable hypotheses were derived. First, when there is no majority party in the legislature, the party that is the strongest domestically (in the sense that it expects to do the best in terms of domestic legislation) can be the worst off in terms of international agreements (hypothesis 1) because it is the hardest for the executive to satisfy, and hence the executive may choose to avoid it when seeking ratification votes. As the largest party in the legislature becomes even larger, but still less than a majority, the executive’s constraint decreases (hypothesis 2) because the other parties, which together comprise a majority, expect to do worse in the domestic bargaining game, and hence what they can credibly demand from the executive decreases. However, once the largest party passes the majority threshold, the executive can no longer avoid it, and as its size increases even more, it expects to do even better in the domestic bargaining game, and hence the executive’s constraint increases (hypothesis 3). The executive’s constraint depends in a nonmonotonic way on the pattern of domestic political coalitions and the party composition of the legislature.

There are a number of extensions of the model that would be worthwhile investigating in future research. For example, I assumed that the executive does not play a major role in the domestic bargaining game that occurs in the absence of an international agreement. While this is a somewhat reasonable assumption for presidential systems, it is certainly not for parliamentary ones. Moreover, I assumed that the executive, when proposing a division of the benefits to the domestic groups, does not inherently prefer any group over another. In reality, of course, the executive would prefer to pro-

18. This is similar to Milner and Rosendorff (1997), who assume that if an international agreement is not reached and ratified, the legislature imposes its ideal policy independently of the executive.
vide benefits to members of his or her own party, and this could affect the constraint. For example, even if the executive’s own party is demanding the most, he or she will continue to want to satisfy its demands up to a certain point. On the other hand, since the constraint is coming from the executive’s own party, the foreign executive might find it less credible. It is hoped that this model will provide a foundation for future work to build on.

REFERENCES


