Supplementary Appendix to

``International Bureaucrats and the Formation of Intergovernmental Organizations''

Tana Johnson

Duke University

Johannes Urpelainen

Columbia University

**Appendix A: Formal Analysis**

This appendix provides a rigorous characterization of the formal model and the equilibrium concept. It also contains proofs for the propositions that form the basis of our primary hypothesis, the prediction of what happens when either of the hypothesis' conditions is relaxed, and proofs for several extensions of the main model.

**Model**

We have argued that strategic interactions between states and international bureaucrats are an important element of IGO creation. In the context of a principal-agent relationship, such strategic interactions comprise asymmetric information and various incentives. To capture the effect of asymmetric information and strategic incentives, we next construct a formal model of IGO creation. In our model, a state (or coalition of states) can either maintain the status quo or create a new organization. If the state decides to create a new organization, it may turn to the bureaucracy of an extant international intergovernmental organization for assistance. If the state chooses to delegate design tasks, then the state-principal chooses how much design discretion to offer the bureaucrat-agent. The bureaucrat-agent then chooses whether or not to exert costly design effort on behalf of the state-principal's interests.

To simplify, the analysis in the main text focuses on a single state that is considering the possibility of creating a new IGO. This simplification is empirically plausible for two reasons. First, in many cases, such as that of the IEA, it is possible to identify a hegemonic leader, such as the United States. Second, even if multiple powerful states participate in IGO creation, they often negotiate a common position so that they can operate as a collective principal (Nielson and Tierney2003).[[1]](#footnote-1)

In modeling delegation, we follow Epstein and O’Halloran (1994) and assume that if the state grants a bureaucrat in an existing IGO the authority to participate in the design of the new organization, the bureaucrat *implements* a design (policy) subject to constraints imposed by the state. For example, the bureaucrat could create voting rules or recruiting policies for a new IGO. An alternative view of delegation emphasizes *information provision*, so that the bureaucrat would only recommend a policy, perhaps by publishing an advisory report (Lupia and McCubbins 1998). We rely on the implementation model because it more accurately encompasses the variety of ways in which international bureaucrats participate in creating new organizations.

We begin with a presentation of the model, and then provide a summary of the equilibrium analysis. Next, we summarize the primary empirical implications of our theory. Finally, we list results from model extensions, robustness tests, and sensitivity analyses. These additional analyses (i) demonstrate that our main findings are robust to variation in assumptions, (ii) offer additional insights that help understand the nuances of bureaucratic discretion in IGO creation, and iii) provide a foundation for future formal theorizing.

Suppose a powerful state is deciding whether to create a new IGO. The state's preferences are defined over outcomes on the real line, $R$. The state's ideal point is normalized to zero without loss of generality. If the outcome of the game is $X$, the payoff to the state is therefore $-X^{2}$. This simple quadratic loss function is commonly used in formal models of delegation (Epstein and O’Halloran 1994; Epstein and O’Halloran 1999; Johns 2007).

**Sequence of moves**. The state chooses between three possible actions: retaining the status quo, creating the new organization independently, or offering the bureaucrat a level of discretion in creating the new organization $d\in [0,\infty )$.[[2]](#footnote-2) In case the state turns to the bureaucrat for assistance, the bureaucrat next chooses whether to exert design effort or not. A game tree is shown in Figure A1.

 [FIGURE A1 ABOUT HERE]

Figure A1: The game tree. The first (second) payoff entry is for the state (bureaucrat). Note how the state can use discretion $d$ to constrain the bureaucrat's choice of policy, $P$, on the interval $[-d,d]$ at the final decision node.

**Payoffs**. If the state chooses *not* to create a new organization, the status quo produces an outcome $SQ>0$. Thus, the payoff to the state is $-SQ^{2}$. One may interpret $SQ$ as the maintenance of a current policy produced by an existing organization, such as the IEA. The assumption that $SQ$ is determinate is unnecessary for the results, but it reduces notation. It is also realistic if the existing organization has already implemented similar policies in the past, as the historical record reduces the uncertainty surrounding policy formation. Finally, it stacks the deck against new IGO creation, as our quadratic loss function entails the standard assumption of risk aversion. Thus, the state holds a status quo bias.[[3]](#footnote-3)

If the state creates a new organization but opts not to involve the bureaucrat, it selects independently a policy $P$ on the real line. The final outcome is stochastic. Suppose nature draws an exogenous shock parameter $ε$ that is distributed uniformly on the closed interval $[-R,R]$. Here, $R$ can be thought of the uncertainty surrounding the consequences of establishing a new organization. In the empirical analysis, for instance, we operationalize $R$ as the technical difficulty or scientific complexity of an issue.

How is the choice of policy $P$ interpreted? Since we focus on the creation of a new organization, one plausible interpretation is that policy $P$ refers to personnel selection or rule formulation. The uncertainty surrounding it might stem from ``agency slippage'' in the new organization -- a development that is difficult to control (Nielson and Tierney2003; Martinez and Diaz 2009; Vaubel 2006).

The final payoff to the state is $-(P+ε)^{2}$. Thus, the state would set the policy $P$ to its ideal point, $P^{\*\*}=0$, and obtain an expected payoff of $-\frac{R^{3}}{4}$. Unsurprisingly, this payoff decreases with uncertainty $R$. As the uncertainty surrounding the consequences of creating a new organization worsens, the payoff from doing so decreases.

If the state opts to involve the bureaucrat, it does so by selecting a level of discretion $d\geq 0$. In substantive terms, the discretion variable $d$ describes how much leeway the bureaucrat has in the design of the new organization. In response to the state's offered level of discretion, the bureaucrat either expends costly design effort or does not do so. If the bureaucrat does not expend effort, the status quo $SQ$ prevails. If the bureaucrat expends effort, it learns new information and selects the policy $P$ on the real line subject to the restriction that $P\in [-d,d]$. The payoff to the state continues to be $-(P-ε)^{2}$.

As $d$ increases, the range of admissible policies $P$ expands, so that the bureaucrat can better use their informational advantage to design the new organization in ways that are favorable to their own interests. The case studies illustrate this logic. OECD staff gained seats at the negotiating table and worked as full partners with states to design the IEA. They used this position to install their own avenues of influence, for instance by securing the OECD Secretary-General's right to nominate the Executive-Director of the IEA. And in the origins of UNAIDS, the institutional design discretion of international bureaucrats from pre-existing IGOs was even greater. Employees of the WHO, World Bank, UNDP, UNICEF, UNESCO, and UNFPA hammered out a design among themselves, then presented it to states. The resulting design included several innovative elements -- such as permanent governing board positions -- ensuring that the co-sponsoring organizations would wield influence over the new body.

The assumption that the bureaucrat's refusal to expend effort prompts a reversal to the status quo, as opposed to independent action by the state, is not necessary for the results. As a model extension shows, the main findings would also hold even if the state could subsequently create a new organization on its own. Additionally, it is not implausible to assume that if the state focuses efforts on collaboration with the bureaucrat, and the bureaucrat does nothing in response, the status quo will survive for prolonged periods of time. Indeed, this occurred in the UNAIDS case, wherein states were simply unable to coerce the existing organizations to design an optimal institutional apparatus without offering a ``carrot.'' Similarly, the assumption that $P\in [-d,d]$ is innocuous: it is easy to verify that the state's preferred policy is zero. We could have allowed the state to also select a reference point $REF$ different than zero, so that $P\in [REF-d,REF+d]$, but $REF=0$ would continue to be the optimum regardless. Intuitively, if the state for some reason needs to offer concessions to the bureaucrat, it is optimal to do so by increasing discretion $d$.

To capture the standard notion that information collection is costly, we use the following payoff structure for the bureaucrat. It has an ideal point, $BUR$, defined over the outcome space. We suppose $0<BUR$, so that both the state and the bureaucrat potentially have a common interest in moving away from the status quo.[[4]](#footnote-4) The bureaucrat obtains $-(BUR-SQ)^{2}$ from the status quo. If the state independently creates a new organization, the bureaucrat obtains $-(BUR-P-ε)^{2}$.

If the bureaucrat agrees to expend effort, it pays a cost $c>0$ to learn the value of $ε$. The bureaucrat incurs an opportunity cost, such as foregoing work in other issue areas, by expending effort in the creation of a new IGO. Subsequently, the bureaucrat selects the policy $P\in [-d,d]$. This produces a payoff of $-(BUR-P-ε)^{2}-c$. To simplify, we assume that the $c$ is not so high as to completely prevent participation in all circumstances: if the state offers $d\geq BUR+R$, so that the bureaucrat can implement its ideal point $BUR$, the bureaucrat is willing to expend effort, as $-(BUR-SQ)^{2}\geq c$.

The substantive interpretation of participation by the bureaucrat relates to expending effort -- not merely being present. By investigating actual cases of how new organizations are created, we found that extant IGO bureaucrats are generally present somehow, even if equipped only with minor responsibilities and competencies. Therefore, the formal model captures more than the bureaucrat's mere presence.

As the case studies illustrate, international bureaucrats' involvement may be compelling for both the state and the bureaucracy itself, yet it nevertheless entails costs. The IEA, for instance, emerged after a year's worth of institutional design negotiations in the United States and Belgium -- negotiations that took OECD staff away from other tasks and away from their Paris headquarters. The origins of UNAIDS provide an example of even higher opportunity costs for pre-existing IGOs: international bureaucrats from six UN agencies spent several years negotiating with states and with one another in order to craft a new institution. Their time and effort was diverted from the agencies' own in-house AIDS initiatives. Moreover, there was an additional cost: the new IGO wrested responsibilities away from the pre-existing bureaucracies.

We leave the cost $c$ exogenous to maintain analytical tractability. In reality, the cost $c$ depends on the mandate that a state gives to the bureaucrat, and the mandate is endogenously determined. However, the cost is also largely determined by the characteristics of the international cooperation problem at hand, such as the degree of scientific uncertainty or technical complexity. Our formulation is intended to capture such variation in the simplest possible fashion.

The structure of this spatial model is illustrated in Figure A2. Intuitively, we observe two basic tradeoffs here. First, the state benefits from involving the bureaucrat, which has expertise that can improve policy formation. However, such involvement entails a loss of control. Second, the bureaucrat benefits from control at the expense of exerting costly effort.

 [FIGURE A2 ABOUT HERE]

Figure A2: The structure of the spatial model.

**Equilibrium**

In this game, the state moves first and the bureaucrat only learns the value of $ε$ upon choosing to expend effort. Thus, it is easy to verify that we may solve the game using the subgame-perfect equilibrium, as extended to games with stochastic moves by nature. For the state, a (pure) strategy comprises a choice between the status quo, unilateral action, and delegation to the bureaucrat; conditional on delegation, it also includes a choice of a discretion level $d$. For the bureaucrat, a (pure) strategy comprises a mapping from the discretion level $d$ into the decision to expend design effort or not, as well as a mapping from the shock $ε$ into a policy $P$. In a subgame-perfect equilibrium of the game, the bureaucrat expends effort for a given discretion $d$ if and only if it expects a higher payoff than from the status quo, $-(BUR-SQ)^{2}$, and the choice of $ε$ is given in expression 1, as shown in Epstein and O’Halloran (1996, 380). The state's choice of $d$ must be such that the bureaucrat is willing to expend effort, because $d\rightarrow \infty $ strictly dominates non-effort given that $0<BUR<SQ$. The state's choice between the status quo, unilateral action, and delegation must be optimal given the expected payoffs $-SQ^{2},\frac{R^{3}}{4}$ and the subgame equilibrium conditional on delegation. As usual, we investigate each of the three subgames (status quo, unilateral action, delegation to international bureaucracy) separately and then compare the resulting payoffs.

**Status quo**. To begin with, recall that the payoffs from the status quo to the state and the bureaucrat are $-SQ^{2}$ and $-(BUR-SQ)^{2}$, respectively. Thus, the state selects the status quo if and only if $-SQ^{2}$ exceeds the value of creating a new organization.

**Unilateral action**. Since the state sets $P^{\*\*}=0$ when it acts independently, the expected payoff from independent action is $-\frac{R^{3}}{4}$. A uncertainty $R$ increases, the payoff from independent implementation decreases.

**Delegation to International Bureaucrat**. The most interesting possibility is joint action. This is only possible in equilibrium if (i) the state prefers to delegate to the bureaucrat and (ii) the bureaucrat is willing to pay the design cost $c$, in order to to avoid the status quo $SQ$. Given discretion $d$, it is easy to verify, following Epstein and O’Halloran (1996, 380), that the bureaucrat selects $P$ so that the following condition for the outcome, $P+ε$, holds:

 $P+ε=\left(\begin{matrix}ε+d&|-R\leq ε\leq BUR-d\\BUR&|BUR-d\leq ε\leq BUR+d\\ε-d&|BUR+d\leq ε\leq R\end{matrix}\right..$ (1)

 The interpretation is straightforward, as shown in Figure A3. In the first case, the exogenous shock $ε$ shifts the outcome to the left, so that the bureaucrat selects a high policy $P$ to implement the outcome $ε+d$. It would select an even higher policy $P$, but limited discretion prevents it from doing so. In the second case, the exogenous shock $ε$ conveniently allows the bureaucrat to implement its ideal point. In the third case, the exogenous shock $ε$ is so high that the bureaucrat would rather implement a low policy as a countervailing measure; alas, limited discretion prevents this course of action.

 [FIGURE A3 ABOUT HERE]

Figure A3: IGO creation by the international bureaucrat. If the shock $ε$ is low enough, the bureaucrat selects the highest admissible policy, $P=d$. If the shock $ε$ is high enough, the bureaucrat selects the lowest admissible policy, $P=-d$. For intermediate values close to the ideal point $BUR$, the bureaucrat selects the policy $P$ to implement the ideal point $BUR$.

How should the state set the discretion $d$? Recall that the bureaucrat must agree to pay the design cost $c$. Consider first the unconstrained optimum for the state: if the bureaucrat was somehow forced to pay $c$, how would the state select discretion $d$? Following Epstein and O’Halloran (1996, 380), the expected payoff is

 $EU\_{S}(d)=\frac{-R^{3}-3BUR^{2}d+3R^{2}d-3Rd^{2}+d^{3}}{3R}.$ (2)

 It is maximized over $d$ by $d^{max}=max\{R-BUR,0\}$. As the bureaucrat's ideal point, $BUR$, moves away from the state's ideal point, discretion $d$ decreases. But if uncertainty $R$ increases, so does discretion.

If $d^{max}$ is enough to induce the bureaucrat to expend effort, this is what the state selects. If not, recall that we have assumed that the bureaucrat will expend effort given a high enough discretion, $d\geq BUR+R$. Since the payoff to the bureaucrat increases with $d$, a minimal discretion level that induces effort, $\overline{d}$, must exist for the bureaucrat. With the expected payoff to the state decreasing in discretion $d$ beyond the unconstrained optimum $d^{max}$, this level $\overline{d}$, if any, is chosen as the second best by the state. The state is increasing agency discretion to compensate for the bureaucrat's high design cost. Let $d^{\*}=max\{d^{max},\overline{d}\}$. Thus, $d^{\*}$ is the choice of discretion $d$ assuming that the state does profit from involving the bureaucrat.

In sum, the generically unique equilibrium of the game has the following structure. If the state decides to delegate to the bureaucrat, it selects discretion $d^{\*}$ in view of the bureaucrat's design cost $c$. The bureaucrat uses the policy $P$ to shift the outcome towards her ideal point $BUR$. By backward induction, the state selects between the status quo, unilateral action, and delegation based on the expected payoffs.

**Empirical Implications**

Given this equilibrium, we are in a position to investigate three empirical issues that are integral to understanding IGO creation. First, does the state have any incentive to create a new organization? Second, if the state has an incentive to create a new organization, will it do so unilaterally or in conjunction with the pre-existing bureaucrat? Finally, if the state delegates to the bureaucrat, how is policy discretion chosen? We present propositions that answer these questions, and the formal proofs are provided later in the appendix.

**Proposition 1**. *If the state and the bureaucrat have diametrically opposed preferences, so that* $0<SQ<BUR$*, the state retains the status quo or acts unilaterally.*

When the state and bureaucrat have diametrically opposed preferences, delegation for IGO creation cannot be mutually profitable. The bureaucrat will always try to shift the policy away from the status quo towards her ideal point, and such a shift is inevitably harmful to the state. Thus, a mutually beneficial delegation act is impossible, and there exists no range for bargaining between the state and the bureaucrat.

Suppose now that $0<BUR<SQ$, so that both the state and the bureaucrat prefer to move leftwards from the status quo. Now delegation for IGO creation is possible as long as the design cost $c$ is not prohibitively high.

**Proposition 2**. *Suppose* $0<BUR<SQ$*, so that the state and the bureaucrat have a common interest in a policy shift away from the status quo. If the design cost* $c$ *is low enough, the state delegates. The highest admissible design cost* $c$ *decreases as preference divergence* $BUR$ *increases.*

Even if the state and the bureaucrat have similar interests, they must somehow distribute the gains from new IGO creation. In the model, changes in the discretion level achieves this. As their preferences begin to diverge, with $BUR$ shifting away from zero, the state's expected payoff from delegation decreases. The state is therefore less willing to increase policy discretion, so the range of deign costs that allow mutually profitable delegation shrinks. An integrated picture of the equilibrium outcome was given in Figure 2 in the main text.

We now have an understanding of the covariates of delegation, but what about the optimal discretion level? The relationship between state-bureaucrat preference divergence $BUR$ and optimal discretion $d^{\*}$ turns out to be contingent on the bureaucrat's design cost $c$.

**Proposition 3**. *Let* $SQ,R$ *be so high that the state prefers to delegate. If the design cost* $c$ *is low enough, discretion* $d^{\*}$ *decreases as preference divergence* $BUR$ *grows. If the design cost* $c$ *is high enough, discretion* $d^{\*}$ *increases as preference divergence* $BUR$ *shrinks.*

This proposition underpins our primary hypothesis. It also pertains to the main text's general discussion of conservative bureaucrats. In clear contrast to the extant literature, the relationship between agent preferences and discretion is not monotonic. First, if the design cost is low for the bureaucrat, discretion increases as the bureaucrat's ideal point shifts towards zero (and away from the status quo). As the extant literature has it, principals rely more extensively on reliable agents. But, second, if the design cost is high for the bureaucrat, the state must allow enough discretion, or the bureaucrat is unwilling to expend effort. Thus, as the bureaucrat's preferences move towards the status quo (and away from zero), the state must offer more extensive concessions to compensate the bureaucrat for its costly efforts.

To understand this logic, it may be useful to consult Figure 3 in the main text. On the left, we have graphed the linear decrease in equilibrium discretion $d^{\*}$, given that the extant bureaucrat's design cost $c$ is so low that extra concessions are unnecessary. On the right, instead, the design cost $c$ is set so high that as the bureaucrat's ideal point $BUR$ moves towards the status quo $SQ$, the state must at some point begin to give more, not less, discretion to the bureaucrat to secure costly effort.

Consider finally the case of revisionist bureaucrats.

**Proposition 4**. *Let* $SQ,R$ *be so high that the state prefers to delegate. Suppose* $BUR<0<SQ$*. Discretion* $d^{\*}$ *increases as* $BUR$ *decreases.*

This proposition pertains to the main text's discussion of revisionist bureaucrats. Together, the propositions also suggest reversion to conventional principal-agent wisdom -- that discretion is negatively correlated with principal-agent preference divergence -- when either of the conditions in the primary hypothesis does not hold.

**Extensions and Robustness**

To maximize accessibility, we presented above a simple baseline model. In this section, we demonstrate that the main insights from the formal analysis are robust to a wide variety of generalizations and variations in the assumptions. In total, we consider eleven different variants of the main model. We summarize the intuition here, and the full formal details are provided later in the appendix.

**Competing Bureaucrats**. In the main model, the state only has access to one bureaucrat. What if the state can select among two bureaucrats? For example, staff in either of two different extant IGOs may possess the necessary expertise for designing a new IGO. We find that the state (i) selects the bureaucrat with more closely aligned preferences and (ii) the substantive logic of bureaucratic delegation remains unchanged. Thus, the existence of multiple competing bureaucrats improves the state's equilibrium payoff from delegation.

**Complementary Bureaucrats**. Even if multiple bureaucrats exist, the state may nonetheless need them all to successfully create a new organization. In this case, we find that the bureaucrat whose preferences are located the closest to the status quo determines equilibrium discretion. If this bureaucrat can be induced to participate, then any other bureaucrat who is more averse to the status quo will also participate, *ceteris paribus*.

**Multiple States, Similar Preferences**. In reality, an IGO cannot work unless multiple states join it. How do the model implications change if we assume that the state creating a new organization must obtain the consent of other states, or delegation to the bureaucrat is not possible? As long as all states have ideal points lower than $BUR$, this constraint has no implications for equilibrium delegation: if the bureaucrat agrees to the discretion offer $d^{\*}$, so do all other states with a veto over it. The reason is that these states are more averse to the status quo than the bureaucrat, so it these states have a strong preference for delegation.

**Multiple States, Different Preferences**. If multiple states exist but some of them are less averse to the status quo than the bureaucrat, the originating state may have to increase equilibrium discretion to secure participation by other states. This obviously benefits the bureaucrat as well. By playing the states against each other, the bureaucrat can increase discretion and thus create a new organization closer to her ideal point $BUR$.

**Bureaucratic Agenda Setting**. In the main model, we have assumed that the state selects the discretion level $d$. What if the bureaucrat has agenda setting power? In this case, the bureaucrat proposes so much discretion that she can implement her ideal point $BUR$ with certainty. The state accepts as long as the bureaucrat's ideal point is better than the status quo, $0<BUR<SQ$.

**Shadow of the Future**. In the main model, we assumed that the state and the bureaucrat play the game only once. What if a ``shadow of the future'' exists, perhaps manifested in the bureaucrat's career concerns, so that the state can threaten to stop cooperating with the bureaucrat in the future? In an infinitely repeated game, we find that both the state and the bureaucrat can benefit from an agreement that increases discretion but requires the bureaucrat to select some intermediate institutional design $Y$ between zero and $BUR$. As long as both value the future enough, such an agreement is enforceable. Thus, we expect that a shadow of the future can reduce the distributional conflict between states and bureaucrats in regard to new IGO creation.

**Organizational Templates**. In the main model, we assumed that the state cannot use extant organizations as a ``template'' for institutional design. This extension can be easily modeled simply by assuming that the availability of a template results in a decrease in uncertainty $R$. This reduces equilibrium discretion and the value of delegation relative to unilateral action. Empirically, increased state experience with IGO creation should reduce the bureaucrats' bargaining power.

**National Bureaucrats**. What if the state can also delegate to a national bureaucrat with a closely aligned ideal point but less information than the international bureaucrat? In this extension, the state's expected payoff improves because it can either use national officials or the international bureaucrat. Nonetheless, the state continues to rely on the international bureaucrat as long as information is sufficiently valuable and her ideal point $BUR$ and design cost $c$ remain tolerable.

**Varying Status Quo Payoffs**. What if the state and the bureaucrat obtain different outcomes from the status quo, so that $SQ\_{state}\ne SQ\_{bureaucrat}$? This has no effect on the state's equilibrium payoffs, except that the minimal requisite discretion required to induce costly effort by the bureaucrat now depends only on $SQ\_{bureaucrat}$. As $SQ\_{bureaucrat}$ diverges from $BUR$, the bureaucrat's ability to threaten to not expend effort for a low level of discretion diminishes.

**Alternative Threat Point**. For simplicity, in the main model we have assumed that if the bureaucrat fails to expend effort for a given discretion level, the outcome is the status quo. What if the state could also engage in unilateral action given non-effort If the state really prefers unilateral action to the status quo, the bureaucrat's willingness to not expend effort for any given discretion level declines. Thus, the bureaucrat becomes increasingly complacent.

**Endogenous Status Quo**. In the main model, the status quo $SQ$ is assumed to be exogenous. In the proof, we show how it can be derived from a bargaining model.

**Proofs**

**Proof of Proposition 1**

Let $0<SQ<BUR$. For bureaucratic implementation, both the state and the bureaucrat must expect in equilibrium a payoff higher than from the status quo, $-SQ^{2}$ and $-(BUR-SQ)^{2}$ respectively. Towards a contradiction, suppose that for some discretion level $d^{\*}$ this is the case. Let $E(ε+P^{\*})$ denote the expected outcome $ε+P^{\*}$. First, suppose $E(ε+P^{\*})\geq SQ$. While the expected payoff to the bureaucrat may or may not be higher than from the status quo, the expected payoff to the state must be lower than from the status quo. To see why, recall that the state's utility representation is strictly concave. Thus, it must prefer outcome $SQ$ to any expected outcome $E(P)^{\*}\geq SQ$. Second, suppose $E(ε+P^{\*})<SQ$. By similar logic, the bureaucrat must prefer the status quo to this expected outcome. $+$

**Proof of Proposition 2**

Let $0<BUR<SQ$. First, suppose $c\rightarrow 0$ so that the bureaucrat's design cost is sufficiently low. By selecting maximal discretion, $d\geq R$, the state could induce the bureaucrat to automatically implement $ε+P^{\*}=BUR$. With $-BUR^{2}>-SQ^{2}$ under $0<BUR<SQ$, the state would prefer this option to the status quo. The optimal discretion level $d^{max}=max\{0,R-BUR\}$ must produce an even higher payoff, so the state delegates in equilibrium.

Second, consider the claim that as $BUR$ increases, the maximal design cost $\tilde{c}$ that allows delegation decreases. To do this, fix $\overline{BUR}>\overline{BUR}>0$. Let $\overline{c}$ be the highest design cost that admits delegation for $\overline{BUR}$. This implies that for $d^{\*}=\overline{d}$, we have

 $-E(BUR-\overline{P}-ε)^{2}-\overline{c}=-(SQ-\overline{BUR})^{2},$ (3)

 where $E$ is the expectation operator induced by the equilibrium distribution of $ε+P^{\*}$. The state's payoff is locally decreasing in $d^{\*}$ because $d^{\*}\geq d^{max}$. With $\overline{c}$ being the highest admissible design cost, we must also have

 $-E(-\overline{P}-ε)^{2}=-\frac{R^{3}}{4}.$ (4)

 To see why, consider the following. First, the state always prefers some high enough level of discretion to the status quo given that $0<BUR<SQ$, so the state's willingness to delegate must be defined in terms of the alternative of unilateral action. Second, the bureaucrat's ``participation constraint'' (substantively, payoff threshold for expending effort) must bind with equality or the state could increase the bureaucrat's equilibrium payoff by increasing discretion.

Replace now $\overline{BUR}$ by $\overline{BUR}$. For any given level of discretion $\tilde{d}$, the bureaucrat's equilibrium payoff must decrease because $\overline{BUR}>\overline{BUR}$ and $ε$ is distributed uniformly on $[-R,R]$. Given $\tilde{d}$, the state's equilibrium payoff must also decrease by differentiation of expression 2 with respect to $BUR$. Thus, the design cost $c$ must decrease or delegation can no longer be mutually profitable. $+$

**Proof of Proposition 3**

With $SQ,R$ high enough, it is optimal for the state to delegate. Thus, it suffices to consider the optimal choice of $d$. With $c\rightarrow 0$, the unconstrained optimum $d^{max}$ induces the bureaucrat to expend effort given that $SQ$ is assumed to be high enough. To see why, note that in equilibrium $P+ε$ will fall on $[-BUR,BUR]$ given discretion level $d^{max}$. With $d^{max}=\{0,R-BUR\}$, discretion increases linearly with $BUR$.

With $c$ high enough, we have $d^{\*}>d^{max}$ and

 $-E(BUR-P-ε)^{2}-c=-(SQ-\overline{BUR})^{2}.$ (5)

 As $BUR$ increases, the payoff on the right side increases whereas the payoff on the left side decreases for any given $d^{\*}$. Thus, $d^{\*}$ must increase with $BUR$. $+$

**Proof of Proposition 4**

Suppose $BUR<0<SQ$, so that the bureaucrat is a ``revisionist'' who is even more averse to the status quo than is the state. The payoffs from the status quo and unilateral action remain unchanged, so we focus on the delegation subgame and examine the relationship between $BUR$ and $d^{\*}$. To ensure comparability with the main model, let $-BUR>SQ$. First, suppose design cost $c$ is low enough. With $BUR<0$, the state's preferred discretion level $d^{max}$ clearly induces the bureaucrat to expend effort. Thus, as $BUR$ shifts away from zero, equilibrium discretion decreases linearly.

Second, suppose the design cost $c$ is high enough so that the bureaucrat is exactly indifferent between IGO creation and the status quo. As $BUR$ now shifts away from zero, equilibrium discretion also decreases. To prove this, it suffices to show that for any given equilibrium discretion $d^{\*}$, a leftward shift in $BUR$ increases the payoff difference between IGO creation and the status quo. First note that the equilibrium outcome must fall on $[BUR,-BUR]$ given that $d^{\*}\geq d^{max}=R+BUR$. Thus, in equilibrium the outcome $ε+P^{\*}$ always meets $ε+P^{\*}\in [BUR,-BUR]$. Next note that the status quo payoff for the bureaucrat decreases by exactly $2(BUR-SQ)<0$. For any given $ε$, the equilibrium delegation cannot decrease more than by $2(BUR-ε-P^{\*})\leq 0$. With $BUR-ε-P^{\*}<SQ$ regardless of $ε$, the decrease in the equilibrium delegation payoff is always of strictly lower magnitude than that from the status quo. $+$

**Extensions and Robustness**

For each of the eleven model variants, we provide a concise formal analysis here.

**Competing Bureaucrats**

Suppose the state can select between two bureaucrats, labeled $A$ and $B$. Formally, suppose the state now has four options at the first node of the game: status quo, unilateral action, $A$ delegation, $B$ delegation. Given delegation to either bureaucrat, the subgame is identical to that in the main model except that the bureaucrat's ideal point is $BUR\_{A}$ or $BUR\_{B}$, respectively. Assume $0<BUR\_{A},BUR\_{B}<SQ$ and suppose the design cost is $c$ for both bureaucrats. Investigating expression 2, it is immediate to see that the state prefers bureaucrat $A$ to bureaucrat $B$ if and only if $BUR\_{A}\leq BUR\_{B}$. Other than this preference for a given bureaucrat, all results continue to hold.

**Complementary Bureaucrats**

Suppose two bureaucrats, labeled $A$ and $B$, exist. Assume the state needs both of them to create a new organization in an informed fashion. Formally, suppose that if the state decides to delegate, both bureaucrats $A,B$ must expend effort given the discretion offer $d$, or the status quo $SQ$ prevails. Further assume the induced ideal point for policy implementation is a weighted average of the two bureaucrats' ideal points, $w\_{A}BUR\_{A}+w\_{B}BUR\_{B}$, where $w\_{A},w\_{B}\in (0,1)$ and $w\_{A}=1-w\_{B}$. Again, assume $0<BUR\_{A},BUR\_{B}<SQ$. The weights $w\_{A},w\_{B}$ could for example reflect the bureaucrats' relative importance in institutional design.

We prove that only the more recalcitrant bureaucrat's threat to not expend effort (formally, participation constraint) is relevant. To see this, suppose without loss of generality that $0<BUR\_{A}<BUR\_{B}$. For any $ε$ and discretion level $d\geq d^{max}$, the equilibrium outcome falls on $[-w\_{A}BUR\_{A}-w\_{B}BUR\_{B},w\_{A}BUR\_{A}+w\_{B}BUR\_{B}]$ by expression 1. With $BUR\_{A}<BUR\_{B}<SQ$, regardless of $ε$ we have $-(BUR\_{A}-ε-P^{\*})^{2}-(BUR\_{A}-SQ)^{2}>-(BUR\_{B}-ε-P^{\*})^{2}-(BUR\_{B}-SQ)^{2}$. In other words, regardless of the random draw $ε$, the ``willingness to pay'' for delegation is higher for bureaucrat $A$ than $B$. Integrating over $ε\in [-R,R]$, if bureaucrat $B$ expends effort given $d$, so does bureaucrat $A$. $+$

**Multiple States, Similar Preferences**

Suppose the state with ideal point zero must secure participation of other states $2,...,N$ with different ideal points, or alternatively the status quo prevails. Here we first suppose these ideal points $S\_{i}$ are all below $BUR$. Recalling that $BUR<SQ$, we note that the final outcome falls on $[-BUR,BUR]$ given that $d^{\*}\geq d^{max}$. It follows that $ε+P^{\*}<SQ$. For any state with an ideal point $S\_{i}$ less than $BUR$, the payoff difference to the status quo is thus strictly higher than for the bureaucrat regardless of the design cost $c\geq 0$. $+$

**Multiple States, Different Preferences**

Consider the above model with multiple states but suppose now some state $i$ has a higher ideal point than the bureaucrat, $BUR<S\_{i}$. If $S\_{i}$ is high enough, equilibrium delegation is clearly impossible because state $i$ prefers the status quo to the expected delegation payoff for any level of discretion $d$. If $S\_{i}$ is close enough to $BUR$, however, state $i$ is always willing to accept equilibrium delegation as long as the level of discretion $d$ is high enough: for a high enough $d$, the equilibrium delegation outcome is arbitrarily close to $BUR$ with probability one. However, note that the required discretion level may be higher than that needed to induce the bureaucrat to participate. If the design cost $c$ is low enough, the bureaucrat participates whenever state $i$ accepts equilibrium delegation, so that state $i$'s participation constraint is the relevant one.

**Bureaucratic Agenda Setting**

Consider now the original model (one state, one bureaucrat) and a reversal in the sequence of moves: the bureaucrat first selects a discretion level $d$ and the state accepts or rejects, with rejection prompting the status quo. With $0<BUR<SQ$, the bureaucrat's preferred discretion level $d^{\*}$ is so high that $ε+P^{\*}=BUR$ with probability one. The state always prefers this outcome to the status quo, so it accepts.

**Shadow of the Future**

Consider a repeated game with an infinite time horizon $t=0,...,\infty $ whereby the state and the bureaucrat contract as follows. The stage game is given in the main text, and both the state and the bureaucrat discount the future by $δ\in (0,1)$. During the *cooperation phase*, which is initially played at time $t=0$, the state selects $d^{\*}=R$ and the bureaucrat implements some fixed outcome $Y\in (0,BUR)$ through a choice of $P$. A grim trigger punishment is used. If the bureaucrat or the state deviates at any time $t$, they begin to play the non-cooperative Nash equilibrium of the stage game from $t+1$ and do so forever.

For this equilibrium to exist, the choice of $Y$ must be such that both the state and the bureaucrat prefer it to the unique Nash equilibrium of the stage game (characterized in the main text). As long as $SQ,R$ are high enough, at least one such a $Y\in [0,BUR]$ is guaranteed to exist given strictly concave utility presentation. By the Folk Theorem for infinitely repeated games, as long as the discount factor $δ$ is high enough, this equilibrium indeed exists.

**Organizational Templates**

Suppose the state can observe the operation of an existing organization, and use this information to improve institutional design. Given that the bureaucrat also observes this outcome, this possibility can be easily modeled as a simple reduction in the prior uncertainty $R$. The state's payoff from unilateral action and delegation to the bureaucrat increase, as expression 2 shows. As long as $BUR,c$ are low enough, the state continues to delegate. Thus, the substantive insights from the main analysis remain intact.

**National Bureaucrats**

Suppose the state has a fourth option: to delegate to a national bureaucrat. Assume the national bureaucrat has an ideal point $NA$ that falls between zero and $BUR$ -- that is, the state's preferences are more aligned with the national bureaucrat than with the international bureaucrat. The design cost of the national bureaucrat is also assumed to be lower than that of the international bureaucrat. However, suppose also that with some probability $ρ\in (0,1)$, the national bureaucrat does not learn the value of $R$ prior to institutional design, so that the outcome is equivalent to unilateral action, with a state expected payoff $-\frac{R^{3}}{4}$.

How does the use of a national bureaucrat compare with the three other options? Clearly, the use of a national bureaucrat dominates unilateral action as long as $NA,c$ are low enough. Similarly, the comparison with the status quo is straightforward: as long as $NA,c$ are low enough, the status quo is inferior. What about the international bureaucrat? With probability $1-ρ$, the payoff from offering any given discretion level $\tilde{d}$ to the national bureaucrat produces a strictly higher expected payoff than the international bureaucrat, with $0<NA<BUR$ and a similarly lower design cost. With probability $ρ$, however, the payoff is $-\frac{R^{3}}{4}$ and thus lower than from optimal delegation to the international bureaucrat (assuming $BUR,c$ are not prohibitively high). Thus, the (inter)national bureaucrat dominates if and only if $ρ$ is low (high) enough.

**Endogenous Status Quo**

Suppose the status quo $SQ$ is defined as a bargaining outcome between the state and another state with an ideal point $W>0$. For example, this bargaining could reflect policy implementation within an extant organization. If the bargaining game is played under complete information, the Nash Bargaining Solution induces $SQ^{\*}=W/2$. Substituting $W/2$ for $SQ$, all results continue to hold.

**Varying Status Quo Payoffs**

Suppose the status quo values are different, $SQ\_{state}$ and $SQ\_{bureaucrat}$. This change obviously has no effect on the state's payoff from any given outcome. The only difference is that the bureaucrat now fails to expend effort for discretion $d$ if and only if $-(SQ\_{bureaucrat}-BUR)^{2}$ obtains a lower value than the expected payoff from institutional design.

**Alternative Threat Point**

Suppose the outcome from the bureaucrat's decision not to expend effort is unilateral implementation by the state. Now the only change is that the bureaucrat always prefers any discretion $d$ to unilateral implementation as long as the design cost $c$ is low enough. But as the design cost $c$ grows, the state must begin to increase the discretion.

**Appendix B: 180 Randomly Sampled Intergovernmental Organizations**

**Need for Expertise: ``Above-Average'' (39)**

African Information Society Initiative (AISI)

African Regional Cooperative Agreement for Research Development and Training related to Nuclear Science and Technology (AFRA)

African Telecommunications Union (ATU)

Anna Lindh Euro-Mediterranean Foundation for the Dialogue between Cultures (ALF)

Asia and Pacific Commission on Agricultural Statistics (APCAS)

Asian-African Legal Consultative Organization (AALCO)

Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA)

BioNET INTERNATIONAL Consultative Group (BICG)

Budapest Union for the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure (Budapest Union)

Caribbean Information System for the Agricultural Sciences (CAGRIS)

Central American Corporation for Air Navigation Services (COCESNA)

Commission for Inland Fisheries of Latin America (COPESCAL)

Commission for the Scientific and Technological Development of Central America and Panama (CTCAP)

Euro-Mediterranean Legal Metrology Forum (EMLMF)

European Health Committee (CDSP)

Galileo Satellite Navigation Project

Inter-American Center for Development and Environmental and Territorial Research (CIDIAT)

International Commission for the Protection of the Rhine (ICPR)

International Council for the Exploration of the Sea (ICES)

International Energy Agency (IEA)

International Hydrological Programme (IHP)

Internet Governance Forum (IGF)

Nordic Committee for Nuclear Safety Research (NKS)

Nuclear Energy Agency (NEA)

Organization of Arab Petroleum Exporting Countries (OAPEC)

Pan American Institute of Geography and History (PAIGH)

Permanent Committee on Cadastre in the European Union (PCC)

Regional African Satellite Communications Organization (RASCOM)

Regional Centre on Urban Water Management, Teheran (RCUWM)

Regional Information System (SIRI)

Regional Network for the Chemistry of Natural Products in Southeast Asia

SAARC Network of Researchers on Global Financial and Economic Issues

Six Countries Programme (6CP)

United Nations African Institute for the Prevention of Crime and the Treatment of Offenders (UNAFRI)

United Nations Institute for Training and Research (UNITAR)

United Nations Population Fund (UNFPA)

United Nations Programme on Space Applications (PSA)

United Nations Statistical Commission

World Health Organization (WHO)

**Need for Expertise: ``Average''' (102)**

AVRDC - The World Vegetable Center

Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Mediterranean (MAP)

African Development Bank (ADB)

African Economic Community (AEC)

Agency for International Trade Information and Cooperation (AITIC)

Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL)

Allied Command Transformation (ACT)

Andean Community

Arab Industrial Development and Mining Organization (AIDMO)

Arab Investment Company (TAIC)

Asia Pacific Fishery Commission (APFIC)

Black Sea Action Plan (BSAP)

Caribbean Community (CARICOM)

Caribbean Environment Programme (CEP)

Caribbean Festival of Creative Arts (CARIFESTA)

Caspian Environment Programme (CEP)

Central American Council on Housing and Human Settlements (CCVAH)

Collective Security Treaty Organization (CST)

Committee on the Protection of the Rights of All Migrant Workers and Members of their Families (CMW)

Consultative Committee on Industrial Change (CCMI)

Cospas-Sarsat

Council of Legal Education (CLE)

Council of Regional Organizations in the Pacific (CROP)

Court of Justice of the Common Market for Eastern and Southern Africa (COMESA Court of Justice)

ECA Subregional Office for Eastern Africa (SRO-EA Kigali)

Environmental Crime Prevention Programme (ECPP)

European Commission

European Environment Information and Observation Network (EIONET)

European Forestry Commission (EFC)

European Nuclear Energy Tribunal (ENET)

European Sub-Regional Aviation Security Training Centre (AVSEC)

European Youth Foundation (EYF)

FAO/WHO Coordinating Committee for the Near East (CCNE)

Financial Action Task Force (FATF)

Food and Agriculture Organization of the United Nations (FAO)

Global Information and Early Warning System on Food and Agriculture (GIEWS)

Gulf of Guinea Commission (GGC)

Ibero-American Social Security Organization (OISS)

Inter-Agency Network on Women and Gender Equality (IANWGE)

Inter-American Center for Crafts and Popular Arts

Inter-American Commission on Human Rights (IACHR)

Inter-American Committee on Social Development (CIDES)

Inter-American Court of Human Rights (CIDH)

Inter-American Defense Board (IADB)

Inter-American Development Bank (IDB)

Intergovernmental Committee for the Application of the International Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in the Arab and European States bordering on the Mediterranean

Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG IOTWS)

Intergovernmental Organization for Marketing Information and Technical Advisory Services for Fishery Products in the Asia and Pacific Region (INFOFISH)

International Bank for Reconstruction and Development (IRDB)

International Centre for Promotion of Enterprises (ICPE)

International Commission of the Schelde River (ICS)

International Commissions for the Protection of the Moselle and Saar (ICPMS)

International Court of Justice (ICJ)

International Criminal Tribunal for Rwanda (ICTR)

International E-Road Network

International Seabed Authority (ISBA)

International Tropical Fruits Network (TFNet)

Joint ILO/WHO Committee on Health of Seafarers

Maritime Organization of West and Central Africa (MOWCA)

Mekong-Ganga Cooperation Scheme (MGC)

Multinational Force and Observers (MFO)

Near East Forestry Commission (NEFC)

Network of Aquaculture Centres in Asia-Pacific (NACA)

Nile Basin Initiative (NBI)

Nordic Film and Television Fund (NFTF)

Office of the Special Coordinator in the Occupied Territories (UNSCO)

Organization for Economic Co-operation and Development (OECD)

Pan American Health Organization (PAHO)

Programme on Institutional Management in Higher Education (IMHE)

Regional Centre on Agrarian Reform and Rural Development for the Near East (CARDNE)

Regional Marine Pollution Emergency Information and Training Centre - Wider Caribbean (REMPEITC-Carib)

Regional Maritime Academy, Accra (RMA)

SADC Electoral Commissions Forum (SADC-ECF)

Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (UNEP/CMS)

Sistema Regional de Informacion sobre Formacion Profesional (SIRFO)

South Centre

South-South Cooperation WIDE (SSC WIDE)

Southern Africa Postal Operators Association (SAPOA)

Standing Committee for Economic and Commercial Cooperation (COMCEC)

Supreme Headquarters Allied Powers Europe (SHAPE)

Trade and Investment Council

Trans-European North-South Motorway Project (TEM)

UNESCO Regional Office for Education in the Arab States (UNEDBAS)

UNRWA/UNESCO Institute of Education (IUNRWA/UNESCO IE)

United Nations (UN)

United Nations Civilian Police Force (UNCIVPOL)

United Nations Committee on Negotiations with Intergovernmental Agencies

United Nations Development Group (UNDG)

United Nations Development Programme (UNDP)

United Nations Economic Commission for Europe (UNECE)

United Nations Economic Commission for Latin America and the Caribbean (ECLAC)

United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

United Nations Industrial Development Organization (UNIDO)

United Nations Organization Mission in the Democratic Republic of Congo (MUNOC)

United Nations Special Committee on the Situation with Regard to the Implementation of the Declaration on the Granting of Independence to Colonial Countries and Peoples (Special Committee of Twenty Four)

United Nations Standby Arrangements System (UNSAS)

Venice European Centre for the Trades and Professions of the Conservation of Architectural Heritage

West-Nordic Foundation (Vestnordenfonden)

Western European Union (WEU)

World Food Programme (WPF)

YOUTH Community Action Programme

ZEP-RE - PTA Reinsurance Company

**Need for Expertise: ``Below-Average'' (39)**

ASEAN Central Bank Governors Forum (ACBGF)

Amazonian Parliament

Baltic Council

Baltic Sea Region Energy Cooperation (BASREC)

Berne Club

Board of Governors of the European Schools

Committee of Ministers of the Council of Europe

Commonwealth Heads of Government Meeting (CHOGM)

Commonwealth of Independent States (CIS)

Commonwealth Youth Programme (CYP)

Conference des ministres de la jeunesse et des sports des pays d'expression francaise (CONFEJES)

Conference of the European Regional Legislative Parliaments (CALRE)

Conferencia de las Fuerzas Armadas de Centroamerica (CFAC)

Council of Arab Ministers for Social Affairs

Council of Arab Ministers for Youth and Sports

Council of Europe (CE)

European Network on Teacher Education Policies (ENTEP)

Group of Eight (G8)

Group of States Against Corruption (GRECO)

Indian Ocean Commission (IOC)

Joint Force Command South (JFC Naples)

League of Arab States (LAS)

Ministerial Conference on the Protection of Forests in Europe (MCPFE)

Multilateral Organizations Performance Assessment Network (MOPAN)

NATO Airborne Early Warning and Control Force Command (NAEW&C FC)

Niger Basin Authority (ABN)

Non-Aligned Movement (NAM)

Nordic Contact Agency for Agricultural and Forestry Affairs (NKJS)

Nordic Council (NC)

Nordic Council of Ministers (NCM)

Pacific Islands Forum (PIF)

Parliamentary Commission of the Central European Initiative

SECI Regional Centre for Combating Trans-Border Crime (SECI Center Bucharest)

South Asian Association for Regional Cooperation (SAARC)

Standing Committee of Parliamentarians of the Arctic Region (SCPAR)

Transit Transport Coordination Authority of the Northern Corridor (TTCA)

United Nations Security Council (UNSC)

Standing Committee on Commonwealth Forestry

Visegrad Group

**Supplementary Appendix: References**

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1. As an extension, we also demonstrate that our main results remain intact with multiple principals. [↑](#footnote-ref-1)
2. The ``status quo'' can encompass any of several situations that do not entail the creation of a new IGO: simple inaction, an attempt by states to cooperate without a formal organization, or reliance on an existing IGO. [↑](#footnote-ref-2)
3. We also show how the status quo can be derived endogenously in a bargaining setting within an existing IGO. [↑](#footnote-ref-3)
4. This simplifying assumption is relaxed, so that $BUR<0$, in a model extension with ``revisionist'' bureaucrats. [↑](#footnote-ref-4)