Access and Incentives in International Organizations*

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Abstract

The participation of outside stakeholders in international organizations is valued for informed policy making. Paradoxically, organizations that are most in need of expertise are not transparent. This suggests that open institutions do not necessarily induce information provision by outsiders. I develop a formal model of policy making with multiple member states that highlights the strategic incentives of outsiders to acquire and provide information. I compare their incentives when the international organization is transparent and secretive. The model shows that international organizations can make more informed policies by concealing their own expertise because outsiders provide more information. Additionally, the results highlight that institutional design drives conflicts of interest among member states with different ideologies and information. Broadly, this paper provides empirical implications for a literature that finds substantial heterogeneity in interest group access among international organizations.

Latest version (link)

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The participation of non-governmental organizations (NGOs), interest groups, and scientific experts (henceforth: outsiders) in international organizations (IOs) is valued for informed policy-making. The IO-literature emphasizes the benefits of outsider participation in technically complex environments through information provision (Raustiala, 1997; Betsill and Corell, 2008; Green, 2010; Tallberg et al., 2016).[1] Outside expertise is especially important in technically complex environments, such as the regulation of the internet and carbon markets (Green, 2010, p. 172). However, there are concerns about disproportionate influence by outsiders who cannot be held accountable. That is, IOs do not obtain information for free – outsiders must get something in return that makes it worthwhile to lobby with information.[2] Thus, there are costs and benefits associated to granting access to outsiders. This trade-off raises a natural institutional design question. How can IOs obtain the most information from outsiders while minimizing their influence?

IOs vary in how they solve this trade-off. Approximately 30% of IO-bodies give outsiders no access whatsoever.[3] The remainder gives outsiders varying levels of access – they may, to different degrees, observe meetings and presents statements. One of the main explanations for variation in design is heterogeneity in the demand for information across IOs. However, when taken to the data, those IOs that require more technical expertise do not necessarily grant outsiders more access (Tallberg et al., 2013). From a theoretical perspective, it is unclear why IOs with a greater demand for expertise are not more open.[4] Additionally, given that IOs need outside expertise, it is unclear why there is heterogeneity in transparency – some IOs allow groups to observe meetings, but others meet in private.[5]

[1]In the World Bank, NGOs provide expertise in the formulation of country reports and engage in policy dialogue through the NGO-World Bank Committee (Jönsson and Tallberg, 2010, p. 1). In the Organization for Security and Co-operation in Europe, NGOs provide independent information for conflict management (Tallberg et al., 2013, p. 24).

[2]In a 2007 speech in the European Parliament, Commissioner Kallas said: "Nobody would pay real money for lobby without expecting 'something' in return - and that 'something' is influence" (link).

[3]The sample of approximately 300 IO-bodies is, however, non-random (Tallberg et al., 2013). Additionally, it is unclear whether the absence of access prevents outsiders to influence policy making regardless.

[4]Especially in light of principal-agent models of delegation, when agents are given more authority over policy, their incentives to acquire and provide information are typically stronger (Aghion and Tirole, 1997).

[5]Beyond variation among international organizations, there also exists heterogeneity among different bodies of the same organization (Jönsson and Tallberg, 2010; Tallberg et al., 2013, 2014). In the EU, for example,

We ask three main questions: (i) what factors determine how much information outsiders provide, (ii) what are the welfare implications of outsider access and transparency for member states, and (iii) what drives institutional design choices?[6]

To answer these questions, we develop a formal model to study the strategic and welfare implications of different institutional arrangements. Specifically, the interest is in how transparency within IOs affects the incentives of groups to acquire and provide expertise. This issue has received recent theoretical attention in settings with a single principal and agent (Argenziano, Severinov and Squintani, 2016; Kolotilin et al., 2017; Gailmard and Patty, 2018; Minaudier, 2018; Bijkerk et al., 2018). Our goal, however, is to emphasize the interplay among *multiple* heterogeneous principals within an IO. Thus, the goal of the outsider is not just to persuade a single policy-maker, but multiple ones (Farrell and Gibbons, 1989). As the results indicate, this impacts how the outsider communicates its information.

In the model, an outsider exerts effort to acquire information. The outsider becomes informed with higher probability if it exerts more effort. It subsequently communicates through public cheap talk, which implies that its message is not verifiable. A proposer then sets the agenda, and proposes policies on dimensions over which member states do and do not have misaligned preferences. Finally, other member states vote between a status quo and endogenous proposal (Baron and Ferejohn, 1989). We study the case in which the outsider's ideal policy is independent of its information (Lipnowski and Ravid, 2017) which allows us to impose fewer restrictions on the payoffs of member states.[7]

Answering the first question, the model highlights several necessary conditions for information acquisition and provision. First, the outsider's incentives to acquire information

the Council is less open than the Parliament and Commission.

[6] There is a broader literature that studies the impact of transparency in IOs. For example, Stasavage (2004) formally examines how the level of transparency affects posturing by member states. If the public observes everything that transpires in an IO, then representatives have incentives to bargain harder to signal their alignment to their domestic constituencies.

[7] That is, regardless of the state of the world, the group has the same ideal point. This case is also examined in, e.g., Schnakenberg (2015, 2017*b*), and has grown more popular in a recent literature on bayesian persuasion (Gentzkow and Kamenica, 2011). This, however, differs from others models of lobbying in IOs, see e.g., Crombez (2002).

are stronger if it has more to gain from changing the IO's policy. That is, biased outsiders are more willing to acquire and provide information than moderate ones.[8] Second, powerful member states with agenda-setting power need to be sufficiently aligned with the outsider. Otherwise, even if the outsider provides information, powerful member states are unwilling to propose policies that benefit the outsider. Third, those member states that vote over policies need to have heterogeneous preferences. This is the outsider's source of influence - information is used to promote disagreement among member states and to let different minimal winning coalitions to vote in favor of the outsider's preferred policy. Thus, to summarize, the outsider's incentives are driven by its own preferences; by proposers with similar preferences; and 'voters' with heterogeneous preferences.

Answering the second question, we compare two design alternatives of 'transparency' and 'secrecy.' Under transparency, all information that member states have is also available to the outsider. Under secrecy, the IO conceals information and the outsider only has a limited form of access: It can provide information but is uncertain about what information member states have. The comparison illustrates that, under reasonable assumptions, the IO can elicit more information if it does not reveal its own information, *without giving outsiders more influence*. Thus, there is a downside to providing more access in the form of transparency because it weakens outsider incentives to provide expertise.[9] With transparency, outsiders know exactly how their signals affect policy making because they can condition their strategy on the IO's information. Without transparency, however, this is not the case, and outsiders exert additional effort to ensure that their signals have the intended consequences for policy making.

The model produces several additional empirical implications for the study of lobbying, institutional design, and policy making in IOs.

First, there is not necessarily a trade-off between acquiring information in-house and

[8]This is partly driven by our assumption about state-independent preferences, in comparison to the classical cheap talk setting of Crawford and Sobel (1982). As a result, an outsider's *bias* is measured differently across models.

[9]This is not the first paper to find negative effects of transparency, see e.g., Prat (2005).

relying on outsiders. The trade-off is present if the IO is transparent and reveals its own information to the outsider. In this case, outsider incentives are crowded out if the IO has more information. Under secrecy, however, the IO can induce outsiders to provide more information if the IO itself has more expertise. This is because the outsider knows less about how its own signals affect the beliefs of member states. The results demonstrate that outsiders exert additional effort to ensure that their signals have the intended consequences for policy-making. This mechanism only works up until a certain point. If the IO is too informed, then outsiders know that their information has no impact on policy-making.[10]

Second, the model distinguishes between the common value of information among member states and their heterogeneous preferences over policies. Member states that are aligned with the outsider benefit in terms of information and policy, but those that are not aligned may still prefer to grant access to outsiders if the value of information outweighs the outsider's influence over policy. Thus, the model finds conditions under which granting access is welfare enhancing, and identifies which member states gain or lose from group participation.

Third, an extension considers a case in which powerful states are better informed than less powerful ones. The extension illustrates how powerful states are best off restricting outsiders so that powerful states can optimally use their private information to influence policy. This holds even if more information is commonly valued.

The paper proceeds as follows. The next section discusses the related game theoretic literature. Section 2 presents the model and equilibrium criteria. Section 3.1 studies the case with transparency, section 3.2 studies the case with secrecy where states do not reveal their information, and section 3.3 makes welfare comparisons between the two. Section 3.4 studies an extension with asymmetrically informed member states. Section 4 briefly touches upon several extensions. Section 5 discusses empirical implications and section 6 concludes.

[10]Thus, the effect of internal information on outsider incentives is non-monotonic – first it increases, then it decreases. As a result, IOs do not need to choose between acquiring information in-house or relying on outsiders. They may effectively combine both methods of gaining expertise, even if both options are free.

1 Related Literature

Our model has a natural relation to a broader literature in political economy that studies (i) information acquisition, (ii) persuasion in collective decision-making bodies, (iii) the design of legislatures with incomplete information, and (iv) persuasion with partially informed agents.

In our model, a sender acquires and provides information to decision-makers. As in related models, this information acquisition is costly. What factors determine how much information is acquired and revealed in the process? Ultimately, the sender's goal is to use information to affect decisions. Che and Kartik (2009) provide a model of information acquisition and disclosure in which a sender has greater incentives to acquire information if differences of opinion (heterogeneous prior beliefs) are stronger. Simultaneously, however, greater differences of opinion lead to a sender's unwillingness to disclose its information. Aghion and Tirole (1997) show how delegation of policy-making authority to a sender leads to more effort to acquire information. Argenziano, Severinov and Squintani (2016) study information acquisition in a cheap talk setting. One of their main findings is that a decision-maker may prefer to rely on a biased sender's advice through gains in more informed decision-making, even if effort is less costly for the decision-maker. Di Pei (2015) shows that all information that is acquired by the sender is provided to the receiver.

Models of cheap talk with a single sender and receiver have produced two main insights: (i) that a less biased sender can provide more detailed information and (ii) that a sender can exploit the presence of multiple dimensions to emphasize different aspects of its information.[11] The latter result allows for the analysis of persuasion in less restrictive collective choice settings than the common unidimensional environment.[12] Although information is always beneficial with a single sender and receiver, this conclusion no longer holds with multiple

[11] Crawford and Sobel (1982); Chakraborty and Harbaugh (2007, 2010).

[12] An important strand of the literature studies the unidimensional case, in which the analysis of persuasion of a collective body simplifies to a sender-receiver model with a single receiver. This is because the presence of a single dimension (in addition to an addition technical constraint on the 'nestedness' of payoffs) reduces the collective decision-making body to decision-making by a single 'representative' voter. See, for example, Gilligan and Krehbiel (1987, 1989, 1990).

decision-makers. Schnakenberg (2015, 2017*b*) shows how the sender can provide information through public cheap talk and make every decision-maker worse off. The sender can persuade different minimal winning coalitions to vote in favor of its most preferred policy. Alonso and Câmara 2016 study a similar model, but the sender can commit to sending public signals. Similarly, Bardhi and Guo (2018) and Chan et al. (2018) show that with private cheap talk with commitment, the sender can generally obtain her most preferred policy with probability close to 1, almost regardless of voter preferences.[13] These models highlight how much influence outsiders can have over policy. The difference with our model is that these papers study a decision-making process in which voters choose between two alternatives. Instead, we focus on persuasion (with information acquisition) in a bargaining setup with endogenous proposals. This enables us to say more about how much influence outsiders can have over policy.

In addition, our model is related to studies of committees and legislatures (Gilligan and Krehbiel, 1987, 1989, 1990; Krishna and Morgan, 2001). This literature formally investigates how different decision-making rules maximize the amount of information that is transmitted. In particular, it compares open, closed, and modified rules, in which multiple committees have varying degrees of power to propose policies. Information is then revealed through proposal strategies, after which a legislature (in the form of a median legislator) chooses a policy according to the decision-making procedure. We consider a different setup, with interest groups instead of committees. Thus, we are not concerned with the proposal power of outsiders, but only allow them to communicate their information. In addition, we relax the standard unidimensional setup and allow for more ideological heterogeneity among decision-makers. This means that there is not necessarily a median or representative decision-maker, and has implications for the ability of outsiders to transmit information, and implications for welfare due to information transmission (Schnakenberg, 2017*a*).

Finally, our model considers an extension in which member states have private infor-

[13] These are models of *Bayesian persuasion* as in Gentzkow and Kamenica (2011), where a sender can manipulate information without commitment problems.

mation. Kolotilin et al. (2017) study optimal persuasion mechanisms with commitment in which a single receiver is partially informed. The sender wishes to perfectly condition its signaling strategy on the receiver's information, but the receiver has incentives to misrepresent its information. A main result is that a moderately informed receiver can obtain more information from a sender than a receiver who has little information. But when the receiver becomes too informed, less information is transmitted. Our model produces a similar result, but in a setting with information acquisition, without commitment, and with a richer policy space. Also, we study persuasion of a collective body instead of a single receiver, which generates additional insights on the value of information for different receivers.

2 Model

How does transparency affect interest group behavior and the welfare of member states? To answer this question, we first develop a baseline model in which member states have no private information. The baseline model captures the situation in which there is full transparency. The game is similar to sender-receiver models of information transmission with cheap talk. The sender S is the outsider and can be seen as any sort of expert, interest group, or NGO that can acquire and provide relevant information. There are three member states (the receivers). The proposer P sets the agenda, and two other member states A and B vote between a proposal and a status quo. The main idea is that the sender acquires and provides information to influence collective decisions. There are five stages.

Stage 1 (nature). There is uncertainty about some state of the world $\omega \in \Omega$. Nature draws one of two possible states with $\Omega = \{\omega_A, \omega_B\}$. The prior probability that the state is ω_A is denoted by $\mu_0 := \mu_0(\omega_A) \in (0, 1)$ which is a commonly shared prior. The further μ_0 is from $1/2$, the more information member states have.[14] Thus μ_0 can be seen as a variable that describes how much information has been acquired and shared among member states

[14] As the variance of ω is $\mu_0(1-\mu_0)$, uncertainty about the state reaches its maximum if $\mu_0 = 1/2$.

before the sender moves.[15]

Stage 2 (information acquisition). The sender then exerts effort to discover the state. The sender's effort choice $e \in [0,1]$ affects the probability with which she observes the state ω. In particular, the sender discovers the state with probability e, and with the remaining probability $(1-e)$, it does not discover the state. This event, when the sender does not learn anything, is denoted by ϕ. This effort choice e is publicly observable and known to all players, but it is unknown if the sender has observed the state, nor which state is observed.

Stage 3 (persuasion). Afterwards, the sender sends a signal that is conditional on what information is observed. The sender either observes ω_A, ω_B, or nothing (ϕ). Denote γ_A as the signal from nature that says that the state is $\omega = \omega_A$, and similarly, denote γ_B as the signal that says $\omega = \omega_B$. The sender then sends a signal $s \in \{s_A, s_B\}$ based on its information. For completeness, the sender's strategy or information structure π is a mixture over signals given $(\gamma_A, \gamma_B, \phi)$ with $\pi = (\pi(s_A|\gamma_A), \pi(s_A|\gamma_B), \pi(s_A|\phi))$. For example, $\pi(s_A|\gamma_A) \in [0,1]$ denotes the probability with which the sender sends signal s_A after observing γ_A.

Stage 4 (agenda-setting). After information has been provided, member states bargain and make collective decisions over policy x and policy y. After observing the sender's signal $s \in \{s_A, s_B\}$ and effort choice e, the proposer P makes two proposal $p_x \geq 0$ and $p_y \geq 0$ simultaneously. As shown below, the x-proposal is over an issue that has disagreement among member states, while the y-proposal is over an issue in which member states' preferences are aligned. This is done to disentangle the value of policy and information.

Stage 5 (voting). Finally, member states A and B observe effort e, signal s, and proposal p_x and p_y. They then decide whether to accept or reject each individual proposal in comparison to a status quo $q_x = 0$ and $q_y = 0$. If A or B (or both) votes in favor for either given proposal then it is implemented. If the first proposal is implemented, say that $x = p_x$, otherwise the status quo holds with $x = 0$. Similarly, if the second proposal passes, then $y = p_y$, otherwise $y = 0$.

[15]Further, one can think of the state ω as a parameter that captures the potentially heterogeneous benefits of cooperation. This will be clear below.

Sender payoffs. The sender's utility function only depends on the first policy and decreases in the amount of exerted effort. In particular, given policy x and effort e,

$$u_S(x, e) = -(x - \hat{x}^S)^2 - \kappa e^2, \tag{1}$$

where $\kappa > 0$ measures the marginal cost of effort or the relative importance of policies for S, and is assumed to be relatively small throughout the analysis. The value of κ is close to 0. This assumption is made for the sake of exposition, and implies that the sender always wishes to maximize its influence over policy regardless of the cost of effort. Note that the sender's payoffs are independent of the state, which is different from the canonical cheap talk setting of Crawford and Sobel (1982), but eases exposition and analysis.[16] It simply means that the sender has an ideal policy $\hat{x}^S$ and prefers x-policies to be as close to $\hat{x}^S$ as possible, regardless of ω. It also means that there is total conflict of interest compared to Crawford and Sobel (1982)'s partial conflict of interest in which the sender and receiver have a common goal to choose 'higher' policies in 'higher' states of the world.

Member state payoffs. The proposer P cares about both policies x and y. P has a state-independent ideal point of $\hat{x}^P \geq 0$ on the x-dimension, and wants policies that are as close to $\hat{x}^P$ as possible. Furthermore, P's ideal policy is $\hat{y}(\omega_A) = 1$ if the state is ω_A, and $\hat{y}(\omega_B) = 0$ if the state is ω_B. P's complete payoffs are as follows

$$u_P(x, y, \omega) = \begin{cases} -(x - \hat{x}^P)^2 - (y - 1)^2 & \text{if } \omega = \omega_A, \\ -(x - \hat{x}^P)^2 - (y - 0)^2 & \text{if } \omega = \omega_B. \end{cases} \tag{2}$$

Payoffs are different for member states A and B who care about the state on the x-

[16] One justification could be that the sender is much less sensitive to information than member states are. Here, we take this to the extreme and assume that the sender does not care about the state at all.

dimension:[17]

$$u_A(x,y,\omega) = \begin{cases} -(x-\frac{1}{2})^2 - (y-1)^2 & \text{if } \omega = \omega_A, \\ -(x-0)^2 - (y-0)^2 & \text{if } \omega = \omega_B, \end{cases} \tag{3}$$

$$u_B(x,y,\omega) = \begin{cases} -(x-0)^2 - (y-1)^2 & \text{if } \omega = \omega_A, \\ -(x-\frac{1}{2})^2 - (y-0)^2 & \text{if } \omega = \omega_B. \end{cases} \tag{4}$$

This means that members can have heterogeneous preferences over the first policy, but not over the second. That is, the first policy x has distributional consequences, and depending on the state ω, either A or B is expected to gain more from higher policies than the other.

Equilibrium. A perfect Bayesian equilibria (PBE) $(e^*, \pi^*, (\sigma_i^*)_{i=P,A,B}, \mu^*)$ is

(i) a pure effort choice e^* that is optimal given π^* and $(\sigma_i^*)_{i=P,A,B}$,

(ii) a signaling strategy π^* that is optimal given every state ω and given proposal strategy σ_P^* and voting strategies $(\sigma_i^*)_{i=A,B}$,

(iii) a proposal strategy σ_P^* that is optimal given beliefs $\mu^*(e,s)$,

(iv) voting strategies σ_A^* and σ_B^* that are optimal given beliefs $\mu^*(e,s)$,

(v) and beliefs $\mu^*(e,s)$ that are consistent with (e,s) on the equilibrium path.

We look for PBE in weakly undominated strategies that are optimal for the sender. Call a PBE with these two additional requirements an *equilibrium*. By standard arguments, the removal of weakly dominated strategies guarantees that A and B vote sincerely. The requirement of sender-optimality means that we look for PBE that maximize the sender's ex-ante utility. We will formally define this requirement after some intermediate results.

Equilibrium discussion. The interest in perfect Bayesian equilibria with an additional requirement of weakly undominated strategies is standard.[18] The condition of sender-

[17] As will become clear later, we choose the following setup because of its symmetric nature. One can easily generalize, and allow for less restrictive member state payoffs, with an arbitrary number of n member states. These results are available upon request – they build on recent advances in Lipnowski and Ravid (2017).

[18] See, e.g., Schnakenberg (2017*b*).

optimality is not, so some discussion is necessary. Note that some focus is needed, because as is standard in cheap talk models, there are multiple equilibria if a sender can potentially be influential.[19] The existence of multiple equilibria is of course problematic as we are interested in the effect of transparency on incentives and welfare. Comparisons between transparency and secrecy can only be made if similar equilibria are played in both situations.

One solution to the problem of multiplicity is to focus on the most informative equilibria, in which the sender exerts enough effort to remove as much uncertainty as possible, or, alternatively, behaves in a way that is jointly optimal for the member states. In our model, however, such equilibria can only be constructed with unnatural off-the-path beliefs and behavior.[20] Another solution is to apply refinements to off-the-path beliefs, but in our model, these refinements do not lead to stronger equilibrium predictions.[21]

The focus on sender-optimal equilibria allows for intuitive off-the-path behavior and is also in line with a large strand of the literature on persuasion in collective decision-making bodies.[22] This is also helpful to compare our results to this literature. But most importantly, our equilibrium selection criterion implies that we isolate the effect of transparency on welfare, without using specific equilibrium strategies to increase member states' welfare.

[19] Crawford and Sobel (1982).

[20] Informally, the receivers of information need to punish the sender's deviations in unintuitive ways. Some papers use the 'babbling equilibrium'—in which no information is revealed—as a punishment strategy to carefully discipline the sender in behaving in a way that is optimal for the receivers (Argenziano, Severinov and Squintani, 2016). Such constructions are, however, not in line with a forward induction type of argument. That is, were the sender to deviate to a different effort level, receivers should expect that the sender only does so if she can do better by deviating to a different equilibrium. In section 4, Bijkerk et al. (2018) provide a formal proof in a similar model of information acquisition and provision, and find that forward induction selects the equilibrium that is ex-ante sender-optimal.

[21] The D1-refinement, for example, (informally) states that deviations come from types that have the greatest incentive to deviate. Given that the sender's payoff does not depend on the state, D1 has no bite. The use of standard refinements in models of cheap talk is known to be ineffective. But see Chen, Kartik and Sobel (2008).

[22] Alonso and Câmara (2016); Schnakenberg (2017*b*); Bardhi and Guo (2018); Chan et al. (2018).

3 Results

Before we can analyze the sender's incentives, consider how member states bargain over policy. After effort e has been exerted and signal s has been sent, every member state has a common posterior belief $\mu \in [0,1]$ on the path of play. This is the probability with which member states believe that the state is ω_A. There are two proposals that are collectively accepted or rejected. First, consider the y-proposal. It is straightforward to see that this proposal always passes in equilibrium because member states' preferences are congruent. Given each belief μ, P, A, and B have ideal point $\hat{y}(\mu) = \mu$. Thus, P proposes $p_y = \mu$, and both A and B accept it.

There is, however, disagreement over the x-policy. Member states have ideal policies that potentially depend on the state ω. P has an ideal point of $\hat{x}^P$, A has an ideal point of $(\hat{x}^A(\omega_A), \hat{x}^A(\omega_B)) = (1/2, 0)$, and B has an ideal point of $(\hat{x}^B(\omega_A), \hat{x}^B(\omega_B)) = (0, 1/2)$. Given each belief $\mu \in [0,1]$, what set of proposals p_x are A and B willing to accept? First, consider member state A. Recall that μ is the posterior probability that the state is ω_A. Ignoring the y-proposal, accepting P's proposal p_x (LHS) and rejecting it (RHS) yield payoffs

$$-\mu \overbrace{(p_x - 1/2)^2}^{\text{if } \omega=\omega_A} - (1-\mu) \overbrace{(p_x - 0)^2}^{\text{if } \omega=\omega_B} \geq -\mu \overbrace{(0 - 1/2)^2}^{\text{if } \omega=\omega_A} - (1-\mu) \overbrace{(0-0)^2}^{\text{if } \omega=\omega_B}. \tag{5}$$

The comparison between the two payoffs implies that A accepts if and only if $p_x \leq \mu$. A similar comparison means that B accepts p_x if and only if $p_x \leq 1 - \mu$. Based on these results, we can define an upper bound of acceptable policies based on each belief μ, denoted $\bar{x}(\mu)$. that is, at least one other member state (A or B) is willing to accept p_x as long as $p_x \in [0, \bar{x}(\mu)]$. Formally, this upper bound equals

$$\bar{x}(\mu) = \begin{cases} 1-\mu & \text{if } \mu \leq 1/2, \\ \mu & \text{if } \mu > 1/2. \end{cases} \tag{6}$$

How does the proposer optimally set p_x given a belief μ? Ideally, P would like to propose its ideal policy $\hat{x}^P$. If it is acceptable to at least one member state, then P proposes it. Otherwise, if $p_x = \hat{x}^P$ is rejected, then P proposes the best alternative, which equals $\bar{x}(\mu)$. Note that if P is never constrained, i.e., if $\hat{x}^P \leq 1/2$, then P can always propose its ideal policy. As a result, to study the interesting case where P is at least sometimes constrained by A and B, we make the following assumption.

Assumption 1. *The proposer's ideal policy equals* $\hat{x}^P \in (1/2, 1)$.

Our first lemma summarizes these initial results on how member states bargain over policy. It defines a mapping from the set of beliefs into the set of equilibrium policies as $x^*(\mu)$ for the x-policy and $y^*(\mu)$ for the y-policy.

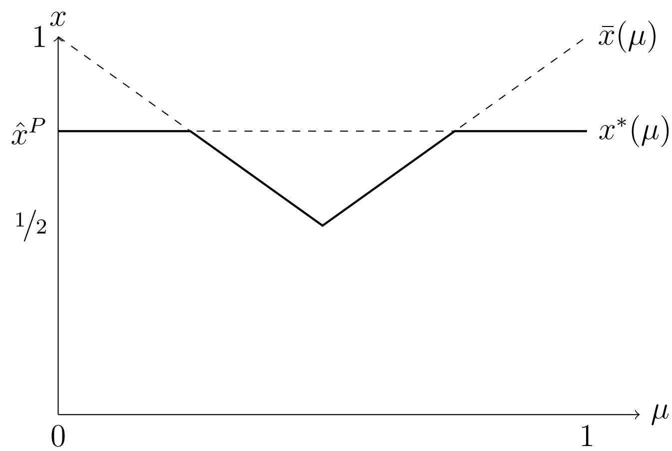
Lemma 1. *Given assumption 1, in every equilibrium and for every posterior belief* $\mu \in [0, 1]$, *the first policy equals*

$$x^*(\mu) = \begin{cases} 1 - \mu & \text{if } \mu \in [1 - \hat{x}^P, \frac{1}{2}] \\ \mu & \text{if } \mu \in (\frac{1}{2}, \hat{x}^P] \\ \hat{x}^P & \text{if } \mu \notin [1 - \hat{x}^P, \hat{x}^P] \end{cases} \tag{7}$$

and the second policy equals $y^*(\mu) = \mu$.

Figure 1 illustrates the function $x^*(\mu)$. For beliefs close to 0 and 1, P can propose his ideal policy $\hat{x}^P$. For beliefs that are close to $1/2$, P is constrained, and proposes the upper bound of the acceptable policies $\bar{x}(\mu)$. An important thing to note is that it is impossible to pull policy further away from the status quo than P's ideal policy $\hat{x}^P$. Note also that $x^*(\mu)$ is symmetric around $1/2$. Each belief μ naturally follows from Bayes' rule given an effort choice e^* and signal $s = \{s_A, s_B\}$. In what follows, we sequentially study how the sender optimally induces these beliefs under transparency and secrecy. Before we do so, we make an additional assumption about the sender, who wishes to push policy further from the status quo than P does.

Figure 1: Equilibrium Policy Function



Note. The thick line denotes the policy function $x^*(\mu) = \min\{\hat{x}^P, \bar{x}(\mu)\}$.

Assumption 2. *The sender's ideal policy is* $\hat{x}^S \in (\hat{x}^P, 1)$.[23]

3.1 Transparency

Aforementioned beliefs are determined by the sender's effort choice and signaling strategy. On the path of play, member states have beliefs $\mu(e^*, s_A)$ and $\mu(e^*, s_B)$ after s_A and s_B respectively. Both beliefs follow simply from Bayes' rule:

$$\mu(e^*, s) = \frac{e\mu_0\pi(s|\gamma_A) + (1-e)\mu_0\pi(s|\phi)}{e\mu_0\pi(s|\gamma_A) + e(1-\mu_0)\pi(s|\gamma_B) + (1-e)\pi(s|\phi)}. \tag{8}$$

Without loss of generality, assume that $\mu(e^*, s_A) \geq \mu(e^*, s_B)$. The analysis can to a large extent be simplified into a study of the properties of induced beliefs.[24] A condition called *Bayes' plausibility* implies that if $\mu(e^*, s_A) > \mu_0$, then $\mu_0 > \mu(e^*, s_B)$. That is, the weighted average of posterior beliefs has to equal the prior. This is the first constraint on beliefs that can be induced.

Given our focus on sender-optimality, the sender does not exert more effort than neces-

[23]This assumption simplifies exposition and allows for easier comparisons between transparency and secrecy, but we discuss what happens if S is more moderate than P is.

[24]Aumann and Maschler 1995; Gentzkow and Kamenica 2011.

sary. If the sender can be made better off by providing information, this is done by spreading out posterior beliefs from the prior. Consider $\mu(e^*, s_A) \geq \mu_0$. Given an effort level, the sender is best off moving it away from the prior μ_0 as much as possible (otherwise the sender could exert less effort). Thus, in equation (8), the sender does this by telling the truth after observing γ_A, which means that $\pi(s_A|\gamma_A) = 1$. This is because it increases the numerator. On the other hand, the sender also tells the truth after γ_B by setting $\pi(s_A|\gamma_B) = 0$, thereby minimizing the denominator. A similar result follows for the other belief $\mu(e^*, s_B) \leq \mu_0$, in which the sender also benefits from telling the truth.[25] The careful selection of beliefs is then done through strategically choosing $\pi(s|\phi) \in [0, 1]$ after not observing the state (ϕ). Thus, to some extent, the sender tells the truth and discloses which state she has observed, but she does not truthfully say that she did not observe the state if that were the case.

Exerting effort helps in letting the sender induce posterior beliefs that are further away from the prior. If the sender were to exert no effort, then both beliefs necessarily equal the prior. In the other extreme, if the sender exerts full effort, it has full flexibility in inducing beliefs. For any effort level in between, the sender can only move beliefs to a limited extent. One can think of effort as buying a 'budget of posteriors,' in which sender-optimality implies that the sender makes full use of her budget.

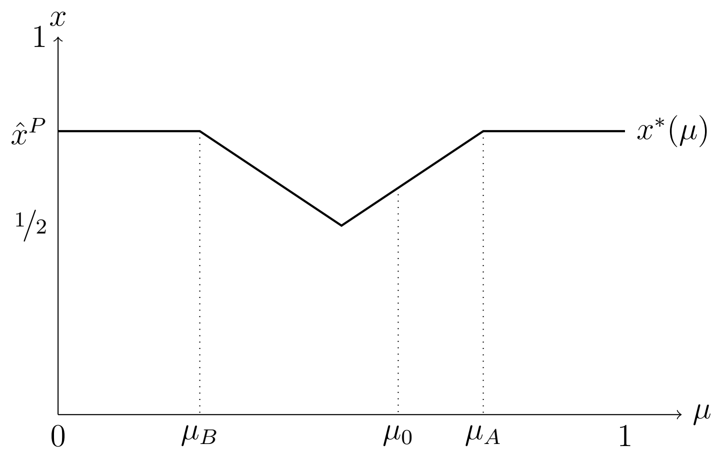
In addition, the sender faces an incentive compatibility problem: sending either s_A or s_B must be optimal. Given that the sender's ideal policy $\hat{x}^S$ does not depend on the state ω, this is irrespective of the sender's information $(\gamma_A, \gamma_B, \phi)$, which implies that (ignoring effort)

$$\overbrace{-(x^*(\mu(e^*, s_A)) - \hat{x}^S)^2}^{\text{sender's payoff after } s_A} = \overbrace{-(x^*(\mu(e^*, s_B)) - \hat{x}^S)^2}^{\text{sender's payoff after } s_B}. \tag{9}$$

As the sender's utility function is symmetric around its ideal point, this means that both induced policies are equidistant from $\hat{x}^S$. That is, either both policies are the same, i.e.,

[25]This intermediate result is as in Di Pei 2015.

Figure 2: Persuasion with Transparency



$x^*(\mu(e^*, s_A)) = x^*(\mu(e^*, s_B))$, or both are equidistant on either side of the sender's ideal policy with $x^*(\mu(e^*, s_A)) = \hat{x}^S + z$ and $x^*(\mu(e^*, s_B)) = \hat{x}^S - z$ for some $z > 0$.

Before stating our main result, it is helpful to emphasize that the prior μ_0 plays an important role. The further μ_0 is removed from $1/2$, the more information member states have. Additionally, given the symmetric setup (with symmetry around $1/2$), it is without loss of generality to focus on $\mu_0 \geq 1/2$. The interesting case occurs if member states could change their behavior due to persuasion, which means that P, A, and B are assumed to have a prior that is not too close to 1. If $\mu_0 \geq \hat{x}^P$, then the sender does not exert effort because persuasion cannot make her better off.

Proposition 1. *Assume $\mu_0 \in [1/2, \hat{x}^P)$. Given assumptions 1 and 2, in every equilibrium under transparency, the sender exerts e^*_T and chooses signaling strategy π^* such that*

(i) $e^*_T = \frac{(\hat{x}^P)^2 - \hat{x}^P + (1-\mu_0)\mu_0}{3\hat{x}^P\mu_0 - \hat{x}^P - \mu_0^2 - (\hat{x}^P)^2(2\mu_0 - 1)}$,

(ii) $\pi^*(s_A|\gamma_A) = \pi^*(s_B|\gamma_B) = 1$,

(iii) $\pi^*(s_A|\phi) = \frac{\hat{x}^P + \mu_0 - 1}{2\hat{x}^P - 1}$.

On-the-path beliefs are $\mu_A := \mu(e^*, s_A) = \hat{x}^P$ and $\mu_B := \mu(e^*, s_B) = 1 - \hat{x}^P$. Off-the-path beliefs are defined in the appendix. The IO implements $x^* = \hat{x}^P$ after all signals.

Table 1: Member states' information

	$P(\xi_A \mid \omega)$	$P(\xi_B \mid \omega)$
$\omega = \omega_A$	q	$1-q$
$\omega = \omega_B$	$1-q$	q

In equilibrium, the sender exerts the minimal amount of effort while maximizing her policy influence. Two variables are of special interest in the determination of the sender's strategy. First, if member states are more informed, then the sender exerts a lower amount of effort. Second, the sender's effort is positively affected by the proposer's ideal policy. The greater is $\hat{x}^P$, the more influence the sender can have through pulling policy closer to her ideal $\hat{x}^S$.

Corollary 1. *(Comparative statics) Equilibrium effort e_T^* under transparency decreases in the amount of information of member states, i.e., $|\mu_0 - 1/2|$, and increases in the proposer's ideal policy $\hat{x}^P$.*

3.2 Secrecy

In the previous section with transparency, the sender knows all information that member states have. Now consider the sender's equilibrium strategies if it is uncertain about what information P, A, and B have. To simplify exposition, assume that the common prior belief $\mu_0 = 1/2$. Member states get one of two signals ξ_A or ξ_B. These signals have a *quality* of $q \in (1/2, 1)$, which is the probability that a signal ξ is *correct*. Table 1 illustrates this. For the sake of completeness, the game with secrecy is as follows:

1. Nature draws $\omega \in \{\omega_A, \omega_B\}$,
2. S exerts effort $e \in [0, 1]$,
3. S observes ω with probability e, observes nothing (ϕ) with probability $(1-e)$, and sends $s = \{s_A, s_B\}$,
4. P observes (e, s, ξ) and proposes $p_x \geq 0$ and $p_y \geq 0$,
5. A and B observe (e, s, ξ, p_x, p_y) and choose whether to vote in favor for each proposal.

Equilibrium strategies in stages 4 and 5 are the same as before and formally stated in lemma 1. The only thing that remains is to analyze the sender's optimal strategy. The main difference now is that S does not know how her signaling strategy affects beliefs and subsequent policies. As before, it is the case that S tells the truth if she observes the state with $\pi(s_A|\gamma_A) = \pi(s_B|\gamma_B) = 1$. Because of the symmetry of the problem, S sends both signal with equal probability if she does not observe the state, i.e., $\pi(s_A|\phi) = \pi(s_B|\phi) = 1/2$. Given each combination of s and ξ, there are four different posterior beliefs, which are as follows: $\mu(e, s_A, \xi_A) = \frac{q}{1-e+eq}$, $\mu(e, s_A, \xi_B) = \frac{1-q}{1-eq}$, $\mu(e, s_B, \xi_A) = \frac{q(1-e)}{1-eq}$, $\mu(e, s_B, \xi_B) = \frac{(1-q)(1-e)}{1-e+eq}$.

Thus, if the sender sends s_A, she does not know whether the member states' common belief is the first or second one in the above list. But because the marginal cost of effort is very low, she wants to ensure that regardless of the member states' information, member states choose policies that are optimal for S. The following proposition describes equilibrium strategies. As before, it is assumed that member states are insufficiently informed about the state ω, which means that q is not too high. Otherwise, the sender has no incentive to exert effort.

Proposition 2. *Assume $\mu_0 = 1/2$ and $q \in (1/2, \hat{x}^P)$. Given assumptions 1 and 2, in every equilibrium under secrecy, the sender exerts e_S^* and chooses signaling strategy π^* such that*

(i) $e_S^* = {q+\hat{x}^P-1}/{q\hat{x}^P}$,

(ii) $\pi^*(s_A|\gamma_A) = \pi^*(s_B|\gamma_B) = 1$,

(iii) $\pi^*(s_A|\phi) = \frac{1}{2}$.

On-the-path beliefs are

(i) $\mu_{AA} := \mu(e_S^*, s_A, \xi_A) = {\hat{x}^P q^2}/{(1-q)^2+\hat{x}^P(2q-1)}$,

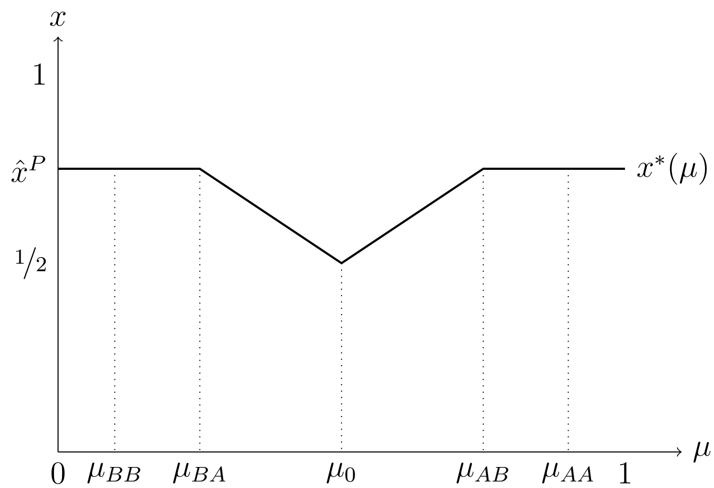
(ii) $\mu_{AB} := \mu(e_S^*, s_A, \xi_B) = \hat{x}^P$,

(iii) $\mu_{BA} := \mu(e_S^*, s_B, \xi_A) = 1 - \hat{x}^P$,

(iv) $\mu_{BB} := \mu(e_S^*, s_B, \xi_B) = {(1-\hat{x}^P)(1-q)^2}/{(1-q)^2+\hat{x}^P(2q-1)}$.

Off-the-path beliefs are defined in the appendix. The IO implements $x^* = \hat{x}^P$ after all signals.

Figure 3: Persuasion with Secrecy



Contrary to the case with transparency, the international organization can invite more effort from the outsider by being more informed itself. That is, for higher values of q (up until the threshold of $\hat{x}^P$), the sender exerts more effort and induces beliefs that are more further away from the prior. Additionally, the results illustrates that effort is higher and more information is provided from outside if member states keep their information private.

Corollary 2 (Comparative statics)**.** *Assume $\mu_0 = 1/2$ and $q \in (1/2, \hat{x}^P)$. Equilibrium effort under secrecy increases in the amount of information of member states, i.e., $q - 1/2$, and increases in the proposer's ideal policy $\hat{x}^P$.*

3.3 Welfare

Each member state's ex-ante welfare can be decomposed into a part that measures policy costs or benefits and informational costs or benefits. Note that on the x-dimension, the proposer's ideal policy is always implemented, regardless of transparency. On the other hand, the y-policy depends on what information is provided, where in equilibrium $y^*(\mu) = \mu$ for every induced belief.

Formally, and from an ex-ante perspective, each member state's payoff is as follows:

$$\begin{aligned} V^i(x,y) = &- \sum_{s,\xi} Pr(s,\xi|\omega_A)\mu_0[(x^*(s,\xi) - \hat{x}^i(\omega_A))^2 + (y^*(s,\xi) - \hat{y}^i(\omega_A))^2] \\ &- \sum_{s,\xi} Pr(s,\xi|\omega_B)(1-\mu_0)[(x^*(s,\xi) - \hat{x}^i(\omega_B))^2 + (y^*(s,\xi) - \hat{y}^i(\omega_B))^2]. \end{aligned} \tag{10}$$

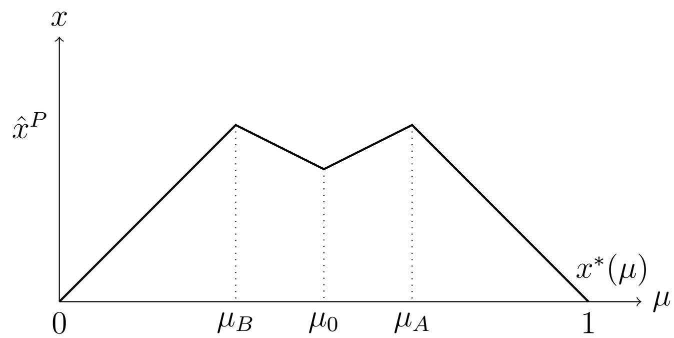
Given each state ω, each member state's payoff has two parts capturing policies x^* and y^*. The first policy is always $x^* = \hat{x}^P$. This means that P cannot do better, but A and B are worse off because policy is shifted away from their ideal points. The second policy depends on the state. Given the quadratic nature of the payoffs, they can be decomposed into an expected value and variance term. With more spread out posteriors, the IO can increasingly match the state, which yields a common value of information to every member state. This immediately implies our following result: the x-policy under transparency and secrecy is the same, but the IO receives more information under the latter. Thus, given that information is commonly valued, every member state benefits from secrecy. If the alternative is that S receives no access, however, A and B may prefer that if S's influence through persuasion outweighs the common value of information

Proposition 3. *Although not every member state necessarily benefits from providing access, every member state benefits from secrecy.*

3.4 Asymmetrically informed member states

In the main model, the member states were symmetrically informed. It is natural to consider a situation in which the proposer is more informed than member states. Consider the model with secrecy, in which only the proposer observes a private signal ξ, and there are four member states, A, B, C, and D, which do not. Payoffs are as follows for the x-policy, where the first element is i's ideal point if the state is ω_A, while the second if the state is ω_B: $\hat{x}^A = (1/2, 0), \hat{x}^B = (0, 1/2), \hat{x}^C = (1/4, 0)$, and $\hat{x}^D = (0, 1/4)$. The proposal passes if at least three member states approve. P has an ideal policy of $\hat{x}^P = 1/3$. Similar to how the model

Figure 4: Policy function



is solved in the main text, the x-policy function is as follows:

$$x^*(\mu) = \begin{cases} \mu & \text{if } \mu \in [0, 1/3] \\ (1-\mu)/2 & \text{if } \mu \in (1/3, 1/2] \\ \mu/2 & \text{if } \mu \in (1/2, 2/3] \\ 1-\mu & \text{if } \mu \in (2/3, 1]. \end{cases} \tag{11}$$

Now suppose that P gets a signal with quality $q = 2/3$, and that the sender has an ideal policy of $\hat{x}^S = 0$. Also assume that the common prior is $\mu_0 = 1/2$. In this example, there is a conflict between the proposer and the sender. The proposer is best off if the following beliefs are induced: $\mu_B = 1/3$ and $\mu_A = 2/3$. That would yield an equilibrium policy of $x^* = 1/3$, which is the proposer's ideal point. The sender, however, when granted access, prefers to give full information, inducing beliefs 0 and 1. This leads to an equilibrium policy of $x^* = 0$, which is the sender's ideal point. Hence, P could be best off restricting access to S and not allow her to send cheap talk messages, even if it means not making fully informed decisions.

This extension illustrates heterogeneous preferences among member states. In particular, it shows how strong member states may have the greatest incentives against transparency. In the EU, this was illustrated by a case when Denmark was the President of the Council of the EU. It pushed hard for increased transparency in the EU, which was welcomed by the

Parliament, but not by the Council. Proposals were made to allow the public greater access to the positions of each individual member state in the council. The Danish Presidency ceased its attempts, however, given the significant disagreement among member states. In particular, large countries including France and Germany proposed amendments that would reduce transparency.[26]

4 Extensions

What happens in cases in which our main assumptions do not hold or in which the environment is more general? The appendix considers several extensions.

In the main model, the sender is more extreme than the proposer. Thus, the acquires information to pull policy as far as the proposer's ideal policy. The sender cannot have more influence, because the proposer is never willing to propose policies that are more preferred by the sender. If, on the other hand, the sender is more moderate, then she exerts less effort because she has fewer incentives to influence policy. This also means that more moderate NGOs provide less information than extreme ones, but extreme NGOs have a stronger influence over policy.

Similarly, acquiring information is very cheap for the sender in the main model. If the marginal cost of effort $\kappa > 0$ were to be higher, then this naturally decreases the sender's incentive to acquire information. This means that the sender does not necessarily maximize her influence over policy. It also implies that secrecy may not provide additional incentives in comparison to transparency because the sender is not willing to exert more effort.

In many principal-agent models of information acquisition, the agent (sender) can be given stronger incentives if she has greater authority over policy. In our model, however, this does not occur. The sender's willingness to acquire information is not driven by the sender's desire to make informed policy. In fact, the sender does not care about the state. Instead, incentives to acquire information exist because the sender has to persuade member states.

[26] (link).

Thus, if the sender were to have authority over policy, she would always implement her ideal policy, without ever 'matching the state.'

Additionally, the main model has only considered an IO with three member states and with simple majority. The appendix generalizes this setup, and provides results on how much the sender, whose preferences are still state-independent, can influence policy as a function of member state preferences, the proposer's preferences, and the voting rule.[27] Most importantly, the results highlight the importance of preference heterogeneity of member states for the sender's ability to persuade the IO. And as intuition prescribes, the sender is better able to move policy away from the status quo with less strict voting rules, while she is better able to pass policies that are closer to the status quo with stricter voting rules (i.e., those that are closer to unanimity rule).

The model has also only considered a static version of the game. In particular, the proposer's bargaining power is extremely stronger and no other member state has the ability to make amendments. Without explicitly solving a model with dynamic bargaining, the proposer takes the other member states' preferences more into account. But regardless, there is still a role for persuasion by the sender.

5 Empirical Implications

The results highlight how different institutional design choices impact interest group incentives to acquire and provide information. In particular, preferences, rather than exogenous factors, are given a central role in the analysis. Importantly, access does not directly translate into more informed policy-making. The results highlight the role of access as an incentive for strategic information acquisition and persuasion.

There is a non-monotonicity in the effect of access on information. First, if no access were to be granted, then the IO obtains no information at all. If access is granted, but the IO does not reveal its own information, then outsiders provide more information. But finally,

[27] Available upon request.

if access is granted and the IO grants more access in the form of transparency, incentives for information acquisition and provision deteriorate. Thus, the absence of 'full access' should not lead to the conclusion that IOs have a smaller demand for information. In addition, the empirical results (Tallberg et al., 2013) and theoretical analyses highlight the importance of not seeing access as a binary choice. IOs can do more than just granting access, and imposing restrictions on outsiders may actually have counterintuitive effects.

Besides implications for how much access to grant, the results also speak to variation in design choices when it comes to only allowing particular outsiders to obtain access. Our model demonstrates that, depending on ideologies, not every outsider can be incentivized by the provision of access, and the influence of outsiders may be disproportionate compared to its provision of policy-relevant information.

Additionally, there is no clear trade-off between acquiring information in-house and relying on outsiders. With transparency, more insider expertise crowds out outsiders. But with secrecy, the IO can efficiently acquire information in-house and provide stronger incentives to outsiders. Thus, the two sources of information should not be necessarily seen as substitutes: IOs can effectively combine both methods.

6 Conclusion

In this paper, we have studied the effect of different forms of access on outsider incentives. Two results stand out. First, more openness and more access do not necessarily lead to more information provision. This depends on particular configurations of preferences of outsiders and member states. Second, more access may actually lead to less information provision. Thus, there are efficiency reasons in favor of limiting the level of transparency within an IO. This provides a rationale for why IOs open up, but only to a limited extent, even with a strong demand for expertise for policy making.

There is a trade-off between getting more information from outsiders and giving them control over policy. The outsider's incentives to acquire and provide information are driven by its influence in the IO's decision-making process. This yields winners and losers: member states that are aligned to outsiders always gain from providing access, while those that are not aligned may expect to lose if the value of information is insufficiently high. This disagreement obviously also leads to differing preferences over institutional design. But the presence of ideological heterogeneity is also a source of influence for outsiders which induces greater information acquisition and provision.

Even if there are normative concerns about transparency from the general public about the internal operations of IOs, the welfare gains through more informed policy making may outweigh these concerns. It is not always the case that transparency is necessary for normatively good policy making:

> "(...) it seems obvious that any significant progress presupposes a huge leap towards increased transparency. (...) A reversal of the still dominant tradition of closed-door negotiations and the opening up of European institutions to both public and media scrutiny is not only a normatively sound request, *but also a major precondition for effective, efficient and high-quality European governance* (Naurin, 2007) (emphasis mine)."[28]

Thus, although it seems intuitive to always strive for the greatest amount of openness, it comes at a cost.

Recent empirical advances on interest group access and institutional design in IOs provides a fruitful avenue for future theoretical research. Tallberg et al. (2013) do not solely focus on how much access is granted by IOs, but also on (i) which outsiders can obtain access, (ii) whether access is conditional on past behavior, and (iii) whether access is codified. Given a growing literature on persuasion generally (Gentzkow and Kamenica, 2011), and information transmission to collective decision-making bodies (Alonso and Câmara, 2016; Schnakenberg, 2017*b*; Chan et al., 2018; Bardhi and Guo, 2018; Awad, 2018), one of the

[28]Reference to Neyer 2003.

next steps is to devote more attention to the design of institutions, with the goal of changing the sender's behavior (Schnakenberg, 2017*a*).

More formal literature can help us understand why IOs are designed in heterogeneous ways. In particular, given that the literature on persuasion in collective bodies typically treats voters symmetrically, it is interesting to see what the implications are of heterogeneity in power and information among member states for bargaining over the institutional design of interest group access.

A Proofs of Main Results

A.1 Proof of Lemma 1

Assume assumption 1: $1/2 < \hat{x}^P < 1$. Consider an arbitrary equilibrium. At the final stage, A and B have posterior belief $\mu \in [0,1]$.

Consider first the x-policy over which there is disagreement among member states. After observing proposal p_x, A accepts if and only if

$$-\mu(p_x - 1/2)^2 - (1-\mu)(p_x - 0)^2 \geq -\mu(0 - 1/2)^2 - (1-\mu)(0-0)^2, \tag{12}$$

$$p_x \leq \mu. \tag{13}$$

Similarly, after observing p_x, B accepts if and only if

$$-\mu(p_x - 0)^2 - (1-\mu)(p_x - 1/2)^2 \geq -\mu(0 - 0)^2 - (1-\mu)(0-1/2)^2, \tag{14}$$

$$p_x \leq 1 - \mu. \tag{15}$$

Because A or B's approval vote is sufficient for the proposal to pass, p_x is implemented as long as

$$p_x \leq \bar{x}(\mu) = \begin{cases} 1-\mu & \text{if } \mu \leq 1/2 \\ \mu & \text{if } \mu > 1/2. \end{cases} \tag{16}$$

Now consider the strategy of P. His payoff on the x-dimension is as follows

$$u_P(x) = \begin{cases} -(p_x - \hat{x}^P)^2 & \text{if } p_x \leq \bar{x}(\mu) \\ -(0 - \hat{x}^P)^2 & \text{if } p_x > \bar{x}(\mu). \end{cases} \tag{17}$$

Clearly, given μ, if $\hat{x}^P \leq \bar{x}(\mu)$, P is best off proposing $p_x = \hat{x}^P$. Otherwise, if $\hat{x}^P > \bar{x}(\mu)$, P is best off proposing $p_x = \bar{x}(\mu)$. This implies that for the x-dimension, we have that the equilibrium policy function equals

$$x^*(\mu) = \begin{cases} 1-\mu & \text{if } \mu \in [1-\hat{x}^P, \frac{1}{2}] \\ \mu & \text{if } \mu \in (\frac{1}{2}, \hat{x}^P] \\ \hat{x}^P & \text{if } \mu \notin [1-\hat{x}^P, \hat{x}^P]. \end{cases} \tag{18}$$

Now consider the y-policy over which there is agreement among member states. Clearly, P

can propose $p_y = \hat{y}(\mu) = \mu$, which is then accepted by A and B, because P, A, and B have the same ideal policy. Thus, $y^*(\mu) = \mu$.

A.2 Proof of Proposition 1

Assume $\mu_0 \in [1/2, \hat{x}^P)$ and assumptions 1 and 2. An equilibrium maximizes the sender's ex-ante expected payoff:

$$V^S(\pi, e) = -\pi(s_A)(x^*(\mu(e, s_A)) - \hat{x}^S)^2 - \pi(s_B)(x^*(\mu(e, s_B)) - \hat{x}^S)^2 - \kappa e^2, \tag{19}$$

where

$$\pi(s_A) := \sum_{\gamma=\{\gamma_A,\gamma_B,\phi\}} \pi(s_A|\gamma), \tag{20}$$

$$\pi(s_B) := \sum_{\gamma=\{\gamma_A,\gamma_B,\phi\}} \pi(s_B|\gamma). \tag{21}$$

Given the assumption that κ is sufficiently small, the trade-off between costly effort and more preferred policies is always solved in favor of the latter. Given Lemma 1, we have that $x^*(\mu)$ is at most $\hat{x}^P$. Given that $\hat{x}^S > \hat{x}^P > x^*(\mu_0)$, S prefers to move policies closer to $\hat{x}^S$, but the most preferred policy that can be implemented is $x^* = \hat{x}^P$. This policy can be implemented with any posterior $\mu_A := \mu(e, s_A) \geq \hat{x}^P$ and $\mu_B := \mu(e, s_B) \leq 1 - \hat{x}^P$. By standard arguments, more effort is needed to push beliefs farther away from μ_0. Thus, the lowest amount of effort that is needed to implement $x^* = \hat{x}^P$ is achieved by inducing $\mu_A = \hat{x}^P$ and $\mu_B = 1 - \hat{x}^P$. S is best off choosing $\pi(s_A|\gamma_A) = 1$ and $\pi(s_B|\gamma_B) = 1$ to increase the speed with which posteriors are moved away from the prior. Then, the only thing that remains is to characterize the sender's equilibrium strategy completely. Consider the two following beliefs after (e, s_A) and (e, s_B). There are two equalities and two unknowns:

$$\mu(e, s_A) := \frac{e\mu_0\pi(s_A|\gamma_A) + (1-e)\mu_0\pi(s_A|\phi)}{e\mu_0\pi(s_A|\gamma_A) + e(1-\mu_0)\pi(s_A|\gamma_B) + (1-e)\pi(s_A|\phi)} = \hat{x}^P, \tag{22}$$

$$\mu(e, s_B) := \frac{e\mu_0\pi(s_B|\gamma_A) + (1-e)\mu_0\pi(s_B|\phi)}{e\mu_0\pi(s_B|\gamma_A) + e(1-\mu_0)\pi(s_B|\gamma_B) + (1-e)\pi(s_B|\phi)} = 1 - \hat{x}^P. \tag{23}$$

With $\pi(s_A|\gamma_A) = 1$ and $\pi(s_B|\gamma_B) = 1$, these equations yield the following solutions:

$$e = e_T^* := \frac{(\hat{x}^P)^2 - \hat{x}^P + (1-\mu_0)\mu_0}{3\hat{x}^P\mu_0 - \hat{x}^P - \mu_0^2 - (\hat{x}^P)^2(2\mu_0 - 1)}, \tag{24}$$

$$\pi^*(s_A|\phi) = \frac{\hat{x}^P + \mu_0 - 1}{2\hat{x}^P - 1} = 1 - \pi^*(s_B|\phi). \tag{25}$$

Let off-the-path beliefs simply be equal to the prior.[29]

By Lemma 1, member states have no incentives to deviate. Similarly, S has no incentive to choose a different effort level, since that would induce $x^*(\mu_0)$, which yields a lower payoff to S. Similarly, S cannot deviate by choosing a different signal, since both signals yield the same payoff. This concludes the proof.

A.3 Proof of Proposition 2

[to follow]

[29] This is not consistent with our earlier argument about forward induction. Ideally, these beliefs should be chosen such that even after a deviation, the sender does as well as she can. Because the sender's equilibrium payoff is already at its maximum, however, this is irrelevant.

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