Supplemental Appendix

This appendix contains supplemental proofs for "Policy-Specific Information and Informal Agenda Power." The appendix is divided into three sections. The first proves that our main substantive results hold if the valence of the status quo is strictly greater than zero. The second provides a complete set of results for the committee composition game; these results are used to generate the example in the main text. The third analyzes a variant of our model in which valence is transferable by the committee but not expropriable by the floor.

Status Quo with Strictly Positive Valence

We show that if the status quo has strictly positive valence $v_q > 0$ then our main substantive results still hold.

Transferable valence If $v_q > 0$ then this valence is transferable to any other policy, even absent any committee effort. This is equivalent to a model in which we redefine the committee's valence return probability distribution for $v \in [0, \infty)$ to be a different distribution $G(\cdot)$ on $[0, \infty)$ such that $G(0) = F(v_q)$, and for $z > 0$, $G(z) = F(z + v_q)$. Informally $G(z)$ is the probability that the *difference* between realized valence v and status quo valence v_q is less than or equal to z. Using $G(\cdot)$ the model satisfies all of our original assumptions, and our results go through substantively unchanged.

Policy-specific valence Suppose the status quo has policy-specific valence $v_q > 0$. There are two possibilities. One is that the floor prefers (v_q, q) over $(0, 0)$, in which case the closed rule and open rule are equivalent, because even under an open rule $(0, 0)$ is not a relevant policy option.

The second possibility is that the floor prefers $(0, 0)$ over (v_q, q). In this case, under an open rule the committee's investment decision is the same as in the policy-specific model in the main paper. Under a closed rule, the committee has less incentive to invest in valence acquisition than under an open rule. The reason for this is two-fold. First, as shown in the main paper it has less incentive to invest if the status quo is $(0, q)$ than if the status quo is $(0, 0)$. Second, it has even less incentive to invest if the status quo is (v_q, q) than if it is $(0, q)$. This is true because 1) the probability that the valence return will be sufficiently high so that an arbitrary target policy $\tilde{x}$ defeats the status quo is greater when the status quo is $(0, q)$ than when it is (v_q, q), and 2) if the policy $\tilde{x}$ were to pass given either status quo the gain to the committee is greater if the status quo is $(0, q)$ than if it is (v_q, q).

The final step of the proof is to show that the target policy that the committee works on if the status quo is (v_q, q) is worse for floor than the target policy under an open rule.

Lemma 4 *For any status quo* (v_q, q) *that the floor prefers to* $(0,0)$, *the target policy is strictly more extreme than the target policy under an open rule.*

Proof. We begin by introducing additional notation. Let $\tilde{x}(v_q, q)$ denote the optimal target policy under a closed rule when the status quo is (v_q, q). Note that this suppresses the dependence of $\tilde{x}$ on the committee's ideal point x_c. Also, note that the target policy under an open rule is $\tilde{x}(0,0)$. In addition, let $\bar{v}(\tilde{x}; v_q, q)$ denote the valence cutoff when the status quo is (v_q, q), i.e.,

$$\bar{v}(\tilde{x}; v_q, q) = \lambda_f(|x|) - \lambda_f(|q|) + v_q,$$

and note that $\bar{v}(\tilde{x}; v_q, q) = v_q + \bar{v}(\tilde{x}; q)$.

The first step of the proof is to argue that $\tilde{x}(v_q, q) \in [q, x_c]$. Clearly $\tilde{x} > x_c$ is dominated by $\tilde{x} = x_c$. Furthermore $\tilde{x} < q$ is dominated by $\tilde{x} = q$. If the target policy is $\tilde{x} = q$ then the outcome is (v_q, q) for a realized valence $v \leq v_q$ and (v, q) otherwise, and if the target policy is instead $\tilde{x} < q$ then the outcome is (v_q, q) for $v \leq \tilde{v}(\tilde{x}; v_q, q) < v_q$ and $(v, \tilde{x})$ for $v \in (\tilde{v}(\tilde{x}; v_q, q), v_q)$ and $v \geq v_q$. The committee is therefore equally well off or strictly worse off with $\tilde{x} < q$ depending on the realized valence.

The next step is to provide a characterization of $\tilde{x}(v_q, q)$. The committee's modified objective function is easily derived by beginning with Eq. 5 in the main text and substituting in $\bar{v}(\tilde{x}; v_q, q)$ for $\bar{v}(\tilde{x}; q)$ and $v_q - \lambda_c(x_c - q)$ for $-\lambda_c(x_c - q)$. It is straightforward to show that the derivative w.r.t. $\tilde{x}$ is then the product of two terms $(1 - F(\bar{v}(\tilde{x}; v_q, q))) > 0$ and

$$-H(\bar{v}(\tilde{x}; v_q, q)) \cdot \lambda_f^{'}(x) \cdot ((\lambda_c(x_c - q) - \lambda_c(x_c - x)) + \bar{v}(x; q)) + \lambda_c^{'}(x_c - x). \qquad (13)$$

It is also easily verified that Eq. 13 is very similar to Eq. 10 in the proof of Lemma 1 and in particular satisfies all the properties of the latter used to prove the lemma. Hence Lemma 1 also holds when $v_q > 0$.

The final step is to argue that $\tilde{x}(v_q, q) > \tilde{x}(0,0)$. We do this by arguing that $\tilde{x}(v_q, q) > \tilde{x}(0, \hat{q})$, where $\hat{q}$ is the unique status quo $\hat{q} \in (0, q)$ such that the floor is indifferent between $(0, \hat{q})$ and (v_q, q), i.e., $-\lambda_f(\hat{q}) = v_q - \lambda_f(q)$. Such a $\hat{q}$ exists because the floor prefers $(0,0)$ to (v_q, q). The desired property then follows immediately since $\tilde{x}(0, \hat{q}) > \tilde{x}(0,0)$ by Proposition 2.

To show $\tilde{x}(v_q, q) > \tilde{x}(0, \hat{q})$ we show Eq. 13 is strictly positive when evaluated at status quo (v_q, q) and proposal $\tilde{x}(0, \hat{q})$, which means that, by reasoning similar to the reasoning for Lemma 1 in the main text, when the status quo is (v_q, q) the committee is better off proposing a bill more extreme than $\tilde{x}(0, \hat{q})$. From Eq 13

$$
\begin{aligned}
& -H\left(\bar{v}\left(\tilde{x}(0,\hat{q}); v_q, q\right)\right) \cdot \lambda_f^{'}\left(\tilde{x}(0,\hat{q})\right) \cdot \left(\left(\lambda_c(x_c - q) - \lambda_c(x_c - \tilde{x}(0,\hat{q}))\right) + \bar{v}\left(\tilde{x}(0,\hat{q}); q\right)\right) \\
& + \lambda_c^{'}\left(x_c - \tilde{x}(0,\hat{q})\right) \\
= \; & 0 + H\left(\bar{v}\left(\tilde{x}(0,\hat{q}); \hat{q}\right)\right) \cdot \lambda_f^{'}\left(\tilde{x}(0,\hat{q})\right) \cdot \left[\bar{v}\left(\tilde{x}(0,\hat{q}); \hat{q}\right) - \bar{v}\left(\tilde{x}(0,\hat{q}); q\right)\right] > 0.
\end{aligned}
$$

The first equality holds by substituting the $\bar{v}(\tilde{x}(0,\hat{q}); v_q, q)$ term inside $H(\cdot)$ with $\bar{v}(\tilde{x}(0,\hat{q}); \hat{q})$, substituting the $\bar{v}(\tilde{x}(0,\hat{q}); q)$ term with $\bar{v}(\tilde{x}(0,\hat{q}); \hat{q}) - (\bar{v}(\tilde{x}(0,\hat{q}); \hat{q}) - \bar{v}(\tilde{x}(0,\hat{q}); q))$, multiplying out, and using the optimality of $\tilde{x}(0,\hat{q})$ at status quo $(0,\hat{q})$ to cancel terms. The second inequality follows immediately from $H(\bar{v}(\tilde{x}(0,\hat{q}); \hat{q})) \cdot \lambda_f^{'}(\tilde{x}(0,\hat{q})) > 0$ and from the fact that $\hat{q} < q$ implies $\bar{v}(\tilde{x}(0,\hat{q}); \hat{q}) > \bar{v}(\tilde{x}(0,\hat{q}); q)$.■

Committee Composition

We consider a modified game sequence in which the floor first selects the committee's ideal point from a compact interval $\bar{X}$.[15] Proofs of the stated lemmas and propositions are deferred to the end of this section because several accessory lemmas are required.

Without loss of generality we assume that $x_f = 0$, $\bar{X} = [0, \bar{x}]$ with $\bar{x} > 0$, and $q \geq 0$. As in the baseline model it suffices to consider only committee appointments to the right of the floor, since only the distance between the committee and the floor $|x_f - x_c|$ determines the players' equilibrium payoffs.[16] The upper bound $\bar{x}$ may be thought of as the distance between the most extreme possible committee appointee and the chamber median.

Transferable Valence

First, recall the definitions of q^* and $\bar{x}_c(q)$ from Proposition 1; $\bar{x}_c(q)$ is the most extreme committee for which the floor prefers a closed rule and specialization to an open rule absent specialization, and $\lambda_f(q^*) = E[v]$. The following proposition then characterizes the floor's optimal committee appointments behavior.

Proposition 5 *Suppose valence is transferable. The floor's choice of committee is as follows.*

Case 1 (Low Cost Specialization)*: If $c \leq E[v]$, the floor is indifferent over all appointments, chooses an open rule, and the committee specializes.*

[15] We analyze choice from a compact interval rather than a finite set of possible committee appointees for simplicity; results in the latter case are qualitatively similar.

[16] When $x_c < 0$ and $q > 0$, the equilibrium payoffs of the committee and the floor in each possible subgame (closed or open rule) and for each possible valence type (transferable or nontransferable) are identical to those in which the committee's ideal point is $-x_c > 0$. The only distinction in equilibrium is that realized spatial policy outcomes are reflected about the floor's ideal point.

Case 2 (Costly Specialization, Extreme Status Quo)*: If $c > E[v]$ and $q \geq q^*$, the floor is indifferent over appointments, chooses an open rule, and the committee does not specialize.*

Case 3 (Costly Specialization, Moderate Status Quo)*: If $c > E[v]$ and $q < q^*$, the floor strictly prefers to appoint a preference outlier $x_c^*(q,c) > q$ and commit to closed rule if and only if $c \in \left(E[v], c_{cl}^t(\bar{x}_c(q), q)\right)$. Otherwise the floor is indifferent over appointments, chooses an open rule, and the committee does not specialize.*

The proposition may be interpreted as follows. Suppose that $c > E[v]$, so the value of valence alone is insufficient to induce specialization. Then the floor may attempt to appoint a preference outlier $x_c^*(q,c) > q$ and consider its legislation under a closed rule in order to induce specialization. Committees who are preference outliers have a relatively greater incentive to specialize under a closed rule because they benefit more from informal agenda power.

The floor will not attempt this strategy if the status quo point is too extreme, i.e. $q > q^*$, because its ideological losses from a closed rule would be too great. However, if q is relatively moderate then for intermediate levels of cost $c \in (E[v], c_{cl}^t(\bar{x}_c(q), q)]$ there exist preference outliers $x_c^*(q,c) > q$ who can be induced to specialize by being granted a closed rule, *and* are sufficiently moderate that the floor is willing to do so. The floor's choice of which preference outlier to appoint when pursuing this approach is described in the following lemma.

Lemma 5 *Whenever the floor selects a closed rule in equilibrium, it appoints the most moderate committee willing to specialize, i.e., the unique $x_c^*(q,c)$ satisfying $c_{cl}^t(x_c^*(q,c), q) = c$. The optimal committee choice satisfies the following comparative statics.*

1. *Consider two possible specialization costs for $c' > c$. If a closed rule would be chosen given either cost, then the higher cost results in a more extreme appointee, i.e. $x_c^*(q,c') > x_c^*(q,c)$.*

2. *Consider two possible status quos $q' > q$. If a closed rule would be chosen given either status*

quo, then the more extreme status quo results in a more extreme appointee, i.e. $x_c^*(q', c) > x_c^*(q, c)$.

Whenever the floor intends to use a restrictive rule to induce specialization, it appoints a committee no more extreme than necessary to induce specialization. This results in a straightforward appointments dynamic. Because the committee's value for specialization is decreasing in both its formal agenda power (i.e. having an extreme q) and in the cost of specialization, increasing q and c results in more extreme appointees being necessary to induce specialization.

Another feature to note is that the range of costs $\left(E[v], c_{cl}^t(\bar{x}_c(q), q)\right)$ for which the floor appoints a preference outlier and grants a closed rule shrinks as the status quo q becomes more extreme. The reason is that this strategy becomes less effective at inducing specialization as q increases. When $q \geq q^*$, the floor ceases appointing outliers and simply selects an open rule.

Policy-Specific Valence

We now analyze the floor's optimal committee appointment in the case of policy-specific valence. Recall that policy-specific valence is inherently protected from expropriation regardless of the rule, and that open rules are therefore superior for inducing specialization. As in the case of transferable valence, preference outliers value specialization more, and hence the floor may need to appoint preference outliers to induce specialization. However, because open rules are always chosen in equilibrium, appointing outliers is much less costly: the floor always retains the right to discard the valence generated in committee and amend the target policy to its own ideal point. This generates the following appointments behavior.

Proposition 6 *If valence is policy-specific, the floor's choice of committee is as follows.*

Case 1 (Low Cost Specialization): *If* $c \leq E[v]$*, all appointees will specialize and an optimal appointment is a centrist* $x_c^*(c) = 0$.

Case 2 (Prohibitively Costly Specialization): *If $c > c_o^{nt}(\bar{x})$, no appointee is willing to specialize and the floor is indifferent over appointees.*

Case 3 (Costly Specialization): *If $c \in (E[v], c_o^{nt}(\bar{x})]$, every optimal appointee is a preference outlier, i.e. $x_c^*(c) > 0$, and the selected appointee specializes.*

In the previously-analyzed transferable valence game, the floor had an incentive to appoint preference outliers to induce specialization, but this incentive was tempered by the need to relinquish amendment power via a closed rule. In contrast, with policy-specific valence the incentive to appoint outliers is unrestrained. The floor optimally induces specialization precisely by *maintaining* formal amendment power, and thus if a centrist committee $x_c = 0$ would not specialize then the floor is better off appointing *any* preference outlier, however extreme, that would be willing to specialize.

The floor's optimal committee appointment when it selects a preference outlier is characterized in the following lemma.

Lemma 6 *Whenever the floor selects a preference outlier $x_c^*(c) > 0$, it appoints a committee working on the most moderate target policy $\tilde{x}^o(x_c)$ from among the set willing to specialize, i.e., $x_c^*(c) \in \underset{\{x_c : c_o^{nt}(x_c, q) \geq c\}}{\arg\min} \{\tilde{x}^o(x_c)\}$ The optimal appointee satisfies the following comparative statics.*

1. *If $x_c^*(c)$ is an optimal appointee at cost c but not at cost $c' > c$, then every optimal appointee for c' is strictly more extreme, i.e. $x_c^*(c') > x_c^*(c)$.*
2. *If the derivative of committee's spatial loss function $\lambda_c(d)$ is concave, i.e. $\lambda_c'''(d) \leq 0$, then the optimal appointee $x_c^*(c)$ is unique, strictly increasing in c, and satisfies $c_o^{nt}(x_c^*(c)) = c$.*

In the non-transferable valence game, the committee's preferences influence the floor's utility only through the committee's choice of the target policy $\tilde{x}^o(x_c)$. Although the floor never accepts a policy worse than its own ideal point absent valence, it is better off in expectation when the committee works on a more moderate target policy. Thus, the lemma states that the floor always chooses an outlier to induce specialization if one who will do so exists, but then chooses the outlier who would work on the most moderate target policy. This results in the set of optimal appointments being weakly increasing in the cost of specialization.[17] Finally, the lemma states that for a special case of the committee's loss function (including quadratic loss), the optimal appointee is simply the most moderate one that would be willing to specialize.

Committee Composition Accessory Lemmas

Lemma 7 *The closed rule cost cutpoints* $c^t_{cl}(x_c, q)$ *and* $c^{nt}_{cl}(x_c, q)$ *are continuous and satisfy,*

1. $c^t_{cl}(x_c, q) = c^{nt}_{cl}(x_c, q) = E[v]$ *for* $x_c \leq q$

2. $c^t_{cl}(x_c, q)$ *and* $c^{nt}_{cl}(x_c, q)$ *are strictly increasing in* x_c *for* $x_c > q$.

Proof. *Transferable Valence:* Continuity and part 1 of the lemma are easily established from the definition in Eq. (3). To see strictly increasing, suppose $x'_c > x_c \geq q$. If committee with ideal point x'_c specialized, it could follow the optimal proposal strategy of a committee with ideal point x_c and receive ex-ante expected utility $E[v] - \int_0^{\bar{v}(x_c;q)} \lambda_c(x'_c - \bar{x}(v;q)) f(v)\,dv$. Hence its cost cutpoint $c^t_{cl}(x_c, q)$, derived from its optimal proposal strategy, must be at least as large as,

$$\begin{aligned} & E[v] + \int_0^{\bar{v}(x_c;q)} (\lambda_c(x'_c - q) - \lambda_c(x'_c - \bar{x}(v;q))\, f(v)dv + (1 - F(\bar{v}(x_c;q)))\lambda_c(x'_c - q) \\ > \; & E[v] + \int_0^{\bar{v}(x_c;q)} (\lambda_c(x_c - q) - \lambda_c(x_c - \bar{x}(v;q))\, f(v)dv + (1 - F(\bar{v}(x_c;q)))\lambda_c(x_c - q) \\ = \; & c^t_{cl}(x_c, q)\,, \text{ where the inequality follows from the strict convexity of } \lambda_c(\cdot)\,. \end{aligned}$$

[17] This is meant in a set-order sense, i.e., $S(c)$ increasing in c i.f.f. for $c' > c$, $x' \in S(c')$ and $x \in S(c)$ and $x' < x$ $\rightarrow x \in S(c')$ and $x' \in S(c)$.

Non-transferable valence: Continuity and part 1 of the lemma are easily established from the definition in Eq. (6). To show (2), suppose $x_c' > x_c \geq q$. It is straightforward to verify that if a committee with ideal point x_c' specialized and selected target policy $\tilde{x}^{cl}(x_c, q)$ it would receive strictly greater change in utility than a committee with ideal point x_c. This suffices to show the property. ■

Lemma 8 *If the committee's loss function $\lambda_c(\cdot)$ is convex and its derivative $\lambda_c'(\cdot)$ is weakly concave, then $\tilde{x}^{cl}(x_c, q)$ is strictly increasing in x_c.*

Proof. From Eq. 9 and Lemma 1, $\tilde{x}^{cl}(x_c, q)$ is characterized by the first order condition,

$$(1 - F(\bar{v}(x;q)))\Big(-H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot (\lambda_c(x_c - q) - \lambda_c(x_c - x) + \bar{v}(x;q)) + \lambda_c'(x_c - x)\Big) = 0.$$

To show that $\tilde{x}^{cl}(x_c, q)$ is strictly increasing in x_c, it suffices to show that the derivative of the term in parentheses w.r.t. x_c is strictly positive when evaluated at $\tilde{x}^{cl}(x_c, q) \in (q, x_c)$. This implies that the cross partial in x and x_c of the original objective function is strictly positive when evaluated at the optimum, which generates the desired result.

First, it is straightforward to show that $\lambda_c(x_c - q) - \lambda_c(x_c - x)$ can be rewritten as,

$$\lambda_c(x_c - q) - \lambda_c(x_c - x) = \phi(x, x_c, q) + (x - q) \cdot \lambda_c'(x_c - x)$$

where

$$\phi(x, x_c, q) = \int_0^{x-q} \big(\lambda_c'(x_c - x + y) - \lambda_c'(x_c - x)\big)\, dy.$$

Clearly $\phi(x, x_c, q) > 0$ since $\lambda_c'(\cdot)$ is an increasing function by the strict convexity of $\lambda_c(\cdot)$.

Now substitute this into the term in parentheses, which generates,

$$\begin{aligned} & -H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot \big(\phi(x, x_c, q) + (x - q) \cdot \lambda_c'(x_c - x) + \bar{v}(x;q)\big) + \lambda_c'(x_c - x) \\ = \;& \big(1 - H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot (x - q)\big)\, \lambda_c'(x_c - x) - \; H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot (\phi(x, x_c, q) + \bar{v}(x;q)) \end{aligned}$$

At the optimum $\tilde{x}^{cl}(x_c, q)$, the above expression must equal to 0. Since $H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot (\phi(x, x_c, q) + \bar{v}(x;q)) > 0$ and $\lambda_c^{'}(x_c - x) > 0$ for all (x, x_c, q), at the optimum it must also be the case that

$$1 - H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot (x - q)\Big|_{x=\tilde{x}^{cl}(x_c,q)} > 0$$

since otherwise the expression would be less than 0.

Now take the derivative of the rewritten first order condition with respect to x_c and evaluate at the optimum, which generates,

$$\left(1 - H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot (x - q)\right) \lambda_c''(x_c - x) - H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot \frac{\partial}{\partial x_c}(\phi(x, x_c, q))\bigg|_{x=\tilde{x}^{cl}(x_c,q)} \tag{14}$$

We show that Eq. 14 is strictly positive. Because $1 - H(\bar{v}(x;q)) \cdot \lambda_f'(x) \cdot (x - q)\big|_{x=\tilde{x}^{cl}(x_c,q)} > 0$ as shown above and $\lambda_c''(x_c - x) > 0$ by convexity, a sufficient condition for Eq. 14 to be strictly positive is that $\frac{\partial}{\partial x_c}(\phi(x, x_c, q)) \leq 0$. Note that

$$\begin{aligned} \frac{\partial}{\partial x_c}(\phi(x, x_c, q)) &= \frac{\partial}{\partial x_c}\left(\int_0^{x-q} \left(\lambda_c'(x_c - x + y) - \lambda_c'(x_c - x)\right) dy\right) \\ &= \int_0^{x-q} \left(\lambda_c^{''}(x_c - x + y) - \lambda_c^{''}(x_c - x)\right) dy. \end{aligned}$$

Thus a sufficient condition for $\frac{\partial}{\partial x_c}(\phi(x, x_c, q)) \leq 0$ is that $\lambda_c^{''}(\cdot)$ is weakly decreasing, which is equivalent to $\lambda_c'(\cdot)$ being weakly concave. This completes the proof, and the condition clearly holds for a quadratic loss function $\lambda_c(d) = \alpha \cdot d^2$, because $\lambda_c''(d) = 2\alpha$.■

Main Committee Composition Proofs

Proof of Proposition 5. *Case 1:* Suppose $c \leq E[v] = c_o^t(x_c)\ \forall x_c \in \bar{X}$. Then any appointee would invest under either rule, the floor selects an open rule for all committees, and its utility from any appointment is $E[v]$. Hence it is indifferent over all appointments.

Cases 2 and 3: It is assumed throughout this section that $c > E[v]$. This implies three things: (i) no committee specializes under an open rule, (ii) the floor's utility from appointing any committee and choosing an open rule is identical and equal to 0, and (iii) the floor strictly prefers to appoint any committee for whom it selects a closed rule to any committee for whom it selects an open rule.

To prove case 2, suppose $q \geq q^*$. Then by Proposition 1 the floor selects an open rule for all committees, no committee specializes, and the floor is therefore indifferent over appointments.

To prove case 3, suppose $q < q^*$. Then by Proposition 1 the set of committees for whom the floor strictly prefers a closed rule and specialization to an open rule and no specialization is nonempty and equal to $[0, \bar{x}_c(q))$. In addition, the set of appointees who specialize under a closed rule given cost c is,

$$S(c) = \left\{ x_c \in \bar{X} : c_{cl}^t(x_c, q) \geq c \right\}.$$

Now consider the case where $c \in \left(E[v], c_{cl}^t(\bar{x}_c(q), q)\right)$. Then $S(c)$ is nonempty and equal to $[x_c^*(q,c), \bar{x}]$, where $x_c^*(q,c)$ is uniquely defined by $c_{cl}^t(x_c^*(q,c), q) = c$. In addition, $x_c^*(q,c) \in (q, \bar{x}_c(q))$. These properties follow immediately from $c > E[v]$, $c_{cl}^t(q,q) = E[v]$, and $c_{cl}^t(x_c, q)$ strictly increasing in x_c over $x_c \geq q$ as shown in Lemma 7. By Proposition 1, the set of committees for whom the floor selects a closed rule is $[0, \bar{x}_c(q)) \cap [x_c^*(q,c), \bar{x}]$, which is non-empty and equal to $[x_c^*(q,c), \bar{x}_c(q)]$. The optimal appointee therefore comes from this set. Finally, the optimal appointee must be the set's most moderate member $x_c^*(q,c)$, since the floor's utility with a closed rule and specialization is strictly decreasing in the committee's ideal point by Lemma 3.

Finally, consider the case where $c > c_{cl}^t(\bar{x}_c(q), q)$. If $S(c)$ is empty then we are done, since no committee would specialize under a closed rule. If $S(c)$ is nonempty then the set of committees for whom the floor selects a closed rule is $[0, \bar{x}_c(q)) \cap [x_c^*(q,c), \bar{x}] = \emptyset$, since $c > c_{cl}^t(\bar{x}_c(q), q)$ and $S(c)$ non-empty imply $\bar{x}_c(q) < x_c^*(q,c)$.$\blacksquare$

Proof of Lemma 5. The proof of the characterization is contained in the proof of Proposition 5. To prove the first comparative static, if a closed rule is selected for both c and c', then we must have $x_c^*(q,c') > x_c^*(q,c)$ since $c_{cl}^t(x_c,q)$ is strictly increasing in x_c for $x_c > x_c^*(q,c) > q$.

To prove the second comparative static, if a closed rule is selected for both q and q', then

$$c_{cl}^t\left(x_c^*\left(q',c\right),q\right) > c_{cl}^t\left(x_c^*\left(q',c\right),q'\right) = c$$

since $c_{cl}^t(x_c,q)$ is strictly decreasing in q when $q \in [0,x_c]$ and $q < q' < x_c^*(q',c)$. This then implies that the $x_c^*(q,c)$ satisfying $c_{cl}^t(x_c^*(q,c),q) = c$ must be strictly less than $x_c^*(q',c)$, since $c_{cl}^t(x_c,q)$ is strictly increasing in x_c over $x_c > x_c^*(q',c) > q' > q$ and therefore strictly greater than c for all $x_c \geq x_c^*(q',c)$.■

Proof of Proposition 6. *Case 1:* When $c \leq E[v]$, every appointee would specialize since $c_o^{nt}(0) = E[v]$ and $c_o^{nt}(x_c)$ is strictly increasing in x_c. The target policy chosen by a centrist is $\tilde{x}_o(0) = 0$, so this must be an optimal appointment.

Cases 2 and 3: Suppose $c > E[v]$. Recall that by Proposition 3 an open rule is selected for all parameters. Thus the floor's utility from no specialization is 0, and its utility from specialization when the target policy is $\tilde{x}$ is $V_o^{nt}(\tilde{x}) = V(0,\tilde{x}) = \int_{\bar{v}(\tilde{x};0)}^{\infty}(v - \lambda_f(\tilde{x}))f(v)\,dv > 0$. Thus regardless of the target policy the floor strictly prefers specialization to no specialization, because under an open rule the floor need only accept the committee's bill for realizations of valence that make it strictly better off than its own ideal point with no valence.

The set of committees who specialize is,

$$S(c) = \left\{x_c \in \bar{X} : c_o^{nt}(x_c) \geq c\right\}$$

Note that $c > E[v]$, $c_o^{nt}(0) = E[v]$, and $c_o^{nt}(0)$ is strictly increasing in x_c. These together imply that $S(c)$ is non-empty if and only if $c \leq c_o^{nt}(\bar{x})$, and that if $S(c)$ is non-empty then it is equal to $[\hat{x}_c(c),\bar{x}]$, where $\hat{x}_c(c) > 0$ is the unique committee ideal point indifferent between investing and not investing, i.e. $c_o^{nt}(\hat{x}_c(c)) = c$. Since $c_o^{nt}(x_c) = c_{cl}^{nt}(x_c, 0)$, by Lemma 7 $c_o^{nt}(x_c)$ is strictly increasing in x_c, which implies $\hat{x}_c(c)$ is strictly increasing in c for $c \in \left(0, c_o^{nt}(\bar{x})\right)$.

If $S(c)$ is empty then the floor is indifferent over all appointments. If $S(c)$ is non-empty then any optimal appointment must be a member of $S(c)$, because the floor strictly prefers any committee who specializes to one who does not. Finally, by Lemma 3 when the committee specializes the floor's utility is $V(0, \tilde{x}^o(x_c))$. Since $V(\cdot)$ is strictly decreasing in its second argument (the target policy), if $S(c)$ is nonempty then the set of optimal appointments is,

$$X_{nt}^*(c) = \arg \min_{x_c \in [\hat{x}_c(c), \bar{x}]} \{\tilde{x}^o(x_c)\}$$

or the specializing committee (or committees) that choose the most moderate target policy.

We now complete the proof. For case 2, $c > c_o^{nt}(\bar{x}) \to S(c) = \emptyset$. For case 3, if $c \in (E[v], c_o^{nt}(\bar{x})]$ then $S(c)$ is nonempty. Every optimal appointment must come from $S(c) = [\hat{x}_c(c), \bar{x}]$ when it is nonempty. ■

Proof of Lemma 6. The characterization is simply a restatement of the characterization in the proof of Proposition 6. We now prove the two comparative statics.

Part 1: If $x_c^*(c)$ is an optimal appointment given c, then the appointee chooses the most moderate target policy among the set of specializers, i.e. $\tilde{x}^o(x_c^*(c)) \leq \tilde{x}^o(x_c)\ \forall x_c \in S(c)$. Since $S(c') \subset S(c)$, $x_c^*(c)$ also chooses the most moderate target policy among $S(c')$. Then $x_c^*(c)$ not optimal for c' implies $S(c') \neq \emptyset$ (since then all appointments are optimal) and $x_c^*(c) \notin S(c')$. Hence $x_c^*(c) < S(c')$. Since every optimal appointment comes from $S(c')$ when it is non-empty, this completes the proof.

Part 2: If $\lambda_c(d)$ has a concave derivative then $\tilde{x}^o(x_c)$ is strictly increasing in x_c by Lemma 8. Hence $\arg\min_{x_c \in [\hat{x}_c(c), \bar{x}]} \{\tilde{x}^o(x_c)\} = \hat{x}_c(c)$.■

Committee-Transferable Valence

We will use the term *committee-transferable valence* to refer to valence that is transferable by the committee but not expropriable by the floor. With a closed rule and committee-transferable valence, the model functions exactly like the closed rule model with transferable valence in the main text of our paper. With an open rule and committee-transferable valence, the model can be treated as a special case of the closed rule transferable valence game, with $q = 0$.

We show that the committee's gain from investment in valence is strictly higher under an open rule than under a closed rule, and that conditional on the committee investing the floor is strictly better off under an open rule. Thus, as in the case of policy-specific valence, the floor always chooses an open rule.

Committee investment With a closed rule, the committee's gain from investment, from Eq. 3 in the main text, is

$$E[v] + \int_0^{\bar{v}(x_c;q)} (\lambda_c(x_c - q) - \lambda_c(x_c - \bar{x}(v;q))\, f(v)dv + (1 - F(\bar{v}(x_c;q)))\lambda_c(x_c - q).$$

Because $\bar{v}(x_c;0) > \bar{v}(x_c;q)$, i.e., it takes more valence to get the floor to go along with a bill at x_c if the status quo is 0 rather than $q > 0$, we can rewrite this as

$$E[v]+\int_0^{\bar{v}(x_c;q)} (\lambda_c(x_c-q)-\lambda_c(x_c-\bar{x}(v;q))\, f(v)dv+\int_{\bar{v}(x_c;q)}^{\bar{v}(x_c;0)} \lambda_c(x_c-q)\, f(v)dv+\int_{\bar{v}(x_c;0)}^{\infty} \lambda_c(x_c-q)\, f(v)dv. \tag{15}$$

With an open rule, the committee's gain from investment is characterized by substituting in $q = 0$ to Eq. 3, which gives

$$E[v] + \int_0^{\bar{v}(x_c;0)} (\lambda_c(x_c) - \lambda_c(x_c - \bar{x}(v;0))\, f(v)dv + (1 - F(\bar{v}(x_c;0)))\lambda_c(x_c).$$

Because $\bar{v}(x_c;0) > \bar{v}(x_c;q)$, we can rewrite this as

$$E[v]+\int_0^{\bar{v}(x_c;q)}\left(\lambda_c(x_c)-\lambda_c(x_c-\bar{x}(v;0)\right) f(v)dv+\int_{\bar{v}(x_c;q)}^{\bar{v}(x_c;0)}\left(\lambda_c(x_c)-\lambda_c(x_c-\bar{x}(v;0)\right) f(v)dv+\int_{\bar{v}(x_c;0)}^{\infty}\lambda_c(x_c)\, f(v)dv. \tag{16}$$

To compare the committee's incentives under the two rules, we compare Eqs. 15 and 16 term by term, noting that the first term is identical and each of the subsequent terms is strictly greater for the open rule. For the second term, note that by strict concavity of the floor's utility function $\bar{x}(v;q) - q < \bar{x}(v;0) - 0$ so by strict concavity of the committee's utility function, $\lambda_c(x_c - q) - \lambda_c(x_c - \bar{x}(v;q)) < \lambda_c(x_c) - \lambda_c(x_c - \bar{x}(v;0))$, and thus the second term is strictly greater in Eq. 16 than in Eq. 15. A similar argument applies to the third term. By strict concavity of the floor's utility function we again have $\bar{x}(v;q) - q < \bar{x}(v;0) - 0$ but since $v > \bar{v}(x_c;q)$ the committee now refers $x_c < \bar{x}\,(v;q)$; hence $x_c - q < \bar{x}\,(v;q) - q < \bar{x}(v;0) - 0$. Again applying strict concavity of the committee's utility function, $\lambda_c(x_c - q) < \lambda_c(x_c) - \lambda_c(x_c - \bar{x}(v;0))$. Finally, the fourth term is strictly greater in Eq. 16 because the committee's loss function is strictly increasing and $0 < q < x_c$.

Floor utility We now show that if the committee invests in valence, the floor has a strictly higher expected utility under the open rule. To do this we show that for any realized valence the floor is at least as well off and for some realizations it is strictly better off under the open rule. For $v \in [0, \bar{v}(x_c;q)]$, the committee proposes a bill that leaves the floor indifferent between the bill and either the status quo $(0,q)$ in the case of a closed rule or $(0,0)$ in the case of an open rule. Because the floor prefers $(0,0)$ over $(0,q)$ it is better off under the open rule. For $v \in [\bar{v}(x_c;q), \bar{v}(x_c;0)]$, the committee proposes (v, x_c) under a closed rule or $(v, \bar{x}(v;0))$ under an open rule. Since $\bar{x}(v;0) < x_c$ the floor strictly prefers the open rule. For $v > \bar{v}(x_c;0)$ the rule choice has no effect on the floor's utility because the committee proposes (v, x_c) under either rule.