Supplemental appendix to: Foreign Policy Appointments

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Contents

6 Notation

The model's primitives are listed in Table A4. We will also introduce the following notation:

- Let $\chi = Pr(x=1) = \tau\phi + (1-\tau)(1-\phi)$
  - Then $\frac{1}{2} < \chi < \tau$ when $\tau > \frac{1}{2}$, and $\tau < \chi < \frac{1}{2}$ when $\tau < \frac{1}{2}$.
- Let $\eta^{x,s} = Pr(\omega = 1|x,s)$, let $\eta^x = Pr(\omega=1|x)$, and let $\sigma_A^\omega = Pr(s=1|\omega)$.
  - Then $\eta^{x=1} = \frac{\phi\tau}{\chi}$ and $\eta^{x=0} = \frac{(1-\phi)\tau}{1-\chi}$.
  - Observe that $\phi > \max\{\tau, 1-\tau\}$ implies $\eta^{x=0} < \frac{1}{2} < \eta^{x=1}$.
  - Further, $\eta^{x,1} = \frac{\eta^x\sigma_A^1}{\eta^x\sigma_A^1 + (1-\eta^x)\sigma_A^0}$, and $\eta^{x,0} = \frac{\eta^x(1-\sigma_A^1)}{\eta^x(1-\sigma_A^1)+(1-\eta^x)(1-\sigma_A^0)}$.
- Let $\hat{z}^{s,a,y} = Pr(z=1|s,a,y)$.
  - Then $\hat{z}^{s,a} = \lambda\hat{z}^{s,a,\underline{y}} + (1-\lambda)\hat{z}^{s,a,\bar{y}}$.
- Let $\hat{r}^{a;s} = Pr(r=1|s,a)$; and let $\mu^{a,z} = Pr(\theta=1|a,z)$.
  - Then $\hat{r}^{a;s} = \hat{z}^{s,a}\mu^{a,1} + (1-\hat{z}^{s,a})\mu^{a,0}$.
- Let $\bar{\sigma}_0^s = Pr(a=1|\theta=0,s,y=\overline{y})$ and let $\underline{\sigma}_0^s = Pr(a=1|\theta=0,s,y=\underline{y})$.
  - Then $\sigma_0^s = Pr(a=1|\theta=0,s) = \lambda\underline{\sigma}_0^s + (1-\lambda)\bar{\sigma}_0^s$.

Recall from the main text that a sincere reporting strategy from the agent generates advice that satisfies

$$\begin{Bmatrix} \sigma_A^0 = Pr(s=1|\omega=0) = 0 \\ \sigma_A^1 = Pr(s=1|\omega=1) = \pi_A \end{Bmatrix} \text{ if } k=D, \text{ and } \begin{Bmatrix} \sigma_A^0 = Pr(s=1|\omega=0) = 1-\pi_A \\ \sigma_A^1 = Pr(s=1|\omega=1) = 1 \end{Bmatrix} \text{ if } k=H$$

Integrating over ω, we can characterize this behavior as

$$\sigma_A = Pr(s=1) = \begin{cases} \tau\pi_A, & k=D \\ \tau + (1-\tau)(1-\pi_A), & k=H \end{cases} \tag{5}$$

The following definition will be useful in characterizing equilibria:

Definition 4 (Informative appointees) *Define an "informative" appointee as one whose bias is sufficiently small that the leader believes the agent's sincere message over his own signal when the two conflict.*

- *Formally: define $\hat{\pi}_A^{k,info.}$ to be the greatest degree of bias such that $\pi_A^k \geq \hat{\pi}_A^{k,info.}$ implies that both $\eta^{x,0} \leq \frac{1}{2}$ and $\eta^{x,1} \geq \frac{1}{2}$ for $x = 0,1$, under sincere reporting.*

- *Observe that* $\hat{\pi}_A^{H,info} = \frac{\phi-\tau}{\phi(1-\tau)}$*, and* $\hat{\pi}_A^{D,info} = \frac{\phi-(1-\tau)}{\phi\tau}$.

Table A4: Notation

$\boldsymbol{j} \in \{D, H\}$	Leader's party, Dove (D) or Hawk (H)
$\theta \in \{0, 1\}$	Leader type, congruent ($\theta = 1$) or incongruent, with prior $Pr(\theta = 1) = \boldsymbol{\pi} \in (0, 1)$
$\omega \in \{0, 1\}$	Domestic players' value for conflict, with prior $Pr(\omega = 1) = \boldsymbol{\tau} \in (0, 1)$
$x \in \{0, 1\}$	Leader's signal of ω, with $Pr(x = \omega\|\omega) = \boldsymbol{\phi} \in (\frac{1}{2}, 1)$
$\theta_A \in \{0, 1\}$	Agent's type, congruent ($\theta_A = 1$) or incongruent
$\boldsymbol{k} \in \{D, H\}$	Direction of agent bias, dovish ($k = D$) or hawkish ($k = H$)
$\boldsymbol{\pi_A} \in (0, 1)$	Magnitude of agent bias, prior $Pr(\theta_A = 1) = \pi_A$
$s \in \{0, 1\}$	Agent's private message to L
$\eta^{x,s}$	Leader's belief of $Pr(\omega = 1\|x, s)$
$\boldsymbol{a_F} \in \{0, 1\}$	Foreign government's action, challenge ($a_F = 1$) or not ($a_F = 0$)
ω_F	Foreign government's resolve, distributed $\omega_F \sim \boldsymbol{U}\,(\underline{\boldsymbol{\omega}}_{\boldsymbol{F}}, \overline{\boldsymbol{\omega}}_{\boldsymbol{F}})$
$\boldsymbol{a} \in \{0, 1\}$	Leader's action, fight ($a = 1$) or not ($a = 0$)
$\boldsymbol{z} \in \{0, 1\}$	Agent's action, protest ($z = 1$) or not ($z = 0$)
$y \in \{\underline{y}, \overline{y}\}$	Agent's outside option, where $Pr(y = \underline{y}) = \boldsymbol{\lambda}$ denotes agent's loyalty
$\mu^{a,z}$	Voter's belief of $Pr(\theta = 1\|a, z)$
$\boldsymbol{\gamma} > 0$	Leader's value for deterring aggression
$\boldsymbol{\beta} > 0$	Leader's value for holding office

Note: Parameters, actions, and distributions in bold are common knowledge.

7 Technical Assumptions

Throughout the analysis, we impose the following restrictions on exogenous parameters, which we discuss below:

Assumption 1 (Parameter restrictions)

- *Lower bound on leader's expertise* ϕ*: assume* $\phi > \max\{\tau, 1-\tau\}$
- *Upper bound on the strength of electoral incentives* β*:*[1]
  - *under a Dove leader: assume* $\beta \leq (1 - 2\eta^{x=0}) \left(\frac{1-\pi\chi}{1-\pi}\right)$
  - *under a Hawk leader: assume* $\beta \leq (2\eta^{x=1} - 1) \left(\frac{1-\pi(1-\chi)}{1-\pi}\right)$
- *Lower bound on the deterrence value* γ*: assume* $\gamma > \beta(1-\pi)$
- *Upper bound on the agent's outside option* $\bar{y}$*:*

[1] Note that the two conditions are equivalent when $\tau = \frac{1}{2}$

- *assume* $\bar{y} < \min\left\{\frac{\pi(1-\phi)}{1-\pi}, \bar{\mu}_A f_A(1)\right\}$, *where* $\bar{\mu}_A := \frac{\pi(1-\phi)}{1-\pi\phi}$

- *Intermediate value for prior on the state* $Pr(\omega = 1) = \tau$*: assume* $\frac{\phi}{1+\phi} \leq \tau \leq \frac{1}{1+\phi}$

The first restriction on ϕ means that the leader's private signal is informative: upon observing $x = 1$, he believes that the state is more likely to be $\omega = 1$ than $\omega = 0$ (and vice-verse for $x = 0$).

The restriction on β ensures that the babbling CRE can be supported: that is it ensures that there exists an equilibrium in which the congruent leader follows his own private signal, absent any informative advice from the appointee. If this restriction is violated, then the congruent leader is too strongly incentivized to signal his moderation by playing the cross-partisan action (fighting for Doves, or conceding for Hawks), even if his private signal x suggests he should take the ideologically-consistent action. This behavior constitutes a form of "pandering"[2]—taking an action that the leader knows to produce inferior policy outcomes, because it is electorally popular—which introduces a set of strategic considerations which are distinct and distracting from the primary objectives of the present analysis. (See Appendix 8.2 for further discussion of pandering.)

The restriction on γ simply ensures that Hawk leaders prefer deterrence success over deterrence failure. Deterrence failure, meaning the initiation of a crisis by the foreign adversary, provides an opportunity for a congruent leader to signal his moderation and distinguish himself from the incongruent leader in the eyes of the voter, at a direct cost γ. This restriction implies that the direct cost of being challenged is large enough that the leader would not deliberately seek to undermine deterrence.[3]

The first part of the restriction on $\bar{y}$ (that is, $\bar{y} < \frac{\pi(1-\phi)}{1-\pi}$) ensures that when there is no communication between the agent and the leader, the agent cannot have sufficient confidence in her assessment of the leader's incongruence to warrant protesting. The substantive results do not depend on this restriction, but it simplifies the analysis considerably. The second part of the restriction ($\bar{y} < \bar{\mu}_A f_A(1)$) ensures that the agent is willing to provide sincere advice to the leader. If this were violated, it is possible that the agent would be tempted to deviate from sincere reporting, and instead send the cross-partisan advice so as to "test" the leader and elicit better information about his quality.

Finally, the restriction on τ ensures that the congruent leader is better off in expectation with

[2] Canes-Wrone, Herron, and Shotts (2001); Maskin and Tirole (2004)

[3] As we will see, the Hawk leader may still optimally choose politically independent appointees that undermine deterrence, relative to politically loyal appointees; in this case, undermining deterrence is not the goal of the appointment, but rather a byproduct of other goals being pursued.

an informatively dovishly biased agent than an uninformatively hawkishly biased agent, and vice versa (see Lemma 9 below). In other words, it implies that, from an ex ante perspective, the leader prefers an agent whose advice he will be willing to follow fully, over an agent who is so biased as to be only asymmetrically informative (that is, an agent whose advice the leader will have to ignore when the advice is consistent with the agent's own bias).

Assumption 2 (Beliefs following off-path crisis action)

- *If the agent's information set* (ω, s, a) *is off the equilibrium path of play, the agent assigns posterior belief* $\mu_A^{\omega,s,a} = Pr(\theta = 1|\omega, s, a) = 0$.
- *If the voter's information set* $(a, z = 1)$ *is off the equilibrium path of play, the voter assigns posterior belief* $\mu^{a,z=1} = 0$.

This assumption simply reflects the fact that the equilibrium of interest (the Congruent-Responsive Equilibrium, CRE) is defined in terms of the congruent leader's strategy; within this equilibrium, any behavior that deviates from this strategy is attributed to the incongruent leader. Results are unchanged if we instead impose a different assumption, whereby the agent and voter assign posterior belief of 1 upon observing the leader take an off-path action inconsistent with his partisan ideology, and 0 upon observing an off-path action consistent with his partisan ideology (reflecting the intuition that moderate leaders are more willing than extreme leaders to take actions inconsistent with their partisan ideology).

Assumption 3 (Markovian strategies) *Let* $t = (\theta, x, s, y)$. *Restrict attention to equilibria in which, if* $E[U_L(a = 1) - U_L(a = 0)|t] = E[U_L(a = 1) - U_L(a = 0)|t']$ *for some* $t \neq t'$, *then* $Pr(a = 1|t) = Pr(a = 1|t')$.

This restriction follows from Maskin and Tirole (2001). It requires that strategies are conditioned only payoff-relevant information. Intuitively, if the leader has the same expected payoff from each of his actions under two signal realizations, we have no substantive reason to focus on equilibria that rely on him behaving differently under those two signal realizations.

Assumption 4 (Crisis subgame equilibrium selection) *In the crisis subgame: If there exists a CRE in which the agent reports sincerely, select that equilibrium. Otherwise, select the babbling CRE.*

This selection rule establishes the most intuitive baseline against which to assess the consequences of different appointment strategies: it selects the equilibrium in which the congruent leader, whose policy preferences are perfectly aligned with the representative voter, takes the action that he believes best serves the policy objectives of himself and the voter. Note that this rule still allows for the selection of equilibria in which the congruent leader does not fully follow the agent's sincere advice. However, as we will see in Proposition 1, this behavior lies off the equilibrium path of play in the full model, as the only appointees selected will be those whose advice can be fully followed in the CRE of the crisis subgame.

Assumption 5 (Equilibrium refinement at appointment stage) *Restrict attention to equilibria in pure appointment strategies. Among equilibria in pooling appointment strategies, select the one that yields the highest expected payoff for the congruent leader. If either (i) the leader's choice of appointment α' is off the equilibrium path of play, or (ii) α' differs from the appointment chosen by the congruent leader in a separating equilibrium: assume that after observing α', all other players' posterior beliefs assign probability zero to the leader being congruent.*

8 Discussion of Modeling Assumptions

8.1 Second policymaking period

The model presented in the main text makes two central assumptions regarding preferences over leader types:

- The voter prefers retaining a congruent leader over an incongruent leader: $U_V(r) = r\theta + (1 - r)(\theta_C + \epsilon)$, with $\epsilon \sim U(\underline{\epsilon}, \overline{\epsilon})$ (which implies $Pr(r = 1|h)$ is linearly increasing in $\mu^h = Pr(\theta = 1|h)$ for history h).
- The agent prefers serving under a congruent leader rather than an incongruent leader: $U_A(z) = zy + (1 - z)f_A(\theta)$, where $f_A(1) > f_A(0)$.

Preferences along these lines are common throughout the electoral accountability literature. In some models, the voter's preference for "high quality" leaders (typically competent leaders, or leaders with policy preferences congruent with the voters') is assumed into the voter's payoff function;[4] other models derive these preferences as the best response of a prospective voter seeking to attain the best policy outcomes from a post-election period of policymaking.[5]

We can extend the present model to incorporate a second period of policymaking, as a microfoundation for the assumed preferences of the voter and agent. Suppose that following the election,

[4] See, e.g. Ramsay (2004); Fox and Jordan (2011); Debs and Weiss (2016)

[5] Canes-Wrone et al. (2001); Maskin and Tirole (2004); Schultz (2005); Ashworth and Bueno de Mesquita (2014).

with exogenous probability $\zeta \in (0, 1)$, the leader has the opportunity to replace the appointee from the first period.[6] The leader then retains or replaces the appointee, and the second period of foreign policymaking proceeds the same as the first—with the exception that there is no election at the end of the second period. This setup, which appears commonly throughout the electoral accountability literature,[7] allows us to study the difference in a leader's behavior when facing electoral pressures in the first period, versus when they are relieved of those pressures and allowed to act on their "true" preferences in the second period.

This second period of policymaking is identical to the first period of the benchmark model from Section 3.1 of the main text (with the exception that F enters the second period with a revised belief μ^h of the leader's type, rather than the prior π). With this setup, it is clear to see why the voter prefers moderate leaders of either party rather than extremists: moderates improve deterrence relative to extremists (as shown in Result 1), and they yield better policy outcomes in the event of deterrence failure (and, for a Hawk leader, also in the event of deterrence success).

Likewise, it is clear to see why the appointee prefers serving in the second period under a moderate leader rather than an extremist (that is, why $f_A(1)$ is greater than $f_A(0)$): a moderate leader will follow her advice in the second period, whereas an extremist will not; and insofar as her advice might differ from whatever her would-be replacement would provide, she is able to improve her policy outcomes by continuing to serve under a moderate leader.

Note that the appointee's incentives could be microfounded through an alternative setup, as follows: Rather than allowing for the exogenous $(1 - \zeta)$ probability that the leader is forced to keep the appointee following the election, we could instead assume that in between the first policy period and the election, there is a second policy decision which the appointee and leader value but which the voter may not observe. For instance, suppose the first policy decision (which the voter observes) is the choice to intervene in a conflict or not; the second policy decision (which the voter may not observe) is the decision over the precise number of troops to send, or the kind and quantity weapons to provide to an ally. This second, less observable policy decision provides an opportunity for the leader to act more in line with his true preferences; and if the appointee learns that those preferences are extreme and unresponsiveness to advice, then she sacrifices little by leaving the administration.

[6] With complementary probability, he finds it too costly to replace the appointee, for instance due to the opportunity costs of finding and vetting a new appointee and getting her confirmed by the Senate.

[7] Ashworth (2012)

8.2 Pandering

The analysis in the main text restricted attention to the Congruent-Responsive Equilibrium (CRE) of the crisis subgame, in which the congruent leader plays the action that he believes matches the state of the world (fighting if and only if $\omega = 1$). Proposition 1 shows that the CRE can always be supported under the parameter restrictions of Assumption 1, and in particular the restriction that $\beta \leq (1 - 2\eta^{x=0})\left(\frac{1-\pi\chi}{1-\pi}\right)$ for a Dove leader, or $\beta \leq (2\eta^{x=1} - 1)\left(\frac{1-\pi(1-\chi)}{1-\pi}\right)$ for a Hawk leader.

When β exceeds this upper bound, the CRE may not be supported, and the equilibrium may be characterized by *pandering*. Drawing from the political agency literature,[8] and adapting the concept to the present setting, we say that the leader panders when he plays the cross-partisan action despite believing it to be against the voter's interest: that is, a Dove panders by fighting when $\eta < \frac{1}{2}$, and a Hawk panders by conceding when $\eta > \frac{1}{2}$. In more substantive terms, the concept of pandering captures a situation of a Dove party leader entering into a conflict in which he believes the costs to outweigh the national interests at stake, because he finds it too politically damaging to be seen as having backed down in the face of foreign aggression.

The upper bound on β serves to focus our attention on the CRE as an intuitive and normatively appealing baseline against which to assess the effect of variation in appointee attributes. A more expansive analysis, which would allow for pandering equilibria as well as the CRE, would provide a number of interesting insights. For instance, under a Dove leader, we can see that there exist conditions under which the congruent Dove is forced to pander (fighting despite believing $Pr(\omega = 1) < \frac{1}{2}$) when the appointee is fully loyal, but is willing to play the CRE strategy when the appointee is sufficiently independent; this is because the independent appointee's lack of protest serves to validate the leader's decision not fight in the eyes of the voter, making it politically incentive-compatible for the leader to choose the policy he believes to be in the voter's best interest.

A full analysis of the empirical relevance of pandering in this context will have to be deferred to future research. Here we will briefly consider a few examples of foreign policy decisions that leaders faced in the shadow of electoral incentives, to see how pandering may or may not provide a useful framework for making sense of the leader's behavior.

In the seminal game-theoretic analysis of pandering, Canes-Wrone et al. (2001) consider President Ford's response to a revolutionary threat against the white regime in Rhodesia in April of 1976, in the lead-up to a presidential election that November. Rather than providing military support to parties that would advance the U.S.'s geopolitical interests in the Cold War, Ford in-

[8] Canes-Wrone et al. (2001); Maskin and Tirole (2004)

stead decided to pursue a diplomatic approach that would lead to a transition to majority (black) rule, likely bringing to power a government that was less pro-capitalist and pro-American than the one in place. The authors assert that this choice cannot be characterized as "pandering", because the policy itself was unpopular among the American public and unlikely to produce a successful outcome prior to the election. However, Ford's behavior may be reconciled with the concept of pandering in the present framework. By pursuing the more dovish policy approach, despite the unpopularity of the policy itself (and perhaps despite Ford's own assessment of its effectiveness), Ford may have been attempting to signal that he was a moderate Hawk, rather than an extremist.

Four years later, President Carter faced another foreign policy crisis in the lead-up to the 1980 presidential election, when fifty-two Americans were taken hostage in the American embassy in Tehran following the Iranian Revolution. Carter elected to pursue a military rescue of the hostages, rather than attempting a diplomatic resolution; the effort ultimately failed to rescue the hostages and resulted in the deaths of eight U.S. servicemen. This decision would best be characterized as pandering if Carter believed that the diplomatic solution was more likely to succeed, but nonetheless chose to pursue the military intervention so as to signal that he was not an extreme Dove and was willing to use force when needed. However, records of Carter's internal deliberations with his foreign policy advisory team indicate that the balance of advice was overwhelmingly in favor of the military rescue.[9] This suggests that Carter was attempting to play the CRE strategy, and the policy he believed to serve the national interest also happened to be the policy that would serve to signal his congruence.

It is worth noting that the lone dissenter against the military operation, Secretary of State Cyrus Vance, later resigned in protest over the decision. This resignation does not fit neatly within the theoretical framework of this paper; rather than an indictment of Carter's overall leadership, Vance took pains to communicate that his resignation was an expression of disagreement over one specific policy, and that he still had "the greatest respect and admiration" for the president, and remained loyal to him and "firm...in my support on other issues".[10] The logic of the present model would suggest that Vance's resignation was not harmful to Carter's reelection prospects; if anything, it should have led the electorate to update positively on the probability of Carter being a moderate rather than an extreme Dove.[11]

[9] Glad (2009, ch. 25); see also `https://history.state.gov/historicaldocuments/frus1977-80v11p1/d250`

[10] `https://www.presidency.ucsb.edu/documents/department-state-exchange-letters-the-resignation-cyrus-r-vance-secr`

[11] Insofar as it damaged public perceptions of Cater's competence, rather than his congruence, that would be a separate consideration from the incentives incorporated in the present model.

Finally, we can consider the issue of NATO enlargement under President Clinton, as discussed in the main text. This decision seems to be plausibly explained as an instance of pandering: the balance of expert opinion was largely opposed to rapid expansion to full Article 5 guarantees for the post-Soviet states of Eastern Europe;[12] but expansion was clearly understood as the more assertive, hawkish position, which created political pressures for President Clinton not to appear weak on the issue.[13] If we consider Clinton's decision to move forward with expansion as an instance of pandering, this can also inform our interpretation of Secretary Perry's decision not to resign over the issue: rather than viewing Clinton as an extremist who was generally unwilling to listen to expert advice, he instead saw Clinton as being electorally pressured to pander on this issue but willing to incorporate advice in the future.

8.3 Alternative Deterrence Setup

The game setup at the international level most closely follows Schultz (2005), in which the domestic leader has the option to "defect" against the foreign country, even after the foreign country has initiated cooperation (but only an "extreme" Hawk would want to do so). In both models, this creates an alignment of the incentives of leaders of either party, to signal their moderation both the foreign actor (so as to induce cooperation) and to the domestic audience (who wants to retain moderate leaders, both for their impact on the foreign actor's behavior, and for the improved policy responsiveness they bring).

In more traditional international deterrence models, the defender state is assumed to be satisfied with the status quo, and thus not given the option to initiate aggression when the foreign actor does not challenge. If we altered the present model along these lines, and assumed that the domestic leader cannot initiate unprovoked hostilities, the implications would be as follows:

- The game with a Dove leader in office is entirely unchanged.
- With a Hawk leader, the assumption that voters prefer moderate Hawks over extreme Hawks—which, as discussed in the main text, appears consistent with the bulk of existing empirical evidence—would require further justification. In the current setup, the Hawk's moderation both improves deterrence, and improves responsiveness in the event of either deterrence failure or deterrence success. In the alternative setup, the Hawk's moderation would undermine deterrence, but improve responsiveness in the event of deterrence failure. For the voter to

[12] Gaddis (2007); see also https://www.govinfo.gov/content/pkg/CHRG-105shrg46832/html/CHRG-105shrg46832.htm

[13] Sarotte (2019); https://www.presidency.ucsb.edu/documents/statement-senator-bob-dole-nato-expansion

have a higher ex-ante expected payoff under the moderate Hawk than the extreme Hawk would require that either the value of deterrence (γ) or the probability of F being deterrable ($\frac{1}{\overline{\omega}_F - \underline{\omega}_F}$) be sufficiently low, so that concerns over policy responsiveness dominate concerns over deterrence. (Or alternatively, it would require invoking some additional considerations—for instance, assuming that extremism in candidates' foreign policy preferences is correlated with extremism in their domestic policy preferences, so voters are willing to sacrifice some amount of international deterrence in exchanged for improved domestic outcomes.)

- If we maintain the assumption that voters prefer moderate Hawks over extreme Hawks, the crisis subgame with the Hawk leader in office remains unchanged. But there is an additional complication introduced at the appointment stage for Hawk leaders. It is not obvious whether Hawk leaders would want to use appointments to signal that they are moderates or extremists, or whether there would be pooling or separation at the appointment stage. In general, however, it seems intuitive that insofar as these incentives push Hawk leaders towards signaling their extremism rather than their moderation at the appointment stage, this would serve to make them less rather than more likely to appoint dovishly-biased or politically independent agents. Thus the central asymmetry in appointment incentives between Hawk and Dove leaders would persist in this alternative setup.

9 Proofs

It follows directly from the leader's payoff function that, in any equilibrium, the leader fights if and only if

$$\begin{aligned} &\theta(1-2\eta^{x,s}) + (1-\theta) \leq \beta\left(\hat{r}^{1;s} - \hat{r}^{0;s}\right) \qquad \text{for a Dove leader} \\ &\theta(2\eta^{x,s}-1) + (1-\theta) \geq \beta\left(\hat{r}^{0;s} - \hat{r}^{1;s}\right) \qquad \text{for a Hawk leader} \end{aligned} \tag{6}$$

We will first consider the equilibrium of the "non-crisis subgame", following F's decision not to challenge, $a_F = 0$. This subgame is the same as the crisis subgame, with the important exception that $Pr(\omega = 1|a_F = 1) = \tau > Pr(\omega = 1|a_F = 0) = \tau_0 \to 0$.

Lemma 1 (Non-Crisis Subgame Equilibrium) *Under a Dove leader, the CRE path of play proceeds as follows:*

- *Both leader types play $a = 0$.*

- *The leader is reelected with probability π.*

Under a Hawk leader, the CRE path of play proceeds as follows:

- *The congruent leader plays $a = 0$.*
- *The incongruent leader plays*

$$\sigma_0^{a_F=0} = \begin{cases} 1, & \beta \leq 1 \\ \frac{1-\beta\pi}{1-\pi}, & 1 < \beta < \frac{1}{\pi} \\ 0, & \beta \geq \frac{1}{\pi} \end{cases}$$

- *The leader is reelected with probability equal to the voter's posterior belief, which satisfies $\mu^{1,z} = 0$ and*

$$\mu^{0;a_F=0} = \begin{cases} 1, & \beta \leq 1 \\ \frac{1}{\beta}, & 1 < \beta < \frac{1}{\pi} \\ \pi, & \beta \geq \frac{1}{\pi} \end{cases}$$

Proof of Lemma 1: Given that $Pr(\omega = 1|a_F = 0) = \tau_0 \to 0$, which implies $\eta^{x,s} \to 0 \, \forall x, s$, the CRE dictates that the congruent leader of either party play $a = 0$. From (6) it follows that the incongruent Dove also plays $a = 0$. The incentive-compatibility conditions for both Dove leader types, and for the congruent Hawk leader, are trivially satisfied. The incongruent Hawk is indifferent between fighting and not fighting when $\beta = \frac{1}{\mu^{0;a_F=0}}$, where $\mu^{0;a_F=0} = \frac{\pi}{\pi+(1-\pi)(1-\sigma_0^{a_F=0})}$ and $\sigma_0^{a_F=0} = Pr(a = 1|a_F = 0, \theta = 0)$; when $\beta < 1$ he strictly prefers fighting, and strictly prefers not fighting when $\beta > \frac{1}{\pi}$. ■

9.1 Equilibrium Existence

Proof of Proposition 1: We will prove the proposition in the case of a Dove leader; the proof for a Hawk leader is symmetrical.

The proposition makes two claims:

Claim 1 *A Congruent-Responsive Equilibrium (CRE) to the crisis subgame always exists, with any appointee in place.*

Proof: The simplest case to show existence of the CRE is a babbling equilibrium, in which the agent randomizes her message independently of the state, and the leader ignores the agent's message and takes his action as a function of his type θ and private signal x. In this case, we will suppose that the leader's strategy satisfies

$$\sigma_1^x = x \text{ and } \sigma_0^x = 0, \quad \text{where } \sigma_\theta^x = Pr(a = 1|x, \theta, a_F = 1)$$

and show that this behavior can be supported in equilibrium.

Given these strategies, the agent forms a belief about the leader's type given the leader's action and the agent's knowledge of the state ω. Letting $\mu_A^{\omega,a} = Pr(\theta = 1|\omega, a)$, we have that

$$\mu_A^{\omega,a=1} = 1, \quad \mu_A^{\omega=0,a=0} = \frac{\pi\phi}{\pi\phi + (1-\pi)}, \quad \mu_A^{\omega=1,a=0} = \frac{\pi(1-\phi)}{\pi(1-\phi) + 1 - \pi} \tag{7}$$

The agent's payoff from protesting is y, and her payoff from remaining silent is $f_A(\theta)$ (with $0 = f_A(0) < f_A(1)$), so she protests if and only if

$$\mu_A f_A(1) < \bar{y} \tag{8}$$

which can never be satisfied for any of the beliefs in (7), given the upper bound on $\bar{y}$ imposed by Assumption 1 (Parameter restrictions). In words: when the agent is not communicating with the leader, the fact of disagreement between the leader's chosen action and the agent's knowledge of the optimal action does not provide the agent with sufficient evidence of leader incongruence to justify protesting the leader's decision. So in the babbling CRE, the agent never protests. Thus the leader's probability of reelection following action a is simply equal to the voter's posterior belief: $\hat{z}^{s,a} = 0\,\forall s, a$, so $\hat{r}^{a;s} = \mu^{a,0} = Pr(\theta = 1|a, z = 0)$.

From (6) we then have the following incentive-compatibility conditions that need to be satisfied for the babbling equilibrium to be supported:

$$1 - 2\eta^{x=1} \leq \beta\left(\mu^{10} - \mu^{00}\right) \leq 1 - 2\eta^{x=0} \tag{IC_1^b}$$

$$\beta\left(\mu^{10} - \mu^{00}\right) \leq 1 \tag{IC_0^b}$$

(where IC_θ^b denotes the incentive-compatibility condition for leader type θ in the babbling CRE). Clearly IC_0^b is implied by IC_1^b. Given the equilibrium strategies, the voter's beliefs satisfy $\mu^{10} = 1$

and $\mu^{00} = \frac{\pi(1-\chi)}{\pi(1-\chi)+(1-\pi)}$, where $\chi = Pr(x = 1) = \phi\tau + (1 - \phi)(1 - \tau)$. Given the assumption that the leader's signal x is informative (meaning $\phi > \max\{\tau, 1 - \tau\}$), we have that $\eta^{x=1} > \frac{1}{2}$, so the first inequality of IC_1^b is satisfied. The second inequality is satisfied given the upper bound on β imposed by Assumption 1 (Parameter restrictions). ■

Claim 2 *At the appointment stage, the leader always selects an appointee whose sincere advice can be followed in a CRE.*

We will break down the proof of Claim 2 into a series of lemmas. Lemma 2 outlines the set of crisis subgame equilibria that can be supported under different appointees. Lemmas 4, 5, and 6 characterize path-of-play behavior in each equilibrium. Then Claim 2 follows directly from Lemmas 7, 8, and 9: because incongruent leaders will always make appointments that mimic those of their congruent counterparts (Lemma 7), it suffices to show that, from the congruent leader's perspective, any appointment that cannot support a full-advice CRE is dominated by some appointment that can (Lemmas 8 and 9).

Lemma 2 *Under Assumption 4 (Crisis subgame equilibrium selection), there are three classes of CRE:*

1. *A full-advice CRE, in which the agent reports sincerely and the congruent leader fully follows her advice. This exists only if the agent is informative, $\pi_A^k \geq \hat{\pi}_A^{k,info}$.*
2. *A partial-advice CRE, in which the agent reports sincerely, and the congruent leader: (i) follows advice contrary to the agent's bias; and (ii) follows his own signal when the agent's advice is consistent with her bias. This exists only if the agent is uninformative, $\pi_A^k < \hat{\pi}_A^{k,info}$.*
3. *A babbling CRE, in which the agent randomizes her message independently of the state, and the congruent leader ignores the message and follow his own signal. This always exists.*

Lemma 3 (Monotonicity) *If for some x, s, y, the congruent leader plays $\sigma_1^{x,s,y} = 0$, then the incongruent leader likewise plays $\sigma_0^{x,s,y} = 0$. If for some s, y, we have $\hat{z}^{s,a=0,y} = 0$, then the incongruent leader plays $\sigma_0^{s,y} = 0$.*

Proof of Lemma 3: Follows directly from (6), from (IC_0^b), and from Assumption 3 (Markovian strategies). ■

Lemma 4 (Full-advice CRE) *In the full-advice CRE with sincere reporting:*

- *The congruent leader plays a strategy of $\sigma_1^{x,s,y} = s$ for $s = 0, 1$*

- *The extreme leader plays a strategy of* $\sigma_0^{x,s,y} = \begin{cases} 1, & s = 1 \,\&\, y = \bar{y} \,\&\, \lambda \geq \bar{\lambda} \\ \max\{\hat{\sigma}_0^1, 0\}, & s = 1 \,\&\, y = \bar{y} \,\&\, \lambda < \bar{\lambda} \\ 0 & otw \end{cases}$
  - *where* $\hat{\sigma}_0^1 = \frac{\pi(\beta-1)}{(1-\pi)(1-\lambda)}$*, and* $\bar{\lambda} = \frac{1-\beta\pi}{1-\pi}$
- *The agent plays a protest strategy of* $\hat{z}^{s,a,y} = \begin{cases} 1, & s = 1 \,\&\, a = 0 \,\&\, y = \bar{y} \\ 0 & otw \end{cases}$
- *The voter's posterior beliefs satisfy*

$$\mu^{10} \geq \pi \geq \mu^{00} > \mu^{01} = \mu^{11} = 0$$

Lemma 5 (Partial-advice CRE with hawkishly-biased agent) *In the partial-advice CRE with sincere reporting from an uninformatively hawkishly-biased agent,* $\tilde{\pi}_A^H < \hat{\pi}_A^{H,info}$*:*

- *The congruent leader plays a strategy of* $\sigma_1^{x,s,y} = \begin{cases} 1, & x = s = 1 \\ 0 & otw \end{cases}$
- *The extreme leader plays a strategy of* $\sigma_0^{x,s,y} = 0 \,\forall x, s, y$
- *The agent never protests on the path of play*

Lemma 6 (Partial-advice CRE with dovishly-biased agent) *In the partial-advice CRE with sincere reporting from an uninformatively dovishly-biased agent,* $\tilde{\pi}_A^D < \hat{\pi}_A^{D,info}$*:*

- *The congruent leader plays a strategy of* $\sigma_1^{x,s,y} = \begin{cases} 0, & x = s = 0 \\ 1 & otw \end{cases}$
- *The extreme leader plays a strategy of* $\sigma_0^{x,s,y} = \begin{cases} 1, & s = 1 \,\&\, y = \bar{y} \,\&\, \lambda \geq \tilde{\lambda} \\ \hat{\tilde{\sigma}}_0^1, & s = 1 \,\&\, y = \bar{y} \,\&\, \lambda < \tilde{\lambda} \,\&\, \beta > 1 \\ 0 & otw \end{cases}$,

  where:
  - $\hat{\tilde{\sigma}}_0^1 = \frac{\pi\sigma_1(\tilde{\alpha}^D)(\beta-1)}{\tilde{\sigma}_A^D(1-\pi)(1-\lambda)}$
  - $\tilde{\lambda} = 1 - \frac{\sigma_1(\tilde{\alpha}^D)\pi(\beta-1)}{\tilde{\sigma}_A^D(1-\pi)}$
  - $\sigma_1(\tilde{\alpha}^D) = \tau(\phi + (1-\phi)\tilde{\pi}_A^D) + (1-\tau)(1-\phi),$
  - $\tilde{\sigma}_A^D = \tau\tilde{\pi}_A^D$
- *The agent plays a protest strategy of* $\hat{z}^{s,a,y} = \begin{cases} 1, & s = 1 \,\&\, a = 0 \,\&\, y = \bar{y} \\ 0 & otw \end{cases}$

Lemma 7 (Pooling appointments) *At the appointment stage, the incongruent leader will fully pool on the preferred appointment of the congruent leader of his party.*

Lemma 8 (Full-advice CRE preferred over babbling CRE) *For the congruent leader, there always exists an appointee such that (i) her sincere reporting can be followed in a full-advice CRE, and (ii) the full-advice CRE with that appointee's sincere reporting is strictly preferred to the babbling CRE.*

Lemma 9 (Full-advice CRE preferred over partial-advice CRE) *For the congruent leader, the selection of any appointee whose bias is too extreme to support a full-advice CRE with sincere reporting is dominated by selection of some less-biased appointee who can support a full-advice CRE with sincere reporting.*

Proof of Lemma 2: First note that the proof of Claim 1 above demonstrated that the babbling CRE always exists.

The CRE is defined as the equilibrium in which the congruent leader attempts to match his action to the state; that is,

$$\sigma_1^{x,s} = \begin{cases} 1, & \eta^{x,s} \geq \frac{1}{2} \\ 0 & otw \end{cases}$$

An informative agent is similarly defined such that her sincere reporting induces a belief in the leader that $\eta^{x,1} \geq \frac{1}{2}$ and $\eta^{x,0} \leq \frac{1}{2}$ for $x = 0, 1$. When the agent is informative ($\pi_A^k \geq \hat{\pi}_A^{k,info}$) and reporting sincerely, the CRE dictates that the congruent leader fully follow her advice, $\sigma_1^{x,s} = s\,\forall x, s$. Either this full-advice CRE is supported, or it is not and we revert to the babbling CRE by Assumption 4 (Crisis subgame equilibrium selection).

When the agent is "uninformative" ($\pi_A^k < \hat{\pi}_A^{k,info}$) and reporting sincerely, she is actually informative in one direction: when an uninformatively dovish agent advises $s = 1$, the leader is certain that $\omega = 1$ (that is, $\eta^{x,1} = 1$), and vice-versa when an uninformatively hawkish agent advises $s = 0$. However, by virtue of the agent being uninformative, the leader's posterior belief is characterized by $\eta^{x=1,x=0} \geq \frac{1}{2}$ when $\pi_A^D < \hat{\pi}_A^{D,info}$, and by $\eta^{x=0,s=1} \leq \frac{1}{2}$ when $\pi_A^H < \hat{\pi}_A^{H,info}$. Thus when the uninformative agent sends a message consistent with her bias, the leader's CRE strategy dictates that he follow his own private signal: $\sigma_1^{x,0} = x$ for an uninformatively dovish agent, and $\sigma_A^{x,1} = x$ for an uninformatively hawkish agent. With an uninformative agent in place, either a partial-advice CRE is supported, or it is not and we revert to the babbling CRE.

This exhausts all possibilities for equilibria that be supported under Assumption 4 (Crisis subgame equilibrium selection). ■

Proof of Lemma 4: As discussed in the proof of Lemma 2, the congruent leader's CRE strategy of $\sigma_1^{x,s,y} = s\,\forall x, s, y$ follows directly from the fact that the agent is informative and reporting sincerely. Left to show is: (i) the agent's best-response protest strategy; (ii) the incongruent leader's best-response fighting strategy; (iii) the voter's beliefs; and (iv) incentive-compatibility of the agent's sincere reporting.

Agent's protest strategy: Given the congruent leader's strategy and Assumption 2 (Beliefs following off-path crisis action), the agent's beliefs satisfy $\mu_A^{s,a} \geq \pi > \bar{\mu}_A$ for $s = a$, and $\mu_A^{s,a} = 0$ for $s \neq a$; this implies the best-response protest strategy specified in the lemma.

Incongruent leader's fighting strategy: Existence of the full-advice CRE implies that the following incentive-compatibility conditions are satisfied for the congruent leader:

$$1 - 2\eta^{x,s=1} \leq \beta\left(\hat{r}^{a=1;s=1,y} - \hat{r}^{a=0;s=1,y}\right) \qquad \forall x, y \qquad (IC_1^{s=1})$$

$$1 - 2\eta^{x,s=0} \geq \beta\left(\hat{r}^{a=1;s=0,y} - \hat{r}^{a=0;s=0,y}\right) \qquad \forall x, y \qquad (IC_1^{s=0})$$

where, given A's protest strategy:

$$\hat{r}^{1;1,y} = \mu^{10}, \quad \hat{r}^{0;1,y} = \begin{cases} \mu^{01} = 0, & y = \bar{y} \\ \mu^{00}, & y = \underline{y} \end{cases}, \quad \hat{r}^{0;0,y} = \mu^{0,0}, \quad \hat{r}^{1;0,y} = \begin{cases} \mu^{11} = 0, & y = \bar{y} \\ \mu^{10}, & y = \underline{y} \end{cases}$$

By Lemma 3, $IC_1^{s=0;\underline{y}}$ implies a unique best-response of $\underline{\sigma}_0^s = Pr(a = 1|\theta = 0, s, y = \underline{y}) = 0\,\forall s, x$. Likewise, $IC_1^{s=0;\bar{y}}$ implies a unique best-response of $\bar{\sigma}_0^0 = Pr(a = 1|\theta = 0, s = 0, y = \bar{y}) = 0\,\forall x$. When $y = \bar{y}$ and $s = 1$, the incongruent leader plays $a = 1 \iff \beta\mu^{10} > 1$, where $\mu^{10} = \frac{\pi}{\pi+(1-\pi)(1-\lambda)\bar{\sigma}_0^1}$. Then we have three cases:

- If $\beta \leq 1$, we have $\bar{\sigma}_0^1 = 0$
- If $\beta > 1$ and $\lambda < \bar{\lambda} := \frac{1-\beta\pi}{1-\pi}$, then $\bar{\sigma}_0^1 = \hat{\sigma}_0^1 := \frac{\pi(\beta-1)}{(1-\pi)(1-\lambda)} \in (0, 1)$.
  - To see why: first suppose $\bar{\sigma}_0^1 = 1$. Then μ^{10} is low enough that, given $\beta > 1$ and $\lambda < \bar{\lambda}$, the incongruent leader has an incentive to deviate to $\bar{\sigma}_0^1 = 0$. Conversely, if $\bar{\sigma}_0^1 = 1$, then μ^{10} is low enough that, given $\beta > 1$ and $\lambda < \bar{\lambda}$, the incongruent leader has an incentive to deviate to $\bar{\sigma}_0^1 = 1$. When $\bar{\sigma}_0^1 = \hat{\sigma}_0^1$, the incongruent leader is indifferent between fighting

and conceding, $\beta\mu^{10} = 1$.

- If $\lambda > \bar{\lambda}$ (which requires $\beta > 1$), then $\beta > \frac{1}{\mu^{10}}$ for any $\bar{\sigma}_0^1$, which implies a unique best-response of $\bar{\sigma}_0^1 = 1$.

Voter's beliefs. Given the strategies specified above, the voter's on-path beliefs satisfy:

$$\mu^{10} = \frac{\pi}{\pi + (1-\pi)(1-\lambda)\bar{\sigma}_0^1} \geq \pi$$
$$\mu^{00} = \frac{\pi(1-\sigma_A)}{\pi(1-\sigma_A) + (1-\pi)(1-\sigma_A+\sigma_A\lambda)} \leq \pi$$

with $\mu^{11} = 0$ (off-path, by Assumption 2 (Beliefs following off-path crisis action)), and $\mu^{01} = 0$ (on-path if $\lambda < \bar{\lambda}$, and off-path otherwise).

■

Proof of Lemma 5: The congruent leader's strategy follows from the definition of the CRE, and from the fact that the leader's signal x is informative, and that the agent's message is asymmetrically informative (i.e. $s = 0$ implies $\omega = 0$ with certainty; but whether $\eta^{x,s=1}$ is above or below $\frac{1}{2}$ depends exclusively on x.). Left to prove is (i) the agent's protest strategy, and (ii) the incongruent leader's fighting strategy.

Agent's protest strategy: Given the specified strategy by the congruent leader, the agent's beliefs satisfy:

- $\mu_A^{s=0,a=0} = \pi$
- $\mu_A^{s=0,a=1} = 0$ (on- or off-path)
- $\mu_A^{s=1,a,\omega=a} = \frac{\pi\phi}{\pi\phi+(1-\pi)Pr(a|s=1,\omega,\theta=0)} \geq \bar{\mu}_A$
- $\mu_A^{s=1,a,\omega\neq a} = \frac{\pi(1-\phi)}{\pi(1-\phi)+(1-\pi)Pr(a|s=1,\omega,\theta=0)} \geq \bar{\mu}_A$

The only case in which the agent would protest on-path is if the incongruent leader played $a = 1$ following $s = 0$; but in this equilibrium, the congruent leader always plays $a = 0$ following $s = 0$, which implies that the incongruent leader will always do the same by Lemma 3.

Incongruent leader's fighting strategy: Given that the agent never protests following $a = 0$, and given Lemma 3, the incongruent leader plays $\sigma_0^{x,s,y} = 0\,\forall x, s, y$.

■

Proof of Lemma 6: With an uninformatively dovishly-biased agent in place, $\tilde{\pi}_A^D < \hat{\pi}_A^{D,info}$:

The congruent leader's strategy follows from the definition of the CRE, and from the fact that the leader's signal x is informative, and that the agent's message is asymmetrically informative (i.e. $s = 1$ implies $\omega = 1$ with certainty). Left to prove is (i) the agent's protest strategy, and (ii) the incongruent leader's fighting strategy.

Agent's protest strategy: The agent's beliefs satisfy:

- $\mu_A^{1,1} \geq \pi$
- $\mu_A^{1,0} = 0$
- $\mu_A^{0,0,\omega=0} = \frac{\pi\phi}{\pi\phi+(1-\pi)Pr(a=0|\theta=0,\omega=0)} \geq \bar{\mu}_A$
- $\mu_A^{0,0,\omega=1} = \frac{\pi(1-\phi)}{\pi(1-\phi)+(1-\pi)Pr(a=0|\theta=0,\omega=0)} \geq \bar{\mu}_A$
- $\mu_A^{0,1} = 1$

Thus the agent protests if and only if $(s = 1, a = 0, y = \bar{y})$.

Incongruent leader's fighting strategy: By Lemma 3, the incongruent leader plays $a = 0$ whenever $s = 0$ or $y = \underline{y}$. When $s = 1$ and $y = \bar{y}$, the incongruent leader plays $a = 1 \iff \beta\mu^{10} > 1$, where

$$\mu^{10} = \frac{\pi\sigma_1(\tilde{\alpha}^D)}{\pi\sigma_1(\tilde{\alpha}^D) + (1-\pi)(1-\lambda)\tilde{\sigma}_A^D\bar{\sigma}_0^1(\tilde{\alpha}^D)},$$

where:

- $\sigma_1(\tilde{\alpha}^D) = Pr(a = 1|\theta = 1, \tilde{\alpha}^D) = \tau(\phi + (1-\phi)\tilde{\pi}_A^D) + (1-\tau)(1-\phi)$
- $\tilde{\sigma}_A^D = \tau\tilde{\pi}_A^D$
- $\bar{\sigma}_0^1(\tilde{\alpha}^D) = Pr(a = 1|\theta = 0, s = 1, y = \bar{y}, \tilde{\alpha}^D)$

Then we have three cases, analogously to the full-advice CRE:

- If $\beta \leq 1$, then $\bar{\sigma}_0^1(\tilde{\alpha}^D) = 0$
- If $\beta > 1$ and $\lambda < \tilde{\lambda} := 1 - \frac{\sigma_1(\tilde{\alpha}^D)\pi(\beta-1)}{\tilde{\sigma}_A^D(1-\pi)}$, then $\bar{\sigma}_0^1(\tilde{\alpha}^D) = \hat{\bar{\sigma}}_0^1 := \frac{\pi\sigma_1(\tilde{\alpha}^D)(\beta-1)}{\tilde{\sigma}_A^D(1-\pi)(1-\lambda)}$
- If $\lambda > \tilde{\lambda}$, then $\bar{\sigma}_0^1(\tilde{\alpha}^D) = 1$.

■

Proof of Lemma 7: Follows directly from Assumption 5 (Equilibrium refinement at appointment stage) , and from the fact that the incongruent leader separating at the appointment stage yields the worst possible deterrence (as shown in the proof of Result 1 below). ■

Proof of Lemma 8: Let $\hat{a}^b$ denote the level of deterrence in the babbling CRE, and let $\hat{a}(\alpha)$ denote the level of deterrence in a full-advice CRE given appointee α. We will show that there always exists an appointee α such that (i) there exists a full-advice CRE in which that appointee reports sincerely; (ii) the full-advice CRE yields deterrence $\hat{a}(\alpha) = \hat{a}^b$; (iii) the full-advice CRE yields the same electoral prospects as does the babbling CRE; and (iv) the congruent leader's expected policy payoff EW_L is strictly greater in the full-advice CRE than in the babbling CRE.

Existence of this full-advice CRE requires showing that two incentive-compatibility conditions are satisfied: the agent's incentive to report sincerely, and the congruent leader's incentive to follow the agent's advice.

For the agent, sending message s strictly increases the probability that the leader takes action $a = s$, and so the agent clearly prefers sending $s = \hat{\omega}_A$ (where $\hat{\omega}_A$ was defined in Definition 1) for policy reasons alone. The potentially countervailing consideration is that, by sending $s \neq \hat{\omega}_A$, the agent may be able to learn more about the leader's type, which can better inform her decision of whether or not to protest. Clearly sending $s = 1$ provides (weakly) better information than $s = 0$, because $s = 0$ induces pooling by both leader types, whereas $s = 1$ may induce separation. Further, given $y = \underline{y}$, the agent will not protest for any belief μ_A, so there is no value in distorting policy in the present period to improve learning. So we only need to show that when $\hat{\omega}_A = 0$ and $y = \bar{y}$, the agent prefers sending $s = 0$ over $s = 1$:

$$E[U_A(s=1)|\hat{\omega}_A = 0, y = \bar{y}] \leq E[U_A(s=0)|\hat{\omega}_A = 0, y = \bar{y}]$$
$$(1-\pi)(1-\bar{\sigma}_0^1)[1+\bar{y}] + (\pi + (1-\pi)\bar{\sigma}_0^1)\mu_A^{1,1} f_A(1) \leq 1 + \pi f_A(1)$$
$$1 + \bar{y} \leq \frac{1}{(1-\pi)(1-\bar{\sigma}_0^1)}$$

This is satisfied for $\bar{y} \leq \frac{\pi}{1-\pi}$, which is satisfied by Assumption 1 (Parameter restrictions).

To prove the congruent leader's incentive-compatibility condition, along with points (ii), (iii), and (iv) above (comparing payoffs across the babbling vs. full-advice CRE), we will separately consider cases of $\tau \geq \frac{1}{2}$ and $\tau \leq \frac{1}{2}$. First note that $\hat{a}^b = \pi\chi$, where $\chi = \tau\phi + (1-\tau)(1-\phi)$. We will prove the lemma by restricting attention to fully loyal appointees, $\lambda = 1$, which implies that $\hat{a}(\alpha) = \pi\sigma_A$.

Case 1. $\tau \geq \frac{1}{2}$. In this case, $\frac{1}{2} \leq \chi \leq \tau$, so an agent whose sincere reporting satisfies $\sigma_A = \chi$

must be (weakly) dovishly biased, $\pi_A^D \leq 1$. We find this π_A^D by setting $\hat{a}^b = \hat{a}(\alpha)$:

$$\begin{aligned}
\pi\sigma_A &= \pi\chi \\
\tau\pi_A^D &= \tau\phi + (1-\tau)(1-\phi) \\
\pi_A^D &= \phi + \frac{(1-\tau)}{\tau}(1-\phi) \\
&\geq \phi + \phi(1-\phi)
\end{aligned}$$

where the last inequality follows from the fact that $\tau \leq \frac{1}{1+\phi}$ by Assumption 1 (Parameter restrictions).

The congruent leader is willing to follow the agent's advice if $\beta(\mu^{10} - \mu^{00}) \leq 1 - 2\eta^{x=1,s=0}$. Because $\chi = \sigma_A$, the values of μ^{10} and μ^{00} are the same in the babbling CRE and in the full advice CRE (which tells us that the congruent leader's electoral prospects are the same across the two equilibria). Because the babbling CRE is supported, to prove existence of the full-advice CRE, it suffices to show that $1 - 2\eta^{x=0} \leq 1 - 2\eta^{x=1,s=0}$, which rearranges to $\eta^{x=0} \geq \eta^{x=1,s=0} = \frac{\eta^{x=1}(1-\pi_A^D)}{1-\eta^{x=1}\pi_A^D}$. This rearranges to $\pi_A^D \geq \frac{\eta^{x=1}(1-\eta^{x=0})}{\eta^{x=1}-\eta^{x=0}}$, which is satisfied whenever $\pi_A^D \geq \phi + \phi(1-\phi)$.

Finally, the congruent leader's expected policy payoffs in this full-advice CRE are given by

$$E[W_L(\pi_A^D)|a_F = 1] = \tau\pi_A^D + (1-\tau) = \tau\phi + (1-\tau)(1-\phi) + (1-\tau)$$

which we can see exceeds the expected policy payoff of ϕ in the babbling CRE.

Case 2. $\tau \leq \frac{1}{2}$. In this case, $\tau \leq \chi \leq \frac{1}{2}$, so an agent whose sincere reporting satisfies $\sigma_A = \chi$ must be (weakly) hawkishly biased, $\pi_A^H \leq 1$. The value of π_A^H that satisfies $\sigma_A = \chi$ is

$$\pi_A^H = \phi + (1-\phi)\frac{\tau}{1-\tau}$$

As in the previous case, we know that deterrence and electoral prospects are the same across the babbling and full-advice CRE, given $\sigma_A = \chi$. Given that the babbling CRE is supported, to show that this full-advice CRE is supported, it suffices to show that $1 - 2\eta^{x=0} \leq 1 - 2\eta^{x=1,s=0}$, which is clearly satisfied because $\eta^{x=1,s=0} = 0$. Finally, policy payoffs in the full-advice CRE are given by

$$E[W_L(\pi_A^H)|a_F = 1] = \tau + (1-\tau)\pi_A^H = \tau + (1-\tau)\phi + (1-\phi)\tau$$

which is $> \phi$. ■

Proof of Lemma 9: The proof will consider multiple cases, and in each case we will show that when an appointee $\tilde{\alpha}^k = (\tilde{\pi}_A^k < \hat{\pi}_A^{k,info}, \lambda)$ cannot support a full-advice CRE, there exists an appointee $\bar{\alpha}^{k'} = (\bar{\pi}_A^{k'}, \lambda')$, for $k' \neq k$, that can support a full-advice CRE in which:

(i) deterrence is the same, $\hat{a}(\tilde{\alpha}^k) = \hat{a}(\bar{\alpha}^{k'})$,

(iii) the congruent leader's electoral prospects are no worse, $E[r|\theta = 1, a_F = 1, \tilde{\alpha}^k] \leq E[r|\theta = 1, a_F = 1, \bar{\alpha}^{k'}]$, and

(ii) the congruent leader's expected policy payoff is better, $E[W_L(\tilde{\alpha}^k)|a_F = 1] > E[W_L(\bar{\alpha}^{k'})|a_F = 1]$.

Uninformatively hawkish agent, $\tilde{\pi}_A^H < \hat{\pi}_A^{H,info}$

Path-of-play behavior in the partial-advice CRE with this appointee was characterized in Lemma 5, which showed that the agent never protests for any λ, and thus the incongruent leader never fights; so $\hat{a}(\tilde{\alpha}^H) = \pi\sigma_1(\tilde{\alpha}^D)$. Select $\bar{\alpha}^D = (\bar{\pi}_A^D \geq \hat{\pi}_A^{D,info}, \lambda' = 1)$ that induces the same equilibrium level of deterrence as does $\tilde{\alpha}^H$:

$$\begin{aligned}
\hat{a}(\tilde{\alpha}^H) &= \hat{a}(\tilde{\alpha}^H) \\
\pi\tau\bar{\pi}_A^D &= \pi\sigma_1(\tilde{\alpha}^H) = \pi\left[\tau\phi + (1-\tau)(1-\phi)(1-\tilde{\pi}_A^H)\right] \\
\bar{\pi}_A^D &= \phi + \frac{1-\tau}{\tau}(1-\phi)(1-\tilde{\pi}_A^H) > \phi \geq \hat{\pi}_A^{D,info}
\end{aligned}$$

Because the agent never protests and the extreme leader never fights under either appointee, the reelection prospects are equivalent: $\mu^{a,0}(\tilde{\alpha}^H) = \mu^{a,0}(\bar{\alpha}^D)$ for $a = 0, 1$. Further, the expected policy payoffs are strictly better under $\bar{\pi}_A^D$:

$$\begin{aligned}
EW_L(\tilde{\alpha}^H) &= \tau\phi + (1-\tau)(\phi + (1-\phi)\pi_A^H) \\
EW_L(\bar{\alpha}^D) &= \tau\pi_A^D + (1-\tau) > \tau\phi + (1-\tau)
\end{aligned}$$

And we know that whenever the partial-advice CRE with $\tilde{\alpha}^H$ exists, then so does the full-advice CRE with $\bar{\alpha}^D$: the former is satisfied by the incentive-compatibility condition $\beta(\mu^{10} - \mu^{00}) \leq 1 - 2\eta^{x=0,s=1}(\tilde{\alpha}^H)$, and the latter is satisfied by $\beta(\mu^{10} - \mu^{00}) \leq 1 - 2\eta^{x=1,s=0}(\bar{\alpha}^D)$, and we know that $\eta^{x=1,s=0}(\bar{\alpha}^D) \leq \eta^{x=0} \leq \eta^{x=0,s=1}(\tilde{\alpha}^H)$ (as was shown in the proof of Lemma 8).

Thus for the congruent leader, the appointment of $\bar{\alpha}^D$ strictly dominates the appointment of

$\tilde{\alpha}^H$.

Uninformatively dovish agent, $\tilde{\pi}_A^D < \hat{\pi}_A^{D,info}$

Let $\tilde{\pi}_A^D$ denote the bias of the uninformatively-hawkish appointee, $\tilde{\pi}_A^D < \hat{\pi}_A^{D,info}$. Path-of-play behavior in the partial-advice CRE with this appointee was characterized in Lemma 6.

We will analyze three separate cases of the the partial-advice CRE with an uninformatively dovish appointee, $\tilde{\pi}_A^D < \hat{\pi}_A^{D,info}$:

1. $\beta \leq 1$ or $\lambda = 1$
2. $\beta > 1$ and $\lambda \leq \tilde{\lambda}$
3. $\beta > 1$ and $\tilde{\lambda} < \lambda$

where the value of $\tilde{\lambda}$ was derived in the proof of Lemma 6.

Note that the voter's beliefs in this partial-advice CRE are given by

$$\mu^{10}(\tilde{\alpha}^D) = \frac{\pi\sigma_1(\tilde{\alpha}^D)}{\pi\sigma_1(\tilde{\alpha}^D) + (1-\pi)(1-\lambda)\tilde{\sigma}_A^D\bar{\sigma}_0^1(\tilde{\alpha}^D)}, \quad \mu^{00}(\tilde{\alpha}^D) = \frac{\pi(1-\sigma_1(\tilde{\alpha}^D))}{\pi(1-\sigma_1(\tilde{\alpha}^D)) + (1-\pi)(1-\tilde{\sigma}_A^D + \tilde{\sigma}_A^D\lambda)} \tag{9}$$

Analogously to the proof above, here we will show that in each of the three cases, there exists an informatively hawkish agent $\bar{\alpha}^H$ that yields the same deterrence, the same (or better) electoral prospects, and strictly better policy outcomes, as compared to $\tilde{\alpha}^D$.

It is straightforward to see that in each case, if the partial-advice CRE exists with $\tilde{\alpha}^D$, then the full-advice CRE exists with $\bar{\alpha}^H$: for the congruent leader, the binding incentive-compatibility condition in the former case is $\beta\left(\mu^{10}(\tilde{\alpha}^D) - \mu^{00}(\tilde{\alpha}^D)\right) \leq 1 - 2\eta^{x=1,s=0}(\tilde{\alpha}^D)$, and in the latter case, $\beta\left(\mu^{10}(\bar{\alpha}^H) - \mu^{00}(\bar{\alpha}^H)\right) \leq 1 - 2\eta^{x=1,s=0}(\bar{\alpha}^H) = 1$. (We will see in each case below that $\mu^{10}(\bar{\alpha}^H) = \mu^{10}(\tilde{\alpha}^D)$, and that $\mu^{00}(\bar{\alpha}^H) \geq \mu^{00}(\tilde{\alpha}^D)$.)

Case 1. $\beta \leq 1$ **or** $\lambda = 1$

Comparing $\tilde{\alpha}^D = (\tilde{\pi}_A^D, \lambda)$ against $\bar{\alpha}^H = (\bar{\pi}_A^H, \lambda)$, in the case that either $\beta \leq 1$ or $\lambda = 1$ (or both):

If either $\beta \leq 1$ or $\lambda = 1$, then the incongruent leader never fights, so we have:

$$\hat{a}(\tilde{\alpha}^D) = \pi\sigma_1(\tilde{\alpha}^D) = \pi\left[\tau(\phi + (1-\phi)\tilde{\pi}_A^D) + (1-\tau)(1-\phi)\right]$$
$$\hat{a}(\bar{\alpha}^H) = \pi\sigma_A = \pi\left[\tau + (1-\tau)(1-\bar{\pi}_A^H)\right]$$

setting the two equal and rearranging gives

$$\bar{\pi}_A^H = \phi + (1-\phi)\frac{\tau}{1-\tau}(1-\tilde{\pi}_A^D) > \phi \geq \hat{\pi}_A^{H,info}$$

(where the last inequality tells us that this agent's bias $\bar{\pi}_A^H$ is informative). Because $\sigma_1(\tilde{\alpha}^D) = \sigma_A^H$, we have that $\mu^{01}(\bar{\alpha}^H) = \mu^{01}(\tilde{\alpha}^D)$ and $\mu^{00}(\bar{\alpha}^H) = \mu^{01}(\tilde{\alpha}^D)$, so $E[r|\theta=1]$ is unchanged. But policy is improved:

$$EW_L(\bar{\alpha}^H) = \tau + (1-\tau)\bar{\pi}_A^H > \tau + (1-\tau)\phi > EW_L(\tilde{\pi}_A^D) = \tau(\phi + (1-\phi)\tilde{\pi}_A^D) + (1-\tau)\phi$$

Case 2. $\beta > 1$ **and** $\lambda < \tilde{\lambda}$

Comparing $\tilde{\alpha}^D = (\tilde{\pi}_A^D, \lambda)$ against $\bar{\alpha}^H = (\bar{\pi}_A^H, \lambda)$, for the same $\lambda < \tilde{\lambda}$, when $\beta > 1$:

Given $\lambda < \tilde{\lambda}$ (and because we know $\tilde{\lambda} < \bar{\lambda}$), we have that

$$\bar{\sigma}_0^1(\tilde{\alpha}^D) = Pr(a=1|\theta=0, s=1, y=\bar{y}, \tilde{\alpha}^D) = \frac{\sigma_1(\tilde{\alpha}^D)\pi(\beta-1)}{\tilde{\sigma}_A(1-\pi)(1-\lambda)}$$

and

$$\bar{\sigma}_0^1 = Pr(a=1|\theta=0, s=1, y=\bar{y}, \bar{\alpha}^H) = \frac{\pi(\beta-1)}{(1-\pi)(1-\lambda)}$$

(where both $\bar{\sigma}_0^1(\tilde{\alpha}^D)$ and $\bar{\sigma}_0^1$ are chosen so as to set $\mu^{10} = \mu^{10}(\tilde{\alpha}^D) = \frac{1}{\beta}$, to maintain the incongruent leader's indifference). We want to find $\hat{a}(\tilde{\alpha}^D)$ and $\hat{a}(\bar{\alpha}^H)$ and choose $\bar{\pi}_A^H$ to make them equal to each other:

$$\begin{aligned}
\hat{a}(\tilde{\pi}_A^D) &= \pi\sigma_1(\tilde{\alpha}^D) + (1-\pi)(1-\lambda)\tilde{\sigma}_A\bar{\sigma}_0^1(\tilde{\alpha}^D) \\
&= \pi\sigma_1(\tilde{\alpha}^D) + \pi\sigma_1(\tilde{\alpha}^D)(\beta-1) = \pi\beta\sigma_1(\tilde{\alpha}^D) \\
\hat{a}(\bar{\pi}_A^H) &= \sigma_A^H(\pi + (1-\pi)(1-\lambda)\bar{\sigma}_0^1) \\
&= \sigma_A^H(\pi + \pi(\beta-1)) = \sigma_A\beta\pi
\end{aligned}$$

As in the previous case, this is satisfied by $\sigma_A = \sigma_1(\tilde{\alpha}^D)$, which rearranges to $\bar{\pi}_A^H = \phi + (1-\phi)\frac{\tau}{1-\tau}(1-\tilde{\pi}_A^D)$, which we saw above implies that $EW_L(\bar{\pi}_A^H) > EW_L(\tilde{\pi}_A^D)$. Finally, from (9) we can see that $\mu^{10}(\tilde{\alpha}^D) = \mu^{10}(\bar{\alpha}^H)$ and $\mu^{00}(\tilde{\alpha}^D) \leq \mu^{00}(\bar{\alpha}^H)$, meaning that electoral prospects are weakly improved by $\bar{\alpha}^H$ relative to $\tilde{\alpha}^D$.

Case 3. $\beta > 1$ **and** $\tilde{\lambda} < \lambda$

Here we have:

$$\bar{\sigma}_0^1(\tilde{\alpha}^D) = Pr(a = 1|\theta = 0, s = 1, y = \bar{y}, \tilde{\alpha}^D) = 1$$
$$\sigma_0(\tilde{\alpha}^D) = Pr(a = 1|\theta = 0, \tilde{\alpha}^D) = (1 - \lambda)\tilde{\sigma}_A^D$$
$$\hat{a}(\tilde{\alpha}^D) = \pi\sigma_1(\tilde{\alpha}^D) + (1 - \pi)(1 - \lambda)\tilde{\sigma}_A^D$$

We want to find $\bar{\alpha}^H = (\bar{\pi}_A^H, \lambda' \geq \bar{\lambda})$ that induces $\sigma_1(\bar{\alpha}^H) = \sigma_1(\tilde{\alpha}^D)$ and $\sigma_0(\bar{\alpha}^H) = \sigma_0(\tilde{\alpha}^D)$. To set $\sigma_1(\bar{\alpha}^H) = \sigma_1(\tilde{\alpha}^D)$, we select the same $\bar{\pi}_A^H$ as in the previous two cases, which was shown to yield improvements in EW_L relative to $\tilde{\pi}_A^D$. Given that value of $\bar{\pi}_A^H$, we then need to set λ' such that $\sigma_0(\bar{\alpha}^H) = \sigma_0(\tilde{\alpha}^D)$:

$$\sigma_0(\bar{\alpha}^H) = \sigma_A^H(1 - \lambda') = \tilde{\sigma}_A^D(1 - \lambda) = \sigma_0(\tilde{\alpha}^D)$$
$$\lambda' = 1 - (1 - \lambda)\frac{\tilde{\sigma}_A^D}{\sigma_1(\tilde{\alpha}^D)}$$

To verify that $\lambda' > \bar{\lambda}$: because $\lambda > \tilde{\lambda} = 1 - \frac{\sigma_1(\tilde{\alpha}^D)\pi(\beta-1)}{\sigma_A^D(1-\pi)}$, we have that

$$\lambda' > 1 - \left(\frac{\sigma_1(\tilde{\alpha}^D)\pi(\beta - 1)}{\sigma_A^D(1 - \pi)}\right)\frac{\tilde{\sigma}_A^D}{\sigma_1(\tilde{\alpha}^D)} = 1 - \frac{\pi(\beta - 1)}{1 - \pi} = \bar{\lambda}$$

Finally, plugging these values into the expressions for $\mu^{10}(\alpha)$ and $\mu^{00}(\alpha)$, we find that electoral prospects are the same for $\tilde{\alpha}^D$ and for $\bar{\alpha}^H$.

This exhausts all cases of the proof of Lemma 9. ■

This completes the proof of Proposition 1. ■

9.2 Benchmark Model

Proof of Result 1: Given common knowledge of L's type θ, the voter's posterior belief μ^h is equal to the prior π, so the leader is retained if and only if he is congruent. This means that the leader's reelection prospects are unaffected by his action, so his unique best response is to take the action he prefers for policy reasons alone: extreme Doves always concede, extreme Hawks always fight, and moderates of either party follow the CRE strategy of $a = 1$ if and only if $\eta^{x,s} \geq \frac{1}{2}$.

The fact that A is informative means that, when she reports sincerely, L's belief satisfies $\eta^{x,s} \geq \frac{1}{2} \iff s = 1$. Thus the congruent L's CRE strategy dictates that he follow A's advice, $\sigma_1^{x,s} = s$.

To calculate the appointee's influence, first observe that in a babbling equilibrium, the congruent L's best response is to follow his own private signal, $\sigma_1^x = x$.

The leader's CRE action under sincere reporting differs from what it would be under babbling in the following events: (i) the leader is congruent, and (ii.a) L's signal x is wrong, and A would have reported truthfully, $s = \omega$ or (ii.b) L's signal x is correct, and A would have reported untruthfully, $s \neq \omega$. The joint probability of these events is given by:

$$\begin{cases} \pi\left[(1-\tau)(1-\phi) + \tau\left((1-\phi)\pi_A + \phi(1-\pi_A)\right)\right], & k = D \\ \pi\left[(1-\tau)\left((1-\phi)\pi_A + \phi(1-\pi_A)\right) + \tau(1-\phi)\right], & k = H \end{cases}$$

When $\tau = \frac{1}{2}$, this reduces to $\frac{\pi}{2}(1 - \pi_A(2\phi - 1))$. The claim that appointee influences increases in appointee bias and decreases in leader expertise follows simply from the differentiating these expressions with respect to π_A and ϕ.

Finally, considering F's decision to challenge: based on A and L's equilibrium strategies, F forms expectation $\hat{a}_{a_F}(\alpha;\theta) = Pr(a = 1|\alpha, \theta, a_F)$ where $\alpha = (\pi_A^k, \lambda)$. It follows directly from F's utility function that F challenges if and only if $\omega_F \geq \hat{a}_1(\alpha;\theta) - \hat{a}_0(\alpha;\theta)$. Because the strategies for extreme leaders of both parties are not responsive to ω, and thus not responsive to a_F, we have $\hat{a}_1(\alpha; 0) = \hat{a}_0(\alpha; 0)$. In contrast, because congruent leaders' strategies are responsive to the agent's (informative) advice, they are also responsive to the state and thus to F's action: $\hat{a}_1(\alpha; 1) > \hat{a}_0(\alpha; 1)$. This responsiveness provides F with a greater incentive to refrain from challenging. The appointee's hawkishness only increases $\hat{a}_1(\alpha; 1)$, and does not affect $\hat{a}_0(\alpha; 1)$; increasing the difference between these two values serves to further disincentivize F from challenging.

■

9.3 Crisis Subgame – Comparative Statics

Proof of Result 2: The first three bullet points follow directly from Lemma 4. To derive the value of influence, observe that the probability that the leader's babbling CRE action differs from his full-advice CRE action is given by:

$$\pi \begin{Bmatrix} \Pr(\omega=1)\left[Pr(x=0\&s=1|\omega=1)+Pr(x=1\&s=0|\omega=1)\right] \\ +Pr(\omega=0)\left[Pr(x=0\&s=1|\omega=0)+Pr(x=1\&s=0|\omega=0)\right] \end{Bmatrix} + (1-\pi)Pr(s=1)Pr(y=\bar{y})\bar{\sigma}_0^1$$

When $\pi_A^H \leq 1$, this equals

$$\pi\left\{\tau(1-\phi)+(1-\tau)\left[(1-\pi_A^H)\phi+\pi_A^H(1-\phi)\right]\right\}+(1-\pi)\sigma_A(1-\lambda)\bar{\sigma}_0^1$$

When $\pi_A^D \leq 1$, this equals

$$\pi\left\{\tau\left[(1-\pi_A^H)\phi+\pi_A^H(1-\phi)\right]+(1-\tau)(1-\phi)\right\}+(1-\pi)\sigma_A(1-\lambda)\bar{\sigma}_0^1$$

When $\tau=\frac{1}{2}$, for either $k=D,H$, this simplifies to

$$\frac{\pi}{2}\left[1-\pi_A(2\phi-1)\right]+(1-\pi)\sigma_A(1-\lambda)\bar{\sigma}_0^1$$

as stated in the proposition. The final bullet point follows simply from differentiating the two expressions above with respect to ϕ, β, λ, and π_A^H, respectively. ∎

Proof of Result 3: Let $\hat{a}_{a_F}(\alpha)=Pr(a=1|a_F,\alpha)$ denote the equilibrium probability that L will fight given appointment α and given F's action a_F. (For shorthand, let $\hat{a}(\alpha)=\hat{a}_1(\alpha)$.) Lemma 1 tells us that $\hat{a}_0(\alpha)$ is constant in α; thus we can simply write $\hat{a}_0=Pr(a=1|a_F=0,\alpha)$. It follows directly from F's payoff function that F will challenge if and only if $\omega_F \geq \hat{a}(\alpha)-\hat{a}_0$ which occurs with probability $\frac{\overline{\omega}_F-(\hat{a}(\alpha)-\hat{a}_0)}{\overline{\omega}_F-\underline{\omega}_F}$.

From Lemma 4, we know that under a Dove leader,

$$\hat{a}(\alpha)=\sigma_A\left[\pi+(1-\pi)\sigma_0^1\right], \quad \text{where } \sigma_0^1=(1-\lambda)\bar{\sigma}_0^1=\begin{cases}0, & \beta\leq 1\\ 1-\lambda, & \beta>1\,\&\,\lambda>\bar{\lambda}\\ \frac{\pi(\beta-1)}{1-\pi}, & \beta>1\,\&\,\lambda\leq\bar{\lambda}\end{cases}$$

and σ_A is given by (5). Likewise, under a Hawk leader,

$$\hat{a}(\alpha) = \sigma_A + (1-\pi)(1-\sigma_A)\sigma_0^0, \quad \text{where } \sigma_0^0 = \lambda + (1-\lambda)\bar{\sigma}_0^0 = \begin{cases} 1, & \beta \leq 1 \\ \lambda, & \beta > 1 \,\&\, \lambda > \bar{\lambda} \\ \frac{1-\beta\pi}{1-\pi}, & \beta > 1 \,\&\, \lambda \leq \bar{\lambda} \end{cases}$$

The comparative statics in Result 3 follow simply from differentiating the two expressions above with respect to λ and π_A. ■

Proof of Result 4: To prove this result regarding citizen welfare, we will demonstrate the following:

- Under a Dove leader:
  - Following Result 3, we know that deterrence can be improved (relative to a baseline of $\pi_A = \lambda = 1$) by increasing either appointee hawkishness, or appointee loyalty (or both).
  - Increasing appointee hawkishness undermines policy responsiveness.
  - Increasing appointee loyalty (insofar as it improves deterrence) undermines electoral selection.
- Under a Hawk leader:
  - Deterrence can only be improved by increasing appointee hawkishness.
  - Increasing appointee hawkishness undermines both policy responsiveness and electoral selection.

Consider first the case of a Dove leader with a weakly hawkish appointee, $\pi_A^H \leq 1$. Policy responsiveness is given by

$$EW_V(\alpha) = Pr(a = \omega | a_F = 1, \alpha) = \pi\left[\tau + (1-\tau)\pi_A^H\right] + (1-\pi)\left[(1-\tau) + (\tau - (1-\tau)(1-\pi_A^H))(1-\lambda)\bar{\sigma}_0^1\right]$$

It is straightforward to see that this is increasing in π_A^H, meaning it is decreasing in appointee hawkishness.

Electoral selection is given by

$$\begin{aligned}\Delta_r(\alpha) &= Pr(r=1|\theta=1, a_F=1, \alpha) - Pr(r=1|\theta=0, a_F=1, \alpha) \\ &= \left[\sigma_A \mu^{10} + (1-\sigma_A)\mu^{00}\right] - \left[\sigma_A(\lambda\mu^{00} + (1-\lambda)\bar{\sigma}_0^1\mu^{10}) + (1-\sigma_A)\mu^{00}\right] \\ &= \sigma_A\left[\mu^{10}\left(1-(1-\lambda)\bar{\sigma}_0^1\right) - \lambda\mu^{00}\right]\end{aligned}$$

Appointee independence improves deterrence (that is, $\frac{d\hat{a}(\alpha)}{d\lambda} < 0$) only if $\beta > 1$ and $\lambda \geq \bar{\lambda}$. For $\lambda \in [\bar{\lambda}, 1]$, we have $\bar{\sigma}_0^1 = 1$, which means

$$\Delta_r(\alpha) = \sigma_A\lambda\left[\mu^{10} - \mu^{00}\right] = \sigma_A\lambda\left[\frac{\pi}{\pi + (1-\pi)(1-\lambda)} - \frac{\pi(1-\sigma_A)}{1-\sigma_A+\sigma_A(1-\pi)\lambda}\right]$$

Differentiating with respect to λ gives

$$\sigma_A\left[\mu^{10} - \mu^{00}\right] + \sigma_A\lambda\left[\frac{d\mu^{10}}{d\lambda} - \frac{d\mu^{00}}{d\lambda}\right]$$

We know that $\mu^{10} \geq \mu^{00}$, and that $\frac{d\mu^{10}}{d\lambda} > 0 > \frac{d\mu^{00}}{d\lambda}$, so the whole expression is positive. That is, electoral selection decreases with appointee independence, as λ decreases from 1 to $\bar{\lambda}$.

Next consider the case of a Hawk leader with a weakly hawkish appointee, $\pi_A^H \leq 1$. Policy responsiveness is given by

$$EW_V(\alpha) = \pi\left[\tau + (1-\tau)\pi_A^H\right] + (1-\pi)\left[\tau + (1-\tau)\pi_A^H(1-\lambda)(1-\bar{\sigma}_0^1)\right]$$

which is clearly increasing in π_A^H, or decreasing in the appointee's hawkishness.

Electoral selection is given by

$$\Delta_r(\alpha) = (1-\sigma_A)\left[\mu^{00} - (1-\lambda)(1-\bar{\sigma}_0^0)\mu^{10} - \lambda\mu^{10}\right]$$

Differentiating with respect to the appointee's hawkishness σ_A gives us[14]

$$-\left[\mu^{00} - (1-\lambda)(1-\bar{\sigma}_0^0)\mu^{10} - \lambda\mu^{10}\right] + (1-\sigma_A)\left[-(1-\lambda)(1-\bar{\sigma}_0^0) - \lambda\right]\frac{d\mu^{10}}{d\sigma_A}$$

Since $\mu^{10} = \frac{\pi\sigma_A}{\sigma_A + (1-\sigma_A)(1-\pi)\lambda}$, we can see that $\frac{d\mu^{10}}{d\sigma_A} > 0$, and thus that the whole expression is negative.

[14]Note that under a Hawk leader, $\mu^{00} = \frac{\pi}{\pi+(1-\pi)(1-\lambda)(1-\bar{\sigma}_0^0)}$ is constant in σ_A.

This completes the proof of Result 4. ■

9.4 Appointments

Before proving Results 5 and 6, regarding the leader's optimal appointment, it will first be useful to establish two intermediate lemmas:

Lemma 10 *When $\beta \leq 1$, leaders of both parties will always select $\lambda = 0$.*

Lemma 11 *When $\beta > 1$, leaders of both parties will always select an appointee characterized by either $\lambda = 0$ or $\lambda = 1$.*

In addition, recall from Lemma 7 that for both parties, both leader types will fully pool on the congruent leader's preferred appointment.

The following briefly summarizes some previously derived results, for reference. In general, the leader's expected payoff from appointment α (given that α can support a full-advice CRE, as per Proposition 1) is given by

$$EU_L(\alpha) = \hat{a}_F(\alpha)\left[-\gamma + EW_L + \beta\left(\sigma_A\mu^{10} + (1-\sigma_A)\mu^{00}\right)\right] + (1-\hat{a}_F(\alpha))\left[1 + \beta\mu^{0;a_F=0}\right] \tag{10}$$

where:

- $\hat{a}_F(\alpha) = Pr(a_F = 1|\alpha) = \frac{\overline{\omega}_F - \hat{a}(\alpha) + \hat{a}_0}{\overline{\omega}_F - \underline{\omega}_F}$
- $EW_L = \begin{cases} \tau + (1-\tau)\pi_A, & k = H \\ \tau\pi_A + (1-\tau), & k = D \end{cases}$
- $\hat{a}(\alpha) = \begin{cases} \sigma_A\left(\pi + (1-\pi)(1-\lambda)\bar{\sigma}_0^1\right), & j = D \\ \sigma_A + (1-\sigma_A)(1-\pi)(\lambda + (1-\lambda)\bar{\sigma}_0^0), & j = H \end{cases}$
- $\sigma_A = Pr(s = 1) = \begin{cases} \tau + (1-\tau)(1-\pi_A), & k = H \\ \tau\pi_A, & k = D \end{cases}$
- $\bar{\sigma}_0^0 = Pr(a = 1|\theta = 0, j = H, y = \bar{y}, s = 0) = \begin{cases} 1, & \beta \leq 1 \\ 1 - \frac{\pi(\beta-1)}{(1-\pi)(1-\lambda)}, & \beta > 1 \,\&\, \lambda \leq \bar{\lambda} \\ 0, & \beta > 1 \,\&\, \lambda > \bar{\lambda} \end{cases}$

- $\bar{\sigma}_0^1 = Pr(a=1|\theta=0, j=D, y=\bar{y}, s=1) = \begin{cases} 0, & \beta \leq 1 \\ \frac{\pi(\beta-1)}{(1-\pi)(1-\lambda)}, & \beta > 1 \,\&\, \lambda \leq \bar{\lambda} \\ 1, & \beta > 1 \,\&\, \lambda > \bar{\lambda} \end{cases}$
- $\bar{\lambda} = \frac{1-\beta\pi}{1-\pi}$, where $\bar{\lambda} \in [0,1] \iff \beta \in [1, \frac{1}{\pi}]$
- $\mu^{10} = Pr(\theta=1|a=1, z=0) = \begin{cases} \frac{\pi}{\pi+(1-\pi)(1-\lambda)\bar{\sigma}_0^1}, & j=D \\ \frac{\pi\sigma_A}{\pi\sigma_A+(1-\pi)(\sigma_A+(1-\sigma_A)\lambda)}, & j=H \end{cases}$
- $\mu^{00} = Pr(\theta=1|a=0, z=0) = \begin{cases} \frac{\pi(1-\sigma_A)}{\pi(1-\sigma_A)+(1-\pi)(1-\sigma_A+\sigma_A\lambda)}, & j=D \\ \frac{\pi}{\pi+(1-\pi)(1-\lambda)(1-\bar{\sigma}_0^0)}, & j=H \end{cases}$
- $\mu^{0;a_F=0} = Pr(\theta=1|a_F=0, a=0) = \begin{cases} 1, & k=H \,\&\, \beta \leq 1 \\ \frac{1}{\beta}, & k=H \,\&\, 1<\beta<\frac{1}{\pi} \\ \pi, & k=D \text{ or } \beta \geq \frac{1}{\pi} \end{cases}$
- $\hat{a}_0 = Pr(a=1|a_F=0) = \begin{cases} 1-\pi, & j=H \,\&\, \beta \leq 1 \\ 1-\beta\pi, & j=H \,\&\, \beta \in (1, \frac{1}{\pi}) \\ 0, & j=D \text{ or } \beta \geq \frac{1}{\pi} \end{cases}$

Proof of Lemma 10: As was shown in Lemma 4, when $\beta \leq 1$, the incongruent leader's crisis subgame strategy is unaffected by appointee independence: regardless of what information the appointee reveals to the voter, the policy gains that the incongruent leader enjoys from taking his ideologically-preferred policy always outweigh the electoral costs. The congruent leader's crisis subgame strategy is generally unaffected by λ. But we can see that the congruent leader's electoral prospects,

$$E[r|\theta=1, a_F=1, \alpha] = \begin{cases} \sigma_A + (1-\sigma_A)\frac{\pi(1-\sigma_A)}{1-\sigma_A+\sigma_A(1-\pi)\lambda}, & k=D \\ (1-\sigma_A) + \sigma_A\frac{\pi\sigma_A}{\sigma_A+(1-\sigma_A)(1-\pi)\lambda}, & k=H \end{cases}$$

are strictly decreasing in λ. So when $\beta \leq 1$, a fully independent appointee is unambiguously in the congruent leader's best interest. ■

Proof of Lemma 11: We will prove the lemma separately for the case of the Dove leader and the Hawk leader.

Case 1. Dove leader. First observe the following:

- When $\lambda \leq \bar{\lambda}$, we have $\frac{d\mu^{10}}{d\lambda} = 0$
- When $\lambda > \bar{\lambda}$, we have:

$$\mu^{10} = \frac{\pi}{1 - \lambda(1 - \pi)}$$
$$\frac{d\mu^{10}}{d\lambda} = \frac{\pi(1 - \pi)}{[1 - \lambda(1 - \pi)^2]} > 0$$
$$\frac{d^2\mu^{10}}{d\lambda^2} = \frac{2\pi(1 - \pi)^2}{[1 - \lambda(1 - \pi)^3]} > 0$$

- For any λ, we have:

$$\mu^{00} = \frac{\pi(1 - \sigma_A)}{\pi(1 - \sigma_A) + (1 - \pi)(1 - \sigma_A + \sigma_A\lambda)}$$
$$\frac{d\mu^{00}}{d\lambda} = \frac{-\pi(1 - \pi)\sigma_A(1 - \sigma_A)}{[\pi(1 - \sigma_A) + (1 - \pi)(1 - \sigma_A + \sigma_A\lambda)]^2} < 0$$
$$\frac{d^2\mu^{00}}{d\lambda^2} = \frac{2\pi(1 - \pi)^2\sigma_A^2(1 - \sigma_A)}{[\pi(1 - \sigma_A) + (1 - \pi)(1 - \sigma_A + \sigma_A\lambda)]^3} > 0$$

Differentiating (10) with respect to λ gives us:

$$\frac{dEU_L(\alpha)}{d\lambda} = \frac{d\hat{a}_F(\alpha)}{d\lambda}\left[-\gamma - 1 + EW_L + \beta\left(\sigma_A\mu^{10} + (1 - \sigma_A)\mu^{00} - \pi\right)\right] + \hat{a}_F(\alpha)\beta\left(\sigma_A\frac{d\mu^{10}}{d\lambda} + (1 - \sigma_A)\frac{d\mu^{00}}{d\lambda}\right)$$

When $\lambda \leq \bar{\lambda}$, we have that $\frac{d\hat{a}_F(\alpha)}{d\lambda} = 0$ and $\frac{d\mu^{10}}{d\lambda} = 0$, so the whole expression $\frac{dEU_L(\alpha)}{d\lambda} < 0$. Thus $\lambda = 0$ dominates any $\lambda \in (0, \bar{\lambda}]$.

When $\lambda > \bar{\lambda}$, we have

$$\frac{d^2EU_L(\alpha)}{d\lambda^2} = 2\left(\frac{d\hat{a}_F(\alpha)}{d\lambda}\right)\beta\left(\sigma_A\frac{d\mu^{10}}{d\lambda} + (1 - \sigma_A)\frac{d\mu^{00}}{d\lambda}\right) + \hat{a}_F(\alpha)\beta\left(\sigma_A\frac{d^2\mu^{10}}{d\lambda^2} + (1 - \sigma_A)\frac{d^2\mu^{00}}{d\lambda^2}\right)$$

The second term is positive, and the first term is positive iff

$$\sigma_A\frac{d\mu^{10}}{d\lambda} + (1 - \sigma_A)\frac{d\mu^{00}}{d\lambda} > 0$$

Plugging in terms and simplifying, we see that this is always satisfied. Thus altogether we have that $\lambda = 0$ dominates any $\lambda \in (0, \bar{\lambda}]$, and that $\frac{d^2EU_L(\alpha)}{d\lambda^2} > 0$ for $\lambda \in \left[\bar{\lambda}, 1\right]$, which means that the optimal λ will either be $\lambda = 0$ or $\lambda = 1$.

Case 2. Hawk leader. First observe the following:

- When $\lambda \leq \bar{\lambda}$, we have $\frac{d\mu^{00}}{d\lambda} = 0$
- When $\lambda > \bar{\lambda}$, we have:

$$\begin{aligned}
\mu^{00} &= \frac{\pi}{1-\lambda(1-\pi)} \\
\frac{d\mu^{00}}{d\lambda} &= \frac{\pi(1-\pi)}{[1-\lambda(1-\pi)]^2} = \left(\frac{1-\pi}{[1-\lambda(1-\pi)]}\right)\mu^{00} > 0 \\
\frac{d^2\mu^{00}}{d\lambda^2} &= \frac{2\pi(1-\pi)^2}{[1-\lambda(1-\pi)]^3} = \left(\frac{2(1-\pi)^2}{[1-\lambda(1-\pi)]^2}\right)\mu^{00} > 0
\end{aligned}$$

- For any λ, we have:

$$\begin{aligned}
\mu^{10} &= \frac{\pi\sigma_A}{\sigma_A + (1-\pi)(1-\sigma_A)\lambda} \\
\frac{d\mu^{10}}{d\lambda} &= \frac{-\pi\sigma_A(1-\pi)(1-\sigma_A)}{[\sigma_A + (1-\pi)(1-\sigma_A)\lambda]^2} = \left(\frac{-(1-\pi)(1-\sigma_A)}{[\sigma_A + (1-\pi)(1-\sigma_A)\lambda]}\right)\mu^{10} < 0 \\
\frac{d^2\mu^{10}}{d\lambda^2} &= \frac{2\pi\sigma_A(1-\pi)^2(1-\sigma_A)^2}{[\sigma_A + (1-\pi)(1-\sigma_A)\lambda]^3} = \left(\frac{2(1-\pi)^2(1-\sigma_A)^2}{[\sigma_A + (1-\pi)(1-\sigma_A)\lambda]^2}\right)\mu^{10} > 0
\end{aligned}$$

Differentiating (10) with respect to λ gives us:

$$\frac{dEU_L(\alpha)}{d\lambda} = \frac{d\hat{a}_F(\alpha)}{d\lambda}\left[-\gamma - 1 + EW_L + \beta\left(\sigma_A\mu^{10} + (1-\sigma_A)\mu^{00} - \mu^{0;a_F=0}\right)\right] + \hat{a}_F(\alpha)\beta\left(\sigma_A\frac{d\mu^{10}}{d\lambda} + (1-\sigma_A)\frac{d\mu^{00}}{d\lambda}\right)$$

When $\lambda \leq \bar{\lambda}$, we have that $\frac{d\hat{a}_F(\alpha)}{d\lambda} = 0$ and $\frac{d\mu^{00}}{d\lambda} = 0$, so the whole expression $\frac{dEU_L(\alpha)}{d\lambda} < 0$. Thus $\lambda = 0$ dominates any $\lambda \in (0, \bar{\lambda}]$.

When $\lambda > \bar{\lambda}$, we have

$$\begin{aligned}
\frac{d^2EU_L(\alpha)}{d\lambda^2} &= 2\left(\frac{d\hat{a}_F(\alpha)}{d\lambda}\right)\beta\left[\sigma_A\frac{d\mu^{10}}{d\lambda} + (1-\sigma_A)\frac{d\mu^{00}}{d\lambda}\right] + \hat{a}_F(\alpha)\beta\left[\sigma_A\frac{d^2\mu^{10}}{d\lambda^2} + (1-\sigma_A)\frac{d^2\mu^{00}}{d\lambda^2}\right] \\
&= \frac{2\beta}{\overline{\omega}_F - \underline{\omega}_F}\left\{\begin{array}{l}
-(1-\pi)(1-\sigma_A)\left[\sigma_A\left(\frac{-(1-\pi)(1-\sigma_A)}{[\sigma_A+(1-\pi)(1-\sigma_A)\lambda]}\right)\mu^{10} + (1-\sigma_A)\left(\frac{1-\pi}{[1-\lambda(1-\pi)]}\right)\mu^{00}\right] \\
+(\overline{\omega}_F - \hat{a}(\alpha) + \hat{a}_0)\left[\sigma_A\left(\frac{(1-\pi)^2(1-\sigma_A)^2}{[\sigma_A+(1-\pi)(1-\sigma_A)\lambda]^2}\right)\mu^{10} + (1-\sigma_A)\left(\frac{(1-\pi)^2}{[1-\lambda(1-\pi)]^2}\right)\mu^{00}\right]
\end{array}\right\}
\end{aligned}$$

Observe that $(\overline{\omega}_F - \hat{a}(\alpha) + \hat{a}_0) \geq 1 - \hat{a}(\alpha) = (1-\sigma_A)(1-\lambda(1-\pi))$, and that the term in the square brackets multiplying this term is positive. So the quantity above is

$$\geq \frac{2\beta(1-\pi)^2(1-\sigma_A)^2}{\overline{\omega}_F - \underline{\omega}_F} \left\{ \begin{array}{r} -\left[\sigma_A \left(\frac{-1}{[\sigma_A + (1-\pi)(1-\sigma_A)\lambda]}\right)\mu^{10} + \left(\frac{1}{[1-\lambda(1-\pi)]}\right)\mu^{00}\right] \\ +(1-\lambda(1-\pi))\left[\sigma_A \left(\frac{(1-\sigma_A)}{[\sigma_A + (1-\pi)(1-\sigma_A)\lambda]^2}\right)\mu^{10} + \left(\frac{1}{[1-\lambda(1-\pi)]^2}\right)\mu^{00}\right] \end{array} \right\}$$

which we can see is always positive.

Altogether, as in the case of the Dove leader, we have that $\lambda = 0$ dominates any $\lambda \in (0, \bar{\lambda}]$; and that for $\lambda > \bar{\lambda}$, the second derivative of $EU_L(\alpha)$ with respect to λ is positive; which together imply that the optimal λ is either $\lambda = 0$ or $\lambda = 1$.

This completes the proof of Lemma 11. ■

Proof of Result 5: This result invokes a series of claims, which we will enumerate and prove separately.

Claim 3 *Leaders of either party will never appoint a dovishly biased agent.*

Claim 4 *Leaders of either party will appoint a hawkishly biased agent if the value of deterrence is sufficiently high.*

Claim 5 *More experienced leaders are less likely to appoint biased agents; or, more precisely: the range of parameter values in which a leader will select some biased appointee rather a fully unbiased appointee is (weakly) decreasing in the leader's expertise ϕ.*

Proof of Claim 3: We will prove this claim by showing that for congruent leaders of either party, the derivative of $EU_L(\alpha)$ with respect to π_A^D is strictly positive for all $\pi_A^D \in \left[\hat{\pi}_A^{D,info}, 1\right]$. (Recall that Proposition 1 showed that leaders will only select appointees with bias within this range.) This means that an unbiased appointment $\pi_A = 1$ strictly dominates any dovishly-biased appointment $\pi_A^D < 1$.

For notational convenience, let

$$Q = -\gamma + EW_L + \beta\left(\sigma_A \mu^{10} + (1-\sigma_A)\mu^{00}\right)$$

and also let $\mu_{a0} = \mu^{a0} = Pr(\theta = 1 | a_F = 1, a, z = 0)$, so that $\mu'_{a0} = \frac{d\mu^{a0}}{d\pi_A}$. Note that for $\pi_A^D \in \left[\hat{\pi}_A^{D,info}, 1\right]$, we have $\sigma_A = \tau\pi_A$, $EW_L = 1 - \tau + \tau\pi_A$, and $\frac{d\sigma_A}{d\pi_A} = \frac{dEW_L}{d\pi_A} = \tau$.

For congruent leaders of either party, for $\pi_A^D \in \left[\hat{\pi}_A^{D,info}, 1\right]$:

$$\begin{aligned}
EU_L(\alpha) &= \hat{a}_F(\alpha)Q + (1 - \hat{a}_F(\alpha))(1 + \beta\mu^{0;a_F=0}) \\
\frac{dEU_L(\alpha)}{d\pi_A} &= \hat{a}_F'(Q - 1 - \beta\mu^{0;a_F=0}) + \hat{a}_F Q' \\
&= \hat{a}_F' \left[-\gamma - (1 - EW_L) + \beta(\sigma_A\mu_{10} + (1-\sigma_A)\mu_{00} - \mu^{0;a_F=0})\right] \\
&\quad + \hat{a}_F \left[EW_L' + \beta\left(\sigma_A\mu_{10}' + \sigma_A'\mu_{10} + (1-\sigma_A)\mu_{00}' - \sigma_A'\mu_{00}\right)\right] \\
&= \hat{a}_F' \left[-\gamma - \tau(1-\pi_A) + \beta(\sigma_A\mu_{10} + (1-\sigma_A)\mu_{00} - \mu^{0;a_F=0})\right] \\
&\quad + \hat{a}_F \left[\tau + \beta\left(\sigma_A\mu_{10}' + \tau\mu_{10} + (1-\sigma_A)\mu_{00}' - \tau\mu_{00}\right)\right]
\end{aligned}$$

For a Dove leader, we have

- $\hat{a}(\alpha) = \sigma_A(\pi + (1-\pi)(1-\lambda)\bar{\sigma}_0^1)$, so $\frac{d\hat{a}(\alpha)}{d\pi_A} > 0$.
- $\mu^{10} = \frac{\pi}{\pi + (1-\pi)(1-\lambda)\bar{\sigma}_0^1}$, so $\frac{d\mu^{10}}{d\pi_A} = 0$
- when $\lambda = 0$, $\mu^{00} = \pi$, so $\frac{d\mu^{00}}{d\pi_A} = 0$
- when $\lambda = 1$: first note that $\frac{d\mu^{00}}{d\pi_A} = \frac{d\mu^{00}}{d\sigma_A}\frac{d\sigma_A}{d\pi_A}$, and $\frac{d\sigma_A}{d\pi_A} = \tau$ for $\pi_A^D \leq 1$. So $\mu^{00} = \frac{\pi(1-\sigma_A)}{1-\pi\sigma_A}$, and $\frac{d\mu^{00}}{d\pi_A} = \frac{-\pi(1-\pi)\tau}{(1-\pi\sigma_A)^2}$.

So, for a Dove leader:

$$\begin{aligned}
\frac{dEU_L(\alpha)}{d\pi_A} &= \hat{a}_F' \left[-\gamma - \tau(1-\pi_A) + \beta(\sigma_A\mu_{10} + (1-\sigma_A)\mu_{00} - \pi)\right] \\
&\quad + \hat{a}_F \left[\tau + \beta\left(\tau\mu_{10} + (1-\sigma_A)\mu_{00}' - \tau\mu_{00}\right)\right]
\end{aligned}$$

We can show that each of the two terms above is positive. For the first term, note that $\hat{a}_F' < 0$, because $\hat{a}' > 0$. The quantity inside the square brackets is

$$\leq -\gamma + \beta\left(\sigma_A + (1-\sigma_A)\pi - \pi\right) \leq -\gamma + \beta\tau(1-\pi)$$

which we know is negative, given the lower bound on γ imposed by Assumption 1 (Parameter restrictions). For the second term: when $\lambda = 0$, that term reduces to $\hat{a}_F[\tau + \beta\tau(\mu_{10} - \mu_{00})]$, which is clearly positive. When $\lambda = 1$, the term inside the second set of square brackets becomes

$$\begin{aligned}
&\tau + \beta(\tau + (1-\sigma_A)\mu'_{00} - \tau\mu_{00}) \\
&= \tau + \beta(\tau - \frac{(1-\pi)\tau}{1-\pi\sigma_A}\mu_{00} - \tau\mu_{00}) \\
&= \tau + \beta\tau(1 - \mu_{00}(1-\mu_{00}) - \mu_{00}) = \tau + \beta\tau(1-\mu_{00})^2
\end{aligned}$$

which we know is positive, because the existence of the full-advice CRE with $\alpha = (\pi_A^D < 1, \lambda = 1)$ implies that $\beta(1-\mu_{00}) < 1$. Altogether, this shows that for a Dove leader, an appointment $\pi_A = 1$ dominates any appointment $\pi_A^D < 1$.

Next, for a Hawk leader:

- $\hat{a}(\alpha) = \sigma_A + (1-\sigma_A)(1-\pi)(\lambda + (1-\lambda)\bar{\sigma}_0^0)$, so $\frac{d\hat{a}(\alpha)}{d\pi_A} > 0$.
- $\mu^{00} = \frac{\pi}{\pi+(1-\pi)(1-\lambda)(1-\bar{\sigma}_0^0)}$, so $\frac{d\mu^{00}}{d\pi_A} = 0$
- when $\lambda = 0$, $\mu^{10} = \pi$, so $\frac{d\mu^{10}}{d\pi_A} = 0$
- when $\lambda = 1$, we have $\mu^{10} = \frac{\pi\sigma_A}{\pi\sigma_A+(1-\pi)}$, and $\frac{d\mu^{10}}{d\pi_A} = \frac{\pi(1-\pi)\tau}{(\pi\sigma_A+(1-\pi))^2}$.
- from Lemma 1, we know that $\mu^{0;a_F=0} \in [\pi, 1]$.

So, for a Hawk leader:

$$\begin{aligned}
\frac{dEU_L(\alpha)}{d\pi_A} &= \hat{a}'_F\left[-\gamma - \tau(1-\pi_A) + \beta(\sigma_A\mu_{10} + (1-\sigma_A)\mu_{00} - \mu^{0;a_F=0})\right] \\
&\quad + \hat{a}_F\left[\tau + \beta\left(\sigma_A\mu'_{10} + \tau\mu_{10} - \tau\mu_{00}\right)\right]
\end{aligned}$$

We can show that each of the two terms above is positive. For the first term, again note that $\hat{a}'_F < 0$, because $\hat{a}' > 0$. The quantity inside the square brackets is

$$\leq -\gamma + \beta\left(\sigma_A\mu_{10} + (1-\sigma_A) - \pi\right)$$

which we know is negative, given the lower bound on γ imposed by Assumption 1 (Parameter restrictions). For the second term: when $\lambda = 0$, that term reduces to $\hat{a}_F[\tau + \beta\tau(\pi - \mu_{00})] \geq \hat{a}_F\tau[1-\beta(1-\pi)]$, which we know is positive, given the upper bound on β imposed by Assumption 1.

When $\lambda = 1$, the term inside the second set of square brackets is

$$\begin{aligned}
&\tau + \beta(\sigma_A \mu_{10}' + \tau\mu_{10} - \tau) \\
&= \tau[1 + \beta(\mu_{10}(1-\mu_{10}) + \mu_{10} - 1)] \\
&= \tau[1 - \beta(1-\mu_{10})^2]
\end{aligned}$$

which we know is positive, because the existence of the full-advice CRE with $\alpha = (\pi_A^D < 1, \lambda = 1)$ implies that $\beta(1 - \mu_{10}) < 1$. Altogether, this shows that for a Dove leader, an appointment $\pi_A = 1$ dominates any appointment $\pi_A^D < 1$.

This completes the proof of Claim 3. ■

Proof of Claim 4: Since we know from Claim 3 that no leader will ever select a dovishly-biased appointment, all we need to show for this claim is that, for sufficiently large γ, the derivative of (10) with respect to π_A^H is negative when evaluated at $\pi_A^H = 1$.

Adopting the notation from the previous proof, we have

$$\begin{aligned}
Q &= -\gamma + EW_L + \beta\left(\sigma_A\mu^{10} + (1-\sigma_A)\mu^{00}\right) \\
EU_L(\alpha) &= \hat{a}_F(\alpha)Q + (1 - \hat{a}_F(\alpha))(1 + \beta\mu^{0;a_F=0}) \\
\frac{dEU_L(\alpha)}{d\pi_A^H} &= \hat{a}_F'(Q - 1 - \beta\mu^{0;a_F=0}) + \hat{a}_F Q'
\end{aligned}$$

which we can clearly see is strictly decreasing in γ, with a limit of $-\infty$ as $\gamma \to \infty$. ■

Proof of Claim 5: On the path of play of the full-advice CRE of the crisis subgame (and in the non-crisis subgame characterized in Lemma 1), the leader never relies on his own private signal to determine his action. The only way that the leader's expertise ϕ factors into his ex-ante expected payoff is in setting the bounds of the kinds of agents whose advice can be followed in a full-advice CRE: as ϕ increases, so does $\hat{\pi}_A^{k,info}$, meaning that the agent must be less biased in order to remain informative, as per Definition 4. Thus there may be an uninformatively biased appointment that a leader would wish to make, if he could commit to following her (uninformatively biased) advice; but he cannot commit to doing so, and instead is better off selecting an unbiased appointee whose advice he will want to follow. In contrast, if the leader had lower expertise, the same appointee would be informative (relative to his lower expertise), so he could actually commit to following that appointee's advice.

More precisely: observe that for a Dove leader, the second derivative of $EU_L(\alpha)$ with respect to π_A^H is always positive, meaning that the leader will always choose either the most hawkishly biased appointee whose advice can be followed in a full-advice CRE, or a fully unbiased appointee. Also observe that the difference between the leader's expected payoffs from the biased appointee vs. the unbiased appointee is continuously increasing in γ. Suppose that with the most hawkish informative appointee possible, $\pi_A = \hat{\pi}_A^{H,info}$, the leader's incentive-compatibility condition for the full-advice CRE is satisfied, $\beta(1-\mu^{00}) < 1$. There exists a range of γ such that the leader prefers the unbiased appointee over the biased appointee (because the deterrent benefit of appointee bias does not outweigh the policy distortion costs); but if ϕ were lower, so $\hat{\pi}_A^{H,info}$ were lower, then the leader would prefer the biased appointee over the unbiased appointee.

■

This completes the proof of Result 5. ■

Proof of Result 6: This result invokes a series of claims, which we will enumerate and prove separately.

Claim 6 *A Dove leader will appoint an independent agent if the value of deterrence is sufficiently high.*

Claim 7 *A Hawk leader may appoint an independent agent, even when doing so will undermine deterrence.*

Claim 8 *Under otherwise symmetrical conditions (specifically, $\tau = \frac{1}{2}$ and $\pi_A = 1$), Hawk leader is strictly less likely than a Dove leader to appoint an independent agent.*

Claim 9 *A leader of either party will appoint an independent agent if and only if electoral incentives are low.*

Proof of Claim 6: Lemma 10 showed that this result holds for any γ when $\beta \leq 1$. When $\beta > 1$, the result follows simply from taking the difference $E[U_L(\lambda = 0, \pi_A^H)] - E[U_L(\lambda = 1, \pi_A^H)]$ for a congruent Dove leader for any $\pi_A^H \in [\hat{\pi}_A^H, 1]$, and seeing that the difference is increasing in γ, with a limit of $+\infty$ as $\gamma \to +\infty$. ■

Proof of Claim 7: To prove Claim 7, we will consider the case of $\beta \in (1, \frac{1}{\pi})$: in this case, $\lambda = 0$ does undermine deterrence relative to $\lambda = 1$, because the appointee's threat of protest disciplines the incongruent leader to sometimes follow her advice of $s = 0$, whereas he would otherwise ignore that advice. From (10) it follows directly that

$$\begin{aligned}
EU_L(\lambda = 0) - EU_L(\lambda = 1) &= (\hat{a}_F(\lambda = 0) - \hat{a}_F(\lambda = 1))[-\gamma - 2 + EW_L] \\
&\quad + \beta \left\{ \hat{a}_F(\lambda = 0) \left[\sigma_A \pi + (1 - \sigma_A)\frac{1}{\beta} \right] - \hat{a}_F(\lambda = 1) \left[\sigma_A \mu^{10} + (1 - \sigma_A) \right] \right\} \\
&= \frac{\hat{a}(\lambda = 0) - \hat{a}(\lambda = 1)}{\overline{\omega}_F - \underline{\omega}_F}[-\gamma - 2 + EW_L] \\
&\quad + \frac{\beta}{\overline{\omega}_F - \underline{\omega}_F} \left\{ \begin{array}{c} (\overline{\omega}_F - \hat{a}_{a_F=0}) \left[\sigma_A \pi + (1 - \sigma_A)\frac{1}{\beta} - \sigma_A \mu^{10} - (1 - \sigma_A) \right] \\ -\hat{a}(\lambda = 0) \left[\sigma_A \pi + (1 - \sigma_A)\frac{1}{\beta} \right] + \hat{a}(\lambda = 1) \left[\sigma_A \mu^{10} + (1 - \sigma_A) \right] \end{array} \right\}
\end{aligned}$$

For sufficiently large $\overline{\omega}_F$, this quantity is positive whenever

$$\sigma_A \pi + (1 - \sigma_A)\frac{1}{\beta} - \sigma_A \mu^{10} - (1 - \sigma_A) > 0$$

where $\mu^{10} = \frac{\pi \sigma_A}{\pi \sigma_A + 1 - \pi} < \pi$. LHS of this expression is decreasing in β, and crosses zero for some $\beta > 1$. This means that there exist conditions under which the Hawk leader will select $\lambda = 0$ over $\lambda = 1$, despite the fact that $\lambda = 0$ undermines deterrence. ■

Proof of Claim 8: As shown in Lemma 10, when $\beta \leq 1$, both the Hawk and Dove leaders will always prefer $\lambda = 1$ over $\lambda = 0$. Next, it is straightforward to show that when $\beta \geq \frac{1}{\pi}$, the Hawk leader will never prefer $\lambda = 0$ over $\lambda = 1$,[15] whereas the Dove leader will if γ is sufficiently high.[16] Finally, to consider the case of $\beta \in (1, \frac{1}{\pi})$: we will derive $\text{Diff}^D = EU_L^D(\lambda = 0) - EU_L^D(\lambda = 1)$, the Dove leader's expected payoff from selecting an independent agent over a loyal one (given $\tau = \frac{1}{2}$ and $\pi_A = 1$, which give us the "otherwise symmetrical conditions" stated in the result), and likewise Diff^H; then we will show that $\text{Diff}^H < \text{Diff}^D$, meaning that the conditions under which a Hawk leader prefers an independent agent are a strict subset of the conditions under which a Dove leader prefers an independent agent.

[15]For the Hawk leader, when $\beta \geq \frac{1}{\pi}$, the independent appointee induces full pooling by the incongruent leader; this both undermines deterrence, and eliminates any electoral advantage that the congruent Hawk might otherwise enjoy in the event of deterrence failure.

[16]When $\beta \geq \frac{1}{\pi}$, $EU_L^D(\lambda = 0) - EU_L^D(\lambda = 1)$ is strictly increasing in γ, with a limit of $+\infty$ as $\gamma \to +\infty$.

First note the following, when $\tau = \frac{1}{2}$ and $\pi_A = 1$ and $\beta \in (1, \frac{1}{\pi})$:

- $\mu^{00} = Pr(\theta = 1 | a = 0, z = 0) = \begin{cases} \pi, & j = D \& \lambda = 0 \\ \hat{\mu} = \frac{\pi}{2-\pi}, & j = D \& \lambda = 1 \\ \frac{1}{\beta}, & j = H \& \lambda = 0 \\ 1, & j = H \& \lambda = 1 \end{cases}$

- $\mu^{10} = Pr(\theta = 1 | a = 1, z = 0) = \begin{cases} \frac{1}{\beta}, & j = D \& \lambda = 0 \\ 1, & j = D \& \lambda = 1 \\ \pi, & j = H \& \lambda = 0 \\ \hat{\mu}, & j = H \& \lambda = 1 \end{cases}$

- $\hat{a}_F = \frac{\overline{\omega}_F - \hat{a}(\alpha) - \hat{a}_0}{\overline{\omega}_F - \underline{\omega}_F}$, where $\hat{a}(\alpha) = \begin{cases} \beta\pi\sigma_A, & j = D \& \lambda = 0 \\ \pi\sigma_A, & j = D \& \lambda = 1 \\ 1 - \beta\pi(1 - \sigma_A), & j = H \& \lambda = 0 \\ 1 - \pi(1 - \sigma_A), & j = H \& \lambda = 1 \end{cases}$ and $\hat{a}_0 = \begin{cases} 1 - \beta\pi, & j = H \\ 0, & j = D \end{cases}$

Letting $\hat{a}_F^j(\lambda)$ denote $Pr(a_F = 1 | j, \lambda)$, we can see that

$$\hat{a}_F^D(1) - \hat{a}_F^D(0) = \hat{a}_F^H(0) - \hat{a}_F^H(1) = \frac{\frac{1}{2}\pi(\beta - 1)}{\overline{\omega}_F - \underline{\omega}_F}$$

and further, that $\hat{a}_F^D(0) = \hat{a}_F^H(0) = \hat{a}_F(0)$, and therefore,

$$\hat{a}_F^D(1) - \hat{a}_F^H(1) = \frac{\pi(\beta - 1)}{\overline{\omega}_F - \underline{\omega}_F}$$

Plugging in terms into (10), we can also see that

$$EU_L^D(a_F = 1; \lambda = 1) = EU_L^H(a_F = 1; \lambda = 1) = -\gamma + 1 + \frac{1}{2}\beta(\hat{\mu} + 1)$$

and

$$EU_L^D(a_F = 1; \lambda = 0) = EU_L^H(a_F = 1; \lambda = 0) = -\gamma + 1 + \frac{1}{2}\beta(\frac{1}{\beta} + \pi)$$

So, altogether, we have:

$$
\begin{aligned}
EU_L^D(\lambda = 0) &= (1 - \hat{a}_F^D(0)) \left(1 + \beta\mu_D^{0;a_F=0}\right) + \hat{a}_F^D(0) EU_L^D(a_F = 1; \lambda = 0) \\
EU_L^D(\lambda = 1) &= (1 - \hat{a}_F^D(1)) \left(1 + \beta\mu_D^{0;a_F=0}\right) + \hat{a}_F^D(1) EU_L^D(a_F = 1; \lambda = 1) \\
\text{Diff}^D &= EU_L^D(\lambda = 0) - EU_L^D(\lambda = 1) \\
&= \left[\hat{a}_F^D(1) - \hat{a}_F^D(0)\right] \left(1 + \beta\mu_D^{0;a_F=0}\right) + \hat{a}_F^D(0) EU_L(a_F = 1; \lambda = 0) - \hat{a}_F^D(1) EU_L(a_F = 1; \lambda = 1) \\
EU_L^H(\lambda = 0) &= (1 - \hat{a}_F^H(0)) \left(1 + \beta\mu_H^{0;a_F=0}\right) + \hat{a}_F^H(0) EU_L^H(a_F = 1; \lambda = 0) \\
EU_L^H(\lambda = 1) &= (1 - \hat{a}_F^H(1)) \left(1 + \beta\mu_H^{0;a_F=0}\right) + \hat{a}_F^H(1) EU_L^H(a_F = 1; \lambda = 1) \\
\text{Diff}^H &= EU_L^H(\lambda = 0) - EU_L^H(\lambda = 1) \\
&= \left[\hat{a}_F^H(1) - \hat{a}_F^H(0)\right] \left(1 + \beta\mu_H^{0;a_F=0}\right) + \hat{a}_F^H(0) EU_L(a_F = 1; \lambda = 0) - \hat{a}_F^H(1) EU_L(a_F = 1; \lambda = 1)
\end{aligned}
$$

$$
\begin{aligned}
\text{Diff}^D - \text{Diff}^H &= \frac{\frac{1}{2}\pi(\beta - 1)}{\overline{\omega}_F - \underline{\omega}_F} \left[\left(1 + \beta\mu_H^{0;a_F=0}\right) + \left(1 + \beta\mu_D^{0;a_F=0}\right)\right] - EU_L(a_F = 1; \lambda = 1) \left[\frac{\pi(\beta - 1)}{\overline{\omega}_F - \underline{\omega}_F}\right] \\
&= \frac{\pi(\beta - 1)}{\overline{\omega}_F - \underline{\omega}_F} \left[1 + \frac{1}{2}\beta\left(\frac{1}{\beta} + \pi\right) + \gamma - 1 - \frac{1}{2}\beta(1 + \hat{\mu})\right] \\
&= \frac{\pi(\beta - 1)}{\overline{\omega}_F - \underline{\omega}_F} \left[\frac{1}{2}\beta\left(\frac{1}{\beta} + \pi - 1 - \hat{\mu}\right) + \gamma\right]
\end{aligned}
$$

Given the assumption that $\gamma > \beta(1 - \pi)$, the quantity inside the square brackets is

$$
\geq \frac{1}{2}\beta\left(\frac{1}{\beta} + \pi - \frac{2}{2 - \pi}\right) + \beta(1 - \pi)
$$

Which we can clearly see is strictly positive for $\beta \in (1, \frac{1}{\pi})$. ■

This completes the proof of Result 6. ■

10 Empirical Illustrations

10.1 US Secretaries of Defense

Table A5 reports the years of service and partisan affiliation of all secretaries of defense. The last column, "Partisan", denotes whether the appointee held elected office or worked in party politics prior to his appointment as secretary of defense. The data in this table were collected from the Historical Office of the Office of the Secretary of Defense,[17] from Flynn (2014), and from Nyrup and Bramwell (2020).

The main text highlighted the top-line findings regarding asymmetries in cross-partisan and non-partisan appointments, but there are other subtler patterns worth noting. When Democrats do appoint co-partisans to the office, those appointees are often known to be more hawkish than the appointing leaders. Les Aspin, the former Democratic chair of the House Armed Services Committee who served as Clinton's first secretary of defense, had previously been voted out of his chairmanship by fellow Democrats for being too supportive of the Reagan administration's foreign policy (Balzar and Getlin, 1987). Ash Carter, a Democrat who served as Obama's fourth defense secretary, was understood to favor a more assertive foreign policy stance than his boss (Cooper, Sanger, and Landler, 2014). Harold Brown was "regarded as moderate-to-conservative on many defense budget issues and a cautious advocate of arms control" upon his appointment as Jimmy Carter's defense secretary in 1976—a reputation fostered in part through his previous tenures as an arms negotiator under Kissinger, and as Secretary of the Air Force overseeing the escalation of the bombing campaign early in the Vietnam War (Gelb, 1976). When Clark Clifford was selected by Johnson to replace Kennedy's republican appointee Robert McNamara, "Many regarded the new secretary as more of a hawk on Vietnam than McNamara and thought his selection might presage an escalation of the U.S. military effort there."[18]

While the patterns of biased and independent appointments are perhaps most stark for the office of secretary of defense, casual observation suggests that a similar logic applies to other high-level foreign policy appointments as well. Secretaries of State Hillary Clinton and Madeline Albright were both widely viewed as more hawkish than their appointing presidents (Newsweek Staff, 1996; Becker and Shane, 2016); Secretary Clinton, of course, also held independent political aspirations which may well have been served by resigning her post on principled grounds, should

[17] https://history.defense.gov/DOD-History/Secretaries-of-Defense/

[18] `https://history.defense.gov/Multimedia/Biographies/Article-View/Article/571292/clark-m-clifford/`

Table A5: Partisan affiliations of US secretaries of defense

President (Party)	SecDef	Years	SecDef Party	Partisan
Truman (D)	Forrestal	1947-1949	D	
	Johnson	1949-1950	D	✓
	Marshall	1950-1951	I	
	Lovett	1951-1953	R	
Eisenhower (R)	Wilson	1953-1957	R	
	McElroy	1957-1959	R	
	Gates	1959-1961	R	
Kennedy / Johnson (D)	McNamara	1961-1968	R	
	Clifford	1968	D	
Nixon / Ford (R)	Laird	1969-1973	R	✓
	Richardson	1973	R	✓
	Schlesinger	1973-1975	R	
	Rumsfeld	1975-1976	R	✓
Carter (D)	Brown	1977-1980	D	
Reagan (R)	Weinberger	1981-1987	R	✓
	Carlucci	1987-1988	R	
Bush (R)	Cheney	1989-1992	R	✓
Clinton (D)	Aspin	1993-1994	D	✓
	Perry	1994-1997	I	
	Cohen	1997-2000	R	✓
Bush (R)	Rumsfeld	2001-2006	R	✓
	Gates	2006-2011	R	
Obama (D)	Gates	2006-2011	R	
	Panetta	2011-2013	D	✓
	Hagel	2013-2015	R	✓
	Carter	2015-2016	D	
Trump (R)	Mattis	2017-2018	I	
	Esper	2019-2020	R	✓
Biden (D)	Austin	2021-	I	

the opportunity have arisen. Carter appointed former Nixon defense secretary James Schlesinger to head the newly created Department of Energy and help implement a set of internationally and domestically controversial energy policy reforms. Kennedy's foreign policy team included Republicans in the posts of treasury secretary and national security advisor, in addition to secretary of defense; for prominent ambassadorships in South Vietnam and West Germany, Kennedy and later Johnson appointed Henry Cabot Lodge Jr., the Republican senator and 1960 vice presidential nominee. Obama's first national security advisor, Jim Jones, held no political ties to Obama—the two had only met twice before his appointment—and was known to have turned down a prior appointment under Secretary of Defense Donald Rumsfeld because he perceived Rumsfeld as having unduly politicized the process of military advising (Crowley, 2008).

10.2 Cross-National Data

Here we provide further details on the data used in the cross-national empirics from Section 4.

10.2.1 Data sources and coding

The analysis draws on three data sources:

- The WhoGov data, by Nyrup and Bramwell (2020), is structured at the cabinet member-year level, covering 177 countries from 1963–2021.
- The Manifesto Project, by Volkens, Burst, Krause, Lehmann, Matthieß, Regel, Weßels, and Zehnter (2021), is structured at the party-election level, covering 67 countries from 1920–2022.
- The NELDA dataset, by Hyde and Marinov (2012), is structured at the election level, covering 195 countries from 1945–2020.

The first step in the analysis is to construct a party-election index of hawkishness, from the variables coded in the Manifesto data. Specifically we use the following variables (with descriptions copied from the Manifesto Project codebook):

- `per101`: Foreign Special Relationships: Positive
  - Favourable mentions of particular countries with which the manifesto country has a special relationship; the need for co-operation with and/or aid to such countries.
- `per104`: Military: Positive
  - The importance of external security and defence. May include statements concerning:
    - ∗ The need to maintain or increase military expenditure;
    - ∗ The need to secure adequate manpower in the military;
    - ∗ The need to modernise armed forces and improve military strength;
    - ∗ The need for rearmament and self-defence;
    - ∗ The need to keep military treaty obligations.
- `per105`: Military: Negative
  - Negative references to the military or use of military power to solve conflicts. References

to the 'evils of war'. May include references to:

    * Decreasing military expenditures;
    * Disarmament;
    * Reduced or abolished conscription.

- `per106`: Peace
  - Any declaration of belief in peace and peaceful means of solving crises—absent reference to the military. May include:
    * Peace as a general goal;
    * Desirability of countries joining in negotiations with hostile countries;
    * Ending wars in order to establish peace.

Then the index of hawkishness, for each party-election, is simply constructed as

$$\text{hawkishness} = \text{per101} + \text{per104} - \text{per105} - \text{per106}$$

(Note that other indices included in the Manifesto Project dataset are similarly constructed as a simple sum across individual measures.)

From this party-election hawkishness index, we then create a "hawkish reputation" variable, as the average across a given party's hawkishness measure over all elections within the past five years (including the current election). This variable is intended to capture the party's medium- to long-term image among the electorate, while being less susceptible to measurement error due to short-term fluctuations in the content of party manifestos.

Finally, consistent with the structure of the theoretical model, we want to categorize each party as being either a hawk party or a dove party, within the context of a given political environment. For each election, we apply the following procedure:

- Order parties by their hawkish reputation.
- Find the vote-share-weighted median party.
- If the median party is the most hawkish party in the election (i.e. if the most hawkish party received >50% of votes), label that party as a Hawk party, and all other parties as Dove parties; vice-versa if the median party is the most dovish.
- If the median party is neither the most hawkish nor most dovish party (i.e. there is at least one party on either side of the median), then the parties on each side of the median party are labelled hawk parties or dove parties, respectively, while the median party is labelled as

Centrist.

As an example, suppose that within a given election, we have four parties with the following hawkish reputation values and voteshares:

Party	Hawk Reputation	Voteshare	Hawk/Dove Coding
A	-2	18%	Dove
B	-1	30%	Centrist
C	0	22%	Hawk
D	1	27%	Hawk
E	NA	3%	NA

Here, Party E received 3% of the vote, but we were unable to obtain a measure of that party's hawkish reputation from the Manifesto Project data. Thus, for the purpose of identifying the median, the total voteshare in this election is 97%. Ordering the parties by their hawkish reputation, we see that it is Party B that crosses over the threshold of $\frac{1}{2}(97\%)$. So B is labeled a "Centrist" party, while the less-hawkish A is labeled a "Dove" party and the more-hawkish C and D are labeled "Hawk" parties.

Each leader-year and cabinet member-year is then assigned continuous values of "hawkishness" and "hawkish reputation" (as described above), and a categorical "Hawk/Dove/Centrist" value, based on their party affiliation. Specifically, each officer-year is assigned their party's value from the most recent prior election, up to tens years in the past; but if there is no manifesto coded for the party coded in the past ten years, then we treat this value as missing.

Altogether, this process results in 44,756 merged officer-year observations which can be coded as Hawk/Dove/Centrist (including 1,990 leaders, 1,802 defense ministers, and 1,863 foreign affairs ministers), and an additional 10,631 whose party affiliations are coded in WhoGov as "independent" (including 293 leaders, 543 defense ministers, and 522 foreign affairs ministers). Aggregating to the country-year level, we have 1,952 country-year observations for which the leader has a non-missing Hawk/Dove/Centrist value.

Table A10 reports the set of countries and years included in this restricted sample, which is the sample used in the analyses reported in Table 3. I omit majority parliamentary governments, under the rationale that, due to strong norms or internal political pressures (which are not captured by the theoretical model in this paper), leaders of these governments will always fill their cabinets with co-partisans. Thus the observations remaining in the sample are presidential systems, or parliamentary systems with coalition governments.

Table A6: Partisanship of Leaders and Ministers of Defense

		Leader Party			Dove Leader		Centrist Leader		Hawk Leader	
					Up for Reelection in Next 2 Years?					
		Dove	Centrist	Hawk	No	Yes	No	Yes	No	Yes
Minister of Defense	Hawk Party	24	17	74	27	20	18	17	71	78
	Dove Party	46	14	9	43	49	13	17	8	10
	Independent	19	15	6	21	15	19	8	8	4
	Leader's Party	41	52	64	37	46	49	57	61	67
		(n=389)	(n=527)	(n=545)	(n=230)	(n=159)	(n=325)	(n=202)	(n=291)	(n=254)

Note: Country-year observations, across 58 countries from 1963–2021. Numbers denote the percent of a given appointment type within a column. For example: the Minister of Defense is from a Hawk party in 24% of all country-years with a Dove leader (and 20% of country-years with a Dove leader with an upcoming election).

The results reported here and in the main text include all country-years (other than majority parliaments) for which data is available, not differentiating based on the degree or strength of democracy; the replication code provides straightforward instructions for reproducing these tables, restricting attention to democracies (observations with polity2 score of at least 6, or a V-dem polyarchy index of at least 0.55).

10.2.2 Results

Table A7: Partisanship of Leaders and Ministers of Foreign Affairs

		Leader Party			Dove Leader		Centrist Leader		Hawk Leader	
					Up for Reelection in Next 2 Years?					
		Dove	Centrist	Hawk	No	Yes	No	Yes	No	Yes
Minister of Foreign Affairs	Hawk Party	14	12	62	11	17	11	14	59	66
	Dove Party	57	14	15	59	53	14	15	16	14
	Independent	16	12	9	17	14	14	8	10	6
	Leader's Party	51	60	57	52	49	60	61	54	60
		(n=400)	(n=532)	(n=551)	(n=236)	(n=164)	(n=330)	(n=202)	(n=300)	(n=251)

Note: Country-year observations, across 58 countries from 1963–2021. Numbers denote the percent of a given appointment type within a column. For example: the Minister of Foreign Affairs is from a Hawk party in 14% of all country-years with a Dove leader (and 17% of country-years with a Dove leader with an upcoming election).

Table 3 reported partisan appointment patterns for defense ministers. Table A6 reports the same analysis, but including Centrist leaders (which were omitted from the main text for presentational clarity). While the appointment incentives of Centrist leaders are beyond the scope of this paper's theory, it is noteworthy that Centrist leaders are less likely than Dove leaders to appoint Hawk-party ministers of defense. This suggests that appointments are not merely a function of ideological proximity; rather, it would seem that appointing a Hawk helps Dove leaders to overcome a particular

Table A8: Partisanship of Leaders and Ministers of Defense, Across Political Systems

		Presidential Systems			Parliamentary Systems		
		Leader Party					
		Dove	Centrist	Hawk	Dove	Centrist	Hawk
Minister of Defense	Hawk Party	20	12	76	29	21	73
	Dove Party	41	7	4	50	20	12
	Independent	30	30	15	8	3	1
	Leader's Party	38	48	69	44	55	61
		(n=194)	(n=233)	(n=200)	(n=195)	(n=294)	(n=345)

Table A9: Partisanship of Leaders and Ministers of Foreign Affairs, Across Political Systems

		Presidential Systems			Parliamentary Systems		
		Leader Party					
		Dove	Centrist	Hawk	Dove	Centrist	Hawk
Minister of Foreign Affairs	Hawk Party	7	2	52	20	20	68
	Dove Party	53	14	17	60	15	14
	Independent	25	23	15	7	4	5
	Leader's Party	50	60	50	51	61	61
		(n=202)	(n=228)	(n=206)	(n=198)	(n=304)	(n=345)

deficit which Centrist leaders do not similarly face.

Table A7 reports the same set of analyses for ministers of foreign affairs. The patterns are qualitatively similar, though somewhat less pronounced than in the case of defense ministers: Dove party leaders are almost twice as likely as are Hawk party leaders to appoint independent foreign ministers (16% vs. 9%), and less likely to appoint a foreign minister of their own party (51% vs. 57%). A notable distinction, however, is that for foreign ministers, the Hawk leader/Dove minister pairing is almost equally likely as the Dove leader/Hawk minister pairing (in contrast to the stark asymmetry observed in the case of defense ministers).[19] Speculatively, this difference may be explained in part by the differences in the types of international "games" that fall within the portfolios of the two ministries: the defense portfolio is more concerned with issues relating to deterrence, as assumed in the present model, whereas the foreign affairs portfolio covers a wider range of international interactions which are more cooperative in nature—potentially giving rise to different appointment incentives for the leader.

[19]Further, we see that under Dove leaders, Hawk foreign affairs ministers are more likely (17% vs. 11%) when reelection is approaching (contrary to theoretical expectations); though we also see leaders of both parties are less likely to appoint independent foreign affairs closer to an election (consistent with the theory).

Tables A6 and A7 reported results for the full sample, pooling across all country-years for which hawkishness measures are available (excluding only majority governments in parliamentary systems). Tables A8 and A9 split the sample by presidential and parliamentary systems. For defense ministers, the patterns across the two political systems are all directionally similar to what we saw in the full sample. For ministers of foreign affairs, appointment patterns in parliamentary systems resemble those in the full sample; in presidential systems, Hawk leaders are more likely to appoint Dove ministers than the reverse (though this is offset by Dove leaders' higher propensity to appoint independent ministers).

A general limitation of this empirical analysis is the difficulty of distinguishing an appointee's ideology (on a Hawk-Dove spectrum) from their political loyalty: a Dove leader's selection of a Hawk-party appointee may be motivated by the latter's ideological bias, or by her political independence, or a combination of the two.[20] Some leverage can be gained by considering appointments that are ideologically aligned but non-co-partisan: for instance, Table A6 shows that Hawk leaders appoint defense ministers from different Hawk parties 10% of the time, consistent with the model's prediction that Hawk leaders may optimally select appointees who are politically independent but *not* dovishly-biased. More thoroughly disentangling appointee bias and loyalty will require more detailed coding of ministers' backgrounds, and their relationships with their appointing leaders.

[20]Ministers coded as "independent" in WhoGov cannot be linked to any party manifesto, so we cannot identify their position on a Hawk-Dove spectrum.

Table A10: Sample Composition for Table 3 Analyses

	Years in Sample		
Country	Total	First	Last
Albania	17	1991	2007
Argentina	13	1997	2019
Armenia	10	2008	2017
Australia	34	1966	2021
Austria	55	1966	2021
Azerbaijan	16	1995	2010
Belgium	54	1968	2021
Bolivia	12	2009	2021
Bosnia & Herzegovina	25	1992	2021
Brazil	7	1990	1998
Bulgaria	20	1990	2016
Canada	3	2013	2015
Chile	4	2010	2013
Colombia	9	2010	2018
Croatia	26	1992	2021
Cyprus	26	1996	2021
Czechia	24	1993	2021
Denmark	40	1968	2018
Ecuador	14	2007	2020
Estonia	25	1995	2021
Finland	42	1966	2021
France	43	1966	2019
Georgia	18	1995	2012
Germany	56	1966	2021
Greece	8	1989	2018
Hungary	26	1990	2021
Iceland	54	1966	2021
Ireland	34	1973	2021
Israel	53	1966	2019
Italy	36	1966	2017
Japan	30	1984	2021
Latvia	21	1994	2018
Lithuania	6	1993	2004
Luxembourg	56	1966	2021
Mexico	53	1966	2018
Moldova	9	1997	2016
Montenegro	11	2006	2020
Netherlands	53	1966	2021
New Zealand	25	1996	2021
North Macedonia	26	1995	2021
Norway	27	1973	2021
Peru	3	2007	2017
Poland	5	1991	1995
Portugal	17	1977	2015
Romania	6	1991	1999
Serbia	7	2006	2012
Slovakia	21	1995	2019
Slovenia	29	1992	2021
South Africa	28	1994	2021
South Korea	23	1993	2016
Spain	26	1996	2021
Sweden	23	1977	2021
Switzerland	50	1966	2020
Turkey	16	1974	2021
Ukraine	14	2005	2018
United Kingdom	5	2010	2014
United States	59	1963	2021
Uruguay	8	2014	2021

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