Hawks, Doves, and Regime Type in International Rivalry and Rapprochement

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Abstract

Word Count:

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1 Model Set-up Approach 1: Foreign Invests

In this set-up the key feature is that Foreign invests in the policy, weighing the benefits of a deal, its prospects for implementation, and the marginal cost of investment.

1.1 Players and Sequence of Play

This game features a President, P, a Domestic Selectorate, D, and a Foreign Government, F. In the game, P chooses whether or not to pursue a rapprochement with a rival, F, in the shadow of accountability to D. The sequence of the game is as follows.

1. Nature selects P's commitment to peace, q_P, i.e., their level of dovishness. This is common knowledge.
2. Nature selects whether the state of the world is good or bad for rapprochement, $\omega \in \{g, b\}$, with probability θ. The state of the world is revealed to P but not to D.
3. P chooses rapprochement ($r = 1$) or not ($r = 0$).
4. If $r = 1$, F makes an investment, q_F, in the quality of the diplomatic process.
5. Nature selects a challenger to P.
6. D chooses whether to re-select P or to replace them with the challenge. If re-selected, the rapprochement is implemented. If removed, implementation fails.

1.2 Payoffs

Write the utility of P as,

$$u_P = \begin{cases} \mathbb{1}(r = 1)q_P + \mathbb{1}(\omega = g)(q_P q_F), & \text{if rapprochement and reselection} \\ \mathbb{1}(r = 1)q_P, & \text{if rapprochement and removed} \\ \bar{u}_P, & \text{if rapprochement not pursued} \end{cases}$$

Where q_P is a measure of P's commitment to peace, or their dovishness. Write the utility of F as,

$$u_F = \begin{cases} q_F + q_P - \frac{q_F^2}{2\alpha_F q_P}, & \text{if rapprochement and } P \text{ reselected} \\ \bar{u}_F - \frac{q_F^2}{2\alpha_F q_P}, & \text{if rapprochement and } P \text{ removed} \\ \bar{u}_F, & \text{if rapprochement not pursued} \end{cases}$$

Where α_F is a measure of F's level of democracy or accountability. The cost function embeds the idea that it is less costly for F to invest in diplomacy when P is more dovish (higher q_P). The degree to which a dovish P helps to mitigate the costs of F's diplomacy is scaled by F's level of democracy or accountability, α_F. The idea is that it is especially useful for democratic leaders to deal with a dove, since it is easier (or less costly) to sell a dove as a genuine partner in peace than a hawk. For convenience, assumer that $\bar{u}_F = 0$. Write the utility of D as,

$$u_D = \begin{cases} \mathbb{1}(\omega = g)(q_P q_F), & \text{if rapprochement and } P \text{ reselected} \\ b - c, & \text{if rapprochement and } P \text{ removed} \\ \bar{u}_D, & \text{if rapprochement not pursued} \end{cases}$$

where $b \sim U[0,1]$ is a random policy shock that accrues to D's benefit when replacing the leader and c is a cost that D pays to replace the leader. Before exploring equilibria to the game, I first define leader types,

Definition 1. A dove is a president for whom $q_P \geq \bar{u}_P$. A hawk is a president for whom $q_P < \bar{u}_P \leq q_P^2 q_F^2 + q_P$. A warmonger is a president for whom $\bar{u}_P > q_P^2 q_F^2 + q_P$.

1.3 Equilibria

I first explore a separating equilibrium in which P pursues rapprochement ($r = 1$) when the state of the world is good ($\omega = g$). I then explore a pooling equilibrium in which P pursues a rapprochement ($r = 1$) regardless of the state of the world. The incentive compatibility constraints for these equilibria differentiate the leader types in Definition 1.

1.3.1 Separating (Hawks)

Proposition 1. If $q_P \leq \bar{u}_P \leq q_p^2 q_F^2 + q_P$, the following collection of strategies and beliefs forms a separating perfect Bayesian equilibrium.

- P pursues a rapprochement when the state of the world is good and not otherwise ($r = 1|\omega = g$ and $r = 0|\omega = b$).
- F invests $q_F^* = \frac{q_P c}{\frac{1}{\alpha_F q_P} - 2q_P^2}$.
- Following an attempted rapprochement, D believes that the state of the world is good with certainty ($Pr(\omega = g|r = 1) = 1$).
- D re-selects P if $q_F^* q_P + c \geq b$

Consider an equilibrium in which P pursues a rapprochement if and only if the state of the world is good. Using backward induction, D re-selects P and implements the policy if,

$$Pr(\omega = g | r = 1, q_P)(q_F q_P) \geq b - c$$

or, since we stipulated a separating strategy by P,

$$q_F q_P + c \geq b$$

Since the challenger is revealed after F's investment, F only knows the distribution of b when making its choice. At that point, F thinks the probability of re-selection is:

$$q_F q_P + c$$

which is the CDF of b. F thus maximizes its investment with,

$$\begin{aligned}
\max_{q} {}_F[(q_F q_P + c) q_F q_P - \frac{q_F^2}{2\alpha_F q_P}] \\
0 = 2 q_F q_P^2 + q_P c - \frac{q_F}{\alpha_F q_P} \\
q_F^* = \frac{q_P c}{\frac{1}{\alpha_F q_P} - 2q_P^2}
\end{aligned} \tag{1}$$

Moving up, it is incentive compatible for P to pursue rapprochement when the state of the world is good ($r = 1 | \omega = g$) if,

$$\begin{aligned}
Pr(reselection)(q_P + q_F q_P) + (1 - Pr(reselection)) q_P \geq \bar{u}_P \\
(q_P q_F + c)(q_P + q_F q_P) + (1 - q_P q_F - c) q_P \geq \bar{u}_P \\
q_P^2 q_F^2 + q_P \geq \bar{u}_P
\end{aligned} \tag{2}$$

It is incentive compatible for P to forego an attempt at rapprochement when the state of the world is bad ($r = 0 | \omega = b$) if,

$$\begin{aligned} Pr(reselection)q_P + (1 - Pr(reselection))q_P &\leq \bar{u}_P \\ (q_P q_F + c)q_P + (1 - q_P q_F - c)q_P &\leq \bar{u}_P \\ q_P &\leq \bar{u}_P \end{aligned} \tag{3}$$

1.3.2 Pooling on Rapprochement (Doves)

Proposition 2. If $q_P \geq \bar{u}_P$, the following collection of strategies and beliefs forms a pooling perfect Bayesian equilibrium.

- P pursues a rapprochement when the state of the world is good or bad ($r = 1|\omega = g$ and $r = 1|\omega = b$).
- F invests $q_F^* = \frac{q_P c}{\frac{1}{\alpha_F q_P} - 2\theta q_P^2}$.
- Following an attempted rapprochement, D believes that the state of the world is good with certainty ($Pr(\omega = g|r = 1) = 1$).
- D re-selects P if $\theta q_F^* q_P + c \geq b$

Consider an equilibrium in which P pursues a rapprochement regardless of the state of the world. Using backward induction, D re-selects P and implements the policy if,

$$Pr(\omega = g|r = 1, q_P)(q_F q_P) \geq b - c$$

or, since we stipulated a pooling strategy by P,

$$\theta q_F q_P + c \geq b$$

Since the challenger is revealed after F's investment, F only knows the distribution of b when making its choice. At that point, F thinks the probability of re-selection is:

$$\theta q_F q_P + c$$

which is the CDF of b. F thus maximizes its investment with,

$$
\begin{aligned}
\max_q {}_F[({}_F q_P + c)q_F q_P - \frac{q_F^2}{2\alpha_F q_P}] \\
0 = 2\theta q_F q_P^2 + q_P c - \frac{q_F}{\alpha_F q_P} \\
q_F^* = \frac{q_P c}{\frac{1}{\alpha_F q_P} - 2\theta q_P^2}
\end{aligned} \tag{4}
$$

Moving up, it is incentive compatible for P to pursue rapprochement when the state of the world is good $(r = 1|\omega = g)$ if,

$$
\begin{aligned}
Pr(reselection)(q_P + q_F q_P) + (1 - Pr(reselection))q_P \geq \bar{u}_P \\
(\theta q_P q_F + c)(q_P + q_F q_P) + (1 - \theta q_P q_F - c)q_P \geq \bar{u}_P \\
(\theta q_P q_F + c)(q_P q_F) + q_P \geq \bar{u}_P
\end{aligned} \tag{5}
$$

It is incentive compatible for P to pursue rapprochement when the state of the world is bad $(r = 1|\omega = b)$ if,

$$
\begin{aligned}
(\theta q_P q_F + c)(q_P) + (1 - \theta q_P q_F - c)q_P \geq \bar{u}_P \\
q_P \geq \bar{u}_P
\end{aligned} \tag{6}
$$

1.4 Discussion and Comparative Statics

I think the above pushes in the direction of some of the theoretical points I've made informally. First, consider the choice for D to reselect a leader. A dovish P is reselected if,

$$\theta q_F^* q_P + c \geq b$$

Plugging in for q_F^*,

$$\frac{\theta q_P^2 c}{\frac{1}{\alpha_F q_P} - 2\theta q_P^2} + c \geq b$$

If I understand the expression correctly, this means that the probability that a leader will be reselected and the policy of rapprochement implemented is increasing in D's level of autocracy (or the cost of removal, c). Moreover, this increase is larger when P is more dovish (i.e., c increases the probability of re-selection more at higher levels of q_P). Put differently, increases in dovishness increase the probability of re-selection and implementation more when it is costly to remove the leader.

Next, consider the expression for F's optimal investment in a pooling equilibrium (i.e., for P's I define as doves).

$$q_F^* = \frac{q_P c}{\frac{1}{\alpha_F q_P} - 2\theta q_P^2}$$

The optimal investment by F is increasing in P's dovishness, but more so when c is high (i.e., when P is an autocratic dove). The positive relationship between F's optimal investment and P's dovishness is also amplified when F is more democratic (high α_F). This may speak to the observation that autocratic doves have helped to create the favorable conditions in democratic leaders' domestic environments for peace (e.g., Gorbachev's peace offensive or Sadat's trip to Jerusalem really seemed to have reduced the cost to Reagan and Begin for bargaining). Last, while F's optimal investment is increasing in P's dovishness, this is less so when P faces a bigger credibility problem. Where doves are disadvantaged is in the θ term, or D's prior beliefs that the state of the world is good. When D is skeptical that the state of the world is good, dovish P's face a bigger credibility problem and this shows up in F's level of engagement.

2 Model Set-up Approach 2: President Invests