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Conflict and Leadership: When is There a Hawkish Drift in Politics?

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Abstract

We analyze an agency model of political competition to examine whether conflict encourages hawkish behavior, and if such behavior can itself aggravate conflict. We consider situations of conflict between a state and an insurgent group, such as conflict over a piece of land. Negotiations are carried out on behalf of the state by a democratically elected leader whose ability and ideology are imperfectly observed by the electorate. A more capable leader can take a hardline position in the negotiations (i.e. cede less land to the insurgents) at a lower expected cost (modeled as the cost of continued insurgency) than a less capable one. Similarly, an ideologically hawkish leader enjoys greater intrinsic utility from retaining land than a less hawkish leader. Two

main results that emerge are: certain types of politicians may be excessively hawkish as compared to their first best policy choices, which itself increases the probability of conflict; and for any credible voting strategy, the re-election probability of a hawk is greater than that of a dove. Finally, we show that the voting equilibrium of this game does not always achieve a constrained Pareto optimum suggesting that third party mediation may improve welfare.

JEL classification: C72, D82, P16

Keywords: Conflict, hawkish drift

1 Introduction

In this paper we attempt to understand the dynamics of conflict negotiation between a polity and an insurgent group when the negotiator for the polity is elected via the political process. Specifically, we address the following questions: When democratically elected leaders negotiate a settlement on behalf of the citizens, does it lead to excessively extremist (or hawkish, in a sense to be made more precise) policies? Do more hawkish politicians face an inherent advantage when conflict becomes a salient issue? Does the political process achieve a 'constrained Pareto' (or second best) outcome with regards to conflict negotiation?

There is at least casual evidence that during times of conflict hawks and hawkish policies carry the day. A look at the upper hand that hawks had in determining Iraq policy as well as the electoral success that more hawkish leaders seem to have enjoyed in Israel leads one to believe that hawks and hawkish policies dominate in times of conflict. For example, in analyzing war Baliga, Lucca and Sjöström (2009) say that "in a fully democratic country, a dovish bias is replaced by a hawkish bias when the environment becomes more hostile." Kahneman and Renshon (2007) accept this point in a well cited article and provide an explanation in terms of inherent human bias. They say that "In terms of potential conflict the same optimistic bias makes generals and politicians receptive to advisers who offer highly favorable estimates of the outcome of war." While accepting these explanations we want to examine whether hawkishness can arise even in the absence of any optimistic bias (as in Kahneman and Renshon) or any coordination failure (as in Baliga, Lucca and Sjöström)[1]. More importantly, could it arise from

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[1]In the concluding section we discuss the implications of our explanation compared

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the incentives of the political process itself? If the political process itself is a cause of greater hawkishness, then one may perhaps see why the then Lieutenant-General Moshe Yaalon, the Israeli army's chief of staff (and no policy dove) infuriated Prime Minister Ariel Sharon and Defence Minister Shaul Mofaz in 2003 by publicly questioning Israel's tough policies in the West Bank and Gaza (see New York Times June 2, 2005). Moreover, he criticized the then Prime Minister Olmert's ground invasion of Lebanon as "It had no substantive security-political goal, only a spin goal." [2] The case becomes even more interesting when we see how the same Olmert adopted a *dovish* stance after losing the elections (and effectively ending any electoral incentives he had) by saying "We have to reach an agreement with the Palestinians, the meaning of which is that in practice we will withdraw from almost all the territories, if not all the territories."[3] Indeed, perhaps the most important recent example of hawkishness came when US President Barack Obama facing a lowered level of support among his electorate gave a hawkish speech (ironically when accepting the Nobel peace prize) signalling his intention to be tough in fighting conflict.[4]

Our model provides conditions under which electoral concerns will lead to policies that are more hawkish than those of the median voter. Morevoer, the same set of conditions also increase the chances of electoral success for politicians who are more hawkish than the median voter. We hypothesize that the voters hold imperfect information about their prospective leader's type, i.e. quality and ideology. Quality is modeled as a leader's ability to minimize the adverse impact of insurgent activities (such as terrorist attacks),

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with some others in the literature.

[2] See 'Pressure mounts on Olmert to quit', Rory Mccarthy, The Guardian 15 September, 2006, see http://www.guardian.co.uk/world/2006/sep/15/syria.israelandthepalestinians1 for the article).

[3] (see Olmert: Israel must hand back land for peace with Palestinians and Syria, Rory Mc Carthy, Guardian, Monday 29 September 2008, see http://www.guardian.co.uk/world/2008/sep/29/israelandthepalestinians.syria).

[4] See for example Kate Southwood's article 'Obama, Nobel, and Realpolitik' in The Huffington Post, December 14, 2009 where she notes precisely this electoral concern: "President Obama's depiction of just wars is not, fundamentally, contradictory to President Carter's acknowledgment of war as an occasional necessity, but one wonders how much less hawkish it might have been had he not been on the defensive. And how different would President Obama's Nobel speech have been if, like President Carter, he had been free of the pressures of realpolitik,..."

while ideology is modeled as the willingness to bear the costs of insurgency emanating from failure of a peace deal. Imperfect information by voters regarding leader quality creates a 'natural bias' in favour of more hawkish positions, since a leader of high quality has an incentive to signal his ability by choosing more hawkish policies. Moreover, since the leaders who are inherently more hawkish have a lower cost of using hawkishness as a signal, there is a favourable bias in terms of get re-elected. Further there is a political failure in the sense that the political system ends up selecting policies that are more extreme than the median which in turn escalates the probability of the conflict continuing next period.

In order to formalize these ideas, we embed a model of conflict (similar to Grossman, 1994) in a principal-agent model of political competition in which the voters (the principals) use re-election as an incentive to induce the leader (the agent) to manage the conflict in an optimal way. The conflict is modeled as dividing a piece of land between two groups, one of which holds initial control over the land. That group with the initial control has a politician who makes a settlement (division of land) for them. There is asymmetric information about politician type (quality and ideology). Voters have to set optimal replacement (i.e. whether to re-elect or not) rules conditioning the decision on the settlement reached, taking into account the mixed signal about quality and ideology that comes from observing a particular settlement. Let us make clear what we mean by this extremism or hawkishness: a *hawk* is a person who has a higher utility from retaining more land, while a *hawkish policy* from a particular leader is a policy more extreme than the one he would ideally like to choose. We analyze if a hawkish policy emerges under the optimal voting rule as well as discuss the electoral success of politicians of different ideologies under the optimal voting rule.

The main insight is that the electoral process leads to two kinds of hawkishness – one, where politicians act in a more extreme fashion (give less land) than they would ideally like to; and two, politicians who intrinsically favour more extreme policies are more likely to get elected. The intuition behind our result is the following. More capable candidates can sustain more hawkish positions at a lower cost. As a result, they are able to signal their type by choosing sufficiently extreme policies. Further, intrinsically hawkish politicians have a lower cost of signaling hawkishness than the more dovish ones. Hence, both high quality and intrinsic hawkishness leads to tough policies. Voters cannot distinguish between intrinsic hawks and high quality leaders. Hence, leaders have an incentive to behave hawkishly to signal their quality

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and inherent hawks have an intrinsic advantage in doing that. Thus, the equilibrium voting strategies turn out to be such that doves are replaced at a faster rate than hawks. A further question of interest is whether the voting equilibrium of this model achieves constrained Pareto optimality. We show that in general it does not. Indeed we show that if voters could bind themselves to re-electing every politician regardless of their quality ex ante voter welfare may be higher. This implies that 'tying the hands' of the politician by making him agree to settlements proposed by a neutral third party can be welfare improving. Thus, there is a role for bodies like the UN to achieve Pareto improving settlements even in a situation of conflict.

Our work is related to principal agent models (starting from Spence, 1973) as well as models of incomplete contracting. (see Hart, 1995 and Tirole, 1999 for surveys of the incomplete contracts literature). More specifically our paper has modeling similarities with the so called incumbent-challenger models which are essentially agency models of political competition. There is a wide variety of incumbent challenger models in the literature[5], with the simplest involving pure selection strategies to weed out bad politicians. Some of the more well known of such models with electoral accountability when politicians make unobservable choices are presented in Barro (1973), Ferejohn (1986), Rogoff and Sibert (1988), Rogoff (1990) and Persson, Roland and Tabellini (1997). Rogoff and Sibert and Rogoff use this framework to study political budget cycles, while the other papers look at pure moral hazard problems. Banks and Sundaram (1993) have elements of both moral hazard and adverse selection, their politicians differ in both quality (leading to adverse selection) as well as some kind of unobservability of action (leading to moral hazard). Coate and Morris (1995) consider the issue of the form of transfers to special interest groups in an incumbent challenger framework. They address a pure efficiency question: namely, given that politicians may owe allegiance to special interest groups what is the most efficient way to make transfers to such groups and is this efficient form of transfer employed? In their framework politicians do not essentially differ in ability but in their preference over the transfers they would like to make to special interest groups, in principle both politicians could have chosen the best outcome. These models of electoral accountability have a fair amount of empirical support as well (see for example Besley and Case, 1995).

Several recent papers have used the political agancy model to shed light

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[5]See Besley (2006) for a good discussion of the literature.

on different forms of political failures arising from electoral concerns and asymmetric information. Majumdar and Mukand (2004) consider a model of political agency where leader's quality is modeled as his ability to pick a socially desirable policy reform. The leader gets an interim signal as to whether or not his reform is likely to succeed. While it is socially desirable that a failing reform be scrapped, such an action will lead the voters to realize that the politician took a wrong decision and therefore to lower their estimate of his quality. Under certain conditions, this leads to the politician resorting to a gamble by sticking to a failing policy. Aidt and Dutta (2007) examines political failure arising out of the interaction between observation lags, economic growth and a binding revenue constraint. The political failure in their paper does not arise from asymmetric information about politician quality (their politicians are homogenous) and their aim is to look at the mix of short term vs. long term public good that is provided because of these interactions. Unlike in our model, their policy myopia is constrained optimum. In our analysis of second best we find a result similar to that of Haan Los and Onderstal (2008) that randomization over which politician to re-elect gives higher voter welfare than trying to separate types (and randomization always dominates welfare under a pooling equilibrium).

Our work is also related to papers which provide rational choice explanations of terrorism and the high cycle of violence e.g. Pape (2003) and Berman (2003) which discuss the issue of strategic terrorism. Leadership in conflict is analyzed in a complete information framework by Hess and Orphanides (1995)[6] and Gupta (2008). Gupta (2009) looks at whether multilateralism can provide an 'efficient' level of security. Schultz (2003) analyses the behavior of hawks and doves over the period that the US-USSR conflict continued using a different definition of hawks and doves – he assumes that doves are people who inherently have optimistic priors over the opponent's motives and the opposite for hawks. Some of the empirical evidence on the policy positions of hawks and doves in that period is interesting and worth analyzing to see how well it fits the predictions of our model. Broadly, from our model, we expect to see hawks continue to support hawkish positions while doves will fluctuate depending on their quality. This seems consistent with the data presented in Schultz. None of these papers are however concerned with the political failure arising out of asymmetric information.

There is a well established literature on conflict and the distribution of

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[6]See section 6 for a discussion of their paper.

resources across groups (see for example Grossman, 1994, Conley and Temi-nini, 2001 and Hirshleifer, 1995, Garfinkel and Skaperdas, 2007 and Jackson and Morelli, 2009 for a review of the research on conflict and Sanchez-Pages, 2009 for analyzing conflict as part of the bargaining process). We contribute to the literature by analyzing what kind of outcomes arise when conflict resolution occurs via the political process.

The rest of the paper proceeds as follows. Section 2 sets up the model, characterizes the first best and compares it with the equilibrium under asymmetric information. Section 3 analyzes the second best and compares it with the voting equilibrium in section 2. In section 4 the model is extended for a continuum of types. Section 5 analyzes the model when there are two parameters-ideology and efficiency, while section 6 concludes.

2   The model with homogenous ideology

This is a two period model. There is one policy parameter $y \in [0, 1]$ to be interpreted as the dimension of conflict between two groups citizens (or the landed class) denoted by C and protestors (or peasants) denoted by P^7. The basic formulation is much like that of Grossman (1994) where there is a division of land between two groups. For simplicity, we assume that the initial control over the land is with group C^8. Group C's preferences over the policy are represented by a utility function $u : [0, 1] \to \mathbb{R}, u' > 0, u'' < 0$. We denote the division by y, which means that y is the fraction of land retained by the group C. A representative of group C proposes a settlement (i.e. a y). Each settlement y leads to an expected cost of insurgency or terrorism violence that members of P impose on members of C. This cost c is increasing in y i.e. the more land the citizens retain for themselves, the higher is the expected cost of terrorism. This can be thought of as a supply function of terrorism which is increasing in y. In particular, we assume that protestors inflict $c = p(y)V$ on the members of group C through their violent acts where p is the probability of conflict next period, following an offer y and V is the disutility to members of C from violence. Hence, given the policy y, the utility of a member of the group C is $u(y) - p(y)V$, thus $p(y)V$ denotes the

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[7]These are merely labels without any normative implications. Thus, citizens may well be occupiers and protestors freedom fighters.

[8]Nothing changes if we assume that initially the landed class has a fraction x and the peasants have the remaining $1 - x$.

expected harm caused by terrorism to a representative citizen i.e. a member of group C in the event of the conflict continuing. We assume that c is convex in y. Note of course that the harm need not be actual personal harm to any particular citizen, it could even be just the disutility caused by existence of terrorism against the State. The assumption of the probability of the conflict continuing in the next period being an increasing function of land retained is quite intuitive. The higher the land retained by group C, the less the number of people in group P who accept the settlement. Thus, the higher will be the probability of the settlement breaking down i.e. the conflict continuing the next period.[9] For now we will assume that all members in group C are identical in terms of both their utility from a policy as well as in facing the same costs from terrorism.

We introduce heterogeneity among the citizen group in terms of the politician negotiating on their behalf in the following way. Assume that the probability of this conflict continuing next period depends upon y but but the cost of managing the conflict depends on the quality (θ) of the politician in group C in office the next period. The politician's type is unknown to the voters. The politician knows his own quality and chooses y. Depending upon his type, the society faces a probability of conflict $p(y)$ which will be realized next period. We further assume that the payoff in the event of a conflict continuing is also dependent on the type that is in office at that time so the payoff in the event of a conflict is $V(\theta')$ where θ' is the quality of the politician in office the next period. We assume V is decreasing in θ. The particular assumption is quite intuitive and can be rationalized in the following way: θ acts as a sort of a summary measure of the politician's credibility with group P, his ability to convince the international community about the reasons for choosing the settlement at that particular level and perhaps most importantly his ability to control the dissident terrorists or manage the economy while the conflict goes on. In nations where conflict has been ongoing, we may consider military experience as a proxy for quality. A higher ability politician may perhaps be one who has better military experience and thus can handle insurgency better than one with less experience. We implicitly

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[9]One way to explain this is as follows: Each member l of group P must choose action $\alpha_l \in \{0, 1\}$ where 0 means accepting the settlement and 1 means becoming a terrorist. The payoff to member l from becoming a terrorist is given by t_l. Hence, a member of P will become a terrorist if $t_l > u(1-y)$. Let $F(y)$ denote the number of people who will become terrorists if the settlement (or policy implemented) is y. The probability of conflict p is increasing in $F(y)$.

assume that the environment is such that conflict is a salient issue and the high prevalence of conflict makes the ability to mimimize the cost of conflict a key concern for voters. Footnote 12 gives a sufficient condition for our analysis to go through even when there are quality differences between politicians in handling the environment when there is no conflict.

We use this model to study whether a politician has an incentive to be hawkish (i.e. choose a high y) or whether he has an incentive to be dovish, and the optimal voting strategy for a voter who can only observe y. The incentive to be hawkish works in the following way: since a high quality politician imposes low cost from terror, he can afford to be 'tough'. However, a low quality politician may try to mimic him by acting tough as well. We study what kind of equilibrium emerges in this scenario.

Sequence of actions

The game played is as follows

- $t = T - 1$: Voters set a performance standard[10]

- $t = T$: There is a politician of type θ in office. The politician chooses policy $y \in [0, 1]$ which results in a probability of conflict next period $p(y)$, which is not observable that period. We denote by $V(\theta)$ the cost to the citizens if a politician of type θ is in office conditional on conflict in period $T + 1$ and by $E(V(\theta))$ the cost if the politician is replaced. We assume that the expected quality of the replacement politician is drawn from a known distribution.

  Citizens observe y and vote on whether or not to keep the politician in office depending on whether the performance standard has been fulfilled. If they decide to keep the politician in office, he gets an ego rent $a > 0$. If the politician is voted out, he is replaced by another politician drawn from distribution $D(\theta)$.

- $t = T + 1$: Payoffs are realized. The payoff to a voter is given by[11]

$$u(y) - p(y)V(\theta)$$

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[10]It is of course possible to model this as a signaling game as well, where politicians signal their type through a choice of y. This leads to multiple equilibria. The equilibrium of the game where voters are moving first as in this model gives us an outcome which is the best equilibrium of the signaling game from the voter's point of view.

[11]We do not use time subscripts as there is no discounting. Total payoffs are simply a sum of both periods payoffs.

if the same politician is elected and is

$$u(y) - p(y)E(V(\theta))$$

if a new politician is elected. The payoff to a re-elected politician differs from the voter simply by a. As p denotes the probability of a conflict, $p(y)V(\theta)$ is the expected cost if type θ is in office and $p(y)E(V(\theta))$ the expected cost if the politician is replaced and an unknown type is in office.

2.1 The first best

Suppose that a politician of type θ is in office and his type is known. Now, if the same type is in office next period he will just choose y that maximizes the expected utility to him (and therefore to C members). In particular he will solve

$$\text{Max}_y \quad u(y) - p(y)V(\theta)$$

First order condition gives us

$$u'(y) = p_y V(\theta)$$

Thus, without elections we get a policy $y^*(\theta)$, i.e. the optimal policy as a function of the politician's type

However, this is clearly not the best from the voters point of view if they had perfect information. Given that $V(\theta)$ is decreasing in θ a voters utility is maximized when they replace a politician whose $V(\theta)$ is lower than expected V. Thus, the optimal rule is to retain a politician if $V(\theta) \geq E(V(\theta))$. Given this rule, a politician solves the following

$$\text{Max}_y \quad u(y) - p(y)\max\{V(\theta), E(V(\theta))\}$$

which yields first order conditions

$$u'(y) = p_y \max\{V(\theta), E(V(\theta))\}$$

which again gives us an optimal policy given the re-election rule. For example, in the next section where we have two quality types, we have y_H^* as the optimal y for a politician of type H conditional on her being re-elected, y_L^* as the optimal rule for the politician of type L conditional on her being elected

and y_A^* as the optimal y for any type conditional on her being replaced (by someone with an expected type given by $E(\theta)$).

We now show that under standard assumptions on the utility function, the policy y chosen by a leader is increasing in θ.

Lemma 1 *Assume that $u_y > 0, u_{yy} < 0; p_y > 0, p_{yy} > 0;$ and $V_\theta < 0$. Then $y^*(\theta)$ is continuous and increasing in θ. Moreover, the utility of any citizen increases in θ.*

Proof. We have to differentiate this piecewise. For $\theta < E(\theta)$, the expression is $\text{Max}_y \quad u(y) - p(y)E(V(\theta))$ and for $\theta \geq E(\theta)$, the expression is $\text{Max}_y \quad u(y) - p(y)V(\theta)$. Total differentiation (of the first order condition) for $\theta < E(\theta)$ yields

$$p_{yy}(y^*)dyE(V(\theta)) + p_yE(V_\theta(\theta))d\theta = u_{yy}dy$$

i.e.

$$\frac{dy}{d\theta} = \frac{p_yE(V_\theta(\theta))}{u_{yy} - p_{yy}E(V(\theta))}$$

Similarly, for $\theta \geq E(\theta)$ the expression is

$$\frac{dy}{d\theta} = \frac{p_yV_\theta(\theta)}{u_{yy} - p_{yy}V(\theta)}$$

Given our assumptions the terms in the numerator and the denominator are both negative. Hence, the conclusion that $y^*(\theta)$ is an increasing function. It is obvious that citizen welfare must be higher with a higher θ.[12] $\blacksquare$

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[12] As mentioned, we have implicitly assumed that in the event that there is no conflict there is no quality difference across politicians. More generally, if the utility to citizens when thee is no conflict were to also be dependent on the type in office, the problem could be re-written as $\max_y \quad u(y) - p(y)V(\theta) + (1 - p(y))S(\theta)$, where $S(\theta)$ is the value of peace which depends on type.

$$u'(y) = p_y\left[V(\theta) + S(\theta)\right]$$

$$p_{yy}(y^*)dy\left[V(\theta) + S(\theta)\right] + p_yE(V_\theta(\theta) + S_\theta(\theta))d\theta = u_{yy}dy$$

2.2 Equilibrium under asymmetric information

We now characterize the equilibrium of the asymmetric information game outlined earlier. Note that since we are solving for the Perfect Bayesian equilibrium of the game, we need to specify both strategies and beliefs for each type of agent. Thus, the equilibrium will involve voters setting performance standards, the politician deciding whether to fulfill those standards which determines whether the voters retain or replace the politician.

We formally define these as follows:

Definition 1 *A performance standard $\underline{y}$ is a monotonic voting strategy by a voter, i.e. if $y \geq \underline{y}$, voters re-elect a politician, and for all $y < \underline{y}$, the voter does not re-elect him*

Definition 2 *A performance standard is sequentially rational if for any choice of y by a politician it is in a voters' interest to implement the performance standard.*

For simplicity, in this section we characterize equilibria where there are only two types of politicians, those with high ability (θ_H) and those with low ability (θ_L)[13] and let the probability of the politician being a high type be s_H. In this case it is easy to see that voters will either set a performance standard that both types can fulfill (so we will have pooling) or they will set performance standards so that only the type θ_H will be able to fulfill it. We already assume that we are in the parameter range (i.e. the rents a are large enough) where truth telling is not an equilibrium, so performance standards that induce pooling always exist. We write this as the following

Condition 1

$$u(y_A^*) - p(y_A^*)E(V(\theta)) \leq u(y_H^*) - p(y_H^*)V(\theta_L) + a$$

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i.e.

$$\frac{dy}{d\theta} = \frac{p_y(V_\theta(\theta) + S_\theta(\theta))}{u_{yy} - p_{yy}\left[V(\theta) + S(\theta)\right]}$$

so as $S_\theta(\theta) > 0$ and $V_\theta(\theta) < 0$, numerator is indeterminate so $V_\theta(\theta) + S_\theta(\theta) < 0$ for y to be increasing in θ.

Given that our analysis is of situations where conflict is salient (and consequently p is high), it seems likely that the above condition is satisfied. In any case, the above condition gives a sufficient condition for a hawkish drift.

[13]We extend the analysis to a continuum of types in the next section.

The above condition says that the payoff from a low type playing the high type's first best strategy and getting re-elected (and hence getting the rents from office a) is greater than playing the first best strategy (given that in expectation an average type will take over) and not getting re-elected and hence not getting the rents from office.

Given that condition 1 is satisfied, for the performance standard to be credible ex post, in either case the performance standard must be such that it lies at or to the right of the first best policy which would be chosen by the type θ_H. This is easy to understand: suppose the standard $\underline{y}$ was such that it was to the left of y_H^* where y_H^* denotes the first best policy of the politician of type θ_H, a politician of type θ_H would always play y_H^*. In that case, (if the equilibrium is to be a pooling one), type θ_L must also play y_H^*. In other words, the performance standard $\underline{y}$ would not be credible, as voters would not be able to distinguish between θ_L and θ_H if θ_H actually played y_H^* and θ_L played $\underline{y}$. The argument is even more evident when the performance standard involves separation. The following proposition summarizes this.

Proposition 1 *Assume condition 1 holds. In equilibrium, either both types choose y_H^*, or θ_L will play y_A^* and θ_H will play $\underline{y}$ i.e. he will just meet the performance standard.*

Proof. Suppose $\underline{y} < y_H^*$, in that case θ_H will play y_H^* and hence reveal his type, thus if θ_L plays $\underline{y}$ it is no longer optimal for voters to re-elect θ_L. The second part of the equilibrium is essentially a characterization. Suppose the equilibrium involves separation, it must be that the low type prefers not to meet the standard. Thus, the incentive constraint can be written as

$$u(y_A^*) - p(y_A^*)E(V(\theta)) \geq u(\underline{y}) - p(\underline{y})V(\theta_L) + a$$

while the high type's incentive constraint can be written as

$$u(y_H^*) - p(y_H^*)E(V(\theta)) \leq u(\underline{y}) - p(\underline{y})V(\theta_H) + a$$

Clearly, voter welfare is maximized when the performance standard is such that the low type is indifferent between meeting the standard and not meeting the standard[14] as that will involve the least distortion for the high type.

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[14] We assume here that the low type plays his first best when indifferent to playing that and meeting the standard. Further, the voter believes that all politicians who choose $y \geq \underline{y}$ are high types with probability 1 and those who choose $y < \underline{y}$ are low types with probability 1.

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Now suppose the performance standard is such that both types meet it. In that case, we only need look at the low type's incentive constraint since if that is satisfied, so will the high type's incentive constraint. The low type's constraint is given by

$$u(y_A^*) - p(y_A^*)E(V(\theta)) \leq u(\underline{y}) - p(\underline{y})V(\theta_L) + a$$

The least distortion (in this case this leads to only the low type being hawkish) involves the performance standard being set equal to y_H^* as it is the minimum required for no one to be able to credibly deviate, hence voters will choose that to maximize their utility. ∎

We now look at when the optimal standard involves pooling and when it involves separation. Clearly, as the rents from office increase, the low type is willing to act more and more hawkish to stay in office. Hence, beyond a point separation may become too costly. Essentially the performance standard will compare the payoffs of the Perfect Bayesian equilibrium of the best separating equilibrium of the game where the politician chooses a policy and the voter decides a re-election strategy to the best pooling equilibrium and choose the standard which gives highest welfare. We formalize this as follows.

Proposition 2 *If*

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\begin{aligned}
& s_H \left\{ u(y_H^*) - p(y_H^*)V(\theta_H) \right\} + (1 - s_H) \left\{ u(y_H^*) - p(y_H^*)V(\theta_L) \right\} \\
> \ & s_H \left\{ u(\underline{y}) - p(\underline{y})V(\theta_H) \right\} + (1 - s_H) \left\{ u(y_A^*) - p(y_A^*)E(V(\theta)) \right\}
\end{aligned}
$$

where $\underline{y}$ solves

$$u(y_A^*) - p(y_A^*)E(V(\theta)) = u(\underline{y}) - p(\underline{y})V(\theta_L) + a \tag{1}$$

the performance standard involves pooling, otherwise it involves separation of the two types.

Proof. The inequality on the left is the welfare to the citizens if both types just meet the (optimally chosen) performance standard while the right hand side gives the minimum standard needed to separate the two types found by solving

$$u(y_A^*) - p(y_A^*)E(V(\theta)) = u(\underline{y}) - p(\underline{y})V(\theta_L) + a$$

which equates the low type's gains from meeting the standard to that from playing his true type. Clearly, voters choose the one which maximizes their utility. ∎

Remark 1 *In both types of equilibria policy for one type is hawkish, in separation θ_H chooses $y > y_H^*$ while in a pooling equilibrium, θ_L chooses $y > y_L^*$.*

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3 Comparison with the second best

We now turn to the other question we posed. Does the voting equilibrium we analyzed implement the second best. Recall the second best is the highest welfare that can be achieved by the voters given that they do not know the type of the politician. The reason this may differ from the voting equilibrium we analyzed is because the additional restriction of sequential rationality we imposed earlier does not have to be satisfied. For example the voters could commit to re-electing all politicians and if the low type choose y_L^* as a policy it would be optimal for voters to replace the politician which in turn would mean that the politician would not choose y_L^*. When analyzing the second best we do not require this kind of sequential rationality. So, if re-electing all politicians maximize ex ante welfare then that gives us the second best. We now illustrate when the second best differs from sequentially rational voting equilibria. We first consider what happens when we are in a pooling equilibria.

Proposition 3 *If the voting equilibrium is a pooling one, it does not achieve second best*

Proof. In a pooling equilibrium both types chose y_H^* and voters re-elect both types. We show that there exists a set of policy choices and voting decisions that give a higher level of expected welfare. Suppose, instead voters decided to re-elect all politicians then the policies chosen by each type would have been y_L^* and y_H^* i.e. the first best for each type. Clearly this achieves higher welfare than the pooling equilibrium. Under pooling voter welfare is

$$s_H \left\{ u(y_H^*) - p(y_H^*)V\left(\theta_H\right) \right\} + (1 - s_H) \left\{ u(y_H^*) - p(y_H^*)V\left(\theta_L\right) \right\} <$$
$$s_H \left\{ u(y_H^*) - p(y_H^*)V\left(\theta_H\right) \right\} + (1 - s_H) \left\{ u(y_L^*) - p(y_L^*)V\left(\theta_L\right) \right\} as u(y_H^*) - p(y_H^*)V\left(\theta_L\right)$$
$$< \quad u(y_L^*) - p(y_L^*)V\left(\theta_L\right)$$

because y_L^* is the first best policy for θ_L. ∎

This however does not tell us what the second best is when the voting equilibrium is a pooling one. However, clearly it must either involve re-electing all politicians or replacing all politicians. To see what is better we simply compare payoffs from these two strategies. Thus, we get the following result

Proposition 4 *If the voting equilibrium is a pooling one, the second best strategy is either to re-elect all politicians or to replace them. If*

$$s_H \left\{ u(y_H^*) - p(y_H^*) V\left(\theta_H\right) \right\} + (1 - s_H) \left\{ u(y_L^*) - p(y_L^*) V\left(\theta_L\right) \right\}$$
$$> \quad u(y_A^*) - p(y_A^*) E(V(\theta)) \tag{2}$$

re-electing all politicians achieves second best, with the reverse inequality re-placing all politicians is better.

Proof. The right hand side is the payoff when all politicians are replaced in which case it is a optimal strategy for them to play y_A^* leading to a voter welfare given by the right hand side, otherwise re-electing all politicians is better. Except in the case where the two sides are equal a mixed strategy clearly does worse. as this induces politicians to play an inoptimal strategy. Clearly for any mixture, the low type will play a policy between y_L and y_A and a policy between y_A and y_H will be chosen the high type. This is clearly inoptimal. ■

What happens though when the performance standard is a separating equilibrium? In this case there is a tension between selecting the 'right' type vs. the increased distortion of selection[15]. In general the performance standard is increasing in the rents from office so the distortion in policy from the high type increases. Thus, in general on expects a cutoff value where re-electing (or replacing) all politicians may lead to a higher welfare. Thus, we need to compare the utility under a separating equilibrium to that from re-electing all leaders. Denote the utility from a separating equilibrium by $U_S = s_H \left\{ u(\underline{y}) - p(\underline{y}) V\left(\theta_H\right) \right\} + (1 - s_H) \left\{ u(y_A^*) - p(y_A^*) E(V(\theta)) \right\}$ Thus, comparing utilities we get

Proposition 5 *If*

$$\begin{aligned} \max \quad & \{ s_H[u(y_H^*) - p(y_H^*) V\left(\theta_H\right)] + (1 - s_H)[u(y_L^*) - p(y_L^*) V\left(\theta_L\right)], \\ & u(y_A^*) - p(y_A^*) E(V(\theta)) \} \leq U_S \end{aligned} \tag{3}$$

then a strategy which induces separation achieves the second best.

Proof. The right hand side is the voter welfare under a separating equilibrium. If a policy of re-electing or replacing (the LHS) gives a lower welfare then indeed we achieve second best by separation . As we have noted earlier all randomized outcomes are worse. ■

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[15]For a paper which illustrates this clearly in a dynamic framework, see Snyder and Ting (2008).

Summary 1 *The second best outcome has to be one of the three types: 1. Separate the types 2. Always re-elect and 3. Never re-elect. Any decision other than this is dominated.*

4 The model with a continuum of types

We now analyze the model when the politician's type is drawn from a continuous distribution with support $\theta \in \left[\underline{\theta}, \overline{\theta}\right]$ where $\underline{\theta} > 0, \overline{\theta} < \infty$ drawn from a commonly known cdf $D(\theta)$. The realized value of θ is not known to the public. We now define the equilibrium of this game.

Definition 3 *A Perfect Bayesian equilibrium of the game is (1) A sequentially rational performance standard $\underline{y}$ for a voter which solves argmax $\int_{\underline{\theta}}^{\overline{\theta}} u(y) - p(y)V(\theta)d\theta$ (2) A choice of y, given the announcement $\underline{y}$, i.e. a mapping $\phi : [0,1] \times \left[\underline{\theta}, \overline{\theta}\right] \to [0,1]$, such that it maximizes total payoffs for the politician, given the re-election rule and (3) a set of beliefs $b : [0,1] \to B(\theta)$ i.e. a mapping from the y chosen into a probability distribution over types denoted by $B(\theta)$ that are given by Bayes rule.*

We now characterize the equilibrium.

Proposition 6 *The Perfect Bayesian equilibrium described exists if for $\underline{y} < 1$ there exists a $\widetilde{\theta} \in \left[\underline{\theta}, \overline{\theta}\right]$ such that $u(\underline{y}) - p(\underline{y})V(\widetilde{\theta}) + a = u(y^*) - p(y^*)E(V(\theta))$ and a $\widehat{\theta} \in \left[\underline{\theta}, \overline{\theta}, \right]$ with $\widehat{\theta} > \widetilde{\theta}$ such that $u(y^*) - p(y^*)V(\widehat{\theta}) + a = u(\underline{y}) - p(\underline{y})V(\widehat{\theta}) + a$. Given these conditions, the equilibrium has the following characterization (1) For all $\underline{\theta} \leq \theta < \widetilde{\theta}$, the politician chooses a strategy y^* where y^* is given by the solution to $u'(y) = p_y \max \{V(\theta), E(V(\theta))\}$, for $\widetilde{\theta} \leq \theta \leq \widehat{\theta}$, each politician chooses $\underline{y}$, for all $\theta > \widehat{\theta}$, a politician chooses $y > \underline{y}$, where y is given by $u'(y) = p_y \max \{V(\theta), E(V(\theta))\}$ (2) Beliefs of the voters that if $y < \underline{y}$, the politician's quality range is given by the solution to $u'(y) = p_y \max \{V(\theta), E(V(\theta))\}$ if $y = \underline{y}$, politician's expected quality is $\int_{\widetilde{\theta}}^{\widehat{\theta}} \theta D(\theta)d\theta$ and if $y \geq \underline{y}$, the politician's quality is given by $u'(y) =$*

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$p_y \max\{V(\theta), E(V(\theta))\}$ *(3) Politician's beliefs are that for a choice of $y < \underline{y}$, he will not be re-elected and for a choice of $y \geq \underline{y}$, he will be re-elected*

Proof. The following incentive compatible constraints need to hold. Given that the politician of type $\widetilde{\theta}$ is indifferent to meeting the performance standard and playing the strategy optimal for his type, we must have that for all $\theta < \widetilde{\theta}$, $u(\underline{y}) - p(\underline{y})V(\theta) + a < u(y^*) - p(y^*)E(V(\theta))$, where y^* solves $u'(y) = p_y \max\{V(\theta), E(V(\theta))\}$

At $\widetilde{\theta}, u(\underline{y}) - p(\underline{y})V(\theta) + a = u(y^*) - p(y^*)E(V(\theta))$.

For $\widetilde{\theta} \leq \theta \leq \widehat{\theta}$, $u(\underline{y}) - p(\underline{y})V(\theta) + a > u(y^*) - p(y^*)E(V(\theta))$.

Beyond $\widehat{\theta}$, the politician finds it optimal to play y corresponding to $u'(y) = p_y \max\{V(\theta), E(V(\theta))\}$, as $u(y) - p(y)V(\theta) + a > u(\underline{y}) - p(\underline{y})V(\theta) + a$, where $y > \underline{y}$

We now show that there exist $\widetilde{\theta}$ and $\widehat{\theta}$ such that this is optimal for the voter as well. Note that if voters see $y < \underline{y}$ they correctly infer that the type of politician is given by the solution to $u'(\underline{y}) = p_y(y, \theta) \max\{V(\theta), E(V(\theta))\}$. For it to be incentive compatible, it must be that for all $\theta < \widetilde{\theta}$ the voter is better off replacing, i.e. $V(\theta) < E(V(\theta))$. Further, at the range $\widetilde{\theta} \leq \theta \leq \widehat{\theta}$, the average quality at this range should be such that the voter is at least indifferent to replacing and reelecting the politician. Now average quality is given by

$$\int_{\widetilde{\theta}}^{\widehat{\theta}} \theta D(\theta) d\theta,$$ which we denote by $E_1(V(\theta))$ so $E_1(V(\theta)) \geq E(V(\theta))$. Finally, if $\theta > \widehat{\theta}, V(\theta) > E(V(\theta))$ and voters again correctly hold beliefs in that range that θ is given by the solution to $u'(y) = p_y(y) \max\{V(\theta), E(V(\theta))\}$.

Note for $\theta > \widehat{\theta}$ politicians play a first best policy which exceeds the minimum standard. Thus, the distortion is in the 'middle range' of quality i.e. when $\widetilde{\theta} \leq \theta \leq \widehat{\theta}$. Both in the low range of quality as well as in a high range, politicians play their first best strategy. ∎

It is worth noting that there are no credible deviations that any type of politician can make. In other words, there does not exist any deviation by a politician of any type such that voters would be able to determine the type of the politician from that type. Thus, the equilibrium described is intuitive in the sense of Cho Kreps (1987) and survives the criteria of equilibrium domination (see for example Fudenberg and Tirole (1992) for details) as well.

Remark 2 *The equilibrium satisfies the intuitive criterion*

To understand this, note, that at any $\underline{\theta} \leq \theta < \widetilde{\theta}$ a politician would not meet the standard even if voters believed it were of a higher type and re-elected the politician, hence they will never deviate, at $\widetilde{\theta} \leq \theta \leq \widehat{\theta}$ suppose a politician were to play $y > \underline{y}$, voters would still continue to re-elect him, hence the politician would not find it optimal to deviate. The same hold for the type range $\theta > \widehat{\theta}$. The key here is that there is no continuous reward variable which would affect the politicians payoff, he either gets re-elected or he does not.

A comparison with Spence's model is inevitable at this point. The most noteworthy differences are as follows: unlike education in Spence's model, more hawkish policies affect the payoff of the principal (i.e. the electorate). Moreover, the voters have access only to discrete contracts- viz. re-elect or replace, while the firm in the Spence's model could pay any wage. Hence, this accounts for the differences in the equilibrium characterization. Of course, the two dimensional model we introduce below is a further important difference.

5 The model with heterogeneous ideology

In this section we analyze both the policy adopted and the probability with which politicians of different ideologies are replaced. We consider the situation where both the ideology and quality of the leader are unknown and hence different performance standards cannot be set for different politicians.

5.1 The model with both ideology and quality unknown

We now look at what happens when ideology of politicians vary[16] i.e. politicians are intrinsically more hawkish or dovish and ideology is unknown.[17] There are now two parameters characterizing the politician, his ability and his ideology. We assume that ability and ideology are independently distributed. We denote the utility function of a politician of type α and quality θ from

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[16]Of course, ideologies of citizens also vary, we shall however look at whether politicians are more or less hawkish with respect to the median citizen's ideal point.

[17]We briefly discuss the implications for the model in the concluding section when politicians are heterogenous and ideology is known.

policy y as $\alpha u(y,\theta)-p(y)V(\theta)+a$ if re-elected and $\alpha u(y,\theta)-p(y)E(V(\theta))$ if replaced, where $\alpha > 1$ denotes a hawkish politician, $\alpha = 1$ denotes a median politician and $\alpha < 1$ denotes a dovish politician with α is drawn from a continuous distribution with cdf $G(\alpha)$, $\alpha > 0$ and $E(\alpha) = 1$. As in the earlier section ability is on the interval $\left[\underline{\theta},\overline{\theta}\right]$ with cdf $D(\theta)$. Voters know neither the quality nor the ideology of the politician though the expected value is commonly known.[18]

We will now show that the optimal replacement rule will be such that a hawk will be re-elected with a higher probability than a median (ideology) politician who in turn will be re-elected more frequently than a dovish politician. In other words, any optimal voting standard will be such that the (cutoff) quality at which a hawk gets re-elected will be lower than the quality for which a median will get re-elected, which in turn will be lower than the quality at which a dove gets re-elected. For this, we first note that for any given quality of the politician, the cutoff at which he is indifferent to meeting that standard and playing his first best policy is increasing in α. The following lemma proves this

Lemma 2 *Let y_α denote the ideal policy of a politician of type α, for any given θ. Further, let the performance standard $\underline{y} > y_\alpha$ satisfy $\alpha u(\underline{y})-p(\underline{y})V(\theta)+a = \alpha u(y_\alpha) - p(y_\alpha)E\left(V(\theta)\right).$ Then for all α, $\frac{d\underline{y}}{d\alpha} > 0$.*

Proof. Total differentiation of the above expression yields

$$\alpha u'(\underline{y})d\underline{y} + u(\underline{y})d\alpha - p_{\underline{y}}(\underline{y})V(\theta)d\underline{y} = u(y_\alpha)d\alpha$$

or

$$\frac{d\underline{y}}{d\alpha} = \frac{u(y_\alpha) - u(\underline{y})}{\alpha u'(\underline{y}) - p_y(\underline{y})V(\theta)}$$

Now, from the first order condition, we know that if $\theta > E(\theta), \alpha u'(y_\alpha) - p_y(y_\alpha)V(\theta) = 0$, so for $y = \underline{y} > y_\alpha$, $\alpha u'(\underline{y}) - p_y(\underline{y})V(\theta) < 0$. Again, if $\theta < E(\theta)$, $\alpha u'(y_\alpha) - p_y(y_\alpha)E\left(V(\theta)\right) = 0$, so for $y = \underline{y} > y_\alpha$ $\alpha u'(\underline{y}) - p_y(\underline{y})E(V(\theta)) < 0$. Given that V is decreasing in θ (so $E(V(\theta)) < V(\theta)$) this

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[18]Most politicians promise to be much more centrist than they are before elections. For example, the former US President George W Bush came to power on a platform of being a 'compassionate conservative' but turned out to be quite hawkish in his positions. Hence, gauging the ideology of a leader from election promises is difficult and voters often can make imprecise estimates about ideology until a politician actually assumes office.

means that $\alpha u'(y) - p_y(y)V(\theta) < 0$. Further, by definition u is monotonic in y, so $u(\underline{y}) > u(y_\alpha)$. Hence, both the numerator and denominator are negative, thus $\frac{dy}{d\alpha} > 0$. ∎

Given that the performance standard which makes a politician indifferent to fulfilling it and not fulfilling it is increasing in the degree of hawkishness of the politician, it is easy to show that any incentive compatible performance standard must re-elect a more hawkish politician at a lower threshold of quality. The following proposition formalizes it.

Proposition 7 *For any sequentially rational performance standard $\underline{y}$, if θ_α (respectively $\theta_{\alpha'}$) denotes the quality level at which a politician of ideology α (respectively α') is indifferent to fulfilling and not fulfilling the performance standard, then $\theta_\alpha \lessgtr \theta_{\alpha'}$ according to whether $\alpha \gtrless \alpha'$.*

Proof. For any given $\underline{y}$ let θ_α be the quality level for a politician of ideology α who is indifferent to fulfilling or not fulfilling the performance standard. Now, if $\alpha > \alpha'$, it must be that $\theta_{\alpha'}$ strictly prefers not fulfilling the performance standard. From Lemma 2 we know that the performance standard at which a politician is indifferent to fulfilling or not fulfilling a standard is increasing in α. Hence, it follows that the quality cutoff for a given performance standard is higher the less hawkish a politician. ∎

Thus, we see that asymmetric information about quality and ideology leads to an endogenous bias in the electoral process. It essentially arises because both quality and hawkishness leads to a higher y, voters are unable to distinguish the two and hence the optimal standard favours ideologically hawkish politicians.

6 Empirical implications, Extensions and Conjectures

We have analyzed how the political process leads to an escalation of conflict. The need for voters to screen politicians leads them to set standards which are more extreme than they would ideally like. Such extreme standards however itself increase the probability of conflict, thus conflict leads to hawkishness as a result of optimal screening by voters, but such hawkishness itself exacerbates conflict by increasing its probability next period. As high quality and ideological hawks both choose high levels of y, there is an endogenous bias

in the electoral process which favors hawks. Further, we provide a rationale for how an international body like the UN can play a fruitful role in conflict resolution by making people commit to treaties.

Our model provides some clear empirical implications. It suggests that when the probability of conflict is very high, we see politicians get more aggressive and natural hawks get re-elected more easily. In countries like Israel which have continuing conflict, we would thus expect to see a preponderance of leaders with military experience as seems to be the case. Indeed, one can look at whether when militarized disputes are high right wing leaders get elected more often. Such data is available from Correlates of War (Jones, Bremer and Singer, 1996) and ideology of parties for Western democracies is available from the Manifesto Project (Budge at. al, 2001). Further, in our model, the hawkish behavior of politicians should be independent of the state of the economy at that time which will distinguish it from alternate explanations that we discuss.

A related explanation which looks at electoral concerns is by Hess and Orphanides (1995) where a politician of unknown type goes to war when facing a sagging economy to see if he can prove to be a better war leader. In that case if he tackles war well, that becomes the salient issue and he is re-elected while if he is not, there is nothing to lose as he would not have been re-elected anyway. One would expect in that case that conflicts are endogenously created and vary with the business cycle. In our model no such correlation would be seen which gives rise to a testable hypothesis. Further, when leaders themselves do not know their type as in Hess and Orphanides we would not see leaders who get re-elected turn out to be hawks with a higher probability.

Clearly, there are several alternate reasons why one can see policy extremism. Glazer, Gradstein and Konrad (1998) show that if policy reversal is costly, politicians may choose policies more extreme than the median voter in order for rational voters to re-elect them as a costly policy reversal will take place if the opposition comes to power. We would expect to see policy extremism in either direction while in our model the extremism is always in one direction. Again, there would be no endogenous bias in favor of hawks getting re-elected in Glazer, Gradstein and Konrad. Neither is this electoral bias in favor of hawks implied by Kahneman and Renshon (2007) or Baliga, Lucca and Sjostrom (2009) though both predict that in times of conflict a democracy may behave particularly agressively.

Of course another simple explanation of hawkishness is that conflict causes

a preference shift in the electorate so the median voter becomes more hawkish leading to hawkish policies being implemented. However, assuming a proportionate shift, all types become more hawkish than before; it will not be the case that intrinsic hawks get re elected with a higher probability as their distance from the median voter will not have changed.

We would want to extend this paper in two directions. The first is to endogenize the candidate entry process using a citizen candidate model. We want to see if the extremism in the political process can get mitigated by a larger number of moderate people standing for election. We conjecture that the answer is no. This is because more moderate people are likely to be weeded out at a faster rate than more extreme people because of the bias in the re-election process which reduces their incentive to stand as candidates. Another line of work is to look at a potentially infinite horizon model-as the low quality politicians get weeded out (for a given ideology) at a higher rate than high quality ones, the distribution of quality over time gets shifted towards a higher mean quality. However, this will not lead to only the high quality people remaining in the long run. The reason is that all types of politicians face a probability of death every period, hence there will be a limiting distribution, it seems the policy will still be hawkish under this limiting distribution (and the optimal standards set under this limiting distribution will still favour hawks). A further interesting issue arises when politicians have a commonly known ideology and voters can set different performance standards for different groups of politicians. In that case, if separation is desired, hawkish politicians would be subject to a higher standard than dovish ones as a hawk finds it easier to implement a given standard, for the same quality level. This would lead to escalated conflict with hawks as compared to doves, and initial conditions (i.e. who is in office) would determine the course of a conflict. Of course, if extremely hawkish people are in office selection may not be desirable as the costs are too high so pooling may occur. These issues, along with a more rigorous examination of empirical evidence is left for future research.

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