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A Note on Asymmetric Policies: Pandering and State-specific Costs of Mismatch in Political Agency

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A Note on Asymmetric Policies: Pandering and State-specific Costs of Mismatch in Political Agency

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Abstract

We study the implications of state dependent costs of policy mismatch in political agency models where politicians have reputational concerns and "good" politicians share the same objectives with the voters. We find that state-dependent costs can increase the set of parameters where pandering is an equilibrium strategy. Indeed, in our model, pandering can arise even without office rents. Moreover, we show that voters do not necessarily prefer biased politicians to be in favour of the policy that produces the cheapest expected cost of mismatch.

We discuss the implications of those results for populism, environmental policies and the equilibrium incentives to over- or under-provide lockdowns or other mitigation measures.

Keywords: Asymmetric mismatch, pandering, political agency, special interest groups, populism.

JEL Classification: D72; D78

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1 Introduction

Many policy settings are characterised by strong information asymmetries between politicians and voters. The former are much more likely to know what is the "true state of the world", i.e. whether proposed measures are needed or not, what measures are needed and what is the cost of adopting them. While voters prefer policies to be set in place when they are justified by collective needs, politicians might pursue different objectives. Importantly, in many instances the costs of policy mismatch are likely to be state specific and even very asymmetric. For a recent example, think of the difference in payoffs induced by choosing the wrong anti-pandemic policy, when a lockdown is needed and when it is not. The social costs of having strong mitigation measures when they are not actually needed may be smaller than the social costs of not having them when needed. Similarly, consider environmental Special Interest Groups (SIGs) arguing in favour of stricter (and costly) environmental policies irrespective of the true state of the world, i.e. whether they are needed or not. Probably, the cost of choosing the wrong environmental policy, when protection is needed, is higher than the cost of adopting restrictions, when they are not needed.

In this paper we study the implications of state-specific mismatch costs in a model of political agency with (possibly) biased politicians. Generally speaking, we stress the importance of the interaction between the direction of the bias and the direction of the asymmetry in mismatch costs, both in determining the likelihood of pandering equilibria and their effects on voters' welfare.

Our model builds on the political agency literature, and in particular on Besley (2006), where politicians can be "good", sharing the same objectives of the voters (plus, possibly, an office rent), or "dishonest", i.e. biased for personal interests or because they are captured by a SIG.[1] We introduce one important modification, letting the cost of mismatch, i.e. the difference in voters' payoff between choosing the right and the wrong policy, be state-specific. This allows us to show two sets of results.

[1] If the bias is due to a SIG, as e.g. in Schnakenberg and Turner (2019), then the relevant bias is the one of the SIG.

First, we show that pandering equilibria are more likely to be incentive compatible when the biased politician advocates "high damage" policies. When this is the case, the likelihood of a pandering equilibrium, where the "good" politician chooses a socially inefficient policy for electoral purposes, is increasing in the magnitude of the asymmetry in the cost of policy mismatch in different states of the world. Up to the point that, in our model, pandering can be "benevolent", i.e. an equilibrium even for purely policy motivated politicians, without office rents.

Intuitively, in a pandering equilibrium, the "good" politician may face a trade off between a present loss (if she chooses the "popular" action in the wrong state) and the risk of a future loss (if she is replaced by a "dishonest" politician). If losses due to mismatch are symmetric across states, pandering is never optimal without a sufficiently big office rent, as there would be no point in choosing a sure mismatch today instead of a probabilistic one tomorrow. However, mismatch asymmetry may be such that the expected cost of mismatch tomorrow is sufficiently high to overcome the fact that it would not be certain. For this to be the case, the dishonest politician must support the policy with the higher cost of mismatch. If we interpret pandering as an approximation of populism, this implies that even well intended politicians, who are exclusively policy motivated, may choose a populist policy.

Secondly, and perhaps counter-intuitively, we show that voters, in some circumstances, when facing the threat of dishonest politicians, may prefer those politicians to support the policy producing, if implemented when not appropriate, more extensive damages (anti-mitigation or no environmental protection, in our examples). This happens when office rents are sufficiently high to induce good politicians always to pander in equilibrium. Intuitively, when biased politicians prefer the most damaging policy, pandering is less costly, because it implies the implementation of a policy that is less damaging when not appropriate, and may be even welfare improving.[2]

The two sets of results are linked together by the interaction between the directions of

[2] In the relevant section of the paper we assume that both states are equally likely, hence the effect is not driven by the likelihood of different states. However, results are qualitatively unchanged, even with differently likely states, as long as the policy with the least costly mismatch is also what voters would choose, absent additional information.

the bias and of the cost asymmetry in determining the optimality of pandering. Pandering may be optimal even for voters and voters may prefer to be facing the threat to be ruled by the most damaging dishonest politicians, if pandering itself is less costly than the potential mismatch to be incurred when a dishonest politician, biased towards the policy with higher costs of mismatch, replaces the good one.

Related literature This paper is related with multiple strands of the literature. First, our results concern models of political agency and reputation building, where both adverse selection and moral hazard are present (Maskin and Tirole, 2004; Besley, 2006; Negri, 2017; Duggan and Martinelli, 2015). In particular, we refer to models studying the incentives of politicians to adopt suboptimal actions to signal their type and increase their re-election chances (Canes-Wrone et al., 2001; Fox, 2007; Morelli and Van Weelden, 2013; Ashworth and Shotts, 2010; Herrera et al., 2020; Lockwood, 2017; Trombetta, 2020). We depart from them by allowing for a state specific cost of policy mismatch and we look at the theoretical implications of this more general approach, highlighting the role of interactions between the direction of politicians' biases and the asymmetry of mismatch costs. We are aware of only two other political agency model that have modelling assumptions somehow similar to state specific mismatch cost, whose focus, however, is not on the role of asymmetry in determining pandering equilibria: Kartik and Van Weelden (2019b) and Kartik and Van Weelden (2019a). In particular, Kartik and Van Weelden (2019b) show the presence of an incumbency advantage in the class of models broadly characterized by a "bad reputation effect", that includes pandering models. Their setup is fairly different from ours.[3] They focus on the case of large office rents and the structure of their model is not suitable for studying the role of the interaction between dishonest's politician biases, pandering and mismatch costs, nor to prove that pandering can be an equilibrium even in complete absence of office rents.[4] Kartik and Van Weelden (2019a) combines a model of pre-election cheap talk campaigning with post-

[3]Infinite horizon with term limits, binary actions but infinitely many states, probabilistic voting

[4]In the baseline model, as the politician gets a payoff of 0 when out of office, there would be no policy distortion whatsoever with 0 office rents. Appendix C considers a model where the politician derives utility even when out of office, but again proposition 4 "does not assure that for any arbitrary k [i.e. office rents], policymaking is distorted toward action 1" (Kartik and Van Weelden, 2019b).

election pandering to show how costless promises can affect incumbent's behaviour. The setup is again very different from ours, the structure of the model does not allow for a direct comparison with the case of symmetric mismatch costs, the case of zero office rent is ruled out by assumption and the aim is not to discuss how pandering is affected by the asymmetry in mismatch costs.

A couple of related papers (Gailmard and Patty, 2019; Fox and Van Weelden, 2015) look at the supply of prevention policies. Our focus is different, as we do not look at prevention policies for events that may happen, but rather at optimal reaction to events that have happened. In Fox and Van Weelden (2015) asymmetric returns to different policies play a role, but they do so in a very different framework[5] and with a different focus (inefficiently low adoption of pre-emptive policies). Gailmard and Patty (2019) shows that under-provision of prevention measures happens in equilibrium when politicians can be biased in favor of them (and voters do not know the state). Our model can replicate their equilibria, allowing for a more flexible approach (i.e. the bias can be in either direction) and enabling us to focus on the relationship between direction of the bias and asymmetries in mismatch costs (which is fixed in their model). Moreover, we show under what conditions there can be over-provision of mitigation measures.

Our paper is also related to the theoretical literature on special interest groups (Grossman and Helpman, 1996) and in particular to models of political agency and special interest groups, like Schnakenberg and Turner (2019) and Coate and Morris (1995). With respect to those, we discuss the welfare effects of different types of SIG-induced biases. Our results are also related with the theoretical literature on populism (Acemoglu et al., 2013; Prato and Wolton, 2016, 2018; Chesterley and Roberti, 2018; Guiso et al., 2019; Frisell, 2009; Morelli and Sasso, 2020): in their respect, we show how asymmetric cost of mismatch affect the likelihood of populist equilibria, and that both things together determine which type of bias is more harmful for the voters. Moreover, our results on the existence of "populist" equilibria in absence of office rent is also in Acemoglu et al. (2013). However, as explained in greater details below, the structure of the two models

[5]Politicians' type are unknown to politicians them-self, actions are unobservable and the result is driven by learning opportunities, rather than state-matching.

is quite different, hence we find that a similar logic applies to different frameworks. Finally, we contribute to the growing theoretical analysis of politics and pandemics (Herrera and Ordoñez, 2020; Shadmehr and de Mesquita, 2020; Gitmez et al., 2020), focusing on how incentives to over or under supply mitigation measures may depend on the internal political environment.

The reminder of this paper is as follows. Section 2 presents the model. Section 3 looks at the role of asymmetric payoffs in making pandering incentive compatible in equilibrium and section 4 looks at the welfare consequences of different directions of the bias. Finally, section 5 discusses applications of those results to mitigation measures, environmental policies and populism. Section 6 concludes.

2 Model

The model builds on the literature on pandering in political agency with moral hazard and career concern. We focus on the class of models based on Maskin and Tirole (2004) and Besley (2006) where the incumbent politician has superior information about a policy relevant state of the world and is both office and policy motivated.

In particular, consider a game of two periods, $t \in \{1, 2\}$, with two players: a politician (she) P and a representative voter (he) V. A policy relevant state of the world $s_t \in \{A, B\}$ is drawn in every period with $Pr(s_t = A) = p \in (0, 1)$. The incumbent politician chooses an action, $x_t \in \{a, b\}$, and voter get a higher utility $u_t^V(x_t, s_t)$ when the action matches the state than when it does not (with a slight abuse of notation, we define $x_t = s_t$ as a policy that matches the state and $x_t \neq s_t$ as one that does not). Hence, we assume $\Delta_s = u_t^V(x_t = s_t, s) - u_t^V(x_t \neq s_t, s) > 0$. Δ_s captures the cost of mismatch, i.e. of choosing the wrong policy in state s. Most of political agency models assume $\Delta_s = \Delta_{s'}$ $\forall s, s'$, while we allow them to be different across states.[6]

The politician's type is $\theta \in \{G, D\}$ with $Pr(\theta = G) = \pi \in (0, 1)$. Good politicians (G) always share the same utility of the voters in every period (including when they are

[6] We assume it is constant through time. We could allow it to be different in time as well, and results would be qualitatively unchanged.

out of office, as they become citizens themselves) and get an office rent $E \geq 0$ when they are in office. Dishonest politicians (D) also enjoy the office rent E, but they favour policy b irrespective of the state (section 4 compares the case of a b-biased and a-biased D politician) either because they have a personal interest in the choice of policy or because they are captured by a special interest group. Hence, they enjoy a payoff of r_t whenever they are in office and choose $x_t = b$, and zero otherwise.[7] We assume that r_t is private information of the politician and it is drawn from a (known) distribution F_t with expected value $\bar{r}_t$ support $[0, R]$ such that $R > (\bar{r}_2 + E)$.[8]

Timing The timing of the game is as follows:

In period 1:

1. s_1, θ_1 and r_1 drawn, private information of P;
2. P chooses x_1;
3. V observes x_1 and chooses whether to keep P in power or replace her with a candidate from the same distribution;
4. Payoffs are paid and period 1 ends.

In period 2:

1. θ_2 (if P has been replaced), s_2 and r_2 drawn;
2. The incumbent chooses x_2;
3. Payoffs are paid and period 2 ends.

The solution concept is pure strategy perfect Bayesian Nash Equilibrium. Moreover, we restrict our attention to informative equilibria, where politicians' actions move voters' beliefs on path, as defined below.

[7] If we were to translate Besley (2006) in our notation, they would extract rents r from choosing action b with the assumption that $u_t^V(x_t, s_t, r_t > 0) = u_t^V(x_t \neq s_t, s_t, r_t = 0)$. The result would be qualitatively unchanged.

[8] As in Besley (2006), this assumption guarantees that the dishonest politician chooses both actions with positive probability in equilibrium, avoiding the issue of off-path beliefs.

Definition 1 *A perfect Bayesian Nash equilibrium is informative if the action chosen in period* 1 *moves the voter's beliefs, on the equilibrium path, with strictly positive probability.*

Another important definition is that of "pandering equilibrium", i.e. an equilibrium where the good politician sometimes chooses $x_1 \neq s_1$. Formally,

Definition 2 *A pandering equilibrium is an informative perfect Bayesian Nash equilibrium where a politician of type G chooses $x_1 \neq s_1$ in at least one of the states.*

As tie breaking rules, we assume that an indifferent voter confirms the incumbent and an indifferent incumbent chooses the action that guarantees his re-election.

3 Analysis

3.1 Basic observations

We solve the game by backward induction, noticing that in $t = 2$ the dishonest politician always chooses action b and the good politician chooses $x_2 = s_2$. As a consequence, when V observes x_1 he re-elects P when $\hat{\pi}_{x_1} \geq \pi$ and picks a challenger otherwise, where $\hat{\pi}_{x_1} = Pr(\theta = G|x_1)$. We define the voter's election choice after observing x_1 as $\rho(x_1) = Pr(re - elect|x_1)$.

Observation 1 *In every pure strategy informative equilibrium of the game, $\rho(a) = 1$ and $\rho(b) = 0$.*

All the proofs are in Appendix A. Observation 1 is the re-statement of a known result, in this type of models. Intuitively, since the dishonest politician is biased toward action b, action a can be used effectively as a signal of alignment. As a consequence, the dishonest politician chooses action a, in equilibrium, whenever $r_1 \leq (E + \bar{r}_2)$. This choice is a pure strategy from the point of view of the dishonest politician, who knows r_1. However, from the point of view of the voter (who knows only the distribution F_1), the probability of this happening is:

$$\lambda = Pr(x_1 = a|\theta = D) = F_1(E + \bar{r}_2)$$

Looking now at the equilibrium behaviour of the good politician, assuming a pandering equilibrium exists, we note that when $s_1 = A$ there is no trade off. When $s_1 = B$, instead, she can either choose the wrong action and stay in power, or the right action and lose office. Formally, the expected utility of choosing action a is:

$$Eu(x_1 = a, s_1 = B, \theta = G) = u_1^V(a, B) + \left[E + pu_2^V(a, A) + (1-p)u_2^V(b, B)\right] \tag{1}$$

This implies a mismatch in state B in period 1 and then - since the good politician stays in power - she will surely match the state in period 2. The expected utility of choosing action b is

$$\begin{aligned} Eu(x_1 = b, s_1 = B, \theta = G) = {} & u_1^V(b, B) + \\ & + [\pi(pu_2^V(a, A) + (1-p)u_2^V(b, B)) + \\ & + (1-\pi)(pu_2^V(b, A) + (1-p)u_2^V(b, B))] \end{aligned} \tag{2}$$

It implies a higher utility in period 1 followed by a period two where there is mismatch with probability $(1-\pi)p$. We can now state the first result:

Lemma 1 *A pandering equilibrium exists iff*

$$\Delta_B \leq [E + (1-\pi)p\Delta_A] \tag{3}$$

Intuitively, pandering equilibrium exists if $Eu(x_1 = b, s_1 = B, \theta = G) \leq Eu(x_1 = a, s_1 = B, \theta = G)$. Replacing (1) and (2) and rearranging, we obtain that a necessary condition for the existence of a pandering equilibrium is (3).

Equation (3) is the crucial one to understand our results. Note that it describes the trade off that the good politician faces in state B. Pandering is incentive compatible if the mismatch in B is more than compensated by gains in the next period, both because there will not be a mismatch and because of the office rent.

3.2 Symmetric payoffs

The case of symmetric payoffs is straightforward, but also useful for comparison.

Observation 2 *If $\Delta_A = \Delta_B = \Delta$, then a necessary condition for the existence of pandering equilibria is $E \geq \Delta(1-(1-\pi)p)$.*

In other words, a sufficiently big office rent is needed to compensate for the cost of mismatch. It is useful to define the threshold on E in case of symmetric payoffs as $\bar{E}^S = \Delta(1-(1-\pi)p)$

3.3 The role of asymmetry

Dropping the symmetry assumption, we can now prove the first result. First of all, define $\bar{E}^{A \neq B}$ the threshold on E such that $E \geq \bar{E}$ is a necessary condition for the existence of a pandering equilibrium.

Proposition 1 *Assume $\Delta_A \neq \Delta_B$. $\bar{E}^{A \neq B}$ is strictly decreasing in Δ_A and strictly increasing in Δ_B.*

Proposition 1 highlights the role of asymmetric payoffs. The intuition is very simple: if the expected cost of a future mismatch (i.e. $p\Delta_A$) increases when compared with the cost of a present mismatch (Δ_B), then pandering is incentive compatible even for smaller values of E, and the opposite is true when Δ_B increases leaving Δ_A unchanged. A useful corollary of proposition 1 is the comparison with the symmetric case.

Corollary 1 *Assume $\Delta_A \neq \Delta_B = \Delta$.*

1. *If $\Delta_A > \Delta_B$, then $\bar{E}^{A \neq B} < \bar{E}^S$;*
2. *If $\Delta_A < \Delta_B$, then $\bar{E}^{A \neq B} > \bar{E}^S$;*

Corollary 1 implies that asymmetric payoffs increase the range of parameters where pandering is incentive compatible when electoral incentives are such that pandering implies choosing the wrong action in the state with the least costly mismatch.

As a consequence, pandering is more likely to be incentive compatible when the dishonest politician is biased in favour of the action with the highest cost of mismatch (i.e. b, rather than a, in this case). If we think that the bias of the dishonest politician is due to the action of interest groups, this implies that populism is more likely where the most powerful SIGs are in favour of potentially "high-damage" policies. It seems natural to think that it is generally bad for the voters to have interest groups pushing for the wrong policy in the most expensive case. Not only because of the cost itself if lobbying is successful, but also because this makes pandering more likely. Section 4 however explores this issue in greater details, showing that this is not generally true.

Another interesting corollary involves the special case of no office rent, where the good politician has exactly the same utility as the voters. In this case, pandering is never an equilibrium behaviour in models like Besley (2006), Fox (2007), Kartik and Van Weelden (2019b) or in Maskin and Tirole (2004).[9] Differently from them, we find meaningful conditions where a pandering equilibrium exists, precisely because of the assumption on asymmetric mismatch costs.

Corollary 2 *Assume $E = 0$. If $\Delta_A \geq \frac{1}{(1-\pi)p}\Delta_B$, there exists a pandering equilibrium.*

In its essence, the logic is similar to Acemoglu et al. (2013), although in a different framework: in their case, there is no asymmetric information on a policy relevant state of the world, so there is no concept of state-specific mismatch costs.[10] In both models, honest politicians internalize the damage of being replaced by a biased counterpart, and this may be a sufficiently strong incentive to distort policies in the first period. In our model, with binary actions and policy-relevant state of the world, it is never worth to distort the policy "today" in exchange for a better policy "tomorrow", if the mismatch cost is symmetric across states. Asymmetric mismatch cost, instead, open up this possibility, allowing for pandering even in absence of office rents (and time variation in the value of the decision).

[9] In this latter case, as well as in other pandering models, such as Lockwood, 2017; Trombetta, 2020, there can be pandering without office rents only when there is variation over time in the importance/payoffs of the policy decision.

[10] The preferred policy of the median voter is common knowledge. There is asymmetric information on whether the politician is captured by a right-wing SIG or not. Moreover, their action space is continuous and the politician's action is observed with noise.

In terms of policy implications, corollary 2 means that, with a sufficiently large asymmetry, pandering is an equilibrium behaviour of politicians that are fully aligned with the voters and exclusively policy motivated. If we interpret pandering as an approximation of populism (as for example in Frisell, 2009; Prato and Wolton, 2018; Trombetta, 2020), then this means that populist behaviour can be the choice of welfare maximizing politicians.

4 Direction of the bias and voter's welfare

The model allows us to study under what condition a bias toward the action that could potentially produce the highest cost of mismatch is better for the voter than a bias that can cause a cheaper mismatch.

For this section, we assume the following:

Assumption 1 $\Delta_A > \Delta_B$.

Assumption 2 $p = 0.5$.

Assumption 1 is without loss of generality and it is there just to state the direction of the asymmetry. Everything would be unchanged with a relabelling of the mismatch costs and the biases. However, note that $\Delta_A > \Delta_B$ implies that $\frac{1}{2}u^V(a, A) + \frac{1}{2}u^V(a, B) > \frac{1}{2}u^V(b, A) + \frac{1}{2}u^V(b, B)$. Hence, a is the action that, absent additional information, gives the higher expected utility. We show that, despite this, the voter may be better off with a politician biased in favour of the action he would not choose. Assumption 2 simplifies the exposition, allowing us to disentangle the effect of different directions of the bias due to more or less costly mismatches from the effect of being biased against the more or less likely state.[11]

Proposition 2 *If $\lambda < 0.5$, for any combination of parameters and for a given direction of the bias there exists one and only one pure strategy informative equilibrium. It is either a pandering one or an equilibrium where the good politician chooses the short term*

[11] Everything remains unchanged as long as $p \geq \frac{\Delta_B}{\Delta_A + \Delta_B}$ and $\lambda \leq min\{p, 1-p\}$.

optimal action in period 1. Re-election probabilities and the behaviour of the dishonest types are the same in both types of equilibria.

Given the result outlined above, we assume that $\lambda < 0.5$, so that we satisfy the necessary condition for the existence of a pure strategy informative equilibrium. It has the same re-election strategies as the pandering one but the good politician always chooses the action that matches the state(we call this equilibrium "non-pandering").[12] This allows us to focus on interesting equilibria and makes the welfare comparison more tractable.

We need to consider different cases, depending on parameters. Observation 3 summarizes the relevant cases. It is a direct consequence of proposition 2.

Observation 3 *1. If $\frac{2\Delta_B-\Delta_A(1-\pi)}{2} \leq E < \frac{2\Delta_A-\Delta_B(1-\pi)}{2}$, the unique informative equilibrium is the pandering one when the bias of the dishonest politician is toward b and the non-pandering one when the bias is toward a;*

2. If $E < \frac{2\Delta_B-\Delta_A(1-\pi)}{2}$ the unique informative equilibrium is the non-pandering one for both directions of the bias;

3. If $E \geq \frac{2\Delta_A-\Delta_B(1-\pi)}{2}$, the unique informative equilibrium is the pandering one for both directions of the bias;

4.1 Bias toward b

Suppose the dishonest politician is biased toward b. Following observation 3, there is a pandering equilibrium with $\rho(a) = 1$ and $\rho(b) = 0$ whenever $E \geq \frac{2\Delta_B-\Delta_A(1-\pi)}{2}$ (i.e. cases 1 and 3) and the non pandering one otherwise (i.e. case 2). The ex ante welfare of the voter is

$$\pi\left[0.5(u^V(a,A)+u(G))+0.5(u^V(a,B)+u(G))\right]+(1-\pi)X_b \tag{4}$$

[12] Under some conditions, there can be also an equilibrium where both types of politicians pool toward the action liked by the biased type. However, this equilibrium relies on restrictions on off path beliefs, does not exist when $E = 0$ and implies that the first period action is completely uninformative. Here we focus on (pure strategy) equilibria where the first period behaviour of the incumbent transmits some information.

in cases 1 and 3, and

$$\pi\left[0.5(u^V(a,A)+u(G))+0.5(u^V(b,B)+(\pi u(G)+(1-\pi)u(D_b)))\right]+(1-\pi)X_b \quad (5)$$

in case 2, where $u(G)$ is the expected utility of having a type G in power in period 2, $u(D_b)=0.5u^V(b,A)+0.5u^V(b,B)$ is the expected utility of having a type D biased toward b in period 2 and

$$X_b=\lambda[0.5u^V(a,A)+0.5u^V(a,B)+u(D_b)]+(1-\lambda)[0.5u^V(b,A)+0.5u^V(b,B)+\pi u(G)+(1-\pi)u(D_b)]$$

is the expected utility if the incumbent in period 1 is a dishonest type (biased toward b).

4.2 Bias toward a

Suppose instead that the dishonest politician is biased toward a. Given the assumption on E there is a non-pandering equilibrium with $\rho(a)=0$ and $\rho(b)=1$ whenever $E<\Delta_A-\Delta_B(1-\pi)\frac{1}{2}$, i.e. in cases 1 and 2, and a pandering one otherwise. As a consequence, in cases 1 and 2 the ex ante welfare of the voter is

$$\pi\left[0.5(u^V(a,A)+(\pi u(G)+(1-\pi)u(D_a)))+0.5(u^V(b,B)+u(G))\right]+(1-\pi)X_a \quad (6)$$

In case 3 instead the ex ante welfare of the voter is:

$$\pi\left[0.5(u^V(b,A)+u(G))+0.5(u^V(b,B)+u(G))\right]+(1-\pi)X_a \quad (7)$$

$u(G)$ is the expected utility of having a type G in power in period 2, $u(D_a)=0.5u^V(a,A)+0.5u^V(a,B)$ is the expected utility of having a dishonest type biased toward a in power in period 2 and

$$X_a=\lambda[0.5u^V(b,A)+0.5u^V(b,B)+u(D_a)]+(1-\lambda)[0.5u^V(a,A)+0.5u^V(a,B)+\pi u(G)+(1-\pi)u(D_a)]$$

is the expected utility if the incumbent in period 1 is a dishonest type (biased toward a).

4.3 Comparison

A comparison between the relevant equations above suggests the following proposition:

Proposition 3 *It is better for the voter to have a dishonest politician biased toward b (i.e. the action that could potentially produce the most expensive mismatch) than toward action a if both those conditions are satisfied:*

1. $E \geq \frac{2\Delta_A - \Delta_B(1-\pi)}{2}$;

2. $\pi \geq \frac{4-3\lambda-\sqrt{8+\lambda^2-8\lambda}}{2(1-\lambda)}$;

Otherwise, the opposite is true.

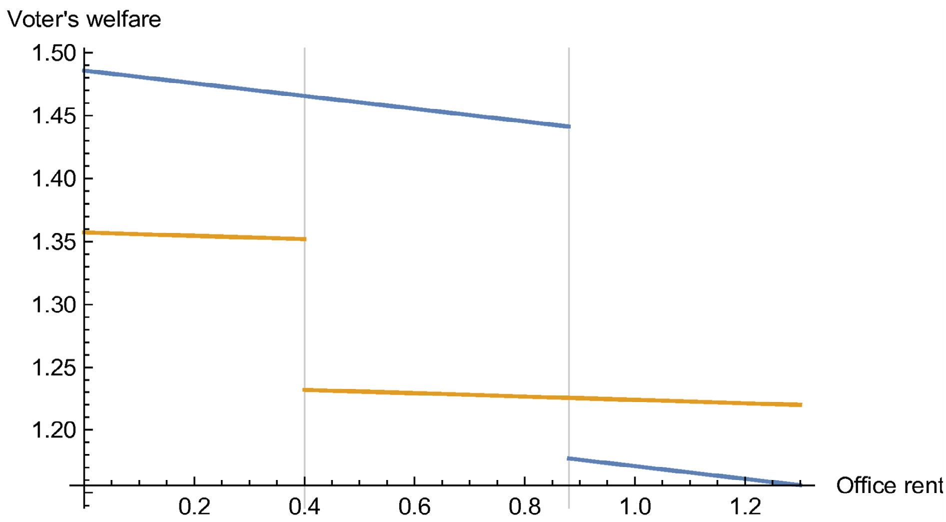

Figure 1: Voter's welfare for different biases of the dishonest politician (blue line, bias toward a, orange line, bias toward b) as a function of E. Other parameters: $\pi = 0.6$, $\bar{r}_2 = 0.2$, $F_1 = U[0, 3]$, $u^V(a, A) = 1$, $u^V(b, A) = 0$, $u^V(b, B) = 0.7$, $u^V(a, B) = 0.1$.

Figure 1 illustrates the result of proposition 3 plotting the ex ante welfare of the voter, for different directions of the bias, as a function of the office rent. Proposition 3 highlights that, when the office rent is sufficiently high and the proportion of dishonest politicians (i.e. $1 - \pi$) is sufficiently low, the voter prefers facing the threat to be ruled by a dishonest politician able, if successful, to induce a mismatch in the most expensive state. The reason is that this direction of the bias induces the good politician to pander toward a, in equilibrium. Hence, the good politician uses a cheaper form of pandering (as it induces a mismatch only in state B). If good politicians are sufficiently likely, this compensates, from an ex ante perspective, for the risk of a very expensive mismatch induced by the dishonest type.

To better understand the intuition, note first of all that a dishonest politician biased toward b implies that, if successful, it induces a mismatch in state A, which is very costly for the voter. In fact, we can show that $X_b < X_a$: conditional on having a dishonest incumbent in period 1, it is better if his bias induces a mismatch in the least expensive state (i.e. implies choosing $x = a$ when $s = B$).

Now we can look case by case using observation 3. In case 1, a bias toward b induces pandering from the good politician in equilibrium, while a bias toward a does not. In terms of ex ante expected utility, however, the voter prefers this second case (as pandering induces a sure mismatch in state B, *vis-à-vis* a probabilistic one, in the same state, in the non pandering equilibrium). So, irrespective of the type of incumbent in period 1, the voter prefers a bias toward a. In case 2, neither of the two biases induce equilibrium pandering. Hence, ex ante welfare is reduced only by the risk of the good politician being replaced by a dishonest one: a dishonest politician in period 2 when the bias is toward b is worse than a dishonest politician in period 2 when the bias is toward a, because the former induces a mismatch in the most expensive state. Hence, again, the second type of bias is better.

Finally, in case 3 there is a trade off. Parameters are such that both types of biases induce pandering from the good politician in period 1, but this is cheaper, for the voter, when the bias is toward b, as it induces a mismatch in state B rather than in state A. So, conditional on having a good incumbent in period 1, the bias toward b is better. On the other hand, the opposite is true if the incumbent of period 1 is dishonest. This explains the condition on π: a sufficiently high probability of having a good incumbent implies that the first effect dominates. As $\lambda \in \left(0, \frac{1}{2}\right)$, a sufficient condition for this to hold is $\pi > 2 - \sqrt{2}$.[13]

[13] Alternatively, the combination of the two conditions of proposition 3 with the assumption of $\lambda < \frac{1}{2}$ can be stated as $E \in \left(max \left\{ F_1^{-1} \left(1 - \frac{\pi}{(1-\pi)(2-\pi)} \right) - \bar{r}_2, \frac{2\Delta_A - \Delta_B(1-\pi)}{2} \right\}, F_1^{-1}\left(\frac{1}{2}\right) - \bar{r}_2 \right)$, that requires $\pi \geq \frac{5-\sqrt{17}}{2}$ as a necessary condition. We thank Federico Vaccari for pointing out this alternative way of

5 Applications

We believe our results can be applied to different settings.

In terms of mitigation policies, our model allows us to ascertain some conditions favouring overprovision: good politicians will choose to implement mitigation measures even if they are not needed, when they can be used as a signal of congruence, i.e. when dishonest politicians are biased against those measures. Moreover, this is more likely to happen when the asymmetry in mismatch cost is such that not adopting the policy when needed is, at least in expectations, the most costly mistake, and, in this case, its likelihood is increasing in the magnitude of the asymmetry.

In terms of environmental policies and lobbying, our model suggests circumstances where voters may prefer to face anti-regulation SIGs (rather than pro-environment), even when introducing regulations would be the ex ante choice of the voters absent additional information. This happens if the presence of anti-regulation SIGs induces good politicians to pander in the "cheapest" way, i.e. choosing pro-environment policies.

In terms of populism, our model implies that, when mismatch costs are state specific, populism can emerge as an equilibrium strategy even for politicians whose interests are completely aligned with those of the voters. Secondly, populism is more likely to appear as an equilibrium behaviour when dishonest politicians are biased toward the action with the highest cost of mismatch. Third, dishonest politicians advocating potentially "high damage" policies are less of an issue in political contexts where politicians are strongly motivated by keeping their post (i.e. "professional politicians"), and so populism is a more common phenomenon, while they are bad for the voters when politicians have little incentives to keep their post for its own sake ("non-professional politicians") and so to behave in a populist way.

presenting the result.

6 Conclusions

This paper studies the role of asymmetric, state specific costs of mismatch in a model of political agency and pandering. Allowing for such asymmetry enables us to explore new results. We show that state specific mismatch costs affect the range of parameters where pandering is an equilibrium, allowing its existence even when the good politician has no office motivation, hence his objectives are perfectly aligned with those of the voters. Moreover, we can draw a line between the existence of pandering equilibria and the welfare effect of different types of biases by dishonest politicians, showing that when pandering is an equilibrium voters may prefer biased politicians that support the action with the highest potential cost of mismatch. We discuss the implication of those results for the provision of mitigation measures, the relationship between environmental policies and lobbying and the emergence of populism as an equilibrium behaviour.

This paper provides the theoretical bases for further research. Capture by SIGs can be studied expanding this model to a more general framework, and allowing for a cost of capture that may depend on different cost of mismatch (i.e. even dishonest politicians may need stronger incentives to choose very damaging actions).

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A Proofs

Proof of Observation 1.

The proof is by contradiction. First, assume that a pandering equilibrium exists (it will be proven below). Define $\gamma_s = Pr(G\ plays\ a\ in\ state\ s)$ and $\lambda_s = Pr(D\ plays\ a\ in\ state\ s)$. By sequential rationality, the re-election strategy of the voter must be to re-elect the incumbent if $\hat{\pi}_x > \pi$, chooses the challenger if $\hat{\pi}_x < \pi$ and is indifferent otherwise. By Bayes' rule (as long as both actions are observed with positive probability on the equilibrium path), it must be that:

$\rho(a) = 0, \rho(b) = 1$ if $p\gamma_A + (1-p)\gamma_B < p\lambda_A + (1-p)\lambda_B$

$\rho(a) = 1, \rho(b) = 0$ if $p\gamma_A + (1-p)\gamma_B > p\lambda_A + (1-p)\lambda_B$

$\rho(a) \in [0,1], \rho(b) \in [0,1]$ if $p\gamma_A + (1-p)\gamma_B = p\lambda_A + (1-p)\lambda_B$

Finally, note that the incentive structure of the D politician is independent of the state. He will choose $x = b$ as long as

$$r_1 \geq (\rho(a) - \rho(b))(E + \bar{r}_2)$$

Hence, $\lambda_A = \lambda_B = \lambda$.

Looking now at the re-election probabilities, first suppose that $\rho(b) > \rho(a)$. In this case, $\lambda = 0$ and $\gamma_B = 0$. Sequential rationality would require $\gamma_A = 0$ as well (it would be possible for suitable parametric restrictions and off path beliefs), but it would not be an informative equilibrium.

Second, suppose that $0 < \rho(b) \leq \rho(a) < 1$. This requires $p\gamma_A + (1-p)\gamma_B = \lambda \in (0,1)$. In pandering equilibria, $\gamma_A \in \{0,1\}$, $\gamma_B \in \{0,1\}$ and $\gamma_A = \gamma_B$. Hence, this event cannot happen in equilibrium. In general in pure strategy equilibria, where $\gamma_A \in \{0,1\}$ and $\gamma_B \in \{0,1\}$, this is a measure zero event. The same logic applies to $0 = \rho(b) \leq \rho(a) < 1$and $0 < \rho(b) \leq \rho(a) = 1$.

Finally, suppose that $\rho(a) = 1, \rho(b) = 0$. As long as $p\gamma_A + (1-p)\gamma_B \geq \lambda = [E + \bar{r}_2]$, this is sequentially rational. It also shows that a pandering equilibrium requires $\gamma_A = \gamma_B = 1$.

■

Proof of Lemma 1.

The proof of Observation 1 shows that, if a pandering equilibrium exists, it is such that $\rho(a) = 1, \rho(b) = 0$. Moreover, a pandering equilibrium requires $\gamma_A = \gamma_B = 1$. $\gamma_A = 1$ is straightforward. Hence, we need a condition on the parameters that guarantees $\gamma_B = 1$. This happens iff

$$Eu(x_1 = a, s_1 = B, \theta = G) \geq Eu(x_1 = b, s_1 = B, \theta = G)$$

Substituting above (1) and (2), and using the definition of Δ_s we obtain equation (3). ■

Proof of Observation 2.

The proof is straightforward. ■

Proof of Proposition 1.

Re-arranging equation (3), we obtain

$$E^{A \neq B} = \Delta_B - (1 - \pi) p \Delta_A \tag{A.1}$$

The result follows immediately. ■

Proof of Corollary 1.

The result follows directly form Observation 2 and the proof of Proposition 1. ■

Proof of Corollary 2.

This follows from a straightforward substitution of $E = 0$ in (A.1) and re-arrangement. ■

Proof of Proposition 2.

We will prove this proposition for the case of a b-biased D politician. The opposite case is just a straightforward re-labelling.

The proof of Observation 1 shows that $\rho(a) = 1, \rho(b) = 0$ is the sole re-election strategy consistent with an informative equilibrium and Lemma 1 proves that a pandering equilibrium exists if condition (3) is satisfied. Moreover, it is straightforward to see that the strategy of the D politician will be the same in every pure strategy informative equilibrium.

It is easy to see that, given the aforementioned re-election strategies, no other pure strategy informative equilibria exist when (3) holds strictly: fixing $\rho(a)$, $\rho(b)$ and λ, every other pure strategy from the G politician has a unilateral profitable deviation. When condition (3) is violated, however, there always exists one and only one pure strategy informative equilibrium. As incentives in state A are unchanged, it must be that $\gamma_A = 1$. Moreover, given that now we are assuming $\Delta_B \geq E+(1-\pi)\frac{1}{2}\Delta_A$, it must be that $\gamma_B = 0$. However, this implies that $p\gamma_A+(1-p)\gamma_B = \frac{1}{2}$. Hence, $\lambda < \frac{1}{2}$ is a necessary condition for the sequential rationality of $\rho(a) = 1, \rho(b) = 0$. If $\lambda > 0.5$, no pure strategy informative equilibria exists for $\Delta_B > E + (1-\pi)\frac{1}{2}\Delta_A$.

The case for a a-biased D politician is the same, with appropriate relabelling. Hence, the re-election strategy is always $\rho(a) = 0, \rho(b) = 1$, the D politician chooses action b whenever $r_1 \leq (E + \bar{r}_2)$ and from the point of view of the voter this happens with probability $\lambda = F_1(E + \bar{r}_2) \in (0, 1)$. Finally, there is a unique informative equilibrium where the G politician chooses $\gamma_A = \gamma_B = 0$ if $\Delta_A \leq E + (1-\pi)\frac{1}{2}\Delta_B$ and a unique informative equilibrium where the politician chooses $\gamma_A = 1$ and $\gamma_B = 0$ if $\Delta_A > E+(1-\pi)\frac{1}{2}\Delta_B$. ■

Proof of Observation 3.

The result follows directly from the proof of Proposition 2 and the assumption that $\Delta_A > \Delta_B$. ■

Proof of Proposition 3.

The proof uses the three cases outlined in Observation 3.

In case 1, we compare equation (4) with equation (6). Collecting terms and using the definition of Δ_A and Δ_B, we derive that (4) greater or equal than (6) implies

$$-\pi\frac{1}{2}(1+\pi)\Delta_B - (1-\pi)(\Delta_A - \Delta_B)(1-\lambda)(2-\pi) \geq 0 \tag{A.2}$$

which is of course a contradiction: both terms of (A.2) are negative, because of the assumption that $\Delta_A > \Delta_B$. Hence, an "a-biased" dishonest politician is always better than a "b-biased" one, in this case.

In case 2, we compare equation (5) with equation (6). It is easy to see that the former is greater or equal than the latter iff

$$\pi(1-\pi)\frac{1}{2}(\Delta_B - \Delta_A) - (1-\pi)(\Delta_A - \Delta_B)(1-\lambda)(2-\pi) \geq 0 \tag{A.3}$$

which is of course a contradiction: both terms of (A.3) are negative, because of the assumption that $\Delta_A > \Delta_B$. Hence, an "a-biased" dishonest politician is always better than a "b-biased" one, in case 2 as well.

In case 3, we compare equation (4) with equation (7). Collecting terms and using the definition of Δ_A and Δ_B, we derive that (4) greater or equal than (7) implies

$$\pi(\Delta_A - \Delta_B) - (1-\pi)(\Delta_A - \Delta_B)(1-\lambda)(2-\pi) \geq 0 \tag{A.4}$$

As a consequence, using equation (A.4), the ex ante welfare when the dishonest politician is "b-biased" is higher than the opposite case iff $\pi \geq (1-\pi)(2-\pi)(1-\lambda)$. ■