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Opposition Veto**

by

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# Curbing Power or Progress? Governing with an Opposition Veto

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## Abstract

Veto institutions are often dominated by government opponents with rival electoral and policy interests (e.g. “divided government”). I investigate the tradeoff between policy control and policy blockade when both the government and the veto party may cater to opposing special interests. The value of an opposition veto depends on whether electoral accountability can discipline bad type politicians. When this is not the case, a veto is beneficial only if the governments special interests are expected to be harmful. In contrast, when bad types care about (re-)election, a veto always increases expected welfare, providing a new rationale for the frequent occurrence of “divided government”. Without policy rivalry, an opposition veto fares even better.

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*Keywords:* Political Accountability, Opposition, Veto, Divided Government

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# 1 Introduction

It is one of the constituting elements of democracy that hardly any decision can be taken unilaterally. In presidential regimes such as the US, constitutions require the consent of both the legislative and the executive arms of government for bills to become law and important appointments to be made. In parliamentary regimes, such separation between parliament and government is less strict but often a second chamber, or upper house, needs to approve before policy can be implemented.<sup>1</sup>

A major rationale for such veto arrangements are agency problems. Political decision-makers wield power which they may not always use in the best interest of the voters. To endow an impartial actor with the right to veto harmful policies is a tool to curb this power and prevent its abuse.<sup>2</sup> The drawback, however, is that *real* veto actors are usually not impartial at all. Since competition for political office in modern democracies is dominated by very few parties serving different constituencies, it is frequently the case that the incumbents of government office and the veto institution have both rival partisan and electoral interests. In these instances, the right to veto creates new agency problems – the opposition party may have an interest to use its veto power strategically to advance its own policy agenda or improve election prospects relative to the governing party.

For instance, 17 out of the last 26 US congressional terms have been periods of “divided government” during which the Presidency and the House and/or the Senate were held by different parties. This has caused a great deal of debate about the efficiency of government among scholars and policy-makers alike. Fiorina [12] summarizes their concern that “the development of a persistent coalition of divided government vitiates the critical coordinating force of party. Institutional rivalries now are buttressed by *partisan rivalry* and *partisan electoral interests*” (p. 97, italics added), which are feared to lead to mutual policy blockade and obstruction (“legislative gridlock”).

Although divided government cannot occur in parliamentary systems, there is the possibility for “divided legislature” which fuels similar concerns. For example, most of the legislation of the German *Bundestag* needs the approval of the *Bundesrat*. This second chamber is supposed to represent the interests of the *Länder* but is usually divided along party lines. Moreover, the majority of the contenders for the Chancellorship are past or current prime ministers in one of the federal states. Hence, the governing *Bundestag* coalition has been frequently confronted with its opposition in control of the *Bundesrat*.<sup>3</sup>

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<sup>1</sup>Examples include Australia, Germany and Italy.

<sup>2</sup>See e.g. Dewatripont and Tirole [10] where the decision of a potentially biased party has to be subjected to the review by a second decision-maker upon the appeal of an advocate for the disadvantaged cause.

<sup>3</sup>E.g., the coalition government of Social Democrats and Free Democrats faced a Christian Democratic *Länder* majority during their whole term of office 1969-1982. The reverse situation occurred in much of the

This raises the question whether it is still desirable to have a veto arrangement under the adverse conditions of strong party competition. Put differently, are voters in the US hurting themselves when they award the Presidency and the Congress to different parties? Could parliamentary regimes be better off without the upper house having a say, and thereby shutting the back door entry for the parliamentary opposition into political decision-making? In short, does the presence of an *opposition* veto curb power or progress?

I address these issues in a model of political accountability in which two parties with rivaling constituencies and electoral interests have to jointly decide on policy. In particular, I consider a polity in which a proposal of publicly unobservable quality by the governing party can only get implemented if it is approved by the opposition party, as well.<sup>4</sup> In principle, a veto can be valuable since the governing party's agenda is influenced by special interests, and a bad government may want to pursue these interests even to the detriment of general welfare. However, a veto can also be costly because the opposition represents competing special interests and a bad opposition may therefore block policy change even when it would be socially beneficial. Since both parties stand for second period office, a bad government and a bad opposition have not only completely opposite policy preferences but rivalling electoral interests, too.

The main result of the paper is that, even in the “worst case” scenario of policy *and* electoral rivalry, requiring the opposition party to approve might still be a good thing to do. In particular, it turns out that such a veto arrangement works most effectively whenever political competition is most intense – an opposition veto reinforces the positive effect that electoral accountability has on policy outcomes.<sup>5</sup>

More precisely, the social value of a veto depends on whether the special interest driven parties assign more importance to their current policy objectives or to the rewards from future office, i.e. whether their motivation to get (re-)elected is relatively weak or strong. With *weak* electoral concerns, a bad government cannot be induced to refrain from pushing its special interest policy, regardless of the costs to society and its own election prospects. Likewise, a bad opposition cannot be disciplined to abstain from vetoing such a policy even if it would generate a social surplus. Hence, the value of an opposition veto depends on the relative merit of either stance: if the special interest policy promoted by a bad government is

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1990s. For details on German divided legislature see Bräuning and König [6].

<sup>4</sup>Notwithstanding the “government-opposition” terminology of parliamentary regimes, the model applies to both divided government and divided legislatures. See section 3 for a discussion.

<sup>5</sup>Free and regular elections provide incumbents with a threat of being replaced. This can serve as a powerful incentive to refrain from misbehaving, e.g., to appear more competent in a career concern model or because voters use the ballot box for retrospective rewards or punishment (see e.g. Persson/Tabellini [18]). However, electoral accountability can also induce the incumbent to cater to the electorate's beliefs (as in Maskin/Tirole [13]).

more likely to harm society than provide a benefit, it is better to have too much interference rather than none at all. In contrast, if the government’s special interests coincide on average with those of society as a whole, the bad opposition’s excessive veto activity inhibits progress more often than it prevents damage. In this case, an opposition veto leaves voters worse off.

However, if electoral accountability already provides *strong* election concerns, giving the opposition some veto power *always* improves the expected policy outcome. The intuition is that both bad politicians have a powerful incentive to present themselves as being good, i.e. electable. This implies that a bad government should not be seen to promote its special interests (i.e. propose policy) more often than a good government would. Likewise, a bad opposition has an incentive to avoid the impression that it caters to its own (opposite) special interests and is led to approve as often as a good opposition would. This leads to a situation in which the (expected) quality of policy proposals is so high that the good opposition never *wants* to veto, implying that the bad opposition never *dares* to do so. Hence, with sufficiently strong election concerns, a veto increases average quality of policy outcomes and improves social welfare.

In the absence of policy rivalries, an opposition veto continues to be socially beneficial. In particular, a bad opposition without a clear policy stance will do whatever improves electoral prospects. Hence, voters disregard the opposition’s action and will base their vote on the government’s signal alone. Thus, the good opposition is free to veto efficiently while the (indifferent) bad opposition may as well approve of any proposal that has been made. Hence, a veto arrangement means additional control on the policy’s quality (when the opposition is good) while avoiding “gridlock” (when the opposition is bad).

Models of political accountability model have been first proposed by Ferejohn [11] and Austen-Smith and Banks [4].<sup>6</sup> Persson, Roland, and Tabellini [17] use such a setup with homogenous politicians and unobservable actions to argue the case for the separation of powers. In their model, each arm of government can divert resources for private purposes and a carefully designed procedure of joint decision-making minimizes these rents. This is because the budgeting choices can be separated such that no political actor can unilaterally advance its interests. Instead, each arm of government has an interest to veto rent-seeking by the other since there is no possibility to commit to share jointly approved rents and voters will oust both incumbents whenever joint rents exceed the status quo level.

Although Persson *et al.* provide a case for veto arrangements, it is not self-evident that their argument extends to modern party based systems. For example, it seems unlikely that there is no way to share jointly approved rents if both arms of government are controlled

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<sup>6</sup>In analogy to Maskin and Tirole [13] and Coate and Morris [8], the setup in this paper slightly differs from this literature since actions are observable but their consequences and politicians’ preferences are not.

by the same party. Even if this is not the case and the executive and the legislative are in the hands of different parties, separation of powers may still not work: after all, if there are only two main parties around, voters cannot credibly threaten to oust incumbents of both arms of government, simultaneously. It is therefore unclear what happens to the separation of powers when it can be “undone” or impaired by a sufficiently polarized party system. The present paper takes a first step in addressing this question by going beyond policy conflicts and taking electoral rivalries into account.

As noted above, this approach does also reflect the debate on “divided government” in the US. The main concern in the literature is that conflicting policy interests may lead to legislative inactivity. E.g., in Alesina and Drazen [1], necessary stabilization is postponed because the two decisive (and affected) groups are in a “war of attrition” in which the loser has to bear a higher burden.<sup>7</sup> The empirical evidence for such a “gridlock” has been inconclusive. Some studies found a significant negative impact of divided government and others did not.<sup>8</sup> However, the research question has mostly been one of quantity (of bills passed) rather than quality. In this paper, veto power only induces “gridlock” when electoral concerns are weak because then, the government policy has a lower probability of being implemented. Even in this instance, an opposition veto may improve policy outcomes in terms of expected quality. With strong electoral concerns, there will be no gridlock at all and policies’ average quality will always be better. Hence, divided government can be beneficial with or without a reduction in legislative activity. This provides a new rationale for voters to deliberately choose divided government and complements the findings of Alesina and Rosenthal ([2], [3]) who argue that the electorate uses split party control in order to moderate policy outcomes.

The paper is organized as follows. Sections 2 and 3 set up the model and discuss relevant applications. Equilibrium outcomes and results will be presented in sections 4 and 5. Finally, section 6 briefly discusses the case without policy rivalry before section 7 concludes.

## 2 The political game

**Polity.** There are two political parties  $G$  and  $O$ , two associated special interest groups  $\mathcal{G}$  and  $\mathcal{O}$  of equal size and the electorate.  $G$  is the party that is initially “in government” and  $O$  the one “in opposition”. The polity lasts for two periods  $t \in \{1, 2\}$ .

In  $t = 1$ ,  $G$  has to decide whether to propose some policy ( $x_1 = 1$ ) or to leave it ( $x_1 = 0$ ). Given that a proposal has been made,  $O$  then chooses whether to approve ( $z = 1$ ) or to veto it ( $z = 0$ ). The policy is only implemented in the former case. After the decision, voters

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<sup>7</sup>Tsebelis [19] asserts that, in general, more veto players mean more “policy stability” since they are less likely to find mutually beneficial ways for policy change.

<sup>8</sup>See, e.g., Mayhew [15], Fiorina [12] and Bowling and Ferguson [5].

elect  $G$  or  $O$  to form government in period  $t = 2$ . Denoting the successor government by  $S$ , if voters choose  $e = 1$ , then  $S = G$  and the new incumbent is the old one, while, for  $e = 0$ ,  $S = O$  and the previous opposition ascends to power.

In  $t = 2$ , the new government  $S$  again proposes a policy ( $x_2 = 1$ ) or not ( $x_2 = 0$ ). Since there is are no additional insights to be gained from second period interaction, I assume that this stage's proposal cannot be vetoed by the opposition and is implemented straight away.<sup>9</sup>

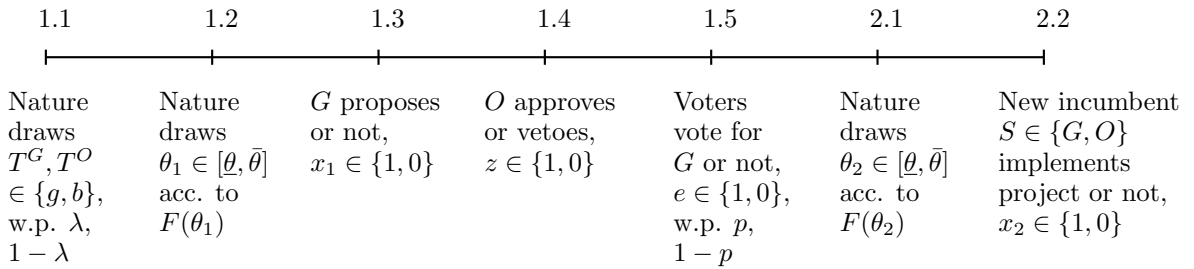


Figure 1. Sequence of events.

**Policies.** To emphasize the role of veto arrangements in a political agency context, the focus is on policy decisions that may be purely driven by special interests. Like in Coate and Morris [8], the government of the day can commission a public project that is certain to generate benefits  $\phi_t > 0$  to its associated interest group but implies an uncertain and publicly unobservable payoff  $\theta_t$  to the electorate. This social benefit  $\theta_t$  is distributed independently across time on  $[\underline{\theta}, \bar{\theta}]$  according to  $F(\theta)$  (with positive density  $f(\theta)$ ) and  $\bar{\theta} > 0 > \underline{\theta}$ . That is, it is possible that the policy improves voters' welfare but it also can harm them.<sup>10</sup>

In order to highlight the rivalry between political players, I also assume that the benefit to one constituency is the loss of the other. That is, whenever the current government implements the public project, this increases the payoff of its associated special interest

<sup>9</sup>Special interest groups  $\mathcal{G}$  and  $\mathcal{O}$  serve to motivate the parties' payoffs but their behavior is not explicitly modelled here. Treating them as part of the electorate would increase notational complexity without affecting the results.

<sup>10</sup>This setup reflects a broad class of decisions. According to Tullock [20], "redistribution is probably the most important single function of modern governments" and does frequently take the form of disguised transfers, e.g. by favorable regulation. Using the same kind of policy decision, Coate and Morris [8] argue that almost all public expenditure projects share the features of this model's policy in that, (i) they indirectly benefit special interest while (ii) the gain to society as a whole is uncertain, (iii) citizens have less information about this social value than politicians and (iv) may not even be able to observe whether the project was beneficial *ex post*.



group by  $\phi_t$  while the current opposition's special interest group will suffer a loss of  $-\phi_t$ . It will become clear below that this assumption does not affect the qualitative results. For now, it simply ensures the strongest possible conflict of parties' interest and therefore the greatest potential for the abuse of veto power.<sup>11</sup>

**Parties.** Political parties may be either “good” ( $T^I = g$ ) or “bad” ( $T^I = b$ ) where  $I \in \{G, O\}$ . When not in office, they both receive a payoff of zero and types do not matter. As incumbents, the good politicians share the preferences of the general public while the bad ones only care for the well-being of their constituency. Put differently, a bad party is “captured” by special interests.<sup>12</sup> In addition, holding office generate ego-rent  $R > 0$ . Since results do not depend on discounting, I set the discount factor to 1. Hence, parties' payoffs are:

$$\begin{array}{l} \text{for party } G \\ \text{for party } O \end{array} \begin{cases} x_1 z \theta_1 + e (R + x_2^G \theta_2) & \text{if } T^G = g \\ x_1 z \phi_1 + e (R + x_2^G \phi_2) & \text{if } T^G = b \\ x_1 z \theta_1 + (1 - e) (R + x_2^O \theta_2) & \text{if } T^O = g \\ -x_1 z \phi_1 + (1 - e) (R + x_2^O \phi_2) & \text{if } T^O = b. \end{cases}$$

Since there are no electoral or veto restrictions in  $t = 2$ , it is straightforward to see that a good period-2 government implements a policy only if  $\theta_2 \geq 0$  while a bad one will disregard social surplus and always implement its policy in order to receive  $\phi_2$ . The expected period-2 payoffs of good and bad politicians are therefore,<sup>13</sup>

$$\begin{aligned} \Pi &\equiv R + \int_0^{\bar{\theta}} \theta_2 dF(\theta_2) \\ \Phi &\equiv R + \phi_2, \end{aligned}$$

respectively. I make the following assumptions on the relative size of first period policy surplus and parties' election payoffs.

<sup>11</sup>Observe that, in this case, it does not matter whether per period social surplus is defined in terms of the electorate's payoff  $\theta_t$  or the overall benefit of all groups from a public project,  $\phi_t + \theta_t - \phi_t = \theta_t$ .

<sup>12</sup>One interpretation is that politicians differ in their propensity to take bribes or succumb to pressure. Alternatively, decision-makers could be socially minded but more or less subjected to outside pressure. E.g. a party leader could be constrained by the party's potentially ideologically biased rank-and-file as in Caillaud and Tirole [7]. Likewise, the pressure could come from outside groups against which only a strong (“good”) party can protect them (see for instance Dal Bó and Di Tella [9]). In any case, the setup implicitly assumes that interest groups are strong enough to put their favorite proposal on the agenda and to keep their rival's favorite project out of the decision-making process.

<sup>13</sup>Surplus  $\theta_t$  need not have the same distribution across special interest group policies and across time. All that is required for the second period is that voters get a strictly (but not extremely) larger payoff from a good government in  $t = 2$ , irrespective of which interest group it represents.

**Assumption 1.**  $E[\theta_t | \theta_t \geq -\Pi] \geq 0$

**Assumption 2.**  $\lambda\bar{\theta} > \Pi$

**Assumption 3.**  $(1 - \lambda)(1 - F(0))\underline{\theta} < -\Pi$

Assumption 1 ensures that inefficiencies arising from signalling are not too severe and is satisfied for the uniform distribution or any distribution which is symmetric around zero. Assumptions 2 and 3 imply that there exist policies which are so beneficial respectively harmful that the good  $G$  cannot be deterred by electoral concerns to take the “right” decision at least in some instances.<sup>14</sup>

**Information and Beliefs.** Both  $G$  and  $O$  are aware of the realization of the random social surplus  $\theta_t$  while voters will experience the associated gain or loss only much later. Though this informational asymmetry is rather extreme, it encompasses the basic idea that (a) policies operate in a complex environment in which their actual impact is not easily predictable and only slowly unravels over time and that (b) policy-makers have more incentives and better resources to become informed about the consequences of their actions.

I also assume that the types of  $G$  and  $O$  are private information so that neither the public nor the political opponent know the nature of the party’s preferences. This ensures that neither party’s behavior will be affected by the nature of its rival. That is, voters judge the parties only by their own actions. Since, the electorate’s beliefs must be ultimately consistent with policy-makers’ strategies, denote by

$$x^{T^G}(\theta_1) \in [0, 1]$$

the probability with which a governing party  $G$  of type  $T^G \in \{g, b\}$  proposes (plays  $x_1 = 1$ ) for a given surplus  $\theta_1$  in equilibrium. The *ex ante* probability that such a  $G$  proposes is then equal to

$$X^{T^G} \equiv Pr(x_1 = 1 | T^G, x^{T^G}(\theta_1)) = \int_{\underline{\theta}}^{\bar{\theta}} x^{T^G}(\theta_1) dF(\theta_1),$$

while not proposing occurs with probability  $Pr(x_1 = 0 | T^G, x^{T^G}(\theta_1)) = 1 - X^{T^G}$ . Voters’

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<sup>14</sup>If assumptions 2 and 3 are not satisfied, there may be additional equilibria which differ in the behavior of  $G$  only. However, they require specific parameter constellations to exist and are either (weakly) payoff dominated for the electorate and either type of  $G$  or do not alter the qualitative case for or against an opposition veto. Moreover, there is no natural reason why special interest policies should not generate the large welfare losses and gains that assumptions 2 and 3 imply.

posterior beliefs about  $G$ 's quality after observing  $x_1 \in \{1, 0\}$  are therefore

$$\begin{aligned}\lambda^G(1) &\equiv Pr(T^G = g \mid x_1 = 1) = \frac{\lambda X^g}{\lambda X^g + (1 - \lambda)X^b}, \\ \lambda^G(0) &\equiv Pr(T^G = g \mid x_1 = 0) = \frac{\lambda(1 - X^g)}{\lambda(1 - X^g) + (1 - \lambda)(1 - X^b)}.\end{aligned}$$

Analogously, *provided that  $G$  has played  $x_1 = 1$* , let

$$z^{T^O}(\theta_1) \in [0, 1]$$

be the probability with which an opposition party  $O$  of type  $T^O \in \{g, b\}$  approves (plays  $z = 1$ ) for a given surplus  $\theta_1$ . Overall, the expected probability of opposition  $O$  taking action  $z \in \{1, 0\}$  depends not only on  $O$ 's strategy but also on whether the government has previously proposed or not. In particular, the opposition faces a cdf. over  $[\underline{\theta}, \bar{\theta}]$  which is conditional on  $G$ 's strategy:

$$H(\theta_1) \equiv \frac{1}{\int_{\underline{\theta}}^{\bar{\theta}} [\lambda x^g(\theta) + (1 - \lambda)x^b(\theta)] dF(\theta)} \int_{\underline{\theta}}^{\theta_1} [\lambda x^g(\theta) + (1 - \lambda)x^b(\theta)] dF(\theta).$$

Hence, in equilibrium, an opposition of type  $T^O$  approves a proposal with probability

$$Z^{T^O} \equiv Pr(z = 1 \mid T^O, z^{T^O}(\theta_1)) = \int_{\underline{\theta}}^{\bar{\theta}} z^{T^O}(\theta_1) dH(\theta_1)$$

and vetoes it with  $Pr(z = 0 \mid T^O, z^{T^O}(\theta_1)) = 1 - Z^{T^O}$ . Upon observing the action profile  $(x_1 = 1, z)$ , voters' beliefs  $\lambda^O(z)$  about the opposition being good therefore take the following form:

$$\begin{aligned}\lambda^O(1) &\equiv Pr(T^O = g \mid z = 1) = \frac{\lambda Z^g}{\lambda Z^g + (1 - \lambda)Z^b}, \\ \lambda^O(0) &\equiv Pr(T^O = g \mid z = 0) = \frac{\lambda(1 - Z^g)}{\lambda(1 - Z^g) + (1 - \lambda)(1 - Z^b)}.\end{aligned}$$

In the present formulation, it may happen that an information set  $(x_1, z)$  is not reached with positive probability which precludes the use of Bayes' formula. In principle, in a Perfect Bayesian Equilibrium, beliefs can then be assigned *ad libitum*. The analysis in the appendix takes a different approach and considers the situation in which the government's proposal decision is reversed with an arbitrarily small probability  $\varepsilon$ .<sup>15</sup> This avoids off-equilibrium observations and ensures the robustness of the derived equilibria. For expositional purposes, the discussion in the main text refers to the limit case in which  $\varepsilon = 0$ .

<sup>15</sup>Matthews [14] (p. 353) argues that this is rather compelling in a political game. An example could be that a bill unexpectedly turns out to be unconstitutional or technically infeasible. Likewise, a policy may be proposed against  $G$ 's will because of  $G$ 's constitutional rights or some failure in the workings of the government's machinery.

**Elections.** With these evaluations of parties' quality at hand, voters have to decide whether to re-elect the incumbent or replace it by the opposition. Recall that any good period-2 government implements policies if  $\theta_2 \geq 0$  while its bad counterpart puts its "pet" policy into practice in any case. Voters' expected values from a future incumbent with good and bad preferences are therefore

$$U^g = \int_0^{\bar{\theta}} \theta_2 dF(\theta_2) \quad \text{and} \quad U^b = E[\theta_2],$$

respectively. For a history  $(x_1, z)$ , the electorate favors the incumbent  $G$  whenever

$$\lambda^G(x_1) U^g + (1 - \lambda^G(x_1)) U^b \geq \lambda^O(z) U^g + (1 - \lambda^O(z)) U^b.$$

Since  $U^g > U^b$ , voters prefer the party with the higher probability of being good and thus follow the re-election rule

$$p^{x_1 z} = \begin{cases} 1 & \text{if } \lambda^G(x_1) > \lambda^O(z) \\ \in [0, 1] & \text{if } \lambda^G(x_1) = \lambda^O(z) \\ 0 & \text{if } \lambda^G(x_1) < \lambda^O(z), \end{cases} \quad (1)$$

where  $p^{x_1 z}$  is the probability with which  $G$  wins the elections.

### 3 Unified vs. divided decision-making

The following sections present the outcomes of this political game and compare them to the outcomes when there is no *opposition* veto. The latter can imply two scenarios. On the one hand, it can be interpreted as a situation in which there is a constitutional body with veto powers which is controlled by the very same party as the "government". Given a sufficient degree of party cohesion, this corresponds to the case of unified government or unified legislative.<sup>16</sup> Alternatively, there may be an opposition but no opportunity to veto government decisions.

As for the case with an opposition veto, the setting reflects divided government in the US in two possible ways. First,  $G$  could be the Congress which has the formal privilege of

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<sup>16</sup>Party cohesion in the US may not be as strong as in European (parliamentary) systems, see e.g. Mayhew [15] (p. 198). However, McCarty, Poole, and Rosenthal [16] argue that party affiliation shapes the policy position of individual legislators (and hence indirectly their voting behavior). Moreover, members of the President's party have fewer incentives for developing a distinct legislative and electoral strategy since they have less publicity (they act "in the shadow of the White House") and are less likely to have an open shot at the White House (Mayhew [15], p. 105). Indeed, the whole debate on "divided government" rests on the assertion that the benefits from the separation of powers are undermined by the dominance of party politics.

introducing legislation and  $O$  would be the president who has a formal veto right. However, electoral competition would be about the presidency. A probably more natural interpretation is to view the President as the agenda-setter for legislative projects whose enactment requires both houses of parliament to approve.<sup>17</sup> In this instance, it would be presidential aspirants with a strong backing in Congress who could use their veto power in order to improve their position to challenge the incumbent president. Analogously, the electoral rivalry in a divided legislature does arise from government elections.<sup>18</sup> In the following, I will slightly abuse terminology and summarize the cases under the headings “unified” and “divided decision-making”, respectively.

Two further remarks are in order. First, observe that the situation with no opposition veto is equivalent to a political game with no opposition *party* at all. Without a veto, payoffs of the relevant players are the same as above with the exception that  $z$  is always equal to one and  $O$  has no preferences over policy in  $t = 1$ . Then, the opposition could not credibly convey anything about  $\theta_1$  or  $G$ 's type even if it could send a message because any such message would purely be motivated by the electoral rivalry between  $G$  and  $O$ . Consequently, the context is equivalent to a situation with an anonymous challenger of expected quality  $\lambda$ .<sup>19</sup> Hence, the comparison takes place between unilateral decision-making (without veto, unified government) and joint decision-making (with veto, divided government).

Second, it will facilitate the further discussion to introduce the concept of a “fictitious discount factor”  $\delta$  for the bad parties, which neatly captures their tradeoff between current benefits from project realization and reputational payoffs from electoral chances to reap second-period benefits.<sup>20</sup> Formally,

$$\delta \equiv \frac{\phi_2 + R}{\phi_1} = \frac{\Phi}{\phi_1}. \quad (2)$$

Roughly, if  $\delta < 1$ , then the first-period decision matters much more to the bad policymaker than holding government in  $t = 2$ , i.e. election concerns are *weak*. In contrast,  $\delta > 1$  implies that bad types may have an incentive to forego current policy objectives in exchange for future opportunities to hold office and decide. Hence, election concerns are *strong*. I consider the cases in turn.

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<sup>17</sup>Mayhew [15] finds that many of the major enactments between 1946 and 1990 were presidential projects.

<sup>18</sup>In Germany, almost every contender for the chancellorship had previously governed a federal state and parties view the *Bundesrat* as a political instrument at the federal level.

<sup>19</sup>This is the standard setup in the political economics literature, see Persson/Tabellini [18].

<sup>20</sup>The term “fictitious discount factor” has been proposed by Maskin and Tirole [13].

## 4 Weak election concerns

### 4.1 Unified decision-making

By definition, if  $\delta < 1$ , the bad government's payoff from its current special interest policy  $\phi_1$  cannot be outweighed by even a certain re-election and ensuing benefits  $\Phi$  from government office in  $t = 2$ . If there is no veto opportunity for other actors, this means that it proposes (and implements) its "pet" policy in any case. In contrast, the good government will always consider some policies with very low surplus  $\theta_1$  to be too harmful to propose regardless of the electoral consequences. Hence, there is a partial separation of government types. In particular, voters will perceive proposing ( $x_1 = 1$ ) to be a bad sign of the incumbent's quality while restraint ( $x_1 = 0$ ) causes them to upgrade their estimate for  $G$ . They therefore replace the government in the former case and re-elect it in the latter. This makes proposing relatively more costly in terms of electoral prospects. Accordingly, the good government only comes forward when the policy surplus is sufficiently large to compensate for the loss from losing office, i.e. if  $\theta_1 \geq \Pi$ . These observations are summarized in lemma 1.<sup>21</sup>

**Lemma 1 (Unilateral decisions with weak election concerns).**

*If election concerns are weak and  $O$  has no veto power,*

1. *a bad  $G$  proposes for all  $\theta_1$ ;*
2. *a good  $G$  only proposes if  $\theta_1 \geq \Pi$ ;*
3.  *$G$  is re-elected if and only if it does not propose ( $p^0 = 1, p^1 = 0$ ).*

There are two aspects that influence expected social welfare. First, there is always the *current benefit* from the period-1 decision. Without a veto, a good  $G$  (occurring with probability  $\lambda$ ) implements all policies  $\theta_1 \geq \Pi$ . With the complementary probability,  $G$  is a bad type and pursues its special interests in any case which implies an expected outcome of  $E[\theta_1]$ .

Second, the election outcome determines the quality of the government decision in  $t = 2$ . Since the equilibrium is partly separating, there are *selection benefits*. In the present case, if  $G$  is bad and  $O$  is good, the excessive proposal activity of the former leads voters to always replace the incumbent by a better challenger. If  $G$  is good and  $O$  is bad, however, the incumbent may be inefficiently ousted from office whenever  $\theta_1 \geq \Pi$  and a proposal is made. Formally, expected social welfare with weak election concerns and without a veto amounts to

$$W_w^U = \lambda \int_{\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + (1 - \lambda) \int_{\underline{\theta}}^{\bar{\theta}} \theta_1 dF(\theta_1) + \lambda U^g + (1 - \lambda) U^b + \lambda(1 - \lambda) F(\Pi)(U^g - U^b).$$

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<sup>21</sup>For the derivation, see section A.2 and table 1 in the appendix.

## 4.2 Divided decision-making

With a veto opportunity, the opposition’s situation to some extent mirrors that of the incumbent government in the previous section – given the proposal by  $G$ , it decides unilaterally about its implementation or not. It is therefore not surprising that  $O$ ’s behavior follows similar lines. In particular, the bad opposition will always veto because the policy costs  $-\phi_1$  cannot be compensated by even a certain electoral success. Hence, the observation of  $z = 0$  is an indication that  $O$  is more likely to be driven by special interests. For the good opposition, this means that blocking a proposal may be valuable in social terms but costs electoral chances. Therefore, it is willing to approve of projects even when they are (mildly) harmful to society ( $\theta_1 \in [-\Pi, 0)$ ). Since only a good opposition ever approves, endorsement is a reliable signal about  $O$ ’s quality and wins the opposition the elections.

Now consider the government. Whenever the policy has a chance of being approved ( $\theta_1 \geq -\Pi$ ), the bad type cannot be induced to refrain from its preferred action. Whether this means losing the election now depends not only on its proposal (indicating a preference for special interests) but also on the reaction of the opposition which might have an even worse expected quality. Indeed,  $O$ ’s action is considered to be a “stronger” signal than  $G$ ’s in that it leads to a greater adjustment of posterior beliefs.<sup>22</sup> Hence, voters re-elect the incumbent if its project has been vetoed ( $p^{10} = 1$ ) and only oust it from office if the opposition “proves” to be good and approves ( $p^{11} = 0$ ). In turn, a good government has to take this into account. Because proposing is costly in terms of re-election chances, it requires a “premium” on top of the socially efficient surplus and only proposes for  $\theta_1 \geq \Pi > 0$ .

For projects that will be blocked by any opposition, there is nothing at stake and either government type can suit its proposal decision to the electoral reaction. In equilibrium,  $p^{10} = p^0$  and both may to some extent randomize between proposing or not (e.g. such that  $\underline{x}^g = \underline{x}^b$ ). Lemma 2 summarizes these results.<sup>23</sup>

### **Lemma 2 (Opposition veto with weak election concerns).**

*If election concerns are weak and  $O$  has the right to veto,*

1. *a bad  $O$  vetoes for all  $\theta_1$ ;*

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<sup>22</sup>The support of the distribution  $H(\theta_1)$  of proposals that actually reach the veto stage is already partly “truncated” below  $\Pi$ . Hence, it is less likely that a good opposition has to veto than that a good government is bound to propose a policy.

<sup>23</sup>For details, see appendix A.3 and table 2. There is a second equilibrium in which both types of governments always propose because voters punish legislative restraint by a low  $p^0$  (case (i) in table 2 of appendix A.3). However, this behavior would not be robust to small mistakes in the opposition’s decision. Moreover, both equilibria generate the same social benefit under the assumptions for the welfare comparison in the next section.

2. a good  $O$  approves if  $\theta_1 \geq -\Pi$ ;
3. if  $\theta_1 \geq -\Pi$ , the bad  $G$  proposes with  $\bar{x}^b = 1$ ;  
if  $\theta_1 < -\Pi$ , it proposes with probability  $\underline{x}^b$ ;
4. if  $\theta_1 \geq -\Pi$ , the good  $G$  only proposes if  $\theta_1 \geq \Pi$ ,  
if  $\theta_1 < -\Pi$ , it proposes with probability  $\underline{x}^g$ ;
5.  $\underline{x}^g, \underline{x}^b \in [0, 1]$  s.t.

$$H(-\Pi) \leq \frac{X^g}{X^b} = \frac{\underline{x}^g + 1 - F(\Pi)}{\underline{x}^b + 1 - F(-\Pi)} \leq 1.$$

6.  $G$  is re-elected if it shows restraint ( $p^0 = 1$ ) or if  $O$  vetoes ( $p^{10} = 1$ ),  
otherwise voters elect  $O$  ( $p^{11} = 0$ ).

Even the bad type of government is now forced to take the social surplus  $\theta_1$  into account. This is not by direct preference but because  $\theta_1$  determines the decision of the good  $O$  and therefore expected policy implementation and evaluation. Also, making a proposal does not automatically mean losing office anymore. When surplus is sufficiently low ( $\theta_1 < -\Pi$ ), even good governments may come forward and propose because the policy will never be implemented anyway, and a veto costs the opposition even more than proposing costs the government. Thus, (ineffectual) proposals can be made by any type of government.

Expected social welfare can again be attributed to current policy effects and selection benefits. Consider the latter. There is no difference if both parties are either good or bad. If  $G$  is bad and  $O$  is good, the government is only replaced if  $\theta_1 \geq -\Pi$  and the opposition approves. In the reverse case, the bad  $O$  always opposes which leads voters to retain the incumbent. Formally, expected social welfare with weak election concerns and opposition veto amounts to

$$\begin{aligned} W_w^D &= \lambda^2 \int_{\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + (1 - \lambda)\lambda \int_{-\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) \\ &\quad + \lambda U^g + (1 - \lambda)U^b + (1 - \lambda)\lambda(1 - F(-\Pi))(U^g - U^b). \end{aligned}$$

### 4.3 The value of veto power – weak concerns

I can now derive the value of an opposition veto by comparing expected social welfare under the alternative regimes. Formally, this is expressed by the difference

$$W_w^D - W_w^U = (1 - \lambda) \left\{ \begin{array}{l} \lambda \int_{-\Pi}^{\Pi} \theta_1 dF(\theta_1) - \int_{\underline{\theta}}^{\bar{\theta}} \theta_1 dF(\theta_1) \\ + \lambda (U^g - U^b) [(1 - F(\Pi)) - F(-\Pi)] \end{array} \right\} \quad (3)$$



The first line corresponds to the net current benefit of having opposition control. The basic tradeoff in this respect is between quantity and quality. With a veto, a government needs a good opposition to get its proposal passed which decreases the chances of project implementation. However, a good opposition only approves of projects above a certain surplus and a bad one vetoes indiscriminately, such that the expected quality of an implemented reform is larger than in the benchmark case, as well.

The second line reflects the welfare consequences of differences in government selection. The regime without veto produces a “type I error” in that a good government may be replaced by a bad one. This happens whenever  $\theta_1 > \Pi$  and  $G$  proposes, i.e. with probability  $\lambda(1 - \lambda)[1 - F(\Pi)]$ . While this does not occur if there is a veto opportunity, this regime admits a “type II error” in that a bad incumbent is not exchanged by a good opposition. In particular, this is the case if  $\theta_1 < -\Pi$  and the bad  $G$  either refrains from proposing or waits for the good  $O$  to turn it down. The probability of such an event is  $(1 - \lambda)\lambda F(-\Pi)$ .

How these tradeoffs resolve and which effect dominates depends on the parameters of the problem. I consider symmetric and uniform distributions of  $\theta_t$ .

**Proposition 1 (Veto value for weak election concerns).**

*If election concerns are weak*

1. *and  $F(\cdot)$  is symmetric around  $\theta_t = 0$ , social welfare is the same under a regime with an opposition veto and one without;*
2. *and  $\theta_t$  is uniformly distributed on  $[\underline{\theta}, \bar{\theta}]$ , an opposition veto yields a lower welfare than the benchmark whenever  $E[\theta_t] < 0$  and a higher welfare whenever  $E[\theta_t] > 0$ .*

Hence, if electoral concerns are weak, the question whether to endow a potentially adversarial opposition with veto rights depends on the expected surplus of the decision itself. If  $E[\theta_t]$  is positive, then a bad government proposes on average socially beneficial projects even though this may be inspired by special interests. A bad opposition’s excessive veto activity would therefore cause high opportunity costs by preventing beneficial policy changes. In contrast, if  $E[\theta_t]$  is negative, the bad government’s policy projects imply social costs more often than social benefits. In this case, it is better to have too much veto activity rather than too little. Hence, requiring the consent of the opposition is a sensible thing to do.

The usefulness of an opposition veto does therefore depend on whether a constitution can identify these different contexts and assign veto power selectively. To make its impact unequivocally welfare-enhancing, a second ingredient is needed: the effectiveness of electoral accountability. This is shown in the next section.

## 5 Strong election concerns

### 5.1 Unified decision-making

Strong election concerns ( $\delta > 1$ ) imply that the bad government is prepared to sacrifice the payoff  $\phi_1$  if this would guarantee re-election and the associated benefit of  $R + \phi_2$ . Hence, a bad  $G$  does not always implement its favorite project since this would send a bad signal to the electorate and cost future government benefits. Instead, it mimics its good counterpart in order to *appear* to be good as well. That is, in equilibrium, the bad  $G$  only proposes with the good type's *ex ante* probability of proposing. In contrast to the weak concerns case, this means that the bad incumbent will not always realize harmful projects; however, there is also a chance that it will not propose the beneficial ones.

Since voters are unable to detect any difference in types' behavior, they are indifferent between  $G$  and  $O$  after any kind of government decision. Nevertheless, they continue to reward restraint ( $x_1 = 0$ ) more than initiative on behalf of the interest group ( $x_1 = 1$ ) (albeit on a smaller scale). Consequently, the good  $G$  still requires a proposal to generate a strictly positive (though smaller) level of surplus before it implements a policy and pays the electoral costs. lemma 3 summarizes this pattern of equilibrium behavior.<sup>24</sup>

**Lemma 3 (Unilateral decisions with strong election concerns).**

*If election concerns are strong and  $O$  has no veto power,*

1. *a bad  $G$  proposes with probability  $x^b = 1 - F(\frac{1}{\delta}\Pi) = X^g$  for all  $\theta_1$ ;*
2. *a good  $G$  only proposes if  $\theta_1 \geq \frac{1}{\delta}\Pi$ ;*
3. *voters are indifferent but more likely to re-elect  $G$  for  $x_1 = 0$  ( $p^0 - p^1 = \frac{1}{\delta}$ ).*

Since both government types pool in equilibrium, there is no information revelation and the *interim* expected selection benefits are the same as *ex ante*. As for current benefits, the bad  $G$  appears to be doing the same as the good  $G$  but only in expected terms. Hence, it implements the policy with a certain probability even if its surplus realization is negative and fails to do so with the complementary probability even if  $\theta_1$  is positive. Expected welfare amounts therefore to

$$W_s^U = \lambda \int_{\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + (1 - \lambda)(1 - F(\frac{1}{\delta}\Pi)) \int_{\underline{\theta}}^{\bar{\theta}} \theta_1 dF(\theta_1) + \lambda U^g + (1 - \lambda)U^b.$$

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<sup>24</sup>For details, see section A.2 and table 1 in the appendix.

## 5.2 Divided decision-making

Like in the case of weak election concerns, an opposition with veto power is in a situation that mirrors that of the government with respect to electoral concerns. Thus, *ceteris paribus*, the bad  $O$  would always prefer to veto the project in order to avoid its cost,  $-\phi_1$  but would thereby risk the larger payoffs from future government. Instead, it mimics the average behavior of the good  $O$ . Though voters cannot distinguish types, they still reward approval more than a veto. Therefore, the good opposition blocks the more harmful projects but is a little too lenient on the less damaging ones because their prevention does not save enough social loss in order to compensate the party for the reduction in expected electoral payoffs by  $\frac{1}{\delta}\Pi$ .

As for the bad  $G$ , the randomization by the bad  $O$  implies that there is now a positive probability that *any* proposed project will be implemented. However, the bad  $G$  does not take systematic advantage of this since proposing means a lower probability of reaping the greater election benefits. Instead, it imitates the good  $G$  by applying the same equilibrium probabilities in randomizing over proposal activity. Thus, the electorate cannot update its belief about the incumbent, either, and is therefore indifferent between  $G$  and  $O$ . Nevertheless, restraint by  $G$  is still rewarded more highly than a proposal. Hence, the good government is somewhat fastidious and only tables policies which yield at least  $\frac{1}{\delta}\Pi$  in order to compensate for the loss in electoral prospects.<sup>25</sup>

### Lemma 4 (Opposition veto with strong election concerns).

*If election concerns are strong and  $O$  has the power to veto,*

1. *a bad  $O$  vetoes with probability  $1 - z^b = H(-\frac{1}{\delta}\Pi) = 1 - Z^g$  for all  $\theta_1$ .*
2. *a good  $O$  only approves if  $\theta_1 \geq -\frac{1}{\delta}\Pi$ ;*
3. *if  $\theta_1 \geq -\frac{1}{\delta}\Pi$ , a bad  $G$  proposes with probability  $\bar{x}^b > 0$ ;  
if  $\theta_1 < -\frac{1}{\delta}\Pi$ , a bad  $G$  proposes with probability  $\underline{x}^b \geq 0$   
such that  $X^b = \underline{x}^b F(-\frac{1}{\delta}\Pi) + \bar{x}^b (1 - F(-\frac{1}{\delta}\Pi)) = 1 - F(\frac{1}{\delta}\Pi) = X^g$ ;*
4. *a good  $G$  only proposes if  $\theta_1 \geq \frac{1}{\delta}\Pi$ ;*
5. *voters are indifferent but more likely to re-elect  $G$   
if it shows restraint or  $O$  vetoes ( $p^{10} - p^{11} = p^0 - p^{11} = \frac{1}{\delta}$ ).*

Since both bad types have strong incentives to present themselves as worthy for period-2 government, they imitate the good types' average behavior. The bad opposition approves with probability  $z^b = Z^b = 1 - H(-\frac{1}{\delta}\Pi)$  which coincides with  $Z^g$  and the bad government

<sup>25</sup>For details of the proof, see section A.3 and table 2 in the appendix.

proposes such that  $X^b = X^g$ . Exactly how the bad  $G$  mimics its good counterpart is *a priori* not clear, i.e. there is a potential multiplicity of equilibria which differ with respect to the implemented outcome. However, the next lemma establishes that there is a unique (weakly) payoff-dominant equilibrium, on which the further discussion will focus exclusively.

**Lemma 5 (Payoff-dominant equilibrium).**

*If election concerns are strong and  $O$  has veto power, there is a No-Veto equilibrium in which*

- *if  $\theta_1 < -\frac{1}{8}\Pi$ , the bad  $G$  proposes with probability  $\underline{x}^b = 0$ ;*
- *if  $\theta_1 \geq -\frac{1}{8}\Pi$ , the bad  $G$  proposes with probability  $\bar{x}^b = \frac{1-F(\frac{1}{8}\Pi)}{1-F(-\frac{1}{8}\Pi)}$ ;*
- *both the good and the bad  $O$  always approve.*

*This No-Veto equilibrium yields the good parties and the electorate a strictly higher expected payoff than any other equilibrium described in lemma 4 while it leaves the bad parties with the same expected payoff as all other equilibria.*

In the No-Veto equilibrium, the bad  $G$  never tables projects of quality lower than the good  $O$ 's acceptance threshold,  $-\frac{1}{8}\Pi$ . Instead, it proposes policies above this threshold with the highest probability consistent with pooling. Since this implies that no government  $G$  will ever make a proposal that is not approved by the good opposition, the bad opposition cannot afford to veto without revealing its type. Hence, it will always accept as well and there is no veto activity along the equilibrium path.<sup>26</sup> Expected social welfare in the No-Veto equilibrium amounts therefore to

$$\bar{W}_s^D = \lambda \int_{\frac{1}{8}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + (1 - \lambda) \left[ \frac{1-F(\frac{1}{8}\Pi)}{1-F(-\frac{1}{8}\Pi)} \right] \int_{-\frac{1}{8}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + \lambda U^g + (1 - \lambda) U^b.$$

### 5.3 The value of veto power – strong concerns

Since strong electoral concerns lead the bad types to mimic their good counterparts, there is no separation and hence no selection effect either with or without a veto. The social value

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<sup>26</sup>The reluctance to actually use veto power is broadly in line with empirical observations in established democracies. In the 1990s, about 75 per cent of the proposals of the German federal government were adopted even though the *Bundestag* and the *Bundesrat* were held by rival party majorities (see Bräuninger and König [6]). For the US, Mayhew [15] (p. 104) observes that “[o]ne feature that jumps from the record of 1946-90 is effective lawmaking by members of Congress aiming for the presidency – especially senators” which is consistent with the model, too. With respect to legislative outcomes across US states in 1994, Bowling and Ferguson [5] find that split party control over executive and legislative had no significant or even a positive impact on the probability of passing a bill.

of an opposition veto is solely determined by the efficiency of the first period decision. The difference between expected welfare without a veto and in the No-Veto equilibrium equals

$$\bar{W}_s^D - W_s^U = (1 - \lambda) \frac{1 - F(\frac{1}{\delta}\Pi)}{1 - F(-\frac{1}{\delta}\Pi)} \left[ F(-\frac{1}{\delta}\Pi) \int_{\underline{\theta}}^{\bar{\theta}} \theta_1 dF(\theta_1) - \int_{\underline{\theta}}^{-\frac{1}{\delta}\Pi} \theta_1 dF(\theta_1) \right].$$

In contrast to the case with weak election concerns, no additional assumptions on  $F(\cdot)$  are necessary to determine the social value of an opposition veto.

**Proposition 2 (Veto value with strong election concerns).**

*If election concerns are strong, expected social welfare is always greater with an opposition veto than without.*

Hence, an opposition veto can unambiguously improve political decision-making but only in combination with effective electoral incentives. In the absence of the latter, neither bad party will be restrained from wielding its respective (agenda-setting or veto) power, and the value of the veto arrangement depends on the relative merit of either position for the given policy. In contrast, if the context is such that political actors have a strong interest to get (re-)elected, a veto can complement the effect of electoral accountability in a socially beneficial way. In particular, competition for second period government already restrains the parties from abusing their power when  $G$  can decide on a unilateral basis. However, since it suffices to *appear* to be good, the bad type mimics its respective good type across the board and still pays no attention to the social surplus of the policy in question. With an opposition veto, the bad  $G$  is forced to consider this surplus since it affects the decision of the good  $O$  and therefore its payoff from policy and from elections. In the No-Veto equilibrium, the latter refrains from proposing policies that are certain to be rejected by the good  $O$ , at all. By definition, the good  $G$  will assent to any proposal and, by imitation, the bad  $G$  will have to do so, too.

In the limit, the joint presence of strong electoral concerns and an opposition veto can achieve even a first-best decision in period 1.

**Remark 1.**

*As  $\delta \rightarrow \infty$ , the outcome of the No-Veto equilibrium approaches a first-best situation in which all projects of quality  $\theta_1 \geq 0$  are implemented and all projects with negative surplus values are not.*

## 6 No policy rivalry

The analysis so far has been confined to projects that necessarily redistribute between the constituencies of the governing and the opposition party. While this serves to underline

the robustness of veto power (at least for strong electoral concerns) to electoral *and* policy rivalry, one might wonder about whether the results still hold when this redistribution does not occur. Lemma 6 shows that the absence of policy rivalry improves equilibrium outcomes and makes an opposition veto even more valuable.<sup>27</sup>

**Lemma 6 (Opposition veto without policy rivalry).**

*If constituency  $\mathcal{O}$  is not affected by the government policy, there are equilibria such that*

1. *the good opposition vetoes whenever it is efficient, i.e. if  $\theta_1 < 0$ ;*
2. *for all  $\delta$ , it is an equilibrium strategy for the bad opposition not to veto;*
3. *the good government proposes in the same way as in the case with policy rivalry;*
4. *the bad opposition proposes*
  - *always if  $\delta < 1 - \lambda$*
  - *with probability 1 for  $\theta_1 \geq 0$  and not otherwise if  $\delta \in (1 - \lambda, 1)$*
  - *with probability  $\frac{1-F(\frac{1}{\delta}\Pi)}{1-F(0)}$  for  $\theta_1 \geq 0$  and not otherwise if  $\delta \geq 1$ .*

When the government's favor does not affect the opposition's constituency, the bad opposition has no stake in the policy and does whatever improves the electoral prospects. Hence, in equilibrium, the opposition's decision will not affect the voting decision and therefore  $p^{11} = p^{10}$ .<sup>28</sup> Put differently, voting decisions are only based on government actions, just like in the case of unified decision-making. As a consequence, the bad opposition is indifferent and may as well approve of any proposal. Moreover, the good opposition can take the veto decision without regard for future office and only based on the current benefits  $\theta_1$  that the policy generates.

As for the government, the bad type still proposes too often and the good type is therefore inclined to show restraint as long as  $\theta_1$  is not too large. However, the bad government can be disciplined for lower values of  $\delta$  than before. In particular, it already proposes efficiently whenever  $\delta$  is smaller than 1 but larger than  $1 - \lambda$ .<sup>29</sup>

<sup>27</sup>For details, see section F and table 3 in the appendix.

<sup>28</sup>If one action is rewarded relative to the other, the bad opposition will take this action. But then, consistent beliefs have to take into account that this action is more likely to be taken by the bad opposition which means that it could not be rewarded in the first place.

<sup>29</sup>This is because low quality proposals are relatively more costly than under unified decision-making. Without a veto, a low quality proposal generates  $\phi_1$  while restraint ensures re-election payoff  $\Phi$ . With a veto, a low quality proposal is rejected when the opposition is good but the re-election probability is zero whether there has been a veto or not. Hence, a proposal yields  $(1 - \lambda)\phi$  while restraint still ensures  $\Phi$ . Thus, it takes a higher current payoff in order to make a proposal attractive.

From lemma 6, it is immediate that an opposition veto works even better in the absence of policy rivalries if  $\delta \geq 1$ . Moreover, it can be shown that it improves general welfare even for cases in which  $\delta < 1$  and  $E[\theta_t] \geq 0$ . The intuition is that the excessive veto activity of a bad opposition that obtains with policy rivalry and insufficient electoral concerns does not occur anymore when there is no policy interest by  $O$ 's constituency. Hence, proposals that would have been blocked by a special interest driven veto actor are now put into practice. In addition, the good opposition pursues a more efficient veto strategy since it is not deterred by electoral concerns, anymore.

## 7 Concluding remarks

To conclude, the paper demonstrates that there is a case for veto institutions even though they may be occupied by political rivals of the government. However, a veto arrangement on its own does not suffice to ensure better policy. What is also needed is a sufficiently strong degree of electoral accountability, i.e. the desire of bad parties to get (re-)elected. Only then can bad parties be forced to act in the public interest albeit not for its own sake but to appear electable. As a result, the government only promotes special interest policies if they are at least of a certain minimum quality. This includes a few projects with negative welfare implication but will imply an average policy with a positive social surplus. Since neither type of opposition objects, these proposals can be implemented to the (expected) benefit of society with probability one. In short, an opposition veto curbs power rather than progress but only if its use is curbed by (re-)election concerns itself.

Given that established democracies can provide strong electoral concerns, the paper therefore provides a rationale why veto arrangements have survived in modern party dominated polities. Moreover, it has been shown that a veto arrangement does fare even better when the bad opposition has no stake in  $\mathcal{G}$ 's preferred policy but simply cares about getting elected. In this case, a veto arrangement outperforms unilateral decision-making even for weak election concerns. At least with respect to these arguments, the paper therefore shows that voters may actually *prefer* to delegate government office to one party and a veto institution to its rival, as observed in both the US and Germany.

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## A Equilibrium outcomes

### A.1 Preliminaries

This section derives the equilibria presented in sections 4 and 5. All arguments are made with respect to the case in which  $G$ 's proposal decision is subject to small exogenous shocks, i.e. can be reversed with probability  $\varepsilon \rightarrow 0$ . Essentially, this yields the same results as  $\varepsilon = 0$  (the case presented in the main text) but facilitates the analysis with respect to off equilibrium behavior and ensures their robustness. That is,  $G$ 's decision  $x_t \in \{0, 1\}$  only materializes with probability

$$\tau(x_t) \equiv (1 - \varepsilon)x_t + \varepsilon(1 - x_t).$$

Observe that  $\tau(1) - \tau(0) = 1 - 2\varepsilon > 0$ . For further reference, also define

$$X_\varepsilon^{TG} \equiv Pr\left(\tau(x_1) = 1 \mid T^G, x^{TG}(\theta_1)\right) = \int_{\underline{\theta}}^{\bar{\theta}} \tau(x^{TG}(\theta_1)) dF(\theta_1).$$

Accordingly, the cumulative distribution of proposed projects changes to

$$H_\varepsilon(\theta_1) = \int_{\underline{\theta}}^{\theta_1} \frac{\lambda(x^g(\theta)(1-\varepsilon) + (1-x^g(\theta))\varepsilon) + (1-\lambda)(x^b(\theta)(1-\varepsilon) + (1-x^b(\theta))\varepsilon)}{\int_{\underline{\theta}}^{\bar{\theta}} [\lambda(x^g(\theta)(1-\varepsilon) + (1-x^g(\theta))\varepsilon) + (1-\lambda)(x^b(\theta)(1-\varepsilon) + (1-x^b(\theta))\varepsilon)] dF(\theta)} dF(\theta).$$

Note that  $X_\varepsilon^{TG} \in (\varepsilon, 1 - \varepsilon)$  and  $H_\varepsilon(\theta_1) \in (\varepsilon F(\theta_1), (1 - \varepsilon)F(\theta_1)) \forall \theta_1$ .

### A.2 Unified decision-making

**Electoral strategy.** Since  $O$  is not involved in decision-making, it cannot credibly convey information and  $\lambda^O(\cdot) = \lambda$ . The electoral strategy described in (1) therefore simplifies to

$$p^{x_1} = \begin{cases} 1 & \text{if } \lambda^G(x_1) < \lambda \\ \in [0, 1] & \text{if } \lambda^G(x_1) = \lambda \\ 0 & \text{if } \lambda^G(x_1) > \lambda. \end{cases} \Rightarrow p^1 = 1 - p^0 = \begin{cases} 1 & \text{if } X_\varepsilon^g > X_\varepsilon^b \\ \in [0, 1] & \text{if } X_\varepsilon^g = X_\varepsilon^b \\ 0 & \text{if } X_\varepsilon^g < X_\varepsilon^b. \end{cases}$$

**Government strategies.** Consider first the good  $G$ . It prefers  $x_1 = 1$  over  $x_1 = 0$  as long as

$$\begin{aligned} \tau(1)(\theta_1 + p^1 \Pi) + (1 - \tau(1))p^0 \Pi &\geq \tau(0)(\theta_1 + p^1 \Pi) + (1 - \tau(0))p^0 \Pi \\ \Leftrightarrow \theta_1 + p^1 \Pi &\geq p^0 \Pi \\ \Leftrightarrow \theta_1 &\geq \check{\theta} \equiv (p^0 - p^1) \Pi. \end{aligned}$$

Assumptions 2 and 3 ensure that  $\check{\theta} \in (\underline{\theta}, \bar{\theta})$ . Then,

$$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \check{\theta} \\ 0 & \text{if } \theta_1 < \check{\theta} \end{cases} \Rightarrow X_\varepsilon^g = \varepsilon F(\check{\theta}) + (1 - \varepsilon)(1 - F(\check{\theta})) \in (\varepsilon, 1 - \varepsilon).$$

A bad  $G$  proposes only if

$$\begin{aligned} \tau(1)(\phi_1 + p^1 \Phi) + (1 - \tau(1))p^0 \Phi &\geq \tau(0)(\phi_1 + p^1 \Phi) + (1 - \tau(0))p^0 \Phi \\ \Leftrightarrow \phi_1 + p^1 \Phi &\geq p^0 \Phi \\ \Leftrightarrow \frac{1}{\delta} &\geq p^0 - p^1. \end{aligned}$$

(a) $\delta < 1$	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \Pi \\ 0 & \text{if } \theta_1 < \Pi \end{cases} \quad x^b = 1$ $p^1 = 0, p^0 = 1$
(b) $\delta = 1$	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \Pi \\ 0 & \text{if } \theta_1 < \Pi \end{cases} \quad x^b > 1 - F(\Pi)$ $p^1 = 0, p^0 = 1$
(c) $\delta \geq 1$	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \frac{1}{\delta}\Pi \\ 0 & \text{if } \theta_1 < \frac{1}{\delta}\Pi \end{cases} \quad x^b = 1 - F(\frac{1}{\delta}\Pi)$ $p^1 - p^0 = -\frac{1}{\delta}$

Table 1. Equilibria without Opposition Veto.

Hence, the bad  $G$ 's strategy is independent of  $\theta_1$  and takes the form

$$x^b = \begin{cases} 1 & \text{if } \frac{1}{\delta} > p^0 - p^1 \\ \in [0, 1] & \text{if } \frac{1}{\delta} = p^0 - p^1 \\ 0 & \text{if } \frac{1}{\delta} < p^0 - p^1. \end{cases} \Rightarrow X_\varepsilon^b = (1 - \varepsilon)x^b + \varepsilon(1 - x^b).$$

### Equilibria.

- $\frac{1}{\delta} > p^0 - p^1$ .

This implies  $x^b = 1$  and thus  $X_\varepsilon^b = 1 - \varepsilon$ . Then,

$$X_\varepsilon^b = 1 - \varepsilon > \varepsilon F(\check{\theta}) + (1 - \varepsilon)(1 - F(\check{\theta})) = X_\varepsilon^g,$$

implying,  $p^0 = 1$  and  $p^1 = 0$  and therefore  $\check{\theta} = \Pi$ . Recall that  $\frac{1}{\delta} > p^0 - p^1$  which yields  $\frac{1}{\delta} > 1 \Leftrightarrow \delta < 1$ . This corresponds to case (a) of table 1.

- $\frac{1}{\delta} = p^0 - p^1$ .

Now,  $x^b \in [0, 1]$ . First, suppose that  $X_\varepsilon^g > X_\varepsilon^b$ . This implies  $p^0 = 0$  and  $p^1 = 1$ . Hence,  $p^0 - p^1 = -1$ . But then  $\frac{1}{\delta} = -1$ , a contradiction.

Next, suppose that

$$\begin{aligned} X_\varepsilon^g < X_\varepsilon^b &\Leftrightarrow \varepsilon F(\check{\theta}) + (1 - \varepsilon)(1 - F(\check{\theta})) < (1 - \varepsilon)x^b + \varepsilon(1 - x^b) \\ &\Leftrightarrow x^b > 1 - F(\check{\theta}). \end{aligned}$$

This implies  $p^1 = 0$  and  $p^0 = 1$ . Hence,  $p^0 - p^1 = 1$  and  $\check{\theta} = \Pi$ . By the initial presumption,  $\frac{1}{\delta} = 1 \Leftrightarrow \delta = 1$ . This corresponds to case (b) in table 1.

Finally, suppose that  $X_\varepsilon^g = X_\varepsilon^b$ , i.e.  $x^b = 1 - F(\check{\theta})$ . This implies  $p^1 \in [0, 1]$  and  $p^0 \in [0, 1]$ . Thus,  $p^0 - p^1 \in [-1, 1]$ . By  $\frac{1}{\delta} = p^0 - p^1 > 0 \Rightarrow p^1 - p^0 \in (0, 1]$ ,  $\check{\theta} = \frac{1}{\delta}\Pi$  and  $\delta \geq 1$ . This corresponds to case (c) in table 1.

- $\frac{1}{\delta} < p^0 - p^1$ .

This implies  $x^b = 0$  and  $X_\varepsilon^b = \varepsilon$ . Then,  $X_\varepsilon^b < X_\varepsilon^g$  and  $p^1 = 1$  and  $p^0 = 0$ . Thus,  $p^0 - p^1 = -1 > \frac{1}{\delta} > 0$ , a contradiction. ■

### A.3 Divided decision-making

**Electoral strategy.** By (1), voters choose the party with the higher posterior of being good. The comparison between  $G$  and  $O$  translates into

$$\lambda^G(x_1) \underset{\leq}{\overset{\geq}{\approx}} \lambda^O(z) \Leftrightarrow \begin{cases} (1 - X_\varepsilon^g) \underset{\leq}{\overset{\geq}{\approx}} (1 - X_\varepsilon^b) & \text{if } (x_1, z) = (0, \cdot) \\ X_\varepsilon^g Z^b \underset{\leq}{\overset{\geq}{\approx}} Z^g X_\varepsilon^b & \text{if } (x_1, z) = (1, 1) \\ X_\varepsilon^g(1 - Z^b) \underset{\leq}{\overset{\geq}{\approx}} (1 - Z^g)X_\varepsilon^b & \text{if } (x_1, z) = (1, 0) \end{cases}$$

**Opposition strategies.** Consider first the good opposition. It will approve of a given proposal (set  $z = 1$  rather than 0) whenever

$$\theta_1 + (1 - p^{11}) \Pi \geq (1 - p^{10}) \Pi \Leftrightarrow \theta_1 \geq \hat{\theta} \equiv \Delta p \Pi$$

where  $\Delta p \equiv p^{11} - p^{10}$ . Assumptions 2 and 3 guarantee that  $\hat{\theta} \in (\underline{\theta}_1, \bar{\theta}_1)$ . Therefore,

$$z^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \hat{\theta} \\ 0 & \text{if } \theta_1 < \hat{\theta} \end{cases} \Rightarrow Z^g = 1 - H_\varepsilon(\hat{\theta}) \in (0, 1).$$

As for a bad opposition, it will only let the proposal pass if

$$-\phi_1 + (1 - p^{11}) \Phi \geq (1 - p^{10}) \Phi \Leftrightarrow -\frac{1}{\delta} \geq \Delta p.$$

Therefore, a bad  $O$  does not condition its strategy on  $\theta_1$ :

$$z^b = Z^b = \begin{cases} 1 & \text{if } -\frac{1}{\delta} > \Delta p \\ \in [0, 1] & \text{if } -\frac{1}{\delta} = \Delta p \\ 0 & \text{if } -\frac{1}{\delta} < \Delta p. \end{cases}$$

**Government strategies for  $z^b = 0$ .** Given strategies  $z^g(\theta_1)$  and  $z^b = 0$ , there will be no policy implementation for  $\theta_1 < \hat{\theta}$  while for  $\theta_1 \geq \hat{\theta}$ , at least the good opposition approves. A good government still tables a proposal of quality  $\theta_1 < \hat{\theta}$  if

$$\begin{aligned} & \tau(1) (\lambda p^{10} \Pi + (1 - \lambda) p^{10} \Pi) + (1 - \tau(1)) p^0 \Pi \\ & \geq \tau(0) (\lambda p^{10} \Pi + (1 - \lambda) p^{10} \Pi) + (1 - \tau(0)) p^0 \Pi \\ & \Leftrightarrow \lambda p^{10} \Pi + (1 - \lambda) p^{10} \Pi \geq p^0 \Pi \\ & \Leftrightarrow \Delta \tilde{p} \leq 0, \end{aligned}$$

where  $\Delta \tilde{p} \equiv p^0 - p^{10}$ . For  $\theta_1 \geq \hat{\theta}$ , a good  $G$  proposes if

$$\begin{aligned} & \tau(1) (\lambda (\theta_1 + p^{11} \Pi) + (1 - \lambda) p^{10} \Pi) + (1 - \tau(1)) p^0 \Pi \\ & \geq \tau(0) (\lambda (\theta_1 + p^{11} \Pi) + (1 - \lambda) p^{10} \Pi) + (1 - \tau(0)) p^0 \Pi \\ & \Leftrightarrow \lambda (\theta_1 + p^{11} \Pi) + (1 - \lambda) p^{10} \Pi \geq p^0 \Pi \\ & \Leftrightarrow \tilde{\theta}^H \equiv (\Delta p' + \frac{1-\lambda}{\lambda} \Delta \tilde{p}) \Pi \leq \theta_1. \end{aligned}$$

where  $\Delta p' \equiv p^0 - p^{11}$ . Note that assumption 1 ensures that  $\bar{\theta} > \tilde{\theta}^H$ . Letting  $\tilde{\theta}' \equiv \max\{\hat{\theta}, \tilde{\theta}^H\}$ , the good  $G$ 's strategy is

$$x^g(\theta_1) = \begin{cases} \bar{x}^g(\theta_1) & \text{if } \theta_1 \geq \hat{\theta} \\ \underline{x}^g & \text{if } \theta_1 < \hat{\theta}; \end{cases}$$

where

$$\bar{x}^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \in [\tilde{\theta}', \bar{\theta}] \\ 0 & \text{if } \theta_1 \in (\hat{\theta}, \tilde{\theta}') \end{cases} \quad \text{and} \quad \underline{x}^g = \begin{cases} 1 & \text{if } \Delta\tilde{p} < 0 \\ \in [0, 1] & \text{if } \Delta\tilde{p} = 0 \\ 0 & \text{if } \Delta\tilde{p} > 0. \end{cases}$$

If  $\theta_1 < \hat{\theta}$ , a bad government proposes whenever

$$\begin{aligned} & \tau(1) (\lambda p^{10}\Phi + (1-\lambda)p^{10}\Phi) + (1-\tau(1))p^0\Phi \\ & \geq \tau(0) (\lambda p^{10}\Phi + (1-\lambda)p^{10}\Phi) + (1-\tau(0))p^0\Phi \\ & \Leftrightarrow \lambda p^{10}\Phi + (1-\lambda)p^{10}\Phi \geq p^0\Phi \\ & \Leftrightarrow \Delta\tilde{p} \leq 0, \end{aligned}$$

while it will propose projects with  $\theta_1 \geq \hat{\theta}$  if

$$\begin{aligned} & \tau(1) (\lambda(\phi_1 + p^{11}\Phi) + (1-\lambda)p^{10}\Phi) + (1-\tau(1))p^0\Phi \\ & \geq \tau(0) (\lambda(\phi_1 + p^{11}\Phi) + (1-\lambda)p^{10}\Phi) + (1-\tau(0))p^0\Phi \\ & \Leftrightarrow \lambda(\phi_1 + p^{11}\Phi) + (1-\lambda)p^{10}\Phi \geq p^0\Phi \\ & \Leftrightarrow (\Delta p' + \frac{1-\lambda}{\lambda}\Delta\tilde{p}) \leq \frac{1}{\delta}. \end{aligned}$$

Thus, the bad  $G$  pursues a strategy

$$x^b(\theta_1) = \begin{cases} \bar{x}^b & \text{if } \theta_1 \geq \hat{\theta} \\ \underline{x}^b & \text{if } \theta_1 < \hat{\theta}; \end{cases}$$

where

$$\bar{x}^b = \begin{cases} 1 & \text{if } \frac{1}{\delta} > \Delta p' + \frac{1-\lambda}{\lambda}\Delta\tilde{p} \\ \in [0, 1] & \text{if } \frac{1}{\delta} = \Delta p' + \frac{1-\lambda}{\lambda}\Delta\tilde{p} \\ 0 & \text{if } \frac{1}{\delta} < \Delta p' + \frac{1-\lambda}{\lambda}\Delta\tilde{p} \end{cases} \quad \text{and} \quad \underline{x}^b = \begin{cases} 1 & \text{if } \Delta\tilde{p} < 0 \\ \in [0, 1] & \text{if } \Delta\tilde{p} = 0 \\ 0 & \text{if } \Delta\tilde{p} > 0. \end{cases}$$

**Equilibria with  $z^b = 0$ .** In this case,  $Z^b = 0$ . Recall that this requires  $\frac{1}{\delta} \geq -\Delta p$ .

- $\frac{1}{\delta} > \Delta p' + \frac{1-\lambda}{\lambda}\Delta\tilde{p}$ ,  $\Delta\tilde{p} < 0$ .  
Hence,  $\bar{x}^b = \underline{x}^b = \underline{x}^g = 1$  and  $X_\varepsilon^b = 1 - \varepsilon$ .  
Suppose first that  $\tilde{\theta}^H > \hat{\theta}$ . In this case,

$$X_\varepsilon^g - X_\varepsilon^b = -(1-2\varepsilon) [F(\tilde{\theta}^H) - F(\hat{\theta})] < 0$$

and therefore  $p^0 = 1$  which contradicts  $\Delta\tilde{p} = p^0 - p^{10} < 0$ .

Suppose next that  $\tilde{\theta}^H \leq \hat{\theta}$ . Then,  $X_\varepsilon^g = X_\varepsilon^b = 1 - \varepsilon$  which means that  $p^0 \in [0, 1]$ . Moreover,

$$\begin{aligned} X_\varepsilon^g Z^b < X_\varepsilon^b Z^g &\Leftrightarrow 0 < (1 - \varepsilon)(1 - H_\varepsilon(0)) \\ X_\varepsilon^g(1 - Z^b) > X_\varepsilon^b(1 - Z^g) &\Leftrightarrow (1 - \varepsilon) > (1 - \varepsilon)H_\varepsilon(0). \end{aligned}$$

Thus,  $p^{10} = 1$  and  $p^{11} = 0$ . Then,  $\Delta\tilde{p} < 0$  requires  $p^0 < 1$ . Also,  $\tilde{\theta}^H \leq \hat{\theta}$  can only apply if  $p^0 \leq 1 - 2\lambda$  which necessitates  $\lambda \leq \frac{1}{2}$ . Finally, it is straightforward to see that the first initial condition can be met for  $p^0$  small enough, too. By  $\frac{1}{\delta} \geq -\Delta p = 1$ ,  $\delta \leq 1$ . This corresponds to case (i) in table 2.

- $\frac{1}{\delta} \leq \Delta p' + \frac{1-\lambda}{\lambda} \Delta\tilde{p}$ ,  $\Delta\tilde{p} \leq 0$ .

This implies  $\Delta p' + \frac{1-\lambda}{\lambda} \Delta\tilde{p} \geq \frac{1}{\delta} \geq -\Delta p$  which in turn requires  $\Delta\tilde{p} \geq 0$ . Combined with the initial condition that  $\Delta\tilde{p} \leq 0$ , one gets  $\Delta\tilde{p} = p^0 - p^{10} = 0$  and, hence,  $\Delta p' = \frac{1}{\delta} = -\Delta p$ .

Accordingly,  $\tilde{\theta}^H > \hat{\theta}$  and therefore

$$\begin{aligned} X_\varepsilon^g &= (1 - \varepsilon) \left[ \underline{x}^g F(\hat{\theta}) + 1 - F(\tilde{\theta}^H) \right] + \varepsilon \left[ (1 - \underline{x}^g) F(\hat{\theta}) + F(\tilde{\theta}^H) - F(\hat{\theta}) \right] \\ X_\varepsilon^b &= (1 - \varepsilon) \left[ \underline{x}^b F(\hat{\theta}) + \bar{x}^b (1 - F(\hat{\theta})) \right] \\ &\quad + \varepsilon \left[ (1 - \underline{x}^b) F(\hat{\theta}) + (1 - \bar{x}^b) (1 - F(\hat{\theta})) \right]. \end{aligned}$$

Moreover, it must be the case that

$$p^0 > 0 \Rightarrow X_\varepsilon^g \leq X_\varepsilon^b \Leftrightarrow 1 \leq \frac{X_\varepsilon^b}{X_\varepsilon^g} \quad (4)$$

$$p^{10} > 0 \Rightarrow X_\varepsilon^g \geq X_\varepsilon^b H_\varepsilon(\hat{\theta}) \Leftrightarrow 1 \geq \frac{X_\varepsilon^b}{X_\varepsilon^g} H_\varepsilon(\hat{\theta}) \quad (5)$$

$$p^{11} < 1 \Leftrightarrow 0 \leq X_\varepsilon^b (1 - H_\varepsilon(\hat{\theta})) \quad (6)$$

By (6), one has  $p^{11} = 0$ . Note that  $p^{10} = p^0$  but that (4) and (5) cannot both hold with equality. Hence,  $p^0 = p^{10} = 1$  and  $\tilde{\theta}^H = -\hat{\theta} = \Pi$ . It is straightforward to verify that there are  $(\underline{x}^g, \underline{x}^b, \bar{x}^b)$  such that

$$H_\varepsilon(-\Pi) \leq \frac{X_\varepsilon^g}{X_\varepsilon^b} \leq 1,$$

thus satisfying conditions (4) to (6).<sup>30</sup> Since  $\Delta p' = -\Delta p = 1 = \frac{1}{\delta}$ , this is an equilibrium constellation for  $\delta = 1$  (case (iii) in table 2).

- $\frac{1}{\delta} \geq \Delta p' + \frac{1-\lambda}{\lambda} \Delta\tilde{p}$ ,  $\Delta\tilde{p} > 0$ .

Note that  $\underline{x}^b = \underline{x}^g = 0$ . Then,

$$\begin{aligned} 1 - Z^g &= H_\varepsilon(\hat{\theta}) = \frac{\varepsilon F(\hat{\theta})}{\lambda X_\varepsilon^g + (1-\lambda) X_\varepsilon^b}, \\ X_\varepsilon^g &= \varepsilon F(\tilde{\theta}') + (1 - \varepsilon) (1 - F(\tilde{\theta}')) \\ X_\varepsilon^b &= \varepsilon F(\hat{\theta}) + \left( (1 - \varepsilon) \bar{x}^b + \varepsilon (1 - \bar{x}^b) \right). \end{aligned}$$

<sup>30</sup>For example,  $\underline{x}^g = \underline{x}^b = 0$  and  $\bar{x}^b$  larger than but close to  $\frac{1-F(\Pi)}{1-F(-\Pi)}$ .

Observe that  $\Delta\tilde{p} > 0$  requires

$$\begin{aligned} p^{10} < 1 &\Leftrightarrow (1 - Z^b)X_\varepsilon^g \leq (1 - Z^g)X_\varepsilon^b \\ &\Leftrightarrow X_\varepsilon^g \leq \varepsilon \frac{F(\hat{\theta})}{\lambda X_\varepsilon^g + (1-\lambda)X_\varepsilon^b} X_\varepsilon^b. \end{aligned} \quad (7)$$

As  $\varepsilon \rightarrow 0$ , the right hand side of (7) is arbitrarily close to zero while the left hand side will be strictly positive. This contradicts  $\Delta\tilde{p} > 0$ .

- $\frac{1}{\delta} > \Delta p' + \frac{1-\lambda}{\lambda} \Delta\tilde{p}$ ,  $\Delta\tilde{p} = 0$ .  
Thus,  $\bar{x}^b = 1$  and  $\underline{x}^g, \underline{x}^b \in [0, 1]$ . Then

$$\begin{aligned} X_\varepsilon^g &= (1 - \varepsilon) \left( \underline{x}^g F(\hat{\theta}) + 1 - F(\hat{\theta}') \right) + \varepsilon \left( F(\hat{\theta}') - \underline{x}^g F(\hat{\theta}) \right) \\ X_\varepsilon^b &= (1 - \varepsilon) \left( \underline{x}^b F(\hat{\theta}) + 1 - F(\hat{\theta}) \right) + \varepsilon \left( 1 - \underline{x}^b \right) F(\hat{\theta}). \end{aligned}$$

Note that

$$\lambda^G(1) < \lambda^O(1) \Leftrightarrow 0 < X_\varepsilon^b \left( 1 - H_\varepsilon(\hat{\theta}) \right),$$

implying  $p^{11} = 0$ .

Also,  $\Delta\tilde{p} = 0$  implies  $p^0 = p^{10}$ . The relevant belief comparisons take the form

$$\lambda^G(0) \geq \lambda \Leftrightarrow (1 - X_\varepsilon^g) \geq (1 - X_\varepsilon^b) \Leftrightarrow 1 \leq \frac{X_\varepsilon^b}{X_\varepsilon^g} \quad (8)$$

$$\lambda^G(1) \geq \lambda^O(0) \Leftrightarrow X_\varepsilon^g \geq X_\varepsilon^b H_\varepsilon(\hat{\theta}) \Leftrightarrow 1 \geq \frac{X_\varepsilon^b}{X_\varepsilon^g} H_\varepsilon(\hat{\theta}). \quad (9)$$

Suppose first that  $p^{10} = p^0 \in [0, 1)$ . A necessary condition would be

$$\frac{X_\varepsilon^b}{X_\varepsilon^g} H_\varepsilon(\hat{\theta}) \geq 1 \geq \frac{X_\varepsilon^b}{X_\varepsilon^g},$$

a contradiction. Hence, it can only be that  $p^{10} = p^0 = 1$  which implies  $\Delta p = -1$ ,  $\Delta p' = 1$  and  $\hat{\theta} = -\Pi$ ,  $\hat{\theta}^H = \Pi$ . It is straightforward to verify that this would be consistent with (8) and (9) for all  $\underline{x}^g$  and  $\underline{x}^b \in [0, 1]$  such that<sup>31</sup>

$$H_\varepsilon(-\Pi) \leq \frac{X_\varepsilon^b}{X_\varepsilon^g} \leq 1.$$

Substitution into the bad  $G$ 's incentive condition yields the qualification that  $1 < \frac{1}{\delta} \Leftrightarrow \delta < 1$ . This corresponds to case (ii) in table 2.

**Government strategies if  $z^b > 0$ .** Strategy  $z^b > 0$  requires  $\frac{1}{\delta} \leq -\Delta p$ . If there is a policy of quality  $\theta_1 < \hat{\theta}$ , a good government plays  $x_1 = 1$  rather than 0 only if

$$\begin{aligned} &\tau(1) \left[ \left( \lambda + (1 - \lambda)(1 - z^b) \right) p^{10} \Pi + (1 - \lambda) z^b (\theta_1 + p^{11} \Pi) \right] + (1 - \tau(1)) p^0 \Pi \\ &\geq \tau(0) \left[ \left( \lambda + (1 - \lambda)(1 - z^b) \right) p^{10} \Pi + (1 - \lambda) z^b (\theta_1 + p^{11} \Pi) \right] + (1 - \tau(0)) p^0 \Pi \\ &\Leftrightarrow \left( \lambda + (1 - \lambda)(1 - z^b) \right) p^{10} \Pi + (1 - \lambda) z^b (\theta_1 + p^{11} \Pi) - p^0 \Pi \geq 0 \\ &\Leftrightarrow \theta^L \equiv \left( \Delta p' + \frac{\lambda + (1 - \lambda)(1 - z^b)}{(1 - \lambda) z^b} \Delta\tilde{p} \right) \Pi \leq \theta_1. \end{aligned}$$

<sup>31</sup>E.g., this is the case if  $\underline{x}^b = \underline{x}^g$ .

For  $\theta_1 \geq \hat{\theta}$ , there will be a proposal by the good  $G$  if

$$\begin{aligned}
& \tau(1) \left[ \left( \lambda + (1-\lambda)z^b \right) (\theta_1 + p^{11}\Pi) + (1-\lambda)(1-z^b)p^{10}\Pi \right] + (1-\tau(1))p^0\Pi \\
& \geq \tau(0) \left[ \left( \lambda + (1-\lambda)z^b \right) (\theta_1 + p^{11}\Pi) + (1-\lambda)(1-z^b)p^{10}\Pi \right] + (1-\tau(0))p^0\Pi \\
& \Leftrightarrow \left( \lambda + (1-\lambda)z^b \right) (\theta_1 + p^{11}\Pi) + (1-\lambda)(1-z^b)p^{10}\Pi - p^0\Pi \geq 0 \\
& \Leftrightarrow \theta^H \equiv \left( \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \right) \Pi \leq \theta_1.
\end{aligned}$$

Let  $\theta' = \max\{\hat{\theta}, \theta^H\}$  and  $\theta'' = \min\{\hat{\theta}, \theta^L\}$ . Then, the good  $G$ ' strategy is

$$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \in [\theta', \bar{\theta}] \\ 0 & \text{if } \theta_1 \in (\hat{\theta}, \theta') \\ 1 & \text{if } \theta_1 \in [\theta'', \hat{\theta}] \\ 0 & \text{if } \theta_1 \in [\underline{\theta}, \theta''). \end{cases}$$

Although the bad  $G$  does not value  $\theta_1$  itself, it has to take its impact on the good  $O$ 's reaction into account. In particular, for  $\theta_1 < \hat{\theta}$ , the bad  $G$  only proposes if

$$\begin{aligned}
& \tau(1) \left[ \left( \lambda + (1-\lambda)(1-z^b) \right) p^{10}\Phi + (1-\lambda)z^b (\phi_1 + p^{11}\Phi) \right] + (1-\tau(1))p^0\Phi \\
& \geq \tau(0) \left[ \left( \lambda + (1-\lambda)(1-z^b) \right) p^{10}\Phi + (1-\lambda)z^b (\phi_1 + p^{11}\Phi) \right] + (1-\tau(0))p^0\Phi \\
& \Leftrightarrow \left( \lambda + (1-\lambda)(1-z^b) \right) p^{10}\Phi + (1-\lambda)z^b (\phi_1 + p^{11}\Phi) - p^0\Phi \geq 0 \\
& \Leftrightarrow \Delta p' + \frac{\lambda+(1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} \leq \frac{1}{\delta}
\end{aligned}$$

For higher surpluses,  $\theta_1 \geq \hat{\theta}$ , the bad  $G$  proposes if

$$\begin{aligned}
& \tau(1) \left[ \left( \lambda + (1-\lambda)z^b \right) (\phi_1 + p^{11}\Phi) + (1-\lambda)(1-z^b)p^{10}\Phi \right] + (1-\tau(1))p^0\Phi \\
& \geq \tau(0) \left[ \left( \lambda + (1-\lambda)z^b \right) (\phi_1 + p^{11}\Phi) + (1-\lambda)(1-z^b)p^{10}\Phi \right] + (1-\tau(0))p^0\Phi \\
& \Leftrightarrow \left( \lambda + (1-\lambda)z^b \right) (\phi_1 + p^{11}\Phi) + (1-\lambda)(1-z^b)p^{10}\Phi - p^0\Phi \geq 0 \\
& \Leftrightarrow \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \leq \frac{1}{\delta}.
\end{aligned}$$

The bad  $G$ 's strategy therefore amounts to

$$x^b(\theta_1) = \begin{cases} \bar{x}^b & \text{if } \theta_1 \geq \hat{\theta} \\ \underline{x}^b & \text{if } \theta_1 < \hat{\theta}; \end{cases}$$

where

$$\bar{x}^b = \begin{cases} 1 & \text{if } \frac{1}{\delta} > \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \\ \in [0, 1] & \text{if } \frac{1}{\delta} = \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \\ 0 & \text{if } \frac{1}{\delta} < \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \end{cases}$$



and

$$\underline{x}^b = \begin{cases} 1 & \text{if } \frac{1}{\delta} > \Delta p' + \frac{\lambda+(1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} \\ \in [0, 1] & \text{if } \frac{1}{\delta} = \Delta p' + \frac{\lambda+(1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} \\ 0 & \text{if } \frac{1}{\delta} < \Delta p' + \frac{\lambda+(1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p}. \end{cases}$$

**Equilibria with  $z^b > 0$ .** Suppose  $z^b = Z^b = 1$ . This requires  $\Delta p \leq -\frac{1}{\delta}$  and therefore  $p^{10} > 0$ . This is possible as long as  $\lambda^G(1) \geq \lambda^O(0)$  which requires

$$X_\varepsilon^g(1 - Z^b) \geq X_\varepsilon^b(1 - Z^g) \Rightarrow 0 \geq X_\varepsilon^b H_\varepsilon(\hat{\theta}), \quad (10)$$

a contradiction.

Hence,  $z^b = Z^b \in (0, 1)$ . A necessary condition is  $\Delta p = -\frac{1}{\delta} < 0$ , and therefore, that  $p^{11} < 1$  and  $p^{10} > 0$ . I consider the possible cases in turn.

- $\frac{1}{\delta} > \Delta p' + \frac{\lambda+(1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p}$ ,  $\frac{1}{\delta} > \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p}$ .

Hence,  $\bar{x}^b = \underline{x}^b = 1$  and  $X_\varepsilon^b = 1 - \varepsilon$ . Combining the conditions above, I get

$$-\Delta p = \frac{1}{\delta} > \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \Rightarrow \Delta \tilde{p} < 0.$$

From the conditions on  $\Delta p$ , it also follows that  $p^{10} > 0$  and  $p^{11} < 1$  and therefore

$$X_\varepsilon^g(1 - z^b) \geq X_\varepsilon^b H_\varepsilon(\hat{\theta}) \Leftrightarrow z^b \leq \tilde{z}^b(0) \equiv 1 - \frac{X_\varepsilon^b}{X_\varepsilon^g} H_\varepsilon(\hat{\theta}) \quad (11)$$

$$X_\varepsilon^g z^b \leq X_\varepsilon^g (1 - H_\varepsilon(\hat{\theta})) \Leftrightarrow z^b \leq \tilde{z}^b(1) \equiv \frac{X_\varepsilon^b}{X_\varepsilon^g} (1 - H_\varepsilon(\hat{\theta})). \quad (12)$$

Suppose first that  $X_\varepsilon^g = X_\varepsilon^b = 1 - \varepsilon$ . Then,  $z^b(1) = z^b(0)$ . If  $z^b < z^b(\cdot)$ ,  $p^{11} = 0$ . But this cannot be part of an equilibrium. To see this, observe that

$$\begin{aligned} \theta^H - \hat{\theta} &\propto \left( \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \right) - \Delta p > \Delta p' - \Delta p \\ &= p^0 + p^{10} - 2p^{11} > 0, \end{aligned}$$

where the first inequality is due to  $\Delta \tilde{p} < 0$  and the second one follows from  $p^{10} > 0$  and  $p^{11} = 0$ . Hence, the interval  $(\hat{\theta}, \theta^H)$  is non-empty. Since  $x^g(\theta_1) = 0$  for all  $\theta_1$  in this interval

$$X_\varepsilon^g - X_\varepsilon^b = -(1 - 2\varepsilon) \left( F(\theta'') + F(\theta^H) - F(\hat{\theta}) \right) < 0$$

and therefore  $p^0 = 1$ . However, this contradicts  $\Delta \tilde{p} < 0$ .

Consider now the case in which  $X_\varepsilon^g = X_\varepsilon^b = 1 - \varepsilon$  and  $z^b = z^b(\cdot)$ . Note that

$$z^b = z^b(\cdot) = 1 - H_\varepsilon(\hat{\theta}) = 1 - F(\hat{\theta})$$

where the last equality comes from the fact that policies are always proposed. A necessary condition for  $X_\varepsilon^g = 1 - \varepsilon$  is  $\theta^L \leq \underline{\theta}$ . But this cannot be true since

$$\begin{aligned}\theta^L &= \left( \Delta p' + \frac{\lambda + (1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} \right) \Pi \\ &\geq \frac{-1}{(1-\lambda)(1-F(\hat{\theta}))} \Pi \\ &> \frac{-1}{(1-\lambda)(1-F(0))} \Pi \\ &> \theta^L,\end{aligned}$$

where the third inequality is due to  $\hat{\theta} < 0$  and the last one to assumption 3.

Finally, consider  $X_\varepsilon^g < 1 - \varepsilon$ . In this case, one gets  $\check{z}^b(1) > \check{z}^b(0)$  and conditions (11) and (12) are satisfied for  $z^b \leq \check{z}^b(0)$ , implying that the inequality in (12) will always be strict. Consequently,  $p^{11} = 0$  and the argument of the first case applies.

- $\Delta p' + \frac{\lambda + (1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} \leq \frac{1}{\delta} < \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda + (1-\lambda)z^b} \Delta \tilde{p}$ .

Note that this requires

$$\Delta p' + \frac{\lambda + (1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} \leq -\Delta p < \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda + (1-\lambda)z^b} \Delta \tilde{p}.$$

The first inequality holds for  $\Delta \tilde{p} \leq 0$  while the latter implies  $\Delta \tilde{p} > 0$ , a contradiction.

- $\frac{1}{\delta} \neq \Delta p' + \frac{\lambda + (1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p}$ ,  $\frac{1}{\delta} = \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda + (1-\lambda)z^b} \Delta \tilde{p}$ .

This requires  $\Delta \tilde{p} \neq 0$ . However, plugging  $-\frac{1}{\delta} = \Delta p$  into the second equation yields the condition  $\Delta \tilde{p} = 0$ , a contradiction.

- $\Delta p' + \frac{\lambda + (1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} \geq \frac{1}{\delta} > \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda + (1-\lambda)z^b} \Delta \tilde{p}$ .

As

$$\frac{\lambda + (1-\lambda)(1-z^b)}{(1-\lambda)z^b} > \frac{(1-\lambda)(1-z^b)}{\lambda + (1-\lambda)z^b},$$

these conditions imply  $\Delta \tilde{p} > 0$ . However, plugging  $\frac{1}{\delta} = -\Delta p$  into the second inequality yields  $\Delta \tilde{p} < 0$ , a contradiction.

- $\frac{1}{\delta} < \Delta p' + \frac{\lambda + (1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p}$ ,  $\frac{1}{\delta} < \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda + (1-\lambda)z^b} \Delta \tilde{p}$ .

Hence,  $\bar{x}^b = \underline{x}^b = 0$  and  $X_\varepsilon^b = \varepsilon$ . Moreover,

$$-\Delta p = \frac{1}{\delta} < \Delta p' + \frac{\lambda + (1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} \Rightarrow 0 < \Delta \tilde{p}.$$

Combining these conditions, one gets  $p^0 > 0$  and  $\theta^L > \theta^H > 0 > \hat{\theta}$ . Therefore,

$$X_\varepsilon^g = (1 - \varepsilon)(1 - F(\theta^H)) + \varepsilon(F(\hat{\theta})) > X_\varepsilon^b,$$

which means that  $p^0 = 0$ , a contradiction to  $\Delta \tilde{p} > 0$ .

- $\Delta p' + \frac{\lambda+(1-\lambda)(1-z^b)}{(1-\lambda)z^b} \Delta \tilde{p} = \frac{1}{\delta} = \Delta p' + \frac{(1-\lambda)(1-z^b)}{\lambda+(1-\lambda)z^b} \Delta \tilde{p}$ .  
This can only be true for  $\Delta \tilde{p} = p^0 - p^{10} = 0$  and  $\Delta p' = \frac{1}{\delta}$ . Hence,

$$\theta^H = \theta^L = \frac{1}{\delta} \Pi > -\frac{1}{\delta} \Pi = \hat{\theta}.$$

Therefore,

$$\begin{aligned} X_\varepsilon^g &= (1 - \varepsilon) \left(1 - F\left(\frac{1}{\delta} \Pi\right)\right) + \varepsilon F(\Pi), \\ X_\varepsilon^b &= (1 - \varepsilon) \left(\underline{x}^b F(-\Pi) + \bar{x}^b \left(1 - F\left(-\frac{1}{\delta} \Pi\right)\right)\right) \\ &\quad + \varepsilon \left(\left(1 - \underline{x}^b\right) F\left(-\frac{1}{\delta} \Pi\right) + \left(1 - \bar{x}^b\right) \left(1 - F\left(-\frac{1}{\delta} \Pi\right)\right)\right). \end{aligned}$$

Since  $p^{11} < 1$  and  $p^{10} = p^0 > 0$ , it must be that

$$X_\varepsilon^g z^b \leq X_\varepsilon^b (1 - H_\varepsilon(-\frac{1}{\delta} \Pi)) \Leftrightarrow z^b \leq \frac{X_\varepsilon^b}{X_\varepsilon^g} (1 - H_\varepsilon(-\frac{1}{\delta} \Pi)) \equiv \tilde{z}^b(1) \quad (13)$$

$$X_\varepsilon^g (1 - z^b) \geq X_\varepsilon^b H_\varepsilon(-\frac{1}{\delta} \Pi) \Leftrightarrow z^b \leq 1 - \frac{X_\varepsilon^b}{X_\varepsilon^g} H_\varepsilon(-\frac{1}{\delta} \Pi) \equiv \tilde{z}^b(0) \quad (14)$$

$$X_\varepsilon^g \geq X_\varepsilon^b \Leftrightarrow 1 \leq \frac{X_\varepsilon^b}{X_\varepsilon^g}. \quad (15)$$

Consider first the case with  $\frac{X_\varepsilon^b}{X_\varepsilon^g} > 1$ . Then,  $p^0 = 1$ . Moreover, as  $\tilde{z}^b(1) > \tilde{z}^b(0)$ , the inequality in (13) is strict, i.e.  $p^{11} = 1$ . In order to have  $p^{10} = p^0$ , it must be that  $z^b \leq \tilde{z}^b(0)$ . It is straightforward to establish that here is a range of  $(\underline{x}^b, \bar{x}^b, z^b)$  satisfying (13) to (15).<sup>32</sup> Note that the initial presumptions imply  $\delta = 1$ .

Next, suppose that  $\frac{X_\varepsilon^b}{X_\varepsilon^g} = 1$ . Then  $\tilde{z}^b(0) = \tilde{z}^b(1) = 1 - H_\varepsilon(-\frac{1}{\delta} \Pi)$ . If  $z^b < \tilde{z}^b(\cdot)$ , then  $p^{11} = 0$  and  $p^{10} = 1$ , so  $p^0$  must equal one. Again, there are  $(\underline{x}^b, \bar{x}^b, z^b)$  for which (13) to (15) are satisfied and thus constitute an equilibrium for  $\delta = 1$  (both correspond to case (iv) in table 2).

Finally consider  $\frac{X_\varepsilon^b}{X_\varepsilon^g} = 1$  and  $z^b = \tilde{z}^b(\cdot) = 1 - H_\varepsilon(-\frac{1}{\delta} \Pi)$ . This implies that  $p^{11}, p^{10} = p^0 \in [0, 1]$ . Indeed, there are  $\underline{x}^b, \bar{x}^b$  and  $p^{x1z}$  such that (13) to (15) and the incentive conditions  $\frac{1}{\delta} = -\Delta p = \Delta p' \in (0, 1]$  are always satisfied.<sup>33</sup> This corresponds to case (v) in table 2 for  $\delta \geq 1$ .

## B Proof of proposition 1

As for part (1), the result is immediate upon inspection of (3). With respect to part (2), given that surplus is uniformly distributed over  $[\underline{\theta}, \bar{\theta}]$ , rewriting (3) shows that  $W_w^D - W_w^U$  has the sign of

$$-\frac{1}{2}(\bar{\theta} + \underline{\theta}) \left[1 - \lambda \frac{\underline{\theta}}{(\bar{\theta} - \underline{\theta})^2}\right].$$

<sup>32</sup>For example, for  $\underline{x}^b = \bar{x}^b = 1$  and  $z^b \rightarrow 0$ .

<sup>33</sup>For instance, consider  $\underline{x}^b = 0$  and  $\bar{x}^b = \frac{1 - F(-\frac{1}{\delta} \Pi)}{1 - F(\frac{1}{\delta} \Pi)}$ .

(i) $\delta \leq 1, \lambda \geq \frac{1}{2}$	$x^g(\theta_1) = 1$ $z^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq -\Pi \\ 0 & \text{if } \theta_1 < -\Pi \end{cases}$ $p^{11} = 0, p^{10} = 1, p^0 \leq 1 - 2\lambda$	$x^b(\theta_1) = 1 \forall \theta_1$ $z^b = 0$
(ii) $\delta < 1$	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \Pi \\ 0 & \text{if } \theta_1 \in [-\Pi, \Pi) \\ \underline{x}^g & \text{if } \theta_1 < -\Pi \end{cases}$ $z^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq -\Pi \\ 0 & \text{if } \theta_1 < -\Pi \end{cases}$ $p^{11} = 0, p^{10} = p^0 = 1$	$x^b(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq 0 \\ \underline{x}^b & \text{if } \theta_1 < 0 \end{cases}$ $\underline{x}^g, \underline{x}^b \text{ s.t. } H_\varepsilon(-\Pi) \leq \frac{X_\varepsilon^g}{X_\varepsilon^b} \leq 1$ $z^b = 0$
(iii) $\delta = 1$	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \Pi \\ 0 & \text{if } \theta_1 \in [-\Pi, \Pi) \\ \bar{x}^g & \text{if } \theta_1 < -\Pi \end{cases}$ $z^g(\theta_1) = \begin{cases} 1 & \theta_1 \geq -\Pi \\ 0 & \theta_1 < -\Pi \end{cases}$ $p^{11} = 0, p^{10} = p^0 = 1$	$\underline{x}^g, \underline{x}^b, \bar{x}^b \in [0, 1]$ $\text{s.t. } H_\varepsilon(-\Pi) \leq \frac{X_\varepsilon^g}{X_\varepsilon^b} \leq 1$ $z^b = 0$
(iv) $\delta = 1$	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \Pi \\ 0 & \text{if } \theta_1 < \Pi \end{cases}$ $z^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq -\Pi \\ 0 & \text{if } \theta_1 < -\Pi \end{cases}$ $p^{11} = 0, p^{10} = p^0 = 1$	$\underline{x}^b, \bar{x}^b \in [0, 1] \text{ s.t. } X_\varepsilon^g \leq X_\varepsilon^b$ $z^b < 1 - \frac{X_\varepsilon^g}{X_\varepsilon^b} H_\varepsilon(-\Pi)$
(v) $\delta \geq 1$	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \frac{1}{\delta}\Pi \\ 0 & \text{if } \theta_1 < \frac{1}{\delta}\Pi \end{cases}$ $z^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq -\frac{1}{\delta}\Pi \\ 0 & \text{if } \theta_1 < -\frac{1}{\delta}\Pi \end{cases}$ $p^{11} = p^{10} - \frac{1}{\delta}, p^{10} = p^0$	$\underline{x}^b, \bar{x}^b \in [0, 1]$ $\text{s.t. } \frac{\underline{x}^b F(-\frac{1}{\delta}\Pi) + \bar{x}^b (1 - F(-\frac{1}{\delta}\Pi))}{1 - F(\frac{1}{\delta}\Pi)} = 1$ $z^b = 1 - H_\varepsilon(-\frac{1}{\delta}\Pi)$

Table 2. Equilibria with opposition veto.

Note that  $\frac{1}{2}(\bar{\theta} + \underline{\theta}) = E[\theta_t]$  and that the term in curly brackets is always positive. ■

## C Proof of lemma 5

Recall first the bad types' indifference conditions

$$p^0 - p^{11} = p^{10} - p^{11} = \frac{1}{\delta} \quad (16)$$

and the bad  $G$ 's pooling condition<sup>34</sup>

$$\underline{x}_b F\left(-\frac{1}{\delta}\Pi\right) + \bar{x}_b \left(1 - F\left(-\frac{1}{\delta}\Pi\right)\right) = 1 - F\left(\frac{1}{\delta}\Pi\right). \quad (17)$$

Using (16) and (17), voters' expected welfare can be written as

$$\begin{aligned} & \left[ \lambda + (1 - \lambda) \left[1 - H\left(-\frac{1}{\delta}\Pi\right)\right] \right] \left\{ \lambda \int_{\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + (1 - \lambda) \int_{-\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) \right\} \\ & + \lambda U^g + (1 - \lambda)U^b - \lambda^2(1 - \lambda)\frac{1}{\delta}(U^g - U^b)\underline{x}_b. \end{aligned} \quad (18)$$

By assumption 1, the term in curly brackets is positive.  $H(-\frac{1}{\delta}\Pi)$  can be expressed as

$$H\left(-\frac{1}{\delta}\Pi\right) = \frac{(1-\lambda)\underline{x}^b}{1-F(\frac{1}{\delta}\Pi)} F\left(-\frac{1}{\delta}\Pi\right)$$

and is therefore increasing in  $\underline{x}^b$ . Hence, voters' welfare attains its maximal value for  $\underline{x}_b = 0$  and amounts to

$$\bar{W}_s^D = \lambda \int_{\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + (1 - \lambda) \int_{-\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + \lambda U^g + (1 - \lambda)U^b.$$

The expected payoff of the good  $G$  can be written as

$$\begin{aligned} & \lambda \left\{ \int_{\underline{\theta}}^{\frac{1}{\delta}\Pi} p^0 \Pi dF(\theta_1) + \int_{\frac{1}{\delta}\Pi}^{\bar{\theta}} (\theta_1 + p^{11}\Pi) dF(\theta_1) \right\} \\ & + (1 - \lambda) \times \\ & \left\{ \int_{\underline{\theta}}^{\frac{1}{\delta}\Pi} p^0 \Pi dF(\theta_1) + \int_{\frac{1}{\delta}\Pi}^{\bar{\theta}} \left[ H\left(-\frac{1}{\delta}\Pi\right) p^0 \Pi + (1 - H\left(-\frac{1}{\delta}\Pi\right)) (\theta_1 + p^{11}\Pi) \right] dF(\theta_1) \right\} \end{aligned} \quad (19)$$

Taking derivatives with respect to  $\underline{x}_b$  gives

$$-\frac{(1-\lambda)^2 F(-\frac{1}{\delta}\Pi)}{1-F(\frac{1}{\delta}\Pi)} \int_{\frac{1}{\delta}\Pi}^{\bar{\theta}} [\theta_1 - \frac{1}{\delta}\Pi] < 0, \quad (20)$$

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<sup>34</sup>I focus on the limit case with  $\varepsilon = 0$ .

i.e. the good  $G$ 's expected payoff is indeed largest for  $\underline{x}^b = 0$ . With regard to the good  $O$ , (16) and (17) allow to express its expected payoff as

$$\begin{aligned} & \lambda \int_{\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) + (1 - \lambda) \left[ \frac{1 - F(\frac{1}{\delta}\Pi)}{1 - F(-\frac{1}{\delta}\Pi)} - \underline{x}_b \frac{F(-\frac{1}{\delta}\Pi)}{1 - F(-\frac{1}{\delta}\Pi)} \right] \int_{-\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) \\ & + (1 - p^0)\Pi + \frac{1}{\delta} \left[ 1 - (1 - \lambda)\underline{x}_b F(-\frac{1}{\delta}\Pi) \right] \Pi. \end{aligned}$$

Clearly, this is maximized for  $\underline{x}_b = 0$ .

It remains to be shown that both the bad  $G$  and the bad  $O$  are indifferent between the equilibria described in lemma 4. Again using (16) and (17) and re-arranging, one gets that their expected payoffs are  $p^0\Phi$  and  $(1 - p^0)\Phi$ , respectively. This concludes the proof. ■

## D Proof of proposition 2

The sign of  $\bar{W}_s^D - W_s^U$  is determined by

$$\begin{aligned} & F(-\frac{1}{\delta}\Pi) \int_{\underline{\theta}}^{\bar{\theta}} \theta_1 dF(\theta_1) - \int_{\underline{\theta}}^{-\frac{1}{\delta}\Pi} \theta_1 dF(\theta_1) = \\ & F(-\frac{1}{\delta}\Pi) \int_{-\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) - (1 - F(-\frac{1}{\delta}\Pi)) \int_{\underline{\theta}}^{-\frac{1}{\delta}\Pi} \theta_1 dF(\theta_1) > 0, \end{aligned}$$

where the last inequality follows because, by assumption 1,

$$\int_{-\frac{1}{\delta}\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) > \int_{-\Pi}^{\bar{\theta}} \theta_1 dF(\theta_1) = E[\theta_t | \theta_t \geq -\Pi] \geq 0 \quad \blacksquare$$

## E Proof of remark 1

For  $\delta \rightarrow \infty$ , the good  $G$ 's proposal threshold  $\frac{1}{\delta}\Pi$  and the good  $O$ 's acceptance threshold  $-\frac{1}{\delta}\Pi$  both converge to zero. Hence,  $1 - F(\frac{1}{\delta}\Pi) \downarrow 1 - F(0)$  and  $1 - F(-\frac{1}{\delta}\Pi) \uparrow 1 - F(0)$ , implying  $\bar{x}^b \rightarrow 1$ . Thus, projects with payoff  $\theta_1 \geq 0$  will be proposed (and consequently approved of) with probability one. ■

## F Proof of lemma 6

I only derive the benchmarks cases listed in lemma 6. As before, the analysis deals with the case in which the proposal decision is subject to a small probability of being reverted.

**Opposition strategies.** The absence of policy rivalry is only relevant when  $O$  has veto power. In particular, a bad  $O$  will approve a proposal whenever

$$(1 - p^{11}) \Phi \geq (1 - p^{10}) \Phi \Leftrightarrow 0 \geq \Delta p.$$

Hence, the bad  $O$  does not condition its strategy on  $\theta_1$ :

$$z^b = Z^b = \begin{cases} 1 & \text{if } 0 > \Delta p \\ \in [0, 1] & \text{if } 0 = \Delta p \\ 0 & \text{if } 0 < \Delta p. \end{cases}$$

**Lemma 7.** *In any Perfect Bayesian equilibrium,  $\Delta p = p^{11} - p^{10} = 0$ .*

*Proof.* Consider the cases with (1)  $\Delta p < 0$  and (2)  $\Delta p > 0$  in turn:

1.  $\Delta p < 0$  implies  $z^b = 1$  and, hence,  $Z^b = 1$ . It also requires  $p^{10} > 0$ . However,

$$X_\varepsilon^g(1 - Z^b) < X_\varepsilon^b(1 - Z^g) \Leftrightarrow 0 < X_\varepsilon^b H_\varepsilon(\hat{\theta}),$$

implying  $p^{10} = 0$ , a contradiction.

2.  $\Delta p > 0$  implies  $z^b = 0$  and, hence,  $Z^b = 0$ . It also requires  $p^{11} > 0$ . However,

$$X_\varepsilon^g Z^b < X_\varepsilon^b Z^g \Leftrightarrow 0 < X_\varepsilon^b (1 - H_\varepsilon(\hat{\theta})),$$

implying  $p^{11} = 0$ , a contradiction. ■

Hence,  $\hat{\theta} = \Delta p \Pi = 0$  and the good  $O$  has an efficient cutoff-level.

**Government strategies for  $z^b > 0$ .** With a policy of quality  $\theta_1 < 0$ , a good government proposes whenever  $\theta_1 \geq \theta^L \equiv \frac{1}{(1-\lambda)z^b} \Delta \tilde{p} \Pi$ . For  $\theta_1 \geq 0$ , there will be a proposal by  $G$  if  $\theta_1 \geq \theta^H \equiv \frac{1}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \Pi$ . Therefore, its strategy is

$$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \in [\max\{0, \theta^H\}, \bar{\theta}] \\ 0 & \text{if } \theta_1 \in (0, \max\{0, \theta^H\}) \\ 1 & \text{if } \theta_1 \in [\min\{0, \theta^L\}, 0] \\ 0 & \text{if } \theta_1 \in [\theta, \min\{0, \theta^L\}). \end{cases}$$

As for the bad  $G$  and  $\theta_1 < 0$ , there is only a proposal if  $\frac{1}{(1-\lambda)z^b} \Delta \tilde{p} \leq \frac{1}{\delta}$ . For higher surpluses (i.e.  $\theta_1 \geq 0$ ), the bad  $G$  proposes if  $\frac{1}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \leq \frac{1}{\delta}$ . The bad  $G$ ' strategy is thus

$$x^b(\theta_1) = \begin{cases} \bar{x}^g & \text{if } \theta_1 \geq 0 \\ \underline{x}^b & \text{if } \theta_1 < 0; \end{cases}$$

where

$$\bar{x}^g = \begin{cases} 1 & \text{if } \frac{1}{\delta} > \frac{1}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \\ \in [0, 1] & \text{if } \frac{1}{\delta} = \frac{1}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \\ 0 & \text{if } \frac{1}{\delta} < \frac{1}{\lambda+(1-\lambda)z^b} \Delta \tilde{p} \end{cases} \quad \text{and} \quad \underline{x}^b = \begin{cases} 1 & \text{if } \frac{1}{\delta} > \frac{1}{(1-\lambda)z^b} \Delta \tilde{p} \\ \in [0, 1] & \text{if } \frac{1}{\delta} = \frac{1}{(1-\lambda)z^b} \Delta \tilde{p} \\ 0 & \text{if } \frac{1}{\delta} < \frac{1}{(1-\lambda)z^b} \Delta \tilde{p}. \end{cases}$$

**Equilibria for  $z^b > 0$ .** Consider first  $z^b = 1$ . In this case,  $Z^b = 1$ . For  $\theta_1 < 0$ , a bad  $G$  will propose if  $\frac{1}{\delta} \geq \frac{1}{1-\lambda}\Delta\tilde{p}$  while, for  $\theta_1 \geq 0$ , it considers proposing if  $\frac{1}{\delta} \geq \Delta\tilde{p}$ .

- $\frac{1}{\delta} > \frac{1}{(1-\lambda)}\Delta\tilde{p}$ ,  $\frac{1}{\delta} > \Delta\tilde{p}$ .

Note that  $X_\varepsilon^b = 1 - \varepsilon$ . Suppose that  $\Delta\tilde{p} \geq 0$ . Then,

$$X_\varepsilon^g = (1 - \varepsilon)(1 - F(\theta^H)) + \varepsilon F(\theta^H) < X_\varepsilon^b,$$

implying  $p^0 = 1$ . In order to have  $p^{10} = p^{11} < 1$ , one must have

$$\begin{aligned} X_\varepsilon^g(1 - Z^b) \leq X_\varepsilon^b(1 - Z^g) &\Rightarrow 0 \leq (1 - \varepsilon)H_\varepsilon(0) \\ X_\varepsilon^g Z^b \leq X_\varepsilon^b Z^g &\Rightarrow X_\varepsilon^g \leq X_\varepsilon^b(1 - H_\varepsilon(0)) \\ &\Leftrightarrow \varepsilon F(\theta^H) \leq (1 - \varepsilon)(F(\theta^H) - H_\varepsilon(0)). \end{aligned}$$

The first condition is clearly satisfied. With regard to the second inequality, taking limits on both sides yields

$$0 < F(\theta^H) - \frac{1-\lambda}{1-\lambda F(\theta^H)}F(0),$$

so the latter condition applies as well and  $p^{10} = p^{11} = 0$ . Hence,  $\Delta\tilde{p} = 1$ ,  $\theta^H = \Pi$  and  $\frac{1}{\delta}$  must be larger than  $\frac{1}{1-\lambda}$ . This corresponds to case (i') in table 3.

- $\frac{1}{\delta} = \frac{1}{(1-\lambda)}\Delta\tilde{p} > \Delta\tilde{p}$ .  
This implies

$$\begin{aligned} X_\varepsilon^g &= (1 - \varepsilon)(1 - F(\theta^H)) + \varepsilon F(\theta^H) \\ X_\varepsilon^b &= (1 - \varepsilon)\left(\underline{x}^b F(0) + 1 - F(0)\right) + \varepsilon(1 - \underline{x}^b)F(0), \end{aligned}$$

which means that  $X_\varepsilon^g < X_\varepsilon^b$  and therefore  $p^0 = 1$ . In order to have  $p^{10} = p^{11} < 1$ ,

$$\begin{aligned} X_\varepsilon^g(1 - Z^b) \leq X_\varepsilon^b(1 - Z^g) &\Rightarrow 0 \leq (1 - \varepsilon)H_\varepsilon(0) \\ X_\varepsilon^g Z^b \leq X_\varepsilon^b Z^g &\Rightarrow X_\varepsilon^g \leq X_\varepsilon^b(1 - H_\varepsilon(0)) \\ &\Leftrightarrow (1 - 2\varepsilon)\left(F(\theta^H) - (1 - \underline{x}^b)F(0)\right) \\ &\geq \frac{\lambda\varepsilon + (1-\lambda)(\underline{x}^b(1-\varepsilon) + (1-\underline{x}^b)\varepsilon)}{\lambda X_\varepsilon^g + (1-\lambda)X_\varepsilon^b}F(0). \end{aligned}$$

Again, the first condition always applies with a strict inequality. Hence  $p^{11} = 0$ . With regard to the latter inequality, taking limits as  $\varepsilon \rightarrow 0$  yields

$$F(\theta^H) - (1 - \underline{x}^b)F(0) \geq \frac{(1-\lambda)X_\varepsilon^b}{\lambda X_\varepsilon^g + (1-\lambda)X_\varepsilon^b}\underline{x}^b F(0),$$

which is true for all  $\underline{x}^b \in [0, 1]$ . Hence,  $\Delta\tilde{p} = 1$ , and this is an equilibrium for  $\delta = 1 - \lambda$  (case (ii') in table 3).



- $\frac{1}{\delta} < \frac{1}{(1-\lambda)}\Delta\tilde{p}$ ,  $\frac{1}{\delta} > \Delta\tilde{p}$ .

The strategies and beliefs are equivalent to the previous case with  $\underline{x}^b = 0$ . By the initial conditions, this is therefore an equilibrium for  $\delta \in (1 - \lambda, 1)$  (case (iii') in table 3).

Consider now  $z^b = 1 - H_\varepsilon(0)$ .

- $\frac{1}{\delta} < \frac{1}{(1-\lambda)z^b}\Delta\tilde{p}$ ,  $\frac{1}{\delta} = \frac{1}{\lambda+(1-\lambda)z^b}\Delta\tilde{p}$ .  
Note that  $\Delta\tilde{p} > 0$  implies

$$\begin{aligned} X_\varepsilon^g &= (1 - \varepsilon)(1 - F(\theta^H)) + \varepsilon F(\theta^H) \\ X_\varepsilon^b &= (1 - \varepsilon)\bar{x}^b(1 - F(0)) + \varepsilon \left( F(0) + (1 - \bar{x}^b)(1 - F(0)) \right) \end{aligned}$$

and therefore

$$\text{sign} \left\{ X_\varepsilon^g - X_\varepsilon^b \right\} = \text{sign} \left\{ \frac{1-F(\theta^H)}{1-F(0)} - \bar{x}^b \right\}.$$

The conditions that  $\Delta\tilde{p} > 0$  and  $\Delta p = 0$  can only be true if

$$\begin{aligned} X_\varepsilon^g Z^b &\leq X_\varepsilon^b Z^g &\Rightarrow z^b &\leq z^b(1) \\ X_\varepsilon^g(1 - Z^b) &\leq X_\varepsilon^b(1 - Z^g) &\Rightarrow z^b &\geq z^b(0) \\ X_\varepsilon^g &\leq X_\varepsilon^b &\Rightarrow X_\varepsilon^g &\leq X_\varepsilon^b. \end{aligned}$$

Suppose  $\bar{x}^b = \frac{1-F(\theta^H)}{1-F(0)}$  so that  $X_\varepsilon^b = X_\varepsilon^g$  and  $z^b(0) = z^b(1) = 1 - H_\varepsilon(0)$ . Then,  $z^b = 1 - H_\varepsilon(0)$  and  $p^0$  and  $p^{10} = p^{11}$  can be chosen from  $[0, 1]$  in order to meet the initial conditions. In particular, as  $\varepsilon \rightarrow 0$ ,

$$\begin{aligned} z^b = 1 - H_\varepsilon(0) &\rightarrow 1 \\ \theta^H &\rightarrow \frac{1}{\delta}\Pi \\ \bar{x}^b &\rightarrow \frac{1-F(\frac{1}{\delta}\Pi)}{1-F(0)} \\ \delta \geq \lambda + (1 - \lambda)(1 - H_\varepsilon(0)) &\rightarrow 1. \end{aligned}$$

This corresponds to case (iv') in table 3. ■

(i')	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \Pi \\ 0 & \text{if } \theta_1 < \Pi \end{cases}$	$x^b(\theta_1) = 1 \forall \theta_1$
$\delta < 1 - \lambda$	$z^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq 0 \\ 0 & \text{if } \theta_1 < 0 \end{cases}$	$z^b = 1$
	$p^{11} = p^{10} = 0, p^0 = 1$	
(ii')	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \Pi \\ 0 & \text{if } \theta_1 < \Pi \end{cases}$	$x^b(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq 0 \\ \underline{x}^b & \text{if } \theta_1 < 0 \end{cases}$
$\delta = 1 - \lambda$	$z^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq 0 \\ 0 & \text{if } \theta_1 < 0 \end{cases}$	$z^b = 1$
	$p^{11} = p^{10} = 0, p^0 = 1$	
(iii')	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \Pi \\ 0 & \text{if } \theta_1 < \Pi \end{cases}$	$x^b(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq 0 \\ 0 & \text{if } \theta_1 < 0 \end{cases}$
$\delta \in (1 - \lambda, 1)$	$z^g(\theta_1) = \begin{cases} 1 & \theta_1 \geq 0 \\ 0 & \theta_1 < 0 \end{cases}$	$z^b = 1$
	$p^{11} = p^{10} = 0, p^0 = 1$	
(iv')	$x^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq \theta^H \\ 0 & \text{if } \theta_1 < \theta^H \end{cases}$	$x^b(\theta_1) = \begin{cases} \frac{1-F(\theta^H)}{1-F(0)} & \text{if } \theta_1 \geq 0 \\ 0 & \text{if } \theta_1 < 0 \end{cases}$
$\delta \geq$	$z^g(\theta_1) = \begin{cases} 1 & \text{if } \theta_1 \geq 0 \\ 0 & \text{if } \theta_1 < 0 \end{cases}$	$z^b = 1 - H_\varepsilon(0)$
$\lambda + (1 - \lambda)(1 - H_\varepsilon(0))$	$p^{11} = p^{10},$	
	$p^0 - p^{10} = \frac{\lambda + (1 - \lambda)(1 - H_\varepsilon(0))}{\delta}$	
	$H_\varepsilon \rightarrow 0, \theta^H \uparrow \frac{1}{\delta}\Pi, p^0 - p^{10} \uparrow \frac{1}{\delta}$	

Table 3. Equilibria with opposition veto – No policy rivalry.