Government Transparency and Policymaking

Justin Fox [*†]

March 14, 2005

Abstract

This paper identifies conditions under which voters are better off *not* knowing the policy choices of incumbents: we show that government transparency can actually lower voter welfare. To do so, we analyze a model of political agency where voters face two forms of uncertainty: uncertainty about the incumbent's policy preferences and uncertainty about the relationship between policies and outcomes. The harm from increasing the transparency of the lawmaking process is that it increases the incidence of "posturing" among reelection oriented incumbents. We show that the welfare losses which result from government transparency are greatest when most politicians share the public's policy preferences.

JEL Classification: D72, D78.

Keywords: government transparency, political agency

[*]Institution for Social and Policy Studies, Yale University, 77 Prospect Street, New Haven, CT 06520. E-mail: justin.fox@yale.edu.

[†]Earlier versions of this paper were titled: "A Welfare Analysis of Truthful Campaign Advertising" and "Campaign Advertising and Political Posturing." I thank John Duggan, Mark Fey, Michael Raith, Lawrence Rothenberg, Ken Shotts, Alan Wiseman, and seminar participants at the University of Michigan and Yale University for helpful comments and discussion.

1 Introduction

Numerous scholars have observed that representative democracies can produce inefficient outcomes.[1] The key thread running through this literature is that there are many situations in which those policies which further an incumbent's reelection prospects do not coincide with those policies which further the public's interest. Recent models of political agency suggest that when such divergence exists, voter welfare can be improved by either term-limiting incumbents or providing office holders with life-time appointments (Maskin and Tirole 2004). This paper takes a different tack. Instead of severing the electoral connection between office holders and the public when representative democracy is susceptible to inefficiencies, we examine the ways in which we can make representative democracy work better via regulating the public's flow of information concerning the policymaking process. As such, this paper provides an analysis of the consequences of government transparency, specifically examining the effects of publicizing incumbent policy choices on the electorate's welfare.[2]

Recent years have witnessed a trend towards greater transparency in government policymaking – both at the executive level (Frankel 2000), by giving citizens greater access to government documents, and at the legislative level, with more legislatures subjecting more of their votes to recorded roll calls (Carey 2004). An important rational for this move towards transparency is the concern that when incumbent policy choices are not known, the electorate is less able to impose costs on those incumbents who pursue policies which do not coincide with the public good.[3] Thus, by making incumbent decisions public, advocates of transparency aim to discipline the behavior of those incumbents who do not share the electorate's policy commitments.[4]

[1] For a summary of the various causes of such inefficiencies, see Gilmour (1995) and Besley and Coate (1998).

[2] Throughout this paper, "government transparency" and "transparency" will refer to the publicizing of incumbent policy choices.

[3] Miroff (1989, 157) argues that "the American people cannot judge what they do not know." As such, Miroff warns (1989, 152):

> Secret action ... offers a president the opportunity to advance his foreign policy goals with methods of actions that would raise ethical as well as constitutional problems. It permits the president to persist in a course of policy even if that policy lacks support from, or is strongly opposed by, majorities in Congress and among the American people ...

[4] On the connection between an incumbent's policy record and her electoral fortunes, Canes-Wrone, Brady, and Cogan (2002) find that an incumbent's probability of reelection is decreasing in the percentage of the time she votes with her party. On the connection between transparency and policymaking, Besley and Burgess (2002) examine the relationship between newspaper circulation and government responsiveness to agricultural failures across Indian states. They find that states with greater rates of newspaper circulation devote more resources to alleviating agricultural failures.

Pushing against this global movement towards government transparency, are those analysts who warn that transparency can create perverse incentives for lawmakers, particularly when lawmakers are better informed than the public is about the effects of policies. It is argued that when such informational asymmetries arise, absent an ability to convey their superior information, the expectation that their policy choices will be widely publicized creates situations in which incumbents find it optimal to "posture." An incumbent postures when she avoids selecting a policy which is in the public's interest due to the unfavorable inferences that will be drawn about her policy preferences if she were to do so.[5] For example, to avoid being perceived as a "tax and spend" liberal, a Democrat may vote for a bill containing a sharp tax cut, even when she knows that – in the long run – the bill would make her constituents' worse off, and if her constituents knew this fact, they would oppose the bill's passage.

This alternative perspective is often forwarded by those by those pushing for a ban on negative campaign advertisements. For example:

> Some incumbents discovered in 1984 that seemingly inconsequential votes on the House floor could prove damaging to them when made the basis of oversimplified thirty-second commercials by their opponents. Such negative ads can have a chilling effect on the legislative process as members ponder whether stands they regard as reasonable could prove embarrassing in a negative campaign ad in the next election.[6] (Ehrenhalt 1984, 2565)

That transparency can have both benefits and costs has long been recognized by scholars of American and Comparative politics (Arnold 1990; Carey 2004; Gilmour 1995). Recent formal models analyzing the welfare consequences of transparency (Besley and Burgess 2002; Snyder and Ting 2005), however, only capture its beneficial effects: they formalize the conventional understanding that absent transparency, politicians whose policy preferences diverge from the pubic's are able to act upon their preferences with impunity. A restrictive assumption in these models is that incumbents and the public are equally well informed

[5] See Mayhew (1974, 61-73) for an excellent discussion of the pressures policymakers face which lead them to engage in posturing.

[6] A similar argument regarding the effects of negative campaign ads is offered by Ansolabehere and Inyengar (1995, 148):

> Bad campaigns make for bad government ... The making of sausage and of legislation, goes an old saw, are best left behind closed doors. Political advertising opens those doors and shines the harshest light on the proceedings. Politicians have always shied away from decisions that are difficult to explain to the folks back home, but fear of attack ads makes elected officials especially skittish about casting controversial votes.

about the consequences of different policy courses, which, as we will see, leaves little room for transparency to have a potential downside. The contribution of this paper is in developing a formal model of lawmaking and elections tailored to identify the welfare consequences of advertising incumbent policy choices in an environment where this assumption is relaxed. In doing so, we are able to identify the types of issues under which incumbent policy choices should be publicized, and the types of issues under which incumbent policy choices should be concealed.

Specifically, we consider a two period model of lawmaking, where in between periods, an election is held between an existing incumbent and a challenger. Building upon Austen-Smith (1992), we consider a situation in which politicians may be better informed than the electorate about the relationship between policies and outcomes, and in which the public is uncertain of the incumbent's policy preferences.[7]

In each period of the model, the office holder is to select one of two policies. The public's preferences over the two policies depends on a period specific realization of the state of the world, which is observed by that period's office holder. We suppose that there are two types of politicians in the candidate pool: "good" politicians and "bad" politicians. Good politicians share the public's policy preferences. Bad politicians have a bias for a particular policy: their policy preference is independent of the state of the world.[8] Absent transparency, good politicians always pursue the policy which maximizes the public's welfare, and bad politicians simply select their preferred policy.

To capture the potential interaction between transparency and informational asymmetries between office holders and the pubic, we examine two different situations: one where the the electorate knows the state of the world, and the other where the electorate does not. The former situation represents the case in which incumbents are no better informed than the electorate about the relationship between policies and outcomes. The latter situation represents the case in which, relative to the public, incumbents have a better understanding of the effects of policies.

We find that on those issues where voters and incumbents have the same information regarding the relationship between policies and outcomes, the public benefits from knowledge of the incumbent's policy choice. In this environment, good politicians always select the policy which maximizes the electorate's benefit. Consequently, transparency has it expected disciplining effect on incumbent behavior, as reelection oriented bad incumbents mimic the

[7]In addition to Austen-Smith (1992), related papers in which voters are uncertain about both incumbent policy preferences and the effects of policies include Coate and Morris (1995) and Maskin and Tirole (2004).

[8]This bias might be the result from being captured by a special interest group or a political party. Or, this bias might result because the incumbent is simply an ideologue.

behavior of good incumbents in order to mask their true preferences from the electorate. Consequently, on ethical issues – such as abortion, euthanasia, and school prayer – the model suggests that voters are best served when incumbents expect their policy choices to be widely publicized.

However, on those issues in which incumbents have a better understanding of the relationship between policies and outcomes than the public – such as on matters of economic and foreign policy – the dominant perspective concerning the effects of transparency need not hold: publicizing incumbent policy choices can actually harm the electorate's welfare. This results from the fact that those incumbents who place sufficient weight on reelection wind up posturing in the first period: to avoid be perceived as biased, they avoid selecting the policy preferred by bad politicians, even when this policy is in the public's interest. Thus, when the pubic is uncertain about the effects of different policy choices, good politicians, who are perfect agents of the public in the absence of transparency, are no longer so. In turn, the more good politicians that are in the candidate pool, the greater the negative effect (on voter welfare) of transparency. This result suggests that the strength of the case for concealing incumbent policy choices from the public on a certain issue depends, in part, on the extent to which incumbents are likely to share the public's policy preferences.[9]

Section 2 formulates the model. Section 3 presents the main results discussed above. Section 4 concludes with a brief discussion of this paper's policy implications.

[9]There exists a related class of models in which voters are also uncertain about the effects of policies, but instead of being uncertain of the incumbent's policy preferences, as in this paper, they face uncertainty regarding the incumbent's "competence" – that is, the ability of the incumbent to discern which policy is in the public's interest (Canes-Wrone, Herron, and Shotts 2001; Glazer 2003; and Majumdar and Mukand 2004). A phenomena related to posturing arises in these models, whereby an incumbent will select policies in order to signal her ability as opposed to selecting policies in order to maximize the public's welfare. Prat (2004) has analyzed the welfare consequences of transparency in this environment, finding that the public can be better off when the policy choices of incumbents are hidden from the public. Specifically, in Prat's environment, transparency weakens both the ability of the electorate to sort high ability incumbents from low ability incumbents, and decreases the likelihood that incumbents maximize the public's welfare. However, the environment Prat examines may underestimate the costs of policy secrecy, as in the absence of transparency, all politicians select the policy most likely to maximize the public's welfare. This paper can be viewed as extending Prat's analysis to the case where politicians are homogenous in their competence, and heterogenous in their policy preferences.

2 The Model

2.1 Timing and Payoffs

We analyze a two period model of lawmaking and elections. In each period $t \in \{1, 2\}$, the office holder selects a policy $x_t \in \{0, 1\}$. Between periods, an election is held between an existing incumbent and a challenger. The incumbent selects policy in the first period. The election winner, determined by a representative voter, selects policy in the second period.

The payoff an agent receives from the period t policy may depend on the period t state of the world $s_t \in \{0, 1\}$. We assume that s_t is drawn at the beginning of period t, and that s_1 and s_2 are drawn independently. Let $p = \Pr(s_t = 1)$. The period t *outcome* is a pair (x_t, s_t).

The voter's period t payoff is specified as

$$v(x_t, s_t) = x_t s_t + (1 - x_t)(1 - s_t).$$

Consequently, when the outcome of the incumbent's policy choice is a match ($x_t = s_t$), the voter receives a payoff of one, whereas if the outcome is not a match ($x_t \neq s_t$), the voter receives a payoff of zero. We also assume that the voter's first-period payoff is realized *after* the election: there is a lag before the outcome of a given policy materializes.[10]

Politicians differ in their preferences over outcomes and the value they attach to holding office. A politician's preferences over outcomes is characterized by $\theta \in \{b, g\}$. A politician for whom $\theta = g$ will be referred to as *good*, and a politician for whom $\theta = b$ will be referred to as *bad*. The *rent* a politician receives when holding office is given by $\rho \in \mathbb{R}_+$. We refer to (θ, ρ) as a politician's *type*.

Good politicians share the representative voter's preferences over outcomes. Their per-period payoff from selecting x_t while in office is specified as:

$$u_g(x_t, s_t; \rho) = v(x_t, s_t) + \rho.$$

Bad politicians, however, prefer policy zero regardless of the state of the world. Their per-period payoff from selecting x_t while in office is specified as:

$$u_b(x_t, s_t; \rho) = \begin{cases} 1 + \rho & \text{if } x_t = 0 \\ \rho & \text{if } x_t = 1 \end{cases}.$$

Hence, bad politicians have a *bias* for policy zero. Given the specified payoffs, the value a

[10] The effects of relaxing this assumption are discussed in Section 3.3.

politician attaches to holding office is increasing in ρ.[11] For ease of exposition, we assume that a politician receives a payoff of zero in those periods in which she does not hold office.

All agents discount future payoffs by $\delta \in [0, 1)$.[12] An agent's payoff to the game is given by the sum of its discounted per-period payoffs.

2.2 Information

Recall, the aim of this paper to provide an answer to: Under what conditions does the public benefit from knowledge of incumbent policy choices? To address this question, we analyze incumbent and voter behavior under alternative assumptions regarding the voter's knowledge of the first-period policy and state. Formally, we construct three different game forms, where each game form is intended to approximate an informational environment under which elections could be held.

In the first version, the voter does not know the first-period policy when casting his ballot.[13] In the second version, the voter observes the incumbent's policy choice prior to the election, but does not learn the first-period state until after the election.[14] In the third version, the voter observes both the first-period policy and the first-period state before determining whether to reelect the incumbent.[15]

In each version, politicians observe the state of the world.[16] As such, in the first two versions, politicians have better information regarding the state than the voter. In effect, in the first two game forms, politicians have better understanding of the relationship between policies and outcomes.

Finally, we assume that the voter is uncertain of the incumbent's type (θ, ρ). Hence, the voter is concerned that the incumbent may have a bias for policy zero. Formally, each politician's type is private information. The probability model from which a politician's type is drawn, however, is known. The probability that a politician is good $(\theta = g)$ is equal to

[11] Thus, an incumbent for whom $\rho = 0$ cares only about policy outcomes, and an incumbent for whom $\rho = \infty$ cares only about reelection.

[12] All results in this paper would continue to hold if we allowed $\delta = 1$. However, some of the welfare comparisons between informational regimes are more easily established when we allow the voter to discount future payoffs.

[13] This version might approximate an environment in which voters are disengaged from the political process, or, perhaps, policymaking in a legislature where roll-calls are not recorded.

[14] This version might approximate an environment where the primary source of the public's information regarding the policy process is thirty-second campaign spots.

[15] This version might approximate an environment with a politically engaged public and an active media which analyzes the appropriateness of incumbent policy choices.

[16] Our main results would continue to hold if we allowed the incumbent to receive a noisy private signal regarding the state.

q.[17] And, the density from which a politician's value of holding office ρ is drawn is f, where f has full support on $[0, \infty)$.

2.3 Preliminaries

As the games analyzed here are extensive-form games of incomplete information, our solution concept is perfect Bayesian equilibrium, henceforth, referred to as equilibrium. Before proceeding to our analysis of incumbent and voter behavior under specific informational regimes, we identify several key features of equilibrium behavior which hold across the analyzed models.[18] In order to do so, we employ a form of backwards induction.

Since the game ends after the second-period policy is chosen, it is immediate that the election winner selects her preferred policy. Consequently, in the second period, bad politicians select policy zero, and good politician match policy to the state.

Having pinned down second-period behavior, it follows that the voter's expected payoff when a good politician wins the election is one, and his expected payoff when a bad politician wins the election is $(1-p)$, where $(1-p)$ is the probability that the state of the world is equal to zero in the second period. Let π denote the voter's updated belief that the incumbent is good. (π is determined in an equilibrium.) Then, the voter's expected payoff from reelecting the incumbent is

$$\pi + (1 - \pi)(1 - p),$$

whereas his expected payoff from electing the challenger is

$$q + (1 - q)(1 - p).$$

Consequently, it is optimal for the voter to reelect the incumbent only if $\pi \geq q$: the voter reelects the incumbent only if his updated belief that the incumbent is good is greater than his prior that the challenger is good.

Finally, we turn our attention to the incentives the incumbent faces when selecting policy in the first period. Let r denote the incumbent's probability of reelection when she chooses her preferred policy, and let r' denote the incumbent's probability of reelection when she choose her less preferred policy. (Both r and r' are determined in an equilibrium.) Her

[17] Hence, we are assuming that both the incumbent and the challenger are biased in the same direction. However, if one assumes that the incumbent's probability of reelection is an increasing function of the public's belief that she is a good, then the welfare results of this paper extend to the case in which the voter is concerned that the incumbent is biased towards policy zero and the challenger is biased towards policy one.

[18] These features are common in two-period models of political agency.

expected payoff from choosing her preferred policy is

$$(1+\rho)+r\delta(1+\rho),$$

whereas her expected payoff from choosing her less preferred policy is

$$\rho+r'\delta(1+\rho).$$

Consequently, the incumbent will select her less preferred policy only if

$$r'>r$$

and

$$\rho>\frac{1-\delta(r'-r)}{\delta(r'-r)}.$$

The first condition requires that the incumbent's less preferred policy strictly maximize her probability of reelection. The second condition requires that the incumbent place sufficient weight on holding office. Summarizing the above, we have:

Result 1 *In any equilibrium of the model:*

a. The election winner selects her preferred policy;

b. The voter reelects the incumbent only if his updated belief that the incumbent is good is greater than or equal to his prior that the challenger is good;

c. The incumbent selects her less preferred policy (in the first period) only if, by doing so, she strictly maximizes her probability of reelection, and she places sufficient weight on holding office.

3 Incumbent Behavior and Voter Welfare Under Alternative Informational Regimes

In this section, we establish that the welfare effects of transparency are sensitive to whether incumbents have a better understanding of the relationship between policies and outcomes than the public. In the absence of such informational asymmetries, we show that transparency always benefit the public. However, when such informational asymmetries are present, we identify conditions under which transparency can have a deleterious effect on the public's welfare.

In what follows, we shall say that an incumbent-type's policy strategy is *truthful* if for each state of the world, it specifies the policy which matches the state. Clearly, the voter's expected first-period payoff is increasing in the fraction incumbent-types which employ a truthful strategy. Additionally, we shall say that an incumbent-type's policy strategy is *inflexible* if it specifies the same policy regardless of the state.

3.1 Unobservable Policy

In order to understand the effects of publicizing incumbent policy choices on incumbent behavior, we need to have a prediction of incumbent behavior in the absence of such publicity. As such, this subsection considers the case where the voter does not observe the incumbent's policy choice prior to the election. Our main result of this subsection is:

Result 2 *Suppose the incumbent's policy choice is not observed by the voter. Then in any equilibrium, each incumbent-type selects her preferred policy (in the first period), and the voter is indifferent between reelecting and dismissing the incumbent.*

Hence, when policy is unobservable, good incumbents employ a truthful strategy, whereas bad incumbents employ an inflexible strategy, selecting policy zero regardless of the state. The logic behind this result is straightforward. As the voter does not observe the incumbent's policy choice, the incumbent's probability of reelection is independent of her policy choice. Thus, each incumbent-type selects her preferred policy as there is no electoral benefit from doing otherwise.[19]

The voter's equilibrium expected payoff when incumbent policy choices are concealed is

$$W_c \equiv (1 + qp - p)(1 + \delta).^{20}$$

$(1 + qp - p)$ is the voter's per-period expected payoff when each incumbent-type selects her preferred policy. Note, W_c is increasing in the likelihood that a randomly drawn politician is good (q). This follows because good politicians are perfect agents of the voter, always matching policy to the state. Additionally, W_c is decreasing in the likelihood that the state of the world is one (p). This follows since bad politicians match policy to the state of the world only when $s = 0$. Consequently, when the fraction of good politicians in the candidate

[19]Formally, this is a direct consequence of Result 1.

[20]As discussed in Subsection 3.3, if we allow for pre-electoral feedback regarding the outcome of the incumbent's policy choice (i.e., whether policy matched the state), then those bad incumbents that place sufficient weight on reelection will employ a truthful strategy as well. Hence, W_c can be viewed as a lower bound on the public's welfare when policy choices are concealed.

pool is large or the likelihood that the state is equal to one is small, the benefit the voter stands to gain from alternative institutional arrangements, such as transparency, is, at best, marginal.

3.2 Observable Policy

We now turn to the case where the public observes the incumbent's policy choice. Relative to the case where incumbent policy choices are concealed from the public, transparency can potentially improve voter welfare in one of two ways: it may enable the voter discipline incumbent behavior and/or it may enable the voter to screen good incumbents from bad incumbents. We shall say that transparency *disciplines* incumbent behavior if the probability that the first-period policy matches the first-period state is greater than when policy choices are concealed.[21] We shall say that transparency *screens* good incumbents from bad incumbents if the probability that the election winner is a good politician is greater than when policy choices are concealed.[22]

Not surprisingly, in what follows, we establish that transparency enables the voter to screen good incumbents from bad incumbents. However, somewhat surprisingly, this increased ability to screen incumbents may weaken incumbent discipline. Hence, the possibility arises that transparency harms the public's welfare.

3.2.1 Unobservable State

We begin by considering the case where the public knows the incumbent's policy choice, but does not know the state of the world. We show that in the presence of such informational asymmetries, transparency can weaken incumbent discipline. Consequently, in this subsection, we identify conditions under which transparency makes the public worse off.

In order to do so, we first identify equilibrium behavior under this subsection's informational regime. Define $\bar{\rho} \equiv (1-\delta)/\delta$.[23] An incumbent-type for whom $\rho = \bar{\rho}$ is exactly indifferent between selecting her less preferred policy and winning and selecting her preferred policy and losing. As such, incumbent-types whose rent from holding office $\rho > \bar{\rho}$ will be said to be *reelection oriented*, since these incumbents, when faced with a choice between selecting their less preferred policy and winning and selecting their preferred policy and losing,

[21] Hence, transparency disciplines incumbent behavior when the probability that the first-period policy matches the first-period state is greater than $q + (1-q)(1-p)$.

[22] Hence, elections screen good from bad incumbents when the equilibrium probability that the election winner is a good politician is greater than q.

[23] $\bar{\rho} = [1-\delta(r'-r)]/[\delta(r'-r)]$, where $r' = 1$ and $r = 0$.

maximize their respective expected payoffs by doing the former. And, incumbent-types for whom $\rho < \bar{\rho}$ will be said to be *policy oriented*, since these incumbents, when faced with a choice between selecting their less preferred policy and winning and selecting their preferred policy and losing, maximize their respective expected payoffs by doing the latter.

Result 3 *Suppose the voter can observe the incumbent's policy choice but not the state of the world. An equilibrium to the model exists in which:*

a. If the incumbent selects policy zero, she is defeated, whereas if she selects policy one, she is reelected.

b. If $\theta = b$ and $\rho \leq \bar{\rho}$, then for each $s \in \{0, 1\}$, the incumbent selects policy zero.

c. If $\theta = g$ and $\rho \leq \bar{\rho}$, then for each $s \in \{0, 1\}$, the incumbent matches policy to the state of the world.

d. If $\theta \in \{b, g\}$ and $\rho > \bar{\rho}$, then for each $s \in \{0, 1\}$, the incumbent selects policy one.

Further, no other equilibrium exists.

Proof: See Appendix B.

Thus, when policy is observable, not every incumbent-type selects her preferred policy (in the first period). Instead, reelection oriented incumbents select policy one – the policy which maximizes their respective probabilities of reelection – regardless of the state. Therefore, transparency induces a different distribution over first-period outcomes than when incumbent policy choices are concealed. Whether this increases the likelihood that the first-period policy matches the first-period state, we will see, is sensitive to the model's parametrization.

Before addressing this issue, we first provide the intuition behind the equilibrium specified in Result 3. Since the voter does not observe the first-period state, he can only condition his decision to reelect the incumbent upon her policy choice. Thus, the incumbent's probability of reelection when she selects policy x is independent of the state of the world. Consequently, for any pair of reelection probabilities associated with policy zero and policy one, a bad incumbent – which has a bias for policy zero – is more likely than a good incumbent to find it optimal to select policy zero.[24] Hence, in any equilibrium, upon observing policy zero

[24]To see this, first, fix the respective probabilities of reelection associated with the selection of policy zero and policy one. Second, fix the value the incumbent attaches to holding office. If for this value of holding office, a good incumbent finds it optimal to select policy zero, then so will a bad incumbent. However, the opposite is not true. For example, suppose that state of the world is one and incumbent places almost no weight on holding office. While such a bad incumbent will find it optimal to select zero, such a good incumbent will not.

selected, the voter updates his prior that the incumbent is a good politician downwards, and, as a result, elects the challenger.

Similarly, for any pair of reelection probabilities, a good incumbent is more likely than a bad incumbent to find it optimal to select policy one. Thus, in any equilibrium, upon observing policy one selected, the voter updates his prior that the incumbent is a good politician upwards, and, as a result, reelects the incumbent.

Given the voter's equilibrium updating, reelection oriented incumbents, in order to avoid being perceived as having a bias for policy zero and face eminent defeat, select policy one regardless of the state of the world. That is, publicizing incumbent policy choices when incumbents have a better understanding of the effects of policy choices (than the electorate) results in a perverse incentive scheme whereby incumbents who use their policy choice to maximize the public's welfare may face electoral sanctions. Naturally, this leads to *posturing* among reelection oriented incumbents, whereby such incumbents select policies they know not to be in the public's interest in order to advance their reelection prospects. Importantly, the incentive for incumbents to posture remains even when the fraction of bad politicians in the candidate pool approaches zero.

As transparency, in this environment, leads to posturing among reelection oriented incumbents, the possibility arises that transparency weakens incumbent discipline. To see how this can occur, note that transparency decreases the likelihood that a good incumbent matches policy to the state. This is so because it induces reelection oriented good incumbents to inflexibly select policy one, whereas, absent such transparency, all good incumbents matched policy to the state. Further, when the probability that $s = 0$ is greater than one-half ($p < 1/2$), one can show that transparency decreases the likelihood that a bad incumbent matches policy to the state as well.[25]

When transparency weakens incumbent discipline, transparency can lower the voter's expected payoff to the game. To see this formally, the voter's expected welfare when policy is observable and the state is not can be expressed as:

$$W_p \equiv (1 + qp - p)(1 + \delta) + (1 - \phi)\left[2p - pq - 1\right] + \delta\phi(1 - q)qp^2,$$

where

$$\phi \equiv \int_0^{\bar{\rho}} f(\rho)d\rho.^{26}$$

[25] Recall that when incumbent policy choices are concealed, all bad incumbents inflexibly select policy zero. However, with transparency, reelection oriented bad incumbents inflexibly select policy one, while policy oriented bad incumbents inflexibly select policy zero. As such, when $p < 1/2$, this change in behavior among reelection oriented bad incumbents decreases the equilibrium probability that a bad incumbent matches policy to the state.

[26] ϕ is the probability that an incumbent is policy orietned.

$\phi(1-q)qp^2$ is the expected gain in the voter's second-period payoff due to his ability to (imperfectly) sort good incumbents from bad incumbents based upon the incumbent's policy choice. $(1-\phi)[2p-pq-1]$ is the change in the voter's expected first-period payoff relative to the case when policy is unobservable.[27] If the latter is non-negative, then $W_p > W_c$: transparency increases voter welfare. However, if the latter is negative, and if the voter is sufficiently impatient, then $W_p < W_c$: the screening benefits which accrue from transparency are offset by a decrease in incumbent discipline. Summarizing, we have:

Proposition 1 *Suppose the voter does not observe the state of the world. (a) If $p > 1/(2-q)$, then the voter's equilibrium welfare is higher when she observes the incumbent's policy choice than when she does not. (b) If $p < 1/(2-q)$ and the voter is sufficiently impatient, then the voter benefits from not observing the incumbent's policy choice.*

Thus, when either the fraction of good politicians in the candidate pool is high or the (ex-ante) probability that the policy preferred by biased politicians is optimal is large, transparency, absent knowledge of the state, can decrease voter welfare. In light of Proposition 1, the common desire of political leaders for greater secrecy in policymaking need not be the result of nefarious intentions: such leaders may recognize that it is incentive compatible to consistently act on behalf of the public's interest only when their policy choices are shielded from the electorate.

3.2.2 Observable State

In the previous subsection we demonstrated that transparency can harm voter welfare when the public does not know the state of the world. This potential loss in welfare is due to the fact that transparency combined with the public's uncertainty regarding the state led reelection oriented incumbents to select policy one, regardless of its optimality, in order to signal to the electorate their lack of bias. The key feature driving this result was the inability of the voter to verify the state. Hence, when policy zero was chosen, the voter did not know whether zero was chosen because it was the optimal policy, or because the incumbent simply had a bias for policy zero. As such, one might suspect that if the voter was aware of the state of the world – in effect implying that the incumbent and the public had the same understanding about the relationship between policies and outcomes – then transparency can both screen *and* discipline incumbent behavior. This is indeed the case:

[27]Note, $(1-\phi)(2p-pq-1)$ can be rewritten as $(1-\phi)p(1-q)-(1-\phi)(1-p)$. Hence, $(1-\phi)p(1-q)$ is the gain to the voter from reelection oriented bad incumbents selecting policy one when the sate is one. And, $(1-\phi)(1-p)$ is the loss to the voter from both good and bad reelection oriented incumbents selecting policy one when the sate is zero.

Result 4 *Suppose the voter can observe the incumbent's policy choice and the state of the world. Then, in any (Markov) equilibrium, the following holds.*[28]

a. If $s = 1$, then the incumbent is reelected when $x = 1$ and is replaced when $x = 0$.

b. If $s = 0$, then the incumbent's probability of reelection is maximized when $x = 0$.

c. If $\theta = g$ or [$\theta = b$ and $\rho > \bar{\rho}$], then for each $s \in \{0, 1\}$, the incumbent matches policy to the state of the world.

d. If $\theta = b$ and $\rho \leq \bar{\rho}$, then for each $s \in \{0, 1\}$, the incumbent selects policy zero.

Proof: See Appendix C.

In words, when the voter observes both the first-period policy and the first-period state prior to the election, both good incumbents *and* reelection oriented bad incumbents employ a truthful strategy, whereas policy oriented bad incumbents inflexibly select policy zero. Recall, absent transparency, *all* bad incumbents inflexibly select policy zero. Hence, when the voter knows the state of the world, transparency increases the probability that the first-period policy matches the first-period state.

The voter's equilibrium welfare when both policy and the state are observed is

$$W_{st} = (1 + qp - p)(1 + \delta) + (1 - \phi)(1 - q)p + \delta\phi(1 - q)qp^2.$$

$\phi(1 - q)qp^2$, as before, is the expected increase in the voter's second-period payoff which accrues from being able to (imperfectly) sort good from bad incumbents based upon their policy choices. $(1 - \phi)(1 - q)p$ is the benefit the voter receives from increased incumbent discipline. Specifically, it represents the gain which results from reelection oriented bad incumbents selecting policy one when the state is one. Since both terms are positive, as expected, $W_{st} > W_c$: voter welfare is greater when both the policy and the state are observed than when neither are. Furthermore, $W_{st} > W_p$: given the observability of policy, the voter is better off when she observes the state as well. This follows as when both policy and the state are observable, reelection oriented incumbents always match policy to the sate, whereas when only policy is observable, reelection oriented incumbents inflexibly select policy one.

Proposition 2 *The voter's equilibrium welfare when both policy and the state are observed is greater than when neither are observed, or when only policy is observed.*

[28] Essentially, the Markov refinement requires that the incumbent's probability of reelection be identical at any two histories which yield the same posterior belief that the incumbent is good.

Proposition 2 suggests that institutions such as the press, by providing the electorate information on the state of the world, can play a key role in alleviating the negative consequences potentially associated with publicizing incumbent policy choices. Alternatively, Proposition 2 provides a functionalist rationale for the normative ideal of an informed electorate – monitoring both incumbent policy choices and the conditions that led to those choices – as such knowledge creates conditions conducive for the making of good public policy.

3.3 Extensions

3.3.1 Pre-electoral Feedback

In contrast to the baseline model, suppose that the electorate receives feedback regarding the outcome of the incumbent's policy choice prior to the election.[29] That is, prior to the election, the voter receives a public signal $\omega \in \{m, n\}$ correlated with the outcome of the incumbent's policy choice.[30] When the first-period policy matches the first-period state, $\omega = m$ with probability z, and when the first-period policy does not match the first-period state, $\omega = n$ with probability z. It is assumed that the public signal ω is informative, yet noisy, that is $z \in (1/2, 1)$.

In this environment, one can establish two facts.[31] First, when incumbent policy choices are concealed, as in the baseline model, in any equilibrium, good incumbents match policy to the state. However, unlike in the baseline model, bad incumbents which place sufficient weight on reelection match policy to the state as well.[32] Second, when policy choices are publicized, incumbents who are primarily motivated by holding office continue to posture, selecting policy one, when policy zero is, in fact, optimal for the electorate.[33] Thus, even when the electorate receives pre-electoral feedback regarding the consequences of the incumbent's policy choice, the tradeoffs identified between publicizing incumbent policy choices and concealing incumbent policy choices remain.

[29] Throughout this subsection, we assume that the public does not observe the state of the world.

[30] In the domain of economic policy, this public signal might be an economic forecast, the unemployment level, or the inflation rate.

[31] These facts are proved in the "Supplementary Appendix" to this paper.

[32] Essentially, when policy choices are concealed, in an equilibrium, the electorate infers that a good incumbent is more likely (than a bad incumbent) to generate a public signal of $\omega = m$. Hence, for any realization of the state of the world, a bad incumbent maximizes her probability or reelection by selecting the policy most likely to generate such a signal. She does so by matching policy to the state.

[33] Essentially, when policy choices are publicized, in an equilibrium, the electorate's belief that the incumbent is a bad politician is higher at policy and signal pair $(0, \omega)$ than at $(1, \omega)$. Consequently, the incentives for politicians to posture remain.

Furthermore, in this environment, relative to limiting politicians to a single term, which results in a payoff of W_c for the electorate, the public is strictly better off when incumbent policy choices are concealed. This suggests that when transparency leads to high rates of posturing among incumbents, policy secrecy may be more effective than term limits in providing incentives for legislators to produce good public policy, as the former, at least, allows the electorate to retain those legislators believed to have matched policy to the state.

3.3.2 Legislative Setting

While this paper has considered the welfare consequences of transparency in an environment where policy is determined by a single decision maker, it can be shown that this paper's main insights extend to a legislative setting as well.[34] In fact, the incentives for incumbent to engage in posturing are exacerbated in a legislative environment since a legislator's vote on a roll call will typically not be decisive in determining the legislature's policy choice. As such, in determining her roll-call, a legislator will place more weight on its electoral ramifications than she would if she made policy unilaterally. This suggests that the downside of transparency may be greater in a legislative setting than in an executive setting.

4 Conclusions

This paper identified conditions under which publicizing incumbent policy choices harms the electorate's welfare. Specifically, when relative to the public, incumbents have a better understanding of the effects of policies, and most politicians share the electorate's policy preferences, transparency can have negative consequences. Recent research suggests that it is under exactly these conditions that the public may be better off delegating policymaking to office holders whose tenure does not depend on public opinion (e.g., judges with life-time appointments, civil servants, or politicians limited to one term in office). However, the prescription offered by this paper is not to dump democracy. Instead, this paper illustrates how regulating the electorate's information concerning incumbent performance can induce politicians to do a better job of promoting the public interest.

While it may be both unwise and impractical to prescribe within a polity's constitution the policy domains in which lawmaking should be transparent, the results of this paper do offer normative guidelines for thinking about how to make democracy work better. For example, with respect to the media, when covering politics, reporters should not just consider

[34] Independently, Stasavage (2004) formally illustrates how the insight of this paper's main result (Proposition 2) continues to hold in a legislative setting.

the impact of their coverage on election outcomes, but they should also consider the effects of their current coverage on expectations about future converge, as such expectations can potentially influence policymaking. If, for instance, incumbents expect the media to provide the public with information regarding the context under which their decisions were made, then the media may be able to alleviate the incentives for incumbents to posture. However, if incumbents expect the media to simply report the policies they pursued while in office absent relevant context – a common critique of contemporary political reporting – then the media will likely exacerbate the incentives for incumbents to posture which, in turn, could increase public support for institutional mechanisms which allow for greater secrecy in policymaking.

The results of this paper also provide a framework for thinking about the welfare effects of a ban on campaign advertising and the appropriateness of executive privilege – which allows presidents to withhold information from the public – in a given policy domain. With respect to the former, our analysis suggests that even if campaign ads were publicly financed and entirely truthful, voters may benefit by prohibiting them, particularly when ads that simply report the roll-call voting records of office holders dominate the airwaves. With respect to the latter, our analysis suggests that one should take account of the likely congruence between the president's and the public's policy preferences.

Suppressing information regarding incumbent policy choices will leave many uneasy, regardless of the welfare consequences of doing so. As such, a natural question to explore is whether other democratic institutional arrangements, which do not involve concealing the policy choices of incumbents, can have a similar effect of reducing the incentive for incumbents to posture. The exploration of such issues is left open for future work.

A Definitions

In proving the subsequent results, it is convenient to define a pair of functions. Let r_0 denote the incumbent's probability of reelection when selecting policy zero, and let r_1 denote her probability of reelection when selecting policy one. Let $\bar{\rho} : [0,1] \times [0,1] \rightarrow \mathbb{R}_+$, where

$$\bar{\rho}(r_0, r_1) = \begin{cases} \frac{1-\delta(r_0-r_1)}{\delta(r_0-r_1)} & \text{if } r_0 > r_1 \\ \infty & \text{if } r_0 = r_1 \\ \frac{1-\delta(r_1-r_0)}{\delta(r_1-r_0)} & \text{if } r_0 < r_1 \end{cases}.$$

It is easily verified that for any pair of reelection probabilities (r_0, r_1), when an incumbent faces a tradeoff between selecting her preferred policy and maximizing her probability of reelection, if the value she attaches to holding office is greater than $\bar{\rho}(r_0, r_1)$, she optimally resolves this tradeoff by selecting the policy which maximizes her probability of reelection, whereas if the value she attaches to holding office is less than $\bar{\rho}(r_0, r_1)$, she optimally resolves this tradeoff by selecting her preferred policy.

Let $\phi : [0,1] \times [0,1] \rightarrow [0,1]$, where

$$\phi(r_0, r_1) \equiv \int_0^{\bar{\rho}(r_0,r_1)} f(\rho) d\rho.$$

For any pair of reelection probabilities (r_0, r_1), if an incumbent with policy preferences characterized by θ faces a tradeoff between maximizing her probability of reelection and selecting her preferred policy, $\phi(r_0, r_1)$ gives the probability that this tradeoff is optimally resolved by selecting her preferred policy.

B Proof of Result 3

In this section, we provide a formal proof of Result 3. Recall that for Result 3, the voter observes the incumbent's policy choice prior to the election; however, the voter does not observe the first-period state.

B.1 Preliminaries

A policy strategy for a good incumbent is a function $\gamma_g : \{0,1\} \times \mathbb{R}_+ \rightarrow \{0,1\}$. Likewise, a policy strategy for a bad incumbent is a function $\gamma_b : \{0,1\} \times \mathbb{R}_+ \rightarrow \{0,1\}$. These functions map each state and rent pair (s, ρ) into a first-period policy x.[35] A strategy for the voter

[35] One could allow the incumbent to use a mixed strategy. Such a strategy maps each state and rent pair into a probability of selecting policy one. However, it is easily verified that in any equilibrium, the set of

is a function $\sigma : \{0,1\} \rightarrow [0,1]$; hence, for each first-period policy, the voter's strategy specifies the probability with which she will vote to reelect the incumbent. The voter's beliefs regarding the incumbent's type are given by a function that maps each first-period policy into a probability measure on $\{g,b\} \times \mathbb{R}_+$. However, since the value the incumbent attaches to holding office has no effect on the voter's expected second-period payoff (in the event the incumbent is reelected), it suffices to restrict attention to belief functions that map first-period policies into a probability that the incumbent is a good politician. As such, a belief function for the voter is defined to be a mapping $\pi : \{0,1\} \rightarrow [0,1]$, where $\pi(x)$ denotes the voter's updated belief that the incumbent is good given a first-period policy of x.

A profile $(\gamma_g, \gamma_b, \sigma, \pi)$ is an *equilibrium* if: for each state of the world, each incumbent-type selects the policy which maximizes her expected payoff to the game given the voter's strategy; for each first-period policy, the voter reelects the incumbent only if doing so maximizes his expected second-period payoff; and, the belief function π is derived from the incumbent's strategy through Bayes' rule when possible.

B.2 The Proof

B.2.1 Existence

We first show that an equilibrium exists to the model. Specifically, we claim that

$$\gamma_g(s,\rho) = \begin{cases} s & \text{if } \rho \leq \bar{\rho}(0,1) \\ 1 & \text{if } \rho > \bar{\rho}(0,1) \end{cases}, \tag{1}$$

$$\gamma_b(s,\rho) = \begin{cases} 0 & \text{if } \rho \leq \bar{\rho}(0,1) \\ 1 & \text{if } \rho > \bar{\rho}(0,1) \end{cases}, \tag{2}$$

$$\sigma(x) = \begin{cases} 0 & \text{if } x = 0 \\ 1 & \text{if } x = 1 \end{cases}, \tag{3}$$

and

$$\pi(x) = \begin{cases} \frac{q\phi(0,1)(1-p)}{q\phi(0,1)(1-p)+(1-q)\phi(0,1)} & \text{if } x = 0 \\ \frac{q[p+(1-p)(1-\phi(0,1))]}{q[p+(1-p)(1-\phi(0,1))]+(1-q)[1-\phi(0,1)]} & \text{if } x = 1 \end{cases} \tag{4}$$

constitute an equilibrium.

To see that this is so, first note that $\pi(0)$ and $\pi(1)$ are derived from the incumbent's strategy according to Bayes' rules. Second, note that $\pi(0) < q$ and $\pi(1) > q$: when policy

incumbent-types which are indifferent between policy zero and policy one has measure zero. As such, without loss of generality, we restrict our attention to equilibria in which the incumbent employs a pure strategy, and breaks indifference in favor of the policy she would choose absent transparency.

zero (one) is selected in the first period, the voter's updated belief that the incumbent is a good politician is less (greater) than his prior that the challenger is a good politician. Consequently, when the first-period policy is zero (one), the voter maximizes his expected payoff by electing the challenger (incumbent). Hence, given belief function π, for each first-period policy x, $\sigma(x)$ maximizes the voter's expected payoff.

All that remains to be checked is that for each state of the world, each incumbent-type's policy choice maximizes her expected payoff to the game given the voter's strategy. Begin by considering the situation of a bad incumbent and fix the state of the world. Her expected payoff from selecting policy zero is one, whereas her expected payoff from selecting her less preferred policy, policy one, is $\delta(1+\rho)$. Hence, for a given value of the state, selecting zero is optimal if

$$\rho \leq \frac{1-\delta}{\delta} = \bar{\rho}(0,1).$$

Consequently, for each state and rent pair, γ_b specifies a bad incumbent's optimal policy choice. Likewise, in an analogous manner, it is easily established that for each state and rent pair, γ_g specifies a good incumbent's optimal policy choice.

B.2.2 Uniqueness

We now establish that no other strategy profile constitutes an equilibrium of the model.

Step 1: We first show that there does not exist an equilibrium in which the incumbent's probability of reelection when she selects policy zero is greater than her probability of reelection when she selects policy one.

Suppose $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is an equilibrium where $\sigma^*(1) < \sigma^*(0)$. As $\sigma^*(1) < \sigma^*(0)$, for each $s \in \{0,1\}$, a bad incumbent can simultaneously achieve her reelection and policy aims by selecting policy zero; the same is true for a good incumbent when $s = 0$. Thus, $\sigma^*(1) < \sigma^*(0)$ implies that $\gamma_b^*(s,\rho) = 0$ for each $(s,\rho) \in \{0,1\} \times \mathbb{R}_+$, and $\gamma_g^*(0,\rho) = 0$ for each $\rho \in \mathbb{R}_+$. All that remains to be specified is the optimal behavior of a good incumbent when $s = 1$. When $s = 1$, a good incumbent faces a tradeoff: she can select policy zero and maximize her probability of reelection, or she can select her preferred policy, policy one. Algebra establishes that a good incumbent for whom $\rho < \bar{\rho}(\sigma^*(0), \sigma^*(1))$ maximizes her expected payoff by selecting policy one. Hence, $\gamma_g^*(1,\rho) = 1$ for all $\rho < \bar{\rho}(\sigma^*(0), \sigma^*(1))$.

The incumbent's equilibrium strategy implies that $\pi^*(1) = 1$. Since $\pi^*(1) > q$, the voter strictly maximizes his expected payoff by reelecting the incumbent when $x = 1$: $\sigma^*(1) = 1$. Thus, $\sigma^*(0) \leq \sigma^*(1) = 1$, a contradiction to our supposition otherwise.

Step 2: An analogous argument establishes that there does not exist an equilibrium where the incumbent's probability of reelection is independent of her first-period policy choice.

Step 3: By Step 1 and Step 2, we know that – in an equilibrium – the incumbent's probability of reelection when she selects policy one must be greater than her probability of reelection when she selects policy zero. We now show that this fact implies that the incumbent's probability of reelection is equal to one when she selects policy one, and her probability of reelection is equal to zero when she selects policy zero.

Suppose $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is an equilibrium where $\sigma^*(1) > \sigma^*(0)$. As $\sigma^*(1) > \sigma^*(0)$, when $s = 1$, a good incumbent maximizes her expect payoff by selecting policy one. However, when $s = 0$, a good incumbent faces a tradeoff between selecting her preferred policy, policy zero, and maximizing her probability of reelection, by selecting policy one. A bad incumbent faces an identical tradeoff, regardless of the state. Of the incumbents which face this tradeoff, those for whom $\rho \leq \bar{\rho}(\sigma^*(0), \sigma^*(1))$ optimally resolve it by selecting policy zero; otherwise, this tradeoff is optimally resolved by selecting policy one. As such, we have:

$$\gamma_b^*(s, \rho) = \begin{cases} 0 & \text{if } \rho \leq \bar{\rho}(\sigma^*) \\ 1 & \text{if } \rho > \bar{\rho}(\sigma^*) \end{cases},$$

and

$$\gamma_g^*(s, \rho) = \begin{cases} s & \text{if } \rho \leq \bar{\rho}(\sigma^*) \\ 1 & \text{if } \rho > \bar{\rho}(\sigma^*) \end{cases},$$

where $\sigma^* = (\sigma^*(0), \sigma^*(1))$. Given (γ_b^*, γ_g^*), by Bayes' rule,

$$\pi^*(x) = \begin{cases} \frac{q\phi(\sigma^*)(1-p)}{q\phi(\sigma^*)(1-p)+(1-q)\phi(\sigma^*)} & \text{if } x = 0 \\ \frac{q[p+(1-p)(1-\phi(\sigma^*))]}{q[p+(1-p)(1-\phi(\sigma^*))]+(1-q)[1-\phi(\sigma^*)]} & \text{if } x = 1 \end{cases}.$$

Since $\pi^*(0) < q$, $\sigma^*(0) = 0$; since $\pi^*(1) > q$, $\sigma^*(1) = 1$.

Step 4: Given Step 3, we have that if $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is an equilibrium, then $\sigma^*(0) = 0$ and $\sigma^*(1) = 1$. As such, it is easily verified that γ_g^* is given by equation (1), γ_b^* is given by equation (2), and π^* is given by equation (4). Thus, the model has a unique equilibrium.

C Proof of Result 4

In this section, we provide a formal proof of Result 4. Recall that for Result 4, the voter observes both the first-period policy and the first-period state prior to the election.

C.1 Preliminaries

As before, a strategy for a good incumbent is a function $\gamma_g : \{0,1\} \times \mathbb{R}_+ \to \{0,1\}$, and a strategy for a bad incumbent is a function $\gamma_b : \{0,1\} \times \mathbb{R}_+ \to \{0,1\}$. Now, however, a strategy for the voter is a function $\sigma : \{0,1\} \times \{0,1\} \to [0,1]$ which maps each first-period state and policy pair (s,x) into a probability of reelecting the incumbent. The voter's belief function is also modified: it is now a mapping $\pi : \{0,1\} \times \{0,1\} \to [0,1]$ from first-period state and policy pairs into a probability that the incumbent is a good politician; hence, $\pi(s,x)$ is the probability the incumbent is good given a first-period state of s and a first-period policy of x.

In this section, we restrict attention to *Markov* equilibria. An equilibrium $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is Markov if whenever $\pi^*(s,x) = \pi^*(s',x')$, then $\sigma^*(s,x) = \sigma^*(s',x')$. Hence, we restrict our attention to equilibria in which the probability the voter reelects the incumbent is uniquely determined by his belief that the incumbent is a good politician.

C.2 The Proof.

C.2.1 Existence

We first show that an equilibrium exists to this model. Specifically, we claim that

$$\gamma_g(s,\rho) = s, \tag{5}$$

$$\gamma_b(s,\rho) = \begin{cases} 0 & \text{if } \rho \leq \bar{\rho}(0,1) \\ s & \text{if } \rho > \bar{\rho}(0,1) \end{cases}, \tag{6}$$

$$\sigma(s,x) = \begin{cases} 0 & \text{if } s \neq x \\ 1 & \text{if } s = x \end{cases}, \tag{7}$$

$$\pi(0,x) = \begin{cases} q & \text{if } x = 0 \\ 0 & \text{if } x = 1 \end{cases}, \tag{8}$$

and

$$\pi(1,x) = \begin{cases} 0 & \text{if } x = 0 \\ \frac{q}{q+(1-q)(1-\phi(0,1))} & \text{if } x = 1 \end{cases} \tag{9}$$

constitutes an equilibrium.

To see that this is so, we first establish that π is derived from the incumbent's strategy through Bayes' rule when possible. When the state of the world is zero, given the specified strategies, each incumbent-type is to select policy zero. Hence, upon observing $(s,x) = (0,0)$, the voter's posterior that the incumbent is a good politician is equal to his prior: $\pi(0,0) = q$. As no incumbent-type selects policy one when the state of the world is zero, our equilibrium

concept places no restrictions on our specification of $\pi(0,1)$. When the state of the world is one, given the specified strategies, only bad incumbent-types select policy zero. Hence, $\pi(1,0) = 0$. Finally, it is easy to check that $\pi(1,1)$ is consistent with Bayes' rule, as when $s = 1$, policy one is selected by each good incumbent and those bad incumbents which place sufficient weight on reelection.

We now establish that reelecting the incumbent when policy matches the state and electing the challenger when policy does not match the state is optimal for the voter. Since $\pi(1,1) > q$ and $\pi(0,0) = q$, reelecting the incumbent when policy matches the state maximizes the voter's expected payoff. Since $\pi(0,1) = \pi(1,0) = 0 < q$, electing the challenger when the policy does not match the state maximizes the voter's expected payoff. Thus, for each state and policy pair, the reelection decision specified by the voter's strategy is optimal.

Finally, we verify that each incumbent-type maximizes her expected payoff under (γ_g, γ_b). Given that reelection is assured if the incumbent matches policy to the state, a good incumbent maximizes her expected payoff by doing such. Likewise, when $s = 0$, a bad incumbent maximizes her expected payoff by selecting policy zero. Hence, it is only when the incumbent is a bad politician and $s = 1$ that the incumbent faces a tradeoff between maximizing her probability of reelection (by selecting policy one) and selecting her preferred policy (policy zero). It is easily verified that bad incumbents for whom $\rho \leq \bar{\rho}(0,1)$ optimally resolve this tradeoff by selecting policy zero; otherwise, this tradeoff is optimally resolved by selecting policy one. Hence, the incumbent's strategy specifies the optimal policy choice for each incumbent-type.

C.2.2 Uniqueness

We now establish that if $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is a Markov equilibrium, then $\sigma^*(1,1) = 1$, $\sigma^*(1,0) = 0$, $\sigma^*(0,0) \geq \sigma^*(0,1)$, γ_g^* is equal to (5), and γ_b^* is equal to (6).

Step 1: Show that in any equilibrium of the model, when $s = 1$, the incumbent's probability of reelection is equal to one if $x = 1$, and is equal to zero if $x = 0$.

By way of contradiction, suppose that $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is an equilibrium in which $\sigma^*(1,0) > \sigma^*(1,1)$. Consider the case where $s = 1$. As $\sigma^*(1,0) > \sigma^*(1,1)$, a bad incumbent can simultaneously achieves her policy and reelection objectives by selecting policy zero. Good incumbents, however, face a tradeoff between selecting their preferred policy and maximizing their probability of reelection. Those which do not place sufficient weight on reelection optimally resolve this tradeoff by selecting their preferred policy – policy one.

Applying Bayes' rule, we have $\pi^*(1,1) = 1$. Since $\pi^*(1,1) > q$, the voter strictly

maximizes his expected payoff by reelecting the incumbent when $(s, x) = (1, 1)$. Thus, $\sigma^*(1, 0) \leq \sigma^*(1, 1) = 1$, which yields a contradiction with our supposition otherwise.

An analogous argument establishes that we cannot have an equilibrium $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ in which $\sigma^*(1, 0) = \sigma^*(1, 1)$. Consequently, if $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is an equilibrium, then $\sigma^*(1, 0) < \sigma^*(1, 1)$.

So, suppose we have an equilibrium $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ in which $\sigma^*(1, 0) < \sigma^*(1, 1)$. And, again, consider the case in which $s = 1$. Since $\sigma^*(1, 0) < \sigma^*(1, 1)$, good incumbents strictly maximize their expected payoff by selecting policy one, whereas bad incumbents face a tradeoff between policy and reelection aims. Bad incumbents that do not place sufficient weight on holding office optimally resolve this tradeoff by selecting policy zero. Consequently, when $\sigma^*(1, 0) < \sigma^*(1, 1)$, we have: $\gamma_g^*(1, \rho) = 1$ and

$$\gamma_b^*(1, \rho) = \begin{cases} 0 & \text{if } \rho \leq \bar{\rho}(\sigma^*(1, 0), \sigma^*(1, 1)) \\ 1 & \text{if } \rho > \bar{\rho}(\sigma^*(1, 0), \sigma^*(1, 1)) \end{cases}.$$

As such, by Bayes' rules, $\pi^*(1, 0) = 0$ and

$$\pi^*(1, 1) = \frac{q}{q + (1 - q)[1 - \phi(\sigma^*(1, 0), \sigma^*(1, 1))]}.$$

Since $\pi^*(1, 1) > q$, the voter maximizes his expected payoff by reelecting the incumbent when $(s, x) = (1, 1)$. Since $\pi^*(1, 0) < q$, the voter maximizes his expected payoff by electing the challenger when $(s, x) = (1, 0)$. Hence, if $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is an equilibrium, then $\sigma^*(1, 1) = 1$ and $\sigma^*(1, 0) = 0$.

Step 2: Show that there does not exist a Markov equilibrium in which – given that the state of the world is equal to zero – the incumbent's probability of reelection when she selects policy one is greater than her probability of reelection when she selects policy zero.

Suppose $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is a Markov equilibrium in which $\sigma^*(0, 1) > \sigma^*(0, 0)$. And, consider the case where $s = 0$. Since $s = 0$, both good incumbents and bad incumbents prefer policy zero. Consequently, as $\sigma^*(0, 1) > \sigma^*(0, 0)$, both good and bad incumbents face a tradeoff between policy and reelection objectives. Incumbent-types which do not place sufficient weight on reelection optimally resolve this tradeoff by selecting policy zero. Hence, for each $\theta \in \{g, b\}$,

$$\gamma_\theta^*(0, \rho) = \begin{cases} 0 & \text{if } \rho < \bar{\rho}(\sigma^*(0, 0), \sigma^*(0, 1)) \\ 1 & \text{if } \rho > \bar{\rho}(\sigma^*(0, 0), \sigma^*(0, 1)) \end{cases}.$$

Thus, applying Bayes' rule, $\pi^*(0, 0) = q$ and $\pi^*(0, 1) = q$: when the state of the world is zero, regardless of the incumbent's policy choice, the voter is indifferent between reelecting and defeating the incumbent. Given that σ^* is Markovian, $\pi^*(0, 0) = \pi^*(0, 1)$ implies that $\sigma^*(0, 0) = \sigma^*(0, 1) \in [0, 1]$, a contradiction to our supposition that $\sigma^*(0, 0) < \sigma^*(0, 1)$.

Step 3: If $(\gamma_g^*, \gamma_b^*, \sigma^*, \pi^*)$ is a Markov equilibrium, then from steps one and two we have: $\sigma^*(1,1) = 1$, $\sigma^*(1,0) = 0$, and $\sigma^*(0,0) \geq \sigma^*(0,1)$. It is easily verified that this implies that γ_g^* is equal to (5), and that γ_b^* is equal to (6).

References

[1] Ansolabehere, Stephen and Shanto Iyengar. 1995. *Going Negative: How Political Advertisements Shrink and Polarize the Electorate*. New York: Free Press.

[2] Arnold, R. Douglas. 1990. *The Logic of Congressional Action*. New Haven: Yale University Press.

[3] Austen-Smith, David. 1992. "Explaining the Vote: Constituency Constraints on Sophisticated Voting." *American Journal of Political Science* 36(1):68-95.

[4] Besley, Timothy and Stephen Coate. 1998. "Sources of Inefficiency in a Representative Democracy: A Dynamic Analysis." *American Economic Review* 88(1):139-56.

[5] Besley, Timothy and Robin Burgess. 2002. "The Political Economy of Government Responsiveness: Theory and Evidence from India." *Quarterly Journal of Economics* 117(4):1415-51.

[6] Canes-Wrone, Brandice, David W. Brady, and John F. Cogan. 2002. "Out of Step, Out of Office: Electoral Accountability and House Members' Voting." *American Political Science Review* 96(1):127-40.

[7] Canes-Wrone, Brandice, Michael Herron, and Kenneth Shotts. 2001. "Leadership and Pandering: A Theory of Executive Policymaking." *American Journal of Political Science* 45(3):532-50.

[8] Carey, John. 2004. "Visible Votes: Recorded Voting and Legislative Accountability in Latin America." Working Paper. Dartmouth College.

[9] Coate, Stephen, and Stephen Morris. 1995. "On the Form of Transfers to Special Interests." *Journal of Political Economy* 103(6):1210-35.

[10] Ehrenhalt, Alan. 1985. "A Tactical Revolution Engulfs Campaigns." *Congressional Quarterly Weekly*, December 7, 2559-65.

[11] Frankel, Maurice. 2001. "Freedom of Information: Some International Characteristics." Working Paper. The Campaign for Freedom of Information.

[12] Glazer, Amihai. 2002. "Rashness, Reputation, and Reappointment." Working Paper. University of California, Irvine.

[13] Gilmour, John B. 1995. *Strategic Disagreement: Stalemate in American Politics*. Pittsburgh: University of Pittsburgh Press.

[14] Majumdar, Sumon and Sharun W. Mukand. "Policy Gambles." *American Economic Review*. 94(4):1207-21.

[15] Maskin, Eric and Jean Tirole. 2004. "The Politician and the Judge: Accountability in Government." *American Economic Review*. 94(4): 1034-54.

[16] Mayhew, David R. 1974. *Congress: The Electoral Connection*. New Haven: Yale University Press.

[17] Miroff, Bruce. 1989. "Secrecy and Spectacle: Reflections on the Dangers of the Presidency." In *The Presidency in American Politics*, ed. Paul Brace, Christine Harrington, and Gary King. New York: New York University Press, 151-164.

[18] Morris, Stephen. 2001. "Political Correctness." *Journal of Political Economy* 109(2):231-65.

[19] Prat, Andrea. 2003. "The Wrong Kind of Transparency." Working Paper. London School of Economics.

[20] Rozell, Mark. 2002. *Executive Privilege: Presidential Powers, Secrecy, and Accountability*. Lawrence: University of Kansas Press.

[21] Snyder, James M. and Michael Ting. 2005. "Why Roll Calls? A Model of Position-Taking in Legislative Voting and Elections." Forthcoming, *Journal of Law, Economics, and Organization*.

[22] Stasavage, David. 2004. "Public versus Private Deliberation in a Representative Democracy." Working Paper. London School of Economics.