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Showing Off: Promise and Peril in Unilateral Policymaking

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ABSTRACT

Presidents have substantial unilateral policymaking powers in the United States despite constitutional provisions for checks and balances. I study how electoral concerns encourage officeholders to exercise these powers, using a formal model in which unilateral policymaking skill varies across officeholders and is unknown to voters. Undesirable unilateral action is unavoidable in equilibrium under broad conditions. This perverse behavior occurs when the incumbent acts unilaterally to show off policymaking skill even though unilateral action is inferior policy. Showing off is driven by electoral motivations and occurs because unilateral action is important for re-election. I also characterize conditions under which the incumbent acts unilaterally in equilibrium if and only if it improves voter welfare.

Keywords: Electoral accountability; presidency; unilateral policymaking; political economy

How do electoral concerns affect a political executive's decision to act unilaterally? To illustrate, consider U.S. foreign policy, where the president has significant *de jure* and *de facto* control (Canes-Wrone *et al.*, 2008; Howell

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and Pevehouse, 2011).[1] Presidents vary in their ability to communicate with military leaders, manage civil–military relations, or determine the appropriate level of escalation.[2] They also have many unilateral foreign policy instruments that demonstrate their policymaking skill,[3] as many voters are aware of both international conditions and executive foreign policy decisions because these topics receive extensive media coverage. Voters prefer to avoid unnecessary conflict, but re-election is more likely, all else equal, if unilateral action is effective.[4] This paper warns that electoral pressures can lead a president who is highly skilled at, for example, military diplomacy or civil–military relations to unilaterally initiate conflicts that make voters worse off.[5] Surprisingly, this perverse behavior does not require divergent policy preferences, lack of information by the president, or *gambling for resurrection* (Downs and Rocke, 1994, 1995).

In the United States, unilateral powers are a key component of presidential policymaking in many policy areas. The Constitution provides for checks on presidential power, but presidents have significant latitude to make policy by "the stroke of a pen" without substantial input from Congress or the judicial branch (Mayer, 2002; Safire, 2008). Presidents from both parties frequently use these unilateral capabilities, which arouses mixed opinions. Some scholars claim that unilateral policymaking allows presidents to act inconsistently with public interest (Christenson and Kriner, 2016; Cooper, 2002; Schlesinger, 1973), but others argue that executive power is a potential solution for congressional gridlock and excessive partisanship (Howell and Moe, 2016; Rossiter, 1948).

Previous empirical work suggests that congressional conditions (Deering and Maltzman, 1999), public approval ratings (Krause and Cohen, 1997; Mayer and Price, 2002), and electoral concerns (Mayer, 1999) are associated with the use of unilateral executive powers. I focus on electoral concerns and study a formal model to characterize conditions under which a political executive chooses to make policy unilaterally. Furthermore, I study how unilateral action affects voter welfare. Democratic elections are widely lauded as a tool for citizens to

[1]The legal justification for presidential control over foreign policy is established in Article II of the Constitution, and further developed in Supreme Court rulings (*United States v. Belmont*, 1937; *United States v. Curtiss-Wright Export Corp.*, 1936; *United States v. Pink*, 1942).

[2]For example, President Franklin D. Roosevelt is widely regarded as especially skilled at gathering information and managing his subordinates (Neustadt, 1960).

[3]These unilateral tools include national security declarations, executive orders related to the use of force, or executive agreements. See Howell (2005) for several high profile examples of unilateral executive action in foreign policy, as well as discussion of how presidents can circumvent laws intended to curb unilateralism, such as the War Powers Resolution (1973).

[4]Aldrich *et al.* (2006) find evidence that "the public does have coherent foreign policy attitudes" and "use these attitudes to make voting choices when events and candidates make foreign policies salient to the public." Moreover, "this electoral connection leads policy makers to consider public opinion consequences as they shape their foreign policies."

[5]President Reagan's 1983 invasion of Grenada is widely viewed in this light (Lowi, 1985).

select the best politicians and hold them accountable (Madison, 1788), but a large literature on electoral accountability demonstrates that elections can cause office-seeking behavior that reduces voter welfare (Ashworth, 2012; Duggan and Martinelli, Forthcoming). In addition to existing theoretical work, two contrasting empirical claims suggest that presidents may use unilateral action perversely for office-seeking purposes. First, visible executive policymaking is widely believed to be essential for re-election, as emphasized by Howell (2013): "Presidents who fail to act, even when the statutory or constitutional basis for action is dubious, face the prospect of a substantial political backlash against them and their party." Second, survey evidence suggests that voters view unilateral action unfavorably (Christenson and Kriner, 2016; Reeves and Rogowski, 2016). In tandem, these findings are puzzling and suggest that voters have an ambiguous view of unilateral action.

I pursue two related questions to study how electoral motivation encourages unilateral policymaking and evaluate the consequences for voter welfare. First, why is visible unilateral policymaking important for re-election? Second, given the apparent electoral benefits of unilateral action in spite of its unpopularity, should we worry that politicians occassionally reduce voter welfare by using their unilateral powers excessively for electoral gain?

To address these questions, I analyze a two-period electoral model in which politicians vary in their unilateral policymaking skill and have the option to make policy unilaterally or rely on default policy. In particular, an incumbent officeholder chooses whether to reveal her policymaking skill to voters by making policy unilaterally or conceal her skill by choosing a default policy that is unaffected by skill. The most direct applications are to executive elections with an incumbent seeking re-election.[6] In this paper, default policy encompasses either inherited status quo policy or new policy being formulated by legislators and bureaucrats that falls outside the executive's purview. Furthermore, the quality of default policy can vary across the two periods, capturing policy drift or changes in underlying conditions. The equilibrium analysis reveals that unilateral policymaking is important for re-election and, moreover, that high-skill executives may act unilaterally even when doing so is inferior to default policy.

The promise of unilateral powers has two components. First, officeholders may improve upon low-quality default policy by acting unilaterally. Second, unilateral policymaking reveals information about the incumbent, which helps voters identify and re-elect high-skill politicians. In contrast, the peril of unilateral powers is that officeholders may act unilaterally when doing so is

[6]See, for example the Introduction of Canes-Wrone *et al.* (2001). In addition to foreign policy carried out by the president, the model also applies to unilateral policymaking by state governors. See Sellers (2016) and Ferguson and Bowling (2008) for recent work in this vein.

inferior to default policy. In this paper, I highlight conditions under which the promise of unilateral policymaking outweighs the peril and vice versa.

The main result is that certain high-skill incumbents *show off* in equilibrium if the voter has incomplete information about policymaking skill and first-period default policy[7] is high quality. Specifically, such incumbents make policy unilaterally even though the default policy is publicly known to be superior for all players. Showing off arises from re-election concerns and occurs in every equilibrium, even though all players have common values over policy and all politicians know which policy is optimal.[8] Incumbents who show off are sufficiently skilled to win re-election after acting unilaterally, but not skilled enough that their unilateral action is superior to default policy. Thus, showing off not only reduces the voter's first-period welfare, but also reveals a personal characteristic of the incumbent that is desirable to the voter.

Showing off is driven by an endogenous electoral bias in favor of unilateral policymaking. This bias fits with existing presidential scholarship highlighting that voters have high expectations for presidential involvement in policymaking (Cohen, 1999; Edwards, 1983; Howell, 2013; Reeves and Rogowski, 2016). In this paper, unilateral action is necessary for incumbent politicians to win re-election in equilibrium if default policy is high quality. Thus, incumbents who are skilled enough to win re-election after acting unilaterally must choose whether to act unilaterally and win re-election or enact default policy and lose re-election. Electoral considerations create the following inter-temporal dilemma for political executives: choosing the highest quality policy may result in losing re-election.

If default policy is high quality, then the preceding inter-temporal dilemma applies only to incumbents who are re-elected after unilateral action. The first-period policy loss from showing off outweighs the benefit of winning re-election for some of these incumbents, so they choose default policy and forego re-election. Otherwise, the benefit of winning re-election outweighs the costs of inferior first-period policy, and the incumbent shows off to win re-election. Both the promise and peril of unilateral powers are present if default policy is high quality.

If default policy is low quality, then the peril of unilateral powers can be avoided. In this case, all high-skill incumbents, who win re-election after unilateral action, can improve first-period policy and are rewarded with re-election by doing so. Thus, for bad default policies there exist equilibria in which officeholders act unilaterally if and only if doing so improves upon default policy.

Overall, this paper suggests that there are merits to both sides of the argument over unilateral policymaking. The misuse of unilateral powers for

[7] I refer to first-period default policy as *default policy* throughout the rest of the Introduction.

[8] Showing off can also occur in equilibrium if politicians are purely office motivated.

electoral purposes is always possible if default policy is high quality. Yet, unilateral powers also enable presidents to improve upon existing policy or contemporary legislative policy proposals. It is well known that elections can engender inefficient policies if voters lack information (Ashworth, 2012; Gailmard, 2014). I specifically demonstrate that elections can unduly motivate political executives to make policy unilaterally. The information revealed by unilateral action, due to its visibility and tight connection to the executive, is the key source of deadweight loss in this paper.

I also demonstrate that increasing the perks of office causes more incumbent types to show off, thereby decreasing ex ante voter welfare. This suggests that political executives in more prestigious offices, such as presidents and governors, have stronger incentives to show off than executives in less prestigious offices, such as mayors. On the other hand, increasing office benefit improves electoral selection because more high-skill incumbent types win re-election. If office benefit is sufficiently high, then all high-skill incumbents are re-elected but ex ante voter welfare is minimized. The two objectives of Madison (1788), discipline and selection, are at odds in this paper: bad behavior in office may improve electoral selection.

Substantively, this paper contributes to a growing literature studying the political economy of the U.S. presidency (Cameron, 2006; Moe, 2009). Existing formal models of unilateral executive action center on legislative constraints, and build upon the pivotal politics setting pioneered by Krehbiel (1998).[9] The president unilaterally sets an initial policy, which can later be amended by the legislature or overturned by the judiciary (Chiou and Rothenberg, 2014; Howell, 2003).[10] Thus, the president acts as an agenda setter in a spatial legislative setting, anticipating the reaction of the other branches. These models focus on inter-branch constraints and address questions such as whether executives are more likely to use their unilateral powers if congressional gridlock is greater or, alternatively, if government is unified.[11] Electoral concerns are not studied. In contrast, I focus on electoral incentives rather than inter-branch bargaining, and policy quality rather than ideology. In this paper, the relevant considerations for the officeholder to act unilaterally are (i) the quality of default policy, relative to what the executive can achieve via unilateral action, and (ii) the expected electoral consequences.

This paper also adds to a large literature that studies political accountability using the principal–agent framework, dating to Barro (1973) and Ferejohn (1986).[12] Within this tradition, this paper is closest to models of elections with

[9] An exception is Martin (2005), which studies the decision to act unilaterally in foreign policy as a tool to signal to other governments.

[10] Also see Chiou and Rothenberg (2016, Forthcoming).

[11] For recent empirical work on these questions, see Fine and Warber (2012) and Bolton and Thrower (2015).

[12] See Ashworth (2012), Duggan and Martinelli (Forthcoming), and Gailmard (2014) for recent overviews.

adverse selection, in which voters lack information about relevant politician traits ex ante.[13] The common thread is that electoral pressures may cause perverse policy choices even if voters are fully attentive and rational (Gailmard, 2014). Recent papers include Acemoglu *et al.* (2013), who show that democracy can produce a populist bias in policymaking; and Ash *et al.* (Forthcoming), who show that elections can cause politicians to overemphasize contentious issues.

Within the electoral accountability literature, a prominent class of models study pandering (Canes-Wrone *et al.*, 2001; Fox and Shotts, 2009; Maskin and Tirole, 2004).[14] Pandering occurs when incumbents ignore policy relevant information and choose popular policy to signal to voters that they are the desirable type (Besley, 2007), for example, *competent* (Canes-Wrone *et al.*, 2001) or *congruent* (Maskin and Tirole, 2004).[15] Public opinion about optimal policy is a crucial ingredient for inefficient policies to arise from pandering. In contrast, ex ante public opinion about policy, unilateral or otherwise, does not play a role in the perverse policy choices in this paper.

Pandering models do not explicitly distinguish between unilateral action and default policy. Yet, they can rationalize welfare-reducing unilateral action under certain conditions. If public opinion favors unilateral action, and its consequences are unlikely to be resolved prior to the next election, then the officeholder may act unilaterally to pander to voters. Additionally, pandering models can be used to study why an executive chooses one unilateral policy over another. I focus on the executive's decision to unilaterally make policy or not. This paper complements the pandering literature by rationalizing unilateral actions that are publicly known to be worse than default policy prior to the election and not favored by voters ex ante.[16]

[13]See, for example, Callander (2008b), Duggan (2000), Fearon (1999), Morris (2001), and Prendergast (1993) for work in this vein. The application of this paper is specific to elections, but it also relates to the literature in economics that combines signaling and career concerns (Li, 2007; Prendergast and Stole, 1996). Several studies illustrate that reputational incentives can cause politicians to choose risky policies over a safe status quo to signal their ability to voters (Fu and Li, 2014; Majumdar and Mukand, 2004). In this paper, politicians can unilaterally make policy to signal their policymaking skill, but none of the policies are risky.

[14]See also, for example, Ashworth and Shotts (2010), Fox and Stephenson (2011), Kartik and McAfee (2007), and Morelli and Van Weelden (2013).

[15]A related formal literature studies political selection, that is, placing high ability politicians into office (Besley, 2005; Persson and Tabellini, 2002). This literature largely focuses on candidate entry (Caselli and Morelli, 2004; Messner and Polborn, 2004) or recruitment decisions by political parties (Mattozzi and Merlo, 2015). In contrast, I study how electoral concerns influence the retention of high-skill politicians: voters want to re-elect high-skill politicians, who can fully reveal their skill only by actively making policy.

[16]Transparency is important for the main results in this paper because voters fully learn the officeholder's policymaking skill after executive orders. A small literature shows that transparency can have adverse effects in the career concerns setting (Fox, 2007; Fox

Technically, the model in this paper is a relative of *persuasion games* in the tradition of Milgrom (1981).[17] In this literature, an agent cannot lie about her private information and chooses how much information to verifiably reveal to an agent. A common result is that if disclosure is costly then only those agents who are sufficiently desirable will fully disclose their type (Grossman and Hart, 1980; Jovanovic, 1982), as in this paper.

Model

The model has two payoff periods and three players: an incumbent politician I, a challenger C, and a representative voter R. The incumbent, I, holds office in the first period and chooses between the first-period default policy (henceforth *default*) and making policy unilaterally (henceforth *using skill*). The voter, R, observes I's first-period policy choice, and players receive first-period payoffs. Next, R chooses to elect I or the challenger, C, to be the second-period officeholder. After the election, the quality of the second-period default is realized and the second-period officeholder chooses between default policy or unilateral action. Players then receive payoffs from the second-period officeholder's action, and the game ends.

More precisely, let $x_1 \in [0,1]$ be the quality of the first-period default and $s_j \in [0,1]$ be the policymaking skill of politician $j \in \{I,C\}$. To begin the game, Nature draws s_I and s_C independently from the distribution F and politicians $j \in \{I,C\}$ observe their respective skill, s_j. For convenience, x_1 is common knowledge. None of the main results change if the voter has uncertainty about x_1.

If I chooses the default, then all players receive first-period policy payoff x_1; and if I uses skill, then all players receive first-period policy payoff s_I. All players observe I's action. Thus, I reveals s_I by using skill. The total first-period payoff for both R and C is s_I if I uses skill, or x_1 if I enacts the default. I's total first-period payoff not only is similar, but also includes additive office benefit $\beta \geq 0$. After observing I's first-period action and the resulting first-period payoff, R chooses to elect I or C to be the second-period officeholder. The quality of the second-period default, $x_2 \in [0,1]$, is drawn from the distribution G and revealed after the election. The second-period officeholder then chooses to use skill or enact the new default, and second-period payoffs accrue.

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and Van Weelden, 2012; Prat, 2005). Unlike these papers, I do not consider the welfare implications of varying the degree of transparency.

[17] More recently, models in this tradition have been referred to as *disclosure games*. See Dranove and Jin (2010) for an overview.

Let the action set of period-t officeholder $j_t \in \{I, C\}$ be $A = \{0, 1\}$, where $a_{j_t} = 1$ indicates that j_t uses skill in period t.[18] Formally, the period-t payoff to player $k \in \{C, I, R\}$ from j_t's action a_{j_t} is

$$u_k(a_{j_t}; s_{j_t}, x_t) = a_{j_t} s_{j_t} + (1 - a_{j_t}) x_t + \mathbb{I}\{k = j_t\}\beta.$$

Dynamic payoffs are the discounted sum of period payoffs. Specifically, the dynamic payoff of player $k \in \{C, I, R\}$ is

$$u_k(a_{j_1}; s_{j_1}, x_1) + \delta u_k(a_{j_2}; s_{j_2}, x_2), \tag{1}$$

where $\delta \in (0, 1]$ is a common discount factor.

The cumulative distribution function (cdf) G: $[0, 1] \to [0, 1]$ is the distribution of x_2, and has associated probability density function (pdf) g that is strictly positive in the interval $[0, 1]$. The distribution G is known by all players and constitutes their beliefs about x_2, the quality of the second-period default policy. Similarly, the cdf F: $[0, 1] \to [0, 1]$ denotes R's prior beliefs about s_j for $j \in \{I, C\}$ and I's prior belief about s_C. It has associated pdf f that is strictly positive in the interval $[0, 1]$. Both x_2 and s_C are independent from s_I, x_1, and I's first-period action. In an extension, I let the distribution of x_2 depend on first-period play.

I now elaborate on several of the model's features. First, policymaking skill corresponds to the quality of the outcome of unilateral policymaking. Thus, it is a politician-specific valence attribute in the spirit of Stokes (1963) that is fully revealed to the voter if and only if the politician acts unilaterally.[19] Furthermore, policymaking skill is not equivalent to policy knowledge: two politicians with equivalent policy knowledge can have unequal policymaking skill if one is more adept at playing politics.[20] Skill is also distinct from the notion of policy *expertise* studied in Callander (2008a), which reflects differences in information. Another important feature is that the quality of default policy is unaffected by policymaking skill. Substantively, this feature reflects that the president can maintain status quo policies and procedures on a particular issue if Congress is not actively making policy, or remain on the sidelines if Congress is actively making policy. Finally, the assumption that s_I does not persist as the second-period default reflects two possibilities:

[18] Notice $a_{C_1} = 0$ because C does not hold office in the first period.

[19] See, for example, Besley (2005) for a more detailed discussion of political competence, which is closely related to the notion of skill used in this paper. My definition of skill is also closely related to the broad conception of presidential power described in Howell (2013): the tools to influence "all the various doings of government" that are available to any president, regardless of their personal characteristics. In this vein, I assume the tools of governing are inherent to the office of president, and skill simply reflects how well the president can use those tools, which varies across politicians.

[20] See Kennedy (2015) for recent work suggesting that relevant agencies do not always faithfully implement executive orders.

(i) unilateral executive actions are often short-lived, in their initial form, relative to the length of a term (Dickinson and Gubb, 2016) and (ii) the particular issue that arises in the second period may differ from the issue tackled in the first term, but fall within the same general issue area.

Analysis

I first note several preliminary results that hold in every sequentially rational strategy profile. First, the second-period officeholder's optimization problem is trivial. Sequential rationality requires that second-period officeholder $j \in \{I, C\}$ use skill if $s_j > x_2$ and choose the default if $x_2 > s_j$. Thus, R's continuation value of electing C is equivalent across all sequentially rational strategy profiles, and similarly for R's continuation value of re-electing I, conditional on s_I. Finally, sequential rationality requires that R elects the candidate who provides the greater continuation value: R cannot commit to punishing, or rewarding, I.

The sharp characterization of second-period behavior allows us to pin down which candidate R elects if I uses skill in any sequentially rational strategy profile. I first define important notation.

Definition 1. *Let $\bar{s} \equiv \bar{s}(F, G)$ denote the incumbent's skill level such that, conditional on observing $s_I = \bar{s}$, the voter is indifferent between re-electing I and electing C in a sequentially rational strategy profile.*

Notably, $\bar{s}$ is an endogenous feature that is pinned down by expected second-period behavior in tandem with F and G, the respective distributions of x_2 and s_C. Lemma 1 shows that $\bar{s}$ is unique and, moreover, establishes that it is the same in every sequentially rational strategy profile. Let $V(I|s_I)$ denote R's continuation value of re-electing I conditional on s_I, and similarly let $V(C)$ denote R's continuation value of electing C.

Lemma 1. *There exists a unique $\bar{s} \in (0, 1)$ such that in every sequentially rational strategy profile, $V(I|s_I) > V(C)$ if and only if $s_I > \bar{s}$.*

Lemma 1 implies that unilateral policymaking leads to re-election in every sequentially rational strategy profile if I has sufficiently high skill. In particular, every sequentially rational strategy profile is such that if I uses skill, then R re-elects I if $s_I > \bar{s}$ and elects C if $s_I < \bar{s}$. Thus, $\bar{s}$ corresponds to the complete information cutoff on s_I for R to re-elect I in every sequentially rational strategy profile. Accordingly, it plays a key role throughout the analysis. For re-election, it does not matter whether $s_I \geq x_1$. The voter values policymaking skill, and cannot commit to removing an incumbent who perversely displays high-skill.

Additionally, Lemma 1 partitions the quality of default policy into *low-quality defaults*, $x_1 \in [0, \bar{s}]$, and *high-quality defaults*, $x_1 \in (\bar{s}, 1]$. I study versions of the model in which R has complete information and incomplete information, respectively, about I's skill, s_I. The partition of default quality is important with incomplete information because equilibrium behavior and welfare are qualitatively different. For both information settings, I focus on equilibria that require sequential rationality and thus do not discuss second-period behavior because it is identical. This omission sharpens the focus on the interaction between the incumbent's first-period policy choice and the voter's electoral decision.

The main objective of the analysis is to study whether the first-period policy choice and election decision are the best possible for the voter, given s_I, x_1, and uncertainty about s_C. If not, are they second-best? I consider two notions of voter welfare. First, say that a sequentially rational strategy profile σ is *first-best* if (i) I loses re-election only if $s_I \leq \bar{s}$, (ii) I wins re-election only if $s_I \geq \bar{s}$, (iii) I chooses the default only if $s_I \leq x_1$ and (iv) I uses skill only if $s_I \geq x_1$. Next, say that σ is *second-best* if it is first-best for $s_I \leq \bar{s}$, and if $s_I > \bar{s}$ then (i) I chooses the default and loses re-election only if $s_I + \delta V(I|s_I) \leq x_1 + \delta V(C)$ and (ii) I uses skill and wins re-election only if $s_I + \delta V(I|s_I) \geq x_1 + \delta V(C)$.

In particular, I characterize conditions under which the incumbent uses skill in the first period even though the default provides a greater first-period policy payoff for all players, which I refer to as *showing off*.

Definition 2. Showing off *occurs in strategy profile σ if there exists s_I such that $s_I < x_1$ and the incumbent uses skill at s_I.*

If I shows off under σ, then σ is clearly not first-best. Yet, showing off can be second-best if it helps the voter retain high-skill incumbent types.

Complete Information Benchmark

I first study the complete information setting to illustrate basic features of the model and provide a benchmark for voter welfare. Assume the incumbent's skill, s_I, is common knowledge. In every subgame perfect Nash equilibrium (SPE), politicians choose the best possible policy in each period, the voter's choice does not depend on I's first-period action, and showing off does not occur.

Proposition 1. *For all $x_1 \in [0, 1]$, every SPE of the complete information model has the following features.*

1. *If $s_I > \bar{s}$ then the voter re-elects the incumbent, and if $s_I < \bar{s}$ then the voter elects the challenger.*

2. *Assume $s_I \neq \bar{s}$. If $s_I > x_1$ then the incumbent uses skill, and if $s_I < x_1$ then the incumbent uses the default.*

Proposition 1 has two key takeaways. First, I is elected only if $s_I \geq \bar{s}$, C is elected only if $s_I \leq \bar{s}$, and complete information results in perfect electoral selection. Thus, R elects the correct candidate regardless of I's first-period action. Second, showing off does not occur because R's election decision is independent of I's first-period action. Therefore, I has no incentive to show off and simply chooses the policy that maximizes the first-period policy payoff. Together, the two preceding takeaways ensure that every SPE is first-best. The complete information benchmark illustrates one part of the promise of unilateral policymaking with common values: officeholders may be able to improve upon inferior default policies by making policy unilaterally.

Uncertainty About Policymaking Skill

In this section, I introduce incomplete information and assume that the voter, R, does not observe the incumbent's skill, s_I, at the beginning of the game. First, I define R's updated beliefs after observing I's first-period action. If I uses skill, then R perfectly observes s_I via the first-period policy payoff. Updating is trivial in this case, so I do not formally define R's updated beliefs. On the other hand, let $\mu(s_I; x_1, \sigma)\colon [0,1] \to [0,1]$ denote R's updated beliefs about s_I if the default quality is x_1 and I chooses the default in the first period under the strategy profile σ. Note that $\mu(s_I; x_1, \sigma)$ takes the form of a cdf.

An *equilibrium* of the incomplete information model is an assessment $\alpha = (\sigma, \mu)$, which consists of a strategy profile, σ, and belief system, μ, such that (i) σ is sequentially rational given μ, (ii) μ is derived from σ according to Bayes's rule whenever possible, and (iii) μ is degenerate on s_I if I uses skill on or off the path of play.[21] Informally, an equilibrium satisfies the following conditions. First, I chooses first-period policy to maximize her expected dynamic payoff given the voter's strategy. Second, if I chooses the default at x_1 with positive probability under σ, then R's updated beliefs, μ, are calculated using σ and Bayes's rule. Furthermore, μ is degenerate on s_I whenever I uses skill, but μ is unrestricted if I chooses the default with probability zero at x_1 under σ. Third, R elects the candidate that maximizes her continuation value. Finally, I and C choose second-period policy to maximize their respective second-period payoffs if elected.

The assumption that using skill perfectly reveals s_I reflects that unilateral policymaking is particularly informative about I's ability to identify, enact,

[21] Condition (iii) is common in disclosure games. See Hart *et al.* (2017) for a *recent* example.

and implement policy.[22] Voters may have substantial prior information about I's policy knowledge, perhaps due to I's education or previous experience, but policymaking skill is more general. It incorporates less tangible features such as the ability to negotiate with legislators or oversee policy implementation. By acting unilaterally, I reveals these less tangible characteristics to R. In contrast, if I chooses the default then R does not directly observe I's skill and must draw a less precise inference.

With incomplete information, R's election decision incorporates both retrospective and prospective elements. R is retrospective because I's first-period action informs R's updated beliefs about I's skill. Conversely, R is prospective because she elects the candidate that provides the greater expected second-period payoff. Thus, R cannot commit to re-elect I if she believes C is superior, and vice versa.[23] Uncertainty about s_I introduces the possibility that I's action influences the electoral outcome. For certain s_I, I may win re-election after using skill, but lose re-election after choosing the default. If I's electoral prospects depend on the first-period action, then I may face a dilemma between greater first-period utility and greater expected second-period utility. This dilemma drives showing off.

Equilibrium properties are best illustrated by separately discussing low-quality default policies, $x_1 \in [0, \bar{s}]$, and high-quality default policies, $x_1 \in (\bar{s}, 1]$, because equilibrium behavior and voter welfare are qualitatively different. The next two sections consider each case in turn. I first establish results for the low-quality case, where voter welfare and equilibrium behavior are similar to the complete information setting. I then study high-quality default policies and show that equilibrium voter welfare is always lower than the complete information setting. Unilateral policymaking is crucial for winning re-election in both cases.

Low-quality Default Policy

If default policy is low quality, $x_1 \in [0, \bar{s}]$, then I does not face a dilemma between winning re-election and maximizing first-period policy utility, and showing off need not occur in equilibrium. There is no inter-temporal benefit from choosing the inferior policy, and I simply chooses the best first-period policy.

Proposition 2 (Low-quality default)**.** *If $x_1 \in [0, \bar{s}]$ then there exists an equilibrium that is first-best.*

It is incentive compatible for all types of I to act in R's best interest if default policy is low quality. All high-skill incumbent types, $s_I > \bar{s}$, strictly

[22] I discuss this assumption in more detail in the Model Discussion section.

[23] This is a standard feature in the *electoral selection* literature. See, for example, Fearon (1999).

prefer to use skill and win re-election because $x_1 \leq \bar{s} < s_I$. Thus, all high-skill incumbent types use skill, and R elects C after observing the default.[24] Therefore, it is incentive compatible for I to choose first-best policy if $s_I < \bar{s}$, because R elects C regardless of I's policy choice. Unilateral powers have no pitfalls in this case because I wields them only if they improve upon the default. Proposition 2 supports existing work arguing that unilateral powers are useful when default policies are ineffective, for example, after policy drift due to legislative gridlock (Howell and Moe, 2016).

Proposition 2 leaves open the possibility of equilibria that are not first-best. In particular, there exist pooling equilibria in which all types of I use skill. In these equilibria, I is re-elected after choosing the default and sufficiently low-skill types use skill to lose re-election to benefit from the possibility that the challenger has higher skill.[25] Yet, if the default policy is low-quality but sufficiently good, then all equilibria are first-best.

Proposition 3. *There exists $\underline{x}$ such that if $x_1 \in (\underline{x}, \bar{s})$ then every equilibrium is first-best. Additionally, $\underline{x}$ is strictly decreasing in office benefit and if office benefit is sufficiently high then every equilibrium is first-best for all $x_1 \in [0, \bar{s}]$.*

Proposition 3 shows that the lower bound on the set of first-best defaults is strictly decreasing in office benefit, and if office benefit is large enough then all equilibria are first-best for every low-quality default.[26] In the model, unilateral powers can be unambiguously good for voter welfare when default policy is low quality, and are sure to be so if the value of holding office is sufficiently large.

Next, Proposition 4 highlights the electoral significance of unilateral action if voters have incomplete information.

Proposition 4. *If $x_1 \in [0, \bar{s}]$ then ex ante there is zero probability that the voter re-elects the incumbent for choosing the default in equilibrium.*

If x_1 is low quality, then all high-skill incumbent types use skill and win re-election in equilibrium. Thus, any equilibrium in which R re-elects I with positive probability after observing the default must be such that I chooses the default with probability zero. Together, these observations reveal that if default policy is low quality then ex ante there is zero probability that I chooses the default and wins re-election in equilibrium. Proposition 4 fits with substantive work suggesting that visible policymaking is crucial for the re-election prospects of incumbent presidents (Howell, 2013).

[24] If $x_1 = 0$, then μ is arbitrary if all incumbent types choose first-best policy. Yet, it is straightforward to specify μ such that R elects C after observing the default and obtain a first-best equilibrium.

[25] Such equilibria exist if x_1 is sufficiently low quality, the set of s_I at which I uses skill with positive probability has probability zero, and R's updated beliefs are specified so that I is re-elected with positive probability after choosing the default.

[26] Note that if politicians are purely policy motivated then all equilibria are first-best for every $x_1 \in [0, \bar{s}]$.

High-quality Default Policy

I now consider high-quality default policy, $x_1 \in (\bar{s}, 1]$. To preview the results, the electoral importance of unilateral action increases and voter welfare decreases relative to the complete information benchmark. Proposition 5 establishes that a first-best equilibrium does not exist, and identifies showing off as the key source of deadweight loss.

Proposition 5 (High-quality default)**.** *If $x_1 \in (\bar{s}, 1)$ then every equilibrium of the incomplete information model has the following features.*

1. *If the incumbent chooses the default, or if $s_I < \bar{s}$ and the incumbent uses skill, then the voter elects the challenger. If $s_I > \bar{s}$ and the incumbent uses skill, then the voter re-elects the incumbent.*

2. *There exists $s_\beta \in [\bar{s}, x_1)$ such that the incumbent uses skill if $s_I > s_\beta$, and chooses the default if $s_I < s_\beta$.*

For high-quality default policies, the possibility of showing off is unavoidable in equilibrium. Thus, Proposition 5 implies that if default policy is high quality then uncertainty about s_I reduces equilibrium ex ante voter welfare relative to the complete information benchmark. The incumbent, I, faces a trade-off between first-period policy and expected second-period policy. Choosing the default provides I a higher first-period payoff because $x_1 > s_I$, but the voter, R, elects the challenger, C. Because $s_I > \bar{s}$ and office benefit is positive, I's expected second-period payoff is lower if C is elected. Thus, I can increase his expected second-period payoff by using skill and winning re-election, but this comes at the cost of a lower first-period payoff. If $s_I \in (s_\beta, x_1)$ then the future benefit of winning re-election outweighs the present cost of using skill, so I shows off. It is precisely these incumbent types that have a profitable deviation in any first-best strategy profile: R elects C after observing the default, so showing off is a profitable deviation for I. Figure 1 illustrates the set of incumbent types who face the inter-temporal dilemma of showing off and winning re-election versus choosing first-best default policy and losing re-election.

Proposition 5 also establishes that unilateral policymaking is essential for re-election if default policy is high quality. The essence of the problem is that I can always choose the default, but the highest skill incumbent types, $s_I > x_1$, strictly prefer to use skill. Thus, high-skill incumbent types, $s_I > \bar{s}$, must use skill to distinguish themselves from low-skill types to win re-election. More concretely, the logic proceeds in several steps.[27] First, I uses skill in equilibrium if $s_I > x_1$, which follows from $s_I > x_1 > \bar{s}$ because I receives

[27] The logic is related to that of *unraveling* in disclosure games, as reviewed in Dranove and Jin (2010).

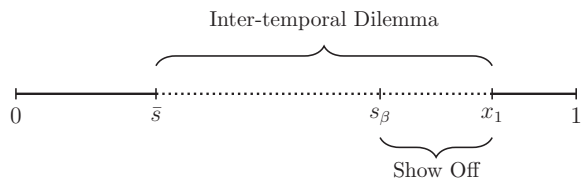

Figure 1: Showing off.

Note: If $x_1 \in (\bar{s}, 1)$ and $s_I \in (\bar{s}, x_1)$, then I faces the inter-temporal dilemma of better first-period policy versus better expected second-period policy. I wins re-election by using skill, which provides a better expected second-period payoff, but a lower first-period policy payoff. If I chooses the first-period default policy then I receives a higher first-period policy payoff but loses re-election, which reduces her expected second-period payoff. The incumbent shows off if $s_I \in (s_\beta, x_1)$ because the future benefit of winning re-election outweighs the present cost of using skill.

a greater first-period payoff and wins re-election. Accordingly, R's updated beliefs put zero probability on all $s_I > x_1$ after observing the default. Second, if R re-elects I after observing x_1, then I chooses the default at all $s_I \in [0, x_1)$. The two preceding observations together imply that R's updated beliefs after observing the default at x_1 are first-order stochastically dominated by R's beliefs about C in any equilibrium such that R re-elects I after observing x_1. It follows that R strictly prefers to elect C after observing the default in any such equilibrium, a contradiction.[28]

Efficient versus Inefficient Showing Off

Showing off reduces first-period voter welfare and is never part of a first-best strategy profile. Although showing off is never first-best, it can be second-best, which I refer to as *efficient showing off*. On the other hand, if showing off is not second-best, then I refer to it as *inefficient showing off*. In this section, I establish when each type of showing off occurs and explore how their occurrence is affected by office benefit.

[28]Note that if I is purely office motivated then it is possible for R to re-elect I in equilibrium after observing the default. This possibility arises because I is indifferent between using skill and enacting the default for all $s_I > x_1 > \bar{s}$ under office motivation. If all types of I choose the default, for example, then R is indifferent between the two candidates and may elect I in equilibrium after observing the default. Clearly, this requires perverse behavior by I. Namely, all $s_I > x_1$ forgo unilateral action that makes all players better off. It is also straightforward to see that showing off may occur in equilibrium under pure office motivation. Finally, the equilibria without showing off that arise under pure policy motivation are not robust. In particular, if I has arbitrarily small policy motivation, then Proposition 5 holds and showing off occurs in every equilibrium for $x_1 \in (\bar{s}, 1)$.

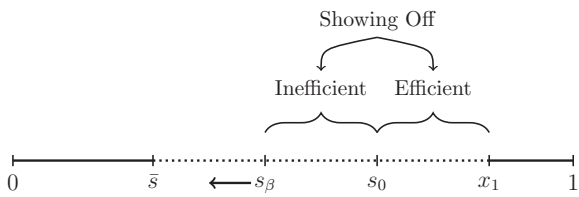

Figure 2: Efficient and inefficient showing off.

Note: For $x_1 \in (\bar{s}, 1)$, efficient showing off occurs if $s_I \in (s_0, x_1)$ and inefficient showing off occurs if $s_I \in (s_\beta, s_0)$ (Lemma 2). If $\beta \in [0, \frac{x_1 - \bar{s}}{\delta})$ then s_β is strictly decreasing in β, so the occurrence of inefficient showing off is strictly increasing (Proposition 6). If $\beta > 0$ then $s_\beta < s_0$, so inefficient showing off occurs in equilibrium (Corollary 1). If $\beta \geq \frac{x_1 - \bar{s}}{\delta}$ then $s_\beta = \bar{s}$ (Proposition 6).

Lemma 2 characterizes the set of types at which I carries out efficient showing off and inefficient showing off, respectively. Unilateral action is unambiguously good for R if $s_I > x_1$, good for R in light of the informational deficit if I efficiently shows off, and unambiguously bad for R if I inefficiently shows off. Figure 2 illustrates this characterization.

Lemma 2. *If $x_1 \in (\bar{s}, 1)$ then there exists $s_0 \in [s_\beta, x_1)$ such that in every equilibrium efficient showing off occurs if $s_I \in [s_0, x_1)$ and inefficient showing off occurs if $s_I \in (s_\beta, s_0)$.*

The forces behind efficient showing off are clearest if I is purely policy motivated, $\beta = 0$. In this case, I and R have identical dynamic preferences and showing off arises exclusively from policy motivation. Some high-skill incumbent types show off because their first-period loss is offset by the expected second-period policy benefit of winning re-election. Figure 2 displays these incumbent types, $s_I \in (s_0, x_1)$. This behavior is second-best because R's expected dynamic payoff is greater than if I chooses the first-period default and loses re-election. Efficient showing off is good for R, within the confines of equilibrium, because the first-period policy loss is small relative to the expected policy gain from re-electing I.

On the other hand, if $\beta > 0$ then the dynamic preferences of I and R are not perfectly aligned. This discrepancy causes inefficient showing off, which is not second-best and occurs if I's personal office motivation outweighs the policy concerns shared by all players. As shown in Figure 2, this behavior occurs if $s_I \in (s_\beta, s_0)$. From R's perspective, the first-period policy loss is too large relative to the expected second-period policy gain from re-electing I. Yet, R is unable to credibly punish the incumbent for inefficient showing off.

The general characterization in Proposition 5 applies to every equilibrium if $x_1 \in (\bar{s}, 1)$, which allows for strong comparative statics and voter welfare

results. Notably, inefficient showing off does not occur in any equilibrium if I is purely policy motivated. For this case, $s_\beta = s_0$ and the set of types who inefficiently show off is empty. Given that efficient showing off arises solely from policy motivation, it is natural to consider how increasing office motivation affects inefficient showing off.

Proposition 6. *Assume $x_1 \in (\bar{s}, 1)$. If office benefit, β, is sufficiently low then in every equilibrium the occurrence of inefficient showing off is strictly increasing in β. Otherwise, in every equilibrium the incumbent uses skill in the first period for all $s_I \in (\bar{s}, 1]$.*

Office benefit, β, parameterizes the degree of misalignment between the dynamic preferences of I and R. The incumbent places a greater premium on re-election as β increases. Accordingly, this expands the set of high-skill incumbent types who show off. Figure 2 illustrates this relationship: s_β shifts to the left if β increases. Thus, Proposition 6 implies that ex ante voter welfare is decreasing in office benefit if default policy is high quality.

Yet, the set of incumbent types who show off in equilibrium does not grow without bound as β increases. Proposition 6 shows that if β is sufficiently large then all high-skill politicians use skill to win re-election. Increasing β further does not affect ex ante voter welfare because no low-skill incumbent types are induced to show off. In particular, low-skill types have no incentive to show off because they always lose re-election after using skill. Thus, the occurrence of showing off is maximized when office benefit is sufficiently high. All high-skill incumbent types win re-election, so the set of incumbent types who win re-election is identical to the complete information setting. In Figure 2, this occurs when s_β is to the left of $\bar{s}$. Unfortunately, this equivalence in electoral selection does not extend to voter welfare because perfect electoral selection with incomplete information requires showing off. Instead, ex ante voter welfare is minimized because the occurrence of showing off is maximized.

Corollary 1. *Assume $x_1 \in (\bar{s}, 1)$. If office benefit is strictly positive then inefficient showing off occurs in every equilibrium.*

Corollary 1 states a straightforward implication of Proposition 6: inefficient showing off occurs in every equilibrium if default policy is good and the perks of office are strictly positive. Dynamically inefficient behavior occurs in every equilibrium, even if office benefit is arbitrarily close to zero, which contrasts with previous inefficiency results in the electoral accountability literature that require sufficiently large office benefit (Canes-Wrone *et al.*, 2001; Maskin and Tirole, 2004).

Extensions

I extend the model in two directions. First, I establish that showing off is robust to letting the quality of the second-period default policy depend on first-period play. I then show that the possibility of perverse policymaking cannot be avoided in equilibrium even if there are multiple policy issues. These extensions sharpen the logic of showing off and demonstrate the robustness of the main results.

Dependence on First-period Play

First, I allow the distribution of the second-period default quality, x_2, to depend on first-period play. In practice, voter beliefs about future baseline conditions may depend on whether the incumbent starts a conflict, as well as whether the conflict is successful. Let $G(x_2; s_I, x_1, a_I^1)$ denote the distribution of x_2 conditional on I's skill, s_I, the first-period default, x_1, and I's action, a_I^1. The only condition on G is that there exists a cdf H that first-order stochastically dominates G for all $(s_I, x_1, a_I^1) \in [0,1]^2 \times A_I^1$ and is not degenerate on $x_2 = 1$. This assumption ensures that there is a strictly positive lower bound on the probability that $x_2 < 1$ for every $(s_I, x_1, a_I^1) \in [0,1]^2 \times \{0,1\}$. Thus, the voter cannot be arbitrarily close to certain that the second-period default is the best possible after observing the first-period action and resulting payoff.

Let $V(C|H)$ denote R's continuation value of electing C in a sequentially rational strategy profile if the distribution on x_2 is H. The assumptions on H and F imply $V(C|H) \in (0,1)$. Thus, we can define $\bar{s} \equiv \bar{s}(F,H) \in (0,1)$ to be the unique s_I such that R is indifferent between re-electing I and electing C if I uses skill in the first period and the distribution on x_2 is H. Proposition 7 establishes that showing off occurs in every equilibrium if the first-period default is high quality.

Proposition 7. *There exists $s^* \in [\bar{s}, 1)$ such that if $x_1 \in (s^*, 1)$ then showing off occurs in every equilibrium.*

Proposition 7 has the same flavor as Proposition 5 and highlights how R's commitment problem induces showing off. If $s_I > x_1 \geq \bar{s}$, then I does not face a dilemma between current policy and future benefits of re-election. Thus, if an equilibrium exists in which showing off does not occur at $x_1 \in (s^*, 1)$ then R elects C after observing the first-period default. For $s_I \in (\bar{s}, x_1)$, I faces a trade-off between maximizing first-period policy and winning re-election. As in the baseline model, showing off at x_1 is worthwhile for some of these high-skill incumbent types, which contradicts the assumption that showing off does not occur.

Multiple Policy Issues

Next, I extend the model to multiple, $N \geq 1$, issues. In both periods, the officeholder chooses whether to actively make policy on each issue. Let $s_j \in [0,1]^N$ denote the skill of politician $j \in \{I, C\}$ and let $x_t \in [0,1]^N$ denote the period $t \in \{1,2\}$ default quality. For each issue $n \in N$, the period-t officeholder j either uses issue-specific skill, s_j^n, or chooses the issue-specific default, x_t^n.

For issue n, the distribution of x_2^n is G_n, which has associated pdf g_n that is strictly positive over $[0,1]$ and represents each player's prior beliefs about x_2^n. Also, prior beliefs about s_I^n and s_C^n are represented by the distribution F_n, which has associated pdf f_n that is strictly positive over $[0,1]$. Prior beliefs are independent across issues.

To allow for the possibility that some issues are more important than others, let $\omega \in \Delta([0,1])^N$ denote the vector of weights that all players assign to the N issues, where $\Delta([0,1])^N$ is the N-dimensional unit simplex. Policy payoffs in each period are simply the weighted sum of the outcome quality of each issue. Formally, if $a_I^1 \in \prod_{n=1}^N \{s_I^n, x_1^n\}$ is I's first-period action, then the first-period policy payoff for each player is $\omega \cdot a_I^1$. Notice that we obtain the baseline model if $N = 1$.

The second-period officeholder simply chooses the optimal policy on each issue in every sequentially rational strategy profile, as in the baseline model. Thus, R's continuation value of electing C in equilibrium is

$$V(C) = \sum_{n=1}^{N} \omega_n \int_0^1 \left[\int_0^{s_C^n} s_C^n dG_n(x_2^n) + \int_{s_C^n}^1 x_2^n dG_n(x_2^n) \right] dF_n(s_C^n), \quad (2)$$

which is the weighted sum of the expected second-period policy payoff from C across all N dimensions. Similarly, R's continuation value of electing I after fully observing s_I in equilibrium is

$$V(I|s_I) = \sum_{n=1}^{N} \omega_n \left[\int_0^{s_I^n} s_I^n dG_n(x_2^n) + \int_{s_I^n}^1 x_2^n dG_n(x_2^n) \right]. \quad (3)$$

Let $\mu_n(s_I^n; a_I^1)\colon [0,1] \to [0,1]$ denote R's updated beliefs about s_I^n after observing I's first-period policy bundle a_I^1, and define $\mu = (\mu_1, \ldots, \mu_n)$. Sequential rationality requires that R re-elects I only if $V(I|\mu) \geq V(C)$. Define $S^W = \{s_I \in [0,1]^N \mid V(I|s_I) > V(C)\}$, which is the set of incumbent types that R strictly prefers to re-elect after observing I's full skill set, s_I. The assumptions about F_n and G_n imply $V(C) \in (0,1)$, so S^W has nonempty interior.

Say that a strategy profile σ is *first-best* if I uses skill on each issue n only if $s_I^n \geq x_1^n$ and chooses the default on n only if $s_I^n \leq x_1^n$. Proposition 8 shows that R's incomplete information about policymaking skill and I's dynamic

incentives together ensure that no equilibrium achieves the first-best if the default policy is sufficiently good on every dimension.

Proposition 8. *If $x_1 \in int(S^W)$ then there does not exist an equilibrium that is first-best.*

Using skill fully reveals I's type if $N = 1$, so I has a strict preference to use skill and win re-election if $s_I > x_1 > \bar{s}$. If $N > 1$, then I has greater flexibility to win re-election by showing off on some issues, but not others. Yet, Proposition 8 establishes that if default policy is sufficiently good on each issue, then in equilibrium some incumbent types choose policy that is suboptimal for the voter on at least one issue. The logic is similar to that of the showing off results in the baseline setting.[29]

Discussion

The main results of this paper have several strengths.

(1) Showing off occurs in every equilibrium if the default policy is sufficiently good and the voter has incomplete information about the incumbent's skill. Worse, inefficient showing off occurs in every equilibrium if office benefit is strictly positive. Under broad conditions, the possibility of welfare-reducing unilateral policymaking is unavoidable.

(2) The model is constructed so that all politicians initially appear to be ideal agents for the voter. Politicians share the voter's policy preferences and have perfect information about the quality of default policy relative to their skill level. In the existing electoral accountability literature, these conditions yield equilibria without distorted policymaking. In contrast, I show that electoral incentives can distort policymaking in every equilibrium under these conditions. The incumbent knowingly reduces the first-period policy payoff of all players by showing off, and the voter rewards unilateral policymaking by high-skill politicians even if it is common knowledge that the policy is suboptimal.

(3) The nature of the voter's uncertainty is quite general. Showing off does not require strong assumptions on the voter's prior beliefs. Additionally, the spirit of the main result carries over to a setting in which the distribution of the quality of the second-period default policy depends on first-period play.

[29] If $x_1 \in \text{int}(S^W)$, then in any first-best equilibrium R strictly prefers to elect C if I chooses the default on every dimension. Given R's electoral strategy, there are s_I such that I strictly prefers to show off on every dimension and win re-election, a contradiction.

(4) Showing off occurs even if office benefit is zero and inefficient showing off occurs for arbitrarily small office benefit. This contrasts with the existing electoral accountability literature, where inefficiency typically requires sufficiently high office benefit (Canes-Wrone *et al.*, 2001; Maskin and Tirole, 2004; Morelli and Van Weelden, 2013). In this paper, if default policy is sufficiently high quality then the danger of welfare-reducing behavior is present as long as there is any intrinsic value to holding office.

(5) If office benefits are sufficiently large then electoral selection with incomplete information is identical to the complete information benchmark. Yet, if the default policy is high quality then ex ante voter welfare is minimized because the occurrence of showing off is maximized. The incentive to show off creates a trade-off between improving electoral selection and improving voter welfare. Efforts to improve electoral selection by increasing office benefit can encourage undesirable unilateral action that leaves voters worse off.

I now discuss several of the model's assumptions in more detail. First, officeholders cannot act to improve their policymaking skill, for example, by exerting more effort. This feature contrasts with the spirit of canonical electoral models with moral hazard (Ferejohn, 1986). In practice, politicians may not have enough time to significantly improve their policymaking skill while in office, for example, by acquiring knowledge or developing new relationships, because terms are relatively short and the time frame for most decisions is even shorter.

Also, I assume officeholders always have the option to act unilaterally. This feature follows the institutional presidency literature, which views presidential power as a function of the office itself, rather than of the characteristics of each individual president (Howell, 2003; Moe, 1985; Nathan, 1983). In contrast, the personal presidency literature assumes that the capacity to act unilaterally is conditional on the president's personal characteristics, such as experience, reputation, and knowledge (Neustadt, 1960). I adopt the institutional view of presidential power, where presidents are uniformly able to act unilaterally, but incorporate the spirit of Neustadt's emphasis on personal attributes by assuming that presidents vary in their skill at unilateral policymaking.

I abstract away from inter-branch negotiations that occur after a unilateral action. Interpreted literally, the officeholder's choice of whether to use skill or enact default policy is always unilateral in the sense that it cannot be overruled by another player. Substantively, using skill corresponds to unilateral policymaking because the quality of the outcome is more closely tied to the individual in office, relative to standard legislative policymaking procedures, and reveals information about the incumbent's skill. In practice, presidents are not wholly unconstrained when they unilaterally make policy (Chiou and Rothenberg, 2014, 2016; Howell and Pevehouse, 2005, 2011; Rudalevige, 2015).

The model accommodates this reality by interpreting the payoff from using skill as the best outcome that the politician can feasibly obtain via unilateral action.

The assumption that using skill perfectly reveals s_I helps to keep the results clean and their logic clear, but is not entirely innocuous. Specifically, it allows I to fully reveal s_I to R and ensures that R's electoral response after observing skill does not depend on I's first-period strategy. Alternatively, assume that the informational content of unilateral action is weakened so that the outcome is drawn from a distribution that is conditioned on s_I and has full support on $[0, 1]$. Then R's electoral response after observing skill depends on I's first-period strategy, and equilibria without showing off can exist if default policy is high quality.[30] Yet, these equilibria rely on properly specifying R's off-path beliefs and, moreover, they are not first-best ex ante unless x_1 is higher than the expected outcome of using skill for the highest skill incumbent type. Notably, if x_1 is sufficiently high, but not higher than the expected skill outcome for $s_I = 1$, then an ex ante first-best equilibrium does not exist. As in the no-noise setting, some high-skill incumbent types prefer to show off and use skill even though their expected skill outcome is worse than x_1. Thus, enriching the model by adding noise to the outcome of using skill is consequential, but incentives to show off continue to threaten voter welfare.

Another important feature of the baseline model is that the incumbent can reveal skill only by unilaterally making policy. There is no cheap option for incumbents to inform voters about policymaking skill. Alternatively, assume the incumbent can use cheap-talk messages. If office benefit is sufficiently large then all low-skill types mimic high-skill types in the cheap-talk stage and a first-best equilibrium does not exist. Therefore cheap talk does not reveal any information if office benefit is high enough, and showing off occurs in equilibrium. On the other hand, a first-best equilibrium does exist if office benefit is sufficiently low. Consider the case in which office benefit is zero, so the incumbent and the voter have identical dynamic preferences. Then an equilibrium exists in which the incumbent truthfully communicates skill, the voter re-elects the incumbent only if she is high-skill, and the incumbent has no incentive to show off. Communication can counteract showing off if office benefit is low, but has no effect for offices that are highly valuable.

The possibility that cheap-talk communication can eliminate showing off if office benefit is low has substantive implications. For less prominent executive offices, such as mayors or county executives, office benefit is likely to be low and the decision to run for re-election may serve as a cheap-talk signal to voters that the incumbent is worth re-electing. Thus, showing off may be less of a concern for these offices and, conditional on seeking re-election,

[30] In particular, there can exist equilibria in which all types of I pool on choosing the default.

we should expect incumbents to enjoy high re-election rates regardless of their policymaking activity. In more prestigious executive offices, such as the presidency or state governorships, it is less likely that incumbents can credibly communicate their policymaking skill without taking action. These offices are valuable, as incumbents typically seek re-election unless they are term limited or seeking higher office, and showing off is likely to be a more pressing issue.

A primary empirical implication of the model is that unilateral policymaking is important for re-election. In the model, incumbents must achieve good outcomes via unilateral action to win re-election. The voter is not intrinsically disposed to favor unilateral action, so the electoral bias in favor of unilateral action arises endogenously from equilibrium behavior. Empirically, incumbents who enact relatively high-quality unilateral policy should be expected to win re-election at higher rates than incumbents who achieve equally good outcomes but are less active policymakers.

Another implication is that officeholders can win re-election after unilateral actions that make conditions worse. Recent survey evidence indicates that voters generally disapprove of unilateral action (Christenson and Kriner, 2014, 2016; Reeves and Rogowski, 2016). These findings are puzzling in light of the purported electoral benefit of executive action, but consistent with the results of this paper. If default policy is high quality, then some incumbents show off to win re-election. In these instances, the public disapproves of the unilateral action because it results in a worse outcome, but the incumbent wins re-election. Thus, public opinion alone may not always be a powerful weapon against undesirable unilateral policymaking, although it can discipline unilateral action by low-skill officeholders.

A policy implication is that increasing office benefit to encourage good behavior is most effective when default policy is low quality. If default policy is high quality, it may backfire and increase undesirable unilateral action. This implication contradicts a common result in spatial electoral accountability models, where increasing office benefit typically improves voter welfare.[31] I show that increasing office benefit can reduce voter welfare on common values issues.

Conclusion

Frequent, and prominent, unilateral policymaking by U.S. presidents has sparked public and scholarly debate. On one hand, unilateral executive policymaking appears to circumvent constitutionally mandated division of powers and enable the president to excessively centralize power. Yet, others claim that unilateral executive powers provide a tool for coherent and timely policy

[31] See, for example, Duggan (2000).

because congressional gridlock and polarization cripple federal policymaking. Should we be concerned that unilateral powers reduce voter welfare, or celebrate them as a way to overcome congressional polarization and gridlock?

I study an electoral model in which politicians are differentiated by policymaking skill and officeholders can fully reveal skill to voters by making policy unilaterally. If default policy is low quality then unilateral powers can improve voter welfare. Furthermore, they always improve voter welfare if default policy is low quality and the value of holding office is high enough. The promise of unilateral policymaking predominates because it enables officeholders to improve upon default policy and helps voters identify skilled policymakers. On the other hand, if default policy is high quality then unilateral powers reduce voter welfare because some incumbents act unilaterally to show off their policymaking skill for electoral gain. In this paper, elections can encourage harmful executive orders even though politicians are fully informed about the consequences, politicians and voters have identical policy preferences, and voters observe prior to the election whether unilateral action improves upon default policy.

The results suggest that context is important for the ongoing normative debate about presidential unilateral powers. How good are existing conditions or alternative policy prescriptions from the legislative branch? If default conditions are relatively good, how valuable is holding office? Unilateral powers are most problematic if default policy is high quality and rents from office are large. Given the relative prosperity of the United States, along with the prestige and perks bestowed upon governors and presidents, those who express concern about excessive unilateral policymaking may be justified. Alternatively, gridlock and polarization plague Congress, possibly reducing the quality of default policies, and unilateral executive powers provide a possible workaround.

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Appendix

Lemma 0.1. *In every sequentially rational strategy profile,*

1. *the second-period strategy of officeholder $j \in \{I, C\}$ specifies that j uses skill if $s_j > x_2$ and chooses the default if $x_2 > s_j$;*

2. *the voter's continuation value of electing the challenger is*

$$V(C) = \int_0^1 \left[\int_0^{s_C} s_C dG(x_2) + \int_{s_C}^1 x_2 dG(x_2) \right] dF(s_C), \tag{1}$$

   and $V(C) \in (0, 1)$;

3. *if the incumbent uses skill in the first period, the voter's continuation value of electing the incumbent is*

$$V(I|s_I) = \int_0^{s_I} s_I dG(x_2) + \int_{s_I}^1 x_2 dG(x_2); \tag{2}$$

4. *the voter elects the candidate that provides the greater continuation value.*

Proof. Let σ be a sequentially rational strategy profile.

1. Consider second-period officeholder $j \in \{I, C\}$. Fix $x_2 \in [0, 1]$ and $s_j \in [0, 1]$. Sequential rationality implies j maximizes his second-period payoff. It is immediate that j strictly prefers to use skill if $s_j > x_2$ and strictly prefers the default if $x_2 > s_j$.

2. Part 1 pins down C's strategy in σ outside of the probability zero case $s_C = x_2$. Because R's beliefs about x_2 are represented by G and R's beliefs about s_C are represented by F, Part 1 implies that R's continuation value of electing C under σ is

$$V(C) = \int_0^1 \left[\int_0^{s_C} s_C dG(x_2) + \int_{s_C}^1 x_2 dG(x_2) \right] dF(s_C).$$

Together, the assumptions that g and f are strictly positive over $[0, 1]$ imply $V(C) \in (0, 1)$.

3. Part 1 pins down I's strategy in σ outside of the probability zero case $s_I = x_2$. Given s_I and R's beliefs about x_2, G, Part 1 implies that R's continuation value of electing I under σ is

$$V(I|s_I) = \int_0^{s_I} s_I dG(x_2) + \int_{s_I}^1 x_2 dG(x_2).$$

4. Follows from definition of sequential rationality. □

Lemma 1. *There exists a unique $\bar{s} \in (0,1)$ such that in every sequentially rational strategy profile, $V(I|s_I) > V(C)$ if and only if $s_I > \bar{s}$.*

Proof. Let σ be a sequentially rational strategy profile. By Lemma 0.1, $V(C) \in (0,1)$. Also, both $V(C)$ and $V(I|s_I)$ are constant across sequentially rational strategy profiles. Notice that $V(C)$ is independent of s_I because F and G are both independent of all other features of the game. Also, $V(I|s_I)$ is continuous and strictly increasing in s_I. Furthermore, $V(I|s_I = 0) < V(C) < V(I|s_I = 1)$ because f is strictly positive over $[0,1]$. It follows that there is a unique $\bar{s} \in (0,1)$ such that $V(I|\bar{s}) = V(C)$, $V(I|s_I) < V(C)$ for $s_I < \bar{s}$, and $V(I|s_I) > V(C)$ for $s_I > \bar{s}$. □

Proposition 1. *For all $x_1 \in [0,1]$, every SPE of the complete information model has the following features:*

1. *If $s_I > \bar{s}$ then the voter re-elects the incumbent and if $s_I < \bar{s}$ then the voter elects the challenger.*
2. *Assume $s_I \neq \bar{s}$. If $s_I > x_1$ then the incumbent uses skill, and if $s_I < x_1$ then the incumbent uses the default.*

Proof. Fix $x_1 \in [0,1]$ and let σ be a SPE.
1. Assume $s_I < \bar{s}$. The definition of $\bar{s}$ implies $V(C) > V(I|s_I)$. Sequential rationality of σ requires that R elects C. A symmetric argument implies that R elects I for $s_I > \bar{s}$.
2. Assume $s_I \neq \bar{s}$. First, consider $s_I < x_1$. There are two subcases.

First, assume $s_I < \min\{\bar{s}, x_1\}$. Part 1 implies that R elects C under σ. Sequential rationality requires that I uses skill only if

$$s_I + \beta + \delta V(C) \geq x_1 + \beta + \delta V(C)$$
$$s_I \geq x_1,$$

a contradiction.

Second, assume $s_I \in (\bar{s}, x_1)$. Part 1 implies that R re-elects I under σ. Sequential rationality requires that I uses skill only if

$$s_I + \beta + \delta[V(I|s_I) + \beta] \geq x_1 + \beta + \delta[V(I|s_I) + \beta]$$
$$s_I \geq x_1,$$

a contradiction.

Next, assume $s_I > x_1$. There are two subcases.

First, consider $s_I \in (x_1, \bar{s})$. Part 1 implies that R elects C under σ. Sequential rationality requires that I chooses the default only if

$$x_1 + \beta + \delta V(C) \geq s_I + \beta + \delta V(C)$$
$$x_1 \geq s_I,$$

a contradiction.

Second, consider $s_I > \max\{\bar{s}, x_1\}$. Part 1 implies that R re-elects I under σ. Sequential rationality requires that I chooses the default only if

$$x_1 + \beta + \delta[V(I|s_I) + \beta] \geq s_I + \beta + \delta[V(I|s_I) + \beta]$$
$$x_1 \geq s_I,$$

a contradiction. □

Proposition 2. ***(Low-quality default)*** *If $x_1 \in [0, \bar{s}]$ then there exists an equilibrium that is first-best.*

Proof. There are two cases, $x_1 = 0$ and $x_1 \in (0, \bar{s}]$.

Case 1: $x_1 = 0$

Let $\alpha = (\sigma, \mu)$ be the assessment such that $\mu(s_I; x_1 = 0)$ puts probability one on $s_I = 0$, σ_I^2 and σ_C satisfy Lemma 0.1,

$$\sigma_I^1(s_I; x_1) = \begin{cases} skill & \text{if } s_I > 0 \\ default & \text{if } s_I = 0, \end{cases}$$

and

$$\sigma_R(a_I^1; s_I) = \begin{cases} I & \text{if } s_I > \bar{s} \ \& \ a_I^1 = skill \\ C & \text{else.} \end{cases}$$

The default is observed with probability zero because I uses the default only if $s_I = 0$. Thus, the equilibrium concept places no restrictions on μ if I uses the default in the first period. Because σ_I^2 and σ_C satisfy Lemma 0.1, they satisfy the equilibrium conditions. I now verify that there are no profitable deviations from σ_I^1 and σ_R.

First, consider $s_I > \bar{s}$. Using the default is a profitable deviation for I only if

$$x_1 + \beta + \delta V(C) > s_I + \beta + \delta[V(I|s_I) + \beta] \tag{3}$$
$$V(C) - V(I|s_I) - \beta > s_I - x_1, \tag{4}$$

The definition of $\bar{s}$ implies $V(I|s_I) > V(C)$ for this case. Because $\beta \geq 0$ and $x_1 = 0$, (4) requires $s_I < 0 < \bar{s}$, a contradiction.

Next, consider $s_I \in (0, \bar{s}]$. Using the default is a profitable deviation for I only if

$$x_1 + \beta + \delta V(C) > s_I + \beta + \delta V(C) \tag{5}$$
$$0 > s_I - x_1, \tag{6}$$

a contradiction because $x_1 = 0$ in this case.

Finally, consider $s_I = 0$. Using skill is a profitable deviation for I only if

$$s_I + \beta + \delta V(C) > x_1 + \beta + \delta V(C) \tag{7}$$
$$s_I - x_1 > 0, \tag{8}$$

a contradiction because $x_1 = 0$ in this case.

Together, the three subcases show that I does not have a profitable deviation from σ_I^1.

It follows from Lemma 0.1 that R does not have a profitable deviation from σ_R if I uses skill. If I uses the default, μ places probability one on $s_I = 0 < \bar{s}$. Therefore $V(C) > V(I|\mu)$, and re-electing I is not a profitable deviation. This shows that R does not have a profitable deviation, as desired.

To see that this equilibrium is first-best, notice that I uses skill if $s_I > x_1$ and chooses the default if $s_I < x_1$, and R re-elects I for all $s_I > \bar{s}$ and elects C for all $s_I < \bar{s}$.

Case 2: $x_1 \in (0, \bar{s}]$

Let $\alpha = (\sigma, \mu)$ be the assessment such that σ_I^2 and σ_C satisfy Lemma 0.1,

$$\sigma_I^1(s_I; x_1) = \begin{cases} skill & \text{if } s_I > x_1 \\ default & \text{if } s_I \leq x_1, \end{cases}$$

$$\sigma_R(a_I^1; s_I) = \begin{cases} I & \text{if } s_I > \bar{s} \ \& \ a_I^1 = skill \\ C & \text{else,} \end{cases}$$

and

$$\mu(s_I; x_1) = \begin{cases} \frac{F(s_I)}{F(x_1)} & \text{for } s_I \in [0, x_1] \\ 1 & \text{for } s_I \in (x_1, 1]. \end{cases}$$

It is straightforward to verify that μ is consistent with σ. Because σ_I^2 and σ_C satisfy Lemma 0.1, they satisfy the equilibrium conditions. I now verify that there are no profitable deviations from σ_I^1 and σ_R.

First, consider $s_I > \bar{s}$. Using the default is a profitable deviation for I only if

$$x_1 + \beta + \delta V(C) > s_I + \beta + \delta[V(I|s_I) + \beta] \tag{9}$$

$$x_1 + V(C) - V(I|s_I) - \beta > s_I, \tag{10}$$

The definition of $\bar{s}$ implies $V(I|s_I) > V(C)$ for this case. Because $\beta \geq 0$, (10) requires $s_I < x_1$, which contradicts $x_1 \leq \bar{s} < s_I$.

Next, consider $s_I \in (x_1, \bar{s}]$. Using the default is a profitable deviation for I only if

$$x_1 + \beta + \delta V(C) > s_I + \beta + \delta V(C) \tag{11}$$

$$x_1 > s_I, \tag{12}$$

a contradiction.

Finally, consider $s_I \leq x_1$. Using skill is a profitable deviation for I only if

$$s_I + \beta + \delta V(C) > x_1 + \beta + \delta V(C) \tag{13}$$

$$s_I > x_1, \tag{14}$$

a contradiction.

Altogether, the three subcases show that I does not have a profitable deviation from σ_I^1.

By Lemma 0.1, R does not have a profitable deviation from σ_R if I uses skill. To

see that R does not have a profitable deviation from σ_R if I uses the default, notice that $x_1 \leq \bar{s} < 1$ implies $F(x_1) < 1$ because f is strictly positive over $[0,1]$. Therefore $\mu(s_I; x_1) = \frac{F(s_I)}{F(x_1)} > F(s_I)$ for all $s_I \in [0, x_1)$. Because $\mu(s_I; x_1) = 1$ for $s_I \geq x_1$ it follows that $\mu(s_I; x_1) \geq F(s_I)$ for $s_I \geq x_1$. Therefore μ is first order stochastically dominated by F. Thus, R strictly prefers to elect C after observing x_1. This shows that R does not have a profitable deviation.

To see that this equilibrium is first-best, notice that I uses skill if $s_I > x_1$ and chooses the default if $s_I < x_1$, and R re-elects I for all $s_I > \bar{s}$ and elects C for all $s_I < \bar{s}$. □

Proposition 3. *There exists $\underline{x}$ such that if $x_1 \in (\underline{x}, \bar{s})$ then every equilibrium is first-best. Additionally, $\underline{x}$ is strictly decreasing in β and there exists $\overline{\beta} > 0$ such that if $\beta > \overline{\beta}$ then every equilibrium is first-best for all $x_1 \in [0, \bar{s}]$.*

Proof. Define $\underline{x} = \delta[V(C) - V(I|s_I = 0) - \beta]$, and consider $x_1 \in (\underline{x}, \bar{s}]$. Clearly, $\underline{x}$ is strictly decreasing in β. Let $\alpha = (\sigma, \mu)$ denote an equilibrium. Because $x_1 \leq \bar{s}$, σ specifies that I uses skill if $s_I > \bar{s}$.

The proof proceeds in two parts. In the first part, I show that if $x_1 \in (\underline{x}, \bar{s}]$ then α specifies that R elects C with probability one if I chooses the default. Using part one, the second part shows that α is first-best.

Part 1: I first show that R must elect C in equilibrium if I chooses the default. To show a contradiction, assume R re-elects I with probability $\eta \in (0,1]$ if I chooses the default. By Lemma 1, I loses re-election after using skill if $s_I < \bar{s}$. Thus, I strictly prefers to choose the default at $s_I < \bar{s}$ if and only if

$$x_1 + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I) + \beta)] > s_I + \beta + \delta V(C). \tag{15}$$

There are two cases: $\underline{x} \geq 0$ and $\underline{x} < 0$.

First, consider $\underline{x} \geq 0$. Notice that

$$x_1 + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = 0) + \beta)] > \underline{x} + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = 0) + \beta)] \tag{16}$$

$$\geq \eta\underline{x} + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = 0) + \beta)], \tag{17}$$

where $x_1 > \underline{x}$ implies (16), and (17) follows from $\eta \in (0,1]$ for $\underline{x} \geq 0$. Using the definition

of $\underline{x}$ and simplifying,

$$\eta\underline{x} + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = 0) + \beta)] = \beta + \delta V(C). \tag{18}$$

Using (18), (17) implies

$$x_1 + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = 0) + \beta)] > s_I + \beta + \delta V(C), \tag{19}$$

for $s_I = 0$. Because both sides of (19) are continuous in s_I, there exists $\underline{s} \in (0, \bar{s})$ such that

$$x_1 + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I) + \beta)] > s_I + \beta + \delta V(C) \tag{20}$$

for all $s_I \in [0, \underline{s})$.

Second, consider $\underline{x} < 0$. Notice that $x_1 \geq 0 > \underline{x}$ and $\eta \in (0, 1]$ imply

$$x_1 + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = 0) + \beta)] \geq 0 + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = 0) + \beta)] \tag{21}$$

$$> \eta\underline{x} + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = 0) + \beta)]. \tag{22}$$

An argument analogous to the first case then establishes the existence of $\underline{s} \in (0, \bar{s})$ such that (19) holds for all $s_I \in [0, \underline{s})$.

We have shown α must specify that I chooses the default for all $s_I \in [0, \underline{s})$. Thus, μ is well defined and places positive probability on $[0, \underline{s})$. Because $x_1 < \bar{s}$, we know I uses skill if $s_I > \bar{s}$. Thus, μ places probability zero on s_I such that $V(I|s_I) > V(C)$ and positive probability on s_I such that $V(I|s_I) < V(C)$. It follows that $V(I|\mu) < V(C)$ if I chooses the default under α. Therefore α specifies that I elects C with probability one if I chooses the default, a contradiction.

Part 2: The preceding argument establishes that R elects C with probability one in every equilibrium if $x_1 \in (\underline{x}, \bar{s}]$. I now show that this implies every equilibrium is first-best.

We know σ specifies that I use skill if $s_I > \bar{s}$. Consider $s_I < \bar{s}$. The condition for I to strictly prefer to use skill under α is

$$s_I + \beta + \delta V(C) > x_1 + \beta + \delta V(C) \tag{23}$$

$$s_I > x_1. \tag{24}$$

It follows that I strictly prefers to use skill for all $s_I \in (x_1, \bar{s})$ and strictly prefers to choose the default for all $s_I \in [0, x_1)$.

Finally consider $s_I = \bar{s}$ and again let η be the probability that R re-elects I after observing $s_I = \bar{s}$. The condition for I to strictly prefer to use skill under α is

$$\bar{s} + \beta + \delta[(1-\eta)V(C) + \eta(V(I|s_I = \bar{s}) + \beta)] > x_1 + \beta + \delta V(C), \tag{25}$$

which is equivalent to

$$\bar{s} + \delta\eta[V(I|s_I = \bar{s}) - V(C) + \beta] > \bar{s} + \delta\eta\beta \tag{26}$$

$$\geq x_1, \tag{27}$$

where (26) follows from $V(I|s_I = \bar{s}) = V(C)$ and (27) follows from $\delta\eta\beta \geq 0$. Thus, I strictly prefers to use skill in this case if $x_1 < \bar{s}$.

Altogether, we have shown that I uses skill if $s_I > x_1$ and chooses default if $s_I < x_1$ under α. Thus, α is such that R re-elects I for all s_I such that $V(I|s_I) > V(C)$ and elects C for all s_I such that $V(I|s_I) < V(C)$. This establishes that α is first-best, as desired. □

Proposition 4. *If $x_1 \in [0, \bar{s}]$ then ex ante there is zero probability that the voter re-elects the incumbent for choosing the default in equilibrium.*

Proof. Consider $x_1 \in [0, \bar{s}]$. Let $\alpha = (\sigma, \mu)$ denote an equilibrium. Because $x_1 \leq \bar{s}$, α specifies that I use skill if $s_I > \bar{s}$. Therefore I must choose the default with probability zero under α in order for R to re-elect I with positive probability after observing x_1. It follows that ex ante there is zero probability of observing I win re-election after choosing the default under α. □

Proposition 5. *If $x_1 \in (\bar{s}, 1)$ then every equilibrium of the incomplete information model has the following features:*

1. *If the incumbent chooses the default, or if $s_I < \bar{s}$ and the incumbent uses skill, then the voter elects the challenger. If $s_I > \bar{s}$ and the incumbent uses skill, then the voter re-elects the incumbent.*

2. *There exists $s_\beta \in [\bar{s}, x_1)$ such that the incumbent uses skill if $s_I > s_\beta$, and chooses the default if $s_I < s_\beta$.*

Proof. Fix $x_1 \in (\bar{s}, 1)$ and let $\alpha = (\sigma, \mu)$ be an equilibrium.

1. Because σ is sequentially rational, Lemma 0.1 implies that σ_R must specify that R elects I if $s_I > \bar{s}$ and I uses skill and elects C if $s_I < \bar{s}$ and I uses skill.

I now prove that α must specify that R elects C after observing the default. To show a contradiction, assume that α specifies that R elects I after observing the default. Because α is an equilibrium, I's strategy must be sequentially rational. I now show that this implies that I uses skill if $s_I > x_1$ and uses the default if $s_I < x_1$.

First, consider $s_I > x_1$. Sequential rationality requires that I chooses the default only if

$$\begin{aligned} x_1 + \beta + \delta[V(I|s_I) + \beta] &\geq s_I + \beta + \delta[V(I|s_I) + \beta] \\ x_1 &\geq s_I, \end{aligned}$$

a contradiction. Thus, α specifies that I uses skill.

Next, consider $s_I \in (\bar{s}, x_1)$. Sequential rationality requires that I uses skill only if

$$\begin{aligned} s_I + \beta + \delta[V(I|s_I) + \beta] &\geq x_1 + \beta + \delta[V(I|s_I) + \beta] \\ s_I &\geq x_1, \end{aligned}$$

a contradiction. Thus, α specifies that I chooses the default.

Consider $s_I = \bar{s}$. By definition, $V(I|\bar{s}) = V(C)$. Sequential rationality requires that I uses skill only if

$$\bar{s} + \beta + \delta V(C) \geq x_1 + \beta + \delta[V(I|\bar{s}) + \beta]. \tag{28}$$

By $x_1 > \bar{s}$ and $\beta \geq 0$,

$$\begin{aligned} x_1 + \beta + \delta[V(I|\bar{s}) + \beta] &> \bar{s} + \beta + \delta[V(I|\bar{s}) + \beta] && (29) \\ &\geq \bar{s} + \beta + \delta V(C), && (30) \end{aligned}$$

which contradicts (28). Thus, α specifies that I chooses the default.

Finally, consider $s_I \in [0, \bar{s})$. By (29) and (30),

$$\begin{aligned} x_1 + \beta + \delta[V(I|\bar{s}) + \beta] &> \bar{s} + \beta + \delta V(C) \\ x_1 &> \bar{s} + \delta[V(C) - V(I|\bar{s}) - \beta] && (31) \end{aligned}$$

is satisfied for $\bar{s}$. To show that (31) is satisfied for s_I, I prove that the right hand side

(RHS) of (31) is strictly increasing in s_I.

By Lemma 0.1,

$$V(I|s_I) = \int_0^{s_I} s_I dG(x_2) + \int_{s_I}^1 x_2 dG(x_2). \tag{32}$$

Define $\tilde{G}(a) = \int_0^a G(x_2)dx_2$. Applying integration by parts to (32) yields

$$\begin{aligned}\int_0^{s_I} s_I dG(x_2) + \int_{s_I}^1 x_2 dG(x_2) &= s_I G(s_I) - s_I G(s_I) + G(1) - \int_{s_I}^1 G(x_2)dx_2 \\ &= G(1) - \tilde{G}(1) + \tilde{G}(s_I).\end{aligned}$$

Thus, the RHS of (31) is equivalent to

$$s_I + \delta[V(C) - G(1) + \tilde{G}(1) - \tilde{G}(s_I) - \beta]. \tag{33}$$

Applying the Fundamental Theorem of Calculus to $\tilde{G}(s_I)$, the partial derivative of (33) with respect to s_I is $1 - \delta G(s_I)$. Together, $\delta \in (0, 1]$ and g strictly positive over $[0, 1]$ imply $1 - \delta G(s_I) > 0$ for $s_I < 1$, so (33) is strictly increasing in s_I. Because $s_I = \bar{s}$ satisfies (31), all $s_I \in [0, \bar{s})$ satisfy (31). Therefore, I chooses the default if $s_I \in [0, \bar{s})$.

I have shown that if R elects I after observing the default, then α must specify that I uses skill if $s_I \in (x_1, 1]$ and chooses the default if $s_I \in [0, x_1)$. Consistency of α requires that R's beliefs about s_I after observing the default are $\mu(s_I; x_1) = \frac{F(s_I)}{F(x_1)} > F(s_I)$ for all $s_I \in [0, x_1)$, where the inequality follows from $F(x_1) < 1$ because $x_1 < 1$ and f is strictly positive over $[0, 1]$. Because $\mu(s_I; x_1) = 1$ for $s_I \geq x_1$ it follows that $\mu(s_I; x_1) \geq F(s_I)$ for $s_I \geq x_1$. Thus, μ is first order stochastically dominated by F. It follows that R has a profitable deviation to elect C after observing x_1, a contradiction.

2. Define $\hat{s}_\beta$ to be the unique $s \in \mathbb{R}$ that solves

$$s + \delta V(I|s) = x_1 + \delta[V(C) - \beta]. \tag{34}$$

To see that $\hat{s}_\beta$ exists, notice that the left hand side of (34) is continuous and strictly increasing in s and the right hand side is constant in s. Notice that (34) is equivalent to

$$s = x_1 + \delta[V(C) - V(I|s) - \beta]. \tag{35}$$

It follows that

$$s < x_1 + \delta[V(C) - V(I|s) - \beta] \tag{36}$$

if and only if $s < \hat{s}_\beta$ and

$$s > x_1 + \delta[V(C) - V(I|s) - \beta] \tag{37}$$

if and only if $s > \hat{s}_\beta$. Finally, inspection of (35) shows that $\hat{s}_\beta < x_1$ because $x_1 > \bar{s}$, $\delta > 0$, $\beta \geq 0$, and $V(I|s) > V(C)$ for $s > \bar{s}$.

Let $s_\beta = \max\{\bar{s}, \hat{s}_\beta\}$. Clearly, $s_\beta \geq \bar{s}$ by definition. Also, properties of $\hat{s}_\beta$ imply $s_\beta < x_1$. Thus, $s_\beta \in [\bar{s}, x_1)$

Consider $s_I > s_\beta$. Sequential rationality requires that I uses skill at s_I if

$$\begin{aligned} s_I + \beta + \delta[V(I|s_I) + \beta] &> x_1 + \beta + \delta V(C) \\ s_I &> x_1 + \delta[V(C) - V(I|s_I) - \beta], \end{aligned} \tag{38}$$

which is equivalent to $s_I > \hat{s}_\beta$ by (37). Because $s_I > s_\beta \geq \hat{s}_\beta$, (38) is satisfied.

Next, assume $s_I < s_\beta$. There are three subcases.

First, consider $s_I \in (\bar{s}, s_\beta)$. Sequential rationality requires that I uses the default at s_I if

$$s_I + \beta + \delta[V(I|s_I) + \beta] < x_1 + \beta + \delta V(C) \tag{39}$$

$$s_I < x_1 + \delta[V(C) - V(I|s_I) - \beta], \tag{40}$$

which is equivalent to $s_I < \hat{s}_\beta$ by (36). By definition, $s_\beta > \bar{s}$ requires $s_\beta = \hat{s}_\beta$, so (40) is equivalent to $s_I < s_\beta$, which holds.

Next, consider $s_I = \bar{s} < s_\beta$. Notice that $\beta \geq 0$ and the definition of $\bar{s}$ imply

$$s_I + \beta + \delta[V(I|s_I) + \beta] \geq s_I + \beta + \delta V(C). \tag{41}$$

Therefore I weakly prefers to win re-election after using skill if $s_I = \bar{s}$. Thus, sequential rationality requires that I uses the default at s_I if

$$s_I + \beta + \delta[V(I|s_I) + \beta] < x_1 + \beta + \delta V(C). \tag{42}$$

Notice that (42) is equivalent to (39). Because $s_I = \bar{s} < s_\beta$, (36) implies that (42) holds.

Thus, α must specify that I uses the default at s_I.

Finally, consider $s_I < \bar{s}$. Sequential rationality requires that I uses the default at s_I if

$$s_I + \beta + \delta V(C) < x_1 + \beta + \delta V(C)$$
$$s_I < x_1,$$

which holds because $s_I < \bar{s} \leq s_\beta < x_1$.

Altogether, the three cases establish that α must specify that I uses the default if $s_I < s_\beta$, as desired. □

Lemma 2. *If $x_1 \in (\bar{s}, 1)$ then there exists $s_0 \in [s_\beta, x_1)$ such that in every equilibrium efficient showing off occurs if $s_I \in [s_0, x_1)$ and inefficient showing off occurs if $s_I \in (s_\beta, s_0)$.*

Proof. Let $\alpha = (\sigma, \mu)$ be an equilibrium.

As in Proposition 5, define $s_\beta = \max\{\bar{s}, \hat{s}_\beta\}$, where $\hat{s}_\beta$ is the unique $s \in \mathbb{R}$ that solves

$$s + \delta V(I|s) = x_1 + \delta[V(C) - \beta]. \tag{43}$$

The right hand side of (43) is strictly decreasing in β and constant in s, while the left hand side of (43) is strictly increasing in s and constant in β. Therefore, $\hat{s}_\beta$ is strictly decreasing in β.

Because $x_1 > \bar{s}$ and $\delta > 0$, (43) implies $\hat{s}_0 > \bar{s}$, where $\hat{s}_0$ is $\hat{s}_{\beta=0}$. It follows that $s_0 = \hat{s}_0$. By Proposition 5, $s_0 < x_1$ and I shows off at $s_I \in (s_\beta, x_1)$ under α. If $s_I \in [s_0, x_1)$ then $s_I + \delta V(I|s_I) \geq x_1 + \delta V(C)$, so I using skill and winning re-election is second-best. Thus, showing off is efficient in this case. On the other hand, if $s_I \in (s_\beta, s_0)$ then $s_I + \delta V(I|s_I) < x_1 + \delta V(C)$, so I using skill and winning re-election is not second best, and showing off is inefficient. □

Proposition 6. *Assume $x_1 \in (\bar{s}, 1)$. If $\beta \in [0, \frac{x_1 - \bar{s}}{\delta})$ then in every equilibrium the occurrence of inefficient showing off is strictly increasing in β. If $\beta \geq \frac{x_1 - \bar{s}}{\delta}$ then in every equilibrium the incumbent uses skill in the first period for all $s_I \in (\bar{s}, 1]$.*

Proof. Fix $x_1 \in (\bar{s}, 1)$. Let $\alpha = (\sigma, \mu)$ be an equilibrium. Define $\hat{s}_\beta$ as in Proposition 5 and let $s_\beta = \max\{\bar{s}, \hat{s}_\beta\}$.

I first show that s_β is strictly decreasing in β for $\beta \in [0, \frac{x_1 - \bar{s}}{\delta})$. Recall that $\hat{s}_0 > \bar{s}$, $\hat{s}_\beta$ is continuous and strictly decreasing in β, and $\bar{s}$ is constant in β. Thus, there exists

$\bar{\beta} > 0$ such that $s_\beta = \hat{s}_\beta > \bar{s}$ if $\beta \in [0, \bar{\beta})$ and $s_\beta = \bar{s}$ if $\beta \geq \bar{\beta}$. In particular,

$$\bar{s} + \bar{\beta} + \delta[V(I|\bar{s}) + \bar{\beta}] = x_1 + \beta + \delta V(C) \tag{44}$$

$$\bar{\beta} = \frac{x_1 - \bar{s}}{\delta} + V(C) - V(I|\bar{s}) \tag{45}$$

$$\bar{\beta} = \frac{x_1 - \bar{s}}{\delta}, \tag{46}$$

where (46) follows from (45) because $V(C) = V(I|\bar{s})$ by definition of $\bar{s}$.

Assume $\beta \in [0, \bar{\beta})$. Then $s_\beta = \hat{s}_\beta$ and it follows that s_β is strictly decreasing in β. By Lemma 2, inefficient showing off occurs at $s_I \in (s_\beta, s_0)$. Because $s_\beta = \hat{s}_\beta > \bar{s}$, s_β is strictly decreasing in β. Recall that s_0 is constant in β. Therefore the occurrence of inefficient showing off is strictly increasing in β.

To see that I uses skill at all $s_I \in (\bar{s}, 1]$ if $\beta \geq \bar{\beta}$, notice that (46) implies $s_\beta = \bar{s}$ for such β. By Proposition 5, I uses skill if $s_I > s_\beta = \bar{s}$, as desired. □

Proposition 7. *There exists $s^* \in [\bar{s}, 1)$ such that if $x_1 \in (s^*, 1)$ then showing off occurs in every equilibrium.*

Proof. Let $\alpha = (\sigma, \mu)$ denote an equilibrium. Define $s^* = \max\{\bar{s}, \frac{1+\delta V_I(C|H)}{1+\delta}\}$. Notice that $V(C|H) < 1$ because f is strictly positive over $s_C \in [0, 1]$ and H is not degenerate on $x_2 = 1$. Thus, $\frac{1+\delta V_I(C|H)}{1+\delta} < 1$ and $\bar{s} < 1$, so $s^* < 1$. Consider $x_1 \in (s^*, 1)$. Because $s^* \geq \bar{s}$, we know that I uses skill if $s_I > x_1$.

Assume that showing off does not occur under α. Consistency of μ requires that R's beliefs about s_I after observing the default under α are $\mu(s_I; x_1) = \frac{F(s_I)}{F(x_1)} > F(s_I)$ for all $s_I \in [0, x_1)$, where the inequality follows from $F(x_1) < 1$ because $x_1 < 1$ and f is strictly positive over $[0, 1]$. Because $\mu(s_I; x_1) = 1$ for $s_I \geq x_1$ it follows that $\mu(s_I; x_1) \geq F(s_I)$ for $s_I \geq x_1$. Thus, μ is first order stochastically dominated by F, so α must specify that R elects C if I chooses the default.

Consider $s_I \in (s^*, x_1)$. Because $s_I \geq \bar{s}$, R re-elects I if I uses skill. Notice that

$$s_I + \beta + \delta[V(I|s_I, x_1, a_I^1 = s_I) + \beta] \geq s_I + \beta + \delta(s_I + \beta) \tag{47}$$

$$= (1 + \delta)(s_I + \beta) \tag{48}$$

$$> 1 + \delta V(C|H) + \beta \tag{49}$$

$$> x_1 + \beta + \delta V(C|s_I, x_1, a_I^1 = x_1), \tag{50}$$

where (47) follows from $s_I \leq V(I|s_I, x_1, a_I^1 = s_I)$, (49) from $s_I > \frac{1+\delta V(C|H)}{1+\delta}$ and $\beta \geq 0$, and (50) from $V(C|H) > V(C|s_I, x_1, a_I^1)$ for all s_I, x_1, and a_I^1. This establishes that I

has a profitable deviation to use skill at s_I, contradicting the assumption that α is an equilibrium. □

Proposition 8. *If $x_1 \in int(S^W)$ then there does not exist an equilibrium that is first-best.*

Proof. Let $\alpha = (\sigma, \mu)$ be an equilibrium that is first-best. Consider $x_1 \in \text{int}(S^W)$. Define $\hat{a}(s_I, x_1) \in [0,1]^N$ to be the N-dimensional vector such that $\hat{a}_n(s_I, x_1) = \max\{s_I^n, x_1^n\}$ for each $n \in N$.

Because α is first-best, $\sigma_I^1 = \hat{a}(s_I, x_1)$ under α. If I chooses the default on every issue, consistency of μ and independence of F_n across n imply

$$\mu_n(s_I^n; x_1^n) = \begin{cases} \frac{F_n(s_I^n)}{F_n(x_1^n)} & \text{for } s_I^n \in [0, x_1^n) \\ 1 & \text{for } s_I^n \in [x_1^n, 1], \end{cases} \tag{51}$$

for all $n \in N$. It follows that $\mu_n(s_I^n; x_1^n) > F_n(s_I^n)$ for $s_I^n \in [0, x_1^n)$ because $x_1 \in \text{int}(S^W)$ implies $x_1^n < 1$ and f_n is strictly positive over $[0,1]$, so $F_n(x_1^n) < 1$. Additionally, $\mu_n(s_I^n; x_1^n) = 1$ for $s_I^n \geq x_1^n$. Thus, $\mu_n(s_I^n; x_1^n) \geq F_n(s_I^n)$ for $s_I^n \geq x_1^n$. It follows that μ_n is first order stochastically dominated by F_n for all $n \in N$. Therefore, if I chooses the default on every policy issue then R strictly prefers C on every dimension and strictly prefers to elect C. By sequential rationality, α must specify that R elects C if I chooses default policy on every issue, i.e. $\hat{a}(s_I, x_1) = x_1$.

By $x_1 \in \text{int}(S^W)$, there exist $s_I \in S^W$ such that $s_I^n < x_1^n$ for all $n \in N$. Consider such s_I. Because α is first-best, $\hat{a}_n(s_I, x_1) = x_n^1$. By $s_I \in S^W$, I wins re-election by using skill on every dimension. Note that $s_I^n < x_1^n$ for all $n \in N$ implies that s_I is the worst possible policy that guarantees I re-election. Deviating to s_I is profitable for I if and only if

$$\begin{aligned} \omega \cdot s_I + \beta + \delta[V(I|s_I) + \beta] &> \omega \cdot x_1 + \beta + \delta V(C) \\ \omega \cdot (s_I - x_1) &> \delta[V(C) - V(I|s_I) - \beta]. \end{aligned} \tag{52}$$

Because $s_I \in S^W$, $V(I|s_I) > V(C)$, which implies that the right hand side of (52) is strictly negative because $\delta > 0$ and $\beta \geq 0$. Because $x_1 \in \text{int}(S^W)$ there exist s_I for which (52) is satisfied, a contradiction. □