

# Quitting in Protest: A Theory of Presidential Policy Making and Agency Response

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## Abstract

This paper examines the effects of centralized presidential policy-making, implemented through unilateral executive action, on the willingness of bureaucrats to exert effort and stay in the government. Extending models in organizational economics, we show that policy initiative by the president is a substitute for initiative by civil servants. Yet, total effort is enhanced when both work. Presidential centralization of policy often impels policy-oriented bureaucrats ("zealots") to quit rather than implement presidential policies they dislike. Those most likely to quit are a range of moderate bureaucrats. More extreme bureaucrats may be willing to wait out an opposition president in the hope of tempering future policy when an allied president is elected. As control of the White House alternates between ideologically opposed extreme presidents, policy-minded moderates are stripped from bureaucratic agencies leaving only policy extremists or poorly performing "slackers." These departures degrade policy initiative in moderate agencies.

## I. Introduction

One of the hallmarks of post-WWII American government is the growth of a large policy-making establishment under the direct control of the president. The ascendancy of the Office of Management and Budget (OMB), the Office of Information and Regulatory Affairs (OIRA), the National Security Council (NSC), and the National Economic Council (NEC), as well as the proliferation of special assistants, legal advisors and policy "czars," has enabled the executive to forcefully direct and alter a wide range of public policies (Burke 1992; Hart 1992; Rudalevige 2005; Schlesinger 1973). Presidents use executive orders, special memoranda, and OIRA oversight to impose their will on the government, frequently bypassing civil service advice and the agency notice and comment process (Cooper 2002). Most recently, President Obama's attempt to alter immigration policy through executive order highlights how the president may use these tools to centralize policy-making power.<sup>1</sup> Indeed, presidents have strong incentives to centralize and control policy development: centralization assures policies congruent with the president's interest, molds public opinion, and boosts a president's re-electability (Howell 2003; Moe 1985; Rudalevige 2002; Warber 2006). Yet, presidential control of policy-making comes at a cost and can have larger implications for the federal workforce and governmental performance.

In this paper, we study the effects of centralized presidential policy making on work and career incentives in federal agencies. We develop a model of authority in public organizations that reflects actors' commitment to policy, their rational decisions about work rates, and their strategic calculations about careers. The paper examines how presidents, by centralizing policy-making, disenhearten and demotivate policy-oriented bureaucrats ("zealots"), who would otherwise willingly exert effort and initiative to innovate new policy. Centralization thus undermines bureaucratic initiative. However, the effects of centralization are even more deleterious. Zealots on the opposite end of the ideological spectrum from the president resign their position because departing affords them clean hands – distasteful policies that will be implemented regardless of the zealot's presence or absence are less painful if the agent is not

directly implicated in their administration. The model uncovers two dynamics mitigating policy-induced departures. The first, which we dub “wait them out” (WTO), occurs when a zealous bureaucrat, faced with a hostile president who forces distasteful policy on the agency, nonetheless stays because of the possibility of implementing a better policy under a friendlier president in the future. It is extremist zealots opposed to the current president who are most inclined to WTO, which requires a turn-over in party control of the presidency. The second dynamic, which we call "I can make a difference" (IMD) occurs when a very moderate zealot, faced with a friendly president who insists on an extreme policy, remains in the agency because she may be able to craft a more moderate policy under such a friendly president in the future. It is moderate bureaucrats who are players in IMD, which requires continuity in party control of the presidency.

Despite the WTO and IMD dynamics, policy-induced departures – "quitting in protest" – are frequent among zealous civil servants. Policy-induced departures strip an agency of its most motivated employees, those whose initiative generates new policies when the president’s centralized apparatus fails to do so. Moreover, the model shows that in the longer run, as party control of the presidency alternates and presidents press policies on agencies, the departure of moderate zealous bureaucrats tends to hollow out the agencies. In starkest form, only two types of civil servants remain in the government: highly motivated extremist zealots on the left and right, and slackers in the middle who exert little effort on policy innovation.

We briefly discuss some extensions to the analysis, for example, incorporating an opposition Congress or a skeptical judiciary, or the possibility of offering bureaucrats "political efficiency wages" to offset the incentives for policy-induced departures.

The paper is organized as follows. Section II briefly reviews the rise of centralized presidential policy making and discusses studies of the ensuing incentive effects. Section III presents a model of presidential-bureaucratic interaction in which centralized presidential policy-making has incentive effects in the agencies. Section IV develops the WTO and IMD

dynamics, studies the effects of centralization on work effort, and examines how alternating party control of the presidency hollows out agencies. Section V discusses the results and briefly explores extensions. Section VI offers some conclusions. All formal results are contained in Appendices.

## II. The Centralized Presidency

Political scientists have carefully documented the rise and growth of the centralized presidency (Schlesinger 1973; Rudalevige 2005). The Great Depression and Second World War impelled a dramatic expansion of the administrative state and presidential power (Higgs 1987). Congress and the president created scores of programs and agencies staffed by hundreds of thousands of new federal employees. Concerned about a perceived weakness in administration, President Roosevelt appointed the President's Committee on Administrative Management (the Brownlow Committee) to make recommendations about how to improve the administration of government. The Committee recommended the creation of a permanent Executive Office of the President (EOP) and an expansion of the White House staff. The Committee proposed that the Executive Office of the President include the White House Office, along with its expanded staff, and other staff agencies such as the Bureau of the Budget. To a great extent, these recommendations became reality (Burke 1992, Dickinson 1997, Hart 1992, Milkis and Nelson 2012). And, later presidents and Congresses continued to expand the Executive Office of the President, adding new employees and units such as the National Security Council and Council of Economic Advisers (Burke 2002). The expansion of the EOP reflects a frank admission by the nation's policymakers that the role of the president in the constitutional system has changed. As the scope, volume and complexity of government work has expanded, Congress has increasingly delegated responsibility to the executive establishment to solve national problems (Epstein and O'Halloran 1999; Huber and Shipan 2002).

The burgeoning of the institutional presidency allows presidents to play a much greater

role in policymaking than formerly, often through increased control over budgets and legislation but also through appointments and direct presidential action (Fisher 2000; Howell 2003; Lewis 2008; Neustadt 1954; Weko 1995). Most germane to this paper, a well-developed literature examines how unilateral action by the president plays out in a separation of powers context (Cooper 2002; Deering and Maltzman 1999; Howell 2003; Mayer 2001). This literature argues that the president, by administratively altering a status quo policy yet keeping it within an expansive congressional gridlock region, can advance his policy interests while assuring that Congress cannot offer an effective legislative riposte. Thus the administrative presidency emerges as a powerful tool of executive policy making (Nathan 1975; Waterman 2009, but see Chiou and Rothenberg 2014 for a partial demurral).

The extent of presidential centralized policymaking has varied from administration to administration as well as across policy areas. This is no surprise since survey research, both individual and expert, reveals significant ideological variation across the agencies in the executive establishment (see, e.g., Aberbach et al. 1981, Clinton et al 2012). Such variation implies that the choice of whether to centralize or rely on a particular agency is apt to be consequential for outcomes in a specific policy domain, and apt to differ in application across presidents of different parties (Rudalevige 2002).

Despite its important insights about presidents' use of unilateral policymaking, this branch of the political science literature has placed little emphasis on the incentive effects on the agencies so often bypassed by the White House. In contrast, the incentive effects of centralized decision-making are a major theme in the literature on organizational economics. This literature considers the issue as an incomplete contracting problem (Williamson 1975, Williamson 1985) and examines how the allocation of managerial decision rights within and across firms can have a substantial effect on organizational performance (Grossman and Hart 1986; Baker, Gibbons, and Murphy 1999). Williamson extends the incomplete contracting lens to include an analysis of public and private bureaucracies (Williamson 1999).

In an important contribution, Aghion and Tirole 1997 build on these ideas. Their classic

analysis of authority in organizations develops a model of formal authority (who has the right to decide) and real authority (who has effective control over decisions). A subordinate may have real authority because he maintains an information advantage over a superior, despite the superior having formal decision rights. The superior can exercise control through her decision rights, but then undercuts the initiative of the subordinate.

A small number of papers in political science pick up on these insights and incorporate agency incentives in separation of powers games between agencies and other branches. One strand argues that if courts frequently veto agency regulations, agencies will respond by reducing their policy initiative (Bueno de Mesquita and Stephenson 2007, Stephenson 2007). Another strand examines these incentives in the context of Congress-agency interactions (Gailmard and Patty 2007). This analysis shows how limited writs of statutory discretion from Congress may discourage policy-oriented bureaucrats from investing in expertise and may even induce them to leave the agency.

We extend this line of analysis to president-agency interactions. To do so, we adapt the Aghion and Tirole model to presidential-agency relations. First, we ground the model in a one dimensional policy space, so the principal has preferences over policy, as is foundational in much analytical political science. Second, following the extensive literature on mission-oriented government servants, we incorporate both "zealous" bureaucrats – individuals who care about policy and agency mission – and "slackers", those who care only about wages and not policy (Bertelli 2007; Dewatripont et al. 1999; Downs 1967; Gailmard and Patty 2007; Perry and Wise 1990). Third, we allow the bureaucratic agent to quit his job due to policy differences with the political principal (Bertelli and Lewis 2013; Hirschman 1970; Lee and Whitford 2008). Fourth, we extend the analysis to two periods so first period bureaucrats make decisions in the shadow of the future. Then, the first period decisions of the principal and agent affect organizational performance in the second period. With this apparatus, we study the effects of centralized policy making on 1) policy-induced departures of personnel in public agencies, "quitting in protest," and 2) policy initiative in the agencies.

### III. The Model

#### A. Set-Up

A policy is a unilateral action undertaken by the President's administration, implemented directly by the Bureaucrat's agency at the direction of the President, for example via an executive order, presidential memorandum, or presidential directive to the agency (Moe and Howell 1999). We employ the standard formalization in which a policy,  $x$ , is a point on a closed and bounded subset of the real line  $X = [-z, z]$ . A distinguished policy is the status quo  $q = 0$ . The President is either  $L$  or  $R$  with policy utility  $\psi^i(x; p)$  defined over  $X$  with ideal policy  $p = \ell < 0$  if  $i = L$  and  $p = r > 0$  if  $i = R$ . Bureaucrats are either slackers or zealots; the former cares only about wage utility while the latter also derives utility from policy, especially the implementation of an attractive policy. A zealous Bureaucrat  $B$  has policy utility  $\psi^B(x; b)$  and ideal policy  $b > 0$ . (There is a mirror set of bureaucrats with ideal policies less than zero; the results below extend straightforwardly to the mirror cases.) We employ subscripts to denote time periods, either 1 or 2. As in Aghion and Tirole 1997, the probability of finding a policy innovation in Period  $t$  is  $e_t^i \in [0, 1]$  for the President and  $e_t^B \in [0, 1]$  for the Bureaucrat. In other words, the two actors must employ costly effort to uncover or search for policies. In the event of a successful search, an actor is able to distinguish the elements of the policy space. If a policy search fails, the actor cannot distinguish the elements of the policy space other than  $q$ .<sup>2</sup> Only the President can select a policy, so the President has both formal and real authority (Aghion and Tirole 1997, Baker, Gibbons, and Murphy 1999).

The model has two periods; each period has seven stages. We assume an incumbent zealous Bureaucrat at the start of Period 1. In Period 1:

1. Nature sets the status quo policy  $q = 0$  and determines the winner of the presidential election (either  $L$  or  $R$ ) using common-knowledge probability  $\pi$ .
2. The incumbent Bureaucrat  $B$  (a "zealot" in Period 1) and the elected President simul-

taneously choose policy making efforts  $e_1^B$  and  $e_1^i$  ( $i = (L, R)$ ) searching for a policy initiative that the Bureaucrat can implement at the President's order via unilateral executive action.

3. The policy searches of the Bureaucrat and the President succeed with probabilities  $e_1^B$  and  $e_1^i$  respectively.
4.  $B$  offers the President a policy recommendation  $x_1^B \in X = [-z, z]$ . If the Bureaucrat's policy search succeeded in Stage 3,  $B$ 's recommendation reveals  $\psi^i(x_1^B)$  to the President via hard information. If the Bureaucrat was not informed in Stage 3, the Bureaucrat does not know the policy value of any policy (other than  $q$ ) and hence the policy recommendation reveals nothing to the President about the policy value of the recommended policy.
5. The President chooses the final policy  $x_1^F \in X$ .
6. After the President's policy choice,  $B$  may either stay in the public service ( $g_1 = 0$ ) or depart for the private sector, quitting in protest ( $g_1 = 1$ ). If  $B$  quits, she is replaced by another bureaucrat (a "slacker") and  $x_1^F$  is nonetheless implemented.<sup>3</sup>
7. Players receive per-period payoffs.

Stages 1-7 repeat in Period 2 with either the same incumbent zealous bureaucrat if she stayed in Period 1 or her slacker replacement if she exited.

### ***B. Preferences and the Four Regions***

In the model Presidents and zealous bureaucrats care about policy. We employ the following single-peaked per-period policy evaluation function for the President and Bureau-



crat<sup>4</sup>:

$$\begin{aligned}\psi^i(x, p) &= |p - q| - |p - x| \\ \psi^B(x, b) &= |b - q| - |b - x|\end{aligned}$$

where  $i = (L, R)$  and  $p = \ell < 0$  if  $i = L$  and  $p = r > 0$  if  $i = R$ .

Figure 1 illustrates these policy evaluation functions. The functions are normalized so the policy value of the status quo  $q = 0$  is zero for all players, that is  $\psi^i(q) = \psi^B(q) = 0$ . As shown, each actor has a most-preferred policy, the argmax of  $\psi(x)$ , respectively  $\ell$  and  $r$  for  $L$  and  $R$  and  $b$  for the Bureaucrat  $B$ . In addition, each President has a status-quo equivalent policy  $t^i = 2p$ , as does the Bureaucrat  $t^B = 2b$ . A President (weakly) prefers policies in the interval defined by  $q$  and  $t^i$  to  $q$  and a Bureaucrat (weakly) prefers policies in the interval defined by  $q$  and  $t^B$  to  $q$ . Thus, there are a range of policies  $R$  and an  $R$ -side bureaucrat both agree are preferable to the status quo but there are no policies  $L$  and an  $R$ -side bureaucrat agree are preferable to the status quo.

It proves convenient to define four regions in the policy space, defined by the relative placements of the ideal policies of the  $R$  President and the Bureaucrat. The four regions are:

- Region 1:  $0 < b < r/2$ . "Very moderate bureaucrats". Implementation of  $R$ 's ideal policy is worse for  $B$  than retention of the status quo  $q = 0$ . However, implementation of  $B$ 's ideal policy is better for  $R$  than the status quo.
- Region 2:  $r/2 \leq b \leq r$ . "Somewhat moderate bureaucrats." For both actors, implementation of the other actor's ideal policy is better than the status quo. However,  $B$  is somewhat more moderate than  $R$ .
- Region 3:  $r < b < 2r$ . "Somewhat extreme bureaucrats." For both actors, implementation of the other actor's ideal policy is better than the status quo. However,  $B$  is somewhat more extreme than  $R$ .

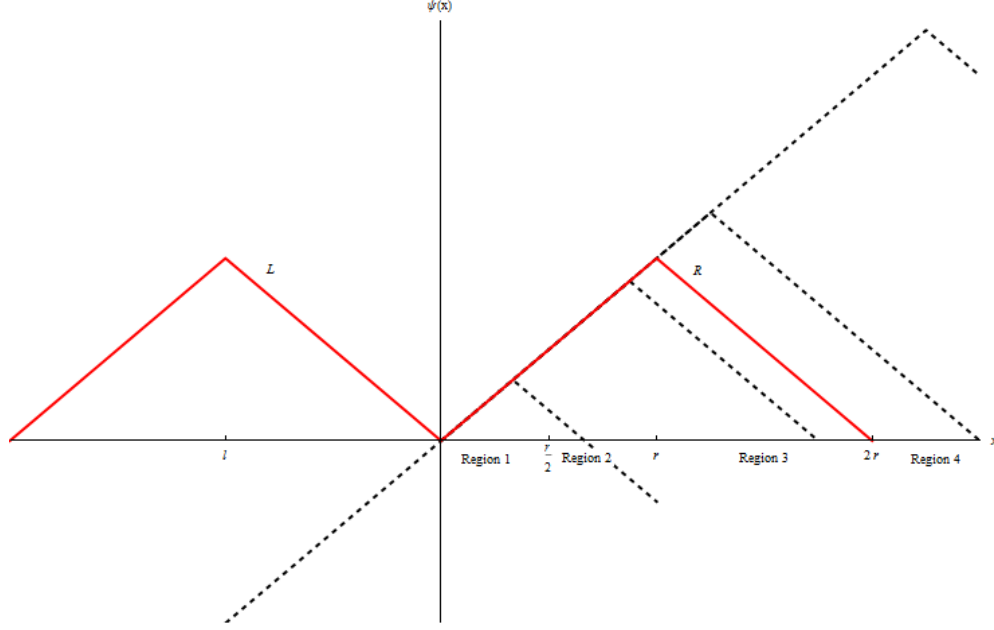


Figure 1: Policy Utility for President and Bureaucrat. Utility for the President ( $L$  and  $R$ ) is show with solid lines, that of Bureaucrats with dashed lines. The ideal point of  $L$  is  $\ell$  and that of  $R$  is  $r$ . The four regions of  $R$ -side bureaucrats are labeled. In addition, utility functions for bureaucrats in each region are shown.

- Region 4:  $b \geq 2r$ . "Very extreme bureaucrats". Implementation of  $B$ 's ideal policy is worse for  $R$  than retention of the status quo. However, implementation of  $R$ 's ideal policy is better for  $B$  than the status quo.

Also important is the hostile president configuration, in which  $\ell < q \leq b$  for Bureaucrats in all four regions. Figure 1 displays a policy evaluation function for a Bureaucrat in each of the four regions as well as policy evaluation functions for  $L$  and  $R$  presidents.

The Bureaucrat's utility depends not just on the policy evaluation function  $\psi^B(x, b)$  but also on wages  $w$ , whether the Bureaucrat is a slacker ( $\theta = 0$ ) or a zealot ( $\theta = 1$ ), whether she has left her policy making job, and how hard she works if she remains in the public sector.

Specifically

$$u^B(x, e_t^B, b, w, \theta) = \begin{cases} \theta\psi^B(x, b) + w^{in} - c(e_t^B) & \text{if employed in the public sector} \\ \gamma\theta\psi^B(x, b) + w^{out} & \text{if employed in the private sector} \end{cases}$$

The parameter  $\gamma$ ,  $0 \leq \gamma < 1$ , captures the "clean hands" phenomenon in which a zealous bureaucrat is less sensitive to the impact of policies if she is not implicated in their administration. The function  $c(\cdot)$  captures the cost of expending effort searching for policies.

For simplicity and tractability we adopt several assumptions. First we assume  $\gamma = 0$ , so zealots who have exited have entirely clean hands. This allows us to focus neatly on the key points about career decisions. Second, as in Gailmard and Patty (2007), we assume slackers care only about their wages and are completely unmoved by the content of the policies they implement. Third, we assume  $w^{in} = w^{out}$ , so that wages in the public sector are equivalent to wages in the private sector. Moe 2013 emphasizes that  $w^{in} \geq w^{out}$  is an important constraint in models with slackers and zealots because if  $w^{in} < w^{out}$  slackers will abandon the public sector, effectively shutting down the government. In a model without specialized human capital, one would expect labor markets to equilibrate to  $w^{in} = w^{out}$ . In fact the empirical literature offers no consensus whether a wage differential prevails between the public and private sectors (see Bradley 2012 and U.S. Government Accountability Office 2012). Given the assumption  $w^{in} = w^{out}$ , we normalize both to 0 (so  $w^{in} = w^{out} = 0$ ) to focus on policy-induced quitting. We return briefly to the subject of wages in Section V. Fourth, we assume  $c(e_t^B) = (e_t^B)^2$ . Finally, we assume bureaucrats are forward-looking and make career decisions in the shadow of the future while the incumbent president perceives "the future is now," that is, focuses only on payoffs in the current period. Both positions find support in empirical studies.<sup>5</sup>

### *C. Commentary*

Three features of the model deserve brief discussion. First, moving the setting of Aghion and Tirole 1997 into policy space structures the preferences of the principal (the President) and zealous agents (the Bureaucrat) in a strong way with substantive import. Effort choices, recommendation strategies, and career decisions vary across the four regions and the hostile president configuration.

Second, costly information transforms the strategic relationship between the principal and the agent in a very particular way. When the President is informed, he can impose policy on the agency like the actor in a dictator game, as in the standard analysis of presidential unilateral action (Howell 2003). But when the President is not informed and the Bureaucrat is informed, the Bureaucrat acts like the monopoly agenda setter in a Romer-Rosenthal take-it-or-leave-it (TILI) game (Romer and Rosenthal 1978). This means the Bureaucrat can force on the President her most-preferred policy among all those the President is willing to accept over the status quo. Thus, costly information places the President and Bureaucrat into a competitive situation structured strategically by the poles of a dictator game and a TILI game.

Third, the presence of both slacker and zealous bureaucrats makes differential exiting important, for the exit of zealous bureaucrats can have severe consequences for future policy initiative in the agency. The importance of differential exits stands in contrast to Aghion and Tirole 1997 where the homogeneity of agents makes quitting uninteresting, as noted there. In this respect, our model resembles Gailmard and Patty 2007 which also incorporates heterogeneous agents and where differential exits are consequently important.

#### **IV. Policy Centralization and Agency Response**

We begin by analyzing administrative policy making between a Bureaucrat and a President who is unconstrained by Congress, e.g., a unified party President. (We briefly discuss the implications of constraints on sustainable unilateral actions in Section V.) Our discussion focuses primarily on action in Period 1 when the shadow of the future affects the stay/go decision of the Bureaucrat. To appreciate the impact of the shadow of the future, however, one needs an understanding of play in Period 2.

### *A. Summary of Play in Period 2*

Appendix A provides a formal analysis of play in Period 2. Summarizing, in Period 2 the President always imposes his most-preferred policy if he is informed. If  $R$  is uninformed he is willing to accept  $B$ 's most-preferred policy as a take-it-or-leave-it offer if  $B$ 's ideal point lies in Regions 1-3. But an uninformed  $R$  will not accept a Region 4  $B$ 's most-preferred policy. An uninformed  $R$  will accept the compromise policy most-preferred by a Region 4  $B$ , a policy affording  $R$  a utility equivalent to the status quo ( $x_2^B = 2r$ ).  $L$  is unwilling to accept any policy  $B$  prefers to the status quo.

These basic facts about policy choice have strong implications for  $B$ 's career decisions in Period 2 as well as both parties' work efforts. In particular, the Bureaucrat's stay/go decision is simple: the Bureaucrat stays if the President's policy choice is as good or better than the status quo; otherwise,  $B$  departs in order to mitigate the sting of complicity in a bad policy. As a result, when the President's policy making effort fails,  $B$  stays in public service, since either  $q$  prevails or (even better under an  $R$  president) an informed  $B$  gets to shape the policy in a favorable way. However, if  $B$  faces  $L$  and the President succeeds in his policy search,  $L$  imposes  $x^F = \ell$  and  $B$  exits. In addition, when an  $R$  President is in power, a very moderate  $B$  (a  $B$  in Region 1) exits if  $R$ 's policy making succeeds, since the President's ideal policy  $r$  is worse for  $B$  than the status quo. More extreme  $B$ 's (those in Regions 2-4) stay even when the  $R$  president succeeds, because they prefer the President's policy over the status quo.

The work effort chosen by the Bureaucrat anticipates her subsequent stay/go decisions. In addition, the work efforts of both players reflect the strategic interaction of their joint policy making. Critically, the work efforts for  $R$  and  $B$  are strategic substitutes in the sense of Bulow, Geanakoplos, and Klemperer 1985: additional effort from one party reduces the marginal return on effort exerted by the other party. (We explore the implications when discussing work effort in Period 1). The interaction of  $L$  and  $B$  is even more stark: because  $L$  will not accept any policy preferred by  $B$  over the status quo,  $B$  undertakes no work effort.

Hence,  $L$  has to "go it alone."

### *B. Career Choice in Period 1: The Stay/Go Decision*

To make her career decision in Period 1, the Bureaucrat compares two alternatives: on the one hand, the payoff from remaining in government service in Period 1 plus the continuation value  $V(0)$  of the game in Period 2 given a stay decision in Period 1 ( $g_1 = 0$ ); on the other hand, the payoff from leaving government service in Period 1 plus the continuation value  $V(1)$  of the game in Period 2 given an exit from government service in Period 1 ( $g_1 = 1$ ). For bureaucrats in all regions, the continuation value  $V(1)$  from departing in Period 1 is 0. This reflects the clean hands effect on the value of future policy plus the fact that  $B$  will not undertake costly policy making initiative in the future if she is no longer employed in the government.

Formally, the Bureaucrat departs if and only if:

$$\psi^B(x_1^F; g = 0) + V(0) < \psi^B(x_1^F; g = 1) + V(1) = 0$$

implying "depart" if and only if

$$(1) \quad -\psi^B(x_1^F; g = 0) > V(0)$$

In words, the Bureaucrat departs if the loss from implementing the selected policy is greater than the continuation value of the game.

Figure 2 illustrates the stay/go calculation (discussed momentarily). In the panels, the dark line displays the continuation value  $V(0)$  to a zealous  $B$  from staying in Period 1 (see Table 1 in Appendix B). The four regions are distinctly visible in the figure. An important fact to note is that  $B$ 's continuation value from staying is positive regardless of region (this is easily seen in the Figure). The reason for this is simple: the continuation value reflects

optimal effort and optimal quitting in Period 2. In Period 2,  $B$  can always guarantee herself utility of zero by not working and quitting so that in expectation any other optimal course of action must yield utility greater than or equal to zero.

The fact that  $V(0)$  is positive has important implications for  $B$ 's career decisions. First, if the President is unsuccessful in his policy search,  $B$  remains in government whether the President is  $R$  or  $L$ . Second, if the President is successful in his policy search the Bureaucrat may still stay in government if the imposed policy isn't too bad and the continuation value of the game is sufficiently attractive. More precisely, the only situation leading to a quit decision in Period 1 requires  $\psi^B(x_1^F)$  to be negative, that is, the Period 1 policy must be worse for  $B$  than the status quo. This situation can arise in only two circumstances: 1) when a successful  $L$  imposes  $\ell$  on a relatively moderate  $B$ , or 2) when a successful  $R$  imposes  $r$  on a very moderate  $B$  ( $b$  lies within Region 1). In that configuration,  $R$ 's policy choice  $x_1^F = r$  yields  $B$  utility  $2b - r < 0$  (by construction). These situations give rise to two career dynamics, "wait them out" and "I can make a difference."

***Wait Them Out (WTO).***—If an incumbent  $L$ 's policy search succeeds he sets  $x_1^F = \ell$ . This unattractive policy imposes an immediate loss of  $-\ell$  on  $B$ .  $B$  can mitigate this loss by quitting and retaining clean hands. Nonetheless,  $B$  may choose to remain in government and suffer the loss if  $V(0) > -\ell$  (from Equation 1). In words,  $B$  will *wait them out* if the prospect of participating in attractive policy making in a future  $R$  administration is large enough to offset the immediate loss from  $L$ 's policy.

The left-hand panel in Figure 2 illustrates the calculation of  $B$  in the face of a successful  $L$  president. The dark line in the figure is the continuation value  $V(0)$ ; the gray line is the immediate loss  $-\ell$  from  $L$ 's imposed policy  $x_1^F = \ell$ . In the example in the figure, all Region 1 and 2 bureaucrats exit, as do many Region 3 bureaucrats. However, a portion of Region 3 bureaucrats and all Region 4 bureaucrats remain. These bureaucrats decide to wait out the opposition President and remain in government service despite the unattractive policy imposed on them. They do so in the hope of serving under an  $R$  president next period.

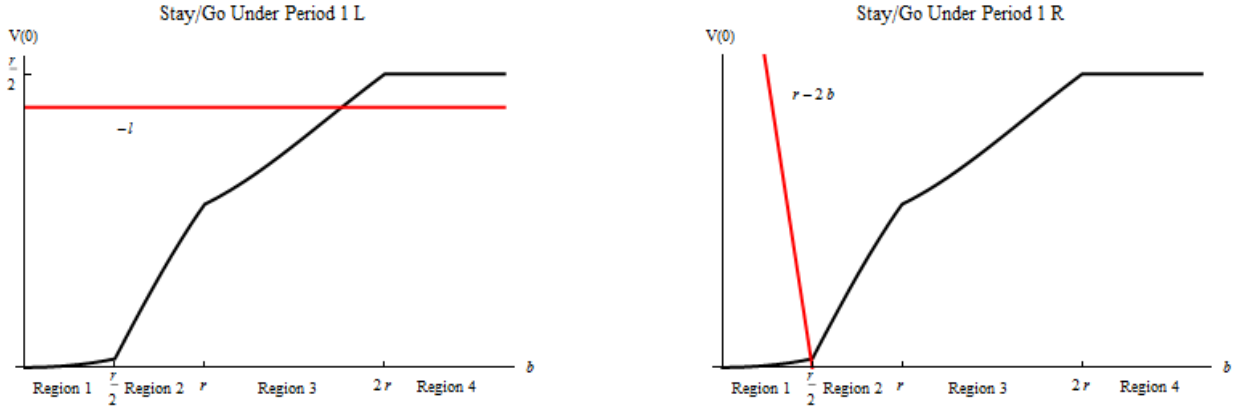


Figure 2: The Stay/Go Calculation in Period 1. The dark line is the continuation value of the game if the Bureaucrat stays,  $V(0)$ . The gray line is the immediate loss from staying given a presidentially imposed policy.  $B$  stays if the former is greater than the latter. The left-hand panel shows the "wait them out" calculation. The right-hand panel shows the "I can make a difference" calculation.

From inspection of  $V(0)$  (see Table 1 and Equation 1) the comparison of present losses and future gains is more likely to result in waiting them out when 1)  $R$  is more likely to be elected ( $\pi$  is higher) and 2)  $L$  is less extreme ( $|\ell|$  is smaller). Both results are intuitive.

***I Can Make a Difference (IMD).***—If an incumbent  $R$ 's policy search succeeds, he sets  $x_1^F = r$ , an attractive policy for Bureaucrats whose ideal policy falls in Regions 2-4. Consequently they remain in government in Period 1. But Bureaucrats in Region 1 face an immediate loss from  $R$ 's policy choice, of size  $2b - r$ . Nevertheless, they may stay in government in order to have a chance to set policy themselves in Period 2 under an unsuccessful  $R$ . In other words, they reason *I can make a difference* in the future. This calculation requires  $V(0) > r - 2b$  (using Equation 1). The comparison of  $V(0)$  and  $r - 2b$  is shown in the left-hand panel of Figure 2. Remark 10 in Appendix B shows that a small group of Region 1 Bureaucrats near the boundary of the region (that is, near  $\frac{r}{2}$ ) will not quit. Remark 11 in Appendix B shows that this small group of Region 1 stayers is somewhat larger when 1)  $R$  is more likely to be elected president in the future (because then  $R$ 's search may fail and  $B$  can achieve her most-preferred policy), 2) when  $b$  is closer to the boundary  $r/2$ , and 3) when  $R$  is less extreme, so  $r$  is less painful for  $B$ .



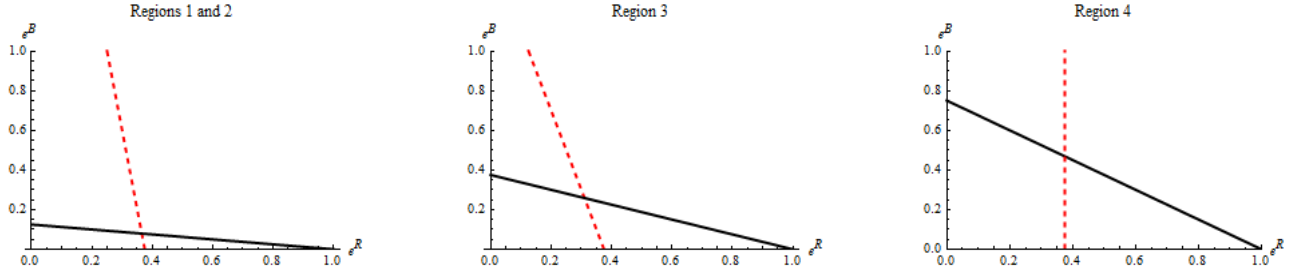


Figure 3: Reaction Functions in Period 1. In each panel, the reaction function of the President is shown as a dashed line while that of the Bureaucrat is a solid line. In all three panels  $r = \frac{3}{4}$ . In the left Panel,  $b = \frac{1}{4}$ ; in the middle panel  $b = 1$ ; in the right pane  $b \geq \frac{3}{2}$ .

Three broad theme's stand out about career choice in Period 1. First, not surprisingly but importantly, policy extremity by an opposing incumbent president impels exits by zealous bureaucrats, at least if the President is successful in his policy search. Second, and also not surprisingly, good election prospects for the same side President encourage policy-sensitive bureaucrats to remain in government. And, this is true regardless of which president is incumbent. Third, almost all Region 1 zealous bureaucrats exit if the President is successful regardless of the president's party.<sup>6</sup>

Together, these results imply that if presidents are ideologically extreme relative to many bureaucrats, the bureaucrats' tenure in government may well be short, especially if presidents exert much policy effort.

### C. Presidential Effort and Bureaucratic Initiative

Figure 3 displays the reaction functions in effort of  $R$  and  $B$  in Period 1 (see Equations B1-B3 in Appendix B). These functions show how each actor's choice of policy effort responds to that of the other actor. The critical feature of the efforts exerted by the Bureaucrat and  $R$  is that they are strategic substitutes: an increase in the policy making effort of one party reduces the marginal return on effort for the other party and thus creates an incentive to reduce its effort. Consequently, the reaction functions in Regimes 1, 2, and 3 are negatively sloped (panel 1 and 2 of Figure 3).

In Regime 4, however, the President is insensitive to the effort of the Bureaucrat. In this configuration, if  $B$ 's search is successful, she proposes a policy that is utility-equivalent to the status quo for the President. Accordingly, from the President's perspective the Bureaucrat's effort is no substitute for his own. However, the converse is not true for a Regime 4 Bureaucrat, since effort by the President can bring a better policy for the Bureaucrat.

An  $L$  president faces a very different strategic situation. There is no policy the Bureaucrat prefers to the status quo that  $L$  does as well. Therefore,  $L$  would reject all the policies the Bureaucrat would like to recommend. Given this fact the Bureaucrat exerts no policy making initiative. Consequently  $L$  must go it alone.

The intersection of the two reaction functions yields the equilibrium effort levels  $(e^{R*}, e^{B*})$  (see Equation B4 in Appendix B). Figure 4 displays the equilibrium policy making efforts exerted by  $R$  and by a zealous Bureaucrat separately and jointly, as a function of the location of  $b$ . As shown in the left-hand panel of the figure, policy making effort by the Bureaucrat increases as her most-preferred policy  $b$  is increasingly distant from the status quo  $q = 0$ , at least in Regimes 1-3. In Regime 4, however, the Bureaucrat is constrained to recommend the same policy while the policy making effort of the President is a constant; hence, all Regime 4 bureaucrats undertake the same high level of effort.  $R$  works harder than  $B$  when  $R$  is more extreme than  $B$ , while  $B$  works harder than  $R$  when  $B$  is more extreme than  $R$ .  $R$  works hardest when the Bureaucrat's effort is low (that is, when  $b = 0$ ) and a successful effort by  $B$  yields a policy recommendation utility equivalent to the status quo (Region 4). In these situations,  $R$  effectively goes it alone and exerts effort  $e^{R*} = \frac{r}{2}$ .<sup>7</sup> If the President were unable to exert centralized policy making effort, zealous bureaucrats in Region 1-3 would exert effort  $e^{B*} = \frac{b}{2}$  while those in Region 4 would exert effort  $e^{B*} = r$ .<sup>8</sup> These "go it alone" efforts for  $B$  exceed the strategic, jointly determined efforts for  $B$  shown in the figure. In this sense, policy making effort by the President undercuts bureaucratic initiative.

The right-hand panel in Figure 4 displays total policy making effort  $(e^{R*} + e^{B*})$  given an  $R$ -president and zealous Bureaucrat. Total policy making effort is greatest when the  $R$

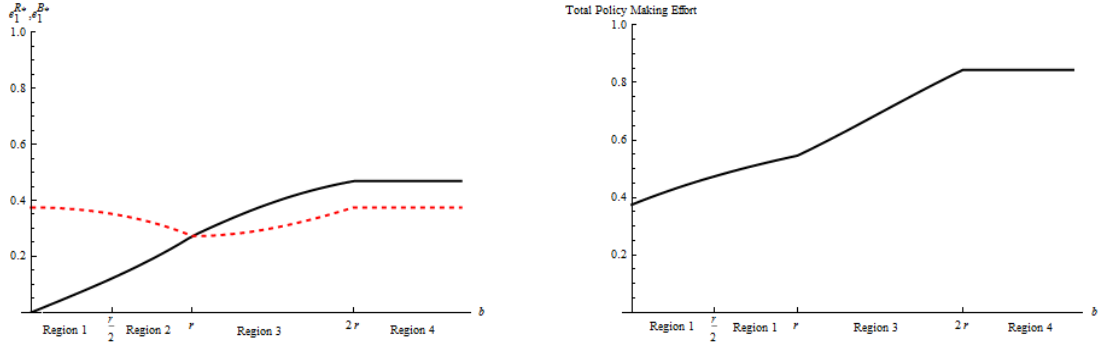


Figure 4: Policy Making Effort in Period 1. The left-hand panel shows equilibrium levels of effort in Period 1 exerted by the President and Bureaucrats in the 4 regions (the President's effort is the dashed line while the Bureaucrat's is the solid line). The right-hand panel shows the sum of the two efforts. In the figure  $r = \frac{3}{4}$ .

president faces a Regime 4 Bureaucrat, for both work hard to change the distant status quo. Total policy making effort is lowest when the Bureaucrat favors the status quo ( $b = 0$ ). In this case, only the President exerts effort. This situation would be compatible with the common observation of unmotivated or "lazy" bureaucrats who force the president to compensate for their inaction. In this situation, though, even zealots would exert little policy initiative, because they favor current policy. Though the efforts of the two actors are strategic substitutes, total policy making effort is higher when both work than when only one "goes it alone." Of course, under an an  $L$ -President, the Bureaucrat exerts no effort and the effort exerted by  $L$  is a constant, the go-it-alone level  $\frac{|e|}{2}$ .

With an  $R$  president, the probability of a policy departure from the status quo is  $1 - (1 - e^{R*})(1 - e^{B*})$  (the probability at least one of the two actors is successful in finding a policy). This quantity closely tracks total policy making effort.

#### *D. The Policy Consequences of Quitting in Protest*

From the President's perspective, the immediate consequences of quitting in protest are negligible. After all, the President has identified the policy he wants and slacker agents in the agency are willing to implement it. The result is a policy the President likes and that he or

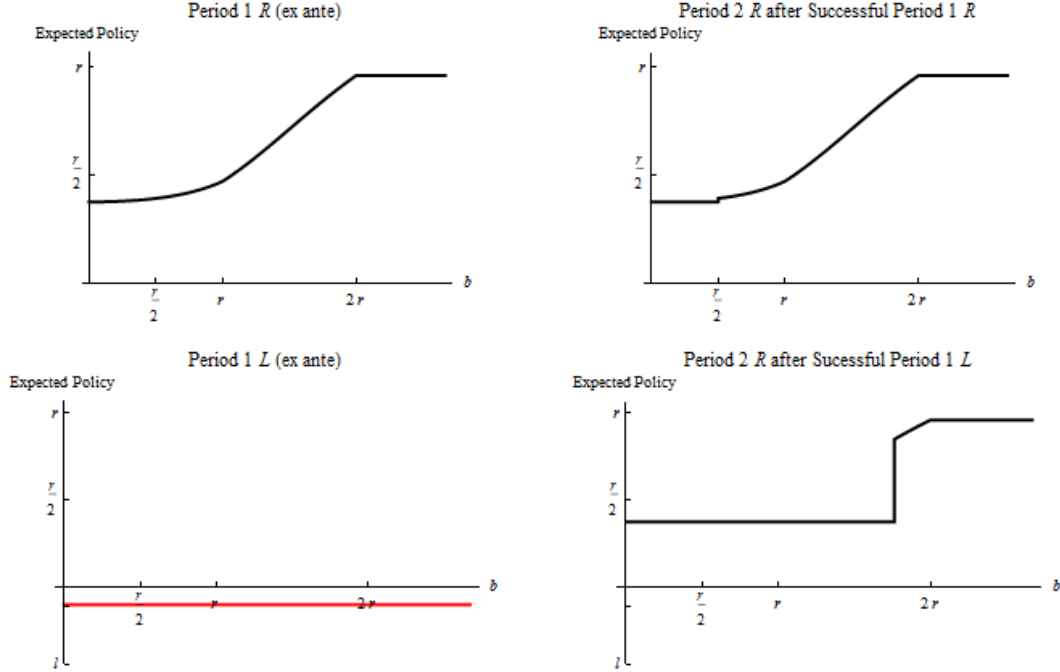


Figure 5: The Effect of Policy-Induced Departures on Expected Policy. The two left-hand panels show expected policy at the beginning of Period 1. If the President’s policy search succeeds, the calculations shown in Figure 2 ensue and many moderate zealots depart. Expected policy in Period 2, given a successful Period 1 president, are shown in the two right-hand panels. Given an  $R$  president in Period 1, the policy consequences in Period 2 are very modest. But they are dramatic given a Period 1  $L$  president.

his party can take to the electorate. The real consequences fall on the President’s *successor*. Two cases are important: 1) when an  $R$  successor follows a successful  $R$  predecessor, and 2) when an  $R$  successor follows a successful  $L$  predecessor.

**An  $R$  President Following a Successful  $R$  Predecessor.**—Suppose an  $R$  president is elected in Period 1. At the beginning of Period 1, expected policy in that period is  $E(x_1^F) = e_1^{i^*}r + (1 - e_2^{i^*})e_1^{B^*}x_1^B$ , where  $x_1^B$  is the policy recommendation of the Bureaucrat. This expected policy is shown in the upper left-hand panel of Figure 5 as a function of the location of  $B$ ’s ideal policy. Not surprisingly, ex ante expected policy in Period 1 tracks total policy making effort. Recall from the earlier results that a Region 1 Bureaucrat exerts modest policy initiative, since he does not find the status quo particularly onerous. Hence, expected changes in policy in that region largely reflect Presidential policy making efforts, which are considerable.

But,  $R$ 's Period 1 policy search is either successful or not. If unsuccessful,  $B$  does not exit regardless of the location of her ideal policy. However, if  $R$  is successful, he orders  $B$  to implement the President's most-preferred policy,  $r$ . If  $B$ 's ideal policy lies in Regions 2-4, she perceives this change as an improvement over the status quo. Hence,  $B$  will not exit. In that case, expected policy in Period 2 remains the same as the ex ante expected policy in Period 1 (the upper left-hand panel in Figure 5). But if the zealous  $B$ 's ideal policy lies in Region 1, she will exit unless her ideal policy is very close to  $r/2$  (this calculation was shown in the right-hand panel of Figure 2).

What then are the implications for policy-making in Period 2 if  $R$ 's policy search succeeds? The results are shown in the upper right-hand panel of Figure 5, which displays expected policy in Period 2 as a function of the location of  $b$ . Even if  $b$  lies in Region 1, the impact of a policy induced departure is small. Of course, the Period 2 president must work harder than he would have if the zealous Region 1  $B$  had remained in government. But since the president would have worked hard in any event, while  $B$  would not have displayed much initiative, the impact of  $B$ 's departure is modest in terms of expected policy.

*An R President Following a Successful L Predecessor.*—The situation is quite different when  $R$  follows a successful  $L$ . Suppose  $L$  is elected in Period 1. Because  $B$  will not assist  $L$  (who would not take  $B$ 's advice in any case), expected policy reflects only  $L$ 's go-it-alone efforts. The resulting expected policy is shown in the lower left-hand panel of Figure 5. Again, though,  $L$ 's Period 1 policy search is either successful or unsuccessful. If unsuccessful,  $B$  will not exit. In this case, expected policy in Period 2 is the same as that shown in the upper left-hand panel of Figure 5. On the other hand, if  $L$ 's search is successful, he orders  $B$  to implement  $L$ 's most-preferred policy,  $\ell$ . As discussed earlier, only if  $B$ 's ideal point is rather extreme will she be willing to remain in government, hoping to "wait them out" (recall the left-hand panel in Figure 2).

The departure of moderate zealous agents then has real impact in Period 2. The results are shown in the lower right-hand panel of Figure 5, which displays expected policy in Period

2 as a function of the location of  $b$ . In the example in the figure, B will depart if her ideal policy lies in Region 1, Region 2, and the more moderate part of Region 3. Accordingly, expected policy reflects only the Period 2 president’s go-it-alone effort. In the example, only if  $B$ ’s ideal policy was rather extreme (in the less moderate part of Region 3 or in Region 4) does she stay and work in Period 2. Not surprisingly, expected policy in Period 2 is quite different from what it would have been absent the departure (compare the lower right-hand panel and the upper left-hand panel in Figure 5).

## V. Discussion: Extensions

The preceding sections begin to build a theory of incentives in presidential-agency interactions. Here we briefly discuss some obvious extensions or worthwhile departures.

*The Impact of Other Branches.*—Restrictions on presidential policymaking arise naturally in a system of separated powers. A hostile or skeptical judiciary or a Congress held by the opposition party can constrict the range of sustainable unilaterally imposed policies. For example, if presidential unilateral action is to be invulnerable to a legislative reversal, the President must locate his new policy so at least one-third of the members in a chamber will sustain a presidential veto of legislation over-turning the President’s unilateral action. In the conventional analysis, this implies that the President must locate policy within the pareto set between the median legislator and the chamber’s veto or filibuster pivot (Howell 2003). If the President’s most-preferred policy lies within the relevant pareto set, as would typically be the case in unified party government, then the President’s ideal policy will be legislatively sustainable. This is the scenario of the previous section. But suppose the President’s ideal policy lies outside that pareto set, as is common during divided party government (Cameron 2000). Then the best policy the president can sustainably achieve is the policy at the nearest edge of the pareto set, namely, the ideal point of the relevant veto pivot. In turn, this enforced moderation has implications for bureaucrats’ stay/go decisions, for policy making efforts by both the president and bureaucrat, and for expected policy.<sup>9</sup>

It is easy to see that congressional restrictions on  $L$  may benefit  $B$ . First,  $L$  will not expend as much effort on policy-making, hence, he will succeed less frequently. This implies  $B$  will not exit as frequently in Period 1 when  $L$  holds power. In addition, less extreme  $B$ 's may be more willing to "wait them out" even in the face of a successful policy search by  $L$  since that success will result in less extreme policies from  $L$ . The effect of restrictions on  $R$  are more complex. Given limits on sustainable policy from  $R$ , very moderate  $B$ 's (those in Region 1) will find it less distasteful when  $R$ 's policy search succeeds. Hence, they will be less inclined to depart. But, extreme  $B$ 's will find this policy less attractive. This will reduce their continuation value of the game in Period 1, making them more responsive to bad policy imposed by  $L$ .

Space prevents a full consideration of separation of powers effects on president-agency incentives but it should be clear that a complete examination extends the earlier analysis in straightforward ways.

***Bureaucratic Efficiency Wages.***—An obvious question given the adverse effects of "quitting in protest," is: Why not pay bureaucrats enough to keep them in the government even when they must implement policies they dislike? The required wage structure would strongly resemble so-called efficiency wages, which pay more than market-clearing wages to valuable employees so that they do not quit in the face of occasional temptations to do so (Shapiro and Stiglitz 1984). Here, wages would overpay Region 2-4 Bureaucrats under an  $R$ -president (successful or unsuccessful) so that the bureaucrats do not quit in the face of a successful  $L$  president. And such wages would overpay Region 1 bureaucrats under an unsuccessful  $R$  president so that these bureaucrats do not quit in the face of a successful  $R$  president.

Though conceptually simple, bureaucratic efficiency wages are deeply problematic politically. First, tying wages to the political orientation of bureaucrats or their agencies is anathema to the concept of a civil service and would likely be subject to political abuse. Second, if presidents are constrained to offer the same wages across agencies and employees,

much of the extra wage bill would go to slackers who do not need efficiency wages. This would be quite costly and likely unpopular with economy-minded voters. But, the biggest sticking point is surely the following: the necessary wage structure would require  $L$  presidents to pay premium wages to  $R$ -side bureaucrats *with the benefit from decreased exits accruing to  $R$  presidents rather than  $L$  presidents*. And similarly,  $R$  presidents would need to pay premium wages to  $L$  side bureaucrats with no immediate benefit to themselves. Perhaps such a wage structure could be sustained by a relational contract between  $R$  and  $L$  presidents; but this thorny question deserves a closer and more acute analysis of the politics of bureaucratic wage setting than we can offer here. The political economy of public sector wage setting appears a worthwhile topic of research.

*Learning-By-Doing, Investing in Human Capital, Recruiting Zealots, and Revolving Doors.*—Other extensions appear promising or intriguing. First, experience with policy making may make long-term zealots more capable than less experienced individuals. Learning-by-doing may thus lead to greater effective effort from agencies even in the face of presidential centralization, but conversely imply greater relative losses from policy induced departures. Similarly, zealous bureaucrats may be willing to invest in valuable agency-specific human capital (similarly to Gailmard and Patty 2007). Presidential centralization may then imply the departure not only of the most-motivated bureaucrats but the most skilled ones as well. On the other hand, the ability to recruit new zealots may partly offset policy-induced departures, at least over time. Finally, the market for ex-bureaucrats – the revolving door – appears quite under-studied and could interact with centralized policy making in important ways. All these topics appear reasonably tractable as extensions to the analysis here.

## VI. Conclusion

Presidential scholars have long recognized incidents like the following:

- Following President Nixon’s centralization of foreign policy and Henry Kissinger’s



ascendancy as National Security Advisor in the White House, morale in the State Department plummeted and key aides including some in the NSC quit in protest (Burke 1992, 132).

- In the wake of President Obama’s extensive use of White House czars, the Environmental Protection Agency found it more difficult to recruit and retain top executives in government (Steinzor 2012).

The analysis presented here suggests that these are not isolated flukes but instead reflect systematic long-term changes in presidential-agency relations. Our model offers three insights about the effects of presidentially centralized policy making on executive agencies.

First, when presidents make policy on their own using devices like executive orders or presidential memoranda, they undermine the incentives for bureaucrats to work hard, display initiative, and devise policy innovations. Some bureaucrats derive satisfaction from the opportunity to improve public policy (both relative to the status quo and their ideal policy). Without the potential to influence policy, these bureaucrats have less incentive to expend effort. In turn, their failure to expend effort influences the ability of government to find improvements to existing policies or respond to new and emerging ones, to the detriment not just of the president but the bureaucrat as well.

Second, as in the case of Kissinger and members of the National Security Staff, centralized presidential policymaking can lead bureaucrats to quit in protest. When presidents make policy unilaterally, they often override advice from the agency and sometimes impose changes opposed by agency employees. As a result, bureaucrats may leave rather than be implicated in the administration of the policy. The principal exception (according to the model) is a class of very extreme zealots who will be willing to wait out presidents. These bureaucrats are willing to wait out bad times in anticipation of a president from their own party and the policies that will result from that president’s election. In addition, a relative handful of moderate bureaucrats may be willing to put up with an extreme president from their own party in the hope that they might have a moderating influence on his policies in the future.

With these exceptions, the general prediction for many ranges of bureaucratic preferences is that bureaucrats who care about policy will resign when a hostile president is elected and engages in unilateral policymaking. Regular electoral turnover over time can systematically remove from government the kinds of bureaucrats who seek out innovations and improve policy, except perhaps in the most extreme agencies. These departures can have adverse long term consequences for the quality of policymaking. If presidents from both parties use centralized policymaking processes, there can be a significant decline in the competence and initiative of the permanent government.

Third, the effort and career decisions of bureaucrats will be influenced by whether presidents succeed in setting policy on their own. Some presidents will try but not succeed. They will expend effort to craft an innovation yet fail to fashion an acceptable one. In addition, because the capacity of the White House staff is finite and the attention of the President limited, the White House might not even try to move unilaterally. In these cases, even hostile bureaucrats will stay on in the hope of a more receptive administration in the future. For large swaths of the government, bureaucrats may continue from administration to administration expending little effort to improve policy but not departing either. They await the opportunity to pick up the policymaking task when they serve under a president with policy views close to their own. In this sense, presidential failure can lead to bureaucratic success.

In sum, presidents influence policymaking in the modern administrative state by politicizing agencies via appointments, but also by bypassing standing agencies. Scholars have described how modern presidents have increasingly centralized policymaking authority in the White House and politicized the bureaucracy (Lewis 2008; Moe 1985; Rudalevige 2002; Weko 1995). There is a sizeable literature exploring how the politicization of the bureaucracy influences bureaucratic capacity (see, e.g., Derlein 1996; Gailmard and Patty 2007; Suleiman 2003). What has been missed, however, is how centralization of the policymaking process can drive zealous moderate civil servants from agencies and undermine the long-term ability

of the government to mount policy initiatives.

## A The Game in Period 2 (Unified Party Government)

The following lemma assures that, if policy search fails, the president will not choose a new policy at random. Let  $F(x)$ , with density  $f(x)$ , be the distribution of policies over the policy space. For simplicity assume  $F(x)$  is uniform.

**Lemma 1.** (*No Guessing Lemma*) *If both the Bureaucrat's and the President's search is unsuccessful, the President chooses no policy (so  $x^F = q$ ).*

*Proof.* For the President, choosing the status quo  $q = 0$  brings policy utility of zero. If the policy search of both actors has failed, opting for a policy change results in the implementation of a random draw from  $F(x)$ , which is uniform on  $[-z, z]$ . For  $R$  the expected utility of a random policy (using the Matthews normalized policy function) is:  $\int_{-z}^z \psi^R(x; r) f(x) dx = \int_{-z}^r \frac{x}{2z} dx + \int_r^z \frac{2r-x}{2z} dx = -\frac{(r-z)^2}{2z}$  which must be negative for all  $z > r$ . For  $L$   $\int_{-z}^z \psi^L(x; \ell) f(x) dx = \int_{-z}^{\ell} \frac{x-2\ell}{2z} dx + \int_{\ell}^z \frac{-x}{2z} dx = -\frac{(\ell+z)^2}{2z}$  which also must be negative for all  $-z < \ell$ . Hence the President chooses the status quo rather than a random policy.  $\square$

The following describes the Bureaucrats stay/go strategy in Period 2.

**Proposition 2.** (*Stay/go Period 2*) *The Bureaucrat's stay/go strategy in Period 2 is:*

$$g_2(x_2^F; b) = \begin{cases} 1 & \text{if } \psi^B(x_2^F; b) < 0 \\ 0 & \text{otherwise} \end{cases}$$

*Proof.*  $B$ 's effort costs are sunk when deciding to stay or go, hence only the policy impact of  $x^F$  matters. If  $B$  quits ( $g = 1$ ) her utility is 0. If she stays ( $g = 0$ ) she receives  $\psi^B(x_2^F)$ . The comparison of these two utility values determines the strategy.  $\square$

The following is a subgame perfect set of policy choices and recommendations in Period 2.

**Proposition 3.** (*Agency Recommendation and Presidential Policy Choice in Period 2*). *The President sets final policy*

$$x_2^F = \begin{cases} p & \text{if } i \text{'s search was successful} \\ x^B & \text{if } i \text{'s search was unsuccessful, } B \text{'s was successful, and } x^B \in [\min\{q, t^i\}, \max\{q, t^i\}] \\ q & \text{otherwise} \end{cases}$$

*The bureaucrat's policy recommendation is*

$$x_2^B = \begin{cases} b & \text{if own search was successful, } i = R \text{ and } b < t^R \\ t^R & \text{if own search was successful, } i = R \text{ and } b \geq t^R \\ q & \text{if own search not successful or } i = L \end{cases}$$

*Proof.* Part 1, Presidential choice. If the President's search was successful, he can act as the Dictator in a Dictator game. Accordingly, he orders the implementation of his own ideal policy,  $r$  if  $i = R$  and  $\ell$  if  $i = L$ . If the President's search was unsuccessful but the Bureaucrat's was successful, the President is in the position of the receiver in a Romer-Rosenthal take-it-or-leave-it (TILI) game: he accepts any policy that is as good or better than the status quo ( $\psi^i(x^B) \geq 0$ ). The set  $[\min\{q, t^i\}, \max\{q, t^i\}]$  indicates all those policies. If the President's search was unsuccessful, the Bureaucrat's search was successful, but  $\psi^i(x^B) < 0$  the President rejects the recommendation so that  $q$  prevails. From the No Guessing Lemma, if neither search was successful the President will not choose a policy at random so the status quo  $q$  again continues. Part 2, Bureaucrat's policy recommendation. The Bureaucrat makes her recommendation before knowing whether the President's search was successful. And, if the Bureaucrat is informed, her recommendation is verifiable for the President. Given these facts and the President's policy choice strategy in the prior Proposition, an informed zealous Bureaucrat has a weakly dominant strategy to make a recommendation as if she were the proposer in a Romer-Rosenthal TILI game (the strategy is strictly dominant when  $e^R < 1$ ). That is, an informed zealous Bureaucrat offers the policy that maximizes  $\psi^B(x)$  among those

policies that the President will accept if his search was unsuccessful but  $B$ 's was successful, namely the set of policies  $[\min\{q, t^i\}, \max\{q, t^i\}]$ . The indicated offers follow (see Romer and Rosenthal 1978). If Bureaucrat's search was unsuccessful the President will not accept any recommendation from Bureaucrat other than  $q$  so Bureaucrat may as well recommend  $q$  (no recommendation is equivalent to recommending  $q$ ). Note that if  $P$  is an  $L$ -president, there is no policy other than  $q$  that Bureaucrat could knowledgeably recommend that  $L$  would accept so  $B$  might as well recommend  $q$ . If  $B$  is a slacker she does not care about policies and may as well follow the indicated strategy; if the slacker undertakes no effort, she can only recommend  $q$  (which is equivalent to no recommendation).  $\square$

The recommendation strategy is effectively unique in the following sense. Uninformed bureaucrats (which will include all slackers in equilibrium) could recommend a random policy knowing that their recommendation will be rejected by the President who will understand that it is a random policy; but a random recommendation is thus equivalent to recommending  $q$ .

The following Corollary indicates the path of play with respect to exits.

**Corollary 4.** *(Equilibrium exits in Period 2) If  $P$ 's search is unsuccessful,  $B$  does not exit. If  $L$ 's policy search is successful,  $B$  exits. If  $R$ 's policy search is successful, Regime 1  $B$ 's exit but Region 2-4  $B$ 's do not.*

*Proof.* Follows from the Stay/go Proposition and the Policy Choice Proposition. That is, if  $L$ 's search succeeds,  $x^F = \ell$  and  $\psi^B(\ell) = \ell < 0$  while exiting brings  $B$  a utility of 0; if  $R$ 's search succeeds  $x^F = r$  and  $\psi^B(r) = 2b - r < 0$  for Regime 1  $B$ , but  $\psi^B(r) = 2b - r > 0$  for Regime 3  $B$  and  $\psi^B(r) = r > 0$  for Regimes 3 and 4  $B$ . If President's search fails then either  $B$ 's search fails and  $x^F = q$  and  $\psi^B(q) = 0$  for all  $B$  (so don't exit), or  $B$ 's search succeeds and  $x^F = b$  with  $\psi^B(b) = b > 0$  for all  $B$ .  $\square$

**Reaction Functions in Effort in Period 2.**—In light of the above results the ex-

pected utility of a zealous  $B$  after the election but prior to undertaking effort is:

(A1)

$$Eu_2^B(e_2^B; e_2^i, p, b, \theta = 1) = \begin{cases} e_2^R w^{out} + (1 - e_2^R)(w^{in} + e_2^B b) - (e_2^B)^2 & \text{if } i = R \text{ and } b \text{ in Region 1} \\ w^{in} + e_2^R(2b - r) + (1 - e_2^R)(e_2^B b) - (e_2^B)^2 & \text{if } i = R \text{ and } b \text{ in Region 2} \\ w^{in} + e_2^R r + (1 - e_2^R)e_2^B b - (e_2^B)^2 & \text{if } i = R \text{ and } b \text{ in Region 3} \\ w^{in} + e_2^R r + (1 - e_2^R)e_2^B 2r - (e_2^B)^2 & \text{if } i = R \text{ and } b \text{ in Region 4} \\ e_2^R w^{out} + (1 - e_2^R)w^{in} - (e_2^B)^2 & \text{if } i = L \end{cases}$$

The similar expected utility of a slacker  $B$  is:

$$Eu_2^B(e_2^B; \theta = 0) = w^{in} - (e_2^B)^2$$

The expected utility of  $R$  is:

$$Eu_2^R(e_2^R; e_2^B, r, b) = \begin{cases} e_2^R r + (1 - e_2^R)e_2^B b - (e_2^R)^2 & \text{if } b \text{ in Regions 1 or 2} \\ e_2^R r + (1 - e_2^R)e_2^B(2r - b) - (e_2^R)^2 & \text{if } b \text{ in Region 3} \\ e_2^R r - (e_2^R)^2 & \text{if } b \text{ in Region 4} \end{cases}$$

The expected utility of  $L$  is

$$Eu_2^L(e_2^L; \ell) = e_2^L |\ell| - (e_2^L)^2$$

Using these expected utilities one may straightforwardly derive reaction functions in effort for the actors. These are:

$$(A2) \quad e_2^B(e_2^i; b, r) = \begin{cases} \frac{(1 - e_2^R)b}{2} & \text{if } i = R, \theta = 1, \text{ and Regions 1, 2, or 3 } B \\ (1 - e_2^R)r & \text{if } i = R, \theta = 1, \text{ and Region 4 } B \\ 0 & \text{otherwise} \end{cases}$$

$$(A3) \quad e_2^R(e_2^B; r, b) = \begin{cases} \frac{r-e_2^B b}{2} & \text{if } \theta = 1 \text{ and } b \text{ in Regions 1 and 2} \\ \frac{r-e_2^B(2r-b)}{2} & \text{if } \theta = 1 \text{ and } b \text{ in Region 3 } B \\ \frac{r}{2} & \text{if } \theta = 0 \text{ or } \theta = 1 \text{ and } b \text{ in Region 4 } B \end{cases}$$

$$(A4) \quad e_2^L(\ell) = \frac{|\ell|}{2}$$

The reaction functions  $e_2^B(e_2^i)$  and  $e_2^i(e_2^B)$  (Equations A2, A3, and A4) may be solved simultaneously to derive the equilibrium policy making efforts:

$$(A5) \quad (e_2^{i*}, e_2^{B*}) = \begin{cases} \left( \frac{2r-b^2}{4-b^2}, \frac{b(2-r)}{4-b^2} \right) & \text{if } i = R, \theta = 1, \text{ and } b \text{ in Regions 1 and 2} \\ \left( \frac{2r+b^2-2br}{4+b^2-2br}, \frac{b(2-r)}{4+b^2-2br} \right) & \text{if } i = R, \theta = 1, \text{ and } b \text{ in Region 3} \\ \left( \frac{r}{2}, \frac{r(2-r)}{2} \right) & \text{if } i = R, \theta = 1, \text{ and } b \text{ in Region 4} \\ \left( \frac{r}{2}, 0 \right) & \text{otherwise } (i = L \text{ and/or } \theta = 0) \end{cases}$$

Note that these values require  $0 \leq b < 2$  and  $0 \leq r \leq 1$ . The former is the duopoly stability condition (see e.g., Dixit 1986). The latter is necessary to restrict  $e_2^{B*}$  in  $[0, 1]$ .

## B The Game in Period 1 (Unified Party Government)

We first consider  $B$ 's expected utility conditional on the outcome of the Period 2 election and the expenditure of efforts  $(e_2^{i*}, e_2^{B*})$ . Call this expected utility  $Eu_2^{B*}|P$ . First, if  $L$  is elected  $Eu_2^{B*}|L = 0$  since  $B$  will quit if  $L$ 's search succeeds and only  $q$  can prevail if  $L$ 's search fails (since  $B$  will not have expended policy making effort, reflecting the fact that  $L$  will not accept any policy  $B$  prefers to  $q$ ). Second, if  $B$  is a slacker then her expected utility is also 0 since she receives no utility for policy and will not exert policy initiative. Third, if  $R$  is elected and  $B$  is a zealot, then  $B$ 's expected utility varies by region as shown in Equation A1. Substituting equilibrium efforts (Equation A5) in the appropriate portions

B's Location	B's Continuation Value from Staying ( $V(0)$ )
Region 1	$\frac{b^2(2-r)^2}{(4-b^2)^2} \pi$
Region 2	$\frac{2b^5-br^4-4b^3(2+r)+b^2(4+3r^2)+16br-8r^2}{(4-b^2)^2} \pi$
Region 3	$\frac{b^4r-4b^3r^2+b^2(4+3r^2+4r^3)-4br^2-4br^2(2+r)+8r^2}{(4+b^2-2br)^2} \pi$
Region 4	$\frac{r^2(6-4r+r^2)}{4} \pi$

Table 1: Continuation Values to Bureaucrat From Remaining in Government Employment

of Equation A1 yields a zealous  $B$ 's expected utility conditional on the election of  $R$ . Via algebra  $Eu_2^{B*}|R$  are: Region 1:  $\frac{b^2(2-r)^2}{(4-b^2)^2}$ ; Region 2:  $\frac{2b^5-br^4-4b^3(2+r)+b^2(4+3r^2)+16br-8r^2}{(4-b^2)^2}$ ; Region 3:  $\frac{b^4r-4b^3r^2+b^2(4+3r^2+4r^3)-4br^2-4br^2(2+r)+8r^2}{(4+b^2-2br)^2}$ ; and Region 4:  $\frac{r^2(6-4r+r^2)}{4}$ .

We now consider the continuation value to  $B$  at the end of Period 1. The continuation value of the game to  $B$  at the end of Period 1 depends on her stay/go decision in Period 1 ( $g_1$ ). If she goes ( $g_1 = 1$ ), then her continuation value  $V(1) = 0$ . Similarly, if she is a slacker she stays ( $g_1 = 1$ ) but her continuation value  $V(0) = 0$ . However if she is a zealot who stays in Period 1, her continuation value  $V(0) = \pi (Eu_2^{B*}|R) + (1 - \pi)Eu_2^{B*}|L$ . As noted immediately above,  $Eu_2^{B*}|L = 0$  hence  $V(0) = \pi (Eu_2^{B*}|R)$ . The continuation values  $V(0)$  of the game for zealous  $B$  are shown in Table 1.

**Remark 5.** In Table 1  $V(0) \geq 0$ .

*Proof.*  $V(0)$  reflects optimal stay/go and work decisions by a zealous Bureaucrat in Period 2.  $B$  can always assure herself zero net utility in Period 2 by not working and quitting for any election realization or equilibrium policy effort by  $R$  or  $L$ . Hence, any equilibrium choices in Period 2 by  $B$  must afford  $B$  expected net utility of at least 0 prior to Period 2.  $\square$

**Proposition 6.** (Stay/go strategy in Period 1). The Bureaucrat's stay/go strategy in Period 1 is:

$$g_1(x_1^F; b) = \begin{cases} 1 & \text{if } \psi^B(x_1^F; b) + V(0) < 0 \\ 0 & \text{otherwise} \end{cases}$$

*Proof.*  $B$ 's Period 1 effort costs are sunk at the stay/go decision, hence only the policy impact of  $x_1^F$  and the continuation value matters. If  $B$  quits ( $g_1 = 1$ ) her policy utility is 0



and her continuation value  $V(1) = 0$ . If she stays ( $g_1 = 0$ ) she receives  $\psi^B(x_1^F) + V(0)$ . The comparison of these two utility values determines the strategy.  $\square$

**Proposition 7.** (*Policy Choice and Recommendation in Period 1*) *P's policy selection strategy and B's policy recommendation strategy in Period 1 are the same as in Period 2.*

*Proof.* Given a future-is-now president, the President's policy choice in Period 1 must be the same as in Period 2. In addition, no deviation from B's Period 2 recommendation strategy could be profitable for B in Period 1, as B recommends the most profitable policy that an uninformed P will accept. Hence the earlier Proposition also describes Presidential policy choice and Bureaucrat's policy recommendation strategies in Period 1.  $\square$

Given the two previous propositions and the fact that  $V(0) > 0$ , the following corollary is straightforward.

**Corollary 8.** (*Actual Stay/Go in Period 1*). *In Period 1*

$$g_1 = \begin{cases} 1 & \text{if } \left\{ \begin{array}{l} L \text{ is president, } L\text{'s search succeeded and } |\ell| > V(0) \\ R \text{ is president, } R\text{'s search succeeded, } b \text{ lies in Region 1 and } 2b - r + V(0) < 0 \end{array} \right. \\ 0 & \text{if } \left\{ \begin{array}{l} L \text{ is president and } \left\{ \begin{array}{l} L\text{'s policy search failed} \\ L\text{'s search succeeded but } |\ell| \leq V(0) \end{array} \right. \\ R \text{ is president and } \left\{ \begin{array}{l} R\text{'s policy search failed} \\ R\text{'s search succeeded but } b \text{ lies in Regions 2-4} \\ R\text{'s search succeeded, } b \text{ lies in Region 1 but } 2b - r + V(0) \geq 0 \end{array} \right. \end{array} \right.$$

*Proof.* Recall that B will go if and only if  $\psi^B(x_1^F) + V(0) < 0$ . Recall as well that  $V(0) > 0$ . If L is president and L's search failed,  $x_1^F = q$  so  $\psi^B(x_1^F) = 0$  and thus  $\psi^B(x_1^F) + V(0) > 0$ . If L's policy search succeeded,  $x_1^F = \ell$  and  $\psi^B(x_1^F) = \ell < 0$  for all B. So B stays or goes as  $|\ell| \leq V(0)$ . If R is president and R's policy search failed, either  $x_1^F = q$  (when B's search failed),  $x_1^F = b$  for a successful Region 1-3 B, or  $x_1^F = 2r$  for a successful Region 4 B. In all

these cases  $\psi^B(x_2^F) \geq 0$  so  $\psi^B(x_2^F) + V(0) > 0$  so  $B$  stays. If  $R$  is president and  $R$ 's policy search succeeded,  $x_1^F = r$ . By construction  $\psi^B(r) \geq 0$  for all  $B$  in Regions 2-4 so for such  $B$   $\psi^B(x_1^F) + V(0) > 0$  and they stay. And, by construction,  $\psi^B(r) = 2b - r < 0$  for all  $B$  in Region 1. Region 1  $B$  then stays or goes as  $2b - r + V(0) \geq < 0$ . These exhaust all the cases.  $\square$

The corollary identifies two situations in which Period 1 zealous  $B$  might quit: 1) when  $L$  is president,  $L$ 's policy search succeeded, and  $\ell + V(0) < 0$ , and 2) when  $R$  is president,  $R$ 's search succeeded,  $b$  lies in Region 1, and  $2b - r + V(0) < 0$ . The comparative static results in the text on when quitting is "more likely" consider the effects of changes in exogenous variables on the magnitudes of  $\ell + V(0)$  and  $2b - r + V(0)$ , respectively.

**Remark 9.** (WTO) For  $b$  in all four regions,  $\ell + V(0)$  is increasing in  $\pi$  and decreasing in  $|\ell|$ .

*Proof.* From inspection of Table 1,  $V(0)$  is increasing in  $\pi$  in all four regions.  $V(0)$  is not a function of  $\ell$  and  $\ell < 0$  so  $\ell + V(0)$  is decreasing for  $b$  in all four regions.

**Remark 10.** (IMD) A small group of bureaucrats in Region 1 do not exit when  $R$ 's policy search succeeds.

*Proof.* In Region 1 the stay condition after a successful  $R$  imposes  $x_1^F = r$  is  $2b - r + V(0) \geq 0$ . Recall that in Region 1  $V(0) = \frac{b^2(2-r)^2}{(4-b^2)^2}\pi$ . Note that  $\lim_{b \rightarrow \frac{r}{2}} \left( 2b - r + \frac{b^2(2-r)^2}{(4-b^2)^2}\pi \right) = \frac{4(2-r^2)r^2}{(16-r^2)^2}\pi > 0$ , so as  $b$  approaches the upper bound of Region 1 ( $r/2$ ) there is a group of bureaucrats who do not exit. A closed form solution for  $b$  such that  $b - r + V(0) = 0$  is intractable but numerical solutions indicate that for plausible parameter values the range of staying bureaucrats is very small.  $\square$

**Remark 11.** (IMD) For  $b$  in Region 1,  $2b - r + V(0)$  is increasing in  $\pi$ , increasing in  $b$ , and decreasing in  $r$ .

*Proof.* Recall that  $0 \leq b < 2$ ,  $0 \leq r \leq 1$ , and  $V(0) = \frac{b^2(2-r)^2}{(4-b^2)^2}\pi$ . Hence  $\frac{\partial}{\partial \pi}(2b - r + \frac{b^2(2-r)^2}{(4-b^2)^2}\pi) = \frac{b^2(2-r)^2}{(4-b^2)^2} \geq 0$ ;  $\frac{\partial}{\partial b}(2b - r + \frac{b^2(2-r)^2}{(4-b^2)^2}\pi) = 2 + \frac{2b(4+b^2)(2-r)^2}{(4-b^2)^3}\pi > 0$ ; and  $\frac{\partial}{\partial r}(2b - r + \frac{b^2(2-r)^2}{(4-b^2)^2}\pi) = -1 - \frac{2b^2(2-r)}{(4-b^2)^2}\pi < 0$ .  $\square$

We now consider expected utilities in Period 1 in order to derive reaction functions. Assume an  $R$  president. Recall we assume a zealous  $B$  in Period 1. From above,  $B$  in Regions 2-4 will not quit in Period 1. Hence, prior to undertaking effort, the expected utility for  $B$  in Regions 2-4 is:

$$Eu_1^B(e_1^B; e_1^R, r, b) = \begin{cases} e_1^R(2b - r) + (1 - e_1^R) e_1^B b + V(0) - (e_1^B)^2 & \text{if } b \text{ is in Region 2} \\ e_1^R r + (1 - e_1^R) e_1^B b + V(0) - (e_1^B)^2 & \text{if } b \text{ is in Region 3} \\ e_1^R r + (1 - e_1^R) e_1^B 2r + V(0) - (e_1^B)^2 & \text{if } b \text{ is in Region 4} \end{cases}$$

For  $B$  in Region 1 there are two possibilities: 1) If  $R$  is successful,  $B$  exits; 2) If  $R$  is successful,  $B$  stays. Hence:

$$Eu_1^B(e_1^B; e_1^R, r, b) = \begin{cases} e_1^R(2b - r) + (1 - e_1^R) e_1^B b + V(0) - (e_1^R)^2 & \text{if Region 1 } B \text{ stays when } R \text{ succeeds} \\ (1 - e_1^R) (e_1^B b + V(0)) - (e_1^R)^2 & \text{if Region 1 } B \text{ quits when } R \text{ succeeds} \end{cases}$$

For  $R$ :

$$Eu_1^R(e_1^R; e_1^B, r, b) = \begin{cases} e_1^R r + (1 - e_1^R) e_1^B b - (e_1^R)^2 & \text{if } b \text{ is in Region 1 or 2} \\ e_1^R r + (1 - e_1^R) e_1^B (2r - b) - (e_1^R)^2 & \text{if } b \text{ is in Region 3} \\ e_1^R r - (e_1^R)^2 & \text{if } b \text{ is in Region 4} \end{cases}$$

Assume an  $L$  president. For  $B$  there are two possibilities: 1) If  $L$  is successful,  $B$  exits; 2) If  $L$  is successful,  $B$  stays. Hence:

$$Eu_1^B(e_1^B; e_1^L, \ell, b) = \begin{cases} e_1^L \ell + V(0) - (e_1^B)^2 & \text{if } b \text{ stays when } L \text{ succeeds} \\ (1 - e_1^L) V(0) - (e_1^B)^2 & \text{if } b \text{ quits when } L \text{ succeeds} \end{cases}$$

For  $L$ :

$$Eu_1^L(e_1^L; e_1^B, \ell, b) = e_1^L |\ell| - (e_1^L)^2$$

Using these expected utilities one may straightforwardly derive reaction functions in effort for the actors. These are:

$$(B1) \quad e_1^B(e_1^i; b, r) = \begin{cases} \frac{(1-e_1^R)b}{2} & \text{if } i = R \text{ and } b \text{ is in Regions 1, 2, or 3} \\ (1 - e_1^R)r & \text{if } i = R \text{ and } b \text{ is in Region 4} \\ 0 & \text{if } i = L \end{cases}$$

$$(B2) \quad e_1^R(e_1^B; r, b) = \begin{cases} \frac{r-e_1^B b}{2} & \text{if } b \text{ is in Regions 1 and 2} \\ \frac{r-e_1^B(2r-b)}{2} & \text{if } b \text{ is in Region 3} \\ \frac{r}{2} & \text{if } b \text{ is in Region 4} \end{cases}$$

$$(B3) \quad e_1^L(\ell) = \frac{|\ell|}{2}$$

The reaction functions  $e^i(e^B)$  and  $e^B(e^i)$  (Equations A2 , B2and B3) may be solved simultaneously to derive the equilibrium policy making efforts:

$$(B4) \quad (e^{i*}, e^{B*}) = \begin{cases} \left( \frac{2r-b^2}{4-b^2}, \frac{b(2-r)}{4-b^2} \right) & \text{if } i = R, \theta = 1, \text{ and } b \text{ is i Regions 1 and 2} \\ \left( \frac{2r+b^2-2br}{4+b^2-2br}, \frac{b(2-r)}{4+b^2-2br} \right) & \text{if } i = R, \theta = 1, \text{ and } b \text{ is in Region 3} \\ \left( \frac{r}{2}, \frac{r(2-r)}{2} \right) & \text{if } i = R, \theta = 1, \text{ and } b \text{ is in Region 4} \\ \left( \frac{r}{2}, 0 \right) & \text{otherwise } (i = L \text{ and/or } \theta = 0) \end{cases}$$

As in Period 2, these values require  $0 \leq b < 2$  and  $0 \leq r \leq 1$ .

Expected policy in a period is simply  $e_2^{i*}p + (1 - e_2^{i*})e_2^{B*}x_2^B$  and may readily be calculated using the above results.

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## Notes

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<sup>1</sup>Shear, Michael D., Julia Preston, and Ashley Parker. 2014. "Obama Plan May Allow Millions of Immigrants to Stay and Work in U.S." *New York Times*, November 13, 2014 (<http://www.nytimes.com/2014/11/14/us/obama-immigration.html>, last accessed January 23, 2015).

<sup>2</sup>This stylized "peek-a-boo" technology conveniently sidesteps difficult problems of information expropriation and policy learning that arise in spatially-based principal-agent models. Callander 2011 provides a discussion and offers an alternative approach.

<sup>3</sup>We assume all zealous bureaucrats in an agency have the same ideal policy. If one zealot with ideal point  $b$  prefers to depart, all other zealots in the agency will as well. Hence, the replacement must be a slacker.

<sup>4</sup>These are Matthews-normalized utility functions, a normalization which proves extremely convenient here (see Matthews 1989).

<sup>5</sup>On forward-looking bureaucrats see inter alia Lewis 2008; on the present orientation of presidents, see Light 1982 and Lowi 1985.

<sup>6</sup>If  $L$  is sufficiently close to 0, then fewer Region 1 zealous bureaucrats will quit after the  $L$  president's search is successful, than after the  $R$  president's search is successful. The relevant conditions are: 1)  $V(0) + \ell \geq 0$  and 2)  $V(0) + \ell > V(0) = 2b - r$ , for  $0 \leq b < r/2$ . Because  $V(0)$  is so small for Region 1 bureaucrats, the first requirement is quite stringent.

<sup>7</sup>See Equation B1 in Appendix B.

<sup>8</sup>This is easily seen using Equation B1 in Appendix B.

<sup>9</sup>There is an additional scenario in which  $r < v^r$  (where  $v^r$  denotes the ideal policy of

the veto pivot) so the President is not constrained by Congress but some Region 3 and 4 Bureaucrats may be, if the president's policy search fails but their's succeeds.