Electoral Manipulation as Bureaucratic Control*

Scott Gehlbach and Alberto Simpser

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Abstract
How do rulers get bureaucrats to comply? A vast literature on this topic focuses on agency and contract design in an environment characterized by an information asymmetry between the bureaucrat and his political superior. We argue that this understanding misses the mark in weakly institutionalized environments, where the bureaucrat’s first-order concern is whether his political patron is likely to remain in power. When the politician’s hold on power, in turn, depends on the bureaucrat’s compliance, the task confronting the ruler is to convince the bureaucrat that his hold on power is secure. We focus on the role of electoral manipulation in solving this agency problem. We show formally that manipulation can be useful to the ruler, even when it does not directly increase his survival probability, and we provide conditions under which a ruler would attempt manipulation.

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1 Introduction

How do rulers get bureaucrats to comply? A vast literature on this topic posits an agency problem characterized by an asymmetry of information between the bureaucrat and his superior. The goal of agency or contract design is to induce bureaucratic compliance when the bureaucrat knows more about the state of the world than the politician does and/or the bureaucrat’s actions cannot be fully observed by the politician.

The canonical approach has generated tremendous insights into bureaucratic control. We question, however, whether its unanimous emphasis on formal institutional design or selection procedures generalizes beyond the realm of the few advanced industrialized nations. In many parts of the world, a bureaucrat’s career is not primarily governed by formal rules, such as those associated with career civil service or with employment law, but instead depends in large measure on the fate of the bureaucrat’s political superior. The bureaucrat’s employment and access to profit opportunities and rents depend less on a formal employment contract than on the stability of the politician in a position of power—as the political superior fares, so does the bureaucrat who works under him. When the politician loses his position, he who replaces him is unlikely to retain a bureaucrat who has displayed loyalty to a rival.

This simple observation has important theoretical implications. First, for a bureaucrat, success depends mainly on picking sides well—on throwing his lot behind a politician with a solid grip on power. Second, for the politician, the central challenge is therefore to convince the bureaucrat that his (the politician’s) grip on power is solid. This is the key to eliciting compliance. In electoral regimes, electoral manipulation can thus be fundamental to the management of perceptions about a politician’s grip on power. In other words, electoral manipulation can play a central role in political survival, above and beyond that directly related to winning elections.¹

Our theory has the greatest applicability to weakly institutionalized environments, where laws and regulations, and/or their enforcement, are relatively lax, and in consequence afford ample discretion to the powerful vis-à-vis their subordinates. Weak institutionalization has two important implications that underpin our analysis. First, in weakly-institutionalized environments, politicians generally enjoy considerable discretion over the employment and salaries of their bureaucratic subordinates. Therefore, politicians are at liberty to install in bureaucratic positions those people who have displayed loyalty to them in the past.² Second, in weakly institutionalized environments, the absence of independent and credible alternative sources of information, including independent electoral and polling institutions, affords substantial opportunities for politicians to influence perceptions about their grip on power.

We develop a formal model of the relationship between a ruler and a bureaucrat in such an environment. The ruler wants the bureaucrat to take a costly action that increases the ruler’s survival probability. Although effort is observed, we assume that the ruler’s ability to reward the bureaucrat depends on the ruler’s survival in office. The bureaucrat’s choice therefore depends on his perceptions about the ruler’s grip on power. The ruler, in

¹By electoral manipulation we refer to the set of practices that includes stuffing ballot boxes, destroying opponents’ ballots, voting multiple times, altering voter lists, tampering with the vote count, and bribing voters, among other things.

²On the relationship between loyalty and political institutions, see Bueno de Mesquita et al. (2003).
turn, has an incentive to influence these perceptions by manipulating an election in which a representative citizen of unknown type expresses support for or opposition to the ruler. To focus on the role of electoral manipulation in information revelation and bureaucratic control, we assume that the election result has no direct impact on the ruler's survival (e.g., as in a non-binding plebiscite). This stylized assumption allows us to study the possibility that electoral manipulation might be pursued for reasons other than contributing to victory in the election at hand (Simpser, 2011). One interpretation of this assumption is that electoral manipulation in our model represents interference above and beyond what would provide a direct electoral benefit.

Although electoral manipulation can make the ruler look more solidly in control than he really is, it is also costly to the ruler: it requires personnel, organization, and money, and it could potentially result in domestic or international sanction. Our analysis highlights various conditions under which the benefit outweighs the cost. We show in particular that, for given parameter values, there generically exists a unique pure-strategy equilibrium that satisfies natural restrictions on beliefs off the equilibrium path. Whether the ruler manipulates in equilibrium depends on the effectiveness of manipulation, the relationship between bureaucratic effort and the ruler's survival probability, and other factors.

The paper proceeds as follows. In Section 2, we briefly review the literature on the political control of bureaucracies and discuss more fully our contribution. We present our model in Section 3 and analysis in Section 4. In Sections 5 and 6, we discuss various extensions to the baseline model. Section 7 concludes.

2 Approaches to the Problem of Bureaucratic Control, or the Problem with the Principal-Agent Problem

A substantial body of work has addressed the political control of bureaucrats. By and large, this literature views the problem of political control as an agency problem characterized by asymmetric information. There are two main lines of work. The first focuses on the political control of bureaucratic agencies; the second on the corrupt behavior of individual bureaucrats. We address each in turn.

The first line of work is based on the notion that bureaucratic agencies have an informational advantage over their political principals. As politicians delegate responsibility to bureaucratic agencies, they therefore simultaneously surrender control. A classic statement of the problem is provided by McCubbins, Noll and Weingast (1987, p. 243):

Inevitably, elected officials delegate considerable policymaking authority to unelected bureaucrats. Because elected officials have limited resources for monitoring agency performance, the possibility arises that bureaucrats will not comply with their policy preferences. This gives rise to the question of how—or indeed whether—elected political officials can reasonably effectively assure that their policy intentions will be carried out.

To approach this problem, McCubbins et al. continue, “we begin with the premise that the political control of agencies is a principal-agent problem” (p. 243). The literature takes this problem as given, and then studies the ways in which politicians have, or could have, mitigated it. McCubbins et al. suggest that traditional solutions such as monitoring are too
costly, and that administrative law is designed precisely to address the problem of asymmetric information. Banks and Weingast (1992) suggest that politicians consider this problem from the start, and therefore create agencies only in policy realms where alternative sources of information about agency performance (for example, from organized groups of citizens) can be used to mitigate the agency problem.\(^3\)

A second line of work focuses on the problem of political control of individual bureaucrats. This literature emphasizes the possibility that a bureaucrat might shirk or engage in corrupt self-dealing—understood generally as the abuse of public office for private gain. This body of literature also diagnoses the problem as one of asymmetric information: the politician hires the bureaucrat to provide services to citizens, but he cannot observe the bureaucrat’s actions, and this opens up opportunities for the bureaucrat to collect bribes and potentially steal government property. The seminal contribution is Rose-Ackerman (1975), upon which a vast literature has followed. The literature has emphasized various remedies, including increasing monitoring, punishments, and salaries, and selecting honest types.

Without denying the importance of asymmetric information, we question its centrality to the political control of bureaucrats in all environments, and we propose an alternative approach. Our approach highlights two implicit assumptions in the classical approach to bureaucratic control. The first assumption, that there exists a government with the capacity and willingness to enforce laws and rules, is central to traditional prescriptions to attain bureaucratic compliance, such as monitoring and salary policy (e.g., Klitgaard, 1988; Rose-Ackerman, 1999). The second, that bureaucrats’ employment does not depend on the identity of the principal, is equally important.\(^4\)

To illustrate our critique, consider the situation of bureaucrats in communist Europe before the transition to democracy. Even setting aside issues of enforcement of the law, the law itself gave ample discretion to politicians regarding many aspects of bureaucratic employment. As Wiatr (1995) writes, “legal regulations did not, at least in most cases, give members of the bureaucracy protection against dismissal or degradation for political reasons.”\(^5\) The degree of insulation of bureaucrats from politicians varied from country to country, but even at the most liberal end of the spectrum (e.g., Hungary and Poland) the “state administration remained under party control and could not develop in the direction of a modern civil service.”

This example highlights the importance of weak institutionalization in shaping the incentives of bureaucrats: many bureaucrats under communism were professional, educated,

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\(^3\)Other contributions in this vein include Niskanen (1971), Mitnick (1975), McCubbins and Schwartz (1984), and Moe (1990).

\(^4\)An important exception to the literature’s consensus is Rauch and Evans (2000), who emphasize the differences between industrialized and developing countries, and point out that in the latter it is often the case that “vigorous enforcement is not available” (p. 51). Their analysis, however, does not focus on the question of political control. Instead, their paper shows that bureaucracies perform better when they enjoy formal protections such as those associated with meritocratic civil service. Another insightful critique of the traditional approach to the problem of political control is articulated by Moe (2006). His critique, however, is of a different nature from that which we offer. Focusing on the political and institutional realities of the United States today, Moe argues that some groups of bureaucrats (specifically school teachers) have considerable voting power, and therefore ought to be viewed as principals (to their “principals,” the politicians).

\(^5\)All quotes in this and the following paragraph from Wiatr (1995, pp. 154–155).
Table 1: Bureaucratic Quality Around the World, 2000

<table>
<thead>
<tr>
<th>Bureaucratic Quality</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of countries</td>
<td>23</td>
<td>28</td>
<td>50</td>
<td>28</td>
<td>11</td>
</tr>
<tr>
<td>Percent of sample</td>
<td>16</td>
<td>20</td>
<td>36</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>Representative cases</td>
<td>USA</td>
<td>India</td>
<td>China</td>
<td>Russia</td>
<td>DR Congo</td>
</tr>
<tr>
<td></td>
<td>Japan</td>
<td>Indonesia</td>
<td>Brazil</td>
<td>Nigeria</td>
<td>Iraq</td>
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<tr>
<td></td>
<td>Germany</td>
<td>Mexico</td>
<td>Pakistan</td>
<td>Ethiopia</td>
<td>Mozambique</td>
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<tr>
<td></td>
<td>France</td>
<td>Philippines</td>
<td>Bangladesh</td>
<td>Ukraine</td>
<td>Mali</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>Italy</td>
<td>Vietnam</td>
<td>Sudan</td>
<td>Somalia</td>
</tr>
</tbody>
</table>

Note: International Country Risk Guide Bureaucratic Quality Index for 2000. The index reflects “autonomy from political pressure” and “strength and expertise to govern without drastic changes in policy or interruptions in government services,” as discussed in Knack and Keefer (1995).

and experienced, “often very well prepared for their jobs and motivated in a way not very different from that of their colleagues in Western democracies…Within the constraints of the system, they tried their best to make the machinery of the government work.” However, institutional incentives trumped education, professionalism, and good intentions, so that “due to the politicization of the state apparatus, even in the most liberal (by the standards of the system) cases the bureaucrats were not politically netural.” As Wiatr describes, this relationship between politician and bureaucrat persisted in Poland even after the transition to democracy: in the first few years of territorial self-government, the dynamic of political dominance over the bureaucracy appeared to reproduce itself at lower levels of government.

Looking cross-nationally, cases in which bureaucrats are beholden to politicians, as in communist and early postcommunist Poland, appear to be quite common. One can obtain a sense for cross-national variation from the Bureaucratic Quality Index collected for the International Country Risk Guide (ICRG). This index captures “autonomy from political pressure” and “strength and expertise to govern without drastic changes in policy or interruptions in government services,” among other things (Knack and Keefer, 1995), with higher values indicating better quality (e.g., more autonomy from political pressure). The index is not a perfect proxy, but it provides a reasonable indication of the discretion of politicians vis-à-vis bureaucrats. As Table 1 shows, very few countries are rated as having bureaucracies with the bureaucratic independence that does the United States, the explicit or implicit empirical referent for much of the existing literature.

In a weakly institutionalized environment, bureaucrats’ professional survival depends on figuring out who their boss might be, and throwing their lot behind him. Rulers who do not manage to persuade bureaucrats that their hold on power is strong risk suffering defections and insubordination from the bureaucracy, which could be very damaging to the ruler’s hold

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6Rauch and Evans (2000) show that the ICRG Bureaucratic Quality index is positively correlated with an index of the degree to which the bureaucracy approximates the Weberian ideal type of a meritocratic career civil service, where their index is based on an original expert survey for a sample of 35 less-developed countries.
on power. In the first years after the collapse of communism, rulers in various postcommunist countries failed to persuade the public that they were securely entrenched in office, and they suffered the consequences. In the Ukrainian 1994 presidential election, for example, “large sections of the eastern state bureaucracy actively undermined Kravchuk’s [i.e., the incumbent president’s] campaign by supporting Kuchma” (Way, 2005, p. 256). Similarly, in Belarus, Prime Minister Vyacheslav Kebich’s lack of control over the intelligence and security bureaucracy played a central role in his electoral loss to Alexander Lukashenko in the 1994 election (Way, 2006, p. 175).

In contrast, later in 2001, Lukashenko successfully utilized electoral manipulation to secure the allegiance of bureaucrats. As explained by Belarussian newspaper editor Alexander Tomkovich (cited in Uzelac, 2001), Lukashenko “is surrounded by people who could switch sides at the first occasion if given a guarantee that they would keep their posts,” and therefore, for Lukashenko “a landslide first-round victory is a must—one can never know if the bureaucracy would change its mind in between the two rounds.” Remarkably, electoral manipulation was, by all accounts, not needed by Lukashenko in order to win the election. However, without manipulating, he would have obtained a smaller margin of victory and “politically, he could not afford such a victory” since “only with the certainty of a big first-round victory could he be sure of keeping his hold over state officials.” This example illustrates the central insights of our theory.

3 Model

Consider an extensive game of incomplete information with three players: a ruler \((r)\), a bureaucrat \((b)\), and a representative citizen of type \(t \in \{p, o\}\), where \(p\) indicates a “pragmatist” and \(o\) indicates an “opponent.” The citizen’s type is unobserved by the ruler and bureaucrat, who share a common prior belief that \(Pr(t = p) = q\). At issue is a project that, if completed, increases the ability of the ruler to remain in power. The ruler needs the bureaucrat’s cooperation for the project to be completed. The bureaucrat’s employment is tied to the ruler’s survival, providing an incentive for the bureaucrat to cooperate, but effort in support of the project is costly. The bureaucrat therefore prefers to support the project if and only if he considers it likely that the ruler will remain in power.

The key assumption of the model is that project completion increases the ruler’s survival probability more if the citizen is a pragmatist than if the citizen is an opponent.\(^8\) Intuitively, this describes an environment in which the pragmatist cares about little other than the project, whereas the opponent is inclined to oppose the ruler even if the ruler can successfully deliver the project. Given this, the bureaucrat would like to know whether the citizen is a pragmatist or an opponent. At the same time, the ruler has an incentive to convince the bureaucrat that the citizen is a pragmatist, even if he is not. These informational considerations play out in a non-binding plebiscite (i.e., an election with no direct impact on the ruler’s survival) in which the citizen expresses support for or opposition to the ruler, where the ruler may attempt to manipulate the plebiscite outcome. As discussed above, we assume a non-binding vote to focus on non-electoral incentives for electoral manipulation. Intuitively,

\(^7\)For further discussion of the excessive use of electoral manipulation in Belarus, see Simpser (2011, ch. 6).

\(^8\)More generally, we might assume a complementarity between the citizen’s type and bureaucratic effort.
the decision to manipulate in our model can be interpreted as “excessive” manipulation, above and beyond that which is immediately electorally useful.

We assume the following timing of events. At the beginning of the game, a plebiscite is held on whether the ruler should remain in office. This vote is non-binding, but in equilibrium it may convey information about the citizen’s preferences. Formally, the citizen votes \( v \in \{0, 1\} \), where \( v = 0 \) indicates opposition to the ruler and \( v = 1 \) indicates support. Simultaneously with the citizen’s action, the ruler chooses whether to attempt manipulation of the plebiscite, \( m \in \{0, 1\} \). The plebiscite result \( \hat{v} \in \{0, 1\} \) is jointly determined by the citizen’s and ruler’s actions. If \( m = 0 \), then \( \hat{v} = v \). In contrast, if \( m = 1 \), then \( \hat{v} = v \) if \( v = 1 \), whereas if \( v = 0 \), \( \hat{v} = 1 \) with probability \( h \) and \( \hat{v} = 0 \) with probability \( 1 - h \), where the parameter \( h \in (0, 1) \). Thus, \( h \) is the probability that manipulation is successful. We assume that the bureaucrat observes the ruler’s action \( m \) and the plebiscite result \( \hat{v} \), but that the citizen’s action \( v \) is unobserved.

Following the plebiscite, the bureaucrat chooses whether to support the bureaucrat’s project. For simplicity, we assume a discrete effort choice, \( e \in \{0, 1\} \). Finally, the survival of the ruler is determined. In the baseline model we do not model this process explicitly, but rather assume that the probability \( \pi \) the ruler survives is a function of the citizen’s type and the bureaucrat’s effort decision, \( \pi = \pi(t, e) \). As discussed above, the key assumption of our model is that there is a complementarity between the citizen’s type and the bureaucrat’s action, such that effort has a larger impact on the ruler’s survival probability if the citizen is a pragmatist than if she is an opponent. For concreteness, we assume that this complementarity takes the following functional form:

\[
\pi = \begin{cases} 
  e & \text{if } t = p, \\
  \beta e & \text{if } t = o,
\end{cases}
\]  

(1)

where \( \beta \in (0, 1) \). Thus, effort in support of the project is a necessary and sufficient condition for the ruler to remain in power if the citizen is a pragmatist, whereas if the citizen is an opponent the ruler may lose power even when the bureaucrat supports the project. In the Appendix we provide a particular microfoundation for this assumption, modeling a decision by the citizen to retain or replace the ruler.

Figure 1 illustrates the information structure of the model, focusing on the voting and manipulation strategies of the citizen and ruler, respectively. There are four information sets at which the bureaucrat could find himself: two following a decision by the ruler not to manipulate (depicted in the left panel) and two following a decision to manipulate (depicted in the right panel). Regardless of the ruler’s choice, the bureaucrat knows that the plebiscite result \( \hat{v} = 0 \) could only have been produced by the action \( v = 0 \). The same is true of the the plebiscite result \( \hat{v} = 1 \) if the ruler does not manipulate. If the ruler manipulates, however, then the plebiscite result \( \hat{v} = 1 \) is consistent with either action by either type of citizen.

We assume that the ruler has von Neumann-Morgenstern preferences represented by the function

\[ u_r = \pi y - m\kappa, \]

where \( y > 0 \) is an exogenous rent from holding power. The parameter \( \kappa > 0 \) represents logistical, reputational, and other costs of manipulation.
Figure 1: The information structure of the model. The plebiscite result $\hat{v}$ is jointly determined by the voting strategy ($v$) of the citizen, who is either a pragmatist ($p$) or an opponent ($o$), and the manipulation strategy ($m$) of the ruler. The parameter $h$ measures the effectiveness of manipulation.

Similarly, the bureaucrat has von Neumann-Morgenstern preferences represented by the function

$$u_b = \pi w - \epsilon \eta,$$

where the parameters $w, \eta > 0$. Implicitly, the bureaucrat’s employment is tied to the ruler’s survival. Further below, we allow for the possibility that the bureaucrat may retain office even if the ruler is replaced.

Finally, with respect to citizen preferences, we assume that a pragmatist ranks lotteries over terminal histories according to the ruler’s survival probability and the bureaucrat’s effort decision, with payoff function

$$u_p = \pi \psi e + (1 - \pi) \delta,$$

where $\psi > \delta > 0$. Thus, the pragmatist prefers that the ruler survive if and only if the bureaucrat exerts effort. In equilibrium, the pragmatist may therefore attempt to use her plebiscite vote to influence the bureaucrat’s behavior. In contrast, we assume that an opponent strictly prefers to vote against the ruler in the plebiscite (i.e., to choose $v = 0$). One justification for the latter assumption, which we consider in the Appendix, is that there is a cost of “preference falsification” (Kuran, 1991) or similar expressive consideration for the opponent, such that she prefers to express her opposition to the ruler through the plebiscite vote, regardless of the impact of that decision on the bureaucrat’s behavior.

To focus on the interesting case, we restrict attention to a particular region of the parameter space. First, we assume $\beta w < \eta < w$, which ensures that the bureaucrat’s problem is non-trivial: there are beliefs about the citizen’s type that justify effort and no effort, respectively. Second, we assume $q < \bar{q} \equiv \frac{\eta - \beta w}{w - \beta w}$, which implies that, in equilibrium, the bureaucrat prefers not to exert effort unless the plebiscite is sufficiently informative about the citizen’s type; we relax this assumption further below.
4 Analysis

Our solution concept is perfect Bayesian equilibrium; we restrict attention to pure-strategy equilibria. For our game, and in contrast to simple signaling games, perfect Bayesian equilibrium places some restrictions on beliefs off the equilibrium path. In particular, if the ruler deviates to a different manipulation choice, then the bureaucrat’s beliefs at whatever information set he finds himself are determined by the citizen’s strategy in accordance with Bayes’ rule. In contrast, and as in simple signaling games, perfect Bayesian equilibrium places no restrictions on beliefs following a deviation by some type of citizen to a different voting strategy.\footnote{See, e.g., Fudenberg and Tirole (1991, p. 332).}

A strategy profile is a quadruple \((v_o, v_p, m, e)\) \(\in\{0, 1\} \times \{0, 1\} \times \{0, 1\} \times \{0, 1\}\). We begin by considering the bureaucrat’s effort decision \(e\). Let \(\hat{q}\) represent the bureaucrat’s posterior belief that the citizen is a pragmatist, having observed both the ruler’s manipulation decision and the plebiscite result (i.e., \(\hat{q} = \Pr (p \mid m, \hat{v})\)). Given Equation 1 and the assumption that the bureaucrat’s employment is tied to the ruler’s survival, the bureaucrat’s expected payoff from exerting effort is

\[
\hat{q}w + (1 - \hat{q})\beta w - \eta. \tag{2}
\]

With probability \(\hat{q}\), the citizen is a pragmatist, in which case effort secures the ruler’s survival, whereas with probability \(1 - \hat{q}\) the citizen is an opponent, implying that the ruler survives with probability \(\beta\). The ruler’s survival guarantees the bureaucrat’s wage \(w\), whereas effort costs \(\eta\). In contrast, the payoff from choosing \(e = 0\) is simply zero, as the ruler is replaced with certainty. The bureaucrat therefore prefers to exert effort if and only if

\[
\hat{q} \geq \bar{q} = \frac{\eta - \beta w}{w - \beta w}. \tag{3}
\]

This quantity is bounded by zero and one, given the assumption \(\beta w < \eta < w\).

We now consider the conditions for existence of pooling and separating equilibria, where by “pooling” and “separating” we refer to the voting decision for the pragmatist and opponent in the plebiscite. Recalling that \(q < \bar{q}\) by assumption, this immediately implies that in any pooling equilibrium, in which the posterior \(\hat{q}\) equals the prior \(q\), the bureaucrat exerts no effort and the ruler is removed with certainty. (This is true even if the ruler manipulates and \(v = 0\). In that case, both \(\hat{v} = 0\) and \(\hat{v} = 1\) are observed with positive probability, but regardless of the plebiscite result there is no updating of the bureaucrat’s beliefs.) Does such an equilibrium exist? Observe that in equilibrium the pragmatist and opponent cannot pool on \(v = 1\), as by assumption the opponent strictly prefers to choose \(v = 0\). If there is a pooling equilibrium, with or without manipulation, it must therefore be the case that both types pool on \(v = 0\).

Consider first the case of an equilibrium without manipulation in which the types pool on \(v = 0\). Clearly the opponent is optimizing, as she strictly prefers to choose \(v = 0\). For this to also be a best response for the pragmatist, who receives a payoff of \(\delta\) in equilibrium, off the equilibrium path (i.e., having observed \(\hat{v} = 1\)) the bureaucrat must believe that the citizen is an opponent with sufficiently high probability; otherwise she would exert effort, providing an incentive for the pragmatist to deviate and receive a payoff of \(\psi > \delta\). Any such
equilibrium, however, does not satisfy the Intuitive Criterion of Cho and Kreps (1987), as deviation to \( v = 1 \) is equilibrium-dominated for the opponent but not the pragmatist.\footnote{We emphasize the Intuitive Criterion due to familiarity with this equilibrium refinement, but these beliefs are also ruled out by the weaker requirement that probability zero be assigned to types for which a message is strictly (rather than equilibrium-) dominated (Cho and Kreps, 1987, pp. 199–201).}

Now consider the case of an equilibrium with manipulation in which the types pool on \( v = 0 \). In this case, both \( \hat{v} = 0 \) and \( \hat{v} = 1 \) are observed with positive probability, but in either case there is no updating of beliefs, implying that the bureaucrat exerts no effort and the ruler is removed with certainty. As this is the worst possible outcome for the ruler, the ruler can profitably deviate to \( m = 0 \), thus saving the cost of manipulation \( \kappa \). Thus, this is not an equilibrium.

Thus, the only pooling equilibrium is ruled out by natural restrictions on beliefs off the equilibrium path, including the Intuitive Criterion of Cho and Kreps. We summarize this result with the following proposition.

**Proposition 1.** There does not exist a pooling equilibrium that satisfies the Intuitive Criterion.

We now turn to separating equilibria. Given that the opponent strictly prefers to vote against the ruler, any such equilibrium must have \( v = 1 \) for the pragmatist and \( v = 0 \) for the opponent. In principle, two such equilibria are possible: one where the ruler does not manipulate \( (m = 0) \) and one where he does \( (m = 1) \). We consider each case in turn.

Consider first the case where the ruler does not manipulate, \( m = 0 \). The opponent has no incentive to deviate from \( v = 0 \) by assumption. In contrast, the pragmatist’s incentives depend on the bureaucrat’s anticipated action. With full separation and no manipulation, the bureaucrat updates his belief to \( \hat{q} = 1 \) after observing \( \hat{v} = 1 \), thus justifying \( e = 1 \). In contrast, a plebiscite outcome of \( \hat{v} = 0 \) induces \( e = 0 \). In equilibrium, the pragmatist therefore receives \( \psi \), given that the bureaucrat exerts effort, thus guaranteeing the ruler’s survival. If instead the pragmatist deviated to \( v = 0 \), the bureaucrat would choose \( e = 0 \), producing a payoff of \( \delta \). By assumption, \( \psi > \delta \), so that the pragmatist also has no incentive to deviate. With this strategy profile, the ruler’s expected payoff is \( qy \): he is retained and receives the rent from holding office \( y \) if and only if the citizen is a pragmatist.

Now consider the case where the ruler manipulates, \( m = 1 \). Given full separation and the manipulation technology, the plebiscite result is \( \hat{v} = 0 \) only if the citizen is an opponent, so that the bureaucrat chooses \( e = 0 \) upon observing \( \hat{v} = 0 \). In contrast, the bureaucrat’s posterior belief is

\[
\hat{q} = \frac{q}{q + (1 - q) h}
\]

upon observing \( \hat{v} = 1 \), given that manipulation is successful with probability \( h \). If \( \bar{q} \geq \hat{q} \) (from Equation 3), then it is a best response for the bureaucrat to exert effort if and only if he observes \( \hat{v} = 1 \). In contrast, if \( \bar{q} < \hat{q} \), then the bureaucrat prefers to choose \( e = 0 \), regardless of the plebiscite outcome, thus forcing the ruler from office with certainty. A necessary condition for the ruler to choose \( m = 1 \) is therefore that \( \bar{q} \geq \hat{q} \), as otherwise the ruler could profitably deviate to \( m = 0 \) and save the cost of manipulation.

If \( m = 1 \) and \( \bar{q} \geq \hat{q} \), then both types of citizen are playing a best response: the pragmatist because \( v = 1 \) induces bureaucratic effort, the opponent because she strictly prefers to vote
against the ruler. What about the ruler? By manipulating, the ruler induces the bureaucrat to exert effort not only when the citizen is a pragmatist, but also (with probability $h$) when she is an opponent. Given Equation 1, the ruler’s expected payoff from this strategy profile is

$$[q + (1 - q) h\beta] y - \kappa. \quad (5)$$

The ruler survives with certainty if the citizen is a pragmatist (which occurs with probability $q$) and with probability $h\beta$ if the citizen is an opponent, and he bears the cost of manipulation $\kappa$.

For it to be a best response for the ruler to choose $m = 1$, Expression 5 must be greater than $qy$, the expected payoff from choosing $m = 0$, that is,

$$\kappa \leq (1 - q) h\beta y.$$

Together, this condition and $\tilde{q} \geq \bar{q}$ constitute necessary and sufficient conditions for existence of a separating equilibrium in which the ruler manipulates. A separating equilibrium with no manipulation exists if and (up to an indifference condition) only if at least one of the conditions does not hold.

We summarize these results in the following proposition.

**Proposition 2.** There exists a separating equilibrium in which a pragmatist chooses $v = 1$, an opponent chooses $v = 0$, and the bureaucrat chooses $e = 1$ if and only if $\hat{v} = 1$. If

$$\frac{q}{q + (1 - q) h} > \frac{\eta - \beta w}{w - \beta w}$$

and

$$\kappa < (1 - q) h\beta y,$$

the ruler manipulates in this equilibrium. If at least one of these conditions does not hold (weakly), the ruler does not manipulate.

Proposition 2 is our first key result. In terms of parameters of the model, it states when the ruler chooses to manipulate. To provide some intuition for this result, consider the following comparative-static exercises.

**Corollary 1.** An equilibrium with manipulation exists if and only if manipulation is moderately effective, that is,

$$\frac{\kappa}{(1 - q) \beta y} \leq h \leq \frac{q}{1 - q} \left( \frac{w - \eta}{\eta - \beta w} \right).$$

Clearly, the technology of manipulation must be strong enough to justify the cost: if the ruler has little ability to affect the plebiscite result, he will prefer not to bear the (diplomatic, logistical, etc.) cost of trying to manipulate. But manipulation that is too effective is counterproductive, as the bureaucrat is less convinced that a plebiscite result supportive of the ruler is actually representative of public opinion. (Observe that as $h$ approaches one,
the posterior belief $\hat{q}$ approaches the prior belief $q$, conditional on having observed $\hat{v} = 1$—that is, as manipulation becomes perfectly effective, the plebiscite result becomes completely uninformative.)

**Corollary 2.** An equilibrium with manipulation exists if and only if the relationship between bureaucratic effort and ruler survival when the citizen is an opponent (measured by $\beta$) is sufficiently strong.

To have an incentive to manipulate, the ruler must perceive his survival to be tied to bureaucratic effort even when the citizen is an opponent; else, the ruler has little to gain from convincing the bureaucrat that an opponent is actually a pragmatist. This would not be the case if, for example, the citizen were free to decide the ruler’s fate and (analogously to our assumption about plebiscite voting) the opponent strictly preferred to replace the ruler. For various reasons, however, bureaucratic effort may increase the probability that the ruler survives even when the citizen is an opponent. First, such effort may be directed at repression technology or some other project that directly augments the ruler’s ability to survive, even when facing a hostile population. Second, actually removing the ruler, as opposed to voting against him in a plebiscite, may be costly to the citizen. In this environment, successful completion of, say, a public-works project may convince even an opponent that it is not worthwhile to remove the ruler. We consider the latter argument in the Appendix.

## 5 Civil-service protection

The model above assumes that the bureaucrat’s employment is tied to the survival of the ruler, a common situation in weakly institutionalized settings. In this section we explore the consequences for electoral manipulation of civil-service protection, meaning that with some positive probability the bureaucrat’s employment and thus compensation are not dependent on the survival of the ruler.

Formally, assume that with probability $s$ the bureaucrat receives the wage $w$ if the ruler is replaced; as before, we assume that $w$ is received with certainty if the ruler survives. Then the bureaucrat’s expected payoff from choosing $e = 1$, analogous to Expression 2 for the baseline model, is

$$\hat{q}w + (1 - \hat{q}) [\beta + (1 - \beta) s] w - \eta.$$  \hspace{1cm} (6)

As before, effort secures the ruler’s survival and the bureaucrat’s employment if the citizen is a pragmatist, which the bureaucrat believes to be the case with probability $\hat{q}$. If instead the citizen is an opponent, then with probability $\beta$ the ruler survives, whereas with probability $1 - \beta$ the ruler is replaced; in the latter case, the bureaucrat receives the wage $w$ with probability $s$.

In contrast, the expected utility from choosing $e = 0$ is $sw$: the ruler is replaced with certainty, in which case the bureaucrat is retained with probability $s$. Comparing this value

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11 Of course, if the ruler could choose $h$, then he would prefer that $h$ be as large as possible (see Expression 5) and still satisfy the condition in Corollary 1, so long as there is some $h$ that does so; that is, he would choose $h = \frac{q}{1-q} \left( \frac{w-\eta}{\eta-\beta w} \right)$. In some instances, however, the ruler may not have sufficiently fine-grained control over the extent of manipulation. For example, when agents of the ruler such as regional politicians compete to deliver strong election results, then the level of manipulation may be inefficiently large, from the perspective of the ruler (Simpser, 2011).
to Expression 6, the bureaucrat prefers to exert effort if and only if

\[ \hat{q} \geq \tilde{q} \equiv \frac{\eta - \beta w (1 - s)}{w (1 - s) - \beta w (1 - s)}. \]  

(7)

Note that the conditions on parameter values assumed in the baseline model do not ensure that the quantity \( \tilde{q} \) is less than one. In particular, for \( s \geq \frac{w - \eta}{w} \), it is never optimal for the bureaucrat to support the ruler’s project—even if the bureaucrat knows with certainty that the citizen is a pragmatist. Intuitively, if the bureaucrat is likely to keep his job in any event, then there is no need to engage in costly effort to secure the ruler’s survival.

It immediately follows that civil-service protection reduces the incentive for the ruler to manipulate the plebiscite. Recall from Proposition 2 and the preceding discussion that a necessary condition for manipulation in the baseline model is that \( \tilde{q} = \frac{q}{q + (1 - q) h} \geq \bar{q} \). Here, the analogous condition is \( \tilde{q} \geq \bar{q} \), where \( \bar{q} \) is increasing in \( s \).

Put differently, when civil-service protection is strong (i.e., when \( s \) is large), then the effectiveness of electoral manipulation (measured by \( h \)) must be correspondingly lower for the bureaucrat to want to exert effort, knowing that the ruler has attempted to manipulate the plebiscite. As Corollary 1 shows, however, the effectiveness of electoral manipulation cannot be too low, as otherwise the ruler will choose to forego the cost of manipulation. An increase in civil-service protection thus reduces the “sweet spot”—not too effective, not too ineffective—within which electoral manipulation is possible.

We summarize these observations in the following proposition.

**Proposition 3.** In the model with civil-service protection, an equilibrium with manipulation does not exist if the probability \( s \) that the bureaucrat keeps his job when the ruler is replaced is sufficiently high.

### 6 Popularity

The parameter \( q \), which represents the common prior belief that the citizen is a pragmatist, can be interpreted as a measure of the ruler’s popularity. The larger is \( q \), the more likely is the ruler to survive, so long as he can muster the support of the bureaucrat for his program. In the baseline model, we assumed \( q < \frac{\eta - \beta w}{w - \beta w} \), which implies that the bureaucrat prefers to exert effort only if he receives additional reassurance that the citizen is a pragmatist. An immediate consequence, as demonstrated previously, is that there are no equilibria (that satisfy the Intuitive Criterion) in which the two types of citizen pool on the same plebiscite strategy.

How would this result change if instead \( q > \frac{\eta - \beta w}{w - \beta w} \)? Consider pooling on \( v = 0 \), where we recall that \( v = 1 \) is strictly dominated for the opponent by assumption. First, observe that manipulation cannot increase the ruler’s probability of survival, as regardless of the plebiscite outcome the bureaucrat exerts effort. (If the ruler manipulates, then \( \hat{v} = 1 \) is on the equilibrium path, but there is no updating of the bureaucrat’s beliefs following this plebiscite result.) Given that manipulation is costly, the ruler therefore chooses \( m = 0 \). The pragmatist has no incentive to deviate from \( v = 0 \), as in equilibrium the pragmatist receives \( v \), which is her maximum possible payoff. Finally, note that this equilibrium is supported by any beliefs off the equilibrium path (i.e., following the plebiscite outcome \( \hat{v} = 1 \)), though given that \( v = 1 \) is strictly dominated for the opponent, the only beliefs that satisfy the
Intuitive Criterion require that the bureaucrat choose $e = 1$ following the plebiscite result $\hat{v} = 1$.

**Proposition 4.** In the model with a “popular” ruler (i.e., $q > \frac{n - \beta w}{w - \beta w}$), there exists an equilibrium in which the pragmatist and opponent pool on $v = 0$, the bureaucrat exerts effort regardless of the plebiscite result, and the ruler does not manipulate. This is the unique pooling equilibrium that satisfies the Intuitive Criterion.

Intuitively, when the ruler is popular, the bureaucrat is already inclined to cooperate, and manipulation provides no further benefit.\(^{12}\) Although this equilibrium is “fragile” in the sense that the pragmatist is playing a weak best response—any perturbation in her preferences that provided a direct payoff to choosing $v = 1$ would destroy the equilibrium—the result underlines the role that electoral manipulation plays in the model. Manipulation does not directly affect the ruler’s survival probability (because the plebiscite is non-binding), but in equilibrium it creates the impression that the ruler’s hold on power is stronger than it actually is. Therefore, when it is clear from the outset that the ruler’s hold on power is solid (i.e., that the citizen is likely to be a pragmatist), the rationale for manipulating disappears.

7 Conclusion

In this paper, we highlight the relationship between electoral manipulation and bureaucratic control. When bureaucrats are dependent on the survival of their political patron, bureaucratic effort is greater when the ruler’s position appears secure. When rulers, in turn, depend on bureaucratic effort for their survival, electoral manipulation can cement political control of the bureaucracy.

Our approach highlights various conditions under which electoral manipulation might be attempted as a means of bureaucratic control. Crucially, we show that civil-service protection weakens the incentive to manipulate by reducing the dependence of the bureaucrat on the ruler’s survival. We also show, in the baseline model, that electoral manipulation should not be so effective as to fully determine the electoral result, as otherwise elections could not credibly show the ruler’s hold on power to be strong (in the event that it is).\(^{13}\)

Although the empirical focus of our paper is on political control of the bureaucracy, the argument is more general. The economic literature on contracts uniformly assumes that the principal survives whatever action the agent takes. Our work highlights the possibility that payment of outcome-contingent rewards may be conditional on the survival of the principal. This can be interpreted as a particular form of contract incompleteness. In this setting, the key control variable for the principal may be some action that signals his likely survival.

Appendix

In the baseline model, we assume the following functional form for the ruler’s survival probability:

$$\pi = e \text{ if } t = p,$$
$$\beta e \text{ if } t = o,$$

\(^{12}\)Following Proposition 2, there may also exist a separating equilibrium with manipulation.

\(^{13}\)If the ruler knew the citizen’s type, however, the ability of the ruler to fully determine the electoral result could be informative as a costly signal of the ruler’s power.
where $\beta \in (0, 1)$. Here we provide one of many possible microfoundations for this assumption, modeling an explicit choice by the citizen following the bureaucrat’s move. Importantly, this microfoundation also incorporates the citizen’s earlier choice to express support or opposition for the ruler in the plebiscite.

Following the bureaucrat’s effort choice, the citizen decides whether to retain or remove the ruler, $\rho \in \{0, 1\}$, where $\rho = 1$ indicates retention of the ruler (analogously to $v = 1$, which indicates support for the ruler in the plebiscite). Removal results in abandonment of the ruler’s project (e.g., because the ruler’s successor has other priorities or because the ruler’s specific human capital is essential for project completion) and the consequent loss of any effort exerted by the bureaucrat. In contrast, if the ruler is retained, the project is completed if and only if the bureaucrat exerted effort, $e = 1$. We thus assume a perfect complementarity between the ruler’s survival and bureaucratic effort.\(^{14}\)

Each type of citizen $t \in \{p, o\}$ has von Neumann-Morgenstern preferences represented by the function

$$u_t = \rho e \psi + (1 - v) \gamma_t + (1 - \rho) \delta_t.$$  

Thus, the pragmatist and opponent each receive a payoff of $\psi$ if the project is successfully completed. In addition, each type $t$ receives a payoff $\gamma_t$ for voting against the ruler in the plebiscite and a payoff of $\delta_t$ for replacing the ruler following the bureaucrat’s effort choice.

To harmonize this framework with that in the baseline model, first assume $\delta_p = \delta$, where $0 < \delta < \psi$, and $\delta_o = \delta + \mu$, where $\mu \in \{0, \bar{\mu}\}$ is a random variable realized after the bureaucrat’s effort choice but before the citizen’s decision to retain or replace the ruler. Let $\Pr(\mu = 0) = \beta$, and assume $\delta + \bar{\mu} > \psi$. It immediately follows that a pragmatist retains the ruler if and only if $e = 1$, whereas an opponent retains the ruler if and only if $e = 1$ and $\mu = 0$, where the latter event occurs with probability $\beta$. In other words, the pragmatist is “pragmatic”—she always prefers to retain the ruler if doing so ensures successful completion of the ruler’s project—whereas with probability $1 - \beta$ the opponent discovers himself to be “dogmatic,” preferring to replace the ruler at any cost.

Finally, let $\gamma_p = 0$ and $\gamma_o = \gamma$, where $\gamma$ is sufficiently large that an opponent strictly prefers to oppose the ruler in the plebiscite. Then the framework here is fully consonant with that in the baseline model.

The following interpretation of this formalization may be useful: Given that the plebiscite does not directly determine the ruler’s survival, the direct payoffs to the citizen of voting are “expressive” rather than “material.” By assumption, an opponent bears an opportunity cost of expressing support for the ruler (as with Kuran’s (1991) suggestion that “preference falsification” may be costly for certain types), whereas voting is cheap talk for the pragmatist. In contrast, physically replacing the ruler also entails material costs and benefits. In particular, the cost of replacing the ruler is prohibitively large for a pragmatist, so long as the bureaucrat has supported the project. In contrast, an opponent’s greater opposition to the ruler may lead her to replace him, even when the project has received bureaucratic support, so long as the cost of doing so is not overwhelming. In the formulation above, this occurs with probability $1 - \beta$.

\(^{14}\)See Egorov, Guriev and Sonin (2009) for a similar assumption in the context of a model in which bureaucratic control can be achieved either through free media or a security service.
References


