Bureaucratic Resistance and Policy Inefficiency*

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Abstract

Poor public service provision creates an electoral vulnerability for incumbent politicians. Under what conditions can bureaucrats exploit this to avoid reforms they dislike? We develop a model of electoral politics in which a politician must decide whether to enact a reform of uncertain value, and a voter evaluates the incumbent based on government service quality, which anti-reform bureaucrats can undermine. We show that bureaucrats are most incentivized to disrupt service provision for political leverage when voters are torn between the reform and the status quo, leading them to interpret poor service provision as informative of the reform's merit. We also find that resistance deters politicians from enacting unpopular reforms due to electoral risks and prompts them to implement popular reforms by providing bureaucrats as scapegoats. For intermediary values of reform popularity, resistance causes accountability loss by preventing beneficial reforms and inducing ineffective reforms. Our model sheds light on a unique source of political power for bureaucrats and its consequences for public policy.

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1 Introduction

In 2021, protests erupted among municipal workers in several cities over vaccine mandates for their employees. Consequently, garbage noticeably accumulated in various neighborhoods across the country. For instance, preceding the implementation of New York City's COVID-19 vaccine mandate, sanitation workers in Staten Island and South Brooklyn left trash uncollected for over a week (ABCNews, 2021). The city's sanitation commissioner, Edward Grayson, attributed this service lapse to the impending vaccine mandate, acknowledging that municipal garbage trucks were completing their routes with half-empty loads (Gross, 2021). This raised concerns of a deliberate slowdown by sanitation workers to push back against vaccination requirements.

Similarly, recent research indicates that local police forces adapt their service provision to express dissent against police reforms and influence city politics. Officers of the San Francisco police department, for example, strongly opposed the progressive policies of District Attorney Chesa Boudin. Making police accountability his central policy issue, Boudin charged several officers in a historical excessive-force prosecution and pushed for criminal justice reforms to slim the carceral state. During the recall campaign, San Francisco residents repeatedly raised concerns to city officials and the media that police weren't responding to crime and justified their lack of engagement with the District Attorney's reluctance to press charges (Knight, 2021; Swan, 2021). In an interview, Chesa Boudin complained that "we've seen, on body-worn camera footage, police officers telling victims there's nothing they can do and, 'Don't forget to vote in the upcoming recall election.'" (Pearson, 2023) This blame-shifting by police might have resonated with voters in a high-crime environment, who recalled the progressive District Attorney by a significant margin. Immediately after the "unfriendly" attorney was successfully removed, police notably intensified their effort in making stops and arrests again (Kyriazis, Schechter and Yogev, 2023). Similarly, in New York City, police punished city officials who supported significant cuts to the department's budget in 2020 by disproportionately slowing response times to 911 calls in these "non-aligned" council districts (Wirsching, 2023). As part of this political strategy, law enforcement unions employed various tactics to ensure voters hold political representatives accountable for poor public service provision. These tactics span from publicly shaming city officials for their policies and blaming them for crime incidents in "non-aligned" districts to instigating fear about rising crime rates if progressive city officials remain in office (Blumgart, 2020; Wirsching, 2023).

While examples of strategic work slowdowns by city bureaucrats abound, the logic, conditions, and consequences of such *bureaucratic resistance* remain puzzling and largely unex-

plored. Why would bureaucrats engage in actions that disrupt public services for political reasons when voters believe this could happen? And if this resistance affects how voters view reform policies, why would politicians ever push for reforms that bureaucrats oppose? In this paper, we study how and when politicians' electoral vulnerability motivates bureaucrats to undermine service provision, and how the potential for bureaucratic resistance influences voter behavior and an incumbent's willingness to pursue reforms. With this framework, we shed light on a unique source of political power for bureaucrats and its consequences for public policy.

We integrate bureaucratic resistance into a model of electoral politics and policy-making. An incumbent chooses between a reform of unknown value and the status quo after observing the true value of the reform. The incumbent and opponent are both office motivated as well as policy motivated. While the incumbent has a pro-reform bias, the opponent is biased against it. The voter observes the incumbent's policy choice together with a noisy signal about government service quality. The voter uses the observed service quality to glean the reform's merit and decides whether to retain the incumbent for a second period or to elect the opponent. Importantly, service quality is affected by both the reform's inherent value *and* the bureaucrats' performance. Bureaucrats who have a fixed yet unknown degree of distaste for the reform can privately decide to engage in costly disruption of public service provision, e.g., by refusing to work diligently. This complexity obscures the voter's evaluation of the policy since he is unable to assign clear responsibility for poor service provision. For example, when a community experiences a decline in safety after police reform (e.g., a budget cut), it becomes challenging for residents to determine whether the drop in security is because of the reform itself or because police officers are resisting the changes. Even if the reform could potentially improve services, voters might still see a decline in quality due to bureaucratic pushback. We show that, in equilibrium, incumbents implement reform if they are sufficiently biased in its favor, bureaucrats resist if they are sufficiently anti-reform, and voters re-elect their representative if government performance is sufficiently high.

Our theory requires several scope conditions. First, the model assumes a context where bureaucrats have a status quo bias, i.e., a "vested interest" in avoiding reforms that affect bureaucrats' money, programs, and policy direction (Moe, 2015). Second, we operate in a partisan environment with some degree of preference asymmetry between the incumbent and the opponent regarding reform policies. One can think of policies that bear sufficient cleavages between liberals and conservatives, e.g., budgets for law enforcement, vaccine mandates for public employees, or the extent of environmental protection. Third, we abstract away from the standard and well-studied issue of political delegation, where politicians seek to control bureaucrats who shirk their duties to avoid effort costs or to influence policy (e.g.,

Huber and Shipan (2002); Yazaki (2018); Slough (2024)). Instead, we focus on bureaucrats with considerable discretion (e.g., street-level bureaucracies) who trade off their motivation to serve the public with their incentives to affect public service provision for political leverage. Finally, we examine contexts in which voters obtain information about the effectiveness of policies through public services but struggle to clearly attribute poor service provision to either bureaucrats or politicians. This primarily applies to street-level bureaucracies, where bureaucrats can directly influence service provision and, consequently, voters' perceptions. For example, voters may reassess the merit of a budget cut or the restructuring of an agency based on their wait times for emergency responders, delays in mail services, or their ability to obtain building permits in a timely fashion.

Our model produces several key insights. First, we demonstrate why and when bureaucrats undermine public service provision for political leverage. Since voters cannot perfectly identify who is responsible for poor service quality and can only probabilistically determine whether bureaucratic resistance has occurred, it becomes optimal for bureaucrats—provided the costs of resistance are low enough—to engage in resistance despite voters' awareness of this possibility. After incumbents introduce the reform, bureaucrats can exploit their intermediary role in government to affect voters' inference about the reform and undermine the incumbent's reelection chances in favor of the anti-reform opponent.

We also find that bureaucrats' incentive to resist is non-monotonic with respect to the voter's prior belief about the reform's value. The incentive to resist depends on whether the voter is susceptible to information that bureaucrats mediate. When voters highly favor the reform, bureaucrats' incentive to resist is low because bureaucrats only have limited ability to sway voters' support for the incumbent who initiated the reform. However, as the reform becomes *less* popular, this effect weakens, and resistance becomes more likely. Conversely, if voters are already pessimistic about the reform's benefit, bureaucrats have little incentive to resort to costly resistance to tarnish the reputation of politicians because the voter is already likely to perceive the reform as a failure. This effect weakens as the reform becomes *more* popular, thus increasing the probability of resistance. As a result, bureaucrats are most incentivized to resist when voters are torn between the reform and the status quo and, therefore, more open to interpreting poor public service provision as informative regarding the reform's merits.

Second, we show how bureaucratic resistance affects the political equilibrium between the incumbent and the voter. A naive conclusion may be that resistance strictly discourages the incumbent from introducing reform by increasing the probability that the voter observes poor service provision. However, we find that the possibility of resistance can either incentivize

or deter incumbents from implementing reform, contingent upon the voter's prior beliefs. If reform is initially unpopular with the voter, resistance weakens reform efforts: incumbents fear resistance and are hesitant to implement reform. Conversely, if reform is popular, bureaucratic resistance provides a convenient scapegoat for politicians and increases the incumbent's electoral incentive to introduce reform. For intermediary levels of reform popularity, these tendencies lead to accountability loss, where incumbents avoid implementing beneficial reforms (*under-reform*) and pursue ineffective ones too frequently (*over-reform*).

This result arises because resistance has two countervailing effects on the voter's observation and action. On the one hand, resistance directly lowers the quality of public services, thus dissuading office-motivated politicians from pursuing effective reform (*direct effect*). On the other hand, when assessing public service delivery and adjusting his reelection intentions, the voter factors in the potential for resistance (*learning effect*) and politicians' strategic response to it (*reservation effect*). We find that these effects do not necessarily point in the same direction, and the learning effect can dominate the direct and reservation effects in equilibrium. Consequently, bureaucratic resistance can both encourage and discourage reform.

2 Related Literature and Contributions

We make several contributions to existing scholarship on bureaucratic politics, interest group influence, and political economy.

2.1 Bureaucratic Politics and Interest Groups

First, our theory addresses a fundamental debate in bureaucratic politics between the public choice school (Tullock, 1965; Downs, 1967; Niskanen, 1971) and theories of bureaucratic control and delegation (Miller and Moe, 1983; McCubbins, 1985; McCubbins, Noll and Weingast, 1987; Banks and Weingast, 1992; Brehm and Gates, 1997). Niskanen positioned bureaucrats as the primary strategic actors and famously argued that self-interested bureaucrats use their private information to extract rents through bargaining by making take-it-or-leave-it offers to incumbents. In contrast, theories of legislative control criticized Niskanen's framework for ascribing out-sized power to bureaucrats. They framed the politician-bureaucrat relationship as a top-down principal-agent model and focused on incumbents' strategies to minimize agency loss and leverage bureaucratic expertise. We reconcile these two longstanding ideas on bureaucratic politics by synthesizing a principal-agent perspective on strategic

politicians with the notion of politically powerful bureaucrats who can sway the incumbent's policy decisions by leveraging their private information, exploiting the incumbent's electoral vulnerability, and adjusting their work effort.

Additionally, we contribute to the growing literature on bureaucrats as interest groups within government. We build on Moe (2006)'s argument that bureaucrats leverage politicians' electoral vulnerability to influence who their principals are and what policies they choose in office. An extensive literature highlights bureaucrats' various means of direct political influence through their public sector unions, including collective bargaining (Moe, 2009, 2011; Anzia and Moe, 2015; Paglayan, 2019; Zoorob, 2019), union endorsements (Moe, 2006; Hartney and Flavin, 2011; Hartney, 2022), electoral mobilization of their members (Leighley and Nagler, 2007; Anzia, 2014; Flavin and Hartney, 2015), political contributions (Moe, 2011; DiSalvo, 2015), or direct lobbying (Anzia, 2022). In contrast, we focus on a more fundamental source of bureaucratic power and explain how and when bureaucrats can exert policy influence through their role in government, i.e., *by the mere virtue of being bureaucrats*.

Third, we describe and micro-found a novel explanation for why bureaucratic agencies might undermine the very programs and services they provide. Several scholars have attempted to characterize recent surges of bureaucratic resistance at the federal level, especially during the Trump administration. Some have argued that agencies undermine their own work because, in an environment where securing legislation from Congress is difficult, US presidents pursue retrenchment by asking the administrative state to sabotage itself (Noll, 2022). Others have considered the expressive benefits of "guerrilla" forms of government (O'Leary, 2020) and found that bureaucratic resistance is a result of bureaucrats navigating the moral dilemma between norms of professionalism and personal beliefs about policy (Kucinskas and Zylan, 2023). Notably, the voters are absent from these accounts. In contrast, we focus on how voters' dependence on bureaucrats to learn about policy outcomes can result in bureaucratic resistance as a strategic choice.

2.2 Formal Political Economy Literature

Our model is closely connected to four strands of literature within formal political economy. First, it is related to the political accountability literature (Canes-Wrone, Herron and Shotts, 2001; Fox, 2007; Gersen and Stephenson, 2014), which examines how the imperfection in voters' observation of policy outcomes creates electoral incentives for incumbents to choose popular policies, irrespective of their intrinsic value. Joining Ashworth, Bueno De Mesquita and Friedenberg (2018) and Schankenberg, Schumock and Turner (2024), we study how

the information environment influences voter learning within the accountability framework. Our contribution differs in that we study an accountability game where both policy-making and changes in the information environment are endogenously determined in equilibrium by strategic actors.[1]

Secondly, our model is related to the models of electoral competition where voters can predict each candidate's post-election policies, and the incumbent's actions shape voters' beliefs about the effectiveness of these policies (Bils and Izzo, 2023; Izzo, Martin and Callander, 2023; Bueno de Mesquita and Dziuda, 2023; Delgado-Vega, Dziuda and Loeper, 2023). The innovation in our model is the inclusion of strategic bureaucrats in this game.

Additionally, this paper is related to models where the incumbent and bureaucrats jointly produce government outcomes, creating difficulties for the voter to attribute responsibility between the two parties (Fox and Jordan, 2011; Ujhelyi, 2014; Yazaki, 2018; Forand and Ujhelyi, 2021; Martin and Raffler, 2021; Awad, Karekurve-Ramachandra and Rothenberg, 2023; Foarta, 2023; Slough, 2024; Li, Sasso and Turner, 2024). Yet, most of these models do not provide an explanation for why and when bureaucrats are willing to engage in costly resistance.[2] One exception is Ujhelyi (2014), who also examines bureaucrats' strategic resistance and its implications for policy-making. However, while Ujhelyi (2014) focuses on the welfare implications of bureaucratic resistance, we extensively discuss how it affects voters' inference, holding the observed government outcome fixed.

Lastly, this paper is closely related to models of policy obstruction and sabotage (Patty, 2016; Fong and Krehbiel, 2018; Gieczewski and Li, 2022; Hirsch and Kastellec, 2022). The key difference between our argument and existing work is the observability of sabotage (i.e., resistance in our model). Unlike sabotage by the political opposition, which is overt and observable by the voter, the bureaucrats in our model covertly resist. In turn, the voter in our model has to guess whether the observed government outcome is affected or not by bureaucratic resistance.

[1] In Ashworth, Bueno De Mesquita and Friedenberg (2018), policy-making by the incumbent and the changes in the signal generation are exogenous. In Schankenberg, Schumock and Turner (2024), changes in signal generation are endogenously chosen by a strategic donor, but policy-making is not.

[2] This is because bureaucrats are assumed to be non-strategic (e.g., their types perfectly determine their behavior) (Fox and Jordan, 2011; Martin and Raffler, 2021; Foarta, 2023), or because incumbents adjust their policy and delegation to bureaucrats based on factors influencing bureaucrats' motivation such that bureaucratic resistance does not happen on the equilibrium path (Yazaki, 2018), or because bureaucrats and politicians are assumed to share policy preferences (Awad, Karekurve-Ramachandra and Rothenberg, 2023). Conversely, Slough (2024) and Li, Sasso and Turner (2024) consider a situation where the agency relationship between the incumbent and bureaucrats is defined by a moral hazard problem such that the incumbent requires bureaucrats to put costly effort to produce a better government outcome. Crucially, bureaucrats do not try to affect the incumbent's re-election but rather aim to minimize costly effort in these models.

3 Model

Consider a two-period ($t = 1, 2$) electoral competition model with an incumbent (she), an opponent, a median voter (he), and the bureaucrats (they).[3] There is an election after $t = 1$ where the voter chooses between the incumbent and the opponent as a new officeholder for $t = 2$.

3.1 Policy-Making

We model a situation where a reelection-facing incumbent decides whether to introduce a reform policy whose value to voter welfare $\omega \in \{0, 1\}$ is unknown to the public. The common prior for the reform's value is $\Pr[\omega = 1] = 1/2$. Alternatively, the incumbent can keep the status quo whose value is known as $q \in (0, 1)$.[4]

$t = 1$ is the window for reform, i.e., a reform policy rejected in $t = 1$ cannot be reintroduced in $t = 2$ after the election. In $t = 2$, the reform can only be repealed or maintained.[5]

At $t = 1$, the incumbent *privately* observes ω and chooses whether to introduce reform or not. $a \in \{0, 1\}$ indicates the incumbent's choice about whether to introduce the reform ($a = 1$) or not ($a = 0$).

3.2 Partisan Policy Preference

Politicians are both office-motivated and policy-motivated. They get 1 by winning the election and 0 otherwise. Also, they get intrinsic policy payoff by choosing the policy their party prefers while they are in office, independently drawn from a uniform distribution. Each politician knows this partisan policy payoff, but the voter does not. The voter only knows that each politician's payoff is drawn from a uniform distribution.

The incumbent is in the pro-reform party, and she gets $\rho \sim U[0, 1]$ only if she chooses the reform. The opponent is in the anti-reform party and she gets $\rho_O \sim [0, 1]$ only if she chooses the status quo.[6]

[3] We assume that players do not discount their future payoffs, which does not affect the qualitative results.

[4] The result is qualitatively similar if the status quo's value is $1/2$ and $\Pr[\omega = 0] = q$. Thus, $1 - q$ can be interpreted as the probability that the reform outperforms the status quo.

[5] See Section 3.9 for more discussion.

[6] If otherwise, the game becomes trivial. See Section 3.9.

3.3 Bureaucratic Resistance

Bureaucrats intrinsically dislike the reform ($a = 1$) and get disutility of *unknown* value $-\kappa$ with common prior $\kappa \sim U[0, 1]$.[7] After observing a and ω if $a = 1$, the bureaucrats *privately* choose whether to undermine the policy, $r \in \{0, 1\}$, where $r = 1$ is to undermine the policy and $r = 0$ is not to undermine. Such resistance to policy can include a variety of measures, including dragging their feet in delivering services, overlooking service infractions, misusing their authority, or mismanaging funds. Resistance is costly for bureaucrats, i.e., they incur a known cost of $c \in [0, 1]$ if they resist. c captures material/reputational punishments for non-compliance,[8] bureaucrats' public service motivations and preferences for high-quality service provision,[9] or coordination efforts of bureaucrats necessary to engage in resistance.

3.4 Government Outcome

The government outcome $g \in \mathbb{R}$ is produced by

$$g = \begin{cases} (1 - r)\omega + \eta & \text{if } a = 1 \\ (1 - r)q + \eta & \text{if } a = 0 \end{cases}$$

where η is an i.i.d. shock drawn from a log-concave density $h(\cdot)$ that has full support on $\mathbb{R}$ and is symmetric around 0.[10] Let $H(\cdot)$ denote the associated CDF of $h(\cdot)$.

3.5 Election

After observing the chosen policy a and the realized government outcome g, the voter chooses between the incumbent and the opponent. If the voter is indifferent between the two candidates, he flips a fair coin and reelects the incumbent with probability 1/2.

3.6 Second Period

The incumbent's policy decision in $t = 1$ affects the set of policies from which the election winner can choose in $t = 2$.

Let $\tilde{a} = 0$ indicates the election winner's choice for the status quo and $\tilde{a} = 1$ her choice

[7] This is a simplifying assumption. The main results do not change qualitatively when κ is drawn from a log-concave distribution with different support (see Appendix A.4).

[8] See Ujhelyi (2014).

[9] See Yazaki (2018) and Forand, Ujhelyi and Ting (2022).

[10] See Appendix C for a discussion of the importance of noise for the incumbent and voter in our model.

for the reform. If the incumbent chose the status quo in period one, the second-period policy is fixed as the status quo: $a = 0 \Rightarrow \tilde{a} = 0$. If the incumbent chose the reform, then the election winner can choose between maintaining or repealing it: $a = 1 \Rightarrow \tilde{a} \in \{0, 1\}$.

The government outcome in $t = 2$, $\tilde{g}$, is given by

$$\tilde{g} = \begin{cases} (1 - \tilde{r})\omega + \tilde{\eta} & \text{if } a = \tilde{a} = 1 \\ (1 - \tilde{r})q + \tilde{\eta} & \text{if otherwise} \end{cases}$$

where $\tilde{r} \in \{0, 1\}$ is the bureaucrats' decision to undermine the policy, and $\tilde{\eta}$ is a shock drawn from $h(\cdot)$.

3.7 Payoffs

The voter gets the government outcome in each period:

$$g + \tilde{g}.$$

The incumbent gets policy payoff ρ in each period if she chooses the reform. Also, she gets 1 if she wins the election:

$$ar + \mathbf{1}\{\text{reelection}\}(1 + a\tilde{a}\rho).$$

The opponent gets ρ if she chooses the status quo and gets 1 if she wins the election:

$$\mathbf{1}\{\text{election}\}[1 + (1 - \tilde{a})\rho_O].$$

The bureaucrats get $-\kappa$ in each period if the reform is in place. Also, they get $-c$ if they engage in resistance:

$$- \underbrace{a(\kappa + \tilde{a}\kappa)}_{\text{disutility from the reform}} - \underbrace{c(r + \tilde{r})}_{\text{cost of resistance}}.$$

3.8 Timing

To recap,

0. Nature draws the reform's value ω, partisan policy payoff for r and r_O, the bureaucrats' disutility from the reform, κ.

1. The incumbent privately observes the personal value r and ω, and publicly chooses

whether to introduce the reform ($a = 1$) or not ($a = 0$).

2. The opponent and the bureaucrats observe the reform's value ω.

3. The bureaucrats privately observe their disutility from the reform κ and choose whether to undermine the chosen policy ($r = 1$) or not ($r = 0$).

4. The government outcome g is produced, and the voter observes it.

5. The voter chooses between the incumbent and the opponent as the new officeholder in the election.

6. The election winner chooses the policy $\tilde{a}$ and the bureaucrats chose $\tilde{r}$.

7. Payoffs are realized, and the game ends.

3.9 Modeling Choices

Before solving the model, we discuss some crucial modeling choices and assumptions and their relevance to our results.

3.9.1 Window for Reform

$t = 1$ in our model is a critical "watershed" point where the reform is either implemented or abandoned (Keeler, 1993). We assume that if the incumbent decides *not* to introduce the reform at $t = 1$, she is committed to not revisiting it in $t = 2$. This assumption is important because (i) it ensures the game remains interesting and non-trivial, and (ii) it reflects what would naturally occur in an equilibrium where the incumbent can choose to have or not have commitment power.

To see this, assume that the incumbent *cannot* commit to the status quo in $t = 2$. The voter then knows that the incumbent will choose the reform in $t = 2$ regardless of her policy in $t = 1$. He, therefore, only reelects the incumbent if he believes, based on his observation of g, that the reform is better than the status quo, i.e., $\mathrm{E}[\omega|g] \geq q$. Since the voter is more likely to observe a high g when $\omega = 1$ and the reform is implemented, the incumbent's electoral incentives to choose the reform is weakly larger when it is effective than when it is not.[11] As a result, the incumbent's decision signals ω: $\omega = 1$ is more likely when she chooses the reform than the status quo, and the incumbent cannot choose the status quo

[11] Namely, there is no such equilibrium where the incumbent is *less* likely to choose the reform when it is effective than when it is not.

in $t = 1$ without damaging the voter's expectation about the reform's worth, as well has her reelection prospects.[12] Consequently, we will have a *unraveling* result (Milgrom, 1981) where incumbents *always* choose the reform, making its analysis trivial.

From this perspective, the commitment to the status quo benefits the incumbent and the voter. The incumbent can cut her electoral loss when $\omega = 0$. In turn, the expected value of the *introduced* reform increases because when $\omega = 0$, the incumbent can choose the status quo with the commitment. This benefits both the voter and a reforming incumbent. Therefore, we can expect the incumbent to develop a commitment device to tie her hands regarding reform once she has chosen the status quo and the voter supports it.

3.9.2 Nature of Bureaucratic Resistance

There are important distinctions between our concept of bureaucratic resistance and the canonical account of shirking. Seminal principal-agent models focus on bureaucrats who *implement* policy and have incentives to shirk to affect policy outcomes directly (Brehm and Gates, 1997; Epstein and O'Halloran, 1999; Huber and Shipan, 2002). In contrast, we focus on bureaucrats as *service providers* who cannot affect policies directly (ω) but rather target *voter inference* about policy choices through service quality (g). Our theory, therefore, primarily applies to street-level bureaucracies, like police officers or waste collectors, who regularly interact with voters and can adjust the quality of services to affect voters' perceptions of a policy.

Readers familiar with canonical principal-agent models may also question the idea that shirking (rather than working) is costly for bureaucrats. However, we are not the first to assume a mirror image where policy-motivated bureaucrats face a trade-off between the benefits of sabotaging an unwanted policy and the material, reputational, or psychological costs of doing so (Brehm and Gates, 1997; Ujhelyi, 2014; Yazaki, 2018). Instead of minimizing the costs of positive effort for government output while accounting for its benefits (e.g., higher wages, avoiding political oversight), bureaucrats in this setting maximize the benefit from negative government output while taking the costs into account.

Another important aspect of bureaucratic resistance in our model is that it can only damage the government service quality under reform when effective. This assumption can be relaxed (see Appendix B). The qualitative results still hold if the bureaucrats can resist the government service under an ineffective reform but the damage to an ineffective reform is smaller than the damage to an effective reform.[13] Substantively, we assume that there exists

[12] Formally, $\mathrm{E}[\omega|a = 1] \geq \mathrm{E}[\omega|a = 0]$ if $\Pr[a = 1|\omega = 1] \geq \Pr[a = 1|\omega = 0]$ for any interior $\Pr[\omega = 1]$.

[13] This assumption ensures that the bureaucrats' incentives to resist under an effective reform are no

a "floor effect" of resistance for a failed policy, and bureaucrats' influence on the government service is limited when the policy is failing in the first place.

3.9.3 Politicians' Policy Preferences

We assume that the incumbent is strictly pro-reform and the opponent is strictly anti-reform. This assumption can be relaxed. The key part is that the incumbent needs to be more pro-reform than the opponent at the point where the reform is deployed. If not, the bureaucrats do not have any incentives to resist the reform and the game becomes trivial. This is because the bureaucrats in our model take the cost of resistance only to lower the probability that the reform is retained in the next period by undermining a reforming incumbent's reelection prospects. Thus, if the opponent is as or more likely to maintain the reform compared to the incumbent, bureaucratic resistance does not happen.

3.9.4 Voter's Uncertainty about Resistance

A crucial assumption of our model is that voters cannot observe whether bureaucrats resisted the policy or not. If it is observable, the voter rationally readjusts his inference about whether the incumbent's choice was "correct" when interpreting g. Hence, the bureaucrats do not have any incentives to resist.

One may question this assumption and argue that there are cases where bureaucratic resistance is well-documented and often covered by local media outlets. However, it is important to note that while voters (as well as journalists and scholars) can form a *rational conjecture* about whether resistance happened for a specific incident or how frequently it occurs, observing resistance would imply that they are fully aware of the intentions of bureaucrats. For example, rising response times (a low g in our model) can be indicative of a work slowdown by police (e.g., in the case of police response to Chesa Boudin's policies). However, conclusively attributing these longer response times to intentional resistance requires evidence that the delays are indeed a result of a slowdown ($r = 1$) rather than merely the consequence of an ineffective policy ($\omega = 0$).

smaller than the same incentives under an ineffective reform. If this condition does not hold, $\mathrm{E}[\omega|g, a = 1]$ is non-monotonic, and there exist multiple equilibria.

4 Equilibrium

The solution concept is a weak Perfect Bayesian Equilibrium with pure strategies (henceforth, equilibrium).

4.1 Second-Period Behavior

It is straightforward that the incumbent who wins the election with the reform continues it, $\mathbf{1}\{a = 1\} \times \mathbf{1}\{\text{reelection}\} \Rightarrow \tilde{a} = 1$, since she gets policy payoff $\rho \geq 0$ by doing so and 0 otherwise. If she does not introduce it or the opponent wins the election, then the status quo is chosen, $\tilde{a} = 0$.

Regardless of the election winner or the policy she chooses, the bureaucrats do not have any incentive to resist and take its cost $-c < 0$, i.e., $\tilde{r} = 0$.

4.2 Voter's Inference and Election Decision

We start by analyzing how the voter updates his belief about the reform policy and casts his vote. If the incumbent chooses the status quo in $t = 1$, $a = 0$, the voter is indifferent between the two candidates and reelects the incumbent with probability $1/2$. If the incumbent chooses the reform, $a = 1$, the voter gets $\mathrm{E}[\omega|g]$—the conditional expectation of the reform's value given the government outcome g—if he reelects the incumbent and q if he votes for the opponent. In turn, the voter reelects the incumbent if and only if[14]

$$\mathrm{E}[\omega|g] = \Pr[\omega = 1|g] \geq q. \tag{1}$$

To construct the voter's posterior belief, suppose the following about the incumbent's and the bureaucrats' behavior.

- Depending on ω, the incumbent introduces the reform if she observes a high enough ρ, $\rho \geq \rho'_\omega$: $a^*(\rho, \omega) = \mathbf{1}\{\rho \geq \rho'_\omega\}$.
- The bureaucrats undermine the reform if and only if (i) the reform works, $\omega = 1$, and their disutility from it is large enough, $\kappa \geq \kappa'$: $r^*(\kappa) = \omega \cdot \mathbf{1}\{\kappa \geq \kappa'\}$.

[14] Strictly speaking, the voter flips a fair coin if $\mathrm{E}[\omega|g] = q$, but we ignore this since it is a zero-measure event.

Then,

$$\mathrm{E}[\omega|g] = \frac{1}{1 + I(g, \kappa') \cdot R(\rho_0, \rho_1)}$$

where

$$I(g, \kappa') := \frac{h(g)}{(1-\kappa')h(g) + \kappa' h(g-1)} = \frac{h(g)}{h(g) + \kappa'[h(g-1) - h(g)]}$$
$$R(\rho_0', \rho_1') := \frac{1-\rho_0'}{1-\rho_1'}$$

$I(g, \kappa')$ is the likelihood ratio for g between states when $\omega = 0$ and when $\omega = 1$ given the probability of resistance, $1-\kappa'$. $R(\rho_0, \rho_1)$ is the likelihood ratio for the incumbent introducing the reform when $\omega = 0$ vs. when $\omega = 1$.

Then, the voter reelects the incumbent if and only if

$$I(g, \kappa') \cdot R(\rho_0', \rho_1') \leq \frac{1-q}{q}. \tag{2}$$

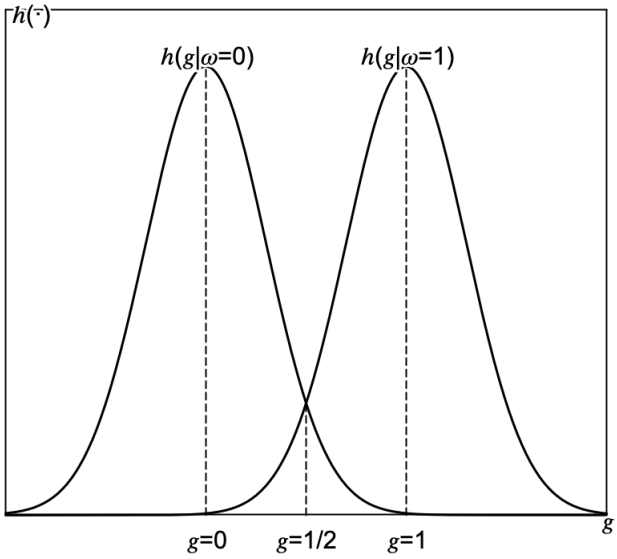
Equation 2 makes clear that the voter's inference about ω consists of three parts. First, the voter learns about ω from the observed government service quality, g.[15]

Lemma 1 *$I(g, \kappa')$ is decreasing in g, and there exists a unique $\hat{g}(q)$ such that $E[\omega|g] \geq q$ if and only if $g \geq \hat{g}$.*

It is intuitive that the voter's evaluation of the reform's worth increases with the observed government service after the introduction of the reform. If $g > 1/2$, then g is more likely to be drawn from $h(g-1)$, so the voter infers that the reform is more likely to succeed ($\omega = 1$) and not have been resisted ($r = 0$) than either to fail ($\omega = 0$) or have been resisted ($r = 1$). In contrast, if $g < 1/2$, then the voter's inference works in the opposite way. Figure 1 illustrates this logic, showing that $h(g) > h(g-1)$ if and only if $g < 1/2$.

[15] All proofs are relegated to Appendix A.

Figure 1: Likelihood Comparison

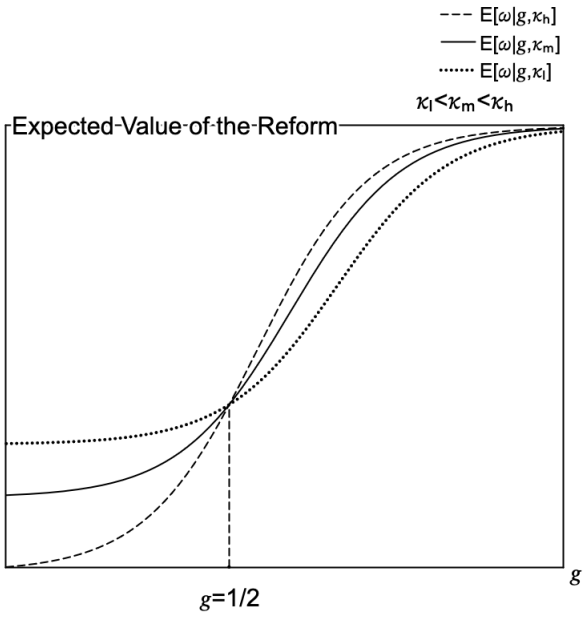


The second part of the voter's inference concerns the effect of bureaucrats' resistance on government outcome g. A rational voter takes into account the fact that bureaucrats can undermine the reform when he interprets g.

Lemma 2 *$I(g, \kappa')$ is increasing in κ' if and only if $g < \frac{1}{2}$; $\hat{g}(q)$ is increasing in κ' if and only if $\hat{g}(q) < \frac{1}{2}$.*

Bureaucratic resistance has two opposing effects on voter inference depending on the level of the government outcome g: As resistance becomes more likely ($1 - k'$ increases), voters expect bureaucrats to interfere more, and the policy performance can be obfuscated more by bureaucratic action. Figure 2 shows how this *learning effect of resistance* impacts the voter's posterior expectations about the reform's value. Consider a high likelihood of resistance (dotted line, low k'). The voter is less inclined to ascribe poor government outcomes (low g) to a failed reform and becomes less stringent with the incumbent. At the same time, in the face of resistance, he is inclined to ascribe high-quality services (high g) to mere luck rather than the reform's success, thus becoming more stringent with the incumbent when observing high-quality services. We further unpack the mechanisms for these two countervailing effects in Appendix D.

Figure 2: Resistance's Countervailing Effects on Voter Learning



The last part of the voter's inference is about the incumbent's decision to implement the reform.

Lemma 3 *$R(\rho_0', \rho_1')$ is decreasing in ρ_0' and increasing in ρ_1'; $\hat{g}(q)$ increases in ρ_0' and decreases in ρ_1'.*

If the incumbent is more likely to implement an effective reform than an ineffective one ($\rho_0 > \rho_1$), the voter becomes more lenient toward the reform. Simply put, incumbents can boost the voter's trust in the reform and increase their tolerance for poor service provision by "doing the right thing." If the incumbent does not condition her decision on the reform's worth ($\rho_0 = \rho_1$) or she cannot observe ω, voter inference is unaffected by the incumbent's strategy.

4.3 Incumbent's Decision

The incumbent's decision is affected by two factors: the partisan policy payoff (ρ) from introducing the reform and the reform's impact on her reelection prospects. Naturally, she introduces the reform only when ρ is large enough relative to the marginal net loss in her

reelection probability from introducing the reform.

$$\rho + \Pr[reelection|a=1](1+\rho) \geq \Pr[reelection|a=0]$$
$$\iff \rho \geq \overbrace{\frac{\Pr[reelection|a=0] - \Pr[reelection|a=1]}{1+\Pr[reelection|a=1]}}^{\text{Reelection loss due to the reform}}$$

Suppose that the voter reelects the incumbent if and only if he observes $g \geq g'$ and the bureaucrats resist the reform if and only if $\omega = 1$ and $\kappa > \kappa'$.

If the incumbent observes $\omega = 0$, then she chooses $a = 1$ if and only if

$$\begin{aligned} \rho + (1+\rho) \underbrace{[1 - H(g')]}_{\Pr[reelection|a=1,\omega=0]} &\geq \frac{1}{2} \\ \iff \rho &\geq \hat{\rho}_0(g') := \frac{H(g') - \frac{1}{2}}{2 - H(g')}. \end{aligned} \tag{3}$$

If the incumbent observes $\omega = 1$, then she chooses $a = 1$ if and only if

$$\begin{aligned} \rho + (1+\rho) \underbrace{\Big(\kappa'[1 - H(g'-1)] + (1-\kappa')[1 - H(g')]\Big)}_{\Pr[reelection|a=1,\omega=1]} &\geq \frac{1}{2} \\ \iff \rho \geq \hat{\rho}_1(g', \kappa') &:= \frac{H(g') - \frac{1}{2} - \kappa'[H(g') - H(g'-1)]}{2 - H(g') + \kappa'[H(g') - H(g'-1)]}. \end{aligned} \tag{4}$$

Notice that, the incumbent's incentives to introduce the reform is larger when it is effective than ineffective as long as the probability that bureaucrats sabotage is not one:

Lemma 4 *$\hat{\rho}_1(g', \kappa') < \hat{\rho}_0(g')$ if $\kappa' > 0$.*

4.4 Equilibrium without Resistance

Before analyzing the main model, consider a model where the bureaucrats do not resist, so $\kappa' = 1$. Define

$$\hat{\rho}_{B0}(g) := \hat{\rho}_0(g) \qquad \hat{\rho}_{B1}(g) := \hat{\rho}_{B1}(g, 1)$$

and

$$I_B(g) := \frac{h(g)}{h(g-1)} \qquad R_B(g) := \frac{1 - \hat{\rho}_{B0}(g)}{1 - \hat{\rho}_{B1}(g)}.$$

Proposition 1 (Equilibrium without Resistance) *If bureaucrats are not allowed to engage in resistance, so $\kappa^* = 1$, there exists an unique equilibrium defined by $\{g_B^*, \rho_{B0}^*, \rho_{B1}^*\}$*

such that

- *The voter reelects the incumbent who introduces the reform if and only if* $g \geq g_B^*$ *such that*

$$I_B(g_B^*)R_B(g_B^*) = \frac{1-q}{q};$$

- *The incumbent introduces the reform in* ω *if and only if* $\rho \geq \rho_{B\omega}^*$ *such that*

$$\rho_{B\omega}^* := \begin{cases} \hat{\rho}_{B\omega}(g_B^*) & \text{if } \hat{\rho}_{B\omega}(g_B^*) \in [0,1] \\ 0 & \text{if } \hat{\rho}_{B\omega}(g_B^*) < 0 \\ 1 & \text{if } \hat{\rho}_{B\omega}(g_B^*) > 1 \end{cases}$$

  and continues her policy in $t = 2$*:* $\tilde{a}^* = a$*;*

- *The opponent chooses the status quo if she wins the election.*

4.5 Policy Distortion without Resistance

To better understand the impact of bureaucratic resistance on policy-making and accountability, we first analyze which of the incumbent's choices is optimal for voters and how electoral incentives can distort these decisions, even in the absence of resistance. Ideally for voter welfare, the incumbent should choose the reform only if it is effective ($\rho_{B0}^* = 1$ and $\rho_{B1}^* = 0$). However, in reality, the incumbent can distort her choice, introducing the reform when it is not effective ($\rho_{B0}^* < 1$, **Over-Reform**) or not introducing an effective reform ($\rho_{B1}^* > 0$, **Under-Reform**) in equilibrium.

The incumbent's incentives to over-reform has two components. The first component is partisan payoff ρ. Even if the incumbent can never get reelected with the reform, she introduces the reform if $\rho \geq \Pr[reelection|a = 0] = 1/2$. The second component is the voter's inability to directly observe ω. Because g is a noisy signal, the voter may still observe g high enough to get the incumbent reelected after she introduced an ineffective reform. Because the incumbent can get reelected with an ineffective reform, she still has incentives to introduce an ineffective reform even when $\rho < 1/2$. That is if $\rho_{B0}^* < 1/2$, Equation 3 implies that the probability of reelection with an ineffective reform is positive, $1 - H(g_B^*) > 0$. For $\rho \in \left[\rho_{B0}^*, \frac{1}{2}\right]$, policy distortion occurs only because of electoral incentives.

In contrast, the incumbent's incentives to under-reform is purely electoral. She does not introduce an effective reform when the probability of winning the reelection is larger with the status quo than the reform. That is, $\rho_{B1}^* > 0$ implies that $1 - H(g_B^* - 1) < \frac{1}{2}$ as per

Equation 4. As the reform becomes less popular ex-ante, the voter requires a higher level of government service to reelect a reforming incumbent.

Proposition 2 (Reform Popularity and Voter Strategy) *g_B^* is increasing in q.*

As a result, when q is high, the incumbent is less incentivized to introduce the reform regardless of ω because she is less likely to get reelected with it.

Corollary 1 *$\rho_{B\omega}^*$ is weakly increasing in q.*

For accountability, the value of the status quo to the voter has two countervailing effects. As it becomes more popular (i.e., q increases), it curtails over-reform but promotes under-reform. Conversely, as the status quo becomes unpopular (i.e., q decreases), under-reform is deterred but over-reform becomes more rampant.

This benchmark result is in line with the results from the canonical accountability literature (Canes-Wrone, Herron and Shotts, 2001; Fox, 2007; Gersen and Stephenson, 2014): When the voter is able to observe the incumbent's policy choice but remains uncertain about its implications for his welfare, electoral incentives can cause policy distortion by inducing the incumbent to choose a popular policy regardless of its underlying value for the voter.

4.6 Bureaucrats' Incentives to Resist

The bureaucrats' incentives to resist in $t = 1$ come from (i) their desire to avoid the reform in $t = 2$ and (ii) their ability to influence the election outcome by affecting government outcome, g. Therefore, they do not resist unless they can influence the election outcome by affecting the government outcome. For instance, they do not undermine any policy in $t = 2$ because there is no election afterward. Similarly, they do not undermine the status quo, since the voter's election decision is independent of g.

Bureaucrats experience disutility $-\kappa < 0$ in $t = 2$ if the incumbent introduces the reform and wins the election, and 0 if the opponent wins. Thus, the benefit of resistance is given by the reform disutility κ times the gap between the reelection probabilities of the reforming incumbent with and without resistance, and the bureaucrats resist if and only if this benefit is larger than its cost c. Namely, $r^*(\kappa') = 1$ if and only if

$$\kappa \cdot \Big(\Pr[reelection(a = 1)|r = 1] - \Pr[reelection(a = 1)|r = 0] \Big) \geq c. \tag{5}$$

Suppose the voter reelects the incumbent if and only if he observes $g \geq g'$, so

$$\Pr[reelection(a = 1)|r = 1] = \Pr[g \geq g'|a = 1, r = 1] = 1 - H(g')$$

with resistance $r = 1$ and

$$\Pr[reelection(a = 1)|r = 0] = \Pr[g \geq g'|a = 1, r = 0] = \begin{cases} 1 - H(g') & \text{if } \omega = 0 \\ 1 - H(g' - 1) & \text{if } \omega = 1 \end{cases}$$

without resistance, $r = 0$. Then equation (5) can be rewritten as

$$\kappa \underbrace{\Big(1 - H(g') - 1 + H(g')\Big)}_{=0} \geq c \tag{6}$$

if $\omega = 0$ and

$$\kappa\Big(H(g') - H(g' - 1)\Big) \geq c \tag{7}$$

if $\omega = 1$. Notice that equation (6) never holds for $c > 0$ as the reelection probability is constant with respect to resistance, so the bureaucrats do not obstruct the reform that does not work: $r^*(\omega = 0) = 0$. In contrast, the bureaucrats can benefit from sabotaging the reform that actually works, as the reelection probability changes by $H(g') - H(g' - 1)$. Therefore, the bureaucrats undermine the reform if and only if it is effective ($\omega = 1$) and

$$\kappa > \hat{\kappa}(g') := \begin{cases} \dfrac{c}{H(g') - H(g' - 1)} & \text{if } \dfrac{c}{H(g') - H(g' - 1)} < 1 \\ 1 & \text{if } \dfrac{c}{H(g') - H(g' - 1)} \geq 1. \end{cases} \tag{8}$$

Suppose that the voter can perfectly observe the bureaucrats' choice to resist. Since resistance is incentive compatible only for an effective reform, any resistance will signal that the reform is effective. In turn, bureaucrats do not have any incentive to resist if the voter can directly observe their actions.[16]

Corollary 2 *If r is observable by the voter, $r = 0$.*

[16] This result is different from the results in other models (Gieczewski and Li, 2022; Hirsch and Kastellec, 2022) where sabotage is on the equilibrium path of play even when it is visible. The key assumption that drives this difference is that the saboteur in our model (i.e., bureaucrats) does not face any uncertainty about the intrinsic value of the introduced policy at the moment of their decision. Therefore, their decision provides a perfect signal for its value. In contrast, in other models, at the moment of the sabotage decision, the saboteur cannot perfectly predict the chosen policy will succeed without sabotage, so their action does not reveal the policy's value.

4.7 Equilibrium of the Main Model

Equations (3), (4), and (8) allow us to endogenize every player's best response and characterize the unique equilibrium. Abusing notations, define

$$I(g', c) := \frac{h(g')}{h(g') + \hat{\kappa}(g')[h(g' - 1) - h(g')]}$$
$$R(g', c) := \frac{1 - \rho_0(g')}{1 - \hat{\rho}_1(g', \hat{\kappa}(g'))}.$$

Proposition 3 (Equilibrium with Resistance) *There exists a unique pure strategy equilibrium with a unique set of threshold values $\{g^*, \kappa^*, \rho_0^*, \rho_1^*\}$ such that*

- *The voter reelects the incumbent if and only if $g \geq g^*$ such that*

$$R(g^*, c)I(g^*, c) = \frac{1 - q}{q};$$

- *The incumbent introduces the reform in $t = 1$ if and only if $\rho \geq \rho_\omega^*$ such that*

$$\rho_0^* := \begin{cases} \hat{\rho}_0(g^*) & \text{if } \hat{\rho}_0(g^*) \in [0, 1] \\ 0 & \text{if } \hat{\rho}_0(g^*) < 0 \\ 1 & \text{if } \hat{\rho}_0(g^*) > 1, \end{cases} \qquad \rho_1^* := \begin{cases} \hat{\rho}_1(g^*, \kappa^*) & \text{if } \hat{\rho}_1(g^*, \kappa^*) \in [0, 1] \\ 0 & \text{if } \hat{\rho}_1(g^*, \kappa^*) < 0 \\ 1 & \text{if } \hat{\rho}_1(g^*, \kappa^*) > 1, \end{cases}$$

  and continues her policy in $t = 2$: $\tilde{a}^* = a$;

- *The opponent chooses the status quo if she wins the election;*

- *The bureaucrats resistance if and only if*

  *(i) The incumbent introduces the reform, $a = 1$, **and***

  *(ii) The introduced reform works, $\omega = 1$, **and***

  (iii) The disutility from it is high enough, $\kappa \geq \kappa^* := \hat{\kappa}(g^*)$ in $t = 1$

  and do not resistance in $t = 2$:

$$r^*(a, \omega, \kappa) = a \times \omega \times \mathbf{1}\{\kappa > \kappa^*\}$$
$$\tilde{r}^* = 0.$$

As in the benchmark, the voter applies a stricter reelection rule for a reforming incumbent when the reform is ex-ante popular (or the status quo's value is low) than when the reform

is ex-ante unpopular (or the status quo's value is high). In turn, the equilibrium probability that the incumbent introduces the reform is decreasing in the status quo's value.

Proposition 4 *g^* and ρ^*_ω are weakly increasing in q.*

5 Analysis

We now examine how shifts in voters' evaluations of the status quo (q) and variations in bureaucrats' resistance costs (c) influence bureaucratic strategies. Additionally, we analyze how bureaucratic resistance affects voters' perceptions of the reform's value, their reelection intentions, and the extent of policy distortions resulting from the incumbent's decisions in equilibrium.

5.1 Bureaucrats' Equilibrium Behavior

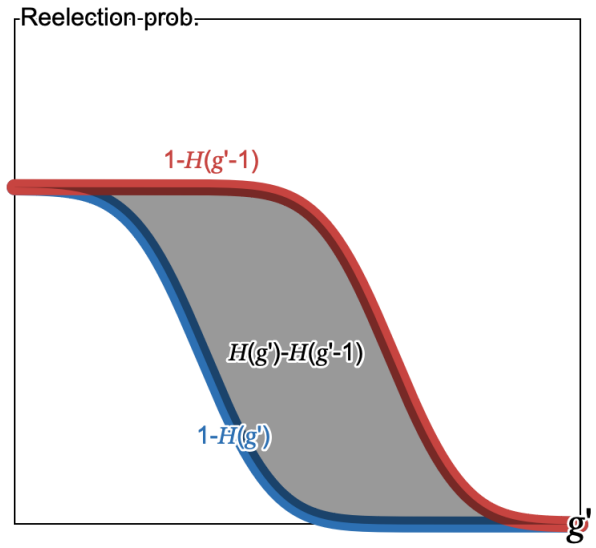
Proposition 5 (Bureaucrats' Incentives to Resist) *q and c have the following effects on bureaucrats' equilibrium behavior:*

1. *As the status quo's value increases, bureaucrats' incentive to resist changes non-monotonically (a single-peaked curve); $\kappa^*(q, c)$ is weakly U-shaped with respect to q*
2. *As the costs of resistance increase, bureaucrats are less likely to resist; $\kappa^*(q, c)$ is increasing in c*

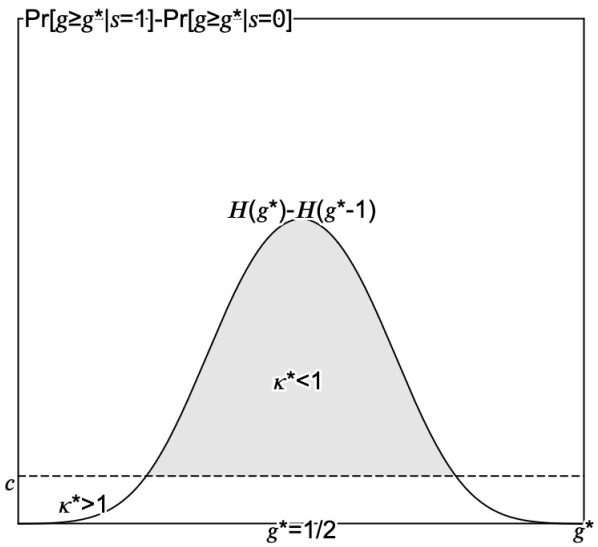
Figure 3 provides intuition for why incentives to resist are non-monotonic with respect to q. Recall that resistance reduces the probability that the voter observes a positive enough signal to reelect a reforming incumbent. Without resistance, the probability that the voter observes $g \geq g^*$ is $1 - H(g^* - 1)$ (the red line). Resistance decreases this probability to $1 - H(g^*)$ (the blue line). As the gap between these two probabilities $H(g^*) - H(g^* - 1)$ increases, bureaucrats engage in resistance with a smaller grievance κ and the ex-ante probability that they engage in resistance $(1 - \kappa^*)$ increases.

When $g^* = 1/2$, the gap between the probability that the voter reelects the incumbent without and with resistance $H(g^*) - H(g^* - 1)$ is largest. That is, if the voter is ex-ante torn between the reform and the status quo, his reelection decision is highly sensitive to the realized quality of the government service g under the reform and resistance incentives are maximized. If $g^* < 1/2$, then the voter may still observe $g \geq g^*$ despite resistance. As a result, bureaucrats engage in resistance only if their grievances over the reform κ are high

Figure 3: Resistance's Marginal Effect on Re-election



(a) The X-axis is the voter's cutoff g^* and the Y-axis is the reelection probability. The red line is the probability of reelection as a function of g^* when $x = 1$ and $r = 0$ and the blue line is the same probability when $x = 0$ or $r = 1$. The grey area between the two lines captures the marginal effect of resistance as a function of the voter's cutoff g^*.



(b) The X-axis is the voter's cutoff g^* and the Y-axis is resistance's marginal effect on reelection probability. The line $H(g^*) - H(g^* - 1)$ is the resistance's marginal effect as a function of the voter's cutoff g^* (The size of the grey area on Panel (a)). Notice that it is maximized at $g^* = 1/2$. The shaded area indicates the range of g^* where resistance is incentive-compatible.

enough. On the other hand, if $g^* > 1/2$, it is unlikely that the voter observes $g \geq g^*$ anyway, even without resistance, so the bureaucrats' incentive to resist is also smaller than when $g^* = 1/2$.

As panel (b) of Figure 3 illustrates, the cost of resistance truncates the marginal effect of resistance on re-election probability from below, and resistance is only incentive compatible for the bureaucrat if c is low enough relative to g^*.

5.2 Bureaucratic Resistance and Voter Inference in Equilibrium

Bureaucratic resistance makes the voter's reelection rule for a reforming incumbent more lenient only when the reform is sufficiently popular. To see why, we decompose $I(g^*, \kappa^*) \cdot R(\rho_0^*, \rho_1^*)$ in its two parts. The first part captures the learning effect of resistance, i.e., the direct effect on the generation of g, holding fixed the incumbent's decision to introduce the reform. As discussed in section 4.2, the learning effect makes a lenient voter even more

lenient and a strict voter even stricter.

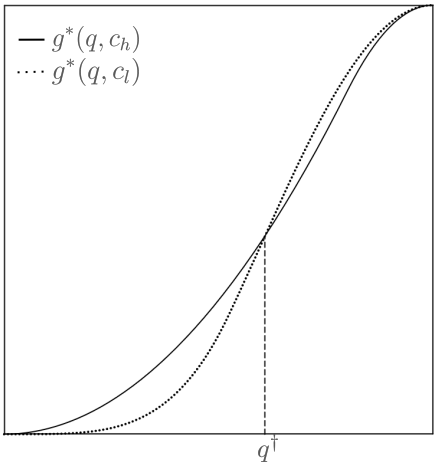
Secondly, bureaucratic resistance affects the voter's inference via its impact on the incumbent's decision to introduce the reform, $R(\rho_0^*, \rho_1^*)$. It is important to note that, holding fixed the learning effect of resistance (i.e., its direct effect on g^*), resistance impacts the incumbent's incentives to introduce reform *only if it works*. Since resistance will not happen when $\omega = 0$, it really only makes reform riskier for the incumbent when $\omega = 1$ by increasing the likelihood of low-quality service and thus decreases the incumbent's incentives to introduce effective reforms.[17] We call this the *direct effect of resistance*. As a result, by making the incumbent more conservative *only* when reform would succeed, bureaucratic resistance drags down the voter's evaluation of the introduced reform and makes him stricter with the reforming incumbent. We call this the *reservation effect of resistance*.

Hence, whether the voter becomes more or less lenient as a result of changes in the cost of resistance depends on the combination of these effects. The reservation effect weakens the learning effect for low q but amplifies it for high q.

Proposition 6 (Resistance Effect on Voter's Strategy) *There exists a unique* $q^\dagger < \frac{1}{2}$ *such that* $g^* > g_B^*$ *if and only if* $q > q^\dagger$.

As Figure 4 illustrates, higher risks of resistance (c_l rather than $c_h > c_l$) induce the voter to be more strict with the incumbent only for sufficiently popular reforms, $q > q^\dagger$.

Figure 4: Resistance Equilibrium Effect on Voting Decision



The voter's equilibrium cutoff g^* with high c_h and low c_l.

[17] To see this, notice that, *holding other factors fixed*, κ' and, thus, c only enters $\hat{\rho}_1(g', \kappa')$ in Equation (4), but not $\hat{\rho}_0(g')$ in Equation (3); as c increases, $\hat{\rho}_1(g', \kappa')$ decreases, holding g' fixed.

5.3 Bureaucratic Resistance and Policy Distortion

Interestingly, resistance can either increase or decrease the incumbent's willingness to reform, depending on the value of the status quo. Evidently, if the voter highly values the status quo (high q), bureaucratic resistance leads the politician to be overly cautious with both effective and ineffective reforms (more under-reform, less over-reform). However, if the voter benefits little from the status quo and has large trust in the reform's effectiveness ex-ante, resistance promotes reform, making the incumbent less cautious with effective reforms and more reckless with ineffective reforms (more over-reform, less under-reform).

Proposition 7 (Resistance Effect on Incumbent's Strategy) *1. For ineffective reform, the effect of resistance is fully mediated by g^*; $\rho_0^* > \rho_{B0}^*$ if and only if $q > q^\dagger$.*

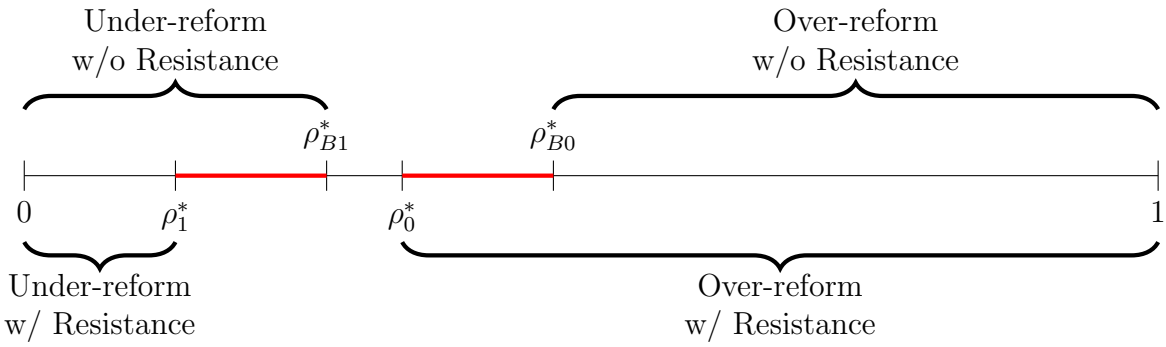
2. For effective reform, the effect of resistance is mediated by g^* and the direct effect on ρ_1^*; there exists at most a unique $q^{\dagger\dagger} < q^\dagger$ such that $\rho_1^* > \rho_{B1}^*$ if and only if $q < q^{\dagger\dagger}$.

The mechanism for this bifurcating result is that bureaucratic resistance affects the incumbent's decision in two ways. First, its effect operates through voter behavior (i.e., the impact on g^* in Proposition 6). By making the voter more lenient or strict toward the reform, bureaucratic resistance increases or decreases the incumbent's incentive to introduce the reform. If the reform is ineffective, and resistance is unobserved, this is the only way that bureaucratic resistance affects the incumbent's decision: bureaucratic resistance incentivizes the incumbent to introduce an ineffective reform if and only if it induces the voter to be more lenient toward the reform ($q < q^\dagger$). However, when the reform is effective, the direct effect of resistance, i.e., its threat to public service provision, further decreases the incumbent's incentive to reform. Incumbents only implement effective reforms when faced with very lenient voters ($q < q^{\dagger\dagger} < q^\dagger$).

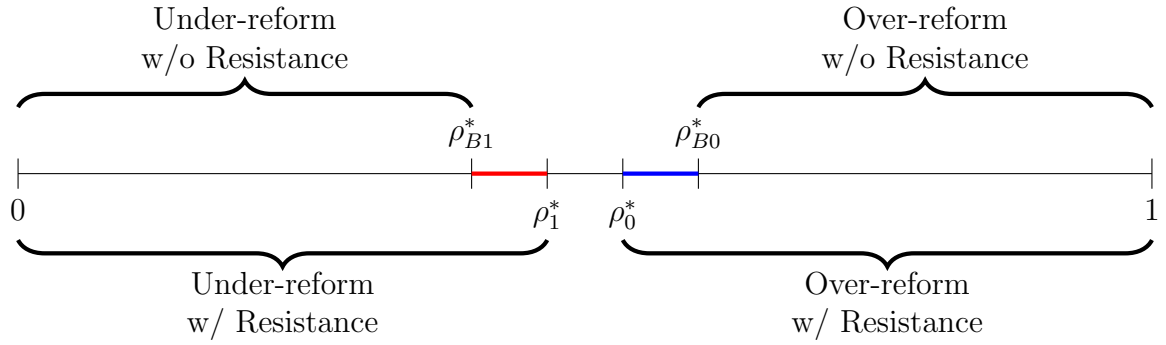
Figure 5 illustrates the implications of these results for the degree of policy distortion by comparing the case with resistance against the benchmark without resistance. For popular reforms, resistance reduces the degree of under-reform, but increases the degree of over-reform. The opposite holds for ex-ante unpopular reforms for the voter: bureaucratic resistance alleviates the issue of over-reform, but worsens under-reform. Finally, this implies that there is a range of intermediary values of q in which bureaucratic resistance prompts a reform when it is *ineffective* but deters it when it is *effective*, necessarily leading to both more over-reform and under-reform.

Corollary 3 *Bureaucratic resistance creates pure loss in accountability by increasing both types of policy distortion if $q \in [q^{\dagger\dagger}, q^\dagger]$.*

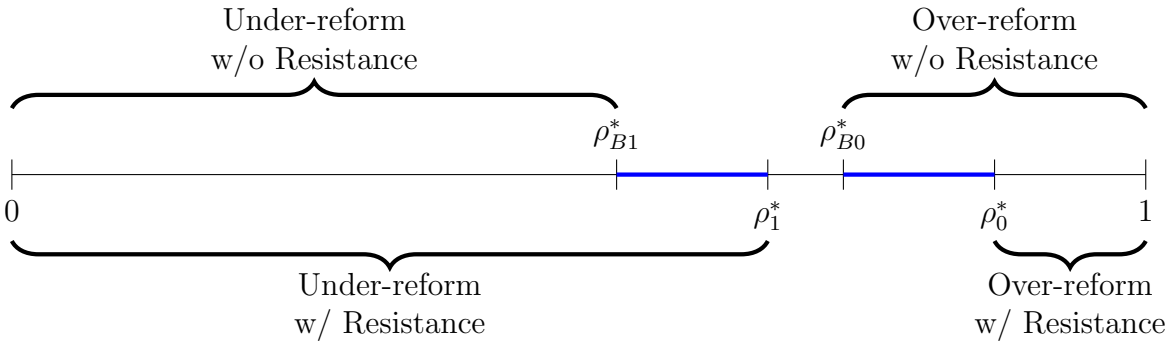
Figure 5: Effect of Bureaucratic Resistance on Policy Distortion under Different q



(a) If $q < q^{\dagger\dagger}$, bureaucratic resistance increases over-reform but reduces under-reform.



(b) If $q \in [q^{\dagger}, q^{\dagger\dagger}]$, bureaucratic resistance increase over- and under-reform.



(c) If $q > q^{\dagger}$, bureaucratic resistance reduces over-reform but increases under-reform.

6 Empirical Examples

In this section, we provide examples of when resistance discourages and encourages reform to illustrate how our model helps to explain various dynamics in bureaucratic politics.

6.1 Examples of Dampened Reform Efforts

The deaths of unarmed Black Americans at the hands of police in recent years, including George Floyd, Daunte Wright, Breonna Taylor, and Tyre Nichols, have sparked a movement calling for sweeping police reform. In 2020, millions marched for police reform, and lawmakers across the aisle supported reform endeavors. Yet, lawmakers' support for police reform faltered in recent years, and reform policies stalled (McCaskill, 2020; Pearson, 2022). Why?

Our model illustrates how resistance by powerful police organizations and their threat to resistance reform policies might have contributed to politicians' unwillingness to follow through with reforms aimed at police accountability and transparency. In particular, if voters are sufficiently weary about the effectiveness of reforms (q is high), our results predict that incumbents shy away from reforms because of bureaucrats' ability to resist reforms by undermining service quality, and, consequently, affect voters' perceptions of the policy and incumbents' re-election prospects.[18]

The difficulties to eliminate "qualified immunity" for police officers are a clear case in point. In the aftermath of George Floyd's killing, federal and state lawmakers nationwide attempted to reverse a legal principle that effectively shields police officers from being sued for violating individuals' civil rights. Yet, the respective federal bill soon stalled in Congress, as bipartisan Senate negotiations failed, and by October 2021, at least 35 qualified-immunity bills had been withdrawn or died in state legislatures (Kindy, 2021).

The opposition to these reforms by police organizations played an important part in this development. Police unions bought ads in local newspapers warning that officers might hesitate to pursue criminals due to concerns about potential lawsuits, urging readers to call state legislators to oppose the reforms (Kindy, 2021). Similarly, in opinion pieces, they asserted that crime would surge uncontrollably if the reforms passed (Kindy, 2021). Against the backdrop of rising crime rates after 2020, this strategy effectively discouraged lawmakers from pursuing reforms that could make them appear soft on crime. In cases where police groups could not prevent immunity reforms completely, for example in New Mexico, they often managed to shift the narrative and ensured that victims could only seek

[18]Note that the threat of resistance is sufficient and *actual* resistance is unobserved since the reform is not implemented in the first place and thus cannot be undermined through resistance.

retribution from cities and counties, rather than individual officers (Kindy, 2021). Hence, by underscoring their capacity to resist the policies (low c), leveraging citizens' fear of crime (low g) and insinuating to voters that the reforms are worse than the status quo ($\omega = 0$)—thereby suggesting that incumbents would be responsible for any decline in service quality—police made reforms of "qualified immunity" electorally risky and unattractive for incumbents.

6.2 Examples of Increased Reform Efforts

Conversely, our model also explains how and when incumbents can *leverage* the possibility of resistance for their electoral gains. If reforms are fairly popular with voters, incumbents are motivated to implement them and can shift blame onto bureaucratic resistance if the reforms fail. Importantly, politicians can exploit the fact that voters expect bureaucrats to resist a policy they dislike and bureaucrats cannot credibly deny their incentives to resist.

A prominent example of this is the strategy of populist incumbents to blame the "deep state" for policy failures, i.e., claiming that bureaucrats are actively undercutting their political authority and thwarting the will of the people by sabotaging policies. Ron DeSantis' efforts to blame teachers, librarians, and school administrators for failures of his education policies nicely illustrate this tactic. Since 2022, the Florida governor has implemented a series of laws that impose severe restrictions on classroom materials addressing topics such as gender identity, sexual orientation, racism, and slavery in classrooms. These laws soon resulted in logistical chaos, as school districts were overwhelmed with requests from parents and conservative groups to remove a wide array of books from their curricula (Atterbury, 2024). Moreover, the policies led to many empty bookshelves, as school districts started pulling even dictionaries and encyclopedias due to references to "sexual conduct" and a Miami school required parental consent for students to access a book by a Black author (Luscombe, 2024). Consequently, Florida voters became increasingly dissatisfied with the impact these policies were having on educational services (Luscombe, 2024). To navigate the backlash, DeSantis asserted that school officials were strategically obstructing the policy. For instance, after a book about Puerto Rican baseball legend Roberto Clemente was removed for its discussion of racism, DeSantis claimed that teacher unions were removing benign books to portray him as a racist, authoritarian zealot (Algar, 2023). Crucially, DeSantis' narrative capitalizes on voter uncertainty about whether policy failures (low g) stem from strategic resistance by educators ($r = 1$) or flaws in his policies ($\omega = 0$). Given the vocal opposition from teachers and their unions, who have protested and filed lawsuits against these policies, it is difficult for these bureaucrats to deny their incentives to resist DeSantis' policies. Hence, by claiming that the state bureaucracy was working to undermine his administration, De-

Santis weaponized expectations of bureaucratic resistance among his supporters to legitimize drastic policies that ultimately led to a decline in the quality of education services.

7 Conclusion & Discussion

Politicians inherently depend on bureaucrats to deliver policies to their voter base, and poor public service provision creates an electoral vulnerability for politicians. This raises the question: When and how can bureaucrats exploit this to affect policies they dislike? In this paper, we argue that bureaucrats' central position in government production, together with voters' difficulty in attributing responsibility for service provision, vests bureaucrats with a unique source of political power. Our model illustrates how this leads to strategic resistance of public service provision by bureaucrats, affects voter learning from policy outcomes, and can impact politicians' policies and chances of re-election.

Using a three-player model with a politician, a bureaucrat, and a voter, we find that bureaucratic resistance leads to complex and non-monotonic disruptions in electoral accountability relationships between voters and politicians. Depending on the voter's beliefs about the merit of reform policies and the observed quality of government, bureaucratic resistance (1) can make the voter either more or less favorable to the incumbent, (2) happens more often if voters are more susceptible to government outcome, and (3) can both promote and hinder reform efforts, sometimes resulting in too few beneficial reforms (*under-reform*) or too many ineffective reforms (*over-reform*) compared to the normative optimum.

Our model and analysis enrich our understanding of the degree of political motivations among bureaucrats and their consequences for voter learning and politicians' behavior. In doing so, we highlight an underappreciated mechanism of political influence for bureaucrats as interest groups and micro-found a reason for why bureaucrats act against the very programs and services they oversee. Additionally, we respond to recent calls to integrate interactions between politicians, bureaucrats, and voters within a single framework for studying political accountability (Grossman and Slough, 2022). Compared to conventional models of electoral politics that examine the relationships between voters and politicians or between politicians and bureaucrats separately, this integration allows us to uncover new mechanisms influencing voter learning, service quality, and government responsiveness. It also demonstrates a novel pathway through which the information environment shapes the outcomes of accountability relationships (Ashworth, Bueno De Mesquita and Friedenberg, 2018).

This article opens several paths for future work. In our model, we focus on a simple two-period game and abstract away from potential dynamics. Particularly, we treat both the

voter's perceptions about the reform's value relative to the status quo (q) and bureaucrats' perceived costs of resistance (c) as exogenous. It appears fruitful for future theoretical research to explore how our results are affected by voters' dynamic adjustment of their beliefs about the cost of resistance or the reform's value over time.

Our model can also inform future empirical work on the drivers, conditions, and consequences of bureaucratic resistance in several ways. In particular, one could test the comparative statics described in Propositions 4, 5, 6 and 7, i.e., the effect of changes in voter's beliefs about the reform's value (q) and bureaucrats' cost-benefit trade-off when sabotaging (c relative to κ) on the probability of resistance ($1-\kappa^*$), the probability of reform ($1-\rho^*$), and the probability of reelection ($1-g^*$). Similarly, scholars could use surveys to empirically evaluate the impact of bureaucratic resistance (i.e., variation in c) on voters' perceptions of reform merit ($\mathrm{E}[\omega|g,c]$), conditional on the realized government quality (g). Our results suggest that resistance dampens voters' preference for reform for high government quality, while it strengthens their perceptions of reform merits for low government quality (see Lemma 2 and Figure 2).

When selecting empirical cases for such analyses, scholars want to pay close attention to two issues. First, the cases should closely match the scope conditions of our theory—particularly, bureaucrats' distaste for reform, their discretion and independence from political control, and voters' difficulty in attributing the responsibility for government outcomes. The second and thornier issue concerns the source of the exogenous variation in either c or q for ceteris paribus comparisons. Particularly, it proves empirically challenging to identify valid instruments that affect one of these exogenous parameters while leaving the other unchanged. Take, for example, the case of police resistance to law enforcement reforms. Assume that a scholar sets out to study how sudden shifts in voters' attitudes toward the necessity for police reform (q) affect the degree of police resistance, incumbents' policies, and their re-election chances. Instances of police brutality followed by widespread protests might seem like ideal shocks. However, it's important to recognize that such events have a direct impact on how police officers weigh the costs and benefits of engaging in resistance. For example, a broader shift in the political climate following large-scale protests tends to increase police officers' concerns about potential consequences for their actions, strengthening their resistance to measures like the removal of qualified immunity (i.e., reducing c relative to κ). Hence, it is difficult to test model predictions with this design. However, other instruments, such as localized unionization of individual bureaucratic units through unionization elections (Goncalves, 2021), could be promising candidates to empirically study the effect of rapid changes in the cost of organized resistance on its prevalence and consequences.

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Appendix: Supporting Information for *Bureaucratic Resistance and Policy Inefficiency*

A Proofs

A.1 Marginal Effects on Voter Inference

Lemma A1 *$I(g, \kappa')$ is decreasing in g for $\kappa(0, 1]$.*

Proof. For $\kappa' \in (0, 1]$, $h(g) + \kappa'[h(g-1) - h(g)]$ is a horizontal shift of $h(g)$ and $h(g-1)$ such that $h(g) < h(g) + \kappa'[h(g-1) - h(g)] \leq h(g-1)$. A log-concave distribution satisfies the monotone likelihood ratio property with respect to (Saumard and Wellner, 2014). ■

Lemma A2 *$I(g, \kappa')$ is increasing in κ' if and only if $g \geq 1/2$.*

Proof. Observe that

$$sign\frac{\partial}{\partial \kappa'}\frac{h(g)}{h(g) + \kappa'\Big(h(g-1) - h(g)\Big)} = sign[h(g) - h(g-1)].$$

Since $h(g)$ is symmetric around 0 and single-peaked, $h'(g) < 0$ if $g > 0$. Notice that this implies that $h(g-1) - h(g) = 0$ if $g = 1/2$ and > 0 if $g < 1/2$. Therefore, $\lambda(g, \kappa', r')$ is increasing in κ if and only if $q < 1/2$. ■

Lemma A3 *$R(\rho_0', \rho_1')$ is decreasing in ρ_0 and increasing in ρ_1.*

Proof. Notice that the numerator of $R(\rho_0', \rho_1')$ is decreasing in ρ_0' and its denominator is decreasing in ρ_1'. ■

A.2 Equilibrium Construction

Lemma A4 *$I(g, c)R(g, c)$ is decreasing in g.*

Proof. Take logarithm to get

$$\log I(g, c)R(g, c) = \log I(g, c) + \log R(g, c).$$

Since log is an increasing function, $I(g, c)R(g, c)$ is decreasing in g if $I(g, c)$ and $R(g, c)$ are decreasing in g independently.

$$I(g,c) = \frac{h(g)}{h(g) + c\frac{h(g-1)-h(g)}{H(g)-H(g-1)}} = \frac{1}{1 + c\frac{[h(g-1)/h(g)]-1}{H(g)-H(g-1)}}$$

is decreasing in g since

$$\frac{[h(g-1)/h(g)]-1}{H(g)-H(g-1)}$$

is increasing in g: $sign\frac{\partial}{\partial g}\frac{[h(g-1)/h(g)]-1}{H(g)-H(g-1)}$ is the same as

$$sign\left(\Big(H(g)-H(g-1)\Big)\frac{h'(g-1)h(g)-h'(g)h(g-1)}{\Big(h(g)\Big)^2} - \Big(h(g)-h(g-1)\Big)\Big(\frac{h(g-1)}{h(g)}-1\Big)\right).$$

The log-concavity of h ensures $h'(g-1)h(g)-h'(g)h(g-1) > 0 \iff h'(g-1)h(g-1) > \frac{h'(g)}{h(g)}$. Notice this holds if $\frac{\partial}{\partial g^*}\frac{h'(g)}{h(g)} < 0 \iff h''(g)h(g) < \Big(h'(g)\Big)^2$, which is a property of a log-concave function (Bagnoli and Bergstrom, 2006). Lastly, $\Big(h(g)-h(g-1)\Big)\Big(\frac{h(g-1)}{h(g)}-1\Big) = -h(g) - \frac{\Big(h(g-1)\Big)^2}{h(g)} < 0$. Therefore, $\frac{[h(g-1)/h(g)]-1}{H(g)-H(g-1)}$ is increasing in g.

$R(g,c)$ is monotonically decreasing in $H(g)$:

$$\frac{\partial}{\partial H}(1-\rho_0) = -\frac{3}{2(2-H)^2} < \frac{\partial}{\partial H}(1-\rho_1(g;c)) = -\frac{3}{2(2-H+c)^2}.$$

■

A.2.1 Equilibrium without Resistance

Lemma A5

$$I_B(g)R_B(g) = \frac{h(g)\left(2[1-H(g)]+\frac{1}{2}\right)[2-H(g-1)]}{h(g-1)\left(2[1-H(g-1)]+\frac{1}{2}\right)[2-H(g)]} = \frac{\frac{h(g)\left(2[1-H(g)]+\frac{1}{2}\right)}{[2-H(g)]}}{\frac{h(g-1)\left(2[1-H(g-1)]+\frac{1}{2}\right)}{[2-H(g-1)]}}$$

is decreasing in g.

Proof. When $h(g)$ is log-concave, $H(g)$ is also log-concave or its shifts. Also, log-concave functions are closed for multiplication. Thus, $\frac{h(g)\left(2[1-H(g)]+\frac{1}{2}\right)}{[2-H(g)]}$ is log-concave. Since a log-concave function satisfies the MLRP with respect to a horizontal shift (Saumard and Wellner, 2014), $\frac{h(g)\left(2[1-H(g)]+\frac{1}{2}\right)}{[2-H(g)]} \Big/ \frac{h(g-1)\left(2[1-H(g-1)]+\frac{1}{2}\right)}{[2-H(g-1)]}$ is monotonically decreasing in g. ■

A.3 Comparative Statics

Lemma A6 *There exists $g^\dagger$ such that $I(g,c)R(g,c)$ is decreasing in c if and only if $g < g^\dagger$.*

Proof. Consider c_h and c_l such that $c_h > c_l > 0$.

$I(g,c_h)R(g,c_h) = I(g,c_l)R(g,c_l) \iff \frac{I(g,c_h)}{I(g,c_l)} = \frac{R(g,c_l)}{R(g,c_h)}$.

Since $\frac{[h(g-1)/h(g)]-1}{H(g)-H(g-1)}$ is increasing in g, $\frac{I(g,c_h)}{I(g,c_l)} = \frac{1+c_l\frac{[h(g-1)/h(g)]-1}{H(g)-H(g-1)}}{1+c_h\frac{[h(g-1)/h(g)]-1}{H(g)-H(g-1)}}$ is monotonically decreasing in g and takes 1 at $g = 1/2$.

$\frac{R(g,c_l)}{R(g,c_h)} = \frac{1-\rho_1^*(g;c_h)}{1-\rho_1^*(g;c_l)} \geq 1$ and weakly increasing in g. To see that it is increasing in g, observe that

$$\frac{\partial}{\partial H}\frac{1-\rho_1^*(g;c_h)}{1-\rho_1^*(g;c_l)} = \frac{[1-\rho_1^*(g;c_l)]\frac{\partial}{\partial H}[1-\rho_1^*(g;c_h)] - [1-\rho_1^*(g;c_h)]\frac{\partial}{\partial H}[1-\rho_1^*(g;c_l)]}{[1-\rho_1^*(g;c_l)]^2}.$$

Then, $\frac{\partial}{\partial H}\frac{1-\rho_1^*(g;c_h)}{1-\rho_1^*(g;c_l)} > 0$

$$\begin{aligned}
&\iff [1-\rho_1^*(g;c_l)]\frac{\partial}{\partial H}[1-\rho_1^*(g;c_h)] \geq [1-\rho_1^*(g;c_h)]\frac{\partial}{\partial H}[1-\rho_1^*(g;c_l)] \\
&\iff \frac{\frac{\partial}{\partial H}[1-\rho_1^*(g;c_h)]}{[1-\rho_1^*(g;c_h)]} \geq \frac{\frac{\partial}{\partial H}[1-\rho_1^*(g;c_h)]}{[1-\rho_1^*(g;c_h)]} \\
&\iff \frac{\partial}{\partial H}\log[1-\rho_1^*(g;c_h)] \geq \frac{\partial}{\partial H}\log[1-\rho_1^*(g;c_l)] \\
&\iff \frac{\partial}{\partial H}\rho_1^*(g;c_h) \leq \frac{\partial}{\partial H}\rho_1^*(g;c_l).
\end{aligned}$$

Recall that $\frac{\partial}{\partial H}(1-\rho_1) = -\frac{3}{2(2-H+c)^2}$ and notice that it is decreasing in c for $\rho_1 \in [0,1]$.

Then, by the intermediate value theorem, $\frac{I(g,c_h)}{I(g,c_l)}$ and $\frac{R(g,c_l)}{R(g,c_h)}$ meet only once at $g^\dagger \leq 1/2$, and there exists a unique $q^\dagger$ such that $g^*(c_l) < g^*(c_h)$ if and only if $q < q^\dagger$ by the one-to-one mapping between g^* and q. ■

Lemma A7 $\frac{\partial\kappa^*(q,c)}{\partial c} > 0$.

Proof. Assume that there exists q such that $\frac{\partial\kappa^*(q,c)}{\partial c} \leq 0$. Then this implies that there exists g^* such that $sign\frac{\partial I(g^*,\kappa^*)R(g^*,\kappa^*)}{\partial c} = sign\left(\frac{\partial I(g^*,\kappa^*)R(g^*,\kappa^*)}{\partial\kappa^*}\cdot\frac{\partial\kappa^*}{\partial c}\right) \neq sign\frac{\partial I(g^*,\kappa^*)R(g^*,\kappa^*)}{\partial\kappa^*}$ since $\frac{\partial\kappa^*}{\partial c} \leq 0$.

Notice $sign\frac{\partial I(g,c)R(g,c)}{\partial c} = sign\frac{\partial I(g,\kappa)R(g,\kappa)}{\partial\kappa}$ for any g: $\frac{\partial I(g,c)}{\partial c}$ and $\frac{\partial I(g,\kappa)}{\partial\kappa}$ are positive if and only if $g < 1/2$. $sign\frac{\partial R(g,c)}{\partial c}$ and $\frac{\partial R(g,\kappa)}{\partial\kappa}$ are negative since $H(g) - H(g-1) > 0$. Therefore, $sign\frac{\partial I(g,c)R(g,c)}{\partial c} = sign\frac{\partial I(g,\kappa)R(g,\kappa)}{\partial\kappa}$ for any g and $\frac{\partial\kappa^*(q,c)}{\partial c} \leq 0$ leads to a contradiction. ■

Lemma A8 *There exists at most a unique $q^{\dagger\dagger} < q^\dagger$ such that ρ_1^* is increasing in c if and only if $q < q^{\dagger\dagger}$.*

Proof. Consider c_h and c_l such that $c_h > c_l > 0$.

$$\rho_1^*(c_h) > \rho_1^*(c_l) \iff \frac{H(g^*(c_h)) - \frac{1}{2} - c_h}{2 - H(g^*(c_h)) + c_h} > \frac{H(g^*(c_l)) - \frac{1}{2} - c_l}{2 - H(g^*(c_l)) + c_l}$$
$$\iff [2 - H(g^*(c_l)) + c_l][H(g^*(c_h)) - \frac{1}{2} - c_h] > [2 - H(g^*(c_h)) + c_h][H(g^*(c_l)) - \frac{1}{2} - c_l]$$
$$\iff H(g^*(c_h)) - c_h > H(g^*(c_l)) - c_l \iff H(g^*(c_h)) - H(g^*(c_l)) > c_h - c_l. \tag{9}$$

Suppose that $q \geq q^\dagger$, so $\frac{\partial g^*}{\partial c} \leq 0$. Then, $g^*(c_h) \leq g^*(c_l)$, so $\rho_1^*(g; c_h) \leq \rho_1^*(g; c_h)$.

Because $\frac{\partial g^*}{\partial c} > 0$ at $q < q^\dagger$ and $\frac{\partial g^*}{\partial c} \leq 0$ at $q \geq q^\dagger$, as q increases, $H(g^*(c_h)) - H(g^*(c_l))$ is positive at first, then decreases, attains zero at $q = q^\dagger$ and then becomes negative after $q > q^\dagger$. Notice $c_h - c_l > 0$ is constant with respect to q. Therefore, there exists at most a unique $q^{\dagger\dagger} < q^\dagger$ such that $H(g^*(c_h)) - H(g^*(c_l)) \geq c_h - c_l \iff \rho_1(q, c_h) \geq \rho_1(q, c_l)$ if and only if $q \leq q^{\dagger\dagger}$ by the intermediate value theorem. ■

A.4 Log-concave distribution of κ

Suppose that κ is drawn from a log-concave distribution $P(\cdot)$ with support $[0, 1]$ and associated pdf $p(\cdot)$. Then the equilibrium probability of resistance is $1 - P(\kappa^*) = 1 - P\Big(\frac{c}{H(g^*) - H(g^* - 1)}\Big)$. Thus, equation (4) is now

$$\rho + (1 + \rho)P(\kappa^*)\Big(H(g^*) - H(g^* - 1)\Big) + 1 - H(g^*) \geq 1/2$$

and

$$\rho_1^* = \frac{H(g^*) - \frac{1}{2} - P(\kappa^*)[H(g^*) - H(g^* - 1)]}{2 - H(g^*) + P(\kappa^*)[H(g^*) - H(g^* - 1)]}.$$

$P\Big(\frac{c}{H(g^*) - H(g^* - 1)}\Big)\Big(H(g^*) - H(g^* - 1)\Big) < \Big(H(g^*) - H(g^* - 1)\Big)$, and can be larger or smaller than c depending on that P is concave or convex, but does not qualitatively affect ρ^*'s property. To see this, notice that because P's log-concave, there exists a unique $g_p^* \in (0, 1)$ such that $p'\Big(\frac{c}{H(g^*) - H(g^* - 1)}\Big) < 0$ if and only if g^* is larger than that g_p^*. For instance if $p'\Big(\frac{c}{H(g^*) - H(g^* - 1)}\Big) > 0$, then $P\Big(\frac{c}{H(g^*) - H(g^* - 1)}\Big)\Big(H(g^*) - H(g^* - 1)\Big) < c$. Then q is small enough to make $g^* < g_p^*$ in equilibrium, the resistance's effect on the incumbent's action is smaller than when κ is drawn from a uniform distribution. In contrast, if q is larger than that value, so $g^* > g_p^*$ in equilibrium, the effect of resistance on the incumbent's action is larger than when κ is drawn from a uniform distribution. But since the effect is marginal

and mean-preserving spread across g_p^*, it does not affect the uniqueness of g^*, κ^*, and ρ^*.

B Robustness

Suppose that the bureaucrats can resist an ineffective reform and horizontally shift the density of g from $h(g)$ to $h(g-\beta)$ such that $\beta \geq 0$.

Define

$$\kappa_0 = \begin{cases} \frac{c}{H(g+\beta)-H(g)} & \textbf{if } \frac{c}{H(g+\beta)-H(g)} \leq 1 \\ 1 & \text{if } \frac{c}{H(g+\beta)-H(g)} > 1 \end{cases}$$

$$\kappa_1 = \begin{cases} \frac{c}{H(g)-H(g-1)} & \text{if } \frac{c}{H(g)-H(g-1)} \leq 1 \\ 1 & \text{if } \frac{c}{H(g)-H(g-1)} > 1 \end{cases}$$

$$I_\beta(g,c) = \frac{\kappa_0 h(g) + (1-\kappa_0)h(g+\beta)}{\kappa_1 h(g-1) + (1-\kappa_1)h(g)}$$

$$\rho_{\beta 0}(g,c) = \begin{cases} \frac{H(g+\beta)+\frac{1}{2}-\kappa_0[H(g+\beta)+H(g)]}{2-H(g+\beta)+\kappa_0[H(g+\beta)+H(g)]} & \text{if } \frac{H(g+\beta)+\frac{1}{2}-\kappa_0[H(g+\beta)+H(g)]}{2-H(g+\beta)+\kappa_0[H(g+\beta)+H(g)]} \in [0,1] \\ 1 & \text{if } \frac{H(g+\beta)+\frac{1}{2}-\kappa_0[H(g+\beta)+H(g)]}{2-H(g+\beta)+\kappa_0[H(g+\beta)+H(g)]} > 1 \\ 0 & \text{if } \frac{H(g+\beta)+\frac{1}{2}-\kappa_0[H(g+\beta)+H(g)]}{2-H(g+\beta)+\kappa_0[H(g+\beta)+H(g)]} < 0 \end{cases}$$

$$\rho_{\beta 1}(g,c) = \begin{cases} \frac{H(g)+\frac{1}{2}-\kappa_1[H(g)-H(g-1)]}{2-H(g)+\kappa_1[H(g)-H(g-1)]} & \text{if } \frac{H(g)+\frac{1}{2}-\kappa_1[H(g)-H(g-1)]}{2-H(g)+\kappa_1[H(g)-H(g-1)]} \in [0,1] \\ 1 & \text{if } \frac{H(g)+\frac{1}{2}-\kappa_1[H(g)-H(g-1)]}{2-H(g)+\kappa_1[H(g)-H(g-1)]} > 1 \\ 0 & \text{if } \frac{H(g)+\frac{1}{2}-\kappa_1[H(g)-H(g-1)]}{2-H(g)+\kappa_1[H(g)-H(g-1)]} < 0 \end{cases}$$

$$R_\beta(g,c) = \frac{1-\rho_{\beta 0}(g,c)}{1-\rho_{\beta 1}(g,c)}.$$

Lemma A9 *There exists $\overline{\beta} < 1$ such that $\kappa_1 \leq \kappa_0$ if $\beta < \overline{\beta}$.*

Proof. There exists a unique solution $g_\beta < 0$ for $H(g) - H(g-1) = H(g+\beta) - H(g)$ if $\beta \in (0,1)$. First, suppose that $\beta = 1$. Then, $H(g) - H(g-1) = H(g+\beta) - H(g)$ at $g = 0$. $H(g+\beta) - H(g)$ is monotonically decreasing in β. Monotone changes preserve the single-crossing property (Milgrom and Shannon, 1994). Then, $H(g) - H(g-1) > H(g+\beta) - H(g)$ if $g > g_\beta$. Notice that g_β is decreasing in β and if $\beta \to 1$, $g_\beta \to -\infty$ (Milgrom and Shannon, 1994).

Let $\underline{g}(c) < 1/2$ be the unique solution for $H(g) - H(g-1) = c$ in $g \leq 1/2$. If $g_\beta \leq \underline{g}(c)$, then $H(g) - H(g-1) \geq H(g+\beta) - H(g)$ for g such that $\frac{c}{H(g)-H(g-1)} \leq 1$. Thus, $\kappa_0 \geq \kappa_1$ if $g_\beta \leq \underline{g}(c)$. Let $\overline{\beta}$ be β such that $g_\beta = \underline{g}(c)$. ■

Lemma A10 *$I_\beta(g)R_\beta(g)$ is monotonically decreasing in g if $\kappa_1 \leq \kappa_0$.*

Proof. Suppose that $\kappa_0 < 1$. Then

$$I_\beta(g,c) = \frac{h(g+\beta) + c\frac{h(g)-h(g+\beta)}{H(g)-H(g+\beta)}}{h(g) + c\frac{h(g-1)-h(g)}{H(g)-H(g)}}$$

$$\rho_{\beta 0} = \frac{H(g+\beta) + \frac{1}{2} - c}{2 - H(g+\beta) + c}$$

$$\rho_{\beta 0} = \frac{H(g) + \frac{1}{2} - c}{2 - H(g) + c}.$$

Notice $1 - \rho_{\beta 0} < 1 - \rho_{\beta 1}$ and H being log-concave implies that $1 - \rho_{\beta 1}$ ■

Proposition A1 *There exists a unique pure strategy equilibrium exists if* $\beta \in [0, \overline{\beta})$.

In this unique equilibrium, the results of the main model are not qualitatively affected.

Proposition A2 *For* $\beta \in [0, \overline{\beta})$,

1. *there exists unique* $q^\dagger_\beta$ *such that* $g^*_\beta > g^*_B$;
2. *there exists unique* $q^{\dagger\dagger}_{\beta 0} < q^\dagger_\beta$ *such that* $\rho^*_{\beta 0} > \rho^*_{B0}$ *if and only if* $q > q^{\dagger\dagger}_{\beta 0}$;
3. *there exists at most a unique* $q^{\dagger\dagger}_{\beta 1} < q^\dagger_\beta$ *such that* $\rho^*_{\beta 0} > \rho^*_{B0}$ *if and only if* $q > q^{\dagger\dagger}_{\beta 1}$.

C Implications of Noise in Player's Observations

One may ask why we need noise in players' observation. In the following section, we indicate that perverse comparative statics results can arise if players' observation is noiseless. We choose our model over alternative models without the various sources of noise for two reasons.

First, the equilibrium in our model is *continuous* as it changes marginally for the marginal possibility of mistakes. This is because the best responses of players are *continuous* functions of other players' strategies. Thus, the comparative statics results are robust under any degree of noise other than 0.

In contrast, comparative statics from the equilibrium in the alternative games we discuss now are knife-edge cases where noise or the possibility of a small change from the equilibrium is zero. This is because players' best responses have a *discontinuous* point where a small change in one player's strategy can lead to a drastic change in the opponent player's BR. So, the results from the following models are not robust if we consider an η chance of deviation from the equilibrium. See Echenique and Edlin (2004) for more on this topic.

Second, setting aside robustness concerns, the requirement that each player *must* completely conjecture others' strategy without any mistake or noise is unrealistic given the complex strategic environment of our context.

C.1 Noise in Voter's Observation

Suppose that the voter's observation has no noise, i.e. g is a deterministic function of ω, a, and r. Then ρ^* is *decreasing* in q.

C.2 Noise in Incumbent's Observation

Suppose that the incumbent observes ω without any noise. One can show that g^* is then constant to q.

D Resistance's Countervailing Effects on Voter Learning

D.1 Resistance and Voter Learning: Understanding Learning Effects

As the incumbent can strategically choose whether to introduce reform or not and bureaucrats can resist reform, g is an *obfuscated* signal of the reform's true value of ω. To understand the effect of strategic obfuscation on the voter's learning, consider the benchmark case where neither player intervenes with g, and the voter observes $g = x + \eta$.

Suppose that, for an arbitrary cutoff g', the voter concludes that the reform will work if he observes a "positive" signal $g \geq g'$ and it will not work if he observes a "negative" signal $g < g'$. Then, we can define four events, shown in Table 1.

The voter faces a Goldilocks problem in choosing the optimal g', i.e., he cannot be either too lenient or too stringent. If he is too lenient and chooses a low g', then a positive signal $g \geq g'$ does not necessarily mean that the reform outperforms the status quo. Thus, he wants to pick a high enough g' so that the positive predictive value (PPV), i.e.

$$\Pr[\omega = 1 | g \geq g'] = \frac{\Pr[TP]}{\Pr[TP] + \Pr[FP]}$$

is large enough. This ensures that the reform is a better choice than the status quo in

Table 1: Confusion Matrix for Voter Inference

Actual condition	Prediction: $g < g'$	Prediction: $g > g'$
$\omega = 1$	FN	TP
$\omega = 0$	TN	FP
	False omission rate (FOR) $\frac{FN}{TN+FN}$	Positive predictive value (PPV) $\frac{TP}{TP+FP}$

Notes: FN denotes false negatives; TN denotes true negatives; TP denotes true positives; FP denotes false positives.

expectation, given $g \geq g'$.

On the other hand, if the voter is too stringent so that g' is too high, he risks not choosing the reform when it is better than the status quo. So, he wants to pick a low enough g' such that the false omission rate (FOR), i.e.

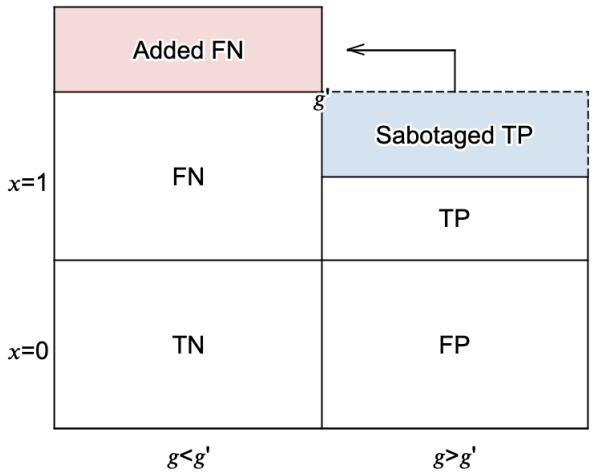
$$\Pr[\omega = 1 | g < g'] = \frac{\Pr[FN]}{\Pr[TN] + \Pr[FN]}$$

is small. This ensures that the reform is expected to perform worse than the status quo given $g < g'$. Evidently, at the cutoff g', the voter is indifferent between the risk of true positives and false negatives.

Consider the impact of including the incumbent. Note that with a cutoff r', the incumbent introduces reform only if its expected value is high enough since r is an informative signal about ω. Hence, if the incumbent chooses a cutoff r', failed reforms are filtered with some probability. In effect, the incumbent's strategy truncates the conditional distribution of reform's value from below. This truncation affects the voter's strategy. Particularly, the voter lowers g' since the truncation from below decreases $Pr[FP]$ and $Pr[TN]$ and, therefore, increases $Pr[\omega = 1|g]$. Thus, to maintain indifference at the cutoff, the voter lowers g' as the incumbent filters more failed reform by increasing r'.

Finally, consider the additional obfuscation through bureaucratic resistance. Assume bureaucrats resistance reform that would otherwise be successful and supported by voters (i.e., $\omega = 1$ and $g > g'$). Hence, with resistance, some of the true positives turn into false negatives with probability $(1 - \kappa')$. This change has two countervailing effects. Figure A1

Figure A1: The Effect of Resistance on Voter Learning



The blue shaded area "resistanced TP" illustrates the PPV effect. The red shaded area "Added FN" illustrates the FOR effect.

provides the intuition for this result. Firstly, it *decreases* $\Pr[\omega = 1|g \geq g']$ by lowering $\Pr[TP]$ (the blue shaded area "resistanced TP"). Intuitively, knowing that resistance lowers the likelihood that the voter observes $g > g'$ when it is indeed valuable (i.e. when $\omega = 1$), the voter is inclined to attribute a high $g > g'$ to mere luck rather than its actual value (i.e., a false positive). Formally, for the probability of resistance $1 - \kappa'$,

$$\Pr[\omega = 1|g \geq g'] = \frac{\kappa' \Pr[TP]}{\kappa' \Pr[TP] + \Pr[FP]} < \frac{\Pr[TP]}{\Pr[TP] + \Pr[FP]}.$$

We call this the *PPV effect*.

Secondly, the change from TP to FN *increases* $\Pr[\omega = 1|g < g']$ by increasing $\Pr[FN]$ (the red shaded area "Added FN"). Namely, when the voter takes into account the fact that some of the negative signals that he observes are due to resistance, his evaluation of the reform given a negative signal will increase as resistance becomes more likely. That is,

$$\Pr[\omega = 1|g < g'] = \frac{\Pr[FN] + (1 - \kappa') \Pr[TP]}{\Pr[FN] + (1 - \kappa') \Pr[TP] + \Pr[TN]} > \frac{\Pr[FN]}{\Pr[FN] + \Pr[TN]}.$$

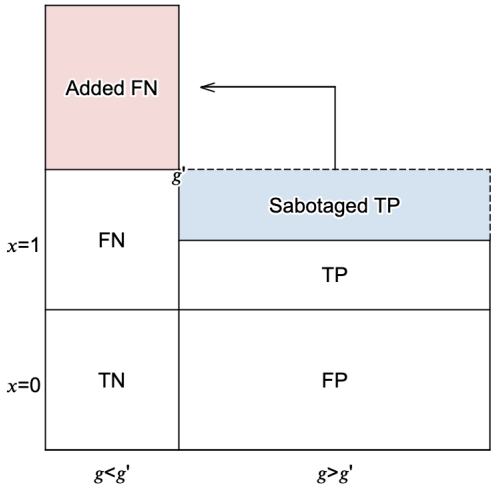
We call this the *FOR effect*.

Which effect dominates depends on the initial level of g'. See Figure A2 for an illustration. If g' is high enough so that $g \geq g'$ is rare, the voter is more worried about false positives than false negatives—the FOR effect is low and dominated by the PPV effect.[1] In contrast, if g' is

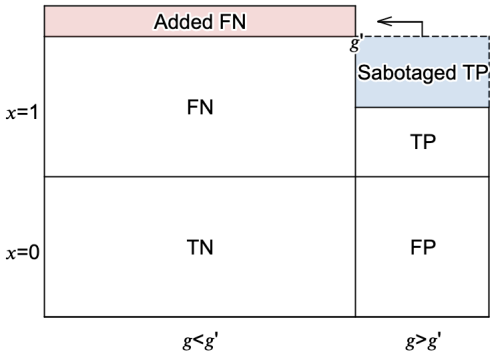
[1] We provide calculations of these quantities based on Figure A2 in the next section.

low, the voter faces higher risks of false negatives—the FOR effect is more likely to dominate the PPV effect.[2] Taken together, the effect of resistance on voter behavior depends on what type of wrong inference the voter is most worried about. If the PPV effect dominates the FOR effect, the voter is better off being more stringent and choosing a higher g'. In contrast, if the FOR effect dominates the PPV effect, the voter is better off being more lenient and choosing a lower g'.

Figure A2: Resistance's Effects on Voter Inference Conditional on g'



(a) When g' is low: FOR dominates PPV; resistance decreases g'



(b) When g' is high: PPV dominates FOR; resistance increases g'

It is noteworthy that this result depends on the assumption that bureaucrats can only change TP into FN by sabotaging the reform. For instance, even if bureaucrats do not know ω when they make their decision on resistance, as long as resistance can affect g's distribution only when the reform actually works, the logic above holds.

D.2 Example of Learning Effects

Here, we provide a specific example for the results discussed in Section D.1, fixing the values of g' to those shown in Figure A2. The area of each cell represents the probability of each event and adds up to one. In both panels, the ex-ante total probability of successful reform $\Pr[\omega = 1] = \Pr[TP] + \Pr[FN] = 1/2$. Without resistance,

$$\Pr[\omega = 1 | g \geq g'] = \Pr[\omega = 1 | g < g'] = \frac{1}{2}.$$

[2]The logic above is similar to that of the main results in Heo and Landa (2024). For further formal discussion on the decision problems with a stochastic process, see Patty and Penn (2023).

If bureaucrats resist, they do so with probability 1/2, and TP (blue shaded area in broken lines, "resistanced TP") becomes FN (red shaded area in solid lines, "Added FN").

In Panel (a), the voter's cutoff is high ($g' = 0.7$), so observing a high signal is rare ($\Pr[g \geq g'] = 0.3$). As resistance decreases $\Pr[TP]$ by 50%,

$$\Pr[\omega = 1 | g \geq g'] = \frac{\Pr[TP]}{\Pr[TP] + \Pr[FP]} = \frac{0.3 * 0.5 * 0.5}{0.3 * 0.5 * 0.5 + 0.3 * 0.5} = \frac{1}{3} < \frac{1}{2},$$

and

$$\Pr[\omega = 1 | g < g'] = \frac{\Pr[FN]}{\Pr[FN] + \Pr[TN]} = \frac{0.7 * 0.5 + 0.3 * 0.5 * 0.5}{0.7 * 0.5 + 0.3 * 0.5 * 0.5 + 0.7 * 0.5} = \frac{0.85}{1.55} \approx 0.548 > \frac{1}{2}.$$

Evidently, the PPV effect is larger than the FOR effect.

In Panel (b), the voter's cutoff is low ($g' = 0.3$), so a positive signal is relatively more prevalent ($\Pr[g \geq g'] = 0.7$). Without resistance,

$$\Pr[\omega = 1 | g \geq g'] = \Pr[\omega = 1 | g < g'] = \frac{1}{2}.$$

As resistance decreases $\Pr[TP]$ by 50%,

$$\Pr[\omega = 1 | g \geq g'] = \frac{\Pr[TP]}{\Pr[TP] + \Pr[FP]} = \frac{0.7 * 0.5 * 0.5}{0.7 * 0.5 * 0.5 + 0.7 * 0.5} = \frac{1}{3} < \frac{1}{2},$$

and

$$\Pr[\omega = 1 | g < g'] = \frac{\Pr[FN]}{\Pr[FN] + \Pr[TN]} = \frac{0.3 * 0.5 + 0.7 * 0.5 * 0.5}{0.3 * 0.5 + 0.7 * 0.5 * 0.5 + 0.3 * 0.5} = \frac{0.65}{0.95} \approx 0.684 > \frac{1}{2}.$$

Here, the FOR effect is larger and dominates the PPV effect. For the general result, see the Appendix of Heo and Landa (2024).