

# Politicians, Bureaucrats, and the Battle for Credit <sup>\*</sup>

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## Abstract

Should politicians be allowed to reveal whether policy outcomes were caused by government agencies or should they always take responsibility? To answer this question, we develop a model in which a reputation-concerned agency exerts effort over time and a politician can publicly communicate about who bears responsibility for successes and failures. Although politicians want to claim credit and deflect blame, this also indirectly affects the reputation of bureaucratic agencies and their willingness to exert effort. We show that politician's messages about transparency can be good to incentivize bureaucrats as a prospective effect, but may have negative implications down the line. In equilibrium, the politician's considerations for future effort and her own reputation constrain her. Our results have various implications for institutions and democratic norms related to transparency about responsibility for political failures and successes. Although transparency improves selection of better politicians, it may have negative implications for government agencies' incentives to work hard.

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When policy outcomes go right or wrong, policymakers may accept responsibility, stay quiet, or claim that bureaucratic agencies were responsible (Weaver 1986; Hood 2011; Hinterleitner 2018; Miller and Reeves 2022). In turn, this impacts how the public views politicians and bureaucratic agencies. This is important, because politicians often depend on being perceived as competent to stay in office, be re-elected (King 2001), or successfully push policies through the legislative process (Canes-Wrone and De Marchi 2002). In the Netherlands, Article 42 of the Constitution implies that ministers bear responsibility for political failures and that parliament can hold them accountable if a majority has lost trust in them. Also, bureaucrats may value their reputations for competence with relevant audiences. They may care about it intrinsically; because it makes their work easier;<sup>1</sup> or because it provides them exit options and potential employment at other private or public sector agencies.<sup>2</sup> Even if agencies may be shielded formally, there are still informal mechanisms to hold heads of agencies accountable, which can make them care about their reputation.<sup>3</sup>

Our primary contribution is showing that blaming and crediting may not just affect politician and agent’s reputations, but also have ramifications for bureaucratic effort (prospectively and retrospectively) and the likelihood of successful policy outcomes. Specifically, we show how blaming and crediting may increase bureaucratic effort, but that there are constraints stemming from the politician’s reputation concerns and considerations for future effort.<sup>4</sup> As a result, a better understanding of how blame and credit affect policy outcomes when politicians and bureaucrats are reputation-concerned has implications for ongoing debates

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<sup>1</sup>In the UK, NHS staff paid the price of the government’s blaming them, facing more abuse from the public, see e.g., The Guardian (2021), <https://www.theguardian.com/uk-news/2021/oct/10/nhs-staff-face-rising-tide-of-abuse-from-patients-provoked-by-long-waits>.

<sup>2</sup>See Carpenter (2001, 2014); Asai, Kawai and Nakabayashi (2021); Rimkutė (2020) and Rimkutė (2022). Empirical scholarship demonstrates that bureaucrats care a good deal about their reputation with relevant audiences (Carpenter 2010; Carpenter and Krause 2012; Boon and Salomonsen 2020) and Bertelli and Busuioc (2021).

<sup>3</sup>For example, the head of the Dutch tax agency, Jaap Uijlenbroek, was removed from his position in January 2020 related to the childcare benefits scandal, discussed below.

<sup>4</sup>In January 2020, Prime Minister Rutte hinted at how accusing the bureaucracy for failures is detrimental: “little by little, half of the Dutch civil service is put in the garbage can. Injustice is done to civil servants because they cannot defend themselves while *accusations are typically too short-sighted*” (Cook 2020) (author translation from Dutch, emphasis ours).

about transparency and the workings of democracy.<sup>5</sup>

A prominent example of the ‘battle for credit’ is the recent childcare benefits scandal in the Netherlands that ultimately led to Dutch Prime Minister Mark Rutte’s cabinet resigning in January 2021.<sup>6</sup> Starting in 2013, the Dutch tax agency incorrectly claimed that many people – especially dual citizens with a migrant background – were committing fraud.<sup>7</sup> The agency demanded that even parents with debts as small as 80 euros ( $\approx$  \$85) return total childcare benefits amounting to as much as tens of thousands of euros that accrued over several years.<sup>8</sup> Many could not afford this and lost their houses, children, and livelihoods. Several politicians and the media were quick to criticize senior level bureaucrats for this failure. Socialist Party MP Renske Leijten criticized the head of the Dutch tax agency, as being protected by the revolving door and constantly escaping punishment.<sup>9</sup> In response, Prime Minister Rutte defended the bureaucracy:<sup>10</sup>

“Oh stop it, here she goes again: “A bunch of revolving-door top level civil servants.” Renske, this is a statement you cannot make as a serious Member of Parliament (...) dismissing the chiefs of the civil service as a job carousel, *you should see what that does to people!*” (emphasis authors’)

The pinning of the blame did not sit well with bureaucrats of the tax agency. Civil service morale was negatively impacted. It is reasonable that this subsequently affected their willingness to work on seemingly tendentious policy matters, at least partially because of

<sup>5</sup>We return to this debate after the analysis.

<sup>6</sup><https://www.nytimes.com/2021/01/15/world/europe/dutch-government-resignation-rutte-netherlands.html> (accessed on December 6th, 2022).

<sup>7</sup><https://www.trouw.nl/binnenland/belastingdienst-verzweeg-discriminerende-criteria-b62758d9/> (accessed on April 9th, 2022).

<sup>8</sup><https://nos.nl/artikel/2406259-raad-van-state-zegt-na-zelfonderzoek-sorry-tegen-toeslagenouders> (accessed on April 9th, 2022).

<sup>9</sup>MP Leijten mentioned: “You bring them in with praise, but you silence Parliament when it has justified criticism. (...) We should be allowed to have criticism. And when they do something well, we should be allowed to say so too. It’s no good for a Prime Minister to get so emotional about a bunch of revolving door top level civil servants.” (author translation from Dutch).

<sup>10</sup><https://www.bnnvara.nl/joop/artikelen/geirriteerde-rutte-tracht-renske-van-zich-af-te-slaan-en-groenlinks-scoort-niet> (accessed on December 6th, 2022)

reputation concerns. They anonymously commented on the tax agency’s intranet:

“how many knives will we still get in our back. How much are we still going to be ‘burned down’ by politicians.” (...) “And again a bucket with dredge is poured over us” (...) “Slowly but surely, my trust in our employer and the entire government has shrunk to zero.” (...) “I and my colleagues are, again and again, portrayed without any nuance as not open, discriminatory, and insufficiently capable.” (...) “As a civil servant, I feel discriminated by politicians.”<sup>11</sup>

We study the battle for credit among politicians and bureaucrats by developing a formal model where politicians publicly comment about who was responsible for policy successes and failures. In the model, the bureaucrat exerts effort in two periods and in between, the politician can communicate via cheap talk. As the public is uncertain about whether the politician or bureaucrat was responsible for the outcome, the politician’s communication may clarify this. Our main objective is to examine the effect of blaming and crediting on the effort level of reputation-concerned bureaucrats and subsequent policy outcomes. Our results have implications for the design of institutions and norms about whether politicians should be expected to be silent after policy outcomes, transparent, or always take responsibility.

Our first result is that blaming or crediting can strengthen the bureaucrat’s incentives to exert effort. First, if policy outcomes are sufficiently informative, there is no need for blame or credit. Alternatively, a successful policy outcome by itself may be insufficiently informative to increase the bureaucrat’s reputation. However, the bureaucrat’s reputation increases after a politician credibly attributes success to the agent. The same logic applies to blaming following a failure, with the bureaucrat exerting effort to avoid a bad reputation. If the policy outcome and the politician’s message become more informative about the bureaucrat’s reputation, this increases the bureaucrat’s incentives to exert effort. This logic requires that the bureaucrat’s reputation is not too extreme. That is, if it is already clear to the public

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<sup>11</sup><https://fd.nl/economie-politiek/1372743/vertrouwenscrisis-bij-belastingdienst-door-toe-slagaffaire> (accessed on April 9th 2022, author translation from Dutch).

that the bureaucrat is highly talented (or quite inept), then there is little room for updating beliefs about the bureaucrat's perceived abilities. We also provide conditions under which politicians either blame bureaucrats or give them credit. On one hand, for bureaucrats with relatively weak reputations, politicians are more likely to give them credit following successes. On the other, for bureaucrats with relatively strong reputations, politicians are more likely to blame them for failed policy outcomes.

This logic does not give the politician a free pass to blame or credit the bureaucrat. Instead, present and future strategic considerations constrain the politician's ability to communicate blame or credit. The politician has her own personal concerns with obtaining or maintaining a good reputation. For instance, relative to staying silent, blaming the bureaucrat for a policy failure improves the politician's reputation if the public believes the politician's statement about the bureaucrat's culpability. As a result, the politician may not always find it optimal to accept blame for policy failure if it deteriorates her reputation. This is especially a concern for politicians with uncertain reputations. That is, reputation payoffs for a politician with very good or very bad reputation remain unaffected by blaming the bureaucrat or accepting responsibility. Thus, the relative sensitivity of a politician's reputation constrains her from credibly blaming or crediting.

An additional constraint that limits the politician's ability to credibly communicate is *future effort*. Politicians may not want to provide too much information about bureaucrats. Doing so ensures that their reputation becomes too 'established' being either very good or very bad. This would remove the ability of reputation concerns to be an incentive to exert effort. From the politician's point of view, some information revelation is necessary to induce effort, but too much information revelation could adversely affect the politician's ability to get the bureaucrat to exert effort in the future.

# 1 Relation to the Literature

A vast and growing literature studies agency problems lurking behind politician-bureaucratic interactions. With respect to credit taking or blaming, three broad possibilities are studied. One, blame or credit can indeed be shifted and is one of the motives for delegation.<sup>12</sup> Principals can strategically prevent themselves from being blamed for policy failures by just letting bureaucrats do the actual work (Fox and Jordan 2011; Almendares 2012; Bartling and Fischbacher 2012; Tamada and Tsai 2018). Two, principals can willfully delegate potentially unpopular decisions to agents to prevent negative impacts of reputation concerns in decision-making, and prevent learning about the principal’s type (Pei 2018). Three, politicians may take the blame to actively enhance their reputations as competent and high type leaders (Miller and Reeves 2022). We contribute to this literature by formally studying blaming and crediting as *communication*—the ability and credibility of the principal to communicate to the interested audience—and its potential effect on agent’s effort.<sup>13</sup>

The literature on the study of effort extraction by the principal in these interactions has examined how intermediaries can provide information about the performance of reputation-concerned agents (Ekmekci 2011; Pei 2016). Here, publicizing information about performance may make an agent’s reputation more sensitive to performance, thereby increasing incentives to exert effort. We contribute to this literature by focusing on two different key aspects that are relatively understudied. One involves the third party in our case being uninformed about who was actually responsible for the policy outcome. The other is that the principal in our approach also cares about their reputation.

Closest in spirit to our paper is Glazer and Segendorff (2005), who analyze team production with a leader and subordinate, where the public is uncertain about the individual production

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<sup>12</sup>Ruder (2014, 2015) shows that delegation to agencies cannot provide unconditional protection from escaping public blame.

<sup>13</sup>Malhotra and Kuo (2008) show that additional information to the interested audience about who was responsible for a policy failure can outweigh partisan signals and help citizens make informed decisions. We complement this work by focusing on the principal’s ability to communicate with the interested audience.

of each actor. We distinguish ourselves in two ways. One, in Glazer and Segendorff (2005) there is a probability that an untruthful credit claim is discovered and the leader then incurs a cost for lying. We assume that credit claiming is purely cheap talk and does not directly affect payoffs. Two, we endogenize incentives to exert effort, whereas the outcome is exogenously determined in Glazer and Segendorff (2005).<sup>14</sup>

While the kind of politician-bureaucrat interactions we have described are all pervasive, a note on the scope conditions for our approach is necessary. In our setup, the principal is typically an elected representative with a greater ability to communicate to the outside world than the agent. The agent is the bureaucrat who delivers the policies that the principal wishes to execute. In this context, the bureaucrat (or the agency at large) we refer to is part of a hierarchical setup. That said, the bureaucrat is a professional with sufficient insulation from the principal. Three elements of well-established public bureaucracies would seem fundamental for understanding the structure in which bureaucrats operate and how politician behavior might be conditioned: (1) bureaucrats are a diverse lot and may vary greatly in their abilities;<sup>15</sup> (2) removing most public sector bureaucrats is generally difficult, so shirking by reducing effort can be a viable option (Horn 1995);<sup>16</sup> and (3) bureaucratic effort and successful policy choices should be positively related (Carpenter 2001; Decarolis et al. 2020). The politician has reputation concerns, and the bureaucrat prefers public approval for its own sake or for instrumental reasons like career advancement, the availability of outside job opportunities or reduce the severity of political oversight that the bureaucrat finds distasteful.<sup>17</sup> Therefore, our results are stronger in contexts where the policy outcome is salient and observable.

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<sup>14</sup>In addition, Glazer and Segendorff (2005) focus on hiring agents of heterogeneous quality.

<sup>15</sup>For evidence in the U.S., see, e.g., the 2003 *Volcker Commission Report* <https://www.brookings.edu/wp-content/uploads/2016/06/01governance.pdf>.

<sup>16</sup>For example, in the U.S., the Merit Systems Protection Board serves to protect civil servant job security. Also, public sector wage compression may further incentivize shirking.

<sup>17</sup>In fact, a Dutch bureaucrat from our aforementioned example said “Trade-unions, (top) leadership Tax Agency and Secretaries of State, please have your staff’s backs for once! For once, go stand in front of and behind us. We deserve that!” (a message on the Dutch Tax and Customs Administration’s intranet, as reported by the Dutch Newspaper *Het Financieele Dagblad* (Jonker 2021), author translation from Dutch).

## 2 The Model

We consider a setting with a politician  $P$  (she), bureaucrat  $B$  (he), and non-strategic public that observes the politician-bureaucrat interaction. As in the leading example, we think of the Dutch Prime Minister as the politician, and the head of the Dutch tax agency—or the agency as a whole—as the bureaucrat. The public comprises the voter or any interested organization that cares about who bears responsibility for the political outcome but is uncertain about it. The game consists of two periods of effort and policy outcomes in which the politician can publicly communicate via cheap talk in between.

There is uncertainty about the bureaucrat's *talent*  $t_B \in \{L, H\}$  and the politician's *talent*  $t_P \in \{L, H\}$ , which are either low or high. These values are independently drawn in the beginning of the game and remain constant throughout. The prior probabilities that the bureaucrat and politician have high talent equal  $\Pr(t_B = H) = \beta_0 \in (0, 1)$  and  $\Pr(t_P = H) = \gamma_0 \in (0, 1)$ . That is, the bureaucrat and politician start with an *initial reputation*  $\beta_0$  and  $\gamma_0$ , respectively, after which they interact. Notably, as in models with symmetric learning (Holmström 1999), the politician, bureaucrat, and public are all unaware of the politician's and bureaucrat's talent level but share a common prior.

In the first period, either the bureaucrat or the politician is responsible for the policy outcome. Both possibilities are determined by Nature and are equally probable. This is represented by  $r_1 = B$  (Bureaucrat responsible) and  $r_1 = P$  (Politician responsible). The politician and bureaucrat observe who is responsible but not the public. This assumption is made to capture the policy-making process being complex and not always easily understandable to outside observers, while those inside an organization are better able who will be responsible for what. To illustrate the mechanism as sharply as possible, we assume that *either* actor is responsible (but not both or neither).

If the politician is responsible for the outcome, we assume that the policy succeeds with probability  $p_H$  if she is of high talent, and with probability  $p_L$  otherwise. In the other case,



the bureaucrat is responsible and chooses whether to exert effort at a cost of  $c \in (0, p_L)$ . If the bureaucrat shirks ( $e_1^B = 0$ ), the policy outcome always fails, while if the bureaucrat exerts effort ( $e_1^B = 1$ ), the policy succeeds with probability  $p_L$  or  $p_H$  depending on the bureaucrat's talent  $t$ . The bureaucrat's effort choice is private and not observed by the politician and public. We assume that  $p_L = \frac{1-\Delta}{2}$  and  $p_H = \frac{1+\Delta}{2}$  so that, conditional on effort, highly talented bureaucrats and politicians are more likely to produce good outcomes. The parameter  $\Delta \in (0, 1)$  measures the difference between the probability of success of a highly and lowly talented player. Subsequently, the policy  $x_1$  either succeeds ( $x_1 = s = 1$ ) or fails ( $x_1 = f = 0$ ).

After the policy outcome, the politician observes whether it is a success or failure and can comment about who was responsible. Conditional on knowing who was responsible and on knowing the policy outcome, the politician sends a cheap talk message  $m \in \{m^\phi, m^B, m^P\}$ , where  $m^\phi$  is interpreted as silence,  $m^B$  as the bureaucrat being responsible, and  $m^P$  pointing toward the politician being responsible. This message is then observed by all players.

Once the politician has commented following the policy outcome, there is another stage in which a second policy outcome is produced. For simplicity, it is known that the bureaucrat will be responsible for the second-period policy outcome and can make an effort choice.<sup>18</sup> This outcome is generated in the same way as in the first period, where the bureaucrat's effort choice is private. That is, if the bureaucrat shirks ( $e_2^B = 0$ ) then the policy is a failure, and if the bureaucrat exerts effort ( $e_2^B = 1$ ), the policy succeeds with probability  $p'_L = \frac{1-\Delta'}{2}$  or  $p'_H = \frac{1+\Delta'}{2}$  depending on the bureaucrat's talent, with  $\Delta' \in (0, \Delta]$ .<sup>19</sup> That is, the policy outcome may be generated differently by bureaucrats in the second period compared to the first. This could be because the second-period policy is less informative about the responsible party's talent because it is a different project that is less able to be controlled.

<sup>18</sup>This helps us isolate the effect of blame and credit on the bureaucrat's reputation and effort.

<sup>19</sup>Although it is a minor issue, we assume that  $\Delta'$  is not larger than  $\Delta$  for the sake of exposition. Our main goal is to show below that lower values of  $\Delta'$  provide a tighter constraint on the politician's ability to extract effort from the bureaucrat in the second period.

Finally, the game ends and payoffs are realized. The politician cares about policy outcomes and her reputation at the end of the interaction. For example, the politician is only re-elected if her reputation is good enough. The value from a good reputation follows a threshold-form, where the politician obtains a payoff of 1 if her reputation exceeds the threshold of  $\frac{1}{2}$ , and a payoff of 0 if it is below the threshold.

$$u_P(x_1, x_2, \gamma_2) = x_1 + x_2 + \mathbb{I} \left\{ \gamma_2 \geq \frac{1}{2} \right\}.$$

Note that it is without loss of generality to assume that the politician only cares about her final reputation because in equilibrium, the politician's reputation is unaffected by second-period outcomes.

By contrast, the bureaucrat only cares about his reputation and the cost of effort. That is, the bureaucrat is indifferent toward the policy outcome. We make this assumption to clearly outline how reputation in and of itself affects incentives to exert effort. That is, an outcome-concerned bureaucrat has additional incentives to exert effort even when it does not impact his reputation. We isolate the effect on effort due to reputation concerns via blame and credit. The bureaucrat desires a good reputation and prefers that the public's belief about her type exceeds the threshold of  $\frac{1}{2}$ . We assume that the bureaucrat is myopic, who earns the following payoff in the first and second period respectively

$$\begin{aligned} u_B(e_1^B, \beta_1) &= \mathbb{I} \left\{ \beta_1 \geq \frac{1}{2} \right\} - ce_1^B, \\ u_B(e_2^B, \beta_2) &= \mathbb{I} \left\{ \beta_2 \geq \frac{1}{2} \right\} - ce_2^B. \end{aligned}$$

The bureaucrat's reputation  $\beta_1$  is the public's belief after observing the first-period outcome  $x_1$  and message  $m$ . The posterior  $\beta_2$  also incorporates the second-period outcome  $x_2$ .<sup>20</sup>

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<sup>20</sup>In Appendix B.3 we relax the assumption of a myopic bureaucrat and show that the bureaucrat can already have sufficient incentives for high enough discount factors  $\delta_B$ . The results are clearer with a myopic bureaucrat.

As this is a dynamic game with incomplete information, we focus on perfect Bayesian equilibria (PBE). The main goal is to understand how the politician’s messages shape incentives to exert effort. A strategy profile consists of

1. A *first-period effort level* for the bureaucrat  $e_1^B \in \{0, 1\}$ .
2. A *communication strategy* for the politician, where  $\pi(m|r_1, x_1)$  is the probability of message  $m \in \{m^\phi, m^B, m^P\}$  given a first-period policy outcome  $x_1 \in \{f, s\}$  and a first-period responsible actor  $r_1 \in \{B, P\}$ .
3. A history-dependent *second-period effort level* for the bureaucrat  $e_2^B(\cdot) \in \{0, 1\}$ .

We require that these strategies are sequentially rational given the beliefs about the bureaucrat’s and politician’s talent, which in turn are determined by Bayes’ rule wherever possible. Beliefs about the politician’s and bureaucrat’s talent play a central role in the analysis, and we discuss them in some detail.

Before delving into the analysis, we acknowledge that some model aspects are stylized. This approach helps in clarifying the role of blaming and crediting for incentives to exert effort over time. Given this, different aspects of the model may benefit from more explanation.

First, politicians and bureaucrats do not disagree about policies. This simplifying assumption serves to isolate the role of blaming and crediting on effort for a single policy. Politician-bureaucrat alignment may add a layer to the analysis (Bendor and Meirowitz 2004; Forand, Ujhelyi and Ting 2023; Spenkuch, Teso and Xu 2023).

Second, politicians and bureaucrats strongly care about their reputations. Again, this is to emphasize how blaming and crediting work. Presumably, players care about being blamed, shifting blame, and giving or receiving credit because it affects their reputation for competence. By making strong assumptions about reputation-based preferences, we remove other channels through which bureaucrats could be incentivized.<sup>21</sup>

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<sup>21</sup>Examples of other incentives are performance-based pay and the threat of firing. For further discussion, Esteve and Schuster (2019) provide a detailed resource on motivating public sector employees.

Third, reputation concerns take a threshold form. For exposition, we assume that this threshold is  $\frac{1}{2}$ . This is without loss of generality; a different threshold would only shift equilibrium conditions without substantively changing the core results. A more salient generalization would be reputation payoffs of a different form. For example, reputation payoffs could be strictly increasing in  $\beta$  and/or  $\gamma$ . We discuss this after presenting the main results. We assume a threshold form for tractability and to sharpen the results.

Fourth, we assume that players do not know whether they have high or low talent (Holmström 1999), and the politician does not observe the bureaucrat's effort. This reduces the number of the politician's information sets to only knowing who was responsible and the policy outcome. In turn, this helps us to focus on blame and credit, which are messages about responsibility, and not directly about types or effort.

We take three steps to study the effect of blame and credit on policy outcomes. First, we study the implications of a politician who does not provide information (*uninformative equilibria*) about who was responsible for the outcome. Equivalently, it is similar to a situation in which politicians always claim responsibility for the outcome, as the concept of *ministerial responsibility* prescribes in the Netherlands. This is always a possible equilibrium strategy and serves as a benchmark for subsequent analyses. Second, we analyze politicians who are fully transparent about the responsibility for policy outcomes. When politicians are responsible for the policy outcome, they say that they are, and when bureaucrats are responsible, politicians blame them for failures or give them credit for successes. We show that such equilibria may not always exist. Then, we study politician-optimal equilibria in which, depending on the politician's and bureaucrat's initial reputation, the politician may selectively reveal information about who was responsible to illicit effort. These equilibria analyze the case where politicians can optimally choose when and how to communicate about responsibility. Formally, these equilibria maximize the politician's payoff from an *ex ante* perspective.

### 3 Equilibria with Uninformative Politician

We want to know to what extent (i) the bureaucrat can be incentivized to exert effort, and (ii) the politician's communication strategy induces such effort. As a first step, we study equilibrium behavior under a baseline where the politician remains *silent*.

**Definition 1.** *The politician is **silent** if for all  $(r_1, x_1)$ :  $\pi(m^\phi | r_1, x_1) = 1$ .*

That is, in the first period, either the politician is responsible,  $r_1 = P$ , or the bureaucrat is responsible,  $r_1 = B$ , and there is either a success  $x_1 = s$  or a failure  $x_1 = f$ . In all cases, however, the politician always sends the *silent* message  $m^\phi$ , i.e., this is a babbling equilibrium.<sup>22</sup> This implies that the public learns nothing from the politician's message in equilibrium. Assuming that the bureaucrat is expected to exert effort, a success increases the bureaucrat's reputation and a failure decreases it relative to his initial reputation  $\beta_0$ . To understand how the public updates its beliefs, we define the bureaucrat's and politician's *ex-ante* probability of success as:

$$g_s(\beta_0) := \frac{1+\Delta}{2}\beta_0 + \frac{1-\Delta}{2}(1-\beta_0), \quad h_s(\gamma_0) := \frac{1+\Delta}{2}\gamma_0 + \frac{1-\Delta}{2}(1-\gamma_0),$$

where  $1 - g_s(\beta_0)$  and  $1 - h_s(\gamma_0)$  are their respective probabilities of failure. For the bureaucrat, these probabilities are conditional on conjectured effort, denoted  $\hat{e}_1^B \in \{0, 1\}$ . These probabilities measure how likely an actor generates a success or failure if they were responsible for the outcome. After a success ( $x_1 = s$ ), the bureaucrat's and politician's reputation respectively are  $\beta_s$  and  $\gamma_s$ :

$$\beta_s = \frac{\hat{e}_1^B \frac{1+\Delta}{2} + h_s(\gamma_0)}{\hat{e}_1^B g_s(\beta_0) + h_s(\gamma_0)} \beta_0, \quad \gamma_s = \frac{\frac{1+\Delta}{2} + \hat{e}_1^B g_s(\beta_0)}{h_s(\gamma_0) + \hat{e}_1^B g_s(\beta_0)} \gamma_0.$$

After a failure ( $x_1 = f$ ), the public updates its beliefs about the bureaucrat and politician

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<sup>22</sup>Note that this situation is equivalent in terms of outcomes to a situation in which the politician always claims responsibility ( $m^P$ ), as with *ministerial responsibility*.

to  $\beta_f$  and  $\gamma_f$ :

$$\beta_f = \frac{1 - \hat{e}_1^B \frac{1+\Delta}{2} + 1 - h_s(\gamma_0)}{1 - \hat{e}_1^B g_s(\beta_0) + 1 - h_s(\gamma_0)} \beta_0, \quad \gamma_f = \frac{1 - \frac{1+\Delta}{2} + 1 - \hat{e}_1^B g_s(\beta_0)}{1 - h_s(\gamma_0) + 1 - \hat{e}_1^B g_s(\beta_0)} \gamma_0.$$

These beliefs completely determine first period payoffs if the politician remains silent. This is important because it determines whether the bureaucrat has incentives to exert effort. As a function of the bureaucrat's initial reputation, Proposition 1 characterizes first-period effort levels if the politician is forced to remain silent.

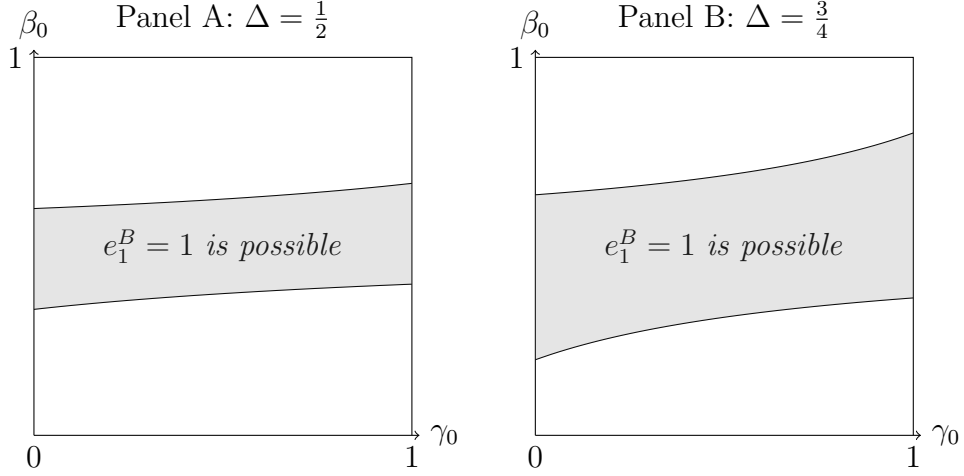
**Proposition 1.** *If the politician is silent in equilibrium, then:*

1. *For  $\beta_0 \in (0, 1)$ , there exist equilibria in which the bureaucrat shirks in the first period.*
2. *For  $\beta_0 \in \mathcal{B}^+ := \left[ \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}, \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)} \right)$ , there exists an equilibrium in which the bureaucrat exerts effort in the first period.*

The logic is as follows. For the first claim, consider a strategy profile in which the bureaucrat shirks in the first period. Then, if a bureaucrat is responsible, he generates a failure. This implies that the public never updates its beliefs about the bureaucrat. Given that the bureaucrat's effort choice is determined solely by reputation concerns, there is nothing to gain from deviating to exert effort. The reason is that a success is fully attributed to the politician, which means that the public does not update its beliefs about the bureaucrat upwards after a success.

The second claim is that there only exist equilibria in which the bureaucrat exerts effort in the first period if his reputation falls in the range  $\mathcal{B}^+$ . The reason is that, conditional on bureaucratic effort, a success must generate a belief  $\beta_s > \frac{1}{2}$  and a failure  $\beta_f < \frac{1}{2}$ . If that condition is satisfied, then there are sufficient incentives to exert effort to prevent a failure and attain a success. The cost of effort is sufficiently low such that this condition will then hold. Otherwise, if  $\beta_f < \beta_s < \frac{1}{2}$  or  $\frac{1}{2} \leq \beta_f < \beta_s$ , a success and failure generate equal reputational payoffs. This makes shirking the more attractive option. The requirement that  $\beta_f < \frac{1}{2} \leq \beta_s$

Figure 1: Conditions for First-Period Bureaucratic Effort



*Note: The x-axis displays different values for the politician's initial reputation  $\gamma_0$ , while the y-axis does the same for the bureaucrat's initial reputation  $\beta_0$ . The gray shaded area displays reputations  $(\beta_1, \gamma_1) \in \mathcal{B}^+$  in which Proposition 1 states there is effort.*

is satisfied as long as the bureaucrat's reputation is sufficiently intermediate.

Note that there are two factors that affect this range of beliefs  $\mathcal{B}^+$ . The first is  $\Delta$ , which is the difference in success rates between the low and high talented bureaucrats. The greater is  $\Delta$ , the more the public updates its beliefs conditional on the bureaucrat's effort, and the greater is the range for which the bureaucrat has sufficient incentives to exert effort. The second is the politician's initial reputation  $\gamma_0$ . The greater is  $\gamma_0$ , the more likely that a success is attributed to the politician. This makes it harder to incentivize bureaucrats with lower initial reputations  $\beta_0$ . Figure 1 illustrates the effects of  $\Delta$  and  $\gamma_0$ .

Second-period effort levels are determined similarly. The difference is that in the second period the bureaucrat is known to be responsible. In the Appendix, Lemma 1 provides conditions under which the bureaucrat exerts effort in the second period. For  $e_2^B = 1$  to be possible in equilibrium, it is required that  $\beta_1 \in [\frac{1-\Delta'}{2}, \frac{1+\Delta'}{2})$ . Thus, the bureaucrat can only be expected to exert effort if his reputation in the beginning of the second period is sufficiently intermediate. Second-period effort levels can be evaluated by considering the bureaucrat's reputation  $\beta_1$ . On the equilibrium path, if the bureaucrat shirked in equilibrium in the first

period, then  $\beta_1 = \beta_0$ . Otherwise, if the bureaucrat exerted effort in equilibrium in the first period, then  $\beta_1 = \beta_f$  after a first-period failure and  $\beta_1 = \beta_s$  after a first-period success.

## 4 Equilibria with Fully Informative Politician

Another communication strategy entails fully revealing who was responsible for the outcome following a success or failure, i.e., being *transparent*. This is a communication strategy in which the politician fully separates in communicating about responsibility.

**Definition 2.** *The politician is **transparent** given an outcome  $x_1 \in \{f, s\}$ , if  $\pi(m^B|B, x_1) = \pi(m^P|P, x_1) = 1$ .*

That is, if the bureaucrat is responsible, the politician sends message  $m^B$ , while if the politician herself is responsible, she sends  $m^P$ . This implies that the public perfectly learns who was responsible for the outcome. Table 1 describes different possibilities. The left column describes the meaning of messages following a success, where the politician can communicate to take or give credit. For example, message  $m^B$  gives the bureaucrat credit after a success, which is *deserved* if the bureaucrat was actually responsible, and *undeserved* otherwise. Instead, message  $m^P$  may mean that the politician takes the credit, which is only deserved if she was actually responsible. Clearly, if the politician is *transparent*, then credit and blame is only given to the one who deserves it because they were responsible. The right column of the table explains the meaning of messages after failure.

Blaming and crediting have two main effects. The expectation of the politician's blaming or crediting through cheap talk determines first-period effort levels through the bureaucrat's prediction of how success and failure determine his reputation. In addition, once the bureaucrat has been blamed or credited, his second-period reputation is affected, which may affect his willingness to exert effort in the future. In the second period, the bureaucrat and politician inherit a specific reputation from the first period. From the public's perspective, their reputations are  $\beta_1(x_1, m)$  and  $\gamma_1(x_1, m)$  respectively, which are a function of the first-period outcome  $x_1$  and the message  $m$ . The politician and bureaucrat may have a different



Table 1: Typology of Blaming and Crediting

	Success	Failure
Bureaucrat	$m^B$ : $B$ receives deserved credit	$m^B$ : $B$ receives deserved blame
Responsible	$m^P$ : $P$ takes undeserved credit	$m^P$ : $P$ takes undeserved blame
Politician	$m^B$ : $B$ receives undeserved credit	$m^B$ : $B$ receives undeserved blame
Responsible	$m^P$ : $P$ takes deserved credit	$m^P$ : $P$ takes deserved blame

*Note: each cell indicates what messages mean conditional on the first-period outcome and who was responsible. This assumes that  $\pi(m^B|x_1, B) > \pi(m^B|x_1, P)$ , i.e., the politician is more likely to say that the bureaucrat was responsible if he actually was, and more likely to say that the politician was responsible if she actually was.*

belief about their own reputation. That is, because they know who was actually responsible for the policy outcome, they know more about their own talent than the public does. From their perspective, their reputation is equal to  $\hat{\beta}_1(x_1, m, r_1)$  and  $\hat{\gamma}_1(x_1, m, r_1)$ , which are a function of who was responsible ( $r_1$ ) in the first period as well. These reputations are critical in determining the bureaucrat's incentives to exert effort. In particular, they also matter for the politician's credibility when she wishes to be transparent about responsibility.

After accounting for the politician's communication strategy, equilibrium beliefs about the bureaucrat's and politician's talent following a success and messages  $m^B$  and  $m^P$  are:

$$\begin{aligned}\beta_{s,m^B} &= \frac{1 + \Delta}{1 + \Delta(2\beta_0 - 1)}\beta_0 & \beta_{s,m^P} &= \beta_0, \\ \gamma_{s,m^B} &= \gamma_0 & \gamma_{s,m^P} &= \frac{1 + \Delta}{1 + \Delta(2\gamma_0 - 1)}\gamma_0.\end{aligned}$$

Similarly, following a failure and messages  $m^B$  and  $m^P$ , these beliefs are as follows:

$$\begin{aligned}\beta_{f,m^B} &= \frac{1 - \Delta}{1 + \Delta(1 - 2\beta_0)}\beta_0 & \beta_{f,m^P} &= \beta_0, \\ \gamma_{f,m^B} &= \gamma_0 & \gamma_{f,m^P} &= \frac{1 - \Delta}{1 + \Delta(1 - 2\gamma_0)}\gamma_0.\end{aligned}$$

Thus, if a bureaucrat considers whether to exert effort, the relevant beliefs are  $\beta_{s,m^B}$  and

$\beta_{f,m^B}$ . For the bureaucrat to exert effort in equilibrium, it is required that  $\beta_{f,m^B} < \frac{1}{2} \leq \beta_{s,m^B}$ . As in the case where the politician remains silent, a reputation-concerned bureaucrat who knows he is responsible must be rewarded with a good reputation following a success and punished by a bad reputation following a failure. This implies that the bureaucrat's initial reputation must not be too extreme.

**Proposition 2.** *There exists a fully transparent equilibrium with first-period effort if and only if:*

1. *The bureaucrat's initial reputation is not too extreme with  $\beta_0 \in [\frac{1-\Delta}{2}, \frac{1+\Delta}{2})$ , and*
2. *The politician's initial reputation is sufficiently extreme with  $\gamma_0 \in (0, \frac{1-\Delta}{2}) \cup [\frac{1+\Delta}{2}, 1)$ .*

The conditions under which the bureaucrat can exert effort in the first period therefore expand in terms of  $\beta_0$ . There is, however, a constraint that is determined by the politician's own reputation concerns. The reason is that the politician must find it incentive compatible to send messages  $m^B$  and  $m^P$  on the equilibrium path. There are two constraints. The first comes from the politician's own reputation concerns. This constraint implies that the politician's own reputation must be bad after both messages or good after both messages. Formally, this means that after an outcome  $x_1 \in \{f, s\}$ , either (i)  $\gamma_{x_1,m^B} \leq \frac{1}{2}$  and  $\gamma_{x_1,m^P} \leq \frac{1}{2}$  or (ii)  $\gamma_{x_1,m^B} \geq \frac{1}{2}$  and  $\gamma_{x_1,m^P} \geq \frac{1}{2}$ .

The second constraint stems from the politician's consideration of future effort. If, on the equilibrium path, the politician sends  $m^P$  and  $m^B$  with positive probability after an outcome  $x_1 \in \{f, s\}$ , then after both messages (i) the bureaucrat shirks in the second period, or (ii) the bureaucrat exerts effort in the second period. If not, the politician always has incentives to send the messages that may lead to higher second-period effort, holding fixed effects on the politician's own reputation. Although the first constraint is always present, the second may be slack. The reason is that it is always possible to construct equilibria in which the bureaucrat shirks in the second period after both messages.

In the Online Appendix, we also provide results in which the politician may be *conditionally transparent*. This means that the politician can be transparent after only a success, or only after a failure. Corollary 1 shows that the politician is sometimes better able to increase bureaucrat effort being conditionally transparent.

## 5 Politician-optimal Equilibria

We want to know to what extent the politician can manage the bureaucrat's reputation optimally. To this end, we study equilibria that are ex ante politician optimal. These equilibria maximize the politician's expected payoff:

$$\bar{V}^P := \underbrace{\frac{1}{2}h_s(\gamma_0) + \frac{1}{2}\hat{e}_1^B g_s(\beta_0)}_{\text{first-period payoffs}} + \underbrace{\sum_{h' \in H} \Pr(h') \left( e_2^B(h') g_s(\beta_1|h') + \mathbb{I}(\gamma_2 \geq \frac{1}{2}|h') \right)}_{\text{second-period payoffs}}. \quad (1)$$

Rather than the pure strategies used in silence and transparency, the politician can choose a mixed strategy  $\pi(m^B|x_1, B) \in (0, 1)$  and  $\pi(m^B|x_1, P) \in (0, 1)$  after outcome  $x_1 \in \{f, s\}$ . The following assumption restricts these strategies so that  $m^B$  is indicative of the bureaucrat being responsible and  $m^P$  of the politician's responsibility.

**Assumption 1.** *If the politician is not silent following an outcome  $x_1 \in \{s, f\}$ , then she only sends  $m^P$  and  $m^B$  on the equilibrium path such that  $\pi(m^B|x_1, B) > \pi(m^B|x_1, P)$ .*

Depending on the equilibrium, there can be different histories after the first period outcome and message. After each such history  $h = (r_1, x_1, m)$ , there is a history-dependent second-period bureaucrat effort choice. Also, the politician has a specific reputation in each such history. A politician-optimal equilibrium maximizes (i) the expected probability of a first-period success, plus (ii) the politician's average expected payoff from the second period. Second-period payoffs are comprised of concerns for the bureaucrat's effort level and the politician's own reputation concerns.

We divide our analysis into four cases depending on the bureaucrat's initial reputation  $\beta_0$ .

In the first case, (i) blaming and crediting are *unnecessary* to extract more effort. In the second, (ii) silence is optimal because blaming or crediting are *insufficiently informative* about the bureaucrat's talent. In the third case, (iii) credit can be *sufficiently informative* and necessary, and in the fourth case, (iv) blame can be sufficiently informative and necessary.

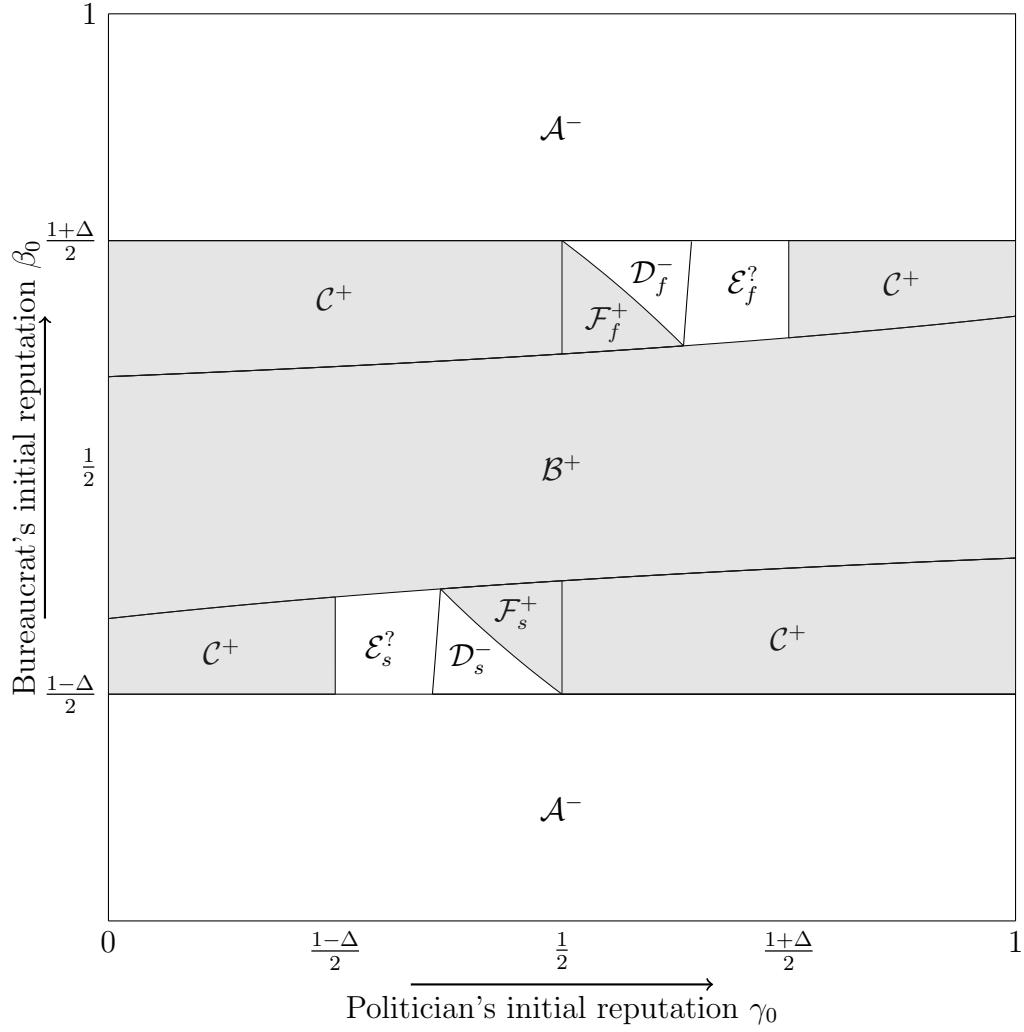
As an initial step, consider the first two cases. The following proposition characterizes the set of politician-optimal equilibria as a function of the bureaucrat's initial reputation  $\beta_0$ . Figure 2 accompanies the proposition and subsequent propositions of the two other cases. It displays the different regions and first-period equilibrium effort. The most simple politician-optimal equilibria exhibit silence as an optimal strategy because either it cannot induce effort, or because it is not necessary as the bureaucrat already exerts effort.

**Proposition 3.** *In politician-optimal equilibria:*

1. *If the bureaucrat's initial reputation is sufficiently intermediate such that  $\beta_0 \in \mathcal{B}^+ := \left[ \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}, \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)} \right)$ , then the bureaucrat exerts effort in the first period. Silence is an optimal communication strategy. The bureaucrat exerts effort after a success if  $\beta_s \in \left[ \frac{1-\Delta'}{2}, \frac{1+\Delta'}{2} \right)$  and after a failure if  $\beta_f \in \left[ \frac{1-\Delta'}{2}, \frac{1+\Delta'}{2} \right)$ .*
2. *If the bureaucrat's initial reputation is extreme such that  $\beta_0 \in \mathcal{A}^- := (0, \frac{1-\Delta}{2}) \cup \left[ \frac{1+\Delta}{2}, 1 \right)$ , he shirks in both periods. Silence is an optimal politician communication strategy.*

The first claim deals with intermediate bureaucrat reputations  $\beta_0 \in \mathcal{B}^+$ . Due to Proposition 1 we know that politician silence can be consistent with first-period effort. As a result, there are no potential positive impacts of communication on first-period effort. Given that the politician is silent, the bureaucrat exerts effort in the second period if and only if  $\beta_1 \in \left[ \frac{1-\Delta'}{2}, \frac{1+\Delta'}{2} \right)$ , as in Lemma 1. If the bureaucrat has a reputation  $\beta_1$  that implies shirking, then blaming or crediting cannot increase effort. This is because the politician communicates using cheap talk. After a first-period success and failure, the politician must find it incentive

Figure 2: Conditions for First-period Bureaucratic Effort



*Note: Assumption:  $\Delta = \frac{1}{2}$ . The x-axis displays the politician's initial reputation  $\gamma_0$  and the y-axis does the same for the bureaucrat's initial reputation  $\beta_0$ . For the first-period, for each  $(\gamma_0, \beta_0)$ , regions with a plus as superscript indicate that the bureaucrat exerts effort, a minus that the bureaucrat shirks, and a question-mark that the bureaucrat's effort depends on  $c$ .*

compatible to send messages. That is, even if  $\beta_{s,m^P}$  could then lead to second-period effort,  $\beta_{s,m^B}$  would not. This prevents the politician from benefiting from communication in terms of second-period effort.<sup>23</sup> A similar logic applies to concerns for the politician's own reputation. If the politician's reputation after the first-period interaction is  $\gamma_{x_1} < \frac{1}{2}$ , then equilibrium conditions require that both  $\gamma_{x_1,m^B} < \frac{1}{2}$  and  $\gamma_{x_1,m^P} < \frac{1}{2}$ , otherwise the politician would have a profitable deviation to always obtain the better reputation.<sup>24</sup>

On the other hand, if the bureaucrat's initial reputation is extreme such that  $\beta_0 \in \mathcal{A}^-$ , then even transparency would not generate incentives to exert effort. The reason is simply that, in a relative sense, the bureaucrat's reputation either does not increase sufficiently after a success or does not decrease sufficiently after a failure. The politician cannot possibly gain from revealing information about responsibility. Hence, silence is a politician-optimal communication strategy.

Now consider the third case. In this situation, credit may be sufficiently informative and necessary. The following proposition describes politician-optimal equilibria for another range of the bureaucrat's initial reputation  $\beta_0$ .

**Proposition 4.** *Consider politician-optimal equilibria where the bureaucrat's initial reputation is  $\beta_0 \in \left[ \frac{1-\Delta}{2}, \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)} \right)$ .*

- *Silence after a failure is part of an optimal communication strategy.*
- *There exists thresholds  $\underline{\gamma}(\beta_0, c)$  and  $\bar{\gamma}(\beta_0)$  around  $\gamma_0 = \frac{1-(1-\beta_0)\Delta}{2-(1-2\beta_0)\Delta}$  such that the bureaucrat exerts effort if and only if  $\gamma_0 \notin (\underline{\gamma}(\beta_0, c), \bar{\gamma}(\beta_0))$ .*

After a failure, there is no reason to communicate. It does not help with incentivizing the bureaucrat in the first period, nor does it help increase the politician's second-period payoff.

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<sup>23</sup>This provides another reason for the politician to not reveal too much information about responsibility. Doing so spreads posteriors out more than necessary that will result in potential shirking in the second stage of the game.

<sup>24</sup>Due to the assumptions about the politician's utility function, she cannot be indifferent (and credibly communicate) unless after both messages, both the politician's reputations are equal, and both bureaucrat's effort choices are equal.

After a success there is, however, a potential benefit to communicate. The reason is that it may push the bureaucrat's reputation to exceed the threshold such that  $\beta_{s,m^B} \geq \frac{1}{2}$ . This is not sufficient for the bureaucrat to work, however, as he must receive credit sufficiently often if he is responsible for the success. In this case, the bureaucrat exerts effort if

$$\pi(m^B|s, B) \times \mathbb{I}\left\{\beta_{s,m^B} \geq \frac{1}{2}\right\} + \pi(m^P|s, B) \times \mathbb{I}\left\{\beta_{s,m^P} \geq \frac{1}{2}\right\} \geq \frac{c}{g_s(\beta_0)}.$$

Importantly, given that  $\beta_{s,m^P} < \frac{1}{2}$ , the above constraint simplifies to  $\pi(m^B|s, B) \geq \frac{c}{g_s(\beta_0)}$ . Especially when  $c$  is higher, the bureaucrat requires that credit is given more often to him if he is responsible for success. Thus, to incentivize the bureaucrat in the first period, the politician's communication constraint is that both  $\beta_{s,m^B} \geq \frac{1}{2}$  and  $\pi(m^B|s, B) \geq \frac{c}{g_s(\beta_0)}$ .

The politician is, however, not always able to provide information in any way she wants. The reason is that if giving credit to the bureaucrat hurts the politician reputation too much, she is unwilling to do so in equilibrium. To sum up, this means either (i)  $\gamma_{s,m^B} < \frac{1}{2}$  and  $\gamma_{s,m^P} < \frac{1}{2}$  or (ii)  $\gamma_{s,m^B} \geq \frac{1}{2}$  and  $\gamma_{s,m^P} \geq \frac{1}{2}$ . This may constrain the politician, depending on her initial reputation  $\gamma_0$ .

The logic is as follows. After a success, and before the politician sends a message, the politician's reputation is  $\gamma_s$ . If  $\gamma_s = \frac{1}{2}$ , then this gives the politician no flexibility in sending messages. The reason is that as soon as  $m^B$  and  $m^P$  even provide a small amount of information, then  $\gamma_{s,m^P} > \frac{1}{2}$  and  $\gamma_{s,m^B} < \frac{1}{2}$ , which destroys the politician's ability to provide information in equilibrium. Hence, the farther  $\gamma_s$  is from  $\frac{1}{2}$ , the easier it becomes for the politician to provide information and credibly give and take credit.<sup>25</sup> More specifically, if  $\gamma_s < \frac{1}{2}$ , then there is a constraint on the cost  $c$  as well. The reason is that the greater is  $c$ , the greater is the constraint that  $\pi(m^B|s, B) \geq \frac{c}{g_s(\beta_0)}$ . The greater is  $\pi(m^B|s, B)$ , the more informative  $m^P$  is about the politician's own reputation  $\gamma_{s,m^P}$ . As a result, if  $c$  becomes too

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<sup>25</sup>Formally, this statement is that, for  $\gamma'_s$  and  $\gamma''_s$ , if an equilibrium exists with first-period effort for  $\gamma'_s < \frac{1}{2}$ , then it also exists for  $\gamma''_s < \gamma'_s$ . Similarly, if it exists for  $\gamma'_s > \frac{1}{2}$ , it also exists for  $\gamma''_s > \gamma'_s$ .

large, and  $\gamma_s < \frac{1}{2}$  is too close to  $\frac{1}{2}$ , it is impossible to retain the politician's communication constraint.

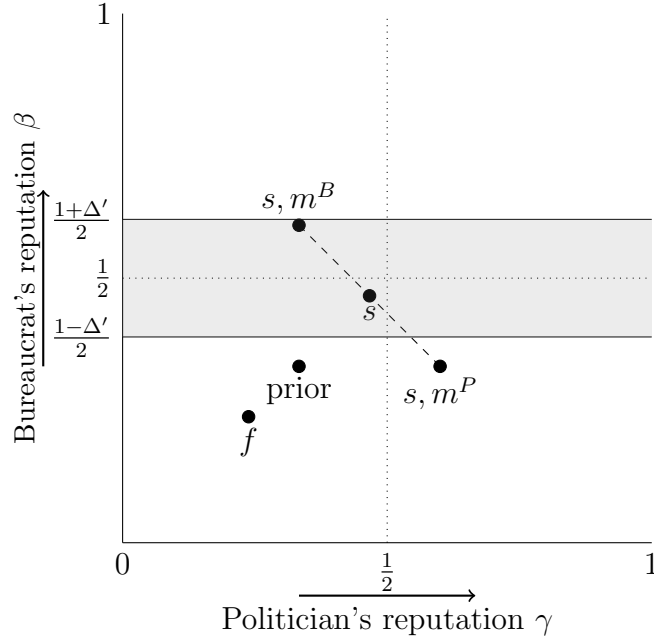
The issue differs if  $\gamma_s > \frac{1}{2}$ . The only important thing is the relation between the politician's initial reputation  $\gamma_0$  and the bureaucrat's initial reputation  $\beta_0$ . For the bureaucrat to be willing to exert effort, it is required that  $\beta_{s,m^B} \geq \frac{1}{2}$ . This, however, poses an externality on the politician's own reputation. For the politician to want to give credit to the bureaucrat, this must not hurt the politician's reputation relative to the threshold. That is, the condition is that  $\gamma_{s,m^B} \geq \frac{1}{2}$ . If  $\gamma_s > \frac{1}{2}$  and  $\gamma_s$  is sufficiently large (which means that the politician's initial reputation is sufficiently high), then the politician has enough flexibility to ensure  $\beta_{s,m^B} \geq \frac{1}{2}$  without worrying about the constraint that  $\gamma_{s,m^B} \geq \frac{1}{2}$ . Alternatively, if  $\gamma_s > \frac{1}{2}$  and  $\gamma_s$  is relatively close to  $\frac{1}{2}$ , then even if the politician provides the minimal amount of information to incentivize the bureaucrat with  $\beta_{s,m^B} = \frac{1}{2}$ , then still  $\gamma_{s,m^B} < \frac{1}{2}$ . This prevents the politician from ever having an incentive to give credit to the bureaucrat.

Another key insight is that the politician mixes between taking and giving credit after a success by either the politician or bureaucrat. This is because the politician wants to ensure that the public does not learn too much following a success. Figure 3 illustrates this problem graphically. If the politician were conditionally transparent following a success, the bureaucrat's reputation increases sufficiently so that the bureaucrat exerts effort. On the other hand, however, the politician is unwilling to give credit to the bureaucrat in equilibrium. The reason is that doing so damages the politician's reputation, leading to  $\gamma_{s,m^B} < \frac{1}{2}$ , while the reputation after taking credit satisfies  $\gamma_{s,m^P} \geq \frac{1}{2}$ .

There is another reason for this mixing to prevent too much learning, which is the politician's concern for second-period effort. This implies that there are reasons to not give the bureaucrat credit too often. That is, an optimal communication strategy is to ensure that  $\beta_{s,m^B} = \frac{1}{2}$ . This helps to reduce the informativeness of the message  $m^P$ , which would pull the bureaucrat's reputation downward. The reason is that the politician wants to ensure



Figure 3: Impossibility of Transparency after Success



*Note: Assume  $\beta_0 = \gamma_0 = \frac{1}{3}$ ,  $\Delta = \frac{1}{2}$ , and  $\Delta' = \frac{2}{9}$ . Assume a transparent politician after a success. This figure illustrates the public's beliefs about  $\gamma$  and  $\beta$  after information sets  $(s)$ ,  $(f)$ ,  $(s, m^B)$  and  $(s, m^P)$ . The politician can induce any beliefs given  $(s, m^B)$  and  $(s, m^P)$  that are on the dashed line, as long as  $(s, m^B)$  is north-west of  $(s)$  and  $(s, m^P)$  is south-east of  $(s)$ . The gray area illustrates the conditions under which the bureaucrat is willing to exert effort in the second period.*

that  $\beta_{s,m^P} \geq \frac{1-\Delta'}{2}$ , so that the bureaucrat exerts effort in the second period. The shaded region in Figure 3 displays conditions for  $\beta_1$  under which the bureaucrat is willing to exert effort in the second period. The politician does not want to spread posteriors too much so as to manage the bureaucrat's reputation properly.

The following example shows the importance of the politician's initial reputation  $\gamma_0$  and the cost of effort  $c$ . That is, it studies the conditions of Proposition 4. The politician's own initial reputation determines whether the bureaucrat can be incentivized through cheap talk. In addition, it evaluates how  $\Delta'$ —the informativeness of the second-period outcome—allows for second-period effort in equilibrium too.

**Example 1.** Assume that  $\Delta = \frac{1}{2}$  and  $\beta_0 = \frac{1}{3}$ . First, suppose that the politician were to remain silent and the bureaucrat exerts effort. Then the beliefs following  $x_1 \in \{f, s\}$  equal

$$\beta_{f,m^\phi} = \frac{7 - \gamma_0}{8 - 3\gamma_0}, \quad \beta_{s,m^\phi} = \frac{2 + \gamma_0}{4 + 3\gamma_0}.$$

For all  $\gamma_0 \in (0, 1)$ ,  $\beta_{s,m^\phi} < \frac{1}{2}$ . This implies it does not exceed the reputation threshold and the bureaucrat has a profitable deviation to shirk.

Suppose instead that the politician is transparent after a success, that is,  $\pi(m^P|s, P) = 1$  and  $\pi(m^B|s, B) = 1$ . This implies that the public can perfectly infer who was responsible for the success. Therefore, the belief following the bureaucrat's success is  $\beta_{s,m^B} = \frac{3}{5} > \frac{1}{2}$ , which exceeds the reputation threshold and ensures that the bureaucrat exerts effort.

The politician does not automatically find it incentive compatible to send  $m^P$  and  $m^B$  because  $\gamma_{s,m^B} = \gamma_0$  and  $\gamma_{s,m^P} = \frac{3\gamma_0}{1+2\gamma_0}$ . If  $\gamma_0 \leq \frac{1}{2}$ , the relevant constraint is that the politician must not gain from taking credit, which is satisfied if  $\gamma_{s,m^P} \leq \frac{1}{2} \iff \gamma_0 \leq \frac{1}{4}$ . If  $\gamma_0 \geq \frac{1}{2}$ , this guarantees that the politician does not lose from giving credit to the bureaucrat if appropriate.

In between, if the politician's initial reputation  $\gamma_0 \in (\frac{1}{4}, \frac{1}{2})$ , the politician cannot fully reveal who was responsible in equilibrium. Hence, the politician can only provide partial information

about who was responsible. She may be destined to fail to induce effort (in region  $\mathcal{D}_s^-$ ), only able to extract effort if the cost is relatively low (in region  $\mathcal{E}_s^?$ ), or successfully induce effort (in region  $\mathcal{F}_s^+$ ).  $\square$

The final range is where  $\beta_0$  is relatively high. The following proposition characterizes a politician's optimal communication strategy.

**Proposition 5.** *Consider politician-optimal equilibria where the bureaucrat's initial reputation is  $\beta_0 \in \left[ \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)}, \frac{1+\Delta}{2} \right]$ .*

- *Silence after a success is part of an optimal communication strategy.*
- *There exists thresholds  $\underline{\gamma}'(\beta_0, c)$  and  $\bar{\gamma}'(\beta_0)$  around  $\gamma_0 = \frac{1+\Delta(1-\beta_0)}{2-\Delta(2\beta_0-1)}$  such that the bureaucrat exerts effort if and only if  $\gamma_0 \notin (\underline{\gamma}'(\beta_0), \bar{\gamma}'(\beta_0, c))$ .*

The logic is similar to before. In this case, active communication after a success does not help incentivizing the bureaucrat in the first period. Also, it does not help to increase the politician's expected payoff from the second-period. Thus, silence after a success is part of an optimal communication strategy.

After the bureaucrat fails, the politician must blame him sufficiently often to provide incentives for first-period effort. That is, it is needed that  $\beta_{f,m^B} \leq \frac{1}{2}$ , and that the bureaucrat finds it incentive compatible to pay the cost of effort, i.e.,  $\pi(m^B|f, B) \geq \frac{c}{g_s(\beta_0)}$ . That is, the bureaucrat must be blamed sufficiently often after his failure.

An issue arises if  $\gamma_0 = \frac{1+\Delta(1-\beta_0)}{2-\Delta(2\beta_0-1)}$ , which would imply that  $\gamma_f = \frac{1}{2}$ . For  $\gamma_0 < \frac{1+\Delta(1-\beta_0)}{2-\Delta(2\beta_0-1)} \iff \gamma_s < \frac{1}{2}$ , if  $\gamma_0$  is relatively high, this makes it harder for the politician to provide incentives to the bureaucrat. Similarly, for  $\gamma_0 > \frac{1+\Delta(1-\beta_0)}{2-\Delta(2\beta_0-1)} \iff \gamma_s > \frac{1}{2}$ , if  $\gamma_0$  is relatively low, it is harder for the politician to incentivize the bureaucrat in the first period. The reason is that if  $\gamma_f$  is relatively close to  $\frac{1}{2}$ , the politician has less flexibility in providing information about who was responsible for the failed outcome. The logic follows similarly as in Proposition 4.

The results also illustrate a multiplicity of equilibria for given  $\beta_0$  and  $\gamma_0$ . The reason is that

different politician mixed strategies lead to outcome equivalent equilibria. As long as (i) communication incentivizes effort, (ii) the politician finds it incentive compatible to communicate as necessary, then any mixed strategy satisfying these two conditions will do. Also, if another condition holds, namely that after both messages  $m^P$  and  $m^B$  the bureaucrat's reputation does not become too extreme in the second period, then the bureaucrat can also be expected to exert effort in the second period.

## 6 Comparative Statics and Robustness

Our main results illustrate the importance of a politician's and bureaucrat's initial reputations in determining equilibrium outcomes. How do the results rely on other parameters? We consider the effect of  $\Delta$  and  $\Delta'$ , which is the informativeness of policy outcomes conditional on effort, and the player's reputational payoffs.

*Effect of  $\Delta$  and  $\Delta'$ .* By changing  $\Delta$ , the public learns more about whether the politician and bureaucrat are of high or low talent. This is because an actor with high talent succeeds with probability  $p_H = \frac{1+\Delta}{2}$  conditional on effort, and the one with low talent succeeds with probability  $p_L = \frac{1-\Delta}{2}$ . Thus, the greater is  $\Delta$ , the wider is the range of bureaucrat's initial reputation  $\beta_0$  for which he exerts effort. This implies that a more informative outcome reduces the need for the politician to make claims about responsibility. At the same time, blame and credit can shift beliefs more, which may also increase the potential for communication to affect a bureaucrat's effort choice. Similarly, by increasing  $\Delta'$ , there is a greater scope for second-period effort to be feasible because the second-period outcome is more informative about the bureaucrat's talent. This also means that the politicians faces fewer constraints if it wants to incentivize the bureaucrat in the first period while still ensuring effort in the second period.

*Politician's reputation payoff functions.* We use a stark payoff function for the politician's reputation concerns. That is, the politician's payoff is constant below some threshold, and constant above it, with a sharp discontinuity at the threshold. This is important because

the politician’s ability to communicate relies on her indifference between two messages. This indifference possibility breaks down if, for example, the politician’s reputation concern is a strictly increasing function of  $\gamma_2$ . However, it is possible to retain the possibility of indifference for other reputation payoff functions, if effort choices were made differently. That is, if the bureaucrat’s effort choice was made from a continuous set, then it may occur that the politician is indifferent between two messages. This is possible as long as the message which induces a better politician reputation also has a lower bureaucratic effort level, while the other message leads to a lower politician reputation and higher bureaucratic effort level.

*Bureaucrat reputation payoff functions.* In the main model, the bureaucrat’s reputation payoff follows a threshold form. The bureaucrat’s reputation payoff, however, does not need to be so stark. It can also be increasing in the bureaucrat’s reputation. The key aspect is that revealing information about who was responsible spreads out posteriors. This will be helpful for the bureaucrat, as credit and blame are informative about the bureaucrat’s talent. Qualitatively, results will be similar because reputational updating is stronger when beliefs are closer to  $1/2$ . In Appendix B.2, we formally study a version of the model in which the bureaucrat’s reputation payoff is linearly increasing in  $\beta$ . As in the main model, for some values of  $\beta_0$ , the bureaucrat exerts effort if the politician revealed information about responsibility, increasing effort relative to politician silence. As before, the bureaucrat is willing to exert effort for an intermediate range of reputations. A key difference now is that the cost of effort plays a stronger role. The possibility of effort extraction via cheap talk is attenuated if effort is more costly.

## 7 Discussion and Conclusion

When asking experts or voters what makes good political leaders, words like honesty, integrity, trustworthiness, and character are typical responses. Indeed, voters are shown to hold politicians in higher esteem if they sometimes take the blame (Miller and Reeves 2022). Nonetheless, politician blaming of bureaucratic underlings when something goes awry is not

uncommon. Interpretations of such accusations have typically been to view the politician as not embodying such characteristics but rather trying to avoid responsibility. If apt, this description suggests that being a good leader is not key for political selection and that voters and their surrogates are either insincere in saying what they care about or are easily misled.

Alternatively, we provide a rationale for blaming and credit claiming that is more consistent with positive leadership. Broadly, our analysis contrasts with previous work by studying the battle for credit as strategic communication. Assuming that politicians want to get policy right and that more bureaucratic effort raises the probability of success, the ability to blame and give credit may in some cases be advantageous to politicians. Specifically, in our model a politician’s ability to criticize can increase the likelihood of effort-induced good policy. Given that the public is observing, the politician’s comments may spur a bureaucrat to work harder despite the bureaucrat otherwise being protected from being fired. The threat of blame alone may spur the reputation-sensitive bureaucrat on, as such criticism plays an informational role for a judgmental public. Politicians may not always be avoiding accountability but instead providing the public with an ability to update about bureaucrats that, in turn, can potentially produce better policy outcomes.

We also contend that politicians are strategically balancing the acts of being fully transparent about attribution and being silent about it. We show that a politician can strategically keep quiet to protect the bureaucrat and accrue future effort. Contrary to this, under some conditions, transparency might be good to incentivize bureaucrats to exert effort. In fact, we show that a politician can incentivize the bureaucrats to exert effort by truthfully acknowledging that bureaucrat was responsible for failure or success.

We acknowledge that aspects of our modeling approach are stylized and that this approach certainly masks some empirical realities. One, politicians and bureaucrats may have concerns that are not purely reputational. Two, determining who is *actually* responsible poses

considerable challenges. In fact, in the aforementioned Dutch child care benefits scandal, the bureaucrats contended that they were merely implementing the law passed by the legislature, whereas the politicians countered by stating that the law was incorrectly implemented. That said, the modeling approach we have followed has advantages too. One, our strategy allows us to isolate and understand the politician-bureaucrat battle for credit that we observe in many settings. Two, we conceptualize blaming and crediting purely as communication, which allows us to study incentives for agent effort, providing conditions under which such communication can be credible.

Finally, our study of the battle for credit has implications for institutional design. In the interaction between the politician and the bureaucrat several questions arise. Should politicians always transparently attribute responsibility? Should politicians remain silent? Should they do a mix of both? Our analysis shows that politicians can strategically evaluate these options because they are concerned about bureaucrat’s effort, subsequent policy outcomes, and their own careers. How should this be thought of from an institutional perspective? There are ongoing debates about what a minister is actually responsible for, and whether a political failure should lead to a forced resignation. For instance, the constitutional Dutch advisory board (*Raad van State*) stated:

“Who can be held accountable for all this? Is it the involved minister or is it other people? What about the responsibility of civil service and competence? Does Parliament have sufficient control? In the core, these questions are about the workings of ministerial responsibility.”<sup>26</sup>

In the Dutch context, ministerial responsibility refers to the head of a ministry ultimately

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<sup>26</sup>Source: “Ongevraagd advies Raad van State over ministeriële verantwoordelijkheid” (Raad van State, June 15, 2020), <https://www.raadvanstate.nl/@121396/advies-ministeriele-verantwoordelijkheid/>. The report further notes that “Given the significant societal and political changes in the last decades, public accountability through ministerial responsibility is more relevant than ever before. To make this work well, a transparent and correct interaction among Members of Parliament, government, and civil servants, is necessary” (author translation from Dutch).

being formally responsible for policy outcomes.<sup>27</sup> In isolation, this may be normatively desirable. However, a politician’s frequent interactions with the bureaucrat muddies the waters due to the agency problems underlying this interaction, and our analysis highlights this aspect. In this context, our analysis contrasts with the near exclusively negative view of politician blaming by bringing to the fore politicians strategically using silence and crediting/blaming to motivate their agents via communicating to the public.

Given that blaming may be a product not just of efforts to elude responsibility but to induce bureaucratic effort, it is not unsurprising that it is a common phenomenon. We show that blame can serve a function that is analogous to the principal’s ability to adjust an individual’s wages and hire or fire as in principal-agent approaches in the theory of the firm. In turn, this recognition directs attention toward other considerations, such as whether politicians should be routinely condemned for criticizing their underlings. Our findings indicate that allowing a policy-motivated politician to blame her underlings might lead to positive outcomes under certain conditions. Dissuading politicians from doing so, for example by fostering norms where politicians criticizing the bureaucracy are sanctioned by negative responses by voters, may induce less bureaucratic effort in the aggregate and the wrong choice being made more frequently. This contrasts with claims, dating back to Fiorina (1977, 1982)’s canonical works, viewing the ability to blame the bureaucracy as exclusively negative and indicating that blaming should be condemned.

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<sup>27</sup>In the aftermath of the child care scandal, the government collapsed and Rutte resigned. That said, very shortly he again became Prime Minister. This resulted in some commentators quipping about the resignation as “merely symbolic” (Corder 2020).



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Supplementary Information for  
“Politicians, Bureaucrats, and the Battle for Credit”

# Online Appendix

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## A Proofs

### A.1 Lemma 1 and its Proof (Second-period effort)

**Lemma 1.** *For every second-period history:*

- *An equilibrium in which the bureaucrat shirks always exists.*
- *An equilibrium in which the bureaucrat exerts effort exists if and only if  $\beta_1 \in [\frac{1-\Delta'}{2}, \frac{1+\Delta'}{2}]$ .*

*Proof.* Consider an arbitrary history in the second period.

*Case 1.* Consider a strategy profile in which the bureaucrat shirks. Then, on the equilibrium path, the second-period outcome is a failure. Thus, the bureaucrat's reputation remains constant after the failure, where  $\beta_f = \beta_1$ . There is no profitable deviation if  $\beta_1 \geq \frac{1}{2}$  as the bureaucrat's equilibrium payoff is already 1. Alternatively, if  $\beta_1 < \frac{1}{2}$ , then the bureaucrat's equilibrium payoff is 0. For a deviation to be potentially profitable, we need that  $\beta_s \geq \frac{1}{2}$ . However,  $\beta_s$  is off-path, which means it is possible to assume in a PBE that  $\beta_s = \beta_1$ , and a deviation is not profitable. Hence, there always exist equilibrium strategy profiles where, no matter the history, the bureaucrat shirks in the second period.

*Case 2.* Consider a strategy profile in which the bureaucrat exerts effort. Then, on the equilibrium path, from the public's perspective, there is a success with probability  $g_s(\beta_1)$  and a failure with complementary probability. The public's posterior beliefs given failure  $\beta_{1,f}$  and success  $\beta_{1,s}$  are

$$\beta_{1,f} = \frac{(1 - \frac{1+\Delta'}{2})\beta_1}{(1 - \frac{1+\Delta'}{2})\beta_1 + (1 - \frac{1-\Delta'}{2})(1 - \beta_1)}, \quad (2)$$

$$\beta_{1,s} = \frac{\frac{1+\Delta'}{2}\beta_1}{\frac{1+\Delta'}{2}\beta_1 + \frac{1-\Delta'}{2}(1 - \beta_1)}. \quad (3)$$

For effort to be potentially incentive compatible, we require that (i)  $\beta_{1,f} < \frac{1}{2}$ , and (ii)  $\beta_{1,s} \geq \frac{1}{2}$ . The reason is that the bureaucrat's incentive compatibility is as follows after any history (where the LHS is the expected payoff of effort and the RHS the expected payoff of shirking).

$$g_s(\hat{\beta}_1)\mathbb{I}\{\beta_{1,s} \geq \frac{1}{2}\} + (1 - g_s(\hat{\beta}_1))\mathbb{I}\{\beta_{1,f} \geq \frac{1}{2}\} - c \geq \mathbb{I}\{\beta_{1,f} \geq \frac{1}{2}\}. \quad (4)$$

Given that  $c < p_L \leq \frac{1-\Delta'}{2}$ , conditions (i) and (ii) are necessary and sufficient for the possibility of second-period effort to be  $e_2^B = 1$ . Conditions (i) and (ii) then imply that for effort to be possibly incentive compatible, the following is satisfied for  $\beta_1 : \beta_1 \in [\frac{1-\Delta'}{2}, \frac{1+\Delta'}{2}]$ .  $\square$

## A.2 Lemma 2 and its Proof (Bureaucrat's Continuation Values)

**Lemma 2.** *The bureaucrat's continuation value  $V_B(\cdot)$  depends on  $\hat{e}_2^B(\beta_1, \hat{\beta}_1)$  as follows:*

- If  $\hat{e}_2^B(\beta_1, \hat{\beta}_1) = 0$ , then  $V_B(\cdot) = \mathbb{I}\{\beta_1 > \frac{1}{2}\}$ .
- If  $\hat{e}_2^B(\beta_1, \hat{\beta}_1) = 1$ , then  $V_B(\cdot) = g_s(\hat{\beta}_1) - c$ .<sup>28</sup>

*Proof.* Consider the bureaucrat's continuation value before starting the second period.

*Case 1.* Suppose the bureaucrat knows that he will shirk in period 2. Then his equilibrium payoff purely depends on the reputation with which he starts the second period, given that there will be a failure and the bureaucrat's reputation remains constant. Thus, the only thing that matters is whether given  $\beta_1$ , the bureaucrat receives a payoff of 0 or 1. This establishes that the bureaucrat's continuation value is  $V_B(e_2^B = 0) = \mathbb{I}\{\beta_1 > \frac{1}{2}\}$ .

*Case 2.* Suppose the bureaucrat knows that he will exert effort in period 2. Lemma 1 implies that  $\beta_1 \in [\frac{1-\Delta'}{2}, \frac{1+\Delta'}{2})$  to ensure that exerting effort is incentive compatible. Therefore, a reputation payoff of 1 is only achieved if a success is realized, which occurs with probability  $g_s(\hat{\beta}_1)$  from the bureaucrat's perspective. In addition, because the bureaucrat exerts effort, he incurs a cost. This establishes that the bureaucrat's continuation value is  $V_B(e_2^B = 1) = g_s(\hat{\beta}_1) - c$ .  $\square$

## A.3 Lemma 3 and its Proof (Politician's Continuation Values)

**Lemma 3.** *The politician's continuation value  $V_P(\cdot)$  depends on  $\hat{e}_2^B(\beta_1, \hat{\beta}_1)$  as follows:*

- If  $\hat{e}_2^B(\beta_1, \hat{\beta}_1) = 0$ , then  $V_P(\cdot) = \mathbb{I}\{\gamma_2 > \frac{1}{2}\}$ .
- If  $\hat{e}_2^B(\beta_1, \hat{\beta}_1) = 1$ , then  $V_P(\cdot) = \mathbb{I}\{\gamma_2 > \frac{1}{2}\} + g_s(\hat{\beta}_1)$ .

*Proof.* If  $\hat{e}_2^B(\beta_1, \hat{\beta}_1) = 0$ , then the policy outcome fails in the second period. Thus, the only part that matters is the politician's reputation payoff, which is determined by  $\mathbb{I}\{\gamma_2 \geq \frac{1}{2}\}$ . On the other hand, if  $\hat{e}_2^B(\beta_1, \hat{\beta}_1) = 1$ , then she also obtains a payoff of 1 if the policy succeeds, which occurs with probability  $g_s(\hat{\beta}_1)$ .  $\square$

## A.4 Proof of Proposition 1 (Equilibria with Silence)

We proceed by analyzing the different cases for  $\beta_0$  and assume that the politician remains silent. As a first step, we consider equilibria in which the bureaucrat exerts effort in the first period.

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<sup>28</sup>It should be understood that  $g_s(\hat{\beta}_1)$  takes  $\Delta'$  as input.

*Step 1.* Assume that the bureaucrat exerts effort in the first period. Suppose that  $\beta_0 \in \left[ \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}, \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)} \right) := \mathcal{B}^+$ . To ensure effort, we require that  $\beta_f \leq \frac{1}{2} \leq \beta_s$ . Then beliefs following a success and failure are as follows:

$$\beta_s = \frac{(\frac{1}{2}p_H + \frac{1}{2}h_s(\gamma_0))\beta_0}{(\frac{1}{2}p_H + \frac{1}{2}h_s(\gamma_0))\beta_0 + (\frac{1}{2}p_L + \frac{1}{2}h_s(\gamma_0))(1 - \beta_0)} = \frac{(1 + \Delta\gamma_0)\beta_0}{1 + \Delta(\beta_0 + \gamma_0 - 1)}. \quad (5)$$

Via a similar simplification, after a failure we have

$$\beta_f = \frac{(1 - \Delta\gamma_0)\beta_0}{1 - \Delta(\beta_0 + \gamma_0 - 1)}. \quad (6)$$

Invoking  $\beta_f < \frac{1}{2} \leq \beta_s$  yields the result that there exists an equilibrium in which the bureaucrat exerts effort in the first period.

In the other cases, where  $\beta_0 \notin \left[ \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}, \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)} \right)$ , either both posteriors are lower than the threshold, or both higher than the threshold, which yields a contradiction, which means that the bureaucrat cannot exert effort for those values of  $\beta_0$ .

*Step 2.* In the second step, we study the case in which the bureaucrat shirks in the first period. Clearly, such equilibria always exist by similar arguments as those in Lemma 1. Then, in the second period, the bureaucrat's reputation remains  $\beta_1 = \beta_0$  which is the bureaucrat's initial reputation. Then, we can apply Lemma 1, evaluating whether  $\beta_0 \in \left[ \frac{1-\Delta'}{2}, \frac{1+\Delta'}{2} \right)$ . If  $\beta_0$  falls in this range, then there exists an equilibrium in which the bureaucrat exerts effort next to the equilibrium in which the bureaucrat shirks in the second period too. If  $\beta_0$  does not fall in this range, then the only equilibrium is one of full shirking.

*Step 3.* Now we fully characterize the set of equilibria given politician silence. We implicitly invoke Lemma 1 to characterize second-period effort levels. We note that depending on  $\Delta' \in (0, 1)$ , some of these sets can be empty.

- If  $\beta_0 < \frac{1-\Delta'}{2}$  and  $\beta_0 < \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}$ , then  $e_1^B = e_2^B = 0$ .
- If  $\beta_0 \in \left[ \frac{1-\Delta'}{2}, \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)} \right)$ , then  $e_1^B = 0$  and  $e_2^B \in \{0, 1\}$ .
- If  $\beta_0 \in \left[ \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}, \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)} \right)$  and the bureaucrat exerts effort in the first period, then
  - If  $\frac{(1+\Delta\gamma_0)\beta_0}{1+\Delta(\beta_0+\gamma_0-1)} < \frac{1+\Delta'}{2}$ , then there exist equilibria where  $e_2^B(s) \in \{0, 1\}$  following a first-period success, and otherwise,  $e_2^B(s) = 0$ .
  - If  $\frac{(1-\Delta\gamma_0)\beta_0}{1-\Delta(\beta_0+\gamma_0-1)} \geq \frac{1-\Delta'}{2}$ , then there exist equilibria where  $e_2^B(f) \in \{0, 1\}$  following a first-period failure, and otherwise,  $e_2^B(f) = 0$ .



- If  $\beta_0 \in \left[ \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}, \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)} \right)$  and  $e_1^B = 0$ , then if  $\beta_0 \in \left[ \frac{1-\Delta'}{2}, \frac{1+\Delta'}{2} \right)$  then  $e_2^B \in \{0, 1\}$ , while if  $\beta_0 \notin \left[ \frac{1-\Delta'}{2}, \frac{1+\Delta'}{2} \right]$ , then  $e_2^B = 0$ .
- If  $\beta_0 \in \left[ \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)}, \frac{1+\Delta'}{2} \right)$ , then  $e_1^B = 0$  and  $e_2^B \in \{0, 1\}$ .
- If  $\beta_0 \geq \frac{1+\Delta'}{2}$  and  $\beta_0 \geq \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)}$ , then  $e_1^B = e_2^B = 0$ .

## A.5 Proof of Proposition 2 (Transparent Equilibria)

*Assumptions.* Given a fully transparent equilibrium, we assume that  $\pi(m^B|x'_1, r_1 = B) = 1$  and  $\pi(m^P|x'_1, r_1 = 1) = 1$  for  $x'_1 \in \{f, s\}$ .

*Proof. Step 1.* Suppose that  $\beta_0 \notin \left[ \frac{1-\Delta}{2}, \frac{1+\Delta}{2} \right)$ . If  $\beta_0 < \frac{1-\Delta}{2}$ , and the bureaucrat were to exert effort, then a success jointly with message  $m^B$  yields a reputation of

$$\beta_{s,m^B} = \frac{\frac{1+\Delta}{2}\beta_0}{\frac{1+\Delta}{2}\beta_0 + \frac{1-\Delta}{2}(1-\beta_0)} = \frac{(1+\Delta)\beta_0}{1+\Delta(2\beta_0-1)}. \quad (7)$$

For effort to be incentive compatible, a success must be rewarded with a good reputation, i.e.,  $\beta_{s,m^B} \geq \frac{1}{2}$ , which is a contradiction. If  $\beta_0 \geq \frac{1+\Delta}{2}$ , then

$$\beta_{f,m^B} = \frac{(1-\Delta)\beta_0}{1-\Delta(2\beta_0-1)}. \quad (8)$$

and the same logic applies *mutatis mutandis*. Thus, for these values of  $\beta_0 \notin \left[ \frac{1-\Delta}{2}, \frac{1+\Delta}{2} \right)$ , the bureaucrat exerts no effort.

*Step 2.* Suppose that  $\beta_0 \in \left[ \frac{1-\Delta}{2}, \frac{1+\Delta}{2} \right)$ , then by similar arguments as in Step 1, now the reverse is true, and exerting effort is incentive compatible for the bureaucrat because  $\beta_{f,m^B} \leq \frac{1}{2}$  and  $\beta_{s,m^B} \geq \frac{1}{2}$ . As a result, equilibria with bureaucratic effort may exist.

*Step 3.* Given that equilibria with first-period bureaucratic effort can only exist if  $\beta_0 \in \left[ \frac{1-\Delta}{2}, \frac{1+\Delta}{2} \right)$ , we focus our attention on this case. This step verifies the politician's incentive compatibility constraint in truthfully revealing who was responsible in terms of its effect on her reputation  $\gamma_2$ . Following either outcome, the politician must be indifferent between messages  $m^B$  and  $m^P$ , otherwise the politician will send the message with a greater expected payoff, which is a contradiction. Thus, constraint (i) is that given  $x_1 = s$ ,

$$\gamma_{s,m^B} \leq \gamma_{s,m^P} < \frac{1}{2} \text{ or } \frac{1}{2} \leq \gamma_{s,m^B} \leq \gamma_{s,m^P} \quad (9)$$

Similarly, constraint (ii) is that given  $x_1 = f$ ,

$$\gamma_{f,m^P} \leq \gamma_{f,m^B} < \frac{1}{2} \text{ or } \frac{1}{2} \leq \gamma_{f,m^P} \leq \gamma_{f,m^B}. \quad (10)$$

Constraints (i) and (ii) jointly require that  $\gamma_0 \notin [\frac{1-\Delta}{2}, \frac{1+\Delta}{2}]$ .

*Step 4.* We then evaluate dynamic effort constraints. Given that the politician cares about the second-period outcome, she values second-period effort by the bureaucrat. Thus, if on the equilibrium path the politician sends  $m^P$  and  $m^B$ , Lemma 3 implies that effort levels must be equal following both messages. There always exist equilibria in which the bureaucrat's second-period effort level is  $e_2^B = 0$ , following Lemma 1. Hence, dynamic constraints need not exist.

Suppose, however, that the politician wants that the bureaucrat exerts effort in the second period after both messages. Then, both following a success and failure, we need that the resulting  $\beta_1$  is sufficiently intermediate, such that  $\beta_1 \in [\frac{1-\Delta'}{2}, \frac{1+\Delta'}{2}]$ . After a first-period success and message  $m \in \{m^P, m^B\}$ , the bureaucrat's reputation is determined as follows:

- $\beta_{s,m^P} = \beta_0$ ,
- $\beta_{s,m^B} = \frac{(1+\Delta)\beta_0}{1+\Delta(2\beta_0-1)}$ .

Therefore, for there to be possibly second-period effort following a first-period success, the relevant condition is that

$$\frac{1-\Delta'}{2} \leq \beta_0 < \frac{(1+\Delta)\beta_0}{1+\Delta(2\beta_0-1)} < \frac{1+\Delta'}{2}. \quad (11)$$

If  $\Delta' \geq \frac{1-\sqrt{1-\Delta^2}}{\Delta}$ , this condition can be simplified to  $\beta_0 \in [\frac{1-\Delta'}{2}, \frac{(1-\Delta)(1+\Delta')}{2(1-\Delta\Delta')}]$ , while if  $\Delta' < \frac{1-\sqrt{1-\Delta^2}}{\Delta}$ , the set of  $\beta_0$  for which this is possible does not exist. If this condition is not satisfied, then the politician cannot be indifferent between both messages.

Similarly, after a first-period failure and message  $m \in \{m^P, m^B\}$ , the bureaucrat's reputation is determined as follows:

- $\beta_{f,m^P} = \beta_0$ ,
- $\beta_{f,m^B} = \frac{(1-\Delta)\beta_0}{1-\Delta(2\beta_0-1)}$ .

For there to be possibly second-period effort following a first-period failure, the relevant

condition is that

$$\frac{1 - \Delta'}{2} \leq \frac{(1 - \Delta)\beta_0}{1 - \Delta(2\beta_0 - 1)} < \beta_0 < \frac{1 + \Delta'}{2}. \quad (12)$$

If  $\Delta' \geq \frac{1 - \sqrt{1 - \Delta^2}}{\Delta}$ , this condition can be simplified to  $\beta_0 \in \left[ \frac{(1 + \Delta)(1 - \Delta')}{2(1 - \Delta\Delta')}, \frac{1 + \Delta'}{2} \right)$ , while if  $\Delta' < \frac{1 - \sqrt{1 - \Delta^2}}{\Delta}$ , the set of  $\beta_0$  for which this is possible does not exist. If this condition is not satisfied, then the bureaucrat shirks following a first-period failure.  $\square$

## A.6 Proof of Corollary 1 (Conditional Transparency)

**Corollary 1.** *(Conditional transparency) There exists a conditionally transparent equilibrium with first-period effort if and only if*

1. If  $\beta_0 \in \left[ \frac{1 - \Delta}{2}, \frac{1 - \Delta(1 - \gamma_0)}{2 - \Delta(1 - 2\gamma_0)} \right)$  and  $\gamma_0 \in (0, \frac{1 - \Delta}{2}) \cup [\frac{1}{2}, 1)$ , and the politician is truthful given a success and silent given a failure.
2. If  $\beta_0 \in \left[ \frac{1 - \Delta(1 - \gamma_0)}{2 - \Delta(1 - 2\gamma_0)}, \frac{1 + \Delta(1 - \gamma_0)}{2 + \Delta(1 - 2\gamma_0)} \right)$ , and the politician is silent given a success and failure.
3. If  $\beta_0 \in \left[ \frac{1 + \Delta(1 - \gamma_0)}{2 + \Delta(1 - 2\gamma_0)}, \frac{1 + \Delta}{2} \right)$  and  $\gamma_0 \in (0, \frac{1}{2}) \cup [\frac{1 + \Delta}{2}, 1)$ , and the politician is truthful given a failure and silent given a success.

*Proof.* We assume that the politician is only truthful following a success if  $\beta_s < \frac{1}{2} \leq \beta_{s,m^B}$  and is only truthful following a failure if  $\beta_{f,m^B} < \frac{1}{2} \leq \beta_f$ .

*Claim 1.* Consider  $\beta_0 \in \left[ \frac{1 - \Delta}{2}, \frac{1 - \Delta(1 - \gamma_0)}{2 - \Delta(1 - 2\gamma_0)} \right)$ . In this case, transparency after failure does not help to increase effort incentives. On the other hand, transparency after success does help. If the politician is transparent after a success, then  $\beta_{s,m^B} \geq \frac{1}{2}$ , and the bureaucrat finds it incentive compatible to exert effort. Now consider the constraint that stems from the politician's reputation concerns. The politician's communication constraint is violated if  $\gamma_{s,m^B} < \frac{1}{2} \leq \gamma_{s,m^P}$  because then there are no incentives to send  $m^B$ . After rearranging, this condition simplifies to  $\gamma_0 \in (\frac{1 - \Delta}{2}, \frac{1}{2})$ , which proves the claim.

*Claim 2.* If  $\beta_0 \in \left[ \frac{1 - \Delta(1 - \gamma_0)}{2 - \Delta(1 - 2\gamma_0)}, \frac{1 + \Delta(1 - \gamma_0)}{2 + \Delta(1 - 2\gamma_0)} \right)$  and the politician remains silent, then it immediately follows from Proposition 1 that it is possible to construct an equilibrium in which the bureaucrat exerts effort in the first period. Thus, there is no gain from being transparent after either success or failure or both.

*Claim 3.* Consider  $\beta_0 \in \left[ \frac{1 + \Delta(1 - \gamma_0)}{2 + \Delta(1 - 2\gamma_0)}, \frac{1 + \Delta}{2} \right)$ . In this case, transparency after success does not help to increase effort incentives. On the other hand, transparency after failure does help. If the politician is transparent after failure, then  $\beta_{f,m^B} < \frac{1}{2}$ , and the bureaucrat finds

it incentive compatible to exert effort. Now consider the constraint that stems from the politician's reputation concerns. The politician's communication constraint is violated if  $\gamma_{s,m^P} < \frac{1}{2} \leq \gamma_{s,m^B}$  because then there are no incentives to send  $m^P$ . After rearranging, this condition simplifies to  $\gamma_0 \in [\frac{1}{2}, \frac{1+\Delta}{2})$ , which proves the claim.  $\square$

## A.7 Proof of Proposition 3 (Politician-optimal Equilibria I)

*Step 1.* We first study the case where the bureaucrat's initial reputation satisfies  $\beta_0 \notin [\frac{1-\Delta}{2}, \frac{1+\Delta}{2})$ . In this case, even with full transparency, the bureaucrat cannot be incentivized to exert effort. Thus, also with less informative messages, the politician cannot incentivize the bureaucrat. As a result, in every equilibrium, the bureaucrat shirks in the first period. Given that the bureaucrat shirks in the first period, there is no learning about his talent  $t_B$ . Thus,  $\beta_1 = \beta_0$ . Then, invoking Lemma 1 and noting that  $\beta_0 \notin [\frac{1-\Delta}{2}, \frac{1+\Delta}{2}) \Rightarrow \beta_0 \notin [\frac{1-\Delta'}{2}, \frac{1+\Delta'}{2})$ , the bureaucrat also shirks in the second period. As a result, in every equilibrium  $e_1^B = 0$  and  $e_2^B(\cdot) = 0$  after every history.

Now consider the politician's communication strategy. After a success, the public knows that the politician was responsible. After a failure, the public is uncertain, and a politician's information provision can potentially have an impact on payoffs. However, because the politician must be indifferent between the two messages, it cannot be the case in equilibrium that one message generates  $\gamma_{f,m^B} < \frac{1}{2}$  and the other message  $\gamma_{f,m^P} > \frac{1}{2}$ . Hence, the politician cannot have an effect on payoffs via her messages.

*Step 2.* We now consider intermediate reputations for which the bureaucrat in the first period is already willing to exert effort absent communication by the politician, i.e.,  $\beta_0 \in [\frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}, \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)})$  following Proposition 1. Suppose first that the politician remains silent and the bureaucrat exerts effort. Then, in a politician-optimal equilibrium, we select strategies such that second-period effort levels following a first-period failure and success are the highest possible.

The politician cannot do better by communicating about responsibility in this case:

- (i) The politician cannot increase second-period effort because the politician can only spread out posteriors more after a success or failure. Also, the politician cannot increase first-period effort because that is already at its maximum.
- (ii) Also, the politician cannot increase her reputation in expectation. Because of the politician's indifference conditions, it is required that after the message, the politician's reputation is both higher than the reputation threshold following  $m^B$  and  $m^P$ , but this cannot be the case if the politician's reputation before the message is below the

threshold, given Bayesian plausibility. A similar argument can be found in Lipnowski and Ravid (2020), where the value of cheap talk with state-independent preferences is determined by quasi-concave envelop of the sender's value function given beliefs.

## A.8 Proof of Proposition 4 and 5 (Politician-optimal Equilibria II)

We now study cases where the bureaucrat is guaranteed to shirk if the politician is silent but the politician can potentially increase the bureaucrat's effort by providing information about responsibility. We divide this into two cases.

1.  $\beta_0 \in \left[ \frac{1-\Delta}{2}, \frac{1-(1-\gamma_0)\Delta}{2+(2\gamma_0-1)\Delta} \right)$  potentially with effort or shirking in period 2 after a success.
2.  $\beta_0 \in \left( \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)}, \frac{1+\Delta}{2} \right]$  potentially with effort or shirking in period 2 after a failure.

*Case 1* Assume that  $\beta_0 \in \left[ \frac{1-\Delta}{2}, \frac{1-(1-\gamma_0)\Delta}{2+(2\gamma_0-1)\Delta} \right)$  and ignore dynamic effort constraints. To ensure the bureaucrat exerts effort, we require that  $\beta_{s,m^B} \geq \frac{1}{2}$  and  $\pi(m^B|s, B) \geq \frac{c}{g_s(\beta_0)}$ . First, with full information revelation after a success, the bureaucrat would exert effort. The politician faces no reputation constraints in full information revelation after a success if  $\gamma_0 \leq \frac{1-\Delta}{2}$  or  $\gamma_0 \geq \frac{1}{2}$  (which are a subset of  $\mathcal{C}^+$ ). The reason is that if the public knows the bureaucrat was responsible, the politician keeps reputation  $\gamma_0$ , while if the public knows the politician was responsible, the politician obtains reputation  $\gamma_{s,m^P} = \frac{(1+\Delta)\gamma_0}{1+(2\gamma_0-1)\Delta}$ . Under the above conditions, the politician faces no constraints in sending messages. That is, if  $\gamma_0 \leq \frac{1-\Delta}{2}$ , then  $\frac{(1+\Delta)\gamma_0}{1+(2\gamma_0-1)\Delta} \leq \frac{1}{2}$ , which means that the politician's messages give the politician an equal payoff associated with being below the reputation threshold. Similarly, if  $\gamma_0 \geq \frac{1}{2}$ , then the politician's messages give the politician an equal payoff associated being above the reputation threshold. However, if  $\gamma_0 \in (\frac{1-\Delta}{2}, \frac{1}{2})$ , then full information revelation is not possible as one politician reputation will be lower than the threshold, and one higher. The analysis differs if  $\gamma_s < \frac{1}{2}$  and if  $\gamma_s > \frac{1}{2}$ .

*Case 1.1*  $\gamma_s < \frac{1}{2}$ . This case occurs if

$$\gamma_s := \frac{(\frac{1+\Delta}{2} + g_s(\beta_0))\gamma_0}{h_s(\gamma_0) + g_s(\beta_0)} < \frac{1}{2} \iff \gamma_0 < \frac{1 - (1 - \beta_0)\Delta}{2 + (2\beta_0 - 1)\Delta}. \quad (13)$$

The message  $m^P$  will increase the politician's reputation, which can at most be  $\gamma_{s,m^P} \leq \frac{1}{2}$  to ensure politician incentive compatibility in terms of his reputation. In addition,  $\pi(m^B|s, B)$  must at least be  $\frac{c}{g_s(\beta)}$  to ensure bureaucrat incentive compatibility, and  $\beta_{s,m^B} \geq \frac{1}{2}$  to give the

bureaucrat a good reputation following  $(s, m^B)$ . In sum, there are three conditions:

$$\frac{(\frac{1+\Delta}{2}\pi(m^P|s, P) + g_s(\beta_0)\pi(m^P|s, B))\gamma_0}{h_s(\gamma_0)\pi(m^P|s, P) + g_s(\beta_0)\pi(m^P|s, B)} \leq \frac{1}{2} \quad (14)$$

$$\frac{(\frac{1+\Delta}{2}\pi(m^B|s, B) + h_s(\gamma_0)\pi(m^B|s, P))\beta_0}{g_s(\beta_0)\pi(m^B|s, B) + h_s(\gamma_0)\pi(m^B|s, P)} \geq \frac{1}{2} \quad (15)$$

$$\pi(m^B|s, B) \geq \frac{c}{g_s(\beta_0)}. \quad (16)$$

There are two ranges of  $(\gamma_0, \beta_0)$  that we consider which span case 1.1 completely (which is a subset of  $\mathcal{E}_s^?$ ):

1. *Range 1.*  $\gamma_0 \in \left(\frac{1-\Delta}{2}, \frac{2-\Delta-\Delta^2}{2(2-\Delta^2)}\right]$  and  $\beta_0 \in \left(\frac{1-\Delta}{2}, \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}\right)$ .
2. *Range 2.*  $\gamma_0 \in \left(\frac{2-\Delta-\Delta^2}{2(2-\Delta^2)}, \frac{\sqrt{1-\Delta^2}-(1-\Delta)}{2\Delta}\right)$  and  $\beta_0 \in \left(\frac{\Delta(1-\gamma_0)-(1-2\gamma_0)}{\Delta(1-2\gamma_0)}, \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}\right)$ .

In both cases, the equations can be simultaneously met if and only if

$$c \leq \frac{(1-2\beta_0)g_s(\beta_0)h_s(\gamma_0)(\gamma_0(2-\Delta) - (1-\Delta) - \beta_0\Delta(1-2\gamma_0))}{\Delta(\gamma_0 - \beta_0(1-2\gamma_0))(2\beta_0h_s(\gamma_0) - (1-\gamma_0)(1-\Delta))}. \quad (17)$$

Finally, we add a condition to guarantee the possibility of effort after a success after both messages  $m^P$  and  $m^B$ . This requires an additional constraint, namely

$$\frac{(\frac{1+\Delta}{2}\pi(m^P|s, B) + h_s(\gamma_0)\pi(m^P|s, P))\beta_0}{g_s(\beta_0)\pi(m^P|s, B) + h_s(\gamma_0)\pi(m^P|s, P)} \geq \frac{1-\Delta'}{2} \quad (18)$$

This implies that an additional condition needs to be met in terms of  $\Delta'$ , which is that

$$\Delta' \geq \frac{(\gamma_0 + \beta_0(2\gamma_0 - 1))(1 - \beta_0 - \Delta - \gamma_0 + \Delta\gamma_0 - \beta_0\Delta(2\gamma_0 - 1))}{(1 + (2\beta_0 - 1)\Delta)(1 - \gamma_0)\gamma_0}. \quad (19)$$

*Case 1.2*  $\gamma_s > \frac{1}{2}$ . This case occurs if

$$\gamma_s := \frac{(\frac{1+\Delta}{2} + g_s(\beta_0))\gamma_0}{h_s(\gamma_0) + g_s(\beta_0)} > \frac{1}{2} \iff \gamma_0 > \frac{1 - (1 - \beta_0)\Delta}{2 - (1 - 2\beta_0)\Delta}. \quad (20)$$

In this case,  $m^B$  would decrease the politician's reputation and potentially bring it below the threshold of  $\frac{1}{2}$ . This generates a constraint, as the politician must find it incentive compatible

to send both messages. There are now the following three conditions:

$$\frac{(p_H\pi(m^B|s, P) + g_s(\beta_0)\pi(m^B|s, B))\gamma_0}{h_s(\gamma_0)\pi(m^B|s, P) + g_s(\beta_0)\pi(m^B|s, B)} \geq \frac{1}{2}, \quad (21)$$

$$\frac{(p_H\pi(m^B|s, B) + h_s(\gamma_0)\pi(m^B|s, P))\beta_0}{g_s(\beta_0)\pi(m^B|s, B) + h_s(\gamma_0)\pi(m^B|s, P)} \geq \frac{1}{2}, \quad (22)$$

$$\pi(m^B|s, B) \geq \frac{c}{g_s(\beta_0)}. \quad (23)$$

These equations can be met if  $\gamma_0 \in \left(\frac{\sqrt{1-\Delta^2}-(1-\Delta)}{2\Delta}, \frac{1}{2}\right)$  and  $\beta_0 \in \left[\frac{(1-\Delta)(1-\gamma_0)}{1+\Delta(2\gamma_0-1)}, \frac{1-\Delta(1-\gamma_0)}{2+\Delta(2\gamma_0-1)}\right]$  (which is  $\mathcal{C}_s^+$ ), in which case there is effort.

Otherwise, if (i)  $\gamma_0 \in \left[\frac{2-\Delta(1+\Delta)}{2(2-\Delta^2)}, \frac{\sqrt{1-\Delta^2}-(1-\Delta)}{2\Delta}\right]$  or (ii)  $\gamma_0 \in \left(\frac{\sqrt{1-\Delta^2}-(1-\Delta)}{2\Delta}, \frac{1}{2}\right)$  and  $\beta_0 \in \left(\frac{1-\Delta}{2}, \frac{(1-\Delta)(1-\gamma_0)}{1+\Delta(2\gamma_0-1)}\right)$  (where the union of (i) and (ii) is  $\mathcal{D}_s^-$ ), there is no effort.

In case  $\mathcal{C}_s^+$ , for there to be effort in the second period too, an additional constraint must be met in equilibrium:

$$\frac{(p_H\pi(m^P|s, B) + h_s(\gamma_0)\pi(m^P|s, P))\beta_0}{g_s(\beta_0)\pi(m^P|s, B) + h_s(\gamma_0)\pi(m^P|s, P)} \geq \frac{1-\Delta'}{2}, \quad (24)$$

which implies that there exists a threshold  $\bar{\Delta}$  for  $\Delta'$  here as well, such that  $\Delta'$  must be at least as large as the threshold.

*Case 2.*  $\beta_0 \in \left(\frac{1+\Delta(1-\gamma_0)}{2-\Delta(2\gamma_0-1)}, \frac{1+\Delta}{2}\right]$ . In this case, absent politician communication, failure does not lead to a bureaucrat reputation below the threshold. Hence, the politician must send message  $m^B$  sufficiently often following a failure to provide proper incentives to the bureaucrat. Message  $m^B$  increases the politician's reputation following a failure, and as in case 1.1, it must be the case that  $m^B$  and  $m^P$  generate politician reputations such that they either both are above or below the threshold. Now, if  $\gamma_0 \leq \frac{1}{2}$ , then a failure leads to politician reputation  $\gamma_{f,m^B} < \frac{1}{2}$ , and at most,  $m^B$  will push the politician's reputation to  $\gamma_0 \leq \frac{1}{2}$ . As a result, there exists an equilibrium with effort where the politician fully reveals who was responsible for the failure. Likewise, if  $\gamma_0 \geq \frac{1+\Delta}{2}$ , then a fully revealing message will generate reputations  $\frac{1}{2} \leq \gamma_{f,m^P} < \gamma_{f,m^B}$ , which in turn always enables the politician to provide incentives to the bureaucrat. Hence, we focus on the case where  $\gamma_0 \in \left(\frac{1}{2}, \frac{1+\Delta}{2}\right)$ , where the remaining case of  $\gamma_0 \notin \left(\frac{1}{2}, \frac{1+\Delta}{2}\right)$  is a subset of  $\mathcal{C}^+$ . The analysis depends on whether  $\gamma_f < \frac{1}{2}$  or  $\gamma_f > \frac{1}{2}$ .

*Case 2.1*  $\gamma_f < \frac{1}{2}$ . The fact that  $\gamma_f < \frac{1}{2}$  implies that

$$\frac{((1 - p_H) + (1 - g_s(\beta_0)))\gamma_0}{1 - h_s(\gamma_0) + 1 - g_s(\beta_0)} < \frac{1}{2} \iff \gamma_0 < \frac{1 + \Delta(1 - \beta_0)}{2 - \Delta(2\beta_0 - 1)}. \quad (25)$$

In this case, there are three conditions:

$$\frac{((1 - p_H)\pi(m^B|f, P) + (1 - g_s(\beta_0))\pi(m^B|f, B))\gamma_0}{(1 - h_s(\gamma_0))\pi(m^B|f, P) + (1 - g_s(\beta_0))\pi(m^B|f, B)} \leq \frac{1}{2}, \quad (26)$$

$$\frac{((1 - p_H)\pi(m^B|f, B) + (1 - h_s(\gamma_0))\pi(m^B|f, P))\beta_0}{(1 - g_s(\beta_0))\pi(m^B|f, B) + (1 - h_s(\gamma_0))\pi(m^B|f, P)} \leq \frac{1}{2}, \quad (27)$$

$$\pi(m^B|f, B) \geq \frac{c}{g_s(\beta_0)}. \quad (28)$$

These equations can be solved if  $\gamma_0 \in \left(\frac{1}{2}, \frac{1+\Delta-\sqrt{1-\Delta^2}}{2\Delta}\right)$  and  $\beta_0 \in \left(\frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)}, \frac{(1+\Delta)(1-\gamma_0)}{1+\Delta(2\gamma_0-1)}\right]$ , in which case there is effort, which is  $\mathcal{C}_f^+$ . For all other parameters spanning case 2.1 (which is  $\mathcal{D}_f^-$ ), there is no effort.

In the sub-set of case 2.1 in which first-period effort is possible, which is part of  $\mathcal{C}_f^+$ , the following condition must be met to also have second-period effort:

$$\frac{((1 - p_H)\pi(m^P|f, B) + (1 - h_s(\gamma_0))\pi(m^P|f, P))\beta_0}{(1 - g_s(\beta_0))\pi(m^P|f, B) + (1 - h_s(\gamma_0))\pi(m^P|f, P)} \leq \frac{1 + \Delta'}{2}. \quad (29)$$

This implies that there is a threshold for  $\Delta'$  denoted  $\bar{\Delta}$ , so that there only is second-period effort possible if  $\Delta'$  exceeds the threshold.

*Case 2.2.*  $\gamma_f > \frac{1}{2}$ . In this case, there are the following three conditions:

$$\frac{((1 - p_H)\pi(m^P|f, P) + (1 - g_s(\beta_0))\pi(m^P|f, B))\gamma_0}{(1 - h_s(\gamma_0))\pi(m^P|f, P) + (1 - g_s(\beta_0))\pi(m^P|f, B)} \geq \frac{1}{2}, \quad (30)$$

$$\frac{((1 - p_H)\pi(m^B|f, B) + (1 - h_s(\gamma_0))\pi(m^B|f, P))\beta_0}{(1 - g_s(\beta_0))\pi(m^B|f, B) + (1 - h_s(\gamma_0))\pi(m^B|f, P)} \leq \frac{1}{2}, \quad (31)$$

$$\pi(m^B|f, B) \geq \frac{c}{g_s(\beta_0)}. \quad (32)$$

We consider two ranges of  $(\gamma_0, \beta_0)$  which span case 2.2 completely (which is  $\mathcal{E}_f^?$ ):

1. *Range 1.*  $\gamma_0 \in \left(\frac{1+\Delta-\sqrt{1-\Delta^2}}{2\Delta}, \frac{2+\Delta(1-\Delta)}{4-2\Delta^2}\right]$  and  $\beta_0 \in \left(\frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)}, \frac{1+\Delta-\gamma_0(2+\Delta)}{\Delta(1-2\gamma_0)}\right)$ .
2. *Range 2.*  $\gamma_0 \in \left(\frac{2+\Delta(1-\Delta)}{4-2\Delta^2}, \frac{1+\Delta}{2}\right]$  and  $\beta_0 \in \left(\frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)}, \frac{1+\Delta}{2}\right)$ .



In both, the equations can be met if and only if

$$c \leq \frac{(2\beta_0 - 1)p_L(-1 + h_s(\gamma_0))(2(1 - p_L) - \beta_0\Delta - \gamma_0(4 - p_H - 2\beta_0p_H - 3p_L + 2\beta_0p_L))}{2(\beta_0(2\gamma_0 - 1) - \gamma_0)\Delta((1 - \gamma_0)(1 - p_L) - \beta_0(1 - \gamma_0\Delta - p_L))}. \quad (33)$$

To ensure that the bureaucrat can also exert effort in the second period, we require that the following conditional is also met

$$\frac{((1 - p_H)\pi(m^P|f, B) + (1 - h_s(\gamma_0))\pi(m^P|f, P))\beta_0}{(1 - g_s(\beta_0))\pi(m^P|f, B) + (1 - h_s(\gamma_0))\pi(m^P|f, P)} \leq \frac{1 + \Delta'}{2}, \quad (34)$$

so that the bureaucrat's reputation doesn't increase too much if the politician does not blame the bureaucrat. This implies the following condition for  $\Delta'$ :

$$\Delta' \geq \frac{(\gamma_0 - \beta_0(2\gamma_0 - 1))((1 + \Delta)(1 - \gamma_0) + \beta_0(1 - \Delta(-1 + 2\gamma_0)))}{(1 + (1 - 2\beta_0)\Delta)(1 - \gamma_0)\gamma_0}. \quad (35)$$

## B Robustness Extensions and Discussion

### B.1 Smooth Politician Reputation Payoffs

In the main model, the politician's reputation concerns take a threshold form. In other circumstances, the politician's reputation payoff  $V_P(\gamma)$  may be, for example, strictly increasing. In this case, the possibility of influential cheap talk disappears. The reason is that the politician is required to be indifferent between two different messages. Hence, if one message induces a higher politician reputation than the other, then both messages cannot be sent with positive probability on the equilibrium path. This means that only in region  $\mathcal{B}^+$  there is effort, while in the remaining regions for  $(\gamma_0, \beta_0)$ , the bureaucrat shirks.

In an alternative version of the model, the bureaucrat may make a continuous effort choice. In that case, we could recover equilibria with influential cheap talk (i.e., blaming and crediting) if one message induces a higher politician reputation than the other, but a lower second-period effort level. Then the politician is again indifferent between the two messages that she is supposed to send with positive probability.

### B.2 Linear Bureaucrat Reputation Payoffs

Suppose the reputation payoff of the bureaucrat is simply equal to the public's posterior about his type. That is, the bureaucrat's utility function is as follows:

$$u_B(e_1^B, e_2^B, \beta_1, \beta_2) = \beta_1 - ce_1^B + \delta_B(\beta_2 - ce_2^B). \quad (36)$$

We again assume that  $\delta_B = 0$ . We proceed with the following steps. Step 1 is to analyze the bureaucrat's effort incentives to exert effort with politician silence. Step 2 is to analyze the bureaucrat's incentives when the politician perfectly reveals who is responsible.

*Step 1.* Suppose the politician remains silent. Consider a strategy profile in which the bureaucrat exerts effort in the first period. Then the bureaucrat's incentive compatibility condition is satisfied if

$$g_s(\beta_0)\beta_s + (1 - g_s(\beta_0))\beta_f - c \geq \beta_f, \quad (37)$$

where the LHS is the expected payoff of effort and the RHS is the expected payoff of shirking. After some algebra, we find that

$$\beta_s = \frac{1 + \Delta\gamma_0}{1 + \Delta(\beta_0 + \gamma_0 - 1)}\beta_0, \quad (38)$$

$$\beta_f = \frac{1 - \Delta\gamma_0}{1 + \Delta(1 - \beta_0 - \gamma_0)}\beta_0. \quad (39)$$

There are thresholds  $\tilde{\beta}, \tilde{\beta}'$  such that the bureaucrat exerts effort as long as  $\beta_0 \in [\tilde{\beta}, \tilde{\beta}']$ .

*Step 2.* Consider full transparency. In this case, the incentives to exert effort are larger, as in the main model. That is, there is a wider range of  $\beta_0$  for which the bureaucrat exerts effort. But if  $\beta_0$  is too extreme, then the public updates too little, restricting the influence of messages on incentives. Updating about the bureaucrat's talent is strongest when  $\beta_0$  is closest to  $\frac{1}{2}$ .

The effort condition is similar to before, but now the relevant beliefs are equal to

$$\beta_{s,m^B} = \frac{1 + \Delta}{1 + \Delta(2\beta_0 - 1)}\beta_0 \quad (40)$$

$$\beta_{f,m^B} = \frac{1 - \Delta}{1 + \Delta(1 - 2\beta_0)}\beta_0. \quad (41)$$

After some algebra, we find that as long as the cost is sufficiently low, with  $c \leq \frac{1 - \sqrt{1 - \Delta^2}}{\Delta}$ , there exists a range of  $\beta_0$  for which the bureaucrat is willing to exert effort under full transparency. Ignoring the politician's incentive compatibility constraint in communicating, this exists if and only if

$$\beta_0 \in \left[ \frac{1 + c}{2} - \frac{1}{2} \left( \frac{\Delta(1 + c^2) - 2c}{\Delta} \right)^{\frac{1}{2}}, \frac{1 + c}{2} + \frac{1}{2} \left( \frac{\Delta(1 + c^2) - 2c}{\Delta} \right)^{\frac{1}{2}} \right]. \quad (42)$$

This is a superset of  $[\tilde{\beta}, \tilde{\beta}']$ . The argument follows simply from inspecting the incentive compatibility condition.

### B.3 Different Bureaucrat Discount Rates

**Lemma 4.** *Assume a silent politician and  $\delta_B \in [0, 1]$ . There exists an equilibrium in which the bureaucrat exerts effort in the first period if (i) static incentives are sufficient  $\beta_0 \in \left[ \frac{1-\Delta(1-\gamma_0)}{2-\Delta(1-2\gamma_0)}, \frac{1+\Delta(1-\gamma_0)}{2+\Delta(1-2\gamma_0)} \right]$  or if (ii) dynamic incentives are sufficient with the condition that  $g_s(\beta_0)\delta_B (V_B(s, m^\phi) - V_B(f, m^\phi)) \geq c$ .*

*Proof.* Part (i) follows from earlier Proposition 1. Part (ii) also follows clearly where the choice between exerting effort and shirking is determined as follows:

$$g_s(\beta_0) \left( \mathbb{I}\{\beta_s > \frac{1}{2}\} + V_B(s, m^\phi) \right) + (1 - g_s(\beta_0)) \left( \mathbb{I}\{\beta_f > \frac{1}{2}\} + V_B(f, m^\phi) \right) - c \geq V_B(f, m^\phi), \quad (43)$$

where  $V_B(s, m^\phi)$  and  $V_B(f, m^\phi)$  are the bureaucrat's continuation values after (i) silence and success, and (ii) silence and failure respectively. Then even if static incentives are insufficient, after some rearranging, dynamic incentives are sufficient as stated.  $\square$

Therefore, either in the first period the bureaucrat's reputation falls in an intermediate range to ensure that a first-period success leads to a good reputation and a first-period failure leads to a bad one. Alternatively, the difference in continuation values for the bureaucrat is sufficiently large so that in the second period the bureaucrat would much rather have a relatively high  $\beta_1$  than a low one. An immediate corollary is that the bureaucrat's willingness to exert effort increases in his patience  $\delta_B$  if there is a difference between  $V_B(s)$  and  $V_B(f)$ . To illustrate these possibilities, consider the following numerical example.

**Example 2.** *Let  $\Delta = \frac{1}{2}$ ,  $\Delta' = \frac{1}{4}$ ,  $\gamma_0 = \frac{1}{2}$ ,  $c = \frac{1}{12}$ . Consider a strategy profile where the bureaucrat is expected to exert effort in the first period, and the politician remains silent. Posterior beliefs following a success and failure are  $\beta_s = \frac{5\beta_0}{3+2\beta_0}$  and  $\beta_f = \frac{3\beta_0}{5-2\beta_0}$ . If  $\beta_s \geq \frac{1}{2}$  and  $\beta_f \leq \frac{1}{2}$ , i.e.,  $\beta_0 \in [\frac{3}{8}, \frac{5}{8}]$ , then the bureaucrat has enough static incentives to exert effort. Also, in the second period, the bureaucrat exerts effort if  $\beta_1 \in [\frac{3}{8}, \frac{5}{8}]$ .*

*If either  $\beta_s < \frac{1}{2}$  or  $\beta_f > \frac{1}{2}$ , there are no static incentives to exert effort. Suppose that  $\beta_0 \in [\frac{9}{34}, \frac{3}{8})$ . Then, following Lemma 2,  $V_B(f) = 0$  and  $V_B(s) = g_s(\hat{\beta}_1) - c$ . Given that both politician and bureaucrat know that the bureaucrat was responsible for the success, we have  $\hat{\beta}_s = \frac{3\beta_0}{1+2\beta_0}$ . The continuation value following the bureaucrat's responsibility for success simplifies to  $V_B(s) = \frac{7+32\beta_0}{24(1+2\beta_0)}$ , while  $V_B(f) = 0$ . Invoking Lemma 2, and assuming now*

$\delta_B \in (0, 1)$ , implies that the bureaucrat is willing to exert effort if

$$g_s(\beta_0) \times \delta_B(V_B(s)) - c \geq 0. \quad (44)$$

This equation is satisfied if either

(i)  $\delta_B \in (\frac{8}{19}, \frac{136}{263})$  and  $\beta_0 \in [\frac{8-7\delta_B}{32\delta_B}, \frac{3}{8})$ , or

(ii)  $\delta_B \in (\frac{136}{263}, 1)$ ,  $\beta_0 \in [\frac{9}{34}, \frac{3}{8})$ .

That is, if the bureaucrat is sufficiently patient, then static incentives may not be necessary to ensure bureaucratic effort, as long as  $\beta_0$  is not too low.  $\square$