Accountability and Motivation: A Model of Delegated Reform Decisions with Career Concerns

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Abstract

Successful reform policy-making commonly involves correct policy choices followed by high-quality implementation. When political decision makers have to do both, office-holding motives often prevent them from acting in a way that best serves the public interest. I build a formal model to examine how a decision maker with conflicting policy and office-holding motives makes reform policies in several salient information environments. My model highlights the difficulty of fine-tuning the decision maker’s motives in a context where pandering is inevitable. I show that backing away from full transparency often helps – not by eliminating pandering, but by lending credibility to a retention rule that varies with reform outcomes – to provide a high-powered incentive for implementation. Excessively stringent or lenient transparency requirements direct the decision maker’s attention to acting congruently without taking the policy consequences seriously.

Keywords: Accountability; Motivation; Pandering; Transparency

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1 Introduction

There is a widespread perception that political decision makers are “timid” during policy-making; they tend to shy away from the policies that are good for the society but bad for their future careers (e.g. Canes-Wrone et al. (2001); Maskin and Tirole (2004); Fox (2007)). The key to controlling this behavior is removing their accountability, that is, they shall not be responsible politically for unfavorable consequences that arise from the ex ante appropriate policy decisions\(^1\). Yet for successful policy-making, choosing well is not everything. In fact, many policies suffer from political decision makers’ lack of motivation at the implementation stage. This renders the canonical solution – simply joining or splitting decision makers’ policy and office-holding motives – insufficient to cope with complex policy-making situations.

The following example illustrates the motivation issue. Dominic Cummings, a chief figure in the Brexit campaign and a former senior advisor of Boris Johnson, used to have enormous influence on the British civil servants. To Cummings, supporting the Brexit is a matter of loyalty rather than policy-making for civil servants. When Cummings just assumed his position as Johnson’s advisor, anecdotes\(^2\) suggest that he cued the department aides to support the no-deal Brexit in return for extra money from the Treasury; to department aides, it is “do or die”. In January 2021, after stepping down from the Downing Street for months, Cummings continued his propaganda. He posted on the social media “Should I name and shame the senior officials who persistently present a disastrously incorrect picture to ministers?” and “Many will be pleased to know this is about ideologues with EU stars in their eyes, not the virus.”\(^3\)

Not all civil servants shared Cummings’s enthusiasm about Brexit. In fact, many were confused, depressed, and/or annoyed at implementing the plan. After long being trapped in the black hole of Brexit, a civil servant complained to The Guardian: “Heaven help us if no deal (Brexit) actually

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\(^1\)Maskin and Tirole (2004) suggest that technical decisions should be left to unaccountable officials; Prat (2005), Fox and Van Weelden (2012), and Ashworth (2012) suggest that backing away from transparency helps because the incumbent cannot be judged on unobserved actions.

\(^2\)“How Dominic Cummings took control in Boris Johnson’s first days as Prime Minister”. BuzzfeedNews. 27 July 2019.

\(^3\)“Dominic Cummings threatens to expose Remainer civil servants who tried to sabotage Brexit”, Express, 6 January 2021.
Jill Rutter, a former treasury mandarin, put straightforwardly: “Brexit is an article of faith, rather than a pragmatic choice.” Others in the Whitehall questioned the practicability of Cummings’s rush and radical changes prior to the Brexit. Dave Penman, the head of the FDA union, pinpointed the source of (de)motivation in reform implementation: “There’s a huge difference between bringing in new ideas or radical agendas and implementing untested ideologies which, if they go wrong, will impact upon the delivery of public services to millions of citizens.”

Indeed, Cummings shall be happy to see these unelected bureaucrats pander to support the Brexit. But even a Brexit-zealot like him faces an incentive problem: how to motivate its implementation?

This paper brings the motivation problem to a pandering context, focusing on the right kind of accountability within the delegated reform decisions. The delegates’ office and policy motives are imperfectly aligned; hence, to what extent the public might fine-tune these motives determines the quality of the reform decision-making. The only policy instrument that public can harness is the delegates’ accountability, that is, they shall be removed from office unless their reform decision-making admits certain “nice” features. Then the question becomes: what are the nice features that would align the delegates’ policy and office-holding motives? Can the delegates be credibly rewarded/punished electorally after the policy-making? And finally, what kind of accountability would best serve the policy interest of the public?

I analyze these questions with a formal model of reform decision-making. There is a careerist agent (he) carrying out the reform decisions and its implementation on behalf of a principal (she). The agent must choose between the safe status quo policy and a risky policy reform. To highlight the motivation issue in a clear fashion, I follow Hirsch (2016) and assume that good policy choice and good implementation are complementary to a successful reform. As a policy expert, the agent is assumed to be better informed than the principal about the underlying state that dictates whether the reform might be successful. However, the agent is not a perfect delegate. On the one hand, he does not necessarily share the principal’s policy preference. A congruent agent prefers a successful reform to the status quo to a failed reform just as the principal; a noncongruent

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4. “Many civil servants are depressed – including me. Brexit will do that to you.”, The Guardian, 26 November 2019.
5. “The civil service must speak truth to Boris (and his Cabinet)”.
6. “Dominic Cummings role provokes alarm inside civil service”.

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(conservative) agent prefers the status quo no matter what. On the other hand, the agent places some weight on retention; the office benefit incentivizes him to make policy to signal congruence to the principal. Taken together, career concerns might distort the agent’s reform decision-making in a way that damages the principal’s policy interest. For example, he may initiate a reform during bad times, or failing to implement a good reform with sufficient efforts.

My main analysis concerns to which extent the principal may and should hold the agent accountable. Since the agent cannot be judged on things that the principal does not observe, I assume that the principal employs information policies as devices to establish the limits of accountability. Ranging from the least to the most transparent environments, the principal may observe 1) the policy decision, 2) the policy decision and its outcome, and 3) the policy decision, implementation effort, and its outcome. Roughly, they classify the policy-making environments according to whether the agent might answer for the reform decision, its implementation, and outcomes. That said, the principal does not necessarily use all data from policy-making to evaluate the agent. I study how the principal and the agent form mutually-correct guesses on the other’s strategy, and characterize the principal-optimal information policies.

Main results. Completely eliminating pandering is difficult when the agent’s conflicting motives point to different policy decisions. I show that exercising the right kind of accountability requires the principal to observe the policy outcome; beyond that, she does not necessarily benefit from knowing more about the reform decision-making.

Knowing the policy outcome matters because it alters the burden of proof (see also Ashworth (2012)): if the public is unlikely to learn about the appropriateness of a policy, the agent proves loyalty unless he refuses to reform; with the policy outcome going public, the agent shows disloyalty unless he does the reform right. When pandering to reform is inevitable, the principal would like to commit to a retention rule that varies with reform outcomes. Such a pivotal retention rule provides the agent with a powerful incentive to implement well – he recognizes that a successful reform means a policy legacy plus an office tomorrow, while a failed reform brings nothing. Provided that the principal observes the policy decision and outcome, this retention rule is often credible, because good (bad) reform outcomes often say something good (bad) about the agent’s congruence.
Can the principal improve by gleaning information about the reform implementation before evaluating the agent? We have to caution that the principal might not utilize all data at hand for the retention decision. The key barrier is that, the accountability for the reform implementation and outcomes do not always get along. More often, the reform decision together with additional cues about its implementation enables the principal to perfectly screen the agent. For example, if holding the office or political promotion comes at price of an undesirable reform decision plus burdensome midterm reviews from above, a noncongruent agent would be reluctant to go after it at the beginning. From the principal’s perspective, as long as the agent is willing to pay for the increased cost of congruence, he does not have to answer for the policy consequences.

My paper is not the first to recognize the perverse effect of transparency; but it uncovers a novel mechanism embedded in complex policy-making problems. It is often argued that transparency could be bad for policy-making when the correct action leads to adverse inference about the decision maker’s competence or congruence; making the action unobservable may cure the issue by aligning the decision maker’s policy and office motives (e.g. Prat (2005); Fox (2007); Fox and Van Weelden (2012)). When the policy-making involves more than a policy choice, the decision maker’s motivation at the implementation stage is endogenous to how the public links his future to various potential policy consequences. This often makes it impossible to perfectly align one’s conflicting motives.

Building on these observations, I return to positive question – the principal-optimal information policies – by comparing the agent’s incentives underlying two good accountability. To fix ideas, let’s erase the selection issue and suppose that the delegate is “quite” congruent; driven by career concerns, this agent always panders to reform to avoid being mistaken as the “noncongruent” type. When does he work harder? If his future career is tied to the reform consequences, then the agent works to pursue its success; if instead his future career is tied to acting congruently, then he works to separate from the noncongruent types. Generally, these two motivations differ in magnitude. Depending on the exact parameter values, the principal may prefer either accountability.

These results have practical implications for how the public should motivate the delegated reform policy-making. Crucially, more transparency does not necessarily translate into more or less
accountability; instead, it often induces a different kind of accountability that is not necessarily better or worse. Through comparative static analysis, I discuss the level of transparency that induces right kind of accountability across different environments. I find that the principal-optimal level of transparency is not necessarily monotone with respect to the delegates’ office motive. This novel result highlights the subtle motivation effect of career concerns as opposed to creating a straightforward pandering incentive.

2 Model

Setup. Consider a model of policy-making in which an agent (he) carries out a reform decision and its implementation on behalf of a principal (she). There are two possible policies, a risky reform \( r \) and a safe status quo \( q \). By risky, I mean that the reform outcome could be a success or a failure; the status quo outcome is deterministic. The principal’s utility \( v \) from these outcomes are 1, \( d \), and 0, with \( d \in (0, 1) \). In other words, she prefers a successful reform to the status quo to a failed reform.

Following Hirsch (2016), I suppose that “choosing well” and “implementing well” are both essential elements to a successful reform. “Choosing well” means that a reform happens when the underlying state \( \omega \) calls for it. Specifically, the reform could be good \( (\omega = G) \) or bad \( (\omega = B) \) in nature, with the common prior \( P(\omega = G) = \phi \in (0, 1) \). A bad reform always fails; a good reform may succeed. To formalize “implementing well matters”, I suppose that a good reform succeeds with a probability equal to the implementation effort \( e \in [0, 1] \). The status quo policy induces a sure outcome that does not vary with the implementation effort.

While nobody observes the state \( \omega \) perfectly, the agent as a policy expert knows it more than the principal. He receives a signal \( s \in \{g, b\} \) of accuracy \( p \geq \frac{1}{2} \) about \( \omega \) i.e. \( P(s = g|\omega = G) = P(s = b|\omega = B) = p \).

The agent is an imperfect delegate. On the one hand, his policy interest may differ from the principal’s. With probability \( \pi \) he is “congruent”; that is, he shares the principal’s policy preference, evaluating a successful reform at 1, the status quo at \( d \), and the failed reform at 0. With probability \( 1 - \pi \) he is “noncongruent”; he is captured by special interest groups and averts any policy change
(see also Fox (2007)). For such a politically conservative agent, the policy utility $v_n$ is $d$ for the status quo and 0 for any reform outcome. Denote the agent’s type space $T := \{c, n\}$ where $t = c$ means congruent and $t = n$ means noncongruent.

On the other hand, unlike the principal, the agent cares about the implementation cost and the office. A reform implementation effort $e$ costs the agent $e^2/2\lambda$. Here $\lambda$ parameterizes the agent’s cost sensitivity: a larger $\lambda$ means that the agent bears a lower cost of implementation. The agent derives a utility $R > 0$ from being in office after the reform policy-making.

The principal disciplines the agent’s behavior by deciding whether to remove him from office at the end of the day. To do so, she forms the posterior belief $\mu$ that the agent is congruent with all policy-making information $I$ available; that is, $\mu := P(t = c|I)$. I suppose that the principal would draw another agent randomly from the same pool after she removes this one. Hence, she retains (removes) this agent if she updates positively (negatively) from the policy-making. Further suppose that ties are broken in the agent’s favor. Essentially, this restriction turns the principal’s strategy to preparing a tacit contract in the form of “a retention set”; that is, the agent shall be retained whenever his policy-making meets a set of implicit standards. For example, a retention set “{successful reform}” means that the agent shall be retained as long as he reforms and succeeds. This practice appears in everyday life and is quite common in the delegation literature (e.g. Armstrong and Vickers (2010)).

The principal cares about policy-making and selecting a congruent agent, but her selection motive comes secondary. From the eye of the principal, the agent in-office tomorrow is congruent with probability $Q := D\mu + (1 - D)\pi$, where $D = 1$ indicates retention and $D = 0$ indicates removal. I suppose that the principal’s payoff takes the form $v(\cdot) + MQ$ with $M > 0$, and focus on the limiting case $M \downarrow 0$. This assumption enables us to see clearly how the principal may control agent to further her policy interest; that said, my main result does not at all rest on this knife-edge assumption. In Appendix A.5 I argue that all conclusions go through as long as the principal’s policy motive dominates her selection motive.

Here is the summary of payoff. The principal’s total utility is $v(\cdot)$; a congruent agent’s total utility is $v(\cdot) - \frac{e^2}{2\lambda} + R \cdot D$; a noncongruent agent’s total utility is $u_n(x, y) = v_n(\cdot) - \frac{e^2}{2\lambda} + R \cdot D$. 


**Information environment.** Let’s for the salient reality assume that the principal always observes the agent’s policy decision. After all, it would be absurd to see the principal retreating completely from the delegated reform decision-making. Depending on whether the principal wishes to hold this agent accountable for the policy implementation and its outcome, I consider three relevant information regimes. From the least to the most transparent environments, I allow the principal to observe 1) only the policy decision, 2) the policy decision and its outcome, and 3) the policy decision, the effort, and the outcome. In the Appendix A.5, I argue that the effort is a short-hand for the agent’s moral hazard in the reform implementation. Label these environments as “nontransparent”, “opaque”, and “transparent”.

I make two remarks about the completeness of this classification. First, my setup assumes perfect invertibility from the outcome to actions, that is, the principal perfectly knows whether a reform has taken place from any one of the three potential outcomes “successful reform”, “failed reform”, and “status quo”. As a result, my setup does not permit an environment in which the principal knows the outcome but not the policy decision, thus eliminating the possibility that she may be better off committing not to observe the action (Prat, 2005). Second, there does exist an information regime in which the principal knows the policy decision and efforts. I shall come back to this regime only if, from an ad hoc standpoint, the agent cannot be accountable for the policy and its implementation in those information regimes we are about to study.

**Sequence of moves.** For each information regime, the game moves as follows: first, Nature picks the random variables $(\omega, s, t)$ according to the distribution. Second, the agent observes $s \in \{g, b\}$. Third, the agent chooses $x \in \{r, q\}$ and effort $e \in [0, 1]$. Fourth, Nature determines the outcome of the project; Fifth, the principal decides on whether to retain the agent conditional on observables. Finally, all players’ payoff realize.

**Assumptions.** Let $\mu_+ := P(\omega = G|s = g) = \frac{\phi p}{\phi p + (1 - \phi)(1 - p)}$ and $\mu_- := P(\omega = G|s = b) = \frac{\phi(1 - p)}{\phi(1 - p) + (1 - \phi)p}$ be the posterior beliefs that the reform is good by nature after one receives a
good/bad signal. I make several assumptions. First, the agent’s signal $s$ is very informative. The formal requirement is $\mu_+ > \sqrt{\frac{2d}{\lambda}} > \mu_-$. Second, the office rent is moderate; that is, $\min\{(1 + R)\mu_-, R\mu_+\} > \sqrt{\frac{2d}{\lambda}} > R\mu_-$. I also impose $\lambda(1 + R) \leq 1$ to ensure that $e \in [0, 1]$. In the appendix Lemma 4, I show that these parameter restrictions imply $R > 2d$.

**Solution concept.** The agent chooses an action $a \in \{r, q\} \times [0, 1]$ based on his type $t \in \{c, n\}$ and signal $s \in \{g, b\}$. His (mixed) strategy $\sigma(\cdot | t, s)$ specifies a probability distribution over actions $a$ for each type-signal tuple $(t, s)$. The principal decides whether to retain this agent based on her information set $I \in I$; her (mixed) strategy is $\sigma_p : I \rightarrow [0, 1]$. For each information regime, I look for the existence of Perfect Bayesian Equilibrium (PBE) in which the principal plays a pure retention strategy. The equilibrium condition dictates that no players admit any profitable deviation from the equilibrium strategy; and, players form beliefs by the Bayes’ rule whenever possible.

A preliminary observation is that the game may admit numerous equilibria supported by ad hoc off-path beliefs. To illustrate, consider the nontransparent regime in which the principal observes only the policy decision. When the office motive outweighs policy considerations, there is a pooling equilibrium in which both types of agent always choose the status quo; the principal holds the off-path belief that whoever reforms is noncongruent. This equilibrium is nonetheless unsatisfying – the congruent agent may make a public speech to convince the principal that that he is willing to reform when the signal is good. The principal might indeed buy this argument, because only a congruent agent may benefit from this kind of action.

To restrict the off-path beliefs, I apply the universal divinity refinement from Banks and Sobel (1987) to the PBEs of this game. Behind this refinement is an intuitive idea: the principal believes that an unexpected action comes from the type that is mostly likely to benefit from it. The refinement gives rises to the notion of “strong off-path beliefs” proposed by Fox and Jordan (2011),

**Lemma 1** (Strong off-path beliefs). A PBE surviving the universal divinity refinement assigns the following off-path beliefs:

1. if the status quo is off-path, then the principal believes that whoever chooses it is noncongru-
2. If the reform is off-path, then the principal believes that whoever chooses it is congruent.

Appendix A.1 contains its proof. Call any PBE surviving this refinement an “equilibrium”.

3 Comparison of information regimes

Below I present the heuristic descriptions of equilibria across different regimes. Formal statements and proofs are relegated to the appendix. Also, it is useful to establish a no-accountability benchmark. This situation is plausible, for example, if the agent is a lame duck, or if the principal completely backs away from transparency.

**Fact** (No accountability). *An unaccountable agent chooses his favorite action. That is, only a congruent agent reforms when the signal is good; the status quo prevails if the signal is bad or the agent is noncongruent.*

The main takeaway is that, under the model assumptions, only a congruent agent may sometimes want to carry out a reform solely for the sake of policy-making.

3.1 Nontransparent regime

When the principal observes nothing but the agent’s policy decision, her retention decision is determined by whether this policy signals congruence. In particular, she updates positively from a certain policy if it is more likely to be initiated by a congruent type.

I argue that initiating a reform helps one secure the office. There are two cases: either the reform is off-path, in which case the strong off-path belief assigns probability one to this event that the agent is congruent; or the reform is on path. In the latter case, only a congruent agent may attach nontrivial weights to a reform and sometimes strictly prefers implementing a reform to the status quo policy. This means that the congruent agent must reform at least weakly more often than a noncongruent type given any retention strategy. As such, initiating a reform cannot be bad news for congruence.
Provided a moderate office benefit, the only plausible equilibrium in this nontransparent regime involves both types of the agent pooling at the reform policy. To see this, I rule out the remaining possibility that the congruent agent reforms strictly more often on path. According to this strategy, the status quo policy becomes bad news for retention; a career-minded agent would rather deviate by pandering to reform despite it might go against his policy interest.

**Result 1** (Accountability for decision). *In the nontransparent regime, there exists a unique equilibrium in pure strategy. In this equilibrium, both types of agent panders to reform without sufficient implementation efforts. The principal always retains the agent on path.*

The nontransparent regime induces the accountability for decision; that is, the agent shall be retained unless he chooses the ex ante noncongruent policy (status quo). The reform implementation exhibits a lack of motivation because it is either carried out at the wrong time (bad signal) or by the wrong person (noncongruent agent). This is not surprising: by making the reform implementation and outcome unobservable, the nontransparent regime essentially reduces to the classic “wrong transparency” environment of Fox (2007). In both models, the quality of policy-making is compromised by the agent’s misaligned office and policy motives.

### 3.2 Opaque regime

Suppose in addition to the policy decision, the principal also observes its outcome. This means that she has additional data to evaluate the agent before making the retention decision. But for which policy outcome should this agent be responsible? Should he be punished electorally for not reforming, for failing to reform well, or both?

A critical observation is that, conditional on the initiation of a reform, the principal might not credibly hold an agent accountable to its potential outcomes. In a situation where the principal’s retention rule does not vary with the reform outcome, the opaque regime has no bite because only the policy decision matters. Is this uninteresting case plausible? Indeed. As a better-motivated reformer, a congruent agent in general reforms more often and implements better than a noncongruent type. From the principal’s perspective, she is sure that more reform successes come from the congruent type. But she cannot determine which type fails more often. When the
congruent agent’s extra reform attempts more than compensate for his lower failure probability, more failures are attributable to the congruent type, thus rendering a failed reform also good news about congruence.

To eliminate this possibility, I impose an informativeness condition that guarantees a reform failure to be bad news about congruence. Notate $\gamma = \frac{1-p}{p}$ and $z = \frac{1-\phi}{\phi}$:

**Definition 1** (Informativeness condition). $z - \lambda \frac{1}{1+\gamma z} \leq \gamma [\lambda (1 + R) \frac{1}{\gamma + z} - 1]$.

The informativeness condition derives from the most plausible case that a reform failure could but does not have to be good news for congruence; that is, a congruent agent always reforms, whereas a noncongruent agent reforms when the signal is good. The condition depends on the signal accuracy $p$, the prior probability of a good state $\phi$, the cost sensitivity $\lambda$ and the office benefit $R$. $p$ and $\phi$ pin down how more often a congruent type reforms relative to a noncongruent type (i.e. receiving a bad signal). $\lambda$ and $R$ describe how more motivated a congruent type is relative to a noncongruent type at the reform implementation. These parameters summarize different agents’ reform “quantity” and “quality” in relative terms that are essential for the principal’s inference.

Suppose the informativeness condition holds throughout.

**Result 2** (Accountability for outcomes). In the opaque regime, there exists a unique equilibrium in pure strategy. In this equilibrium, the congruent agent always reforms and implements with efforts internalizing the office benefit. The noncongruent agent chooses the status quo unless the signal is good, in which case he reforms with an effort completely motivated by the office benefits. The principal removes this agent unless she observes a successful reform.

The opaque regime induces the accountability for policy outcomes. In this case, choosing the congruent policy (reform) no longer secures office; doing it right would. To the principal’s delight, this accountability provides a high-powered incentive for reform implementation by linking the agent’s policy and office motives. That is, under a retention rule pivotal on reform outcomes, a reform success brings the joint benefits of policy and office vis-a-vis a reform failure. As a result, the agent would internalize the office benefit into the reform implementation efforts. Now that the agent’s policy decision has again been distorted by his career concerns, the opaque regime makes a case in which motivating in spite of pandering is possible.
The equilibrium has several interesting features. The noncongruent agent’s policy decision always varies with signals; the congruent agent reforms even if the signal is bad. Their equilibrium behaviors seem to suggest that the noncongruent agent is more responsive, whereas the congruent agent is too “timid” to hold on to his policy judgement. That said, the noncongruent agent’s policy responsiveness derives purely from his office-holding motive to gamble for resurrection. Such a motive misalignment exposes the principal to an excessively high risk of reform failure.

The accountability for outcomes echoes prior works in the pandering literature. For example, Fox and Shotts (2009) show that an agent may signal congruence/competence from his policy decision/outcomes in what they call a “delegate equilibrium” and “a trustee equilibrium” respectively. But my accountability mechanism is novel; here, both the policy decision and outcomes matter for retention because each of them enables the principal to learn something about the agent’s congruence. That is, the principal screens a noncongruent agent upon observing the status quo; conditional on a reform taking place, she is more convinced about facing a congruent agent upon a successful outcome.

### 3.3 Transparent regime

I continue to study the most transparent policy-making environment, in which the principal knows the agent’s effort in addition to his policy decision and outcome.

At face value, the principal may further her policy interest by conditioning her retention decision on all observables. For example, she may want to safeguard the reform quality by promising the agent: “you shall be removed unless you reform with a good effort and the reform succeeds.” Per Hölstrom (1979), the principal would do better if this promise is credible.

But not all information is equally relevant for retention. In fact, the principal would have cast her vote upon observing whether an agent acts congruently, regardless of whether the reform ends up successfully or not. Put differently, the accountability for implementation and outcomes do not get along. Behind this incompatibility lies a simple idea: excessive transparency constrains the principal’s capacity to “guess” the agent’s congruence from unobserved actions. In the transparent regime we shall expect either perfect or no screening, but nothing in between.
My analysis below focuses on the separating equilibria. This is done purely for technical
convenience – the welfare comparison with respect to the separating equilibria is cleaner and
entails no loss of generality. I shall return to the welfare issue shortly; for now, let’s rest assured
that agent must face the same kind of accountability in both separating and pooling equilibria.
Because the reform success is a chance event, the principal does not penalize the agent electorally
if both types act in the same way (pooling equilibria). If instead two types behave differently, the
principal identifies the congruent agent and rewards accordingly (separating equilibria). These two
classes of equilibria share a common element: the action matters for retention; the consequence
does not. I describe such a retention rule as exerting the “accountability for processes”.

Other considerations for selecting on the separating equilibria include: 1) more information
about policy-making raises the cost of pooling; thus we tend to believe that more transparency
improves sorting. 2) Separating equilibria are more robust to parameter changes. A separating
equilibrium always exists because the congruent agent is a better-motivated reformer. A pooling
equilibrium surviving the universal divinity refinement exists only if the cost of implementation is
not too low (Lemma 7).

Among the class of separating equilibria, the divinity refinement uniquely selects the least
costly one also known as the “Riley outcome” (Riley (1979)):

**Result 3** (Accountability for processes). *In the transparent regime, there exists a unique separating
equilibrium surviving the universal divinity refinement. In this equilibrium, the congruent agent
always reforms and implements with efforts just enough to separate; the noncongruent agent always
chooses the status quo. The principal retains whenever observing a reform with an implementation
effort beyond the minimal requirement.*

Contrary to our expectation, more transparency does not necessarily affect accountability in
a monotone manner; rather, it induces a different kind of accountability. An agent shall be
retained whenever he is willing to bear the increased cost of acting congruently; that is, initiate
and implement the reform with an effort exceeding the minimal requirement. He shall not be
responsible for any negative reform consequences.

The transparency regime begets two interesting effects. First, the reform decision becomes
completely partisan – the congruent agent always reforms, and the noncongruent one always stays with the status quo. This improves sorting but hurts discipline. Second, the accountability for processes also encourages the congruent agent to implement well, but his motivation comes from separating with a noncongruent type rather than pursuing a successful reform.

3.4 Comparison

Compare Results 1-3 with the no-accountability benchmark. We note a pattern that echoes previous literature: when the principal sees more, the agent is in general accountable for more aspects of the policy-making (Crémer (1995); Dewatripont et al. (1999)); this also engenders pandering incentives (Maskin and Tirole (2004); Fox (2007)). More important are the following novelties:

1. More transparency tends to improve sorting because it discourages the noncongruent agent from signaling congruence via costly means. But more transparency does not translate into a higher or lower level of accountability; rather, it holds the agent accountable for different aspects of policy-making that are not necessarily rankable.

2. The principal’s best hope is to motivate implementation in spite of the agent’s pandering incentive; she cannot employ any information regime to completely eradicate this behavior. The underlying reason is that a congruent agent faces irreconcilable conflicts between office-holding and policy motives across all information regimes: the policy motive always recommends a policy decision responsive to signals, whereas the office motive always recommends shying away from the status quo.

3. Motivating implementation by partially aligning the agent’s policy and motive office is possible. Specifically, a retention rule that is pivotal on reform outcomes provides a high-powered incentive for implementation. Such a rule is possible only within the opaque regime in which the equilibrium political selection is informative but noisy. A retention rule asking for reforming with a minimal effort requirement also motives the agent. Such a rule is made possible by the transparent regime, where a congruent agent works hard to avoid being perceived as noncongruent.
4 Mechanism Design

Building on the equilibrium analysis in previous sections, I am ready to answer the positive question for the principal: what is the right kind of accountability?

4.1 Optimal accountability

Suppose the agent behaves as what I have described in Results 1-3.

Result 4. 1) In a nontransparent regime, where the agent is accountable for his policy decision, the principal’s welfare is lowest. 2) Depending on model parameters, either the opaque or the transparent regime could prevail; that is, the right kind of accountability is either the accountability for processes or outcomes.

The core of this result concerns which kind of accountability elicits the most implementation efforts from an agent who panders to reform. The principal’s policy interest is always damaged by the nontransparent regime because a career-minded agent never inputs serious effort. In other words, the accountability for decision induces unproductive pandering.

Either one of the other two information regimes may induce the right accountability. Relative to the transparent regime, the opaque regime is not necessarily better at motivating a congruent agent; the exact comparison hinges on whether the congruent finds it harder to succeed in the reform, or to separate from a noncongruent type. At the same time, the opaque regime is not necessarily worse in terms of distorting a noncongruent agent’s policy-making – from the principal’s standpoint, she may prefer this demotivated reformer to occasionally gamble for resurrection by reforming rather than always stay with an unattractive status quo.

4.2 Comparative Statics

Suppose that, for some baseline parameters, the principal-optimal information regime inducing the right accountability is the opaque regime. I assess whether and how certain parameter changes might affect its optimality, assuming players behave according to Results 1-3. Subject to the
changes, the principal is unwilling to switch information policies if the opaque regime becomes even better at motivating an agent than the transparent regime.

**Better reform outlook**

A better reform outlook (a higher prior $\phi$ of a good reform) makes the opaque regime more appealing to the principal.

Intuitively, if an agent is ex ante more certain that the reform is good by nature, then he would exerts more efforts at the implementation stage. This change allows the opaque regime to elicit more efforts than the transparent regime. The rationale lies in the composition of the agent’s motivation: unique to the opaque regime is the part of efforts coming from the agent internalizing the office rent, which is also increasing in the stronger prior.

**Lower effort cost/better signal**

When the cost of efforts decreases, and/or the signal accuracy increases, the principal often stays with the opaque regime.

The result comes from a subtle observation about the bar of separation in the transparent regime; that is, a congruent agent does not have to implement with an unnaturally high effort to distinguish himself from a noncongruent type. By “unnaturally high”, I mean this agent exerts an effort exceeding what he would have done in the absence of career concerns. In fact, it is entirely plausible that a congruent agent’s natural implementation effort would suffice to separate. Were this true, then the transparent regime cannot even beat the no-accountability case (because it induces pandering when the state calls for the status quo), let alone the opaque regime.

The parameter changes reinforce this possibility: given a congruent agent who can act “naturally” to separate within a transparent regime, lower effort costs and/or better signals make this sort of separation even easier.
Larger office rent

Matters are entirely different if the office rent $R$ increases. A more attractive office better motivates an agent to pursue a successful reform in the opaque regime; it also incentivizes a congruent agent to work harder for separation in the transparent regime. *A priori*, it is hard to tell which effect dominates.

In the appendix, I show that from the office rent the principal benefits quadratically via the motivation effect and linearly via the separation effect; furthermore, these two benefits intersect for different values of the office rent. As a result, the principal may wish to switch her information regime more than once as the office rent increases.

## 5 Conclusion

This paper studies the motivation issue in the context of reform policy-making with career concerns. My analysis highlights two novelties. First, the principal in my setup wishes her delegate to not only choose well, but also work hard. While this feature has appeared in previous models of policy-making (e.g. Hirsch (2016)), it has not yet been integrated into the pandering literature. I argue that the motivation issue is *real* in policy-making. That is, it does not go away if the principal simply keeps or removes the delegates’ accountability; rather, it forces the principal to choose the right kind of accountability that links the delegates’ policy and office motives. I formalize this problem in a setting where the delegate faces conflicting office and policy motives, and compare several possible solutions. In general, I show that the principal must hold the delegates accountable for more than the policy decisions. The right kind of accountability – one that elicits the maximal reform implementation efforts – hinges on whether the delegate finds it harder to act congruently or to succeed in a reform.

Second, I highlight the difficult commitment problem in complex reform policy-making with career concerns. This is rarely an issue if the the careerist delegates are evaluated on the basis of a binary potential outcome; there, the good news for retention often takes a simple form, be it a “congruent/noncongruent” action or a “good/bad” outcome. In complex reform decision
environment with more than two potential outcomes, such a clear-cut standard is often lacking. An evaluator must bear in mind that the credibility of her retention rule is endogenous to what she can observe about the policy-making. A retention rule pivotal on reform outcomes provides high-powered incentives for implementation, but it requires the evaluator to refrain from knowing the reason why a reform succeeds/fails and thus back away from full transparency. The electoral mechanism through which secrecy helps is closely tied to \textit{Ashworth and Bueno de Mesquita (2014)}. 

How should we relate the theoretical results to the real world? When the public cannot commit to rewarding career-minded officials electorally, one remedy is to establish an “outcome-based” accountability. That is, the officials are granted autonomy in the decision-making processes, and evaluated on the basis of whether the decision succeeds. The necessity of granting process-autonomy dated back to no later than Sun Tzu’s \textit{Art of War} \textit{(Sun, 1988, original traditionally dated circa 500 BC)}. He wrote in the chapter of Adaptations (italics are mine):

> There are routes not to be followed, armies not to be attacked, citadels not to be besieged, territory no to be fought over, \textit{orders of civilian governments not to be obeyed}.

Cao Cao, a Chinese warlord, statesman and poet during the end of the Han dynasty, interpreted it as “when it is a matter of expediting your work, don’t be limited to the commands of the civilian leadership”\textsuperscript{7}. Such a principle guided Chinese generals for millennia. My results explain why it worked: a process-autonomy decision-making environment encourages the generals to pursue a successful battle because this is the only way to signal either competence or loyalty.

Finally, we observe that the outcome-based accountability is often a second-best solution to the motivation problem. Ideally, the public could write a constitutional provision specifying a set of retention probabilities corresponding to each hypothetical policy outcomes\textsuperscript{8}. But not all actions, particularly the political ones, are contractible. For example, it perhaps goes beyond Cummings’s capacity to enforce a list of promotions and punishments on his Whitehall fellows for every consequence of the Brexit. When motivation is necessary to guarantee the quality of

\textsuperscript{7}Ibid.

\textsuperscript{8}With this sort of commitment, the principal can improve by selecting the transparent regime and promising to retain conditional on a successful reform and the implementation efforts exceeding a level that makes the noncongruent agent with a good signal indifferent between status quo and the reform. The principal is better off because she squeezes all the “rent” from the lowest type (which is infeasible absent the commitment assumption) and elicits the efforts from a congruent agent no less than what she could do under the opaque regime.
policy-making, it is often a good idea for the public to maintain an arm’s length relationship with the officials.
A Appendix

A.1 Preliminary

Definition 2. An arbitrary event $I \in \mathcal{I}$ is neutral news about congruence if $P(t = c|I) = \pi$; it is good (bad) news if $P(t = c|I) > (<) \pi$.

I first justify the strong off-path belief.

Proof of Lemma 1. Following the notations in Fudenberg and Tirole (1991) I let $D((t, s), \mathcal{M}, x')$ ($D^0((t, s), \mathcal{M}, x')$) be the set of the principal’s mixed-strategy best response – the set of principal’s retention probability – to the agent’s action $x'$ and belief concentrated on $\mathcal{M} \subset \{c, n\} \times \{g, b\}$ that makes a type $(t, s)$ agent strictly benefits (indifferent) by taking $x'$ relative to his equilibrium action. Here $t \in T = \{c, n\}$ is the agent’s payoff type; $s \in \{g, b\}$ is the agent’s signal. The divinity condition says that fixing some off path action $x'$, if for some $s \in \{g, b\}$ and $t \in \{c, n\}$ we have $D((t, s), \mathcal{M}, x') \cup D^0((t, s), \mathcal{M}, x') \subset \bigcup_{(t', s') \neq (t, s)} D((t', s'), \mathcal{M}, x')$ then we can assign probability 0 that the deviation comes from type $(t, s)$. We iterate this process if necessary until the divine equilibrium is found.

It is useful to note that $(n, b)$ and $(n, g)$ share the same preferences. Hence from now on I use $(n, \cdot)$ to denote these two types if they shall be preserved or ruled out together. Note also that we may arrange types $(c, g), (c, b), (n, \cdot)$ in the descending order of their motivation in reform. To establish the claim, we would like to 1) strike type $(n, \cdot)$ if the principal observes $(r, e)$ for some $e \in [0, 1]$, and 2) assigns probability 1 to the type $(n, \cdot)$ if the principal observes $q$. To save notations, I simply notate $x' = r$ if reform is off path and the agent in this deviation reforms with some effort $e \geq 0$.

Let $p^{(c, s)}(\mathcal{M}, x')$ be the retention probability that a congruent agent with signal $s$ finds indifferent to his equilibrium payoff after he deviates to action $x'$; similarly we define $p^n(\mathcal{M}, x')$. Then $D((t, s), \mathcal{M}, x') = \{p : p > p^{(c, s)}(\mathcal{M}, x')\}$ and $D((n, \cdot), \mathcal{M}, x') = \{p^n((t, s), \mathcal{M}, x')\}$ where $p$ is the retention probability. To prove the claim, it suffices to verify whether $p^{(c, s)}(\mathcal{M}, q) > p^n(\mathcal{M}, q)$ for all $s$ and $p^{(c, s)}(\mathcal{M}, r) < p^n(\mathcal{M}, r)$ for all $s$. 

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Consider the case in which \( q \) is off-path. This suggests that in equilibrium, every type of the agent reforms and the principal retains on path. Let \( e^*_{(n, \cdot)} \) and \( e^*_{(c, s)} \) be the equilibrium effort level of a noncongruent and a congruent agent with a signal \( s \).

1) If efforts are observable then \( e^* := e^*_{(n, \cdot)} = e^*_{(c, g)} = e^*_{(c, b)} \). To see this, if on path there are two different actions \((r, e), (r, e')\) with \( e' > e \) such that the principal retains on both actions, then the noncongruent agent would always play one with the lower action \((r, e)\). Then the action \((r, e)\) becomes bad news about congruence and the principal should replace on path. Hence, any pooling equilibrium must take the form that both types pool with at unique action of the form \((r, e)\).

2) If efforts are not observable then \( e^*_{n} = 0 \) and \( e^*_{(c, s)} \in \arg \max \mu(s)e - \frac{e^2}{2\lambda} \) with \( \mu(s) = \mu_+ \) if \( s = g \) and \( \mu_- \) if \( s = b \). This follows from the requirement of sequential rationality in any PBE.

Now, the definition of \( p \) requires that if efforts are observable, \( p^{(c, s)}(\mathcal{M}, q) \cdot R + d = R + \mu e^* - \frac{e^2}{2\lambda} \) for all \( s \) and \( p^n(\mathcal{M}, q) \cdot R + d = R - \frac{e^2}{2\lambda} \). If efforts are unobservable then \( p^{(c, s)}(\mathcal{M}, q) \cdot R + d = R + \max_e \{\mu(s)e - \frac{e^2}{2\lambda}\} \) and \( p^n(\mathcal{M}, q) \cdot R + d = R \). One concludes that in both cases \( p^{(c, s)}(\mathcal{M}, q) > p^n(\mathcal{M}, q) \). In other words, the noncongruent has more to gain by deviating to the status quo policy than the congruent one during both good and bad times. This implies that we can strike \((c, b)\) and \((c, g)\) in sequence with the universal divinity refinement. The off-path belief about the payoff type \( t \) following \( \{x = q\} \) surviving the divinity condition is noncongruent for sure.

The same logic applies to the case in which \( r \) is off-path – the congruent agent has more to gain from a deviation. Let’s fix a pooling equilibrium at \( x = q \) and consider the deviation to \( x = r \) with any nonnegative effort \( e' \). Since for any \( e' \) the type \((n, \cdot)\) always obtains strictly less reform payoff than both congruent types \((c, g) \) \((c, b)\), whenever the deviation benefits some 9 congruent types the divinity condition strikes type \((n, \cdot)\).

Now I describe the agent’s behavior subject to different retention incentives.

**Lemma 2.** Absent retention incentives, a noncongruent agent always take the status quo policy; a congruent agent initiates the reform with effort \( \lambda\mu_+ \) after \( s = g \) and keeps the status quo after \( s = b \).

\[ ^9 \text{For a deviation with prohibitively high efforts, the divinity condition has no bite. When this is the case, we may nonetheless assign the “strong off-path belief”}\]
Proof. The noncongruent agent’s optimal behavior is obvious. Let $\mu$ be the congruent type’s posterior belief that the reform is good. Conditional on initiating a reform, his objective is
\[
\max_e \mu e - \frac{e^2}{2\lambda}
\]
The optimal effort is $\lambda\mu_+$ after $s = g$, and $\lambda\mu_-$ after $s = g$; The agent’s reform payoffs are respectively $\frac{1}{2}\mu_+^2$ and $\frac{1}{2}\mu_-^2$. By the moderate office rent assumption, he initiates reform if $s = g$ and keep the status quo if $s = b$.

Lemma 3. Suppose the principal retains if and only if observing a successful reform. Let $\mu$ be the agent’s posterior belief about the state being $\omega = G$. Then conditional on a reform, the congruent agent exerts effort $\lambda(1 + R)\mu$ while the noncongruent agent exerts effort $\lambda R\mu$.

Proof. Rewrite the agent’s objective function as

\[
\text{Congruent: } \max_e \mu e (1 + R) - \frac{e^2}{2\lambda} \\
\text{Noncongruent: } \max_e \mu e R - \frac{e^2}{2\lambda}
\]
The result follows immediately.

Lemma 4. $\min\{(1 + R)\mu_-, R\mu_+\} > \sqrt{\frac{2d}{\lambda}} > R\mu_- \text{ and } \lambda(1 + R) \leq 1 \text{ imply } R > 2d$.

Proof. Suppose the noncongruent agent secures retention conditional on a successful reform. His objective is $\max_{e \in \{0, 1\}} \mu e R - \frac{e^2}{2\lambda}$ with $\mu$ being the belief that the reform is good. This means that the noncongruent agent’s maximum payoff is $\frac{\lambda R^2\mu_+^2}{2}$. By our assumption on $R$, this value is larger than $d$ if $\mu = \mu_+$. On the other hand, $\frac{\lambda R^2\mu_-^2}{2} \leq \frac{\lambda R^2}{2} < \frac{R}{2}$ since $\lambda R < \lambda(1 + R) \leq 1$. This means that $R > 2d$.

A.2 Equilibrium characterization

The proof of Fact follows directly from Lemma 2. Let us formalize and prove Results 1-3.
Nontransparent regime

**Proposition 1** (Restating Result 1). Under the nontransparent regime, there exists a unique equilibrium in pure strategy. In this equilibrium, the congruent agent always chooses \( r \); he implements with effort \( \lambda \mu_+ \) after \( s = g \), and \( \lambda \mu_- \) after \( s = b \). The noncongruent agent always chooses \( r \) with effort 0 regardless of signals. The principal always retains the agent.

**Proof.** First check the equilibrium conditions. With the strong off-path belief, the principal replaces whenever observing \( x = q \). Since \( R > d \), no agent would deviate from \( x = r \). The agent chooses effort \( \lambda \mu \) for each posterior belief \( \mu \in \{\mu_-, \mu_+\} \) and the noncongruent agent chooses zero effort.

Second, I rule out other pure-strategy equilibrium possibilities under the strong off-path beliefs. 1) It cannot be the case that in equilibrium, one type of agent keeps the status quo more often than the others. Suppose in equilibrium the congruent type does \( q \) more often than the noncongruent type. Then \( \{x = q\} \) is good news for retention and the noncongruent type would deviate to keeping the status quo. Suppose instead the noncongruent agent does \( q \) more often. Then \( \{x = q\} \) is bad news and \( \{x = r\} \) is good news for retention. Since \( R > 2d \), the noncongruent agent would deviate to choosing \( r \) for all signals. 2) It cannot be the case that both types of agent takes \( x = q \) regardless of signals: the congruent agent would initiate the reform with effort \( \lambda \mu_+ \) after a good signal and convince the principal that he is congruent and thus get reelected. 3) It cannot be the case that both types of agent chooses \( r \) after \( s = g \) and chooses \( q \) after \( s = b \). When this is the case, the noncongruent type would deviate to choosing \( q \) after a good signal. Since \( x = q \) is neutral news, the noncongruent type will be retained while enjoying his preferred policy. \( \square \)

Opaque regime

**Proposition 2** (Restating Result 2). Suppose the informativeness condition holds. Then there exists a unique equilibrium in pure strategy. In this equilibrium, 1) the congruent agent always chooses \( r \). He implements with effort \( \lambda (1 + R) \mu_+ \) after \( s = g \) and \( \lambda (1 + R) \mu_- \) after \( s = b \). 2) the noncongruent agent chooses \( r \) with effort \( \lambda R \mu_+ \) after \( s = g \), and \( x = q \) after \( s = b \). The principal
retains the agent after a successful reform and replaces otherwise.

There are a few steps:

First, I rule out cases in which the agent’s policy decisions are signal-invariant. Per earlier discussions, it cannot be part of an equilibrium that both types choose \( x = q \) regardless of signals. It cannot be part of an equilibrium that the congruent agent always chooses \( x = r \) with some nonnegative effort and the noncongruent agent always chooses \( x = q \); otherwise, the noncongruent type would deviate to \( x = r \) to secure reelection. Note also that it cannot be the case that both types choose \( x = r \) and exert some signal-dependent efforts. When this is the case, the principal infers that a successful is good news and a failed reform is bad news about congruence. But a noncongruent agent wants to deviate from this strategy: after a bad signal, by choosing \( x = r \) with effort \( \lambda R\mu_+ - \lambda R\mu \), he obtains \( \frac{1}{2}R\mu_+^2 \). By the moderate office rent assumption, this payoff is lower than the status quo payoff \( d \).

Next, I consider cases in which the agent’s policy decision responds to signals.

**Claim 1.** The following strategies cannot be part of an equilibrium: both types choose \( x = q \) after \( s = b \); they choose \( x = r \) and exert nonnegative efforts after \( s = g \).

**Proof.** Following this strategy \( \{x = q\} \) is neutral news about congruence. Hence a noncongruent type would deviate to \( x = q \) after observing \( s = g \). □

**Claim 2.** The following strategy cannot be part of an equilibrium: the noncongruent agent always chooses \( x = q \) and the congruent agent chooses \( x = q \) after \( s = b \) and chooses \( r \) with some nonnegative effort \( e \geq 0 \) after \( s = g \).

**Proof.** According to this strategy, \( \{x = q\} \) is bad news about congruence. There are two cases to consider. First, the principal retains on policy. Then both types of agents would deviate to choosing \( x = r \) and get retained. Second, the principal retains whenever a reform succeeds. When this is the case, the congruent agent wants to deviate to \( x = r \) after \( s = b \): in doing so, she obtains a payoff of \( \frac{1}{2}(1 + R)\mu_+^2 \). By the moderate office rent assumption, this payoff is better than \( d \). □

It is also straightforward to rule out pathological strategies in which the agent reforms when
the signal is bad and takes the status quo when the signal is good. The only sensible strategy profile that may constitute an equilibrium is what is described in Proposition 2.

**Claim 3.** Under the strategy specified in Proposition 2, a successful reform is good news and a failed reform is bad news for congruence whenever the informativeness condition holds.

**Proof.** A successful reform being good news follows from the fact that the congruent type always exerts more effort than the noncongruent type after a good signal. It remains to check when a failed reform is bad news. Let $S, F$ denote the event that a reform succeeds/fails.

By the Bayes’ rule,

$$P(t = c|F) = \frac{P(t = c, F)}{P(F)}$$

and $P(t = c, F) = P(t = c, s = g, F) + P(t = c, s = b, F)$

$$P(t = c, s = g, F) = P(s = g, \omega = g)[1 - \lambda(1 + R)]\mu_+ + P(s = g, \omega = b)$$

$$= \phi p[1 - \lambda(1 + R)\mu_+] + (1 - \phi)(1 - p)$$

$$P(t = c, s = b, F) = P(s = b, \omega = g)[1 - \lambda R\mu_+] + P(s = b, \omega = b)$$

$$= \phi(1 - p)[1 - \lambda R\mu_+] + (1 - \phi)p$$

$$P(t = c, F) = 1 - \phi\lambda(1 + R)[p\mu_+ + (1 - p)\mu_-]$$

Likewise,

$$P(t = n, F) = P(t = n, s = g, F)$$

$$= P(s = g, \omega = g)(1 - \lambda R\mu_+) + P(s = g, \omega = b)$$

$$= \phi p(1 - \lambda R\mu_+) + (1 - \phi)(1 - p)$$

Since $P(t = c|F) \leq \pi \Leftrightarrow P(t = c, F) \leq P(t = n, F)$, we can rewrite the necessary and sufficient
condition to

\[ 1 - \phi \lambda (1 + R)[p\mu_+ + (1 - p)\mu_-] \leq \phi p(1 - \lambda R\mu_+) + (1 - \phi)(1 - p) \]
\[ \Leftrightarrow \phi(1 - p) + p(1 - \phi) \leq \phi \lambda p\mu_+ + \phi(1 - p)\lambda \mu_- (1 + R) \]
\[ \Leftrightarrow p[1 - \phi - \lambda \phi \mu_] \leq \phi(1 - p)[\lambda \mu_- (1 + R) - 1] \]

Substitute in \( \gamma = \frac{1 - p}{p}.z = \frac{1 - \phi}{\phi} \), the last inequality is \( z - \lambda \frac{1}{1 + \gamma z} \leq \gamma [\lambda (1 + R) \frac{\gamma}{\gamma + z} - 1] \) as desired. \( \square \)

**Remark 1 (Technical).** The informativeness condition is statistical. Note that the RHS is negative because \( \lambda (1 + R) \leq 1 \). This means that for any \( \lambda \), \( \exists \tilde{z} \) such that for all \( z \leq \tilde{z} \), we can find sufficient small \( \gamma \) such that the inequality holds. Put differently, we have one degree of freedom to choose an element in \((\lambda, R)\) satisfying \( \lambda (1 + R) \leq 1 \) such that the set of parameters supporting the informativeness condition is nonempty.

The following lemma makes this point precise.

**Lemma 5.** Suppose \( z < \lambda \). Then \( \exists \tilde{p} \in (\frac{1}{2}, 1] \) that is independent from other parameters such that for all \( p \geq \tilde{p} \), the informativeness condition holds.

**Proof.** Rearrange this inequality to \( z \leq \lambda \frac{1}{1 + \gamma z} + \gamma [\lambda (1 + R) \frac{\gamma}{\gamma + z} - 1] \). Define \( F(\gamma) = \lambda \frac{1}{1 + \gamma z} + \gamma [\lambda (1 + R) \frac{\gamma}{\gamma + z} - 1] \). Under the assumption \( \lambda (1 + R) \leq 1 \), we claim that \( F \) is decreasing in \( \gamma \). To see it

\[ F'(\gamma) = \lambda [\frac{z}{(1 + \gamma z)^2} + (1 + R)(1 - \frac{z^2}{(\gamma + z)^2}) - 1] \]

\[ \leq \lambda (1 + R)(1 - \frac{z^2}{(\gamma + z)^2}) - 1 \]

\[ \leq (1 - \frac{z^2}{(\gamma + z)^2}) - 1 < 0 \]

This means that as long as \( F(0) > z \), there must be some \( \bar{\gamma} \in (0, 1] \) such that \( F(\gamma) \geq z \) for all \( \gamma \leq \bar{\gamma} \). The lemma follows by substituting in \( \gamma = \frac{1 - p}{p} \). \( \square \)

**Lemma 6.** Let \( v = (\lambda, R, \phi, p) \) and \( v' = (\lambda', R', \phi', p') \) be two vectors of parameters where \( v' \geq v \) component-wise with at least one inequality strict. If the informative condition holds for \( v \), then it also holds for all \( v' \).
Proof. The results for $\lambda, R$ and $\phi$ are immediate from inspecting the informativeness condition; the result for $p$ follows from Lemma 5.

Finally, let’s verify that the strategies and beliefs specified in Proposition 2 indeed constitute an equilibrium.

Proof of Proposition 2. According to the strategies in Proposition 2, the status quo is bad news. Now that a successful reform is good news and a failed reform is bad news for congruence, the principal retains only after observing a successful reform. The agent’s efforts follow from Lemma 3.

Transparent regime

Proposition 3 (Restating Result 3: Existence). Under the transparent regime, there exists a separating equilibrium that survives the universal divinity refinement. In this equilibrium the congruent type always chooses $r$; he implements with effort $e_H = \max\{\sqrt{2\lambda(R-d)}, \lambda\mu_+\}$ after $s = g$ and $e_L = \max\{\sqrt{2\lambda(R-d)}, \lambda\mu_-\}$ after $s = b$; the noncongruent type always chooses $q$. Given her observation $(r, e)$, the principal’s belief about the type $(t, s) \in \{c, n\} \times \{g, b\}$ is that $P((c, g)|(r, e_H)) = 1$, $P((c, b)|(r, e_L)) = 1$ and $P((c, s)|(q, 0)) = 0$ for all $s \in \{g, b\}$; the off-path belief is $P((c, s)|(r, e) : e < e_H, e \neq e_L) = 0$ for all $s \in \{g, b\}$ and $P((c, g)|(r, e) : e > e_H) = 1$. She retains whenever observing $(r, e)$ with $e \geq e_H$ or $(r, e_L)$.

Proof. Let us verify that the strategies and beliefs in Proposition 3 indeed constitute a PBE. First, the noncongruent agent does not want to mimic a congruent one even when the signal is good. To see it, the noncongruent agent values retention at $R$ and the status quo payoff at $d$; he is unwilling to initiate a reform if it entails a cost higher than $R - d$, which amounts to an effort $\sqrt{2\lambda(R-d)}$. This means that as long as the congruent agent is willing to exert an effort above this level, separation happens. Notate $\mu$ as a congruent agent’s posterior belief that the state is good. His policy payoff is single-peaked at the $\lambda\mu$. This means that the congruent agent exerts effort $\max\{\sqrt{2\lambda(R-d)}, \lambda\mu\}$ in equilibrium.
Now we verify that this equilibrium survives the universal divinity refinement. Let’s consider whether a deviation \((r, e')\) with \(e' \notin \{e_H, e_L\}\) may benefit anyone. Recall that there are three payoff types \((c, g), (c, b), (n, \cdot)\) arranged in the descending order with respect to the incentive to reform. Clearly, no profitable deviation may occur with \(e' \geq e_H\). So we consider cases \(e' \in (e_L, e_H)\) and \(e' < e_L\).

- \(e' \in (e_H, e_L)\). Then among the reformers, only the type \((c, g)\) may benefit from this deviation when \(e_H = \sqrt{2\lambda(R - d)} > \lambda\mu_+\) because it allows him to save effort for separation; the type \((c, b)\) cannot benefit from this deviation. But the principal then regards this as bad news for retention. To see it, we again use the notation \(p^{(c, g)}\) and \(p^n\) to represent the retention probability that respectively make a type \((c, g)\) agent and a type \((n, \cdot)\) agent indifferent between deviation and obtaining the equilibrium payoff; it suffices to show that \(p^n < p^{(c, g)}\) i.e. the noncongruent agent benefits more from this deviation and thus can tolerate more retention loss. By definition, \(p^n \cdot R - \frac{e'_2}{2\lambda} = d\) and \(p^{(c, g)} \cdot R + \mu_+ e' - \frac{e'_2}{2\lambda} = R + \mu_+ e_H - \frac{e_H^2}{2\lambda} = d + \mu_+ e_H\). Since \(e_H > e'\), straightforward comparison suggests that \(p^n < p^{(c, g)}\). It happens because the noncongruent agent has less stake in reform and so he does not suffer as much as the congruent type in reducing efforts. As such, the principal must replace this agent \((c, g)\) and the agent cannot benefit from this deviation.

- \(e' \in (0, e_L)\). Then this deviation may benefit the \((c, b)\) if \(\lambda\mu_+ > e_L = \sqrt{2\lambda(R - d)} > \lambda\mu_-\) and the principal retains; it may benefit both types of \((c, g)\) and \((c, b)\) if \(e_L = \sqrt{2\lambda(R - d)} > \lambda\mu_+\) the principal retains. We consider the first case; the second one follows analogously. The main observation goes just as above: whenever the congruent agent benefits from this deviation, the noncongruent type benefits more because he does not suffer from the loss of reform benefit. More precisely, \(p^n \cdot R - \frac{e'_2}{2\lambda} = d\) and \(p^{(c, b)} \cdot R + \mu(b)e' - \frac{e'_2}{2\lambda} = R + \mu(b)e_L - \frac{e_L^2}{2\lambda} = d + \mu(b)e_L\). Straightforward comparison shows that \(p^n < p^{(c, b)}\). This suggests that the principal strikes \((c, b)\) if she observes any deviation to \((r, e')\) with \(e' \in (0, e_L)\) and believes that this deviation comes from type \((n, \cdot)\).

Hence, we have established the proposition.
Lemma 7 (Restating Result 3: Uniqueness). 1. Among all separating equilibria, the universal divinity refinement selects uniquely on the least costly separating equilibrium described in Proposition 3.

2. If $\lambda \mu^2_+ < 2(R - d)$, the universal divinity refinement cannot rule out a class of pooling equilibrium with the following properties: both types of agent choose $x = r$ with effort $e^*$, where $e^* \in [\lambda \mu_+, \sqrt{2\lambda(R - d)}]$. Otherwise, no pooling equilibrium may survive the universal divinity criterion.

Proof. Part 1. Proposition 3 describes the least costly separating equilibrium or the Riley outcome that survives the universal divinity refinement.

Consider other possibility of separation. First consider perfect separation in which an agent reforms if and only if he is congruent. We claim that the only plausible equilibrium in this category is the one characterized in Proposition 3. To see it, $\sqrt{2\lambda(R - d)}$ is the minimal effort to deter a noncongruent agent from mimicking. Any other equilibrium must involve the congruent exerting an effort weakly larger than this. However, any other separating equilibrium in which a type $(c, g)$ chooses $(r, e'_H)$ and a type $(c, b)$ chooses $(r, e'_L)$ with either $e'_H \neq e_H$ and/or $e'_L \neq e_L$ does not survive a deviation to the strategy specified in Proposition 3. For a concrete example, suppose towards contradiction that indeed a type $(c, g)$ agent chooses $(r, e'_H)$. Then he benefits most by deviating to $(r, e_H)$; upon observing this observation, the principal believes according to the divinity condition that the agent has type $(c, g)$. Consequently, the only equilibrium possibility is one described in Result 3.

Next we rule out “semi-separating” possibilities in which either 1) not all congruent types reform and all noncongruent types stay with the status quo or 2) not all noncongruent type stays with the status quo and all congruent types reform. In the first case, not reforming is bad news about congruence. If on path the type $(c, b)$ agent does not reform, the he may profitably deviate by reforming with effort $\lambda \mu_- $; upon this deviation the principal applies the divinity criterion and assigns probability 1 to type $(c, b)$ and retains. Same story applies to type $(c, g)$. In the second case, since the types of $(n, g), (n, b)$ share the same policy preference, they should behave the same in equilibrium. So we can rule out this possibility as well.
All other semi-separating equilibrium possibilities involving one of \((c, g) \& (c, b)\) reforms and one of \((n, g) \& (n, b)\) keeps the status quo can be easily ruled out.

**Part 2.** There are a few steps:

Step 1. Claim: In any pooling equilibrium that survives the divinity refinement, it must be that the agent reforms with an effort \(e \geq \lambda \mu_+\).

**Proof.** Suppose not. This boils down to two possibilities: all types of agents \((c, g), (c, b), (n, \cdot)\) 1) pool on the status quo, or 2) pool on the reform with effort \(e < \lambda \mu_+\). In either case, however, a \((c, g)\) type can profitably deviate by choosing \((r, \lambda \mu_+)\). Upon this deviation, the divine condition assigns the probability 1 that this deviation comes from a type-\((c, g)\) agent since he benefits more than other types. The agent will be retained, thus contradicting the equilibrium condition.

Step 2: Fix a pooling equilibrium in which everyone reforms with effort \(e^* \geq \lambda \mu_+\). Let’s use the divinity condition to pin down the off-path beliefs. On path, every type shall be retained. For any deviation to be profitable it must be that either (1) the deviation involves the agent reforms with an effort \(e' < e^*\), or (2) the agent chooses the status quo.

Case (1). As before define \(p^{(\cdot)}\) as the break-even retention probability after deviation. By definition,

\[
Rp^{(c, g)} + \mu_+ e' - \frac{(e')^2}{2\lambda} = R + \mu_+ e^* - \frac{(e^*)^2}{2\lambda}
\]

\[
Rp^{(c, b)} + \mu_- e' - \frac{(e')^2}{2\lambda} = R + \mu_- e^* - \frac{(e^*)^2}{2\lambda}
\]

\[
Rp^n - \frac{(e')^2}{2\lambda} = R - \frac{(e^*)^2}{2\lambda}
\]

By the assumption that \(e^* > e'\), we deduce \(p^{(c, g)} > p^{(c, b)} > p^n\); in other words, the noncongruent type benefits from the deviation the most. The the principal assigns probability 1 that the agent is of type-\(n\) following any deviation \((r, e')\) with \(e' < e^*\).

Case (2). Repeat steps in Case (1) and modify the deviation to \(q\). By definition,
\[
\begin{align*}
Rp^{(c,g)} + d &= R + \mu_+ e^* - \frac{(e^*)^2}{2\lambda} \\
Rp^{(c,b)} + d &= R + \mu_- e^* - \frac{(e^*)^2}{2\lambda} \\
Rp^n + d &= R - \frac{(e^*)^2}{2\lambda}
\end{align*}
\]

As before, \( p^{(c,g)} > p^{(c,b)} > p^n \). The principal assigns probability 1 that the agent is of type-\( n \) following any deviation \((r, e')\) with \( e' < e^* \).

Taken together, I have shown that any deviation that might benefit the agent would make the principal more suspicious that he is a noncongruent type.

Reversing the argument, it is straightforward to verify that the divinity condition assigns any unprofitable deviation to \((r, e')\) with \( e' \in (e^*, \sqrt{2\lambda(R-d)}) \) a belief that the agent is of type \((c, g)\) with probability 1. Hence if \( \lambda\mu_+ > 2(R-d) \), the following pooling equilibrium survives the divinity refinement: All types of agent pool on the action \((r, e^*)\) with \( e^* \in [\lambda\mu_+, \sqrt{2\lambda(R-d)}] \); the principal assigns probability 1 that the agent is noncongruent upon observing \( x = q \) or \((r, e')\) with \( e' < e^* \); and she assigns probability 1 that the agent is congruent \& has received the signal \( s = g \) upon observing \((r, e')\) with \( e' > e^* \).

\[\square\]

A.3 Mechanism Design

Formalize Result 4 as follows:

**Proposition 4.** The nontransparent regime induces the lowest welfare. Either the opaque or the transparent regime may induce the highest welfare for certain parameter values \((p, \phi, d, \lambda, R, \pi) \in \Omega\).

**Proof.** Across three regimes, the congruent agent always initiates reforms. He exerts the least effort under the nontransparent regime. To see why the congruent agent shirks most there, after taking the “correct” position he no longer worries about office. In other two regimes, the congruent agent has to either gamble for success or separate from the noncongruent type. Together with the fact that the noncongruent agent always fails a reform after exerting zero effort, the principal’s policy payoff is the lowest under the nontransparent regime.
To see why the opaque regime may prevail, it suffices to check whether the congruent agent works hardest under this regime. Were this true, then the principal would prefer this regime when there is a sizable proportion of congruent agents in the pool ($\pi$ high). A sufficient condition is $\lambda(1 + R)\mu_+ \geq \sqrt{2\lambda(R - d)}$ or equivalently $\lambda(1 + R)^2\mu_+^2 \geq 2(R - d)$. RHS is bounded above by $2(R - \frac{\lambda}{2}R^2\mu_+^2)$ using the condition $d \geq \frac{\lambda R^2}{2}\mu_+^2$ so it is sufficient to show that $R \leq \frac{\lambda}{2}\mu_+^2[R^2 + (1 + R)^2]$. This condition can be further simplified to $2 \leq \lambda\mu_+^2[2R + 2 + \frac{1}{R}]$. For sufficiently small $R$, we can always find $\lambda \in [0, 1]$ satisfying this inequality and the parameter restriction $\lambda(1 + R) \leq 1$. Further, per Remark 1 we can identify a set of parameters satisfying the informativeness condition. Finally, there exists a set of sufficiently small $d$ satisfying the assumptions on signal accuracy.

There also exist parameters such that the transparent regime prevails. Examples are available in the proof of Proposition 5.

\[ \Box \]

A.4 Comparative Statics

We collect comparative static results into a proposition:

**Proposition 5.** Given a vector $w = (p, \phi, d, \lambda, R, \pi)$ under which the opaque regime is optimal. Then

1. The principal would continue to use this regime if $\phi$ increases; moreover, the principal strictly benefits from this.

2. Suppose further that $2(R - d) < \lambda$. Then 1) there exists $p' \in (\frac{1}{2}, 1)$ such that for all $p \in (p', 1]$, the principal would continue to use this regime if $\lambda$ increases; 2) $\exists p'' \in (\frac{1}{2}, 1)$ such that for all $p \in (p'', 1]$, the principal would continue to use this regime if $p$ increases. In both cases, the principal strictly benefits from this parameter changes.

3. An increase in $R$ may cause the principal to switch to the transparent regime. Specifically, fixing sufficiently high $p$, $\phi$, and $\pi$, and assuming $\lambda(1 + d) \leq \frac{1}{2}$, there exists a pair $\underline{R} = \underline{R}(\lambda, d)$ and $\bar{R} = \bar{R}(\lambda, d)$ such that 1) for all $R \in (\underline{R}, \bar{R})$ the transparent regime dominates; for $R > \bar{R}$ and $R < \underline{R}$ the opaque regime dominates. 2) $\underline{R}$ is increasing in $\lambda$ and $d$; $\bar{R}$ is decreasing in $\lambda$ and $d$. 
Proof. (Sanity check) I claim that the set of parameter values satisfying (a) $2(R - d) < \lambda$, (b) several model assumptions, and (c) the informativeness condition, is nonempty.

To see it, suppose that the signal accuracy is very high or $p \approx 1$; it overwhelms a weaker prior $\phi$ (e.g. $\phi = \frac{3}{4}$), resulting in $\mu_+ \approx 1$ and $\mu_- \approx 0$. Now I check these restrictions one by one.

1. With $p \approx 1$ Lemma 5 guarantees the informativeness condition if $z < \lambda$.

2. With $\mu_- \approx 0$, two model assumptions reduce to $\max\{\lambda (1 + R), R\mu_+\} > \sqrt{2d}$ and $\mu_+ > \sqrt{\frac{2d}{\lambda}}$.

If we pick $\lambda > \max\{\frac{2d}{R \mu_+}, \frac{2d}{\mu_+}\} \approx \max\{\frac{2d}{R}, 2d\}$ then these two assumptions hold.

3. We also need $\lambda (1 + R) \leq 1$.

4. Need to verify that $\lambda \mu_+^2 > 2(R - d)$

Taken together, we may choose parameters like this: pick $p = \frac{99}{100}$, $\phi = \frac{3}{4}$ ($z = \frac{1}{3}$), $\lambda = \frac{1}{2}$, $R = \frac{1}{4}$, $d = \frac{1}{80}$. This gives $\mu_+ \approx 0.996$ and $\mu_- \approx 0.03$ and $\sqrt{\frac{2d}{\lambda}} \approx 0.22$. $\lambda \mu_+^2 \approx 0.496$ and $2(R - d) = 0.475$.

All restrictions are met.

Part 1. A larger $\phi$ makes the opaque regime more appealing to the principal because the agent works harder when he is more certain that the reform is good by nature. This “strong prior” effect benefits the transparent regime only if 1) the agent is congruent and 2) $\sqrt{2\lambda (R - d)} < \lambda \mu$ for some $\mu \in \{\mu_+, \mu_-\}$; otherwise, the agent’s policy decision and implementation effort remain invariant to the prior. But under these two conditions, the opaque regime strictly dominates by encouraging the agent to exert more effort ($\lambda (1 + R) \mu > \lambda \mu$).

Part 2. Assuming the bar for separation is low ($\sqrt{2\lambda (R - d)} < \lambda \mu$), the congruent agent must exert less effort under the transparent regime than in the opaque regime. Sufficiently accurate signals guarantee this low bar for separation. To see it, a higher $p$ does two things: it reinforces the separation condition ($\sqrt{2\lambda (R - d)} < \lambda \mu_+$) by inducing a sufficiently high posterior; it also tilts the principal’s welfare calculus towards the realization of a good signal\(^{10}\). A higher $\lambda$ also guarantees this bar for separation.

\(^{10}\)With a bad signal, the reform is doomed to fail and confers almost zero payoff; the status quo policy confers $d > 0$. Since the agent’s equilibrium strategies remain invariant to the parameter changes, the welfare impact conditional on a bad signal is minimal from the principal’s perspective.
Part 3. We want to construct a pair of vectors \( w' = (p, \phi, d, R, \pi), w'' = (p, \phi, d, \lambda, R', \pi) \) with \( R' > R \) that satisfying the model assumptions, the informativeness condition, and \( \lambda(1 + R) < 1 \), such that the principal prefers the opaque regime under \( w' \); she prefers the transparent regime under \( w'' \).

To simplify matters, I assume that the agent is likely to be congruent \((\pi \approx 1)\); I let \( p = \phi = 1 - \epsilon \) for \( \epsilon \) sufficiently small. Consequently, \( \mu_+ \approx 1 \) and \( \mu_\approx \frac{1}{2} \). With these two assumptions, the agent is unlikely to receive a bad signal (which occurs with probability \( p(1 - \phi) + \phi(1 - p) \approx 2\epsilon \)); the welfare comparison reduces to which information policy would elicit more efforts from a congruent agent when the signal is good.

Under the opaque regime, the congruent agent exerts effort \( \lambda(1 + R)\mu_+ \). Under the transparent regime, he exerts \( \max\{ \sqrt{2\lambda(R - d)}, \lambda\mu_\} \) (which is true in both separating and pooling equilibria). The transparent regime may elicit more effort whenever \( \sqrt{2\lambda(R - d)} \geq \lambda(1+R)\mu_+ \) or \( \lambda\mu_\^2(1+R) \leq 2(R-d) \). Define \( \hat{\lambda} = \lambda\mu_+^2 \) and \( H(R) = \hat{\lambda}(1+R)^2 - 2(R-d) \). \( H \) has real solutions if \( 1 \geq 2\hat{\lambda}(d+1) \); in this case, two solutions are \( R = \frac{1-\hat{\lambda}-\sqrt{1-2(1+d)\hat{\lambda}}}{\lambda} > 0 \) and \( \bar{R} = \frac{1-\hat{\lambda}+\sqrt{1-2(1+d)\hat{\lambda}}}{\lambda} \). Given the quadratic shape of \( H \), for all \( R < \bar{R} \) the opaque regime dominates; for \( R \in (R, \bar{R}) \) the transparent regime dominates. This suggests that if \( R \) is close enough to \( \bar{R} \) or \( \bar{R} \), then the principal is willing to switch information regimes when there is small perturbation to \( R \); if \( R < \bar{R} \) or \( R > \bar{R} \) then a local increase in \( R \) would not induce a regime switch.

We claim from the expression \( R, \bar{R} \) that:

Claim 4. \( \bar{R} \) is increasing in \( \lambda \) and \( d \); \( \bar{R} \) is decreasing in \( \lambda \) and \( d \).

Proof. \((\bar{R})\): Since \( \hat{\lambda} = \lambda\mu_+ \) it suffices to verify \( \frac{\partial \bar{R}}{\partial \lambda} \geq 0 \) and \( \frac{\partial \bar{R}}{\partial d} \geq 0 \). The latter is obvious. Note also that

\[
\frac{\partial \bar{R}}{\partial \lambda} = \frac{\lambda(1+d)}{\sqrt{1-2(1+d)\lambda}} - \frac{(1 - \sqrt{1-2\lambda(1+d)})}{\lambda^2}
\]

Denote \( k = \sqrt{1-2(1+d)\lambda} \Leftrightarrow (1 + d)\lambda = \frac{1-k^2}{2} \). The numerator of the above expression is

\[
\frac{1-k^2}{2k} - (1 - k) = \frac{1}{2}(k + \frac{1}{k}) - 1 \geq 0.
\]

\((\bar{R})\): Similarly, \( \frac{\partial \bar{R}}{\partial d} \geq 0 \Leftrightarrow -\frac{\lambda(1+d)}{\sqrt{1-2(1+d)\lambda}} \geq \sqrt{1-2(1+d)\lambda} \) which is always false; the case for \( d \)
is again straightforward.

It remains to verify that the vector thus constructed \((p, \phi, d, \lambda, R) = (1 - \epsilon, 1 - \epsilon, d, \lambda, \bar{R})\) may satisfy all necessary assumptions. We have the freedom to choose \(d\) and \(\lambda\). I let \(\epsilon \downarrow 0\) for simplicity.

1. \(\lambda(1 + R) \xrightarrow{\epsilon \downarrow 0} \lambda + 1 - \lambda - \sqrt{1 - 2(1 + d)\lambda} < 1\).

2. The informativeness condition is guaranteed for \(p = \phi = 1 - \epsilon\) and \(\lambda > 0\). To see it, 
\[
z = \gamma = \frac{\epsilon}{1 - \epsilon} \approx 0 \text{ so the condition } z - \lambda \frac{1}{1 + \gamma z} \leq \gamma \left[ \lambda(1 + R) \frac{\gamma}{\gamma + z} - 1 \right] \text{ reduces to } \lambda > 0.
\]

3. The assumption on signal accuracy requires \(1 > \sqrt{2d} > \frac{1}{2}\) for \(\epsilon\) arbitrarily small. This means that fixing \(\lambda\) it must be that \(d \in \left(\frac{\lambda}{8}, \frac{\lambda}{2}\right)\).

4. The assumption on moderate office rent simplifies to \(\max\{1 + R, \bar{R}\} > 2d\). Unpacking the expression \(\bar{R} = \frac{1 - \hat{\lambda} - \sqrt{1 - 2(1 + d)\hat{\lambda}}}{\hat{\lambda}}\), letting \(\hat{\lambda} \to \lambda\) (since \(\epsilon \downarrow 0\)), a sufficient condition is
\[
1 - \lambda - \sqrt{1 - 2(1 + d)\lambda} < 2\sqrt{2d\lambda} < 1 - \sqrt{1 - 2(1 + d)\lambda}
\]

There is a large set of pairs \((d, \lambda)\) satisfying the above three conditions. For example, we can let \(d = 0.05\) and \(\lambda = 0.3\). Condition 1, 2 and 3 are immediate. Condition 4 simplifies to \(0.0917 < 0.346 < 0.39\).

Finally, from \(w = (1 - \epsilon, 1 - \epsilon, 0.05, 0.3, \bar{R})\) we may construct \(w' = (1 - \epsilon, 1 - \epsilon, 0.05, 0.3, \bar{R} - \delta)\) and \(w'' = (1 - \epsilon, 1 - \epsilon, 0.05, 0.3, \bar{R} + \delta)\) with \(\delta > 0\) sufficiently small such that the principal chooses the opaque regime under \(w'\) and the transparent regime under \(w''\).

\[\square\]

### A.5 Robustness

**a. Nontrivial selection**

The baseline model assumes that the principal is almost entirely policy-motivated. One may wonder to what extent this assumption drives my results; after all, it is quite reasonable to assume that the principal may attach nontrivial weight on selecting a congruent agent.
I argue that all results continue to hold as long as the principal’s weight on selection is not too high. Crucially, note that the principal’s retention happens at the last stage. Since the principal retains on good news about congruence, her retention strategy remains invariant to the weight of selection. Also note that a policy-motivated principal’s optimal information policy is generically unique. This means that we can identify an upper bound for the weight of selection, such that the principal’s optimal information policy remains the same as the benchmark policy-motivated case as long as the weight does not exceed the bound.

b. More data on implementation

In the baseline model I use a single parameter $e$ to capture the moral hazard in the reform implementation. I claim that this approach entails no loss of generality.

Consider a more general environment in which the reform implementation involves a vector of necessary inputs $(e_1, e_2, \ldots, e_n)$, each determining the success probability $h$ of a good reform according to the function $h = h(e_1, e_2, \ldots, e_n)$. Let the cost function be $C(e_1, e_2, \ldots, e_n)$. Now, suppose an agent wants to target a level of success probability $\bar{h}$. He shall solve a textbook minimization problem (up to regularity conditions) $\min_{e_1, \ldots, e_n} C(e_1, e_2, \ldots, e_n)$ s.t. $h(e_1, e_2, \ldots, e_n) \geq \bar{h}$, and derive an induced cost function for $h$. That is, achieving the level of success probability $h$ for a good reform costs one $C(h)$. This gives us a single-variable representation of moral hazard.

From this standpoint, we may interpret the effort parameter $e$ as a “score” summarizing all useful information for reform policy-making that is under the agent’s control.

c. Modeling congruence

I model (non)congruence along the line of Fox (2007). One may wonder whether alternative notions of congruence (e.g. Maskin and Tirole (2004)) might induce similar or different results.

I argue that the current setup presents the motivation issue in a clean fashion. By contrast, an alternative setup closer to Maskin and Tirole (2004) often involves the noncongruent type discounting future differently than the congruent type.

11The set of parameters that give rise to more than one optimal policy is meager in the parameter space.
To see this, suppose the noncongruent type is a reform saboteur – he prefers a failed reform to the status quo to a successful reform. Per Maskin and Tirole (2004), we would like this type of agent to reform whenever the timing is bad, and stays with the status quo whenever the state calls for a reform. This equilibrium behavior could be induced, for example, when efforts and the policy decisions are substitutes for reform success: a good reform always succeeds, and a bad reform succeeds with a probability equal to effort. The main issue is that, the agent cannot control the (risky) reform outcome in a deterministic way; this renders asymmetry in the continuation payoffs to two types of agent. In the modified setup above, the congruent type at least secures $R + \phi$ by holding office in the period 2 (reform without effort); the noncongruent type obtains at most $R + (1 - \phi)$. The congruent agent benefits more from holding office at least when the prior is biased towards reform ($\phi \geq \frac{1}{2}$). In this case, career concerns discipline the congruent agent more strictly than the noncongruent one; accordingly, it makes type-separation easier relative to the main model. While this observation lends extra credibility that an opaque information regime may prevail (since the congruent agent exerts less effort on path under the transparent regime), it is not obvious whether its optimality comes mainly from the motivation effect of a pivotal decision rule or just the asymmetric discipline effects.
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