

Why Don't Regimes Publicize Repression?

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Abstract

The literature models repression as a deterrent for protests: repression increases the cost of protest and decreases the likelihood of its success. If so, states must publicize repression to deter further protests; however, states attempt to hide repression in many cases. Moreover, based on the literature, one may view repression and censorship as substitutable means by which regimes maintain the status quo, e.g., higher levels of censorship impair coordination necessary for protest, reducing the need for repression. This implies a negative correlation between the extent of repression and censorship. However, data suggest a positive correlation between repression and censorship. We provide a simple model in which states attempt to hide repression to prevent the activists' protest from spreading to bystander citizens. Our model reveals a complementary link between repression and censorship. Our key argument is that repression provides information about the types of state and dissidents.

JEL Codes: D02, D74, H1.

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1 Introduction

“In the early hours of Friday, 19 July 1988, the [Iranian] regime suddenly, without warning, isolated the main prisons from the outside world.... Thus began an act of violence unprecedented in Iranian history—unprecedented in form, content, and intensity (Abrahamian 1999, 209-10).” In the next five months, the regime sent as many as 12,000 political prisoners to the gallows. Despite the unprecedented scope of its repression, the Iranian regime has always denied that it happened. Similarly, the Chinese regime has never publicized the 1989 Tienanmen massacre. Even during the Brazilian military regime when torture was the order of the day, torturers were instructed to “press hard *without* leaving marks (Dassin 1998, 180).”

In sharp contrast to this repression concealment practice by regimes, the formal literature that studies repression views it merely as an instrument used by regimes to increase the perceived cost of dissent and thereby decrease the likelihood of successful protest. In Acemoglu and Robinson (2001) repression completely deters protest.¹ In Boix (2003) and Acemoglu and Robinson (2006a), repression discontinuously decreases the likelihood a revolution succeeds. In Besley and Persson (2011), Conrad and Ritter (2013) and Svolik (2013a), repression decreases the likelihood of successful protest via a contest function, and in Rozenas (2010) via its effect on electoral outcomes. In Lichbach (1987), Persson and Tabellini (2009), Bueno de Mesquita (2010), Fearon (2011), Shadmehr and Bernhardt (2011), Boix and Svolik (2013), and Casper and Tyson (2014), more repression corresponds to higher expected costs of protest. However, if the sole effect of repression is to raise the perceived cost of dissent, then to maximize the deterrence effects of repression, a regime should always publicize its acts of repression to frighten potential protestors and thereby deter them. While regimes do sometimes publicize repression, for example, by the very public execution of dissenters, regimes also frequently attempt to hide repression. The question that this paper attempts to address is why does a regime attempt to conceal repression.

Moreover, based on the literature, one may think that repression and censorship

¹In Acemoglu and Robinson (2000a), for the “tough” and “flexible” types of elite, repression and suppression together can reduce the likelihood of successful revolution to zero.

are substitutable means by which regimes attempt to maintain the status quo. Censorship impairs coordination among citizens and prevents them from learning bad news about the regime (Bueno de Mesquita and Smith 2010; Edmond 2013; Egorov et al. 2009; Lorentzen 2014; Shadmehr and Bernhardt 2010), reducing the likelihood of protest, and hence the need for repression to suppress or deter protest. Conversely, repression reduces the need for censorship as it deters protests. These observations imply a negative correlation between the levels of repression and censorship. However, data suggest that repression and censorship are positively correlated—see Figure 1.²

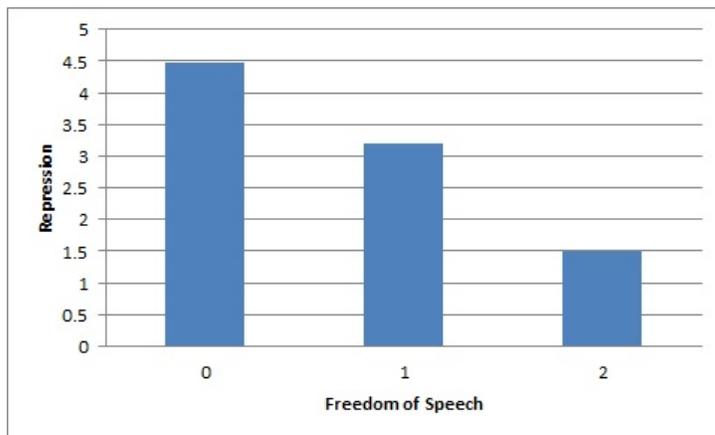


Figure 1: The bars indicate the mean of the repression measure conditional on the value of the measure of freedom of speech.

This paper provides an explanation for regimes’ attempts to hide repression, revealing a complimentary link between repression and censorship. We argue that repression provides an informative signal to bystander citizens about both the ruler (or state) and activists. Often, there are some activists who protest and make demands

²The repression measure is CIRI Physical Integrity Rights Index (Cingranelli and Richards 2013) that has been widely used in the literature (Bueno de Mesquita and Smith 2010; Conrad and Ritter 2012; Shadmehr 2014; Vreeland 2008). It is an additive index constructed from the sum of four indicators of torture, extrajudicial killing, political imprisonment, and disappearance collected for each country-year. Each indicator takes on one of the three values of 0, 1, and 2, corresponding to frequent, occasional, and no occurrence of the relevant incidence respectively. I reverse the data so that our repression measure is an integer ranging from 0 (no violation of physical integrity rights) to 8 (the most frequent violation). The horizontal axis is CIRI Freedom of Speech variable. “A score of 0 indicates that government censorship of the media was complete; a score of 1 indicates that there was some government censorship of the media; and a score of 2 indicates that there was no government censorship of the media in a given year.” Data consist of all country-years from 1981 to 2011 for which CIRI data are available.

on the state. Some of these demands are for reforms beneficial to all citizens, while others are beneficial for the activists, but harmful for the general public. However, bystander citizens (the non-activist general public) have limited information about whether the activists' demands are beneficial or harmful. All rulers who use repression claim that they do so to protect their citizens. While some states live up to their claim, others repress to protect their own interests, thereby blocking changes beneficial to the general public (Acemoglu 2006; Acemoglu and Robinson 2000b, 2006b). Thus, when citizens observe repression, they make inferences about the types of the activists and the ruler, which can increase the likelihood that they join the protest. Higher levels of censorship make it less likely that citizens observe repression, reducing the possibility of the spread of protest. This implies a positive correlation between the levels of repression and censorship.

However, this simple description conceals the subtlety that the bystanders' decisions of whether to join the protest depend on how they update their beliefs about the ruler and activists *relative* to each other. For example, the bystanders may update negatively about the ruler *and* the activists when they observe repression; or they may update positively about the ruler and negatively about the activists, and yet join the protest because they believe that the likelihood that the ruler is bad is still too high. We develop a simple model to formalize our proposed logic and investigate the equilibrium behavior that arise.

There are two types of activists: good and bad. Both are behavioral types who sometimes protest. The good activists seek reforms that are good *for bystander citizens*, while the changes the bad activists want are harmful *to the bystanders*. Similarly, there are two types of rulers: good and bad. The good ruler is also a behavioral type, he has the same preferences for change as the bystander citizens, and always concedes to the good activists and represses the bad ones to protect the bystander citizens from harmful changes. In contrast, the bad ruler has vested interests in the status quo and would like to block all changes by repressing all activists, but he also wants to stay in office. The good ruler never censors, however, the bad ruler can attempt to hide the news of repression. The ruler knows the activists' types, while the bystander citizens

are uncertain about the types of both the activists and the ruler. They update their beliefs given the information they receive, and decide whether or not to protest. If activists are joined by the bystander citizens, the ruler is deposed and the activists' demands are implemented.

We show that when the bad ruler's ability to censor is high, the equilibrium is in pure strategies: the bad ruler always represses the activists, while bystander citizens join the protest or stay quiet depending on their prior beliefs about the types of the ruler and the activists. Roughly speaking, upon observing repression, bystander citizens join the protest when they have a prior belief that the ruler is likely to be bad or the activists is likely to be good; and they acquiesce when their prior beliefs are the opposite. Moreover, as the ruler's ability to censor decreases, the area in which the bystander citizens join the protest expands because when citizens observe repression, they attribute it with a higher probability to the bad ruler.

When the bad ruler's ability to censor is lowered past a threshold, in a subset of parameters, the bad ruler represses with a positive probability less than one, and concedes with the remaining probability. Similarly, upon observing repression, the bystander citizens join the activists' protest with a positive probability less than one, and do not join the protest with the remaining probability; that is, the equilibrium is in mixed strategies. We show that as the ruler's ability to censor decreases, the equilibrium likelihood of repression falls, indicating a complimentary link between repression and censorship.

Next, we describe the model and discuss our modeling choices. In section 3, we characterize the equilibrium. Section 4 discusses the relationship between repression and censorship. A conclusion follows. The Appendix contains the missing proofs.

2 Model

The game tree in Figure 2 represents the model. Here, we describe further details.

Players and Actions. There is a ruler, a bystander citizen, and a non-strategic (behavioral type) activist. With probability $\gamma \in (0, 1)$ the activist protests, demanding a change, the nature of which is specified later; then, the ruler decides whether to concede to the activist or repress him and whether to attempt to hide the repression. However, with probability $\lambda \in (0, 1]$ the ruler's attempt to hide repression fails and repression is observed. The bystander citizen observes the ruler's action unless when the ruler successfully hides repression, in which case the bystander does not observe any news, and cannot distinguish whether no activist has protested or the ruler has censored repression. Next, the bystander citizen decides whether or not to protest. If the bystander does not protest, the current ruler remains in power. If the bystander protests, then the ruler is deposed and the activist's demands are met.

Information Structure. There are two types of activists: with probability $q \in (0, 1)$ the activist is "bad" and with probability $1 - q$ the activist is "good". The activist's types capture whether or not his demands benefit or harm the bystander citizen as we clarify when we describe payoffs below. Similarly, there are two types of rulers: with probability $p \in (0, 1)$ the ruler is "bad" and with probability $1 - p$ the ruler is "good". A good ruler is also a behavioral type: he concedes to a good activist and represses a bad one, and does not hide repression. In contrast, a bad ruler acts strategically and his preferences are incongruent with the bystander's: He extracts office rent and likes to stay in office; he also prefers to maintain the status quo, in the sense that he prefers not to meet the demands of the good or the bad activist. The ruler knows the activist's type, but the bystander knows neither the activist's type nor the ruler's type, and has a prior that a activist is bad with probability q and the ruler is bad with probability p .

Payoffs. We normalize the bad ruler's status quo payoff to 0. If the bad ruler concedes to a type i activist, his payoff falls by $\alpha_i F$, with $0 < \alpha_g < \alpha_b < 1$, indicating that the bad ruler dislikes a bad activist more than a good one. If the bad ruler is deposed, his payoff falls by F , capturing the extent of his office rent. When no

activist protests or the ruler uses repression so that the status quo is preserved, the bystander's payoff under the good ruler is normalized to 0, and his payoff under the bad ruler is $-\beta F$; If the ruler concedes to the activist or the bystander sides with the activist, the activist's demand are met. If the good activist's demands are met, the bystander's payoff raises to $+\beta_g F$; but if the bad activist's demands are met, the bystander's payoff falls to $-\beta_b F$, in which $\beta_b > \beta > 0$, indicating that a bad activist is more harmful for the bystander than a bad ruler. In particular, if the bystander supports a bad activist, so that those harmful demands are implemented, the bystander's payoff becomes $-\beta_b F$. In contrast, if the bystander supports a good activist, so that those beneficial demands are implemented, the bystander's payoff becomes $\beta_g F > 0$. Finally, if the bystander protests against a good ruler, his payoff is $-A_g$, and if he protests alone against the bad ruler his payoff falls to $-A_b$.

2.1 Discussion of the Model

We discuss some of our modeling choices before we present our analysis and results.

Behavioral Types. Using behavioral types is a common simplifying assumption in many models. For example, in Gentskow and Shapiro (2006, 290), “the high-quality firms always report their signal (and thus the true state) honestly;” in Mullainathan and Shleifer (2005), a biased reader does not update her beliefs upon observing media reports; in Tirole (1996), “honest” agents never cheat and “dishonest” agents always cheat, while “opportunistic” agents act strategically. In the context of political leaders, Svobik (2013b) assumes two types of candidates, normal and bad; while the normal candidate is responsive to the prospect of electoral outcomes, the bad candidate “would prefer exploiting office to behaving even if a permanent removal from office (reelection) were a sure consequence of the former (latter) (p. 689).” That is, the bad type is, in effect, a behavioral type who always exploits office. In Bidner and Francois (2013), a politician can be of three types: autocratic, democratic, and rational. “Autocratic types always transgress and democratic types never transgress. Rational types weigh up the costs and benefits.” Our notion of good ruler is very similar to the notion of democratic politician in Bidner and Francois (2013).

Binary Types. We use a binary type structure for both the ruler and the activist. Clearly, in the real world, there are more than two types of rulers and activists. Thus, a more realistic model would include multiple types for both the ruler and the activist. However, such a model is significantly more complex to analyze, and although it relaxes the binary type assumption, it requires other assumptions to retrieve tractability. Such complications distract the paper from conveying its main message.

Information and Payoff Structures. We assume that the ruler is better informed than the bystander about the activist: the ruler observes the activist’s type, but the bystander can only make inferences about it. This assumption is based on two observations. First, the ruler has much more resources (e.g., intelligence agencies) to gather and process information about the goals and preferences of the activists and the general public; Second, when a bad ruler represses an activist and the citizens observe repression, e.g., because censoring repression failed, the bad ruler can manipulate the infor-

mation available to the public, presenting the activist as a bad type. Thus, bystander citizens have serious difficulties in learning the activists' types since all the rulers who repress also argue that the activists were bad and the repression was to protect the general public. Of course, a citizen who expends lots of resources may learn the activists' types, however, we argue that such level of dedication to truth is rare among non-activist citizens. Finally, we emphasize that the key is that the ruler knows more about the activists' types than the general public, and our assumption that the ruler knows the activist's type and the bystander does not is to simplify exposition.

This kind of asymmetric information between the rulers (politicians) and the general public is a common assumption in formal models. For example, in Maskin and Tirole (2004), the officials are better informed than the voters about the best policy for the voters. More closely to our paper, Bidner and Francois (2013) assume that the incumbent politicians know about the fraction of behavioral voters who “are seized by a perhaps irrational desire to register their opposition against transgressing leaders by voting against them (p. 10).”

The proportionality of the bystander's payoffs to the bad ruler's rent F ties the ruler's power (and hence his ability to extract rent) to the bystander's payoffs to make the model more realistic. However, none of our results depend on this proportionality. In particular, we could assume that instead of $-\beta F$, $-\beta_b F$ and $+\beta_g F$, the bystander's payoffs are $-H$, $-H_b$, and $+H_g$, respectively, with $-H_b < -H < 0 < H_g$.

Why no protest following concessions? We view the bystander citizen as a follower who may join an already existing protest, but does not initiate one. Thus, if the ruler concedes to the activist's demands so that the activist stops protesting, then we assume that the bystander does not protest. This behavior can arise, for example, because the bystander does not have resources or organizational skills required to initiate a protest.³ This set up is consistent with the robust finding in the social movements literature that protests are not sustainable without committed activists. That literature shows that sustaining protest activities requires lots of resources and planning, and hence it needs committed members/activists (McAdam 1999; McCarthy

³Moreover, the signaling effect of concession (accommodation) has been studied by Ginkel and Smith (1999); see also Acemoglu and Robinson (2000a).

and Zald 1973, 1977; Gamson 1975; Tilly 1978, 1996, 2004; Tarrow 1998; McAdam, Tarrow, and Tilly 2001). Thus, if these activists are co-opted, the movement ends. Spontaneous protests occasionally occur, but they typically end soon without any policy change. Indeed, many *seemingly* spontaneous movements are based on complex networks of organizations and committed activists (Morris 1984; Diani 2003).

Repression by the good ruler. Like most formal models of contentious politics, in our model, the state (regime or ruler) can either repress the activists or concede to them, e.g., redistribution or democratization in Acemoglu and Robinson’s framework or Boix’s. That is, “protest” in these models is not a one-shot peaceful demonstration on a street corner, so that if the state does not respond, it may end with no consequences. Rather, protest refers to a movement strong enough that can achieve its goals (e.g., removing a corrupt official, redistribution of wealth, holding elections, or implementing religious laws) unless stopped by coercive means such as the arrest and imprisonment of the participants.

With this notion of protest in mind, consider a minority of religious activists who protest against the state and attempt to implement religious laws against the preferences of the majority; or a fascist group who protests and attempts to impose its racist views on the society. A good ruler prevents this small minority from imposing their preferences on the majority by using coercive methods, e.g., arresting and imprisoning the activists. This does *not* imply that the good government prosecutes this group for their views or even prevents them from advertising their visions. Rather, repression in this context means that the government uses its coercive means to prevent these groups from imposing their religious laws or other supremacist views on the majority.

3 Equilibrium

Strategies. The bystander’s strategy is a pair, $(\sigma_p, \sigma_\phi) \in [0, 1]^2$, where σ_p is the probability of joining the protest upon observing repression and σ_ϕ is the probability of joining the protest when the bystander does not observe any news. The bad ruler’s strategy is a quadruple, $(\sigma_g, \sigma_b, \sigma_{cg}, \sigma_{cb}) \in [0, 1]^4$, where σ_i is a probability of repressing type $i \in \{g, b\}$ activist, and σ_{ci} is the probability of attempting to hide the

repression of type i activist. The equilibrium is Perfect Bayesian.

When the bystander does not observe any news, he cannot distinguish whether there was a protest that the ruler repressed and censored the news of repression, or there was no protest at all, which happens with probability $1 - \gamma$. Thus, he infers the likelihood that the bad ruler repressed a type i activist given the bad ruler's strategies using Bayes rule. In particular, in his equilibrium beliefs, he always assigns a positive probability that there was no protest and no repression.⁴

$$\begin{aligned} Pr(\text{no protest}|\text{no news}) &= \frac{Pr(\text{no news}|\text{no protest}) Pr(\text{no protest})}{Pr(\text{no news})} \\ &= \frac{1 - \gamma}{1 - \gamma + \gamma Pr(\text{no news}|\text{protest})}. \end{aligned}$$

Because the bystander's gains from joining the protest are bounded, if his punishment from protesting alone against a bad rule is sufficiently severe, then he does not protest when he does not observe any news. Citizens' inference problems and the tradeoffs in a regime's censorship decisions have been analyzed in several recent papers (Besley and Prat 2006; Chen et al. 2012; Edmond 2013; Egorov 2009; Lorentzen 2013; Shadmeher and Bernhardt 2010). Thus, to focus on the new aspects of our model, we maintain the following assumption.

Assumption 1 *The bystander's payoff from protesting alone against a bad ruler is sufficiently low that he does not revolt when he does not observe any news of repression. Formally, A_b is sufficiently low that $\sigma_\phi = 0$.*

If the bad ruler concedes to a type i activist, his payoff is $-\alpha_i F$. If he does repress and tries to hide it, his expected payoff is $(1 - \lambda)(0) + \lambda\sigma_p(-F) = -\lambda\sigma_p F$. However, if he does not try to hide repression, then his payoff is $-\sigma_p F$, and hence he always attempts to hide repression unless $\sigma_p = 0$. We assume that if the bad ruler is indifferent between hiding repression or not, he attempts to hide repression. Thus,

Lemma 1 *The bad ruler always attempts to hide repression.*

To clarify our analysis, we use Assumption 1 and Lemma 1 to cut the branches of our game tree that are irrelevant for the remaining analysis. Figure 3 illustrates.

⁴This probability is bounded away from 0.

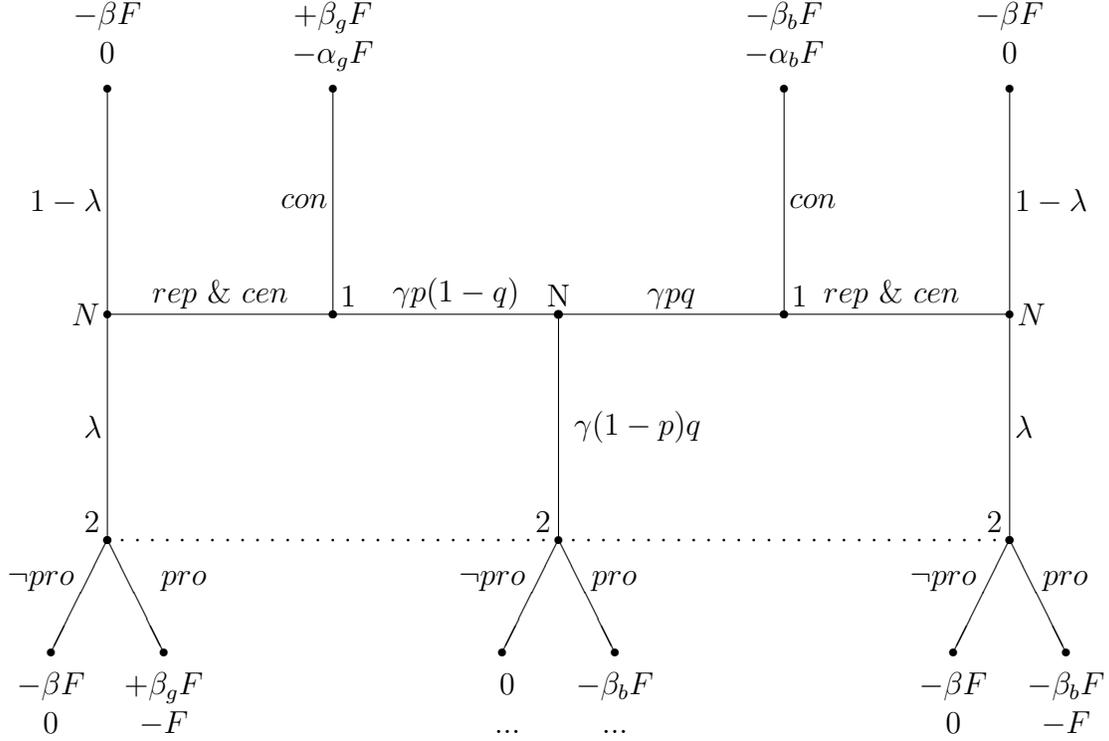


Figure 3: Given Assumption 1 and Lemma 1, in equilibrium, the bystander does not protest if he does not observe repression, and the bad ruler always censors repression. Here, we only show the branches that are relevant for the rest of our analysis.

The bad ruler represses a type i activist if and only if $\alpha_i F > \sigma_p \lambda F$, i.e.,

$$\alpha_i > \sigma_p \lambda. \quad (1)$$

Because $\alpha_b > \alpha_g$, if the bad ruler represses the good activist with a positive probability, then he always represses the bad activist. The following lemma helps to characterize the equilibria.

Lemma 2 *In equilibrium, the bad ruler always represses the bad activist, and represses the good activist with a positive probability, i.e., $\sigma_b = 1$ and $\sigma_g > 0$.*

The reasoning is intuitive. If the bad ruler does not repress the good activist, then the bystander never joins the protest upon observing repression because the bystander knows that the activist is bad. But if the bystander never joins the protest,

then the bad ruler has incentives to repress. In turn, if the bad ruler represses the good activist with positive probability, it follows that he must repress the bad activist with probability 1, i.e., $\sigma_g > 0$ implies $\sigma_b = 1$. Thus, we only need to find the equilibrium probability by which a bad ruler represses the good activist, which we subsequently denote by $\sigma_r = \sigma_g \in [0, 1]$ to simplify exposition.

Next, consider the bystander's strategy. When the bystander observes repression, he cannot distinguish whether (1) the good ruler has repressed the bad activist, (2) the bad ruler has repressed the bad activist, or (3) the bad ruler has repressed the good activist—in equilibrium, the bystander knows that if the bad ruler represses, he attempts to censor repression, but fails with probability λ . Thus, he updates about the types of the ruler and the activist using Bayes' rule. Let p' be the bystander's updated belief about the likelihood that the ruler is bad, and q' be his updated belief about the likelihood that the activist is bad. The bystander's expected payoff from joining the protest is $q'(-\beta_b F) + (1 - q')(\beta_g F)$. With probability q' the activist is bad, and siding with a bad activist hurts the bystander, reducing his payoff to $-\beta_b F$. With the remaining probability $1 - q'$ the activist is good—who could be repressed by a bad ruler. If the bystander sides with the good activist, the bad ruler is deposed and the good activist's beneficial demands are implemented, raising the bystander's payoff to $\beta_g F$. The bystander's payoff from staying quiet is $p'(-\beta F) + (1 - p')(0)$. With probability p' the ruler is bad, and the bystander's payoff from living under a bad ruler (who does not meet the demands of any activist) is $-\beta F$. With the remaining probability $1 - p'$ the ruler is good, and the bystander's payoff is (normalized to) zero. Thus, the bystander joins the protest if and only if $q'(-\beta_b F) + (1 - q')(\beta_g F) > p'(-\beta F)$, i.e.,

$$-q'\beta_b + (1 - q')\beta_g > -p'\beta. \quad (2)$$

When deciding whether to join the protest, the bystander faces a trade off: support the ruler and possibly prevent the implementation of good changes, or support the activist and risk the implementation of bad changes. Inequality (2) captures this trade off.

Bystander's Beliefs. Because the good and the bad ruler adopt different strate-

gies,⁵ observing repression reveals information about the types of both the ruler and the activist. For example, the bystander updates his belief about the ruler according the Bayes' rule,

$$Pr(\text{bad ruler}|\text{observed repression}) = \frac{Pr(\text{observed repression}|\text{bad ruler}) Pr(\text{bad ruler})}{Pr(\text{observed repression})}.$$

The good ruler only represses the bad activist and never hides repression, and hence the likelihood that repression is observed is the probability that a bad activist protests, i.e., γq . The bad ruler, however, also represses the good activist with probability σ_r . Thus, when the ruler is bad, the likelihood that repression is observed is $\gamma[q + (1 - q)\sigma_r]\lambda$. Using similar calculations shows⁶

$$p' = \frac{\lambda[q + (1 - q)\sigma_r]p}{(1 - p)q + \lambda[q + (1 - q)\sigma_r]p}, \text{ and } q' = \frac{[1 - p + \lambda p]q}{(1 - p)q + \lambda[q + (1 - q)\sigma_r]p}. \quad (3)$$

Lemma 3 characterizes how the bystander updates about the types of the ruler and the activist when he observes repression.

Lemma 3 *Upon observing repression, the bystander updates negatively about the activist ($q' > q$), and updates negatively about the ruler if and only if the bad ruler represses sufficiently often: $p' > p$ if and only if $\sigma_r > (\frac{1-\lambda}{\lambda})/(\frac{1-q}{q})$.*

If the bystander knew that the ruler is bad and the bad ruler repressed all activists equally, then repression would not reveal any information to the bystander about the activist's type; however, if the bad ruler repressed the good activists even slightly less often, then the bystander would update negatively about the activist's type upon observing repression. But the bystander does not know the ruler's type, and hence he always thinks that there is a chance that it was the good ruler who repressed the bad activist. Thus, even if the bad ruler always represses both the good and the bad activist, the bystander updates negatively about the activist upon observing repression.

Next, consider the bystander's updating of the ruler's type. Suppose that the bad ruler could never hide repression, i.e., $\lambda = 1$. If the bad ruler only repressed the bad

⁵Lemma 2 shows that, unlike the good ruler, the bad ruler represses the good activist with positive probability in equilibrium.

⁶Note that γ cancels from numerator and denominator. However, $\gamma \in (0, 1)$ is necessary for our previous analysis because if $\gamma = 1$, then the absence of new would reveal that the ruler is bad, precluding censorship in equilibrium.

activists, then repression would not reveal any information about the ruler. But if he represses the good activist with any positive probability, then the bystander updates negatively about the ruler. Now, suppose the ruler can only hide repression with some positive probability less than 1, i.e., $\lambda < 1$. Upon observing repression, the bystander thinks that repression is less likely done by the bad ruler. In particular, if the bad ruler could always hide repression, i.e., $\lambda = 0$, then the bystander would think that when he observes repression, the ruler must be good—because he would never see the bad ruler’s acts of repression.

Next, we characterize the equilibrium behavior of the bad ruler and the bystander. We divide the analysis into two cases: the high censorship case in which the bad ruler’s ability to censor is high, so that he hides repression with high likelihood—recall that the bad ruler always attempts to hide repression; and the low censorship case in which the ability of the bad ruler to hide repression is lower.

High Censorship Regime ($\lambda < \alpha_g$). When the bad ruler’s censorship apparatus is so effective that he can hide repression with a high likelihood, he always represses the good activist because the expected costs of conceding to the good activist always dominates the expected costs of repression—due to the bystander joining the activist’s protest and deposing the bad ruler. Equation (1) captures this intuition: because $\sigma_p \lambda \leq \lambda < \alpha_g$, the ruler always represses, i.e., $\sigma_r = 1$. Given that the ruler always represses, we analyze the bystander’s equilibrium behavior by substituting his updated beliefs from (3) into (2). Proposition 1 presents the precise characterization, and Figure 4 illustrates the equilibrium. The bystander’s equilibrium behavior depends on his prior beliefs about the ruler and the activist, p and q . An increasing curve $\underline{p}(q)$ divides the (q, p) -space into two regions. In the region below and to the right of $\underline{p}(q)$, loosely speaking, the bystander thinks that the leader is relatively likely to be bad or the activist is relatively likely to be good, and he always joins the protest upon observing repression. Otherwise, he acquiesce and does not join the protest. In particular, if the bystander believes that the activist is sufficiently bad in the sense that $q > (\beta_g + \beta)/(\beta_g + \beta_b)$, then he never joins the protest. This captures the effect of some of the changes in the environment on the bystander’s behavior that are generally

true in our model. For example, when helping a bad activist becomes more harmful, i.e., when β_b increases, $(\beta_g + \beta)/(\beta_g + \beta_b)$ falls, implying that the bystander becomes less inclined to oppose the ruler. In contrast, when the opportunity cost of having a bad ruler is higher, i.e., when β or β_g are higher, the bystander is more inclined to side with the activist.

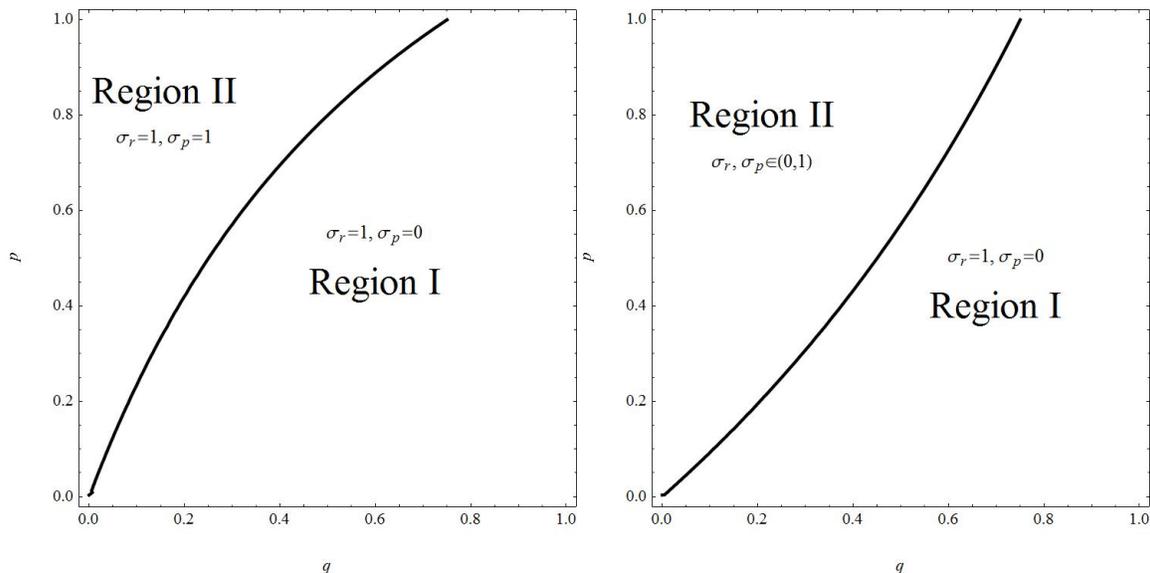


Figure 4: Equilibrium characterization for the high censorship regime (left) and for the low censorship regime (right). The curve is $p = \underline{p}(q)$, defined in Proposition 1. Parameters: $\beta_g = \beta_b = 1$, $\beta = 0.5$, $\lambda = 0.25$ in the left graph, and $\lambda = 0.75$ in the right one.

Low Censorship Regime ($\lambda > \alpha_g$). When the bad ruler’s censorship apparatus is weak and his attempts at hiding repression fails with high probability, the bad ruler never represses the good activist *if* the bystander always joins the activist upon observing repression: From equation (1), when $\sigma_p = 1$, we have $\alpha_g < \lambda$, implying that the ruler never represses, $\sigma_r = 0$. However, as we established in Lemma 2, the bad ruler represses the good activist with positive probability in equilibrium. Therefore, in equilibrium, the bystander joins the protest upon observing repression with a probability less than one, i.e., $\sigma_p < 1$. If the bystander never joins the protest, i.e., if $\sigma_p = 0$, then the bad ruler always represses the good activist, i.e., $\sigma_r = 1$; and this is the only possible pure strategy equilibrium.

We have already established that $(\sigma_p, \sigma_r) = (0, 1)$ is an equilibrium in the region

below and to the right of the curve $\underline{p}(q)$. Thus, the equilibrium in the remaining region (above and to the left of the curve $\underline{p}(q)$) must be in mixed strategies. In fact, we show that this region is the only region that hosts an equilibrium in mixed strategies. At any mixed strategy equilibrium, the bad ruler must be indifferent between repressing or accommodating the good activist, and the bystander must be indifferent between joining the protest or not. From equation (1), $\sigma_p = \alpha_g/\lambda$; and from equations (2) and (3), $\sigma_r = \frac{q}{p} \frac{\beta_b + p[(1-\lambda)\beta_b - \lambda\beta]}{(1-q)(\beta_g + \beta)\lambda}$, where we recognize that $\sigma_r > 0$ because $\beta_b > \beta$. Differentiating this σ_r with respect to p and q yields

$$\frac{\partial \sigma_r}{\partial p} = -\frac{q\beta_b}{p^2\lambda(1-q)(\beta_g + \beta)} < 0 < \frac{\beta_b - p[(1-\lambda)\beta_b + \lambda\beta]}{p\lambda(1-q)^2(\beta_g + \beta)} = \frac{\partial \sigma_r}{\partial q}. \quad (4)$$

Moreover, as one expects, it can be shown that at $p = \underline{p}(q)$, $\sigma_r = 1$. Thus, $\sigma_r \in (0, 1)$ in the area above and to the left of $\underline{p}(q)$, and it is larger than 1 in the remaining area. This proves that the area in which mixed strategy equilibrium exists does not overlap with the area that hosts pure strategy equilibrium, implying a unique equilibrium. Proposition 1 summarizes our findings.

Proposition 1 *The game has a unique equilibrium. An increasing curve $\underline{p}(q)$ divides the prior likelihood (q, p) -space into two regions. Region I is the area below and to the right of this curve, and is associated with low p and high q . Region II is the remaining area of the prior likelihood (q, p) -space. The ruler always represses the bad activist in both regions.*

In region I, the bad ruler always represses the good activist and the bystander never joins the protest upon observing repression, i.e., $\sigma_r = 1$, $\sigma_p = 0$.

In region II, the nature of equilibrium depends on the likelihood λ that censorship fails. When censorship succeeds with a high probability ($\lambda < \alpha_g$), the bad ruler always represses the good activist and the bystander always joins the protest upon observing repression, i.e., $\sigma_r = \sigma_p = 1$. In contrast, when censorship succeeds with a low probability ($\lambda > \alpha_g$), the bad ruler represses the good activist with a positive probability less than one and concedes to the good activist with the remaining probability; similarly, upon observing repression, the bystander joins the protest with a positive probability

less than one, i.e., $\sigma_r, \sigma_p \in (0, 1)$, where

$$\sigma_p = \frac{\alpha_g}{\lambda}, \quad \text{and} \quad \sigma_r = \frac{q}{p} \frac{(1 + p(1 - \lambda))\beta_b - p\lambda\beta}{(1 - q)(\beta_g + \beta)\lambda}.$$

Moreover, $\underline{p}(q) = \frac{q}{\lambda B + (1 - \lambda)q}$, with $B = \frac{\beta + (1 - q)\beta_g}{\beta_b}$.

To see the intuition for Proposition 1, consider increasing q and a given p . Increases in the bystander's prior belief q that the activist is bad has two effects: (1) the bystander updates more negatively about the activist: $\frac{\partial q'(q)}{\partial q} > 0$; (2) he updates less negatively (or more positively) about the ruler $\frac{\partial p'(q)}{\partial q} < 0$. Therefore, as q increases, the bystander's incentive to join the protest upon observing repression falls. A similar argument shows that as the bystander's prior likelihood p that the ruler is bad rises, his incentive to join the protest increases.

3.1 Updating and Protesting

One may think that the bystander joins the activist whenever he updates negatively about the ruler, or at least, updating negatively about the ruler must be a necessary condition for the bystander to join the activist's protest. These assessments are both wrong. To see this, consider the high censorship case, in which the ruler always attempts to censor repression, i.e., $\sigma_r = 1$. As we showed in Lemma 3, the bystander updates negatively about the ruler upon observing repression if and only if $\sigma_r > (\frac{1 - \lambda}{\lambda}) / (\frac{1 - q}{q})$, which simplifies to $q < \lambda$ for $\sigma_r = 1$. Moreover, as we discussed prior to Proposition 1, as far as $q < (\beta_g + \beta) / (\beta_g + \beta_b)$, the bystander joins the activist upon observing repression when p is sufficiently high—even if $q > \lambda$, so that he updates positively about the ruler. This is most clear in the left graph of Figure 4, where $\lambda = 0.25$. When $q > 0.25$, the bystander updates positively about the ruler and negatively about the activists upon observing repression (Lemma 3), and yet he joins the activist in a significant subset of this area.

When the ruler uses mixed strategy in equilibrium, substituting σ_r from Proposition 1 into $\sigma_r > (\frac{1 - \lambda}{\lambda}) / (\frac{1 - q}{q})$ together with some algebra reveals that the bystander updates negatively about the ruler if and only if $\beta > p[\beta + (1 - \lambda)(\beta_g - \beta_b)]$. In particular, if $\beta_g \leq \beta_b$, then the bystander always updates negatively about the ruler in the

mixed strategy equilibrium—this is the case in the right graph of Figure 4 because $\beta_g = \beta_b = 1$. However, if $\beta_g > \beta_b$, then the bystander updates positively about the ruler in equilibrium if and only if his prior belief that the ruler is bad is sufficiently high: $\beta/[\beta + (1 - \lambda)(\beta_g - \beta_b)] < p$. Thus, our equilibrium regions are *not* merely characterized by whether the bystander updates negatively or positively about the ruler upon observing repression. Rather, as we mentioned in the introduction, they reflect more complicated considerations that required a formal analysis.

4 Repression and Censorship

One may view repression and censorship as substitutable instruments used by regimes to contain protest. Censorship prevents bad news from reaching citizens and impairs coordination among activists (Buono de Mesquita and Smith 2010; Chen et al. 2012; Edmond 2013; Egorov et al. 2009; King et al. 2013; Lorentzen 2013; Shadmehr and Bernhardt 2010), while repression increases the costs of dissent. Thus, high levels of censorship reduce the need for repression, and high levels of repression deter protest, reducing the need for censorship. The deterrence effect of repression further strengthens this substitutability link: when the level of censorship is high so that repression is less likely to be observed, repression is less likely to deter protest, reducing its value to the state.

Our model shows that this view is incomplete: there is also a complementary link between repression and censorship that implies a positive correlation between the two. Lower levels of censorship make it more likely that the bystander observes repression and joins the protest. As a result, the state represses less when it censors less.

At high levels of censorship, where $\lambda < \alpha_g$, the bad ruler always represses. However, once censorship falls past a threshold (once λ exceeds α_g) in a larger area of the prior likelihood (q, p) -space the regime’s behavior changes from repressing all the time to randomizing between repression and concession. Moreover, at any (q, p) in region II, the likelihood of repression falls as the regime censors less, so that λ increases:

$$\frac{\partial \sigma_r(\lambda)}{\partial \lambda} = -\frac{1}{\lambda^2} \frac{(1-p)q}{p(1-q)} \frac{\beta_b}{\beta_g + \beta} < 0. \quad (5)$$

Proposition 2 summarizes these results.

Proposition 2 *Increases in the level of censorship (decreases in λ) raises the likelihood of repression.*

We clarify that, in Proposition 2, when we say the likelihood of repression increases, we have two interpretations in mind: (1) Region II expands so that in a larger subset of parameter space, the ruler’s likelihood of repression falls from $\sigma_r = 1$ to $\sigma_r < 1$; and (2) at any (q, p) combination in region II, the likelihood of repression decreases, i.e., $\frac{\partial \sigma_r(\lambda)}{\partial \lambda} < 0$.

5 Conclusion

“The seed of revolution is repression”, once said Woodrow Wilson. Repression may deter protest and maintain the status quo, but it surely changes the people’s beliefs about the Leviathan: it (partly) reveals the nature of the beast.⁷ The literature has focused on the deterrence aspect of repression, ignoring the information that repression reveals about the nature of the state. We abstract from the well-studied deterrence effect, and focus on this informational aspect.

We developed a simple model that formalizes our proposed logic that repression is an informative signal of the types of the state and activists. Our logic is based on three key assumptions: (1) Not all states or activists are the same. Some states and some activists are better than others for the general public in the sense that they care more about the welfare of the general population; (2) better states are more likely to concede to activists’ demands that are beneficial to the general public; and (3) the general public’s information about the state and activists is limited.

6 Appendix: Proofs

Proof of Proposition 1: Let $\Delta_p(p, q, \lambda)$ be the bystander’s marginal gain from joining the protest when the ruler always represses, i.e., when $\sigma_r = 1$. From equation

⁷Refers to the treatise by the 17th century English political philosopher Thomas Hobbes, entitled *Leviathan: Or the Matter, Forme, and Power of a Common-Wealth Ecclesiasticall and Civill*.

(2), $\Delta_p(p, q, \lambda) = -q'\beta_b + (1 - q')\beta_g + p'\beta$. Substituting for q' and p' from equation (3) and simplifying the expression yields

$$\Delta_p(p, q, \lambda) = \beta_b \frac{p\lambda B - q[1 - p(1 - \lambda)]}{(1 - p)q + p\lambda}, \quad (6)$$

where $B \equiv \frac{\beta + (1 - q)\beta_g}{\beta_b} > 0$. Differentiating (6) yields

$$\frac{\partial \Delta_p}{\partial q} = -p\lambda \frac{1 + B(1 - p) - p(1 - \lambda)}{[(1 - p)q + p\lambda]^2} < 0 < \frac{\partial \Delta_p}{\partial p} = \frac{(1 - q + B)q\lambda}{[(1 - p)q + p\lambda]^2}. \quad (7)$$

Rewrite the numerator of equation (6) as $p[\lambda B + (1 - \lambda)q] - q < \lambda(B - q)$. If $q > B$, then $\Delta_p(p, q, \lambda) < 0$. Suppose $q < B$. Next, from equation (6), observe that $\Delta_p(p, q, \lambda) = 0$ if and only if $\underline{p}(q) = \frac{q}{\lambda B + (1 - \lambda)q}$. $\underline{p}(q)$ is increasing in q , with $\underline{p}(0) = 0$ and $\underline{p}(B) = 1$. This together with (7) imply that $\underline{p}(q)$ divides the (q, p) -space into two regions such that above and to the left of $\underline{p}(q)$, $\Delta_p(p, q, \lambda) > 0$, and hence $\sigma_p = 1$; and below and to the right of $\underline{p}(q)$, $\Delta_p(p, q, \lambda) < 0$, and hence $\sigma_p = 0$.

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