

The Logic of Collective Repression

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Why do some autocratic governments repress people on the basis of their individual behaviors, while others do so on the basis of the individuals' membership in certain demographic categories? The existing literature suggests that the latter approach of collective repression is at best ineffective and at worst counter-productive; yet, many autocrats continue to use it. To explain why and when governments would use collective repression, I develop a formal model that incorporates an empirically well-documented micro-motive of citizens to coordinate on acting against the state in order to escape repression. To deter such coordination prompted by fear of repression, the state allocates the risk of repression differentially across different demographic groups. Consequently, members of groups that are *ex ante* perceived as loyal are repressed for more heavily than members of groups that are *ex ante* perceived as disloyal, even after holding the behaviors of the member of these respective groups constant. The collective repression is more likely to be used when the state's capacity to survive a wide-spread rebellion is weak, when the cross-group polarization is strong, and when there are more grievances across the entire society.

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“Even executions of officials don’t help. Death has already become an all-too-common occurrence.” – Martin Latsis, Cheka official

In 1918, shortly after the Bolsheviks took power in Russia, a high-ranking member of the Communist Party Grigory Zinoviev made the following assessment about the challenges of cementing the new political order:

“We must carry along with us 90 million out of the 100 million of Soviet Russia inhabitants. As for the rest, we have nothing to say to them. They must be annihilated.” (quoted in [Leggett, 1981](#), p. 114)

Arguably, Zinoviev’s presumption was that ten percent of the Russian population cannot be swayed to voluntarily support the new government. But how, in the environment where admitting one’s political disloyalty may pose a lethal threat, could the Soviet government identify those 10 million unlucky souls who had to be ‘annihilated’ because they cannot be swayed?

The answer to this question can be inferred from the practices employed by the Soviet government during the years of Red Terror – the first wave of repressions against the ‘enemies’ of the Soviet state. The Soviet repression policy was to explicitly target people not so much on the basis of their individual actions, but on the basis of their membership in specific demographic categories like class, education, or employment. Ideologues of Cheka, the inaugural Soviet state security agency, overtly recommended its agents to disregard the evidence about the individuals’ behaviors and instead decide who is guilty of being (rather than acting) anti-Soviet based on people’s identity markers:

“When interrogating, do not seek material evidence or proof of the accused’s words or deeds against Soviet power. The first question you must ask is: what class does he belong to, what education, upbringing, origin, or profession does he have? These questions must determine the accused’s fate. This is the essence of Red Terror” ([Rayfield, 2004](#), p. 74).

The Soviet government was by far not unique in employing the collective repression – targeting people based on their demographic profile. The demographic categories

subject to an increased risk of repression vary from context to context, but the approach of repressing people based on their ethnicity, race, social class, place of residence rather than (or in addition to) their individual behaviors has a long tradition. In El Salvador, the authoritarian rule by the coalition of the military and the landed elites routinely targeted the indigenous indian populations, starting with the 1932 peasant massacre “*La Matanza*” (Gould and Lauria-Santiago, 2009) and continuing with smaller “death squad” style campaigns during the ensuing decades (Mason and Krane, 1989). In the aftermath of the Spanish Civil War, the government of general Francisco Franco used geographic markers to identify and repress potential opponents of the military rule. The basic principle was that individual’s actual loyalty towards the regime was not sufficient to be spared from repression: “justice would not be confined to those with ‘blood on their hands’ – anyone in the Republican zone during the civil war was potentially criminal” (Ruiz, 2005, p. 5). During the ‘Operation Murambatsvina’ in Zimbabwe – a large scale repression campaign that officially targeted illegal housing and trade – the security apparatus “cracked down on *any* young unemployed [...] person who was a *potential* recruit for anti-state protests” (Bratton and Masunungure, 2007, p. 36, emphasis added). Although the scale, the selection of targeted demographic categories, and the political environment was quite different across these cases, they all share one important common feature: the state was targeting not so much *individuals* on the basis of their personal behaviors, but *groups* on the basis of their predisposition (assumed or real) to engage in certain behaviors.

The fact that autocrats repress individuals based on their demographic markers is widely known. What is less known is *why* and, especially, *when* do they engage in it, because this form of repression is by far not universal. While other Fascist regimes were obsessed with repressing ethnic minorities *en masse*, the Italian Fascist leader Benito Mussolini insisted that the state needs to practice the strategy of “surgical violence” (Ebner, 2011, p. 11). The resulting system of repression was “highly personalized, case-by-case administration of punishments and pardons” (Ebner, 2011, p. 13). Mussolini’s Fascist regime did target certain demographic groups – members of labor unions, ethnic groups (especially, jews and slavs) – but this does not appear to have been its key systemic principle. In contrast to the public of image of Saddam Hussein’s Ba’thist regime as being particularly prone to employ repression along the religious Sunni-Shia divide, newest archival evidence suggests that Hussein “was

almost 'egalitarian' in his treatment of anyone considered or suspected of disloyalty" (Sassoon, 2012, p. 3). Thus, to understand the logic of collective repression, it is necessary not only to explain its occurrence, but also its variation.

In this paper, I develop a formal model of state repression that explains why and when collective repression is employed as a *deliberate political strategy*. The model integrates several novel features, which commonly discussed in the empirical accounts of state repression and violence, but have not been incorporated into theoretical models. First, the society consists of heterogenous citizens with unknown preferences with respect to the regime. While the state cannot observe these preferences, it can observe some demographic markers that are imperfectly correlated with those preferences. Second, the citizens can act either loyally or subversively, but those actions are also only imperfectly observed by the state. This creates uncertainty on the part of the regime as to whether a given person harbors disloyal beliefs and/or is engaged in disloyal activities. But this also creates uncertainty on the part of citizens as to whether the state will perceive them as loyalists or subversives. Due to this imperfect observability of true preferences and true behaviors, the state may end up repressing the citizens who act loyally, but also fail to repress those citizens who act subversively. Third, due to the risk of being repressed without having acted subversively, even otherwise loyal citizens might end up preferring to act disloyally in order to overthrow the government and thereby escape the risk of repression.

In this framework, the logic of collective repression is driven by the incentive of the state to undermine the coordination among societal groups with heterogenous political preferences. When the state is strong enough to survive a coordinated attack by various societal groups, citizens from different groups do not have an incentive to coordinate their behaviors in order to avoid repression. In such an environment, the state does not employ collective repression – when deciding whom to repress it relies only on the evidence of whether individual citizens acted loyally or subversively, and does not condition its decisions on the demographic markers of the citizens. However, when the state is weak enough so that it can be overthrown by a coordinated attack, then some citizens from different societal groups have an incentive to act subversively in coordination with each other in order to escape repression by overthrowing the government. To preempt such cross-group coordination, the state allocates the risk of repression differentially across the demographic groups: individuals from loyal groups are repressed less than

individuals from disloyal groups *even if their behaviors are the same*.

The model also provides insights about the behavior of different societal groups in response to the state's repressive policy. Members of groups exposed to greater repression act more subversively because of repression, allowing the state to justify its strategic claim that the group is the 'enemy of the state.' In contrast, members of groups that are less exposed to repression, are less likely to act subversively, which, again, justifies the state's claim that the group is not subversive. This part of the model explains the well-known phenomenon when an authoritarian state invents enemies by labeling a certain demographic group as 'dangerous', 'subversive' or such, which in turn creates incentives for individuals of that group to behave like such enemies (Goldman, 2007, 2011).

The rest of the paper is structured as follows: I first review the existing arguments that *could* explain collective repression (I say 'could' because I was not able to find accounts that deal with this problem directly). Then I present the model and explain the intuition behind the logic of collective repression, as it follows from the model. Finally, I draw some comparative statics result to identify conditions when we should expect the collective repression to be a more prevalent political strategy.

STATE CAPACITY, SIGNALING, AND THE NATURE OF REPRESSION

It is generally accepted that collective repression which targets members of some groups indiscriminately is counter-productive because it may encourage behaviors that it attempts to deter. The risk of repression may foster grievances among the groups exposed to it and it may encourage members of those groups to act against the repressor in order to avoid being repressed (Bueno de Mesquita and Dickson, 2007; Schelling, 2008; Machain, Clifton Morgan and Regan, 2011; Kocher, Pepinsky and Kalyvas, 2011; Greitens, 2016). In both cases, excessive repression might escalate the costly conflict between the state and the opposition (Lichbach, 1987; Pierskalla, 2009). Given this puzzle, one can broadly distinguish two types of explanations for the use of collective repression – limited capacity to use selective repression and the incentive to signal the repressor's type.

In order to repress individuals selectively, the state must obtain information about their behaviors. When the costs of obtaining such information are high – as would be the case when the state capacity is low – the repressor cannot use selective repression and instead must rely on potentially less effective collective repression (Kalyvas, 2006; Bueno de Mesquita and Dickson, 2007; Gregory, 2009; Gregory, Schröder and Sonin, 2011; Blankenship, 2016). This explanation certainly accounts for occurrence of collective repression in some cases where other means of repression are simply unavailable. However, it fails to explain the cases where collective repression is *intentional* – a feature of policy, not a bug. During Red Terror, for example, the perpetrators of state-sanctioned violence were encouraged not over-rely on the information about whether a particular individual did or did not act subversively when deciding whether to repress him or not: “We must execute not only the guilty. Execution of the innocent will impress the masses even more” (Pipes, 1990, p. 822). Similarly, executors of state violence in El Salvador were instructed to repress the indigenous population without any evidence of their individual disloyalty, while a higher evidential standard was advocated with respect to non-indigenous (ladino) population: “When you capture a suspect, if he’s an Indian, shoot him, and if he is ladino, bring him in for questioning” (Gould and Lauria-Santiago, 2009).

From what we can infer, in the first case the state repressed individuals indiscriminately conditional on their membership in a certain demographic group despite having information about individual behaviors. In the second case, the state could have obtained such information (by questioning members of the indigenous groups as it did with non-indigenous ones), but instituted a policy not to do so. To the extent that the state cannot use selective individualized repression without information, the cost of information is always going to be an important structural condition driving the nature of repression. However, to account for intentional choice of collective repression, we need to have an explanation for why two governments with the same amount (or the same cost) of information would decide to use different forms of repression.

Another set of arguments, developed in the literatures on civil conflict, counter-terrorism, and democratization literatures, emphasize the signaling value of collective repression. Large scale repression of potentially innocent citizens allows the autocrat to signal their toughness and resolve (Acemoglu and Robinson, 2000) or the willingness of the repressive apparatus (the military, in particular) to follow the

repressive orders by the government (Casper and Tyson, 2014). The signaling argument is wanting on the grounds of both logical and empirical consistency.

As for the logic of the argument, it is important to consider the kind of signals that would be most effective in deterring future acts of disloyalty against the regime. Arguably, these should be the signals that would inform the population that the state will be able to *detect* and *punish* any acts of disloyalty. By repressing some groups of the population indiscriminately independent of the acts of disloyalty by its individual members, the state loses the ability to convey a signal that it is able to detect disloyal activities. What remains is the ability of the state to show that it can exert a punishment on the population, but if the punishment itself is not strongly related to the actions of the population, then it cannot serve as a deterrent tool.

Moreover, the signaling argument lacks empirical support. Collective repression can serve as a signaling device only if it is observable – the government can only signal its type *through* repression only if repression itself is observable. In many instances, however, autocrats not only abstain from publicizing repression, but attempt to hide it (Shadmehr, N.d.), especially when it uses large-scale collective repression. Although Lenin personally initiated mass repression campaigns, he “went through extraordinary lengths to dissociate his name from the terror.” (Pipes, 1974, 795). Stalin also personally orchestrated the Great Terror campaign, and at the same time worked hard to insure that the responsibility for these repressions does not fall on him, but instead on the ‘over-zealous’ state security and party officials who themselves were later purged or killed precisely because they, according to the official charged, over-repressed (Khlevniuk and Favorov, 2009).¹ The atrocities of the Great Terror could not be completely hidden due to their sheer scale, and yet “the police were instructed specifically not to make a public display of sweep operations and group deportations” (Shearer, 2009, p. 13). The Soviet NKVD and the Nazi Gestapo agencies were notorious for pulling arrestees at night from their beds to avoid publicity.

During the Haitian massacre of 1937 in Dominican Republic, president Rafael Trujillo’s armed forces used machetes – not the most effective tool of mass killings – in

¹Until archival evidence was investigated after the breakup of the Soviet Union, the dominant narrative was that the logic of violence in the Great Terror was not dictated by Stalin, but was a campaign driven by rogue local activists and administrators (Getty, 1987). This is precisely how Stalin intended his role in the Great Terror to be perceived, which suggests that Stalin did not have an objective to signal *his* resolve to use repression.

order “to convey the impression that local civilians had murdered the Haitians in their midst” (Roorda, 1998, p. 131). In 2004 security forces of Ivory Coast brutally suppressed opposition demonstrations against and harassed the media not to cover the demonstration itself and its repression to be able to “to maintain their ability to use excessive force far from prying eye” (Amnesty International, 2004, p. 2). The repressive policies at such mass scale would serve as most informative signals of the autocrat’s resolve to use violence to suppress the opposition. The very fact that autocrats, despite themselves personally ordering and orchestrating these acts of mass terror, work hard to implicate their local officials or local populations, indicates that showing their own personal resolve is perhaps not their most sought-after objective.

In the following section, I present a model that explains the logic of collective repression without invoking the notion that it only used out of necessity or as an instrument to signal the state’s type. More importantly, in contrast to these existing accounts, the model also captures some important empirically known patterns in the behavior of the government and the citizens.

THE MODEL

Players. The actors in the model are the state (or the government) and two citizens. One citizen belongs to a demographic group A and the other citizen belongs to a demographic group B . The citizens’ membership in the two groups is a common knowledge so that everyone knows to which group each citizen belongs. We can think of A and B as being observable demographic markers of each citizen – race, ethnicity, social class, region of residence, and so on. Throughout the paper I refer to ‘the citizen A ’ and ‘the citizen B ’ with the understanding that these mean ‘the citizen from group A ’ and ‘the citizen from group B ,’ respectively.

Information. Each citizen $i \in \{A, B\}$ has a privately known type $x_i \in \mathbb{R}$, which I interpret as the degree of grievances that the citizen holds against the state. These grievances are correlated with the citizens’ demographic characteristics A and B in the following sense: the type of the citizen i is drawn from the distribution F_i with the associated density f_i . I assume that the likelihood ratio $f_B(x)/f_A(x)$ is increasing in x , for all $x \in R$. This assumption implies that the B is expected to have higher

grievances than the citizen A . For this reason, I will sometimes refer to the citizen A as ‘the perceived loyalist’ and to the citizen B as ‘the perceived opponent.’ Notice that these labels refer only to the prior *expectations* of the government about the grievances of the members of certain groups (hence ‘perceived’). The distributions F_A and F_B are the common knowledge.

Actions. Each citizen can either act loyally ($a_i = 0$) or subversively ($a_i = 1$) with respect to the state. The state, on the other hand, can punish citizens for acting subversively. The actions of the citizens are not perfectly observable: given the action by the citizen i , the state receives a signal y_i , correlated with the citizen’s action. Specifically, I assume that the signal y_i is drawn from the distribution G_{a_i} , with the density g_{a_i} . I refer to y_i as a *signal of loyalty* from citizen i . To make sure that the signals of loyalty are informative about the citizen’s actions, I assume that the likelihood ratio $g_0(y)/g_1(y)$ is increasing in y . In this way, a larger value of a loyalty signal y_i serves as evidence that citizen i more likely acted loyally than subversively. In equilibrium, the loyalty signals *might* also be informative about the latent preferences of the citizens.

Having observed the loyalty signals from both citizens, the state decides whether to repress each of them or not. We let r_i denote the indicator variable equal to one if the citizen i is repressed and zero otherwise. I focus on the case where the state uses the monotone cut-off strategy such that, for each $i = A, B$, $r_i = 1$ if and only if $y_i < \hat{y}_i$. Here, \hat{y}_i is an endogenously chosen *loyalty threshold* – if the loyalty signal from citizen i , y_i , exceeds the threshold, the citizen is not repressed and he is repressed otherwise.

Payoffs. The payoffs for the citizen i depend on his privately known grievance, x_i , his action, a_i , the action of the other citizen, a_{-i} , and whether citizen i is repressed or not, r_i . I distinguish between two qualitatively different cases: In the first case, the utility that each citizen draws from taking a certain action is independent from the action of another citizen so that the actions of the two citizens are strategically independent. In the second case, the utility of each citizen depends not only on his action, but also the action of another citizen so that the citizens’ actions are strategically interdependent. Formally, let $\theta \in \{0, 1\}$ be the variable such that, when $\theta = 1$, the actions of the citizens are strategically independent, and when $\theta = 0$, the actions of the citizens are strategic complements.

	$a_j = 0$	$a_j = 1$
$a_i = 0$	$-G_0(\hat{y}_i)$	$-G_0(\hat{y}_i)$
$a_i = 1$	$x_i - G_1(\hat{y}_i)$	$x_i - \theta \cdot G_1(\hat{y}_i)$

Table 1: Expected payoffs for citizen i conditional on the actions by citizen j . x_i is the citizen’s intrinsic utility from acting subversively, \hat{y}_i is the state’s repression policy with respect to group i , and $\theta \in \{0, 1\}$ is the state’s ability to survive a coordinated subversion.

Conditional on the observed loyalty signals $\mathbf{y} = (y_A, y_B)$, the state decides whether to repress each of the citizens or not. I assume that if a citizen is repressed, he incurs a normalized loss equal to one. I focus on a setting where the state is using cut-off strategies such that a citizen from group i is repressed if and only if $y_i < \hat{y}_i$, where \hat{y}_i is ex ante chosen cut-off. I refer to the cut-off \hat{y}_i as the government’s repression policy with respect to citizen i . Note that if the government’s policy is highly repressive (\hat{y}_i is large), then group i expects to be repressed even if the government observes a high loyalty signal from citizen i .

Whether the subversive behaviors by one citizen will be repressed depends jointly on the actions of the other citizen and the nature of the state the citizens are facing. Here, I integrate the idea that if both citizens act subversively *and* if the state is weak, the the state is overthrown and both citizens do not face the risk of repression ex post. Specifically, I assume that if only a single citizen acts subversively, the state always survives and both citizens can are at a greater risk of repression *conditional* on the loyalty signals the state is receiving. However, when both citizens act subversively, the state is overthrown with the probability θ , which measures the state’s capacity to survive a coordinated subversion. When the state is expected to be weak (θ is low), the citizens might have an incentive to act subversively even without holding strong grievance if they face a high risk of indiscriminate repression.

The expected payoffs of citizen i conditional on the actions of citizen j are given in Table 1. Since the state survives a subversive attack by a single group of citizens, whenever group i acts loyally it expects to receive the payoff $-G_0(\hat{y})$ irrespective of what group j does. This payoff represents the probability of group i being repressed conditionally on acting loyally and conditional on state using repression policy \hat{y}_i against group i . However, if group i does act subversively ($a_i = 1$), then its members expect to be repressed with the probability $G_1(\hat{y})$ if the other group acts loyally, but

acting subversively yields group i a payoff equal to x_i . Hence, it's expected payoff from acting subversively when the other group acts loyally is $x_i - G_1(\hat{y}_i)$. When group j also acts subversively, however, group i yields the intrinsic payoff x_i from acting subversively and faces the expected cost of repression equal to $\theta \cdot G_1(\hat{y}_i)$. Thus, when the state has strong repressive capacity, $\theta = 1$, citizens do not gain anything from coordinating against the state because the state is equally good at surviving and repressing small and large scale subversions. But when the state is weak, $\theta = 0$, citizens may have a preference to act collectively against the state, especially if they risk a high probability of repression even if they do act loyally (so that $G_0(\hat{y}_i)$ is large). In this version of the paper, I assume that θ is commonly known.

Whenever both citizens act subversively, the state incurs a deadweight cost, but the weak state is also more likely to be overthrown. Thus, irrespective of its strength, the objective of the state is to minimize probability of a coordinated subversion. The sequence of actions in the game is as follows:

1. Nature draws the grievances for citizens, $x_i \sim F_i, i = A, B$.
2. The government sets repression policy $\hat{\mathbf{y}} = (\hat{y}_A, \hat{y}_B)$.
3. Each citizen privately observes his type x_i and chooses whether to act loyally ($a_i = 0$) or subversively ($a_i = 1$).

Equilibrium concept. The citizen's equilibrium strategies, $\mathbf{x}^*(\hat{\mathbf{y}})$, must constitute the Bayesian Nash equilibrium in every subgame defined by the repression policy chosen by the state, $\hat{\mathbf{y}}$. The state's equilibrium repression policy, \mathbf{y}^* , minimizes the the ex ante probability that both citizens act subversively.

Several remarks about this setup are in order. First, the state's inability to perfectly observe the citizens' behaviors sets this model apart from other accounts that are specifically designed to capture the process of 'contentious politics' (Moore, 1998; Lichbach, 1987; Pierskalla, 2009; Shadmehr and Bernhardt, 2011). In the contentious politics framework, citizens take actions that are perfectly observable by the state (protest, dissent) and the state responds to these actions by repression or accommodation of the citizen's demands. In that sense, the contentious politics framework has importantly limitations because it cannot capture covert or clandestine

anti-state behaviors by the regime opponents – underground organizations, terrorist attacks, coup and assassination plots (Della Porta, 2013). The contentious politics framework also cannot account for the state’s inability to always accurately identify citizens who act against its interests. Consequently, the very notion of collective repression becomes somewhat difficult to define if we assume that the state can perfectly sort citizens into those that act loyally and those that act subversively.

Second, note that the notion of repression, as formalized in this notation, differs from some other definitions used in the existing literature. For example, Tilly (1978, p. 100) has famously defined repression as any action by the government that “raises the contender’s cost of collective action.” In the context of this paper, this definition of repression is too restrictive because it cannot directly accommodate the notion of collective repression which is not necessarily applied in direct response to the action against the government. The whole puzzle of collective repression is predicated on the notion that the state may repress even those people who are not acting against it. In fact, one interesting insight that follows from the model is that, in some cases, repression *reduces* the opportunity cost of collective action against the government, rendering Tilly’s definition of repression unusable in this context. For these reasons, I define repression simply as a cost that the government can impose upon citizens – whether and to what degree this cost depends on the citizen’s actual or perceived behavior is matter of *how* the state decides to repress, which is decided endogenously in the model.

Analytically, it is essential to distinguish between the *scale* of repression and its *nature* (individual vs collective). This is somewhat complicated because once repression expands in scale, its targets are necessarily chosen less selectively. For instance, during Stalin’s Great Terror, the usual judicial procedures were suspended and the state officially allowed to employ much lower evidential standards in selecting the victims of repression; those in charge of repression often did not have to provide any evidence that the person in question engaged in any subversive activities (Gregory, 2009). Despite this partial overlap between the scale and nature of repression, we can still draw the analytical distinction between the two, in the framework of this model. If the state uses a low dis-loyalty threshold, \hat{y}_i , for members of one group, but a high one for members of another group, then we can say that the state is employing collective repression – when deciding whether to repress a given individual, the state takes into account not only possible actions that the individual is likely to have taken,

but also his demographic profile.

Fourth, the set up with imperfectly observable actions by citizens also captures a quite common phenomenon (unaccounted by models with perfect observability) where citizens are uncertain of whether the state will *perceive* their actions as loyal or subversive. Note, however, that this model can account for observable actions by citizens by allowing the distributions G_0 and G_1 to have sufficiently high precision so that the loyalty signals observed by the state become increasingly accurate markers of the citizen's behaviors.

Finally, and perhaps most importantly, the model captures the trade-off that states are facing when they apply repression indiscriminately to the members of some group in the population. On the one hand, the citizens are going to be fearful of repression in case they do act against the government. On the other hand, the citizens might also be incentivized to act against the government even if they are otherwise do not hold strong grievances against it. If the government applies repression too indiscriminately, citizens might want to act subversively in order to overthrow the government and escape repression down the line. These counter-productive effects of indiscriminate violence have been discussed widely in the literature on military conflicts, which highlighted how indiscriminate repression may increase the willingness of its targets to act more vigilantly against the perpetrators of violence (Kalyvas, 2006; Lyall, 2009; Kocher, Pepinsky and Kalyvas, 2011).

However, the same logic has also been suggested, though much less widely discussed, in the context of state repression in authoritarian states. Historical accounts of state repression often describe a certain fatigue and indifference towards repression when it becomes too wide-spread and arbitrary. Reporting to Lenin about the personnel compliance issues inside Cheka organization, a chief of its local division complained that even most punitive measures do not deter agents from stealing the property of repression victims in defiance of the standard protocol: "Even executions of officials don't help. Death has already become an all-too-common occurrence" (Kroenker and Bachman, 1997). Once it becomes too indiscriminate and too common, repression may stop being effective, but it may also become counter-effective by alienating those that are facing an increased risk of repression. In El Salvador, as Mason and Krane (1989) suggest, communities victimized by indiscriminate state repression were more predisposed to hold anti-regime sentiments as a result of

increased risk of repression. Anti-state rebellions by Islamists in the Middle East “are often defensive reactions to overly repressive regimes that misapply their repression in ways that radicalize, rather than deter, movement activists and supporters” (Hafez, 2003, p. 70). By integrating this micro-motive in the model of state repression, we can learn explicitly how the possibility that repression could be counter-productive impacts the incentives of the state to determine the scale (low vs high) and the nature of repression (individual vs collective).

ANALYSIS

Strong State

When the state is strong enough to always survive both uncoordinated and coordinated attack ($\theta = 1$), citizens do not gain anything from coordinating their actions. Given the government’s repressive policy $\hat{y} = (\hat{y}_A, \hat{y}_B)$, group i always expects to gain $-G_0(\hat{y}_i)$ and $x_i - G_1(\hat{y}_i)$ irrespective of what group j does. For group i , the *net* gain from acting subversively instead of loyally is equal to

$$x_i - (G_1(\hat{y}_i) - G_0(\hat{y}_i)).$$

Group i acts subversively if and only if its level of grievances x_i is sufficiently large so that the above expression is positive. Let $x^*(\hat{y}) = G_1(\hat{y}_i) - G_0(\hat{y}_i)$ denote the threshold such that, for a given \hat{y} the above expression is equal to zero if $x_i = x^*(\hat{y})$. Since $G_1(\hat{y}_i) - G_0(\hat{y}_i) \leq 1$, the value of $x^*(\hat{y})$ is finite for any \hat{y} . The ex ante probability that a group i will act loyally in the subgame where the government has set repression to \hat{y}_i is equal to $F_i(x^*(\hat{y}_i))$.

The government’s objective is to maximize the ex ante probability that both citizens are going to act loyally

$$\max_{\hat{y}} \prod_{i \in \{A, B\}} F_i(x^*(\hat{y}_i)) = \max_{\hat{y}} \prod_{i \in \{A, B\}} F_i(G_1(\hat{y}_i) - G_0(\hat{y}_i)).$$

Thus, since actions of the citizens are strategically independent when the state is weak, the state uses the same repression policy with respect to both groups, given by y_i^* that

solves $g_0(y_i^*) = g_1(y_i^*)$, $i = A, B$.

PROPOSITION 1. *When the state is strong ($\theta = 1$), the equilibrium repression is always individual (the decision to repress is not conditioned on the information about the target's demographic group): the state sets $y_A^* = y_B^* = y^*$ such that $g_0(y^*) = g_1(y^*)$.*

In this equilibrium, the state represses a group whenever the posterior probability that group did act subversively conditional on the signal of loyalty is greater than the probability that it acted loyally, that is, when $\Pr(a_i = 1|y_i) > \Pr(a_i = 0|y_i)$. Such repression policy is the most optimal deterrent of subversive behavior. On the one hand, if the state repressed any of the groups less than y^* , it would encourage the group to act more subversively because it is not sufficiently threatened by the risk of repression. On the other hand, if any of the groups were repressed more than y^* , then the group would also have a preference to act more subversively because the *relative* risk of being repressed conditional on acting loyally and conditional on acting subversively diminishes. As I show next, when the state is weak, the logic of optimal deterrence fails to hold because of strategic complementarities in the citizen's actions.

Weak State

Consider now the case when the state is weak ($\theta = 0$) so that citizens can completely avoid repression if they collectively subvert the government. The possibility of avoiding repression creates two types of new incentives. As far as citizens are concerned, one group of citizens is incentivized to form expectations about the actions of the other group because acting subversively in coordination has added value. As far as the state is concerned, the state's repressive policy now has two conflicting effects: on the one hand repression can deter subversion by increasing the expected loss, but it can also encourage subversion because the population that is over-repressed derives a larger utility gain from coordinating against the state in order to avoid repression.

Figure 1 shows how the state's repression policy changes the calculus of citizens in this setting. Essentially, there are three categories of citizens: First, there are *strict loyalists* – those whose preference for the status quo regime is so strong (x is large and negative) that they are not willing to act subversively even if they know that other citizens would act. Second, there are *opportunists* whose disloyalty x is the intermediary range so that

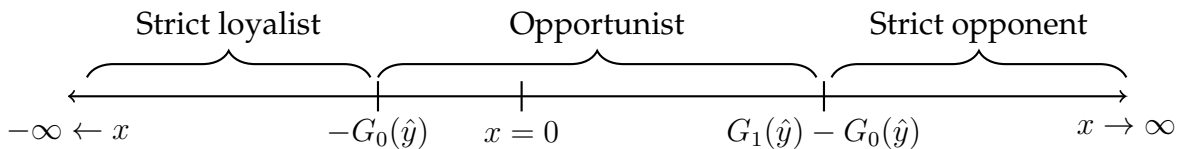


Figure 1: The categories of citizens induced by the state's repression policy \hat{y} when the state is weak ($\theta = 0$).

they are willing to act subversively if they believe that others would do so as well, but they would act loyally if they expect that others will act loyally as well. Third, *strict opponents* dislike the status quo regime so much that they would act subversively even knowing that other citizens would loyally.

The state's repression policy \hat{y} affects how citizens fall into the three categories depending on their personal grievances. As the state becomes less repressive ($\hat{y} \rightarrow -\infty$), both $G_0(\hat{y})$ and $G_1(\hat{y})$ approach zero. In this case, there are no citizens who are opportunists: every citizen who derives positive utility from acting subversively ($x > 0$), does so, and every citizen who derives negative utility from subversive behavior ($x < 0$), acts loyally. As the state becomes more repressive (\hat{y} increases), the set of opportunists widens and now some loyalists (those with $x < 0$) might act subversively, but also some opponents (those with $x > 0$) might act loyally depending on their expectations about the actions of others. As the state becomes excessively repressive ($\hat{y} \rightarrow \infty$), the differential $G_1(\hat{y}) - G_0(\hat{y})$ approaches zero, which means that all opponents of the regime act subversively and a large set of regime supporters act opportunistically. This underscores the endogenous cost of excessive repression: once the risk of being repressed without acting subversively becomes large enough, even regime supporters start looking for opportunities to subvert the regime in order to avoid repression.

To determine the Bayesian Nash equilibrium when the state is weak, consider the equilibrium behaviors of both groups in a subgame where the government has chosen a repression profile \hat{y} . Since the utility of group i from acting subversively increases in its type x_i , let \hat{x}_i denote a cut-off such that the group i chooses $a_i = 1$ if and only if $x_i \geq \hat{x}_i$. Given that both groups are going to use the cut-off strategies, for group i , the probability that group j will act subversively is equal to $1 - F_j(\hat{x}_j)$, where \hat{x}_j is the cut-off used by group j . If the group i acts loyally, it expects to receive $-G_0(\hat{y}_i)$ and if

it acts subversively, it expects to receive

$$F_j(\hat{x}_j)(x_i - G_1(\hat{y}_i)) + x_i(1 - F_j(\hat{x}_j)).$$

For a given cut-off by group j , the net gain for group i for choosing $a = 1$ is

$$U(\hat{x}_j, \hat{y}_i) = x_i - F_j(\hat{x}_j)G_1(\hat{y}_i) + G_0(\hat{y}_i).$$

The group i prefers to act subversively whenever $U_i > 0$ and loyally whenever $U_i \leq 0$. For a fixed cut-off \hat{x}_j , the utility U_i is increasing in x_i . Let $r_i(\hat{x}_j, \hat{y}_i)$ denote the best-response of group i to the cut-off strategy by group j in the subgame where it faces repression policy \hat{y}_i . Given that the group's i net gain from acting subversively is increasing in x_i , the best-response is given by

$$r_i(\hat{x}_j; \hat{y}_i) = G_1(\hat{y}_i)F_j(\hat{x}_j) - G_0(\hat{y}_i).$$

Note that the right-hand side of the above equality is increasing in \hat{x}_j for any finite \hat{y}_i , which means that game between the citizens exhibits strategic complementarities. Define a function

$$S_i(x, \hat{\mathbf{y}}) \equiv G_1(\hat{y}_i)F_j(r_j(x; \hat{y}_j)) - G_0(\hat{y}_i).$$

The Bayesian Nash equilibrium in a subgame where the government is using repression policy $\hat{\mathbf{y}}$ consists of cut-offs $x_1^*(\hat{\mathbf{y}})$ and $x_2^*(\hat{\mathbf{y}})$ such that

$$x_i^* - S_i(x_i^*, \hat{\mathbf{y}}) = 0, \text{ for } i = A, B.$$

The function $S_i(x, \hat{\mathbf{y}})$ is continuous, increasing in x , and bounded because

$$\begin{aligned} \lim_{x \rightarrow -\infty} S_i(x, \hat{\mathbf{y}}) &= G_1(\hat{y}_i)F_j(-G_0(\hat{y}_i)) - G_0(\hat{y}_i) \\ \lim_{x \rightarrow \infty} S_i(x, \hat{\mathbf{y}}) &= G_1(\hat{y}_i) - G_0(\hat{y}_i). \end{aligned}$$

Since the limits are finite, for each i , the fixed point of $S_i(x_i, \hat{\mathbf{y}})$ exists for $i = A, B$ and any $\hat{\mathbf{y}}$. Furthermore, the fixed point is unique if the best-response function for each group does not increase too fast with respect to the other group's cut-off:

$$\frac{\partial}{\partial \hat{x}_j} r_i(\hat{x}_j) = G_1(\hat{y}_i)f_j(\hat{x}_j) < 1.$$

The latter condition holds generally for any \hat{y} if and only if $f_i(x) < 1$, $i = 1, 2$, for any $x \in R$. Substantively, the condition requires that there is a sufficient degree of uncertainty about the true grievances of each group.

ASSUMPTION 1. For all $x \in \mathbb{R}$, $f_i(x) < 1$, $i = 1, 2$.

This assumption insures that the citizens' game has a unique equilibrium following each choice of repression policy by government \hat{y} . The government's objective is to set repression policy $\hat{y} = (\hat{y}_A, \hat{y}_B)$ so that it maximizes the ex ante probability that it will not face a coordinated subversion:

$$\max_{\hat{y}} \prod_{i \in \{A, B\}} F_i(x_i^*(\hat{y})).$$

When the state is strong, the citizen's actions are strategically independent and so the group i 's cut-off \hat{x}_i depends only on the level of repression to which the group is exposed (the cut-off \hat{x}_i is only a function of repression policy \hat{y}_i). However, when the state is weak, the actions of citizens are strategically related and now the cut-off used by a group A , for example, depends not only on the level of repression against group A but also the level of repression against group B (so now the cut-off \hat{x}_i is a function of \hat{y}). The following proposition states that there is a unique optimal solution to this optimization problem by the state.

PROPOSITION 2. *When the state is weak ($\theta = 0$), the Bayesian Nash equilibrium exists and is unique, given Assumption 1. Moreover, the equilibrium path can be characterized by $g_0(y_i^*)/g_1(y_i^*) = F_{-i}(x_{-i}^*)$, for $i = A, B$.*

It is instructive to compare the equilibrium repression policy in case where the state is strong ($\theta = 1$) and the case where the state is weak ($\theta = 0$). Both citizens are facing less repressive policies from the weak state than from the strong state, that is, y_i^* , is lower for $i = A, B$ when the state is weak compared to when the state is strong. This is because the citizens who face a weak state may act subversively to avoid repression, which incentivizes the state not to over-repress. Such incentive does not exist for the strong state because then over-repression does not produce strategic complementarities in citizens' behaviors.

However, even though the weak state is less repressive towards citizens from both groups, it represses citizen from one group more than the citizen from the other group;

thus, the weak state applies collective repression. Consequently, citizens from the two groups are incentivized differently to acts subversively against the state. Let a_i^* denote the ex ante probability that the citizen from group i acts subversively and let r_i^* denote ex ante probability that citizen from group i is repressed.

PROPOSITION 3. *On the equilibrium path:*

1. $y_A^* < y_B^*$;
2. $x_A^* < x_B^*$;
3. $a_A^* < a_B^*$;
4. $r_A^* < r_B^*$;

The first part of the proposition states that citizens from the loyal group A are repressed less than citizens from the disloyal group B . Importantly, this does not mean that citizens from the loyal group are repressed with a greater probability, because the probability of being repressed depends not only the state's repression policy, but also on the actions taken by the citizens. The statements in the first part of Proposition 3 says that the state is going to repress members of the disloyal group with greater likelihood than members of the loyal group, *conditional on their behavior being the same*. If the state receives the same loyalty signal y from the members of loyal and disloyal group, the member of the disloyal group is more likely to be repressed. In other words, members of the disloyal group will be targeted with greater amount of repression (even holding their actions constant) than members of the loyal group.

Second, the citizen from the loyal group A uses a *lower* grievance cut-off to act against the state than the citizen from the disloyal group B . Because the state is more permissive with respect to the behaviors of the citizens from the loyal group, the members of that group are willing to take greater risks in acting subversively than the members of the disloyal group who are facing higher probability of repression. However, this does not imply that members from the loyal group are going to act more subversively, as shown in part 3 of the Proposition 3, according to which the ex ante probability of observing subversive behavior from the loyal group is lower than that by the disloyal group even though the citizens from the loyal group are more likely to act subversively for the same level of grievances. Although the ex ante loyal

citizen acts more subversively for lower level of grievance than the ex ante disloyal citizen, the loyal citizen is simply less likely to hold high levels of grievance, and hence his probability of acting subversively will be lower than that of the disloyal citizen.

Finally, the fourth part of the proposition underscores an important analytical distinction between repression *policy* and repression *outcomes*, which is often overlooked in the literature. In terms of the model, repression policy refers to the cut-off \hat{y} and so it is the loyalty standard that the state uses in order to decide whether to repress a given individual or not. The repression outcome is the *risk* of being repressed, which depends not only on the state's repression policy but also on the behavior of the citizens. Given that the state chooses repression policy \hat{y}_i with respect to group i , the ex ante risk of repression for citizens in group i is

$$r_i^* = F_i(x_i^*(\hat{\mathbf{y}}))G_0(\hat{y}_i) + (1 - F_i(x_i^*(\hat{\mathbf{y}})))G_1(\hat{y}_i).$$

The risk of being repressed (in equilibrium) as a member of group i depends not only on repression policy with respect to group i (\hat{y}_i), but also repression policy with respect to the other group (\hat{y}_j), as well as the distributions of grievances within and across the social groups. Consequently, it possible that the state's optimally applies the same repression policy with respect to different social groups ($y_A^* = y_B^*$), but repression outcomes end up being quite different for the two groups ($R_A \neq R_B$). This has consequences for empirical work because even if we observe that some social groups end up being repressed disproportionately, this by itself does not imply that the state is targeting those specific groups with higher repression.

COMPARATIVE STATICS

In order to study the comparative statics of the equilibrium, I parameterize the model in the following way: I assume that $x_A \sim \mathcal{N}(-m, 1)$, $x_B \sim \mathcal{N}(m, 1)$ for some $m > 0$, and $y_i \sim \mathcal{N}(a_i, \tau)$ for some $\tau > 0$. In this way m , measures the degree of social polarization – the difference between the grievances across the loyal and disloyal societal groups. When m is large, the expected differences in the levels of anti-regime grievances are large, which carries important informational consequences: each citizen becomes more

certain about the most preferred actions of the other group as societal polarization increases. In a limiting case, when m becomes sufficiently large, the citizen from the disloyal group knows that the citizen from the loyal group is going to act loyally for any level of repression, whereas the citizen from the disloyal group knows that the other citizen is going to act subversively no matter what the state and the other citizen does.

In this parameterization, τ refers to the uncertainty that the state holds over the behaviors of the citizens. When the state's surveillance system is underdeveloped and the informant networks are sparse, the state will have very imprecise information about the behaviors of citizens. From the point of view of a citizen, this kind of uncertainty leads to the following dilemma: on the one hand, if I act subversively, the state will be unlikely to identify that I did so, but on the other hand, even if I do act loyally, the state might still mistakenly infer that I acted subversively. Finally, I also consider how the degree of collective repression changes with respect to θ , the probability that the regime survives a coordinated subversion. The following proposition explains how the degree of indiscriminate repression – defined as the difference in repression probability given the same actions by citizens from different groups – is affected by these three parameters of the model

PROPOSITION 4. Let $d = y_A^ - y_B^*$ denote the degree of collective repression, in equilibrium. Then d is increasing in m (polarization), τ (uncertainty about behaviors), and decreasing in θ (the state's ability to survive a coordinated subversion).*

Thus, collective repression increases with societal polarization and regime's uncertainty about individual behaviors, but decreases with the state's weakness. The more polarized (in expectation) is society, the stronger are the expectations of the state about the behavior of each citizens belonging to the different groups: members of group A are then repressed less because of the fear of alienating them, while members of group B are repressed more because they are expected to behave subversively.

CONCLUSIONS

The paper presented a simple model of state repression policy to explain why and when states would use demographic profiling to select targets of repression, given that

such targeting is known to be either unproductive or even counter-productive. The key insight that follows from the model is that by using collective repression, the state is able to differentially allocate the risk of repression against different social groups thereby undermining their coordination. Members of the groups that are thought to be loyal are facing lower risk of repression for the same behaviors as members of disloyal groups. On the one hand, this makes members of the loyal group more willing to act subversively (if they happen to hold substantial grievances against the state), but on the other hand, this reduces their desire to act subversively *in coordination* with the more disloyal group in order to overthrow the regime and escape the risk of repression. Consequently, state ends up tolerating disloyal behaviors from the seemingly loyal group more than those by the seemingly disloyal group.

In the paper, I identify the conditions where the state's incentive to repress the loyal group more in order to deter disloyal behaviors from its members is dominated by the incentive to repress it less in order to undermine its coordinate with the disloyal group. I find that this is more likely to happen when the state is weak, when it has poor information about the behaviors of the citizens, and when societal polarization is large. The finding that better information about behaviors reduces the degree of collective repression is consistent with the existing literature, but it adds an important component to these existing explanations: instead of saying that states use collective repression simply because they lack information or because they find such information too costly to obtain, the model explains why repressing indiscriminately might be advantageous to the state even when it has fairly good (but necessarily imperfect) information. Thus, indiscriminate repression is not only driven by structural cost constraints, but it also follows a certain rational logic.

This draft of the paper is only a preliminary account of the problem and it does not incorporate some very important features: First, I assume here that the state's strength is public information. The current set up can be extended to allow θ to be the private information of the state, but the payoff structure that I am using here does not yield interesting results in this extension. Due to the payoff structure, the single-crossing property does not hold and, therefore, there are only pooling equilibria where states use the same repressive policy irrespective of their strength. In that case, the key factor that is driving the results is the *prior expectation* that the state is strong: as that prior expectation increases, the state is less likely to use collective repression. Second, the citizens observe the state's repression policy \hat{y} , which is analytically acceptable,

but empirically limiting assumption. In reality, citizens face a lot of uncertainty not only about how their actions are going to be perceived by the state (this uncertainty is captured by the model), but also how those perceptions are going to translate into state's reaction. This type of uncertainty could be captured by a repeated game where citizens infer the state's repression policy from its past behavior.

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