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Resistance is Futile!: Impacts of Repression on Dissident Activity

> Lanser looked at him and smiled a little sadly, "We have taken on a job, haven't we?"
> "Yes," said the Mayor, "the one impossible job in the world, the one thing that can't be done."
> "And that is?"
> "To break a man's spirit permanently."...
> Thus it came about that the conquerors grew afraid of the conquered and their nerves wore thin and they shot at shadows in the night.
> (Steinbeck 1942: Chapter 3)

Introduction

The relationship between repression and dissent is a topic of obvious concern in social science literature. Problems related to attempts of groups to gain control over others are global, contemporary and recurrent. The lack of resolution to these problems signals that relations between repression and dissent have not been clearly formulated.

Analysts accept that coercion and protest are interrelated; however the exact relationship remains unresolved. Repression is frequently used as a tool to deter dissident behavior, yet in some cases repression can instigate revolt. Analysis includes theoretical models[63] and statistical tests[64]. Portions of the literature claim that repression reduces dissent, while others assert the exact opposite. This chapter uses game theory to examine the responses of dissidents to changes in levels and targets of repression: the model shows both when and how the regime's use of repression may deter dissident behavior and when it may incite it.

This chapter extends the literature in many ways. First, I acknowledge and formalize the fact that tactics used depend on the situations in which competing groups find themselves. Second, I demonstrate that repression is not a blunt instrument – more is not always better than less, and frequently, the targets of repression are more important than the levels used. Finally, I show how misjudgments in the use of repression can incite dissident behavior. From this analysis we may uncover reasons behind disparities in the relationship between coercion and protest.

[62] I am grateful to Mancur Olson for suggesting that I pursue this line of research. I am also grateful to Rein Taagepera, Hannu Nurmi, Matti Wiberg, and Christian Davenport for comments and suggestions on an earlier version of this chapter.

[63] See, among others, Lichbach (1987, 1995), Gupta, Singh, & Sprague (1993), Francisco (1996) and Tsebelis & Sprague (1989).

[64] See, among others, Francisco (1995, 1996), Davenport (1995), Moore (1998), Gupta, Singh, & Sprague (1993).

Intuitively, repression should be an effective tool against dissident behavior. From an expected utility perspective, repression increases the costs of disruptive behavior. If costs become too great, many may opt against dissident activity (Duvall & Stohl, 1988; McAdam, McCarthy & Zald, 1996). This intuition is supported empirically (Goldstein 1978).

Others suggest that the relationship is not that simple. Lichbach (1987) argues that dissidents adapt their behavior in response to that of the state. If the state punishes violent protest, then dissidents substitute non-violent protest and vice versa. Gupta, Singh, and Sprague (1993) claim that the effect of repression depends of the type of system: repression incites dissident behavior in democracies but deters it in nondemocracies. They state that the relationship between repression and dissident behavior is linear in democracies and is represented by an inverted U-curve in nondemocracies. Others claim that repression can have a backlash effect, either from relative deprivation (Gurr 1970) or in response to brutal coercion (Mason & Krane 1989; Khawaja, 1993; Ziegenhagen 1986).

These theories have found empirical support. Moore (1998) uses data from Peru and Sri Lanka to corroborate Lichbach's theory. Francisco (1996) tests competing hypotheses upon data from Northern Ireland and Germany and finds support for both the backlash and adaptation hypotheses. Gupta, Singh, and Sprague (1993) cite results from a pooled-time-series statistical analysis of 24 countries as evidence for the inverted-U hypothesis.

If hypotheses predicting *opposite effects* of the relationship between repression and dissent find empirical and theoretical support, then the true relationship remains elusive. Perhaps we should not be surprised to confront such a variety of responses. Each case has unique circumstances. Lichbach (1995) notes that dissidents choose different strategies depending on political and other circumstances. If so, then we should expect responses to repression in one place to differ from those in another. Still, we would like to uncover a general relationship between repression and dissent. Careful analysis has been done on the tactics dissidents can choose to undermine the state.[65] Rather than focus on the internal group struggle, this chapter explores dissident reactions to applications of repression

What is the effect - in terms of dissident activity - of various means by which one group (a state or larger group) may attempt to exert control over another? This analysis is theoretical and illustrated with examples. This type of study has limitations, but was selected over a statistical analysis because, as Duvall and Stohl point out (1988: 233) data on precise levels and targets of state repression can be difficult to acquire.[66] Another limitation is that the analysis does not account for how repression varies across

[65] See Lichbach, (1995).

[66] Duvall and Stohl refer specifically to state terrorism. This chapter includes state terrorism as a subset of available repressive tools. As Duvall and Stohl note, we confront the problem that governments may restrict information about their use of repression.

regime types.[67] The intent here is not to show how regimes/controlling groups (hereafter the term regime is used) use repression, but rather the potential effects of this use on decisions made by members of a dissident group.

Group cohesiveness and establishing control

Extending his collective action problem, (CAP) Olson (1995) examines the issue of control in the form of annexation and contends that should a stronger nation overtake a weaker one, emotions, such as patriotism, and instinct for self-preservation may run into conflict. In this case, inhabitants of the threatened nation confront a free-rider problem, and many may fail to resist against the conquering regime.

This premise is intuitive. Taking into account the relative gains and losses of actions to individuals, the CAP dilemma facing the smaller country is straightforward.

> "If...an individual makes a sacrifice to rebel against the regime that he despises, he will bear the full cost and risk of whatever he does to help overthrow the hated regime. Yet any benefits of what he does will automatically go to people throughout the society, whether they made any sacrifices to help overthrow the hated regime or not. Each typical individual who acts to overthrow a bad government gets only an infinitesimally small share of the benefits from any success." (Olson 1995: 10-11).

Lichbach (1995) extends Olson's theory, claiming that dissidents seeking a public good from the state face a CAP. Each must decide either to bear the cost of dissident behavior in order to potentially gain the public good, or to free ride on the activities of others. His book analyzes the varying tactics dissidents use to overcome their compatriots' incentives to free-ride.

It is reasonable to expect that if a group faces a CAP, then the lack of large-scale resistance facilitates the task of the regime in controlling the weaker group. If this were always the case, analysis of regimes' actions of would be minimal. Their tactics would merely involve undermining the attempts of the small number of committed dissidents to reduce free-riding behavior. However, the fact that we do occasionally see large scale dissident behavior calls us to question the assumption that all groups initially face a CAP. If not, if a group is initially unified and motivated, then how might actions of the regime affect the outcome?

This analysis focuses on evolving, rather than repeated games. The regime's actions serve to change the game, altering the payoffs and also the corresponding strategies of the dissident players. The strategies of the regime are not explicitly modeled. International relations literature informs us that the decisions of a regime are influenced by numerous sources, including domestic and international pressures, and bureaucratic pull.[68] Given these many and conflicting pressures, strategies of the regime can be difficult to model.[69]

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[67] For analysis of repression over forms of dictatorship, see Wintrobe, (1998). For analysis of state terrorism in various regime types, see Duvall & Stohl (1988).

[68] Examples include Putnam, "Diplomacy and Domestic Politics" (1988), Schelling (1960), and Keohane & Nye (1989).

[69] The regime's members may face their own collective action problem.

Instead, this approach examines the effects of potential actions taken by a regime.[70] Through this method, we understand how these actions, and how actions taken by a weaker group, can change the game, affecting outcomes and subsequent strategies of the weaker group.

The game below analyzes the immediate effects of different levels of punishment or reward on members of the dissident group. To do so, we consider simultaneous choices made by any two dissidents. This type of a one-shot simultaneous game was selected to distinguish the effects of various levels and targets of repression on dissident strategies. To fully capture the resistors' undertakings in successful overthrow of a regime, a repeated or sequential game could be appropriate.[71] This chapter pursues the more focused question of the relationship between repression and dissent.

This focus differentiates this chapter from two seminal lines of work in the area of repression and dissent. Wintrobe (1998) addresses the issue of the tools available for various types of dictators to control a population in order to optimally pursue his/her goals. These goals range from maximization of power to maximization of consumption. Similar to Wintrobe's assertions, this chapter analyzes the use of tools of repression and reward. In contrast to Wintrobe, I do not address optimization strategies for the dictator - or ruling group, but rather seek to gain an explicit measure of the effect of levels of repression and reward on strategies of the weaker group.

Lichbach's (1995, 1996) research on the strategies and options of the dissident group also bears relation to, but differs from this project. As stated, Lichbach explores the selective incentives necessary to overcome the CAP in dissident movements - either from participants' preferences or from repression.[72] This chapter examines the distinction between group preferences and repression, providing a basis for understanding Lichbach's work.

Again, rather than assuming that the dissident group faces a self-defeating CAP, imagine a worst case scenario for the occupier: members of the conquered nation wish to Cooperate in dissident behavior[73] against the regime. Here, strategies with payoffs to members of the resisting group might assume the form:

		Player 2	
		Cooperate	Betray
Player 1	Cooperate	4,4	2,3
	Betray	3,2	1,1

FIGURE 1. *Harmony.*[74]

[70] For an analysis of the strategies for all types of dictators, see Wintrobe (1998).

[71] I am grateful to a reader of an earlier draft for bringing this point to my attention. However, in a similar model, Tsebelis, (1989: 83), shows that the results may be applicable to a sequential game. While a repeated game is valuable, it models players expecting to be caught in the same situation forever; it is a game with an infinite horizon. My interest is to capture the behaviour of players who expect, perhaps unrealistically, that things may change and they will no longer be conquered. Such a game should be of finite horizon. For simplicity, a single shot game is used.

[72] Olson's (1982) term selective incentives refers to the strategy of punishing defectors and rewarding cooperators to encourage cooperation.

[73] For simplicity, the term Cooperation refers to members of the dissident group cooperating with each other in dissident behaviour.

[74] This game represents the worst-case scenario. Choosing a more 'realistic' game in which players

In this game the two players are both members of the weaker group. The options for each are to either Cooperate with or Betray a fellow member. Since, with this simple setting, each member will select one of the two strategies, we have four outcomes in the matrix. The payoffs represent the differential outcomes dependent upon the actions of both players. The numbers are mainly symbolic. For simplicity of later analysis, they are cardinal, however, they generally serve to represent ordinal ranking of outcomes.

To portray this worst case scenario – a case in which members would rather cooperate with each other and are worst off by mutual betrayal, assume the following rankings: An individual receives his/her highest payoff, 4, by helping a fellow countryman or group member. The second-best outcome, (3), is to Betray without being Betrayed. The next best outcome, (2), is to be Betrayed while Cooperating, and the worst outcome (1) is if both Betray each other. If this matrix represents a group, we can expect that members will frequently choose their dominant strategy of Cooperation, leading to the Pareto superior Nash equilibrium (NE) Cooperate/Cooperate.

Such a situation would undermine regime control. If members of the weaker group wish to Cooperate with one another against the regime, they pose a risk. Thus, the regime may face two options: abandon efforts, or attempt to alter the payoffs of the weaker group so that they would be less likely to resist - i.e. use a form of repression.

The latter strategy merits closer inspection. Why would a group seek to alter the payoffs of the opposing group? As we recall from Olson, the existence of a CAP in a group limits the ability - at least in the short run - of that group to take action, despite potential benefits such action might entail. Extending this reasoning, if some type of CAP could be created in the weaker group, then regime could maintain control with minimal opposition.

One could argue that this creation of a CAP is similar to Olson's and Lichbach's analyses. They see the CAP as endogenous, and indeed include the force of the state or controlling group in the dissidents' payoffs. In fact, however, it is through explicit analysis of the regime's creation of the CAP that we can derive a systematic understanding of the use of repression. If, through repression and rewards, the regime can successfully create and maintain a CAP within the dissident group even in cases in which there was no such problem, then it can maintain control. We will see that if the state errs in this activity then dissident behavior will reemerge. Significantly, through examination of the effects of any changes in levels or targets of repression, we may deduce the effect of this tool on the actions of the dissident group.

If the regime follows this option, the weaker group's game is changed. To create a CAP, the regime must destroy incentives for members in the weaker group to mutually Cooperate. This alteration may be effected by using punishment to make it more costly to Cooperate and/or rewards to make it more rewarding to Betray.

If individuals who refuse to Betray others can be singled out, then the regime can punish them. Rather than a blind system of rewards and punishments, this model dictates that the regime treats individuals differently, according to their actions. Those who Cooperated with one another could be penalized a random amount, which, when accompanied by the likelihood of such a penalty, creates the expected penalty of φ, reducing their expected payoff of joint cooperation from 4 to $4-\varphi$. The penalty to a

Cooperator who was Betrayed by his countryman might be different, reducing his payoff from 2 to 2-Z. Similarly, the Betrayer of a Cooperator could be rewarded for his/her actions, raising his payoff from 3 to 3+T. Those who Betrayed one another might each expect to be penalized,[75] reducing payoffs from 1 to 1-ψ.[76]

	Cooperate	Betray
Cooperate	4 - φ, 4 - φ	2 - Z, 3 + T
Betray	3 + T, 2 - Z	1 - ψ, 1 - ψ

FIGURE 2. *Punishment/Reward Model.*

The purpose behind the punishments and rewards is to create a CAP within the weaker group. To be effective, the regime should ensure that the payoff for Cooperation is lower than that for Betraying a Cooperator. The numbers in the matrix are chosen to aid the analysis. Initially, as long as $4-\varphi < 3+T$, or whenever $T > 1-\varphi$, the Cooperate/Cooperate cell is no longer a NE. This factor, with the values for Z and ψ determine whether the game is a Prisoner's Dilemma (PD) or Chicken. If $T > 1-\varphi$ and ψ is less than Z-1, then the game is a PD, if $T > 1-\varphi$ and $\psi > Z-1$, then it is Chicken.

Will this simple adjustment in payoffs transform a world of cooperation into a system of betrayal? An initial examination indicates that this is possible. If both players have a dominant strategy to Betray, the NE is mutual Betrayal. Research into the repeated PD informs us that, using a form of the Tit-For-Tat strategy, if there are sufficient levels of information in a community, it is possible to avoid the Pareto inferior NE in a group. (Sieberg 2013) However, the associated requirements to acquire a large enough source of information involve creating a community of trust that are so demanding in this setting that we can expect players to obey their dominant strategies at least in the short term.

Furthermore, if a regime were aware that information flows could undermine their hold on a community, we would expect them to take measures to limit the amount of information available. These actions would serve to limit the knowledge of who has Cooperated within the group, by refusing to Betray his/her fellow countrymen, in the past.[77]

If the game of Chicken is created, neither player has a dominant strategy, however, the NE are Betray/Cooperate and Cooperate/Betray. The worst payoffs are received from mutual Betrayal, however, a player's best payoff arises from unilateral Betrayal of another. Thus, each player has some incentive to Betray.

[75] The potential for penalty for mutual Betrayers may be questionable. It was included to allow for all possible actions on the part of the regime. For an example of this type of punishment, a regime may curtail all economic investment in a given area - thus Betrayers and Cooperators alike receive some punishment.

[76] Relative values of the payoffs are not specified. This was done to allow for variation and flexibility in the actions of a regime. The effects of these variations will be made clear.

[77] The effect of this control would destroy the possibility of an Adjusted Tit For Tat (ATFT) equilibrium, in which, if information is good (or perfect), it can be an equilibrium for members of a community to cooperate with a player who has played according to his or her ATFT strategy in the past. The strategy can lead to cooperation in a community. For more detail, see Sieberg (2013).

This initial examination shows that merely by altering the payoffs through a system of punishment and reward, a regime can achieve a situation in which many of the controlled will strive to collaborate with the regime at the expense of one another. From this analysis we gain insight into how repression is used to stifle dissent.

Partial resistance

The previous section demonstrated that even in a group that desired mutual cooperation, a CAP could be imposed, using punishments and rewards. This section uses comparative statics to offer a more precise description of the effects of levels of punishment upon dissent.

To achieve a more specific concept of the actions of a group, we can extend our notion of strategies from *discrete* to *continuous* strategies. The impact of this change is that we no longer assume that individuals select pure strategies (Cooperate or Betray), but that they take actions that are somewhere between the two extremes. I refer to this mixing of strategies as *partial resistance*.

This extension allows for the possibility for a player to collaborate as much as necessary (Betray) yet to also take some risks in terms of limited Cooperation with others. We might expect that larger levels of punishment would deter resistant behavior, causing players to choose strategies as close as possible to Betray. Likewise, we might expect that lower levels of punishment might give some people incentives to risk some Cooperation. By approaching the choice of behavior through this framework, we develop a theoretical basis for the adaptation strategies proposed in the literature (Lichbach 1987; Opp & Roehl 1990).

An example of this type of behavior may be as follows: While many choose not to engage in active resistance, several select strategies that lie between the extremes of resistance and collaboration. These strategies could involve minimal resistance, such as knowing the identities and/or locations of resistors without revealing them to the regime. Others may adopt higher levels of resistance, supplying food, arms, or even temporary shelter for resistance members (see Laar 1992: 70). These strategies represent neither the extremes of full Cooperation nor those of full Betrayal. Rather, they are selected at varying levels between them.

The concept of partial resistance is modeled in the same way as are mixed strategies. Here, however, the mixed strategy results are interpreted in terms of levels of partial resistance chosen, rather than as a randomization process designed to prevent one's opponent from second-guessing which pure strategy will be selected. Under partial resistance, a player may select a pure strategy or some action between the two extremes of Cooperate and Betray.[78]

[78] Note that, as in the case of mixed strategies, the payoffs featuring in computing the equilibrium for player 1's optimal value of p are player 2's. The same applies for player 2. Because the payoffs are symmetrical, this fact is assumed to have no effect on the outcomes. For interpretation, player 1 may be willing to raise his or her level of partial resistance if player 2 is also doing so. This potential has some links with Tsebelis' notion of partition frequencies (1989: 89). I am grateful to H. Nurmi for bringing this to my attention.

In situations of resistance, the actual game is not necessarily one of simple Cooperation or Betrayal - instead, the adopted actions must be replicated over many daily actions that lie between the extremes. We may view these multiple decisions as n-dimensional. Interpreting these choices as selections on a continuum allows us to consolidate this n-dimensional game into a more simple 2x2 game. To use this approach of collecting all actions into one dimension, we must assume that actions are monotonic - i.e., that if a person is willing to choose partial resistance at a high level of repression, then he is also willing to participate in partial resistance at a lower level.

The partial resistance game is depicted in Figure 3:

		q Cooperate	1-q Betray
p	Cooperate	$4 - \varphi, 4 - \varphi$	$2 - Z, 3 + T$
1-p	Betray	$3 + T, 2 - Z$	$1 - \psi, 1 - \psi$

FIGURE 3. *Partial Resistance.*

The variables p and q are used to denote the expected level of partial resistance. If p=0, then Player 1's strategy places full weight on Betrayal. If p=1, then Player 1 fully Cooperates. Any p between 0 and 1 represents a strategy between the two extremes.

As stated, we expect the level of punishment to affect a player's choice of p or q. Following the reasoning from the derivation of mixed strategies, Player 2 selects a level of q that makes Player 1 indifferent between the two strategies, so it must be that

$$(4-\varphi)q + (2-Z)(1-q) = (3+T)q + (1-\psi)(1-q),$$

or

$$q = \frac{1 - Z + \psi}{T + \psi + \varphi - Z} \qquad (1)$$

For Player 1 the case is symmetric,

$$p = \frac{1 - Z + \psi}{T + \psi + \varphi - 2} .$$

Comparative statics may now be applied to determine the effect of the level of punishment upon the level of resistance selected. These results reveal precisely the bifurcation phenomenon asserted in the introductory section. Namely, some kinds of repression cause the conquered to be meek (captured here by low q values) while others will encourage them to revolt (higher q values). More precisely, there are values of T and Z (representing, respectively reward for collaboration and punishment for rebellion if betrayed) so that if φ and ψ (representing, respectively random punishment for rebellion and punishment despite collaboration by being betrayed) are either above or below these values, different behavior can be expected from the conquered. It is

particularly interesting that the greater the distance these φ and ψ values are from the critical T and Z values, the larger, or smaller, the q value.

Given these distinctions, the results may be summarized in a table:[79]

	φ>1-T	φ<1-T
ψ>Z-1	increasing Z decreases partial resistance increasing φ decreases partial resistance increasing T decreases partial resistance increasing ψ **increases** partial resistance	increasing Z **increases** partial resistance increasing φ decreases partial resistance increasing T decreases partial resistance increasing ψ decreases partial resistance
ψ<Z-1	PD, NE = Betray/Betray q=0	increasing Z **increases** partial resistance increasing φ **increases** partial resistance increasing T **increases** partial resistance increasing ψ decreases partial resistance

FIGURE 4. *Effects of Repression and Reward.*

The comparative statics results highlight an important fact – repression is a tool that must be used carefully. Blind application of repression will not eliminate all forms of dissent. Most uses of penalty decrease resistance, but some, highlighted in the table above, will increase it. These results demonstrate the importance of understanding the effect on both the levels and targets of repression and reward. This point is not obvious and may account for the wide variety of reactions seen empirically when dissident groups are confronted with repression.

Another key point for consideration is the interrelation of levels and targets. As shown in the table's lower right cell, under certain circumstances (if the reward for collaboration, T, is low - less than $1-\varphi$ - and the penalty for being betrayed while rebelling, Z, is high - greater than $\psi+1$) then increases in most forms of punishment will be counterproductive.[80]

Decrease in force

International public opinion frequently opposes the severe tactics used by regimes. In areas of oppression such as North Korea, Iran, and China, external democratic governments put pressure on leaders to obey human rights doctrines and reduce punishments levied upon "dissidents." The expectation is that the suppressed would welcome and reward the easing of certain restrictions by reducing dissident behavior. This analysis shows that this is not always the case.

[79] Computations are in the appendix.

[80] A careful application of punishment and rewards can stifle resistance. The results appear grim for a group that seeks to escape control, yet they need not be. Although increased levels of punishment may decrease partial resistance, it need not be the case that q = 0, or that players use no partial resistance. The equation merely states that at higher levels of penalty, we expect lower levels of resistance. It should be noted, however, that if a PD is successfully created, then the dominant strategy for either player will be Betray

Recall that an increase in punishment (or in reward) can, in some cases, lead to a decrease in partial resistance. However, *a decrease in levels of punishment (or reward) can result in an increase in resistance.* Restating the results in terms of opportunities for partial resistance, we obtain the following.

	$\varphi>1-T$	$\varphi<1-T$
$\psi>Z-1$	decreasing Z **increases** partial resistance decreasing φ **increases** partial resistance decreasing T **increases** partial resistance decreasing ψ decreases partial resistance	decreasing Z decreases partial resistance decreasing φ **increases** partial resistance decreasing T **increases** partial resistance decreasing ψ **increases** partial resistance
$\psi<Z-1$	PD, NE = Betray/Betray q=0	decreasing Z decreases partial resistance decreasing φ decreases partial resistance decreasing T decreases partial resistance decreasing ψ **increases** partial resistance

FIGURE 5. *Reducing Repression and Reward.*

The results indicate that the decrease in punishment and suffering advocated by Human Rights groups may not produce more peace in a troubled region. Instead, it may spark resistance and increased struggle![81] It should be noted, though, that under the circumstances noted above, (if the reward, T, is less than $1-\varphi$ - and the penalty for being betrayed while rebelling, Z, is greater than $\psi+1$) then decreasing penalty will provide desired results.

On closer inspection, many of these results are intuitive. We would expect that as the penalty for Cooperation decreases, more people who desire resistance against an oppressor would be willing to take the risks associated with this action. These results support Olson's beliefs regarding the power of an occupier to control dissent. According to Olson, *perceptions* of power are crucial in stifling resistance (1995: 16). If a group is powerful and is believed to be powerful, as evidenced by its ability to levy sanctions, then the CAP will persist and few will risk resistance activity. Once the group's power begins to appear diminished, however, many will be willing to risk penalty, because they believe that it will be less costly. This echoes Machiavelli's advice to the Prince regarding strategic use of fear.

It is possible that the strategic effect is coupled with a psychological effect: as punishment decreases, the opposition notices and becomes inspired to increase resistance. Altogether, these results recall Gurr's (1970) famous statement that resistance is born not out of circumstance but out of the conflict between circumstance and expectation.[82]

Olson's descriptions of mobilization in East Germany provide an example of this phenomenon.

> ...[T]hen suddenly the regime that was previously so powerful came to have no power at all. Its officials finally did not carry out its instructions. When this happened, the risk of demonstrating against the regime became almost zero. Participating in such a

[81] This echoes some of Wintrobe's results.
[82] I am grateful to H. Nurmi for bringing these points to my attention.

demonstration still cost the participant some time, but that cost was small enough... The unprecedented excitement of participating in these events and the drama of sudden and awesome political change even made participation positively attractive for some. (Olson 1995: 17-18)

As penalties decreased, resistance increased. Numerous examples in the case of Soviet-occupied Estonia are also consistent with these results.[83] After Stalin's death, as punishment for dissident action of any type became less severe, individuals began to take risks. When, in contrast, Moscow cracked down, dissent all but vanished (Taagepera 1993: 116-120).

The significance of these results is that we now have a more refined explanation for the relationship between repression and resistance. Resistance is often explained in reference to the suffering of one group at the hands of another. When this suffering becomes unbearable, then, supposedly, the group has little choice but to revolt. These results indicate that, in contrast, in certain cases a decrease in suffering may provide opportunities to revolt.

Potential errors

Drawing from the above analysis, a regime might reason that leniency is tantamount to destruction, and that higher penalties are always desirable. As shown below, however, reliance upon punishments to decrease resistance can fail if not used correctly. Fear can be a motivating factor for collaboration with the regime if used accurately, but can also be counterproductive. This potential recalls and refines the Backlash hypothesis. If an occupying power demonstrates control by punishing all members of the subdued group indiscriminately, it could create, rather than destroy, incentives for resistance.

Careful applications of punishments and/or rewards can produce a CAP. Ruthless use of punishments may alter the game.

	Cooperate	Betray
Cooperate	$4 - \varphi, 4 - \varphi$	$2 - Z, 3 - R$
Betray	$3 - R, 2 - Z$	$1 - \psi, 1 - \psi$

FIGURE 6. *Ruthless Punishment Model.*

Here, an individual risks punishment regardless of his/her actions. Instead of a reward for Betrayal of a fellow countryman, he risks receiving a random penalty with the expected value of R, reducing the expected payoff to 3-R. This change means that there are no payments to those who "Betray Cooperators." If penalties are such that

$$4 - \varphi \geq 3 - R,$$

[83] For more detail on this case, see Saari-Sieberg (1998).

the NE Cooperate/Cooperate re-emerges. By asserting too much power in the form of indiscriminate punishments, the interests of the regime may be negated.[84]

More rigorously, the comparative statics of the Ruthless Punishment Model show the impact of a change in the variables upon the level of partial resistance. This level is found when

$$q(4 - \varphi) + (1 - q)(2 - Z) = (3 - R)q + (1 - q)(1 - \psi)$$

or

$$q = \frac{1 - Z + \psi.}{-R + \psi + \varphi - Z} \qquad (2)$$

Figure 7 shows the effect of the variables upon the level of partial resistance:[85]

	$\varphi > 1+R$	$\varphi < 1+R$
$\psi > Z-1$	increasing Z decreases partial resistance increasing φ decreases partial resistance increasing R **increases** partial resistance increasing ψ increases partial resistance	increasing Z **increases** partial resistance increasing φ decreases partial resistance increasing R **increases** partial resistance increasing ψ decreases partial resistance
$\psi < Z-1$	PD, NE = Betray/Betray q=0	increasing Z **increases** partial resistance increasing φ **increases** partial resistance increasing R decreases partial resistance increasing ψ decreases partial resistance

FIGURE 7. *Effects of Ruthless Punishment.*

Comparing the results in Figures 4 and 7, the variable R, punishment for Betrayal, clearly has a negative effect upon the punishment strategies of the regime. Specifically, with the exception of the creation of a PD, in half of the cases, raising penalty levels can harm the goals of the regime. Intuitively, the lack of potential to gain through Betrayal creates a disincentive to do so - prompting potential rebels to increase dissident activity.

These results provide a refined theoretical explanation for the Backlash hypothesis in which brutal coercion results in increased protest. Approaching the problem through this extension of the model, it becomes clear that repression in and of itself may not spark dissident behavior. If it is indiscriminately applied, the effect may be to change the payoffs – and thus the optimal strategies – of the dissident players. If rebels are damned if they do and damned if they don't, their best response may be to fight.

[84] One example of this phenomenon lies in the Basque region in Spain. In retribution for Basques' actions during the civil war, Franco punished the entire region, restricting investment, imprisoning and torturing intellectuals, and denying rights to use the Basque language or culture. In response, a resistance movement (the group ETA) emerged and, by assassination of Franco's heir apparent, was given some credit for the change in regime type after Franco's death. (Schweimler 1999; Episcopo 1999; Jeffrey 2002.)

[85] Calculations are in the Appendix.

From these results it is clear that the issue of punishment and reward is significant for both the controlling and the controlled. If punishments and rewards are carefully applied then the regime can create a situation in which individual self preservation can severely constrain the level of resistance. A type of CAP can be instituted to the benefit of the regime. However, if punishment is meted out carelessly in terms of targets or levels, then the opposite can occur. This logic also explains how a regime could rectify the resistance problem it had created. Through a more precise application of rewards and punishments, it can re-create a CAP. [86]

Organized resistance

The above models demonstrate the ability of the regime to manipulate the payoffs and, hence, the strategies of the controlled. However, the regime has no monopoly in the use of repression to induce preferable outcomes. What would occur if both groups used punishment strategies to "persuade" individuals to comply with competing goals?

Olson shows that if a community suffers from a CAP, then selective incentives can dissuade members from neglecting to contribute. The Punishment/Reward game creates enormous individual incentives to Betray others. If a weaker group wished to overcome these odds, it would have to change the payoffs again.

	Cooperate	Betray
Cooperate	$4 - \varphi, 4 - \varphi$	$2 - Z, 3 + T - D$
Betray	$3 + T - D, 2 - Z$	$1 - \psi, 1 - \psi$

FIGURE 8. *Counter-Force Model.*

Again, this change from the Reward/Punishment model may be effected by either rewards or punishments, or by a combination. For simplicity, only punishments (D) from the dissident group are shown. If a group applies selective incentives such that the punishments imposed for Betrayal are greater than those given by the regime for Cooperation,

$3+T-D < 4-\varphi$,

the new NE would be Cooperation.

Comparative statics show the relative effects of the punishments levied by the opposing groups. Without them, the outcomes could be difficult to predict. We might expect escalations in punishment levels as each group tries to outdo the other in trying to wrest control of the situation.

[86] At a presentation of an early version of this chapter, Matti Wiberg noted wryly that some regimes may use ruthless punishment not in err, but to provoke rebellion as a pretext to repress more thoroughly.

Figure 9 shows the effect of the resistance punishment, D, upon the level of partial resistance.

	φ>1-T+D	φ<1-T+D
ψ>Z-1	increasing Z decreases partial resistance increasing φ decreases partial resistance increasing T decreases partial resistance increasing ψ **increases** partial resistance increasing D **increases** partial resistance	increasing Z **increases** partial resistance increasing φ decreases partial resistance increasing T decreases partial resistance increasing ψ decreases partial resistance increasing D **increases** partial resistance
ψ<Z-1	PD, NE = Betray/Betray q=0	increasing Z **increases** partial resistance increasing φ **increases** partial resistance increasing T **increases** partial resistance increasing ψ decreases partial resistance increasing D decreases partial resistance

FIGURE 9. *Effects of Counter Force.*

In the upper right cell, we see some potential for escalation in punishment levels between the opposing groups. If the regime punishes cooperators, or rewards collaborators, such that φ + T-1 are below the dissident-inflicted penalty, D, then increases in ψ, the mutual punishment for mutual Betrayal; φ the random penalty for cooperation; or T, reward for collaboration, will lead to a decrease in partial resistance.

There are not always benefits from escalations in punishment. Increases in punishment levied by the regime can lead to an increase in partial resistance. In punishing Betrayers, the resistance group recreates part of the Ruthless Punishment Model, inciting rebellion in reaction to most types of punishment.

Essentially, by adding their own use of punishment and/or reward, the weaker group can establish circumstances in its favor in two ways. First, by using the penalty D to decrease rewards from Betrayal, it incentivizes its members to increase levels of resistance. Second, because it creates this particular situation itself, the weaker group may have another element of control. Note from Figure 9 that if the weaker group can set a level of punishment, D, high enough (D>φ+T-1) many of the strategies of the regime - raising penalties to decrease resistance - will be undermined.

This last point is important. The weaker group has potential to gain both from the Ruthless Punishment Model and from the Counter-Force Model because both provide motivations for resistance. However, the weaker group can gain more from the Counter-Force Model, because it allows them an element of control. Additionally, because the weaker group controls the level of D, it can be difficult for the regime to correct the problem. This again recalls Machiavelli's reminder that it is better to be feared than loved, because fear can be more easily controlled than love.

It should be noted that the group's ability to reduce reward for Betrayers helps them prevent -at least temporarily - the construction of a PD in which partial resistance is eliminated. If the group can keep D >φ+T-1, then the Betray/Betray outcome cannot be guaranteed. This reflects Lichbach's (1995, 1996) conclusions.

There is a potential weakness for the dissident group. If, for any reason - e.g. lack of resources, information, manpower, etc...- this group cannot sustain the necessary level

of punishment, D, then the Counter-Force situation will be reversed, and results will no longer be in their favor. Once the level of D falls below the critical level, ($D<\varphi+T-1$) then an increase in punishment levied by the regime will generally lead to decreased resistance. The CAP will reemerge.

The model resembles the resistance movement in Estonia. Groups of Estonians organized and fought against Soviet occupation of their country using military force, guerrilla tactics, and other means. The most famous pro-independence guerrilla groups, ranging in size from 1 person to groups of several hundred, were the metsavennad, (Forest Brothers) or partisans (Taagepera 1993: 79). These groups organized both by the need of one another for survival, and through selective incentives. These tactics resembled those in the model. Through punishments, torture, deportation, and death, the Soviets had created a system in which individuals had a self-interest in protecting themselves by Betraying others. The partisans responded by instituting punishment for collaboration, D. In so doing, they changed payoffs such that many Estonians had incentives to Cooperate with them.

Partisans in the Baltic States and Ukraine killed many collaborators, creating disincentives to Betray the resistance movements or to help the occupiers (Laar 1992: 27).

> 'Deliberate acts of political terror included the killing of specific individuals ... Targeted individuals were usually accused of collaboration with the occupation authorities. The partisans selected only those who demonstrated a desire for active cooperation with the authorities, and not those who simply fulfilled obligatory duties.' (Laar 1992: 92).

The partisans used brutal force strategically. The goal was to protect the population and to encourage resistance. Had they harmed Cooperating Estonians, their goals would have been damaged (Laar 1992: 93).

As noted, the payoffs are determined by each group's resources. While the Estonians held sufficient resources, they could continue to impose the Counter-Force Model. Eventually, however, their resources and manpower declined. The Soviets' superior numbers, armament, and mobility allowed them to infiltrate and destroy the partisans (Taagepera 1993: 80).

Games and characteristics

The above results assumed that the original situation was one in which members of the weaker group had initial preferences corresponding to Harmony. These preferences might occur if a group is united by a common bond - such as a shared ethnicity, religion, language, culture, or other trait (see Olson 1995). This assumption was made to demonstrate the worst case scenario for a regime. This type of group, as shown, is more likely to successfully resist control. Presenting these obstacles, the model revealed potential effects of tactics the regime might adopt to gain control.

These preferences do not always exist, and different situations may lead to different tactics and outcomes. Imagine that the weaker group, due to circumstances such as

linguistic or ethnic differences, class, distance between members, or lack of information, is fragmented such that its members face initially face a CAP.

	Cooperate	Betray
Cooperate	3,3	1,4
Betray	4,1	2,2

FIGURE 10. *Prisoner's Dilemma/Collective Action Problem.*

Here, the regime's task of discouraging potential Cooperation is facilitated.[87] Cooperation is not expected in a one-shot PD game. Additionally, recall that if the regime can restrict information among members, then Cooperation will be hampered in repeated play. The regime can also slightly increase
rewards for Betraying and penalties for Cooperating to further reduce potential for dissent.

Similarly, if original preferences are such that members of the weaker group are antagonistic towards one another, the regime has little problem imposing control.

	Cooperate	Betray
Cooperate	2,2	1,4
Betray	4,1	3,3

FIGURE 11. *Antagonism.*

Here, due to prejudice, hatred, etc., members of the weaker group are worse off if they Cooperate than if they Betray one another. The dominant strategy is Betray, and the NE, Betray/Betray, is Pareto optimal.[88] The regime needs to provide no incentives to avoid dissent. For example, British colonization of Nigeria was facilitated by jealousies among the three main ethnic groups. These rivalries served to minimize chances of a unified rebellion.[89]

This does not mean that a regime has free reign over the latter groups. Appealing to the Ruthless Punishment model, it is simple to show that abuse of power could spark cohesion and resistance even in members of an antagonistic group. If penalties and hardship are imposed on the weaker group such that the payoffs are altered, then players may choose to resist.

	Cooperate	Betray
Cooperate	$2-\chi, 2-\chi$	$1,4-\varepsilon$
Betray	$4-\varepsilon,1$	$3-\gamma, 3-\gamma$

FIGURE 12. *Antagonism with Ruthless Punishment.*

[87] Interestingly, this potential is noted with frustration by the Communist Party in Spain when describing politics of the Basque region. In the party's summary of the Batasuna (Basque separatist party) platform and history, the party complains of tendencies for upper class Basques to 'sell out' working class counterparts and betray the separatist movement due to promises of rewards from alliance with the Spanish state. (Val del Olmo 2001: 2-5)

[88] The outcomes Betray/Cooperate and Cooperate/Betray are also Pareto optimal.

[89] Melson & Wolpe (1970).

If the regime uses repression such that,
$2-\chi>4-\varepsilon$,

then individuals gain more from mutual Cooperation than from Betraying a Cooperator, and the Ruthless Punishment Model emerges. As shown, resistance may increase with increases in punishments, and members of the weaker group will have incentives to overcome differences and mutually Cooperate. This highlights that even in the regime's best case scenario, repression should be handled with caution.

Conclusion

The models presented are simple representations of the potential circumstances facing opposing groups. The power of these models lies in the fact that they suggest how tactics taken by opposing groups in a power struggle can alter the game in favor of one group or another. In cases of control or resistance, decisions and actions can be reactionary or based on emotion. These models serve to indicate why some tactics benefit the goals of one group, whereas others are counterproductive.

These models additionally highlight the importance of the CAP in analysis of power struggles. As Olson and Lichbach suggest, the CAP plays a role in undermining the amount of resistance presented against a regime. I demonstrate that if this hindrance to action does not already exist, the regime can use rewards and punishments to create it. Once this situation has been attained, however, the regime must avoid being careless in punishments, or it could produce incentives to resist.

Finally, these models demonstrate the effect of original circumstances upon strategies and outcomes. If the weaker group originally holds preferences corresponding to Harmony, then the regime must strive to suppress resistance and must worry about the possibility of counter-force activity. If, in contrast, the weaker group originally holds preferences corresponding to a CAP or to antagonism, then the weaker group will tend to be less likely to attempt resistance activity, and the task of the regime is facilitated.

This work extends the coercion-protest literature by accounting for a wide range of behavioral responses to repression with one simple model and its extensions. The use of repression is approached as an explicit tool - one that is distinguished from the preferences of the dissident group. By doing so, we learn that the effects of repression can change with variations in amount and targets of repression, and also according to the organization of potential dissidents. From this knowledge, we derive a greater understanding of how repression can deter dissident behavior. Importantly, we also gain an understanding of how repression can fail. These results allow us to revisit the literature through a new perspective and to explain the large discrepancies in theory and evidence regarding the relationship between repression and dissent.

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Appendix

Comparative Statics results for Partial Resistance Model:

Effect of the level of penalty, Z, for being "Betrayed while Cooperating" (BC):

$$\frac{\partial q}{\partial Z} = \frac{-1(T+\psi+\phi-Z)+(1-Z+\psi)}{(T+\psi+\phi-Z)^2} = \frac{1-\phi-T}{(T+\psi+\phi-Z)^2} \quad \frac{\partial q}{\partial Z} = < 0 \text{ as long as } \phi > 1-T.$$

Increases in the penalty Z decrease the level of partial resistance. If $\phi<1-T$, then an increase in Z increases resistance

Effect of the penalty for "mutual Betrayal" (BB):

$$\frac{\partial q}{\partial \psi} = \frac{(T+\psi+\phi-Z)-(1-Z+\psi)}{(T+\psi+\phi-Z)^2} = \frac{\phi-1+T}{(T+\psi+\phi-Z)^2}.$$

If $\phi>1-T$, this equation is >0, increases in mutual penalty increase the level of resistance.

Effect of an increase in the level of random punishment for "mutual Cooperation" (CC):

$$\frac{\partial q}{\partial \phi} = -(1-Z+\psi)(T+\psi+\phi-Z)^{-2} = \frac{(-1+Z-\psi)}{(T+\psi+\phi-Z)^2}.$$

If $Z-1<\psi$, then $\frac{\partial q}{\partial \phi} < 0$. Increases in the level of punishment for mutual cooperation decrease partial resistance.

If the game is a PD only pure strategies will be selected, and the NE is Betray/Betray.

If $Z-1>\psi$, but $T<1-\phi$, $\frac{\partial q}{\partial \phi} < 0$.

Effect of the level of reward for Betrayal, (BC):

$$\frac{\partial q}{\partial T} = -(1-Z+\psi)(T+\psi+\phi-Z)^{-2} = \frac{(-1+Z-\psi)}{(T+\psi+\phi-Z)^2}.$$

If $Z-1<\psi$, then $\frac{\partial q}{\partial T} < 0$. Increases in the level of reward for Betrayal will decrease partial resistance.

If the game is a PD then the NE is Betray/Betray.

If $Z-1>\psi$, but $T<1-\phi$, then $\frac{\partial q}{\partial \phi} > 0$.

Comparative Statics Results for Ruthless Punishment Model:

$$\frac{\partial q}{\partial Z} = \frac{-1(-R+\psi+\phi-Z)-(-1)(1-Z+\psi)}{(-R+\psi+\phi-Z)^2} = \frac{1-\phi+R}{(-R+\psi+\phi-Z)^2}.$$

If $R+1>\phi$, then $\frac{\partial q}{\partial Z} > 0$. Increases in penalty for being Betrayed while Cooperating increase partial resistance.

The opposite occurs for an increase in penalty for mutual Betrayal upon the level of partial resistance.

$$\frac{\partial q}{\partial \psi} = \frac{(-R+\psi+\phi-Z)-(1-Z+\psi)}{(-R+\psi+\phi-Z)^2} = \frac{-1+\phi-R}{(-R+\psi+\phi-Z)^2}.$$

If $R+1<\phi$, then $\frac{\partial q}{\partial \psi} > 0$.

The effect of the expected value of the punishment allotted to Cooperators is affected by the relative values of Z and ψ.

$$\frac{\partial q}{\partial \phi} = \frac{-1+Z-\psi}{(-R+\psi+\phi-Z)^2}.$$

If $R+1>\phi$ and $Z-1>\psi$ then $\frac{\partial q}{\partial \phi} > 0$. Increases in ϕ will increase partial resistance.

If $R+1<\phi$ and $Z-1>\psi$ the game is a PD, with a pure strategy equilibrium Betray/Betray.
If $Z-1<\psi$, the derivative is negative; increases in ϕ decrease partial resistance.

Comparative Statics for Counter Force Model

$$\frac{\partial q}{\partial D} = \frac{(1-Z+\psi)}{(T-D+\psi+\phi-Z)^2}.$$

If $\psi>Z-1$, then $\frac{\partial q}{\partial D} > 0$, increases in the level of punishment for Betrayal, D, increase partial resistance.

If $\psi<Z-1$, then $\frac{\partial q}{\partial D} < 0$, increases in D decrease partial resistance.

Effect of mutual punishment for Betrayal (BB):

$$\frac{\partial q}{\partial \psi} = \frac{T-D+\psi+\phi-Z-1+Z-\psi}{(T-D+\psi+\phi-Z)^2} = \frac{-1+\phi+T-D}{(T-D+\psi+\phi-Z)^2}.$$

The equation is positive if $\phi>1+D-T$ otherwise it is negative.

Impact of Z, punishment for Cooperation when Betrayed, (CB):

$$\frac{\partial q}{\partial Z} = \frac{(-1)(T-D+\psi+\phi-Z)+1-Z+\psi}{(T-D+\psi+\phi-Z)^2} = \frac{1-\Phi-T+D}{(T-D+\psi+\phi-Z)^2}.$$

The level of D can affect the effect of punishment, Z. If $D>\phi+T-1$, then increases in Z increase partial resistance.
If $D<\phi+T-1$, then increases in Z, decrease partial resistance.

Effect of random punishment, ϕ:

$$\frac{\partial q}{\partial \phi} = \frac{(-1+Z-\psi)}{(T-D+\psi+\phi-Z)^2}.$$

If $\psi<Z-1$, and $D>\phi+T-1$, increases in ϕ increase partial resistance.
If $\psi<Z-1$, and $D<\phi+T-1$, then the pure strategy NE is Betray/Betray.
If $\psi>Z-1$, then increases in ϕ decrease resistance.

Effect of reward for collaboration, T:

$$\frac{\partial q}{\partial T} = \frac{(-1+Z-\psi)}{(T-D+\psi+\phi-Z)^2}.$$

If $\psi<Z-1$, and $D>\phi+T-1$, increases in T will increase partial resistance.
If $\psi<Z-1$, and $D<\phi+T-1$, then the pure strategy NE is Betray/Betray.
If $\psi>Z-1$, increases in T will decrease resistance.