2023

3 Essays on Protests, Repression, and Signaling

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Abstract

This dissertation focuses on conceptual development across multiple questions of political contention, with a focus on informational processes. In the first paper, I examine the interaction of informational and disruptive effects of protests with a formal model. The model shows that repression can have a screening purpose. Governments use coercion to set the terms of contention so that they only have to accommodate sufficiently aggrieved and salient groups, while filtering out the rest. The model also demonstrates that decreased cost of mobilization makes repression indirectly cheaper for governments, leading to more repression. In the second paper, I examine why governments ignore large protests while cracking down on seemingly innocuous ones. I model an environment, where activists cannot coerce the government to make concessions. The model shows small protests can risk exposing an incumbent government's lack of interest in the citizens' welfare and push them to make concessions in order to retain support. The third paper focuses on the preemptive use of repression, where governments target the opposition before it can mobilize. It demonstrates how the informational and functional channels of repression are not simply additive or separable, and how the presence of asymmetric information can modify the effect of repression by incentivizing bluffing or honestly signaling strength through preemptive repression.

Document Type

Dissertation

Degree Name

Ph.D.

Department

Josef Korbel School of International Studies

First Advisor

Cullen Hendrix

Keywords

Protest, Political science, Repression, Government

Subject Categories

International Relations | Political Science | Public Affairs, Public Policy and Public Administration

3 Essays on Protests, Repression, and Signaling

A Dissertation

Presented to

the Faculty of the Josef Korbel School of International Studies

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy International Studies

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by

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June 2023

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Contents

List of Figures

Chapter 1

Introduction

This dissertation focuses on identifying mechanisms in the repression-dissent nexus. The primary goal is conceptual development across multiple questions of political conflict, with a focus on informational processes. Informational processes, particularly signaling, are core elements of political contention. Yet these processes have not been clearly identified and analyzed in the previous research. Both empirical and theoretical work either bracket the informational dynamics in the study of political contention or lump them together with other dynamics. For example, political contention is assumed to work only through the potential threat of disruption, rather than signaling grievances of the participants. Similarly, repression is often considered a purely functional endeavor: governments use repression to reduce opposition capability.

The lack of attention to mechanisms connecting the repression, dissent, and their outcomes have left the field with "puzzles", that are only puzzling from a view that ignores unique informational dynamics that underpin the relationship between

contention and government. Consider the "Puzzle of Persistent Repression", which posits that repression often has mixed, if not negative effect on the level of protests, suggesting that it is likely a poor, if not irrational response (25; 37; 28; 32; 18). Nevertheless, the governments keep using it, leaving many scholars puzzled as to why this would be the case.

Similarly, ignoring the informational dynamics of protests often reduce the study of their effect to the study of the effect of participant numbers. Framed in this way, it becomes puzzling as to why increased number of participants in protests through social media and similar communication technologies have not made protests more successful (91; 18).

Rather than take these puzzles and conflicting empirical findings for granted, the papers in this dissertation take a first principle, game-theoretic approach that incorporate informational elements. Focusing on the informational effects of repression and contention, but also incorporating their direct effects demonstrate that conflicting empirical findings are equilibrium outcomes of strategic interaction, rather than puzzles to be solved.

The first paper, Screening and Signaling in Contentious Politics moves away from the assumption that assumes contentious politics is a zero-sum game, where governments always want to keep status quo and subdue all protests. This approach ignores that contentious action provides information about grievances that are costly to ignore for the government. Learning, and alleviating these grievances allows governments to gain valuable—or at least avoid losing— political support.

The paper examines the informational element of protests together with their disruptive element with a formal model. When protests inflict costs on the

government by disrupting economic activity or public order, governments cannot simply let protests run their course to freely gather information. Governments use coercion to set the terms of contention so that they only have to accommodate sufficiently aggrieved and salient groups, while filtering out the rest. Second, the model shows that by allowing less aggrieved and salient groups to mobilize at higher levels, decreased cost of mobilization indirectly makes repression cheaper.

Taken together, these dynamics provide a theoretical explanation for the inconsistent findings in the empirical literature on contention and repression. The findings explain why rational governments would resort to repression only to follow it with accommodation, and why decreases in cost of mobilization—for example through communication technologies— have not produced accompanying success for activists.

The dissertation elaborates and builds on the informational dynamics of protests in the second paper Ignoring and Responding to Protests. This paper focuses on government's choice to ignore protests. It presents a formal model to show that when activists mobilize to signal their grievances, they provide information not only to the government but also to the general public. The government's response to protests provide information about how much it cares about the citizens' grievances. Depending on the public's existing support for the government, this information can be decisive in determining whether they will withdraw their support or not.

This paper departs from existing informational arguments on protests, where the focus is on coordinating anti-government sentiment. Rather, it distinguishes a mechanism by which protests can create anti-government sentiment by potentially revealing it to be unresponsive to citizen demands. This mechanism can make public mobilizations "threatening" even their size is relatively small because

ignoring modest demands reveals the government's lack of concern for citizen's needs to the broader public. In other cases, governments can safely ignore even large number of protesters, which is indeed their most common response to public mobilization around the globe.

The third paper switches the focus to the effect of repression. In the paper, How does Violence Deter? Functional and Informational Effects of Preemptive Repression, I focus on the preemptive use of repression, where governments target the opposition before it can mobilize. I build a game-theoretic model that distinguishes two different channels through which repression can deter dissidents: first, repression used preemptively works through a direct, functional channel by reducing the opposition's capability, making them less likely to win against the government. Second, the severity of preemptive repression provides information about the capabilities of the government implementing it.

The model shows that the interaction of two distinct channels of repression modify the aggregate effect of observed repression, and can make it either more or less effective in deterring dissent. I argue that ignoring these distinct channels or lumping them together is why previous empirical findings on the effect of repression have been inconsistent.

Chapter 2

Screening and Signaling in Contentious Politics

2.1 Introduction

Traditional approaches to the study of contention and repression follow a straightforward framework: groups mobilize to challenge the status quo and threaten the government. Because governments always seek to perpetuate the status quo, they resort to repression to eliminate the threat, as it is often cheaper than accommodation (88; 36; 25; 72; 32). Contentious politics are a zero-sum game, where governments never want to accommodate if they can help it, and protesters only "extract concessions" by threatening or inflicting costs on the government (74; 52). In addition to overlooking, or misclassifying a significant amount of contentious action, this framework obscures key dynamics of protests and government response.

Consider the protests against the US-Based Newmont Mining Corps's proposed Conga mine in Peru 2011, where activists demanded cancellation of the project citing environmental concerns (1; 77). [1][2][3] The government initially responded with violence, but accepted the demands of the activists and suspended the project — estimated to be worth $4.8 billion— shortly after. Concession was clearly costly for the government in terms of foregone revenue, and repression failed to subdue the protesters as it often does (41; 25; 28; 32).

The modal framework focusing on challenging government authority is a poor fit for this context, where protesters called for the government to exercise its sovereign authority over a private actor in order to meet their demands (84; 85). Although concession was costly, it is not safe to assume that the government experienced a net loss by accepting the demands of protesters. President Ollanta Humala had recently been elected on promises of helping the rural poor, and ending conflicts around mineral extraction. While his government lost the revenue from the mine, it gained —or avoided losing— the support of people that mobilized against the project. Indeed, scholars of resource conflict have highlighted how governments use protests around resource extraction as way to fuel their legitimacy, often by pressuring firms to accept high levels of "beyond voluntary" corporate social responsibility (CSR) spending (5; 2; 47; 46).

The case of Conga is not unique. In fact, more than half of the contentious action in Latin America and Africa was primarily targeted at actors other than the

[1]http://www.minesandcommunities.org/article.php?a=11291

[2]http://www.minesandcommunities.org/article.php?a=11342

[3]https://www.bbc.com/news/world-latin-america-15884119

state (79). Even when contention is targeted at the state, protesters often do not have the intention —let alone the capacity— to directly challenge the state. Rather, activists use mobilization to signal their grievances, with the expectation that the government will take action to respond to their demands (57; 49; 43). Of course, contentious mobilizations do often impose costs on the government. Riots, labor strikes or blockades can directly damage the economic resources of the state unless the government takes action to stop them. But this does not always mean that they succeed *because* they were sufficiently threatening, or disruptive.

While governments use repression as a response to expected costs of contention, they do not always have an incentive to subdue all protests. Accommodation is costly, but ignoring the grievances of citizens is not free either. If a group of citizens is sufficiently aggrieved and politically salient, it can be too costly to ignore them (61; 43). In these cases, citizens mobilizing can be beneficial for the government. Collective action provides information about the citizens' needs and an opportunity to address them before they vote for the opposition in the polls, or withhold their support in other ways. Governments accommodate the demands of activists not because they were too costly to repress, but because they were sufficiently costly to ignore.

Broadening the framework of contentious politics to include the signaling element of contention helps us better interpret the seemingly inconsistent or even contradictory empirical findings on repression and dissent (75; 48; 25; 28; 32). Despite its common use, evidence suggests repression is at best an uncertain, if not a counterproductive tool. More than a quarter of the non-maximalist protests that were targeted by repression ended up getting concessions (MEC dataset). To para-

phrase (28) either states are crazy, or they are using repression strategically for reasons other than simply subduing all protests.

To examine these dynamics, I develop a formal model with two-sided uncertainty. A group of citizens has a privately known grievance that the government can alleviate at a cost. Citizens can mobilize to signal their displeasure with the status-quo, yet they do not know to what extent the government is willing to accommodate their demands. Unlike common models of repression and dissent, the government might be willing to accommodate the group if the activists' grievance is high enough (45; 72; 74).

To underscore the interaction of signaling and disruption effect of mobilization and the purpose of repression, I first analyze a setting where protests are not disruptive. In this case, contentious mobilization has a pure signaling effect. The government can simply choose to ignore the activists if it turns out that their demands are too costly relative to their political salience. Next, I consider a setting where protests are disruptive enough that the government cannot simply ignore them. This leads the government to use repression in order to deter groups that seek to extract concessions. That is, forcing the government to make transfers that it would not have made under complete information.

Because protests impose costs, and the government lacks information about the level of grievances, it cannot simply let the protests run their course, or perfectly tailor its repressive policy. Consequently, it can end up repressing groups that it prefers to accommodate. Similarly, due to uncertainty about government's preferences, activists do not know the scale of repression that the government will use. This leads some groups to be too optimistic and get demobilized by repression when they protest.

A key insight of the model is that some groups overcome repression and receive concessions because they are sufficiently aggrieved and salient, not because they are disruptive or threatening. Indeed, the government does not use repression severe enough to repress them because they would be accommodated under complete information. Sometimes being able to impose costs on government can encourage these groups to protest, but it is not what makes them succeed. Of course, some groups can extract concessions that they would not have received under complete information. But grievances, and thus the informational effect of mobilization still matter because they indirectly affect the level of repression the government employs.

By relaxing the zero-sum assumption and focusing on grievances, the model presents a better understanding of strategic relationship between the level mobilization and repression in most settings. In particular, the model demonstrates that reduced cost of mobilization also indirectly makes repression cheaper, thus higher. This is particularly important in a period where technological developments have made contentious mobilization easier, but not more successful (91; 18; 34). This is consistent with the empirical record, but not readily explained by previous research on signaling and conflict, where increased *resolve* (i.e. decreased cost of mobilization) (39; 82; 50; 75; 73) is expected to have a uniform and positive effect.

This paper contributes to the study of contentious politics and repression in three ways: it identifies a strategic reason for why governments consistently use repression against public dissent, even when it has seemingly inconsistent or counterproductive results (28; 32). The model analyzes mobilization's signaling and disruptive effects together which builds on existing work that studied them in isolation (72; 74; 57; 43; 12). Finally, the model grounds some of the seemingly contradictory empirical findings with regards to state responses to public contention.

2.2 Signaling, Disruption, and Dissent

Both formal and empirical literature on repression generally equate contentious action with dissent: "collective actions to threaten or actually impose costs on government to change status quo." (74; 75; 52) This approach leads to the conception that all contentious politics are simply mini-revolutions: a zero-sum game, where the protesters' victory is necessarily the government's loss. Yet often times, neither governments or activists approach their interaction in a zero sum way.

A key reason people engage in contention is to make their grievances known (65; 64), as one protester from South Africa put it: "a message to the top...so they know what is going on." (49) Protests often affect policy outcomes by informing political leaders about the citizens' preferences (57). Governments can gain valuable political support —or at least avoid losing it— by being able learn and alleviate grievances of citizens. This is particularly true where governments have electoral incentives. (43) presents a formal model where groups can take costly action to communicate their interests to an re-election-minded legislator. Because protests are costlier for groups who lack institutional access to political process, their protests are more likely to be informative for the officials. Looking at the roll call votes of US legislators, she finds evidence that US legislators are indeed more likely to take action in line with the preferences of low-income and racial-minority groups after protests. Similarly, governments in Latin America often take the side of protesters in firm-community conflicts, because they see forcing firms to fund social programmes as a way to boost their legitimacy, and thus re-election chances (1; 2; 84; 5; 46).

Even a highly authoritarian regime like China often tolerates local protests with narrow goals, and address the demands of the protesters (61; 69; 55). As (61)

argues, one can hardly make the argument that small scale protests are extracting concessions from the ruling regime by threatening the government. Indeed, Chinese leaders have made statements that suggested toleration, if not encouragement of these protests with narrow goals (60). Lorentzen uses a model of mechanism design to focus on how the government can preempt revolts by encouraging loyalists protests. His model demonstrates that by conditioning transfers to sufficiently high levels of protests, government can prevent highly aggrieved populations from taking anti-government actions, while also preventing opportunistic protests. Thus, similar to models of protests in democratic settings mentioned above, protests succeed by providing credible information about grievances. These informational models of protests do not feature repression because they assume protests are costless for the government. Thus, the governments can simply disregard the protesters if they choose to.

On the flip side, formal work on repression focuses on zero sum-settings, generally with a bargaining framework (45; 72; 74). In these models, disagreement over status quo does not come from incomplete information, but from completely opposed preferences. Governments accommodate only when they are too weak to repress, or when they fail to subdue the protesters through repression. For example, (74) models a context where concessions always reduce the likelihood leader's of survival in the office. Similarly, (72) assumes that strong governments will always prefer repression to accommodation. While these models highlight the strategic interaction of repression and dissent in direct, often maximalist challenges to governments, these contexts compromise only a small fraction of protests that take place.

Despite acknowledging the strategic process between government and protesters, empirical work on repression and dissent also often overlooks signal-

ing function of protest. Looking at state response to protest, (52) assume that protesters' only bargaining power comes from disruption costs: direct and indirect economic costs such as the disruption of business activities. (75) focus on censoring and selection effects in the observational study of repression and dissent. Using rainfall as an instrument for the effect of dissent on repression, they find that there is no systematic relationship between observed dissent and repression. While highlighting the behavior of protesters in *expectation* of repression, they similarly consider all contentious mobilization as dissent with zero-sum goals. As I discuss in more detail below, by overlooking that protests signal grievances as well as impose costs, these studies miss why and how repression is used.

The model I present here incorporates both the informational and the disruptive effects of protests. Put it differently, protests both provide information about the grievances of activists and impose costs on the government. Unlike purely informational models of protests, governments cannot simply disregard protesters. Government chooses a repression policy with the expectation of costly protests, while also factoring the indirect cost of grievances that lead to the protests in the first place. My goal is not to build a model that encapsulates all aspects of of contentious politics. Rather, it is to highlight that protests that seek narrow policy goals have unique informational dynamics that those seeking to oust the government do not. Taking account of these dynamics is necessary to explain the empirical patterns of repression and dissent.

2.3 The Model

I model a scenario with two players: an Activist (A, she), a Government (G, it). The activist's utility from status-quo is determined by privately known type $\theta \in [0, 1]$, so that her status-quo payoff is $-\theta$. Throughout the text I refer to θ as A's grievance. The activist also has political salience $\alpha \in [0, 1]$ for government, which is unknown to A. The parameter α captures how much the government cares about the grievance of the activist.[4] This interest can be genuine or instrumental and it can vary across issue areas. For example, a government might be less susceptible to public opinion in foreign policy than in environmental issues. Similarly, a left-wing government would be more willing to accommodate grievances from labor unions while being less interested in the grievances of right-wing voters. Displeased populations matter for the government as they might vote for the opposition, or withhold their support in different ways. Another possible interpretation of the parameter is the quality of the government in political delegation models, where higher values mean greater similarity of interests between the government and citizens (14; 8; 9).

Activist can choose to mobilize at a cost $C(m) = cm^2$, which both signals grievence and causes disruption. If she receives concessions, her grievance is completely alleviated and her payoff is set to $0 - cm^2$. Mobilization at a level m causes disruption at a level mv, unless the activist is accommodated or demobilized by repression. I assume that v is common knowledge and sufficiently high that activists can create sufficient disruption even with small numbers.

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[4]Technically, this the relatedness parameter in the standard Sir Philip Sidney Game. The key finding of the model would not change if the uncertainty was around d instead.

If the activists' grievances are not alleviated, the government loses $\alpha\theta$ as it loses political support.[5] When the government engages in repression, it chooses its repression level r before observing the level of mobilization. Repression at a level r costs kr^2, where $k > 0$ The government succeeds in demobilizing a protest if the level of repression is $r \geq m$ and fails otherwise. The cost of repression is only realized if the activist mobilizes. Furthermore, to ensure that the function is well-behaved, I assume that $c > \frac{1}{2}$ and $k > \frac{1}{2}$.

Regardless of repression, government can choose to concede to the demands of the activist $a \in \{0, 1\}$ at a cost $0 \leq d \leq \frac{1}{2}$.[6] If protests are disruptive, conceding to the demands saves the government the direct that would otherwise be imposed. Similar to the choice of repression, this ensures that the government has a reason to concede in order to stave off disruption costs.[7]

Intuitively, governments concede or repress to mitigate the potential disruption caused by contention. If the government were to wait and let the protest run its course the disruption would be already realized and government would have no incentive to repress or concede unless repression is used for punitive purposes.

To sum up the sequence is:

1. Nature draws α and θ from independent uniform distributions with full support on $[0, 1]$. α is only revealed to G and θ is only revealed to A.

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[5]This setup is similar to Sir Philip Sidney Game with differential benefits. Typically used in evolutionary game theory (98).

[6]Restricting d to $[\frac{1}{2}, 1]$ ensures that the government will never accommodate under guesswork, so that the Activist will never be accommodated unless she protests.

[7]Such commitment structure is common in policy-making models (11; 76).

2. G chooses a repression policy $r \geq 0$, whose cost kr^2 is only realized if $m > 0$.

3. A chooses a level of mobilization $m \geq 0$ at cost cm^2. The level of potential disruption is $mv \geq d$ if $r < m$, and 0 otherwise.

4. G chooses whether to accept the demands or not $a \in \{0, 1\}$ at a cost $d > \frac{1}{2}$. If G accommodates, it does not suffer the cost of disruption mv.

And the payoffs are:

$$U_A = -\theta(1-a) - cm^2$$

$$U_G = \begin{cases} -da - kr^2 + (1-a)(-\theta\alpha) & \text{if } r \geq m \\ -da - kr^2 + (1-a)(-mv - \theta\alpha) & \text{if } r < m \end{cases}$$

The solution concept is Perfect Bayesian Equilibrium (PBE), which specifies: 1) A level $m \geq 0$ for each type of activist with $\theta \in [0, 1]$. 2) A level of repression $r \geq 0$ and decision to accommodate $a \in \{0, 1\}$ for each type of government with $\alpha \in [0, 1]$. 3) A set of beliefs for the government regarding the type of activist after observing m. Proofs that do not follow from the main text are in the appendix.

2.3.1 No Disruption or Repression

I start with a setting where protests do not impose direct costs to the government. Formally $v = 0$. This is not necessarily an analytical benchmark but also a feature of many forms of collective action. Protesters often engage in sit-ins or marches without causing any property damage, or disrupting economic activity in general. Protest organizers can take extra measures to make sure the protests do

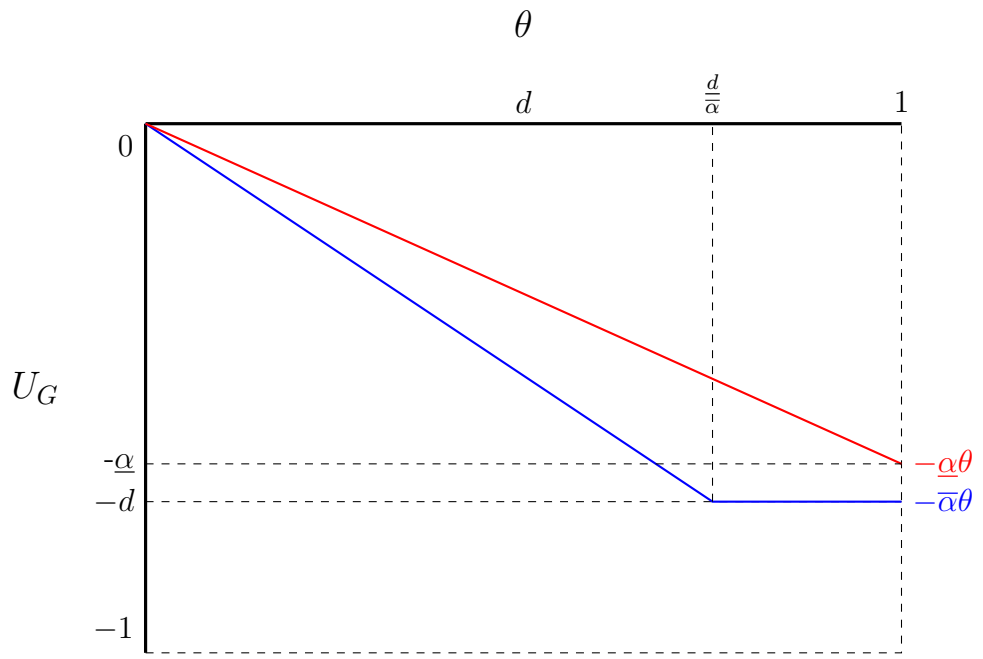

Figure 2.1: G's utility with no accommodation for two values of α with regards to A's type θ, where $\overline{\alpha} > d > \underline{\alpha}$.

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not result in property damage, and sometimes even work with official authorities by taking permits. In some cases protesters even clean up after themselves by picking up litter and cleaning up graffiti.

Since protests do not impose direct costs to government, activists cannot coerce the government into concessions.[8] However, they can use mobilization to signal their grievances. If the level of protests perfectly reveal the Activist's grievance, the government's choice is straightforward. Under complete information, the gov-

[8]This is not to suggest that unobstructive protests are always trivial events that never pose no danger to the government. There is an extensive literature on informational cascades starting with (54). This literature typically focuses on direct, anti-regime protests, which is outside the focus of this paper.

ernment prefers to accommodate if ignoring is sufficiently costly $\alpha\theta > d$, or $\theta > \frac{d}{\alpha}$.[9] Note that a Goverment with type $\alpha \leq d$, will not accommodate any activist. Similarly, an activist with type $\theta \leq d$, will not be accommodated by any government. Figure 1 above illustrates the government's preferences with respect to grievance of θ for two values of α. In equilibrium, a government with type $1 \geq \alpha > d$ uses a threshold strategy, accommodating the activist when $m > t(\alpha)$, $E[\theta|m > t(\alpha)] > \frac{d}{\alpha}$ and ignoring otherwise.

Were the government's type —α— publicly known, A's choice would be simple. Activists whose grievances are sufficiently high —$\theta > \frac{d}{\alpha}$— would mobilize just enough to get accommodated —$t(\alpha)$— while others would not mobilize at all. Since the activist does not know α, she does not know whether she will be accommodated or not. While a higher level of mobilization is more likely to be accommodated, it is also more costly. If the activist mobilizes at all, her level of mobilization balances these in order to maximize her utility. Formally:

$$m^* \equiv \underset{m}{\operatorname{argmax}}\, \theta - Pr[m \leq t](\theta) - cm^2 \tag{2.1}$$

where,$(Pr[m \leq t(\alpha)]) = 1$ if $\theta \leq d$ and

$$(Pr[m \leq t]) = \int_0^1 t(\alpha) - m\, d\alpha$$

otherwise. So that $m^*(\theta) = \frac{\theta}{2c}$. Given the activist's strategy, the threshold for a government with type $1 \geq \alpha > d$ is $t(\alpha) = \frac{d}{\alpha 2c}$.

[9]Since $\theta = \frac{d}{\alpha}$ occurs with a probability 0, G's indifference here is not important.

Finally, activist compares her expected utility with optimal level of mobilization to not mobilizing at all. If she does not mobilize, her payoff is $-\theta$.[10] Her expected utility for mobilization is given by the cost of m^* and the expected probability of getting ignored:

$$\theta + \frac{d}{\theta}(-\theta) - c(\frac{\theta}{2c})^2 > 0 \tag{2.2}$$
$$\theta > \dot{\theta} \equiv 2c - 2\sqrt{c^2 - cd}$$

Combining these results we get the equilibria of the game with no disruption, depicted in Figure 2:

Proposition 1 *In the baseline model with no disruption and repression, there exists an equilibrium such that:*
G with type $\alpha \leq d$ ignores all protests.
G with type $1 \geq \alpha > d$ uses a cutoff strategy, accommodating when $m > t(\alpha) = \frac{d}{\alpha 2c}$ and ignoring otherwise.
A only protests if $\theta > \dot{\theta} \equiv 2c - 2\sqrt{c^2 - cd}$. If she protests the level of mobilization $m^*(\theta) = \frac{\theta}{2c}$.

Proposition 1 points to two key results: First, protests do not need to be impose direct costs on government to succeed. Second, rational activists can take the streets to protest only to get ignored by the government. Empirically, this is very common. Looking at protests around the world, (52) find that simply disregarding

[10]Recall that $d \geq \frac{1}{2}$.

protesters is the modal government response. Proposition 1 points to an answer as to why people keep taking the streets peacefully only for their efforts to be wasted.[11]

Key here is two sided uncertainty. If the government had complete information, signaling grievances would be unnecessary, because it could make concessions to sufficiently aggrieved groups in order to avoid losing political support. Similarly, if the activist had complete information, only the activists who knew that they would be accommodated would protest.

While asymmetric information can make the activists too optimistic about their likelihood of success, it can also make them too pessimistic. Expecting to be ignored, some activists $\frac{d}{\alpha} < \theta < \dot{\theta}$ choose not to mobilize at all even though they would receive concessions off the equilibrium path. This is the orange shaded Region II in Figure 2. Note that this mechanism for lack of contentious action is distinct from coordination or collective action problems. It is not the activists' inability to mobilize sufficient numbers, but rather their lack of information on what the sufficient number is that leads to inaction.

As proposition 1 demonstrates, this lack of information can go both ways: it can lead to both to missed opportunity or failed mobilization. When the government's type is sufficiently low, even highly aggrieved activists get ignored. This is the red shaded Region IV in Figure 2.

Although we do not observe the protests that did not happen because of pessimism, there are quite a few examples of protests that were simply ignored by

[11]This is not to suggest that all contentious action that does not get a positive government response are complete failures. Protests can still be key in creating new social organization, networks that can further the activists goal in the future see (91; 64).

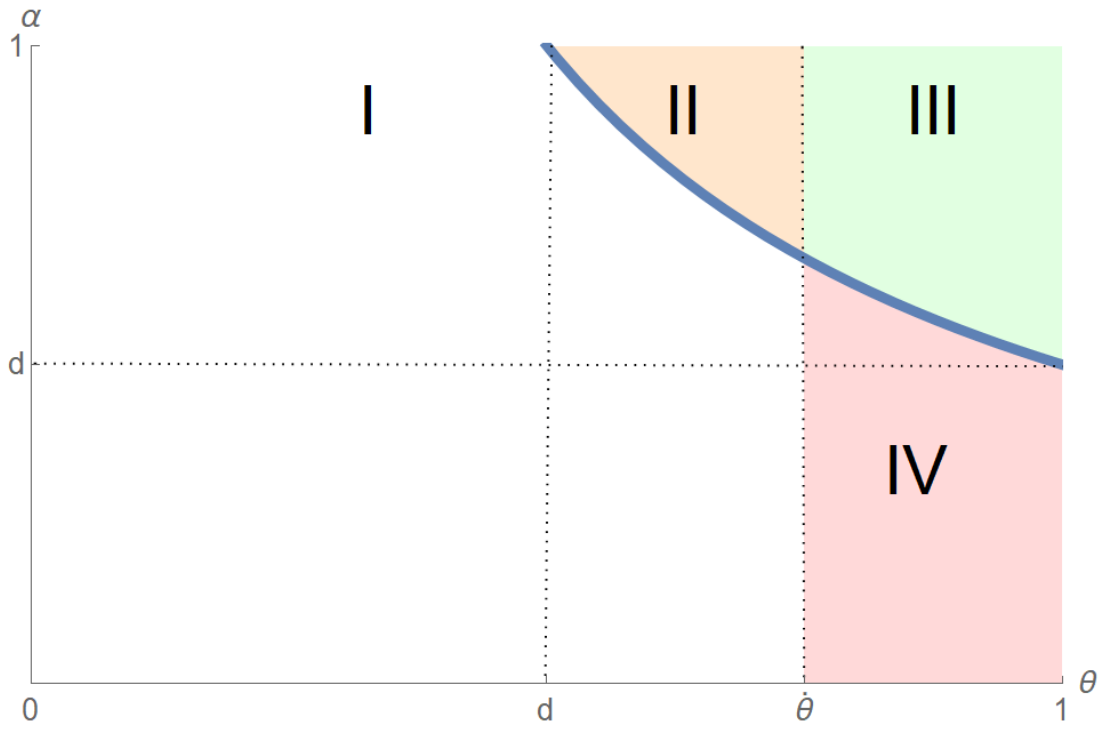

Figure 2.2: Outcomes under Proposition 1 as a function of A's type α and G's type θ, where the curved line is $\frac{d}{\alpha}$. Region I shows the parameter range where there is no opportunity and no protest. Region II, is where A does not protest but would get accommodated off the equilibrium path. Region III and IV show the range of successful and failed protests respectively.

the government. Most notably, the US government's response to protests against the invasion of Iraq on February 15, 2003 (91). While organizers hoped that a significant turnout would sway the government's position in fear of losing political support, the President Bush simply ignored the protesters, which numbered in tens of thousands.

Of course, the number of participants can be deceptive with regards to the likelihood of success. While the level of mobilization increases with the level of grievance, level of mobilization does not directly translate to likelihood of success. Notice that the government adjusts its threshold for concessions –$t(\alpha)$– according

to the cost of mobilization c. As the cost of mobilization decreases, for example due to pleasant weather, increased transportation, or internet access the government accordingly expects the activist to mobilize at higher level for a given level of grievance. Put differently, the government understands that 1000 people protesting on a rainy day or in an area with poor transportation is different than 1000 people protesting on a sunny day or somewhere easy to reach with public transport (12). Consequently, the government adjusts its threshold for accommodating the demands of protesters.

Proposition 2 *If protests are not disruptive.*
Conditional on protesting, c has no effect on the probability of success: $Pr(m^*(\theta) \leq t(\alpha)) = \frac{d}{\theta}$
As c decreases, protests become less likely: $\frac{\partial \dot{\theta}}{\partial c} > 0$.

The insight of Proposition 2 is particularly important in a period when social media and similar communication technologies have made collective action easier, but not more successful (91; 18). One key reason is that governments are also aware that the cost of mobilization has decreased, and expect even higher numbers before they decide that a group of protesters is too aggrieved to be ignored. Conditional on protesting, an activist succeeds only when the government's type is sufficiently high $\alpha > \frac{d}{\theta}$, which has a probability $1 - \frac{d}{\theta}$. This is the green shaded Region III in Figure 2.[12] (43) makes a similar case, where she argues that legislators pay attention to resource constraints of protesters. She finds that US legislators are more likely to pay attention to protests by low-resource groups such as ethnic minorities, even when the size of protests are similar. The model here shows the

[12]Recall that an activist with type $\theta \leq d$ never protests in equilibrium in the baseline model.

opposite is true as well: governments pay attention to reduced costs of mobilization and adjust their expectations accordingly.

The second part of Proposition 2 might seem paradoxical at first. After all, if cost of mobilization goes down, one would expect it to be become more likely. However, this result has an intuitive explanation following from the first part of Proposition 2. As the marginal cost of mobilization decreases, the activist has to mobilize at higher levels to credibly signal the level of her grievance: $\frac{\partial m^*(\theta)}{\partial c} > 0$. The increase in the level of necessary mobilization means that success is no more likely, but failure is more costly. It is more costly to be ignored after mobilizing 100 people than 1000. As the organizers of protests against the invasion of Iraq found out, thousands of people will be equally easy to ignore if the government is not responsive. Consequently, decreased cost of mobilization can have a paralyzing effect on non-disruptive protests.

Having examined how the strategic interaction between the government and the activist would play out if contention did not impose costs, I now turn to the case where protests force the government to respond.

2.3.2 Disruption and Repression

Taking stock of the dynamics of non-disruptive protests, we can see more clearly how disruption and repression fit into contentious politics. When mobilization imposes sufficient costs on the government, it has to use repression to subdue the protesters. Failing that, it has to offer concessions in order to avoid disruption costs. While this dynamic is similar to zero-sum models of contentious politics, the goal of repression is not necessarily to subdue all protests, but to minimize the range

of activists that seek to extract concessions through disruption. That is, those that the government would not want to accommodate under complete information.[13]

The government's final decision is the same as the baseline model. By now the government has observed the level of mobilization and outcome of the repression has already materialized. If repression was successful, government simply has to compare the cost of ignoring the activists' grievance and concession. So that its choice is exactly the same as above: Regardless of the outcome of repression, the government concedes if $E[\theta|m] > \frac{d}{\alpha}$. If repression was not successful in demobilizing the activist, the government concedes to avoid disruption costs.

The activist's mobilization decision is also similar to the baseline model, except here she has to consider the level of repression. Her optimal level of mobilization given her type $m^*(\theta)$ maximizes:

$$\theta - Pr[m \leq r](\theta) - cm^2 \tag{2.3}$$

So that $m^*(\theta) = \frac{\theta}{2c}$.

Turning to government's repression policy $r(\alpha)$. The governments level of repression is constrained by two factors: direct cost of repression —k—, and the cost of ignoring the grievance of the activist even after successfully subduing the protest —$\theta\alpha$—. Government's optimal repression policy balances these marginal costs and

[13]I assume that all protests can be disruptive enough such that without repression, all type of activists $\theta \in [0, 1]$ would mobilize. See appendix for details.

the marginal benefit:

$$\underbrace{2kr}_{\text{Cost of Repression}} + \underbrace{\alpha 2cr}_{\text{Cost of Ignoring}} = \underbrace{d}_{\text{Benefit}} \tag{2.4}$$

So that, $r^*(\alpha) = \frac{d}{2k+2\alpha c}$.

The first expression on the left hand side, and the right hand side are straightforward. The second expression on the left hand side bears explanation. As the level of repression increases, it can subdue higher levels of mobilization. However, because more aggrieved activists mobilize at higher levels, increased repression also means higher costs of ignoring for the government. Each marginal increase in repression means an additional indirect cost $\alpha 2cr$ for the government. Repression can subdue protests but it cannot alleviate the grievance that led to them in the first place. Consequently, the government factors in the informational content of mobilization when choosing its repression policy. Note that when $r = m > t(\alpha)$, repression has no benefit because the government prefers to accommodate the activist that would mobilize at this level.

Intuitively, as the direct cost of repression —k— decreases, $r(\alpha)$ approaches $t(\alpha) = \frac{d}{2\alpha c}$. A government with type $d < \alpha$ has no incentive to subdue any mobilization above $t(\alpha)$, because any activist mobilizing at this level is sufficiently aggrieved to be accommodated. Similarly, as α decreases, $r(\alpha)$ approaches $\frac{d}{2k}$, which is the level of repression that the government could employ if the direct cost of repression was the only constraint i.e. $\alpha = 0$.

More importantly, government's repression policy is directly related to the cost of mobilization: As the cost of mobilization—c— decreases, government's equilibrium level of repression also increases. In choosing its repressive policy, the gov-

ernment factors in the cost of mobilization similar to Proposition 2. As the cost of mobilization decreases, an activist with a given level of grievance can mobilize at higher levels. This means that the indirect cost of subduing a given level of mobilizations—$\alpha 2cr$— decreases when the cost of mobilization goes down. Succinctly put, lower cost of mobilization means lower cost of repression.

Proposition 3 *G's equilibrium level of repression increases as the cost of mobilization decreases.* $\frac{\partial r^*}{\partial c} > 0$.

Finally, activist has to decide between mobilizing at m^* and not mobilizing at all. Activist only mobilizes if:

$$\theta + Pr(m \leq r(\alpha))(-\theta) - c(\frac{\theta}{2c}) > 0 \tag{2.5}$$

$$\theta > \ddot{\theta} \equiv 2(c+k) - 2\sqrt{c^2 - cd + 2ck + k^2}$$

Combining these results we get the equilibria of the game where government has to respond with accommodation or repression.

Proposition 4 *When protests are disruptive,*
A chooses $m^*(\theta) = \frac{\theta}{2c}$ *if* $\theta > \ddot{\theta}$, *and* $m = 0$ *otherwise.*
G chooses a repression policy $r^*(\alpha) = \frac{d}{2k+2\alpha c}$, *and accommodates if* $m^*(\theta) > r^*(\alpha)$.

Figure 3 shows the equilibria of the game with disruption as a function of θ and α. The parameter space of Proposition 4 expands the strategic context of the baseline model.

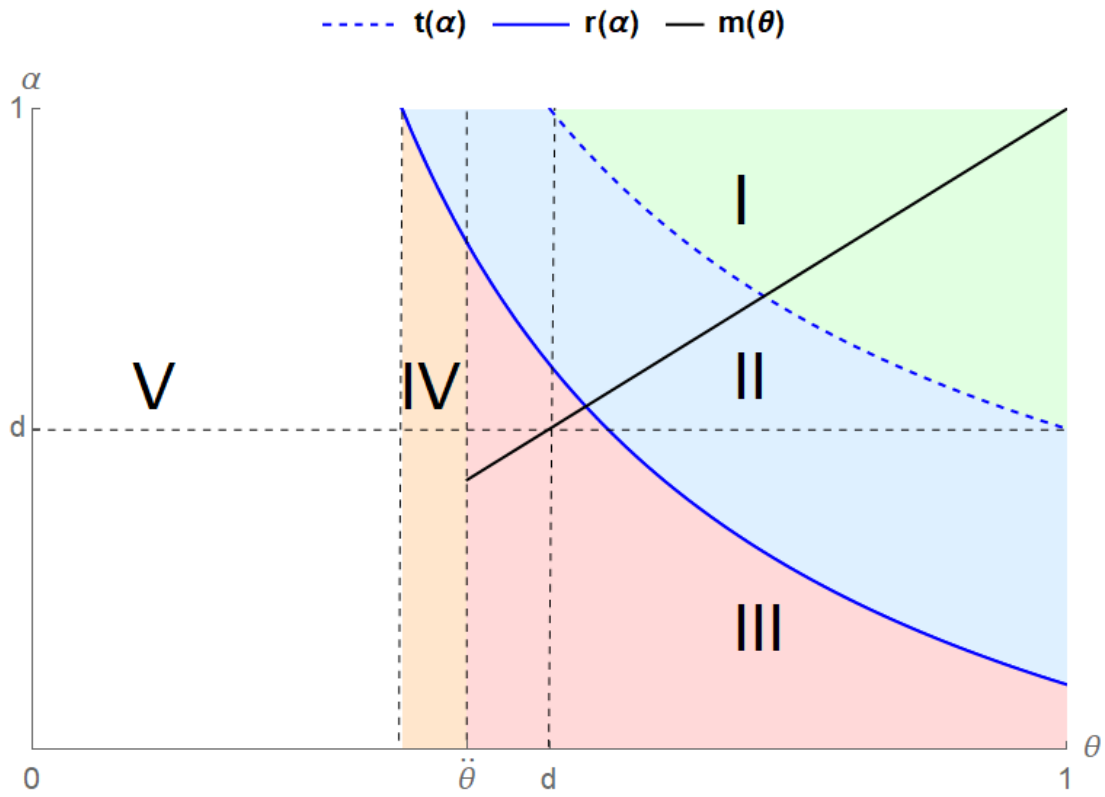

Figure 2.3: Outcomes with no disruption as function of A's type θ and G's type θ, where $c = 0.5$, $d = 0.5$, $k = 0.2$

Just like in the baseline model, asymmetric information can lead to some activists foregoing contentious action, even though they would be accommodated off-the-equilibrium path. This is the orange shaded Region IV in Figure 3. Similarly, asymmetric information can also lead to failed disruptive contentious action. However, in this case the protesters get demobilized by repression rather than ignored. This is the red shaded Region III.

Of course, repression will not be always severe enough to subdue protests. Due to incomplete information, activists that would be accommodated under complete information—$\theta > \frac{d}{\alpha}$— do get targeted by repression when they engage protests. They are not subdued by repression precisely because repression is intended to filter

out less aggrieved groups. Regardless of direct cost of repression—k—, governments have no incentive to use repression severe enough to subdue groups that they want to accommodate.[14] This is the green shaded Region I.

As the cost of repression increases, lower types of activist can extract concessions from the government. The government does not want to accommodate these activists—$\ddot{\theta} < \theta \leq \frac{d}{\alpha}$— but it is forced to in order to end the protests. The activists receive concessions because they can impose costs on the government and subduing them is too costly. If the cost of repression were low enough, these activist would either be deterred from protesting, or be subdued by repression. This is the blue shaded Region II in Figure 3. This result is more inline with conventional zero-sum models of contention and repression with an important caveat.

Even when the government would rather not accommodate a particular activists, the salience —α— still matters because it constraints the limits of repression. As described above, the cost of subduing a population through repression is not simply the direct costs associated with repression k, but also the cost of ignoring their continued grievance —$\alpha\theta$—. Ignoring this aspect of costs is one reason that previous work (25; 52) has failed to adequately asses the costs of repression. A government can subdue a protest of 1000 people, but this does necessarily not mean that it will repress AND ignore the same number of people.

Being able to impose direct costs on the government can encourage more groups to protest as long as repression is costly. That is: $\ddot{\theta} < \dot{\theta}$ as long as $k > 0$. Furthermore, unlike the case of unobtrusive protests, marginal cost of mobilization c does change the likelihood of disruptive contentious action: $\frac{\partial \ddot{\theta}}{\partial c} < 0$. As the marginal

[14]Recall that a government with type $\alpha \leq d$ does not want to accommodate any activist.

cost of mobilization decreases (or the marginal cost of repression increases), the range of activists that government can subdue decreases. While the government does not necessarily want to subdue all protests, the more cost of mobilization decreases relative to the cost of repression, the less it is able to set the terms of contention. Knowing this, more types of activist mobilize expecting to be overcome repression.

Proposition 5 *Disruptive mobilization becomes more likely as the marginal cost of mobilization —c— decreases, and the marginal cost of repression increases:* $\frac{\partial \ddot{\theta}}{\partial c} < 0$, $\frac{\partial \ddot{\theta}}{\partial k} > 0$.

Imposing direct costs on the government is an important part of contentious action (62; 63), but its true impact might be less significant than touted. Even activists who extract concessions—those that the government would ignore under complete information—, still benefit from the signaling aspect of contention. For sufficiently aggrieved groups —$\theta > \max\{\ddot{\theta}, \frac{d}{\alpha}\}$— disruption makes contentious action possible, but it is not what makes contention succeed. Indeed, possibility of disruptive protests will be beneficial for the government if it encourages mobilization by activists whom the government prefers to accommodate.

Proposition 6 *Potential for disruption is beneficial for the government if:* $\max\{\ddot{\theta}, \frac{d}{\alpha}\} < \theta < \dot{\theta}$.

Recall from Proposition 2 that if disruption is not possible, the activist becomes less likely to protest as the cost of mobilization decreases. When the costs are low enough, no type of activist will mobilize if disruption is not possible: $\dot{\theta} \geq 1$. For example, with the values depicted in Figure 3, where $\dot{\theta} = 1$, mobilization would

not take place if disruption was not possible. For high type governments, this is not ideal because it prohibits them learning about the grievances that they would prefer to address. Possibility of disruptive action can encourage these groups to mobilize, providing a boon for the government.

2.4 Discussion

Having presented the key results of the model that incorporates both the signaling and disruptive aspect of the protests, I know turn to examine how these findings help us interpret existing empirical findings on contention and repression. First general conclusion from the model is that accommodating contentious action is not necessarily a loss for the government. The scale of collective action provides useful information about the grievances of participants. Governments can use this information to address the needs of their population in order to avoid losing support. This a distinct dynamic that zero-sum models of protests do not feature. Protests seeking narrow policy concessions cannot be studied as if they are small revolutions, even when it turns out that the government is not interested in public grievances ($a \leq \frac{d}{\theta}$). Similarly, campaigns to ouster governments and attempts at revolution are not simply larger versions of protests for narrow policy change.

Even when protests are disruptive and aim to extract concessions from the government, the informational aspect of mobilization is relevant for government's response. Indeed, as Proposition 6 demonstrates, potential for disruption through contention can actually be beneficial for the government. Consider the case protests in Mozambique in January 2012, where approximately 500 families blockaded a railway that delivers coal (84). While being able to impose costs by blockading

the mine certainly helped the protesters, its role in their success might not have been as important as a zero-sum approach would lead us to believe. 500 families letting their grievances known by costly protest was equally, if not more important than the potential disruption. As (84) points out, Mozambique's ruling party was particularly keen on not losing support, because it was campaigning for elections later that year. Of course, as the model demonstrates, it is possible that the protest would not have taken place without the possibility of disruption.

Factoring the informational content of mobilization is particularly important in interpreting the cross-sectional, observational findings. (52) argue that protests that threaten disruption are more likely to receive concession. However, because they approach protests as a zero-sum game, they conceptualize the number and location of participants solely as a potential sources for disruption. According to their argument, 1000 people protesting peacefully in a city receive concessions because they are potentially more disruptive. Clearly, this is rarely the case.

As the model demonstrates, activists can receive concessions by signaling their grievances. Put differently, 1000 people protesting in a city are more likely to receive concessions because the government wants to avoid losing political support of high number of participants, especially if they are politically salient—as urban populations tend to be—. More importantly, it is unlikely that rural protesters can always increase their bargaining power by protesting in the city. Future empirical work should go beyond predicting outcomes and focus on disentangling these distinct mechanisms.

One way to distinguish and elaborate the informational effects is to look for conditions that approximate "ideal experiments" as proposed by (12). A necessary condition required for this approach is for protests to have no informational content

(12). This is quite the challenge for observational, or quasi-experimental research that seeks to identify the effect of protests. However, it is not necessarily impossible. Researchers can identify issue areas, where the governments are ex ante expected to have a relatively firm grasp on the public sentiment. In these cases, activists protest either for expressive reasons, or instrumental reasons other than signaling grievances such fund-raising and threatening disruption (81). Comparing the effect of protests in these cases to settings where they also have informational effects is likely to be fruitful avenue for future research.

The expectation that governments will response to dissent has been so well accepted that it has been called "Law of Coercive Responsiveness" (25; 37). However, the findings on the effect of repression on mobilized protesters has been inconsistent leading to what has come to be called "The Punishment Puzzle" (28; 32). Proposition 4 provides a possible explanation. Being able to impose costs on the government encourages more protests against the government, at times —but not always— by those that the government does not want to accommodate. The government's use of repression is to discourage only these protests.

When the government does not know the full extent of grievances, and thus it cannot tailor its repression policy to each individual protest. In some cases, the government will repress activists that it would accommodate under complete information. Governments respond rapidly to disruptive protests, such as those blockading resource extraction sites or major roads rather than take a "wait and see" approach. Nevertheless, they rarely employ their full repressive capacities as they would against direct challenges to their hold onto power. In these cases, it might seem that governments are repressing in error, only to back down later (52).

However, as long as protests can be sufficiently disruptive, it can be rational for governments to preemptively repress to screen protesters ex-ante and concede later.

This dynamic is different than the traditional backlash hypothesis (41; 40; 72; 3) used to explain government concessions after repression. According to backlash hypothesis, repression fails because it mobilizes bystanders to join the protesters thereby making the protests even stronger. Here, repression is followed by accommodation because protesters are sufficiently aggrieved and salient, which only becomes apparent after the decisions to mobilize and repress have been made. This is not to suggest that all instances of accommodation after repression are instances of repression working as intended. Nevertheless, rather than assuming that governments repress protests in error and and then reverse course, we must consider why governments systemically respond to protests without using their full repressive capacities in the first place.

The model also provides insight to the contexts where overt repression is not observed. Repression can take forms other than deployment of security forces to disperse protesters. Governments also rely on surveillance, censorship, and internet blackouts (59; 90). Examining the punishment puzzle, (75) point out that the inconsistent findings are due to selection effects: government repress preventively, and groups who survive the initial round of repression are systematically more likely to be highly resolved. Using rainfall as an instrument, they argue that once these effects are accounted for, the expected relationship between observed protests and repression disappear.

While selection effects are certainly important, focusing on resolve borrowed from literature on conflict in zero-sum settings (39) overlooks the informational effect of protests and the purpose of repression. Even when used covertly

and preemptively, repression can be used to screen protesters, and it can succeed precisely because it deters less favored by the government, while still leaving enough space to protest for others. Governments with extensive repressive capacities often choose not to employ them when they are not directly challenged. Groups whose grievances are high, and can be accommodated with relatively low costs to the government will still protest, especially if they can credibly demonstrate they intend to be non-disruptive through their choice of location and tactics. Furthermore, as Propositions 2 and 3 demonstrate, increased costs to mobilize through external factors such as rainfall not only influence the level of mobilization, but also the government's expected response to a given level of mobilization (12).

The case of contentious politics in China is a good example, but it is far from the only one. Despite being a highly repressive and authoritarian regime, the Chinese government faces a relatively high number of contentious action. As scholars of China have highlighted, (69; 61; 60; 55) relatively high number of contentious action does not demonstrate a weakness of the regime. Activists in rural China have high costs for mobilization but succeed with relatively low levels of mobilization (60). While they often engage in deliberative disruptive actions, they expect harsh government response if they challenge the regime's legitimacy (69). Consequently, they rely on using protests to signal their grievances, often with very patriotic and pro-government framing. Unlike the traditional approach to repression and contention, they do not force the regime to make concessions, indeed they cannot. However, protests still serve to provide information that the government lacks and often lead to accommodation.

2.5 Conclusion

Both formal and empirical work on contention and repression have predominantly focused on mobilizations against the government with a zero-sum framework. This focus has not only left the literature with little to say on a significant portion of contentious politics, but has also undermined the understanding of dynamics and purpose of both contention and repression. In this paper, I have suggested a broader framework to understand these dynamics. Rather than assuming the goal of the government is to deter all protests and demobilize them as is common in the literature, the model presents an alternative explanation. The formal model presented here demonstrates why activists would mobilize only to be ignored or demobilized by repression. Similarly, it provides and explanation for why rational governments would resort to repression only to follow it with accommodation.

Key to the argument presented with a formal model is that contentious action has a disruptive and an informational element, and protesters sometimes have enough political salience and organizational capacity that makes ignoring their grievances too costly for the government. When this is the case, governments would rather these organized communities mobilize and express their grievances. However, since protest can also impose costs on the government, less salient or aggrieved groups can use it force government to make concessions. In these cases, the government will choose a level of repression that is enough to deter the less salient groups that must rely disruption, but not ones that would be too costly to ignore. Although from the conventional standpoint, it looks like the repression fails in these cases, it can be working as intended: Deterring concessions when the government

does not prefer them, and forcing only the most aggrieved groups to self-select into contentious action.

Finally, the model presented here highlights the importance of the need for understanding the different channels and purposes of contention and repression. While different channels of contention are often complimentary—for example when highly aggrieved communities are also prohibitively costly to repress— this is not necessarily the case. Governments that care little about the citizen's discontent will find suppressing protests much cheaper, even when the underlying grievances are high. Similarly, governments will be more willing repress higher number of protesters when the cost of mobilization is lower.

The strategic relationship between contention and repression is less straightforward than zero-sum frameworks expect. Even when the observed number of protesters and level of repression and outcome look similar, the underlying contention-repression dynamic might be different. Consequently, researchers should be wary of making causal arguments from observational data without addressing the observational equivalence of different, often competing data generating processes of repression and contention. Finally, future empirical research should go beyond predicting outcomes and focus on disentangling distinct dynamics between contentious mobilizations and their outcomes.

2.6 References

Bibliography

[1] Moisés Arce. *Resource Extraction and Protest in Peru*. Pitt Latin American Studies. University of Pittsburgh Press, Pittsburgh, Pa, 2014. ISBN 978-0-8229-6309-7.

[2] Moises Arce. THE POLITICAL CONSEQUENCES OF MOBILIZATIONS AGAINST RESOURCE EXTRACTION. *Mobilization: An International Quarterly*, 21(4):469–483, December 2016. ISSN 1086-671X. doi: 10.17813/1086-671X-21-4-469.

[3] S. Erdem Aytaç, Luis Schiumerini, and Susan Stokes. Why Do People Join Backlash Protests? Lessons from Turkey. *Journal of Conflict Resolution*, 62 (6):1205–1228, July 2018. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002716686828.

[4] Steven Beard and Joshua A Strayhorn. When Will States Strike First? Battlefield Advantages and Rationalist War. *International Studies Quarterly*, 62(1): 42–53, March 2018. ISSN 0020-8833, 1468-2478. doi: 10.1093/isq/sqx080.

[5] Anthony Bebbington, editor. *Social Conflict, Economic Development and the Extractive Industry: Evidence from South America*. Routledge, London ; New York, 2012. ISBN 978-0-415-62071-0 978-0-203-63903-0.

[6] Curtis Bell and Scott Wolford. Oil Discoveries, Shifting Power, and Civil Conflict. *International Studies Quarterly*, 59(3):517–530, September 2015. ISSN 00208833. doi: 10.1111/isqu.12150.

[7] Eva Bellin. Reconsidering the Robustness of Authoritarianism in the Middle East: Lessons from the Arab Spring. *Comparative Politics*, 44(2):127–149, 2012.

[8] J. Bendor, A. Glazer, and T. Hammond. Theories of Delegation. *Annual Review of Political Science*, 4(1):235–269, June 2001. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev.polisci.4.1.235.

[9] Jonathan Bendor and Adam Meirowitz. Spatial Models of Delegation. *American Political Science Review*, 98(2):293–310, May 2004. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055404001157.

[10] Dina Bishara. The Politics of Ignoring: Protest Dynamics in Late Mubarak Egypt. *Perspectives on Politics*, 13(04):958–975, December 2015. ISSN 1537-5927, 1541-0986. doi: 10.1017/S153759271500225X.

[11] Ethan Bueno De Mesquita and Catherine Hafer. PUBLIC PROTECTION OR PRIVATE EXTORTION? *Economics & Politics*, 0(0):070916223556005–???, September 2007. ISSN 0954-1985, 1468-0343. doi: 10.1111/j.1468-0343.2007.00314.x.

[12] Ethan Bueno De Mesquita and Scott A. Tyson. The Commensurability Problem: Conceptual Difficulties in Estimating the Effect of Behavior on Behavior. *American Political Science Review*, pages 1–17, February 2020. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055419000911.

[13] Charles Butcher and Jonathan Pinckney. Friday on My Mind: Re-Assessing the Impact of Protest Size on Government Concessions. *Journal of Conflict*

Resolution, page 002200272210998, May 2022. ISSN 0022-0027, 1552-8766. doi: 10.1177/00220027221099887.

[14] Brandice Canes-Wrone, Michael C. Herron, and Kenneth W. Shotts. Leadership and Pandering: A Theory of Executive Policymaking. *American Journal of Political Science*, 45(3):532, July 2001. ISSN 00925853. doi: 10.2307/2669237.

[15] Peter D Carey, Curtis Bell, Emily Hencken Ritter, and Scott Wolford. Oil discoveries, civil war, and preventive state repression. *Journal of Peace Research*, page 002234332110473, January 2022. ISSN 0022-3433, 1460-3578. doi: 10.1177/00223433211047365.

[16] Sabine C. Carey. The Dynamic Relationship Between Protest and Repression. *Political Research Quarterly*, 59(1):1–11, March 2006. ISSN 1065-9129, 1938-274X. doi: 10.1177/106591290605900101.

[17] Brett Allen Casper and Scott A. Tyson. Popular Protest and Elite Coordination in a Coup d'état. *The Journal of Politics*, 76(2):548–564, April 2014. ISSN 0022-3816, 1468-2508. doi: 10.1017/S0022381613001485.

[18] Erica Chenoweth. *Civil Resistance: What Everyone Needs to Know*. Oxford University Press, New York, NY, 2021. ISBN 978-0-19-024439-2 978-0-19-024440-8.

[19] Erica Chenoweth and Maria J. Stephan. *Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict*. Columbia Studies in Terrorism and Irregular Warfare. Columbia Univ. Press, New York, NY, paperback ed edition, 2013. ISBN 978-0-231-15683-7.

[20] Olga V. Chyzh and Elena Labzina. Bankrolling Repression? Modeling Third-Party Influence on Protests and Repression: BANKROLLING REPRES-

SION? *American Journal of Political Science*, 62(2):312–324, April 2018. ISSN 00925853. doi: 10.1111/ajps.12341.

[21] Courtenay R. Conrad and Emily Hencken Ritter. Treaties, Tenure, and Torture: The Conflicting Domestic Effects of International Law. *The Journal of Politics*, 75(2):397–409, April 2013. ISSN 0022-3816, 1468-2508. doi: 10.1017/S0022381613000091.

[22] Mark J. C. Crescenzi. Violence and Uncertainty in Transitions. *Journal of Conflict Resolution*, 43(2):192–212, April 1999. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002799043002005.

[23] Nathan Danneman and Emily Hencken Ritter. Contagious Rebellion and Preemptive Repression. *Journal of Conflict Resolution*, 58(2):254–279, March 2014. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002712468720.

[24] Christian Davenport. Multi-Dimensional Threat Perception and State Repression: An Inquiry into Why States Apply Negative Sanctions. *American Journal of Political Science*, 39(3):683, August 1995. ISSN 00925853. doi: 10.2307/2111650.

[25] Christian Davenport. State Repression and Political Order. *Annual Review of Political Science*, 10(1):1–23, June 2007. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev.polisci.10.101405.143216.

[26] Christian Davenport. *State Repression and the Domestic Democratic Peace*. Cambridge University Press, Cambridge, 2007. ISBN 978-0-511-51002-1 978-0-521-86490-9 978-0-521-16871-7. doi: 10.1017/CBO9780511510021.

[27] Christian Davenport and David A. Armstrong. Democracy and the Violation of Human Rights: A Statistical Analysis from 1976 to 1996. *American Journal*

of Political Science, 48(3):538–554, July 2004. ISSN 0092-5853, 1540-5907. doi: 10.1111/j.0092-5853.2004.00086.x.

[28] Christian Davenport and Cyanne Loyle. The States Must Be Crazy: Dissent and the Puzzle of Repressive Persistence. *International Journal of Conflict and Violence (IJCV)*, Vol 6:No 1: (De)Radicalization–, April 2012. doi: 10.4119/unibi/ijcv.187.

[29] Christian Davenport, Sarah A. Soule, and David A. Armstrong. Protesting While Black?: The Differential Policing of American Activism, 1960 to 1990. *American Sociological Review*, 76(1):152–178, February 2011. ISSN 0003-1224, 1939-8271. doi: 10.1177/0003122410395370.

[30] Kris De Jaegher and Britta Hoyer. Preemptive Repression: Deterrence, Backfiring, Iron Fists, and Velvet Gloves. *Journal of Conflict Resolution*, 63(2): 502–527, February 2019. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002717750450.

[31] Ethan Bueno De Mesquita. Regime Change and Revolutionary Entrepreneurs. *American Political Science Review*, 104(3):446–466, August 2010. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055410000274.

[32] Jacqueline H. R. deMeritt. *The Strategic Use of State Repression and Political Violence*. Oxford University Press, October 2016. ISBN 978-0-19-022863-7. doi: 10.1093/acrefore/9780190228637.013.32.

[33] Tiberiu Dragu and Yonatan Lupu. Collective Action and Constraints on Repression at the Endgame. *Comparative Political Studies*, 51(8):1042–1073, July 2018. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414017730077.

[34] Tiberiu Dragu and Yonatan Lupu. Digital Authoritarianism and the Future of Human Rights. *International Organization*, pages 1–27, February 2021. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818320000624.

[35] Tiberiu Dragu and Adam Przeworski. Preventive Repression: Two Types of Moral Hazard. *American Political Science Review*, 113(1):77–87, February 2019. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055418000552.

[36] Jennifer Earl. Tanks, Tear Gas, and Taxes: Toward a Theory of Movement Repression. *Sociological Theory*, 21(1):44–68, January 2003. ISSN 0735-2751, 1467-9558. doi: 10.1111/1467-9558.00175.

[37] Jennifer Earl. Political Repression: Iron Fists, Velvet Gloves, and Diffuse Control. *Annual Review of Sociology*, 37(1):261–284, August 2011. ISSN 0360-0572, 1545-2115. doi: 10.1146/annurev.soc.012809.102609.

[38] Jennifer Earl, Sarah A. Soule, and John D. McCarthy. Protest under Fire? Explaining the Policing of Protest. *American Sociological Review*, 68(4):581, August 2003. ISSN 00031224. doi: 10.2307/1519740.

[39] James D Fearon. Rationalist Explanations for War. *International Organization*, 49(3):379–414, 1995. ISSN 0020-8183. doi: 10.1017/S0020818300033324.

[40] Ronald Francisco. After the massacre: Mobilization in the wake of harsh repression. *Mobilization: An International Quarterly*, 9(2):107–126, 2004. doi: 10.17813/maiq.9.2.559246137656n482.

[41] Ronald A. Francisco. The relationship between coercion and protest: An empirical evaluation in three coercive states. *The Journal of Conflict Resolution*, 39(2):263–282, 1995. ISSN 00220027, 15528766.

[42] James C. Franklin. Contentious Challenges and Government Responses in Latin America. *Political Research Quarterly*, 62(4):700–714, December 2009. ISSN 1065-9129, 1938-274X. doi: 10.1177/1065912908322405.

[43] LaGina Gause. Revealing Issue Salience via Costly Protest: How Legislative Behavior Following Protest Advantages Low-Resource Groups. *British Journal of Political Science*, pages 1–21, December 2020. ISSN 0007-1234, 1469-2112. doi: 10.1017/S0007123420000423.

[44] Michael Gibilisco. Mowing the Grass. 2021.

[45] John Ginkel and Alastair Smith. So You Say You Want a Revolution: A Game Theoretic Explanation of Revolution in Repressive Regimes. *The Journal of Conflict Resolution*, 43(3):291–316, 1999. ISSN 00220027, 15528766.

[46] Paul Alexander Haslam. Beyond voluntary: State–firm bargaining over corporate social responsibilities in mining. *Review of International Political Economy*, 25(3):418–440, May 2018. ISSN 0969-2290, 1466-4526. doi: 10.1080/09692290.2018.1447497.

[47] Paul Alexander Haslam and Nasser Ary Tanimoune. The Determinants of Social Conflict in the Latin American Mining Sector: New Evidence with Quantitative Data. *World Development*, 78:401–419, February 2016. ISSN 0305750X. doi: 10.1016/j.worlddev.2015.10.020.

[48] Daniel W. Hill and Zachary M. Jones. An Empirical Evaluation of Explanations for State Repression. *American Political Science Review*, 108(3):661–687, August 2014. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055414000306.

[49] Karl Von Holdt, Malose Langa, Sepetla Molapo, Nomfundo Mogapi, Kindiza Ngubeni, Jacob Dlamini, and Adele Kirsten. The smoke that calls: Insurgent

citizenship, collective violence and the struggle for a place in the new South Africa. 2011. doi: 10.13140/RG.2.1.1327.2804.

[50] James R. Hollyer and B. Peter Rosendorff. Why Do Authoritarian Regimes Sign the Convention Against Torture? Signaling, Domestic Politics and Non-Compliance. *Quarterly Journal of Political Science*, 6(3–4):275–327, 2011. ISSN 1554-0626. doi: 10.1561/100.00010059.

[51] Zachary M. Jones and Yonatan Lupu. Is There More Violence in the Middle?: IS THERE MORE VIOLENCE IN THE MIDDLE? *American Journal of Political Science*, 62(3):652–667, July 2018. ISSN 00925853. doi: 10.1111/ajps.12373.

[52] Graig R. Klein and Patrick M. Regan. Dynamics of Political Protests. *International Organization*, 72(02):485–521, 2018. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818318000061.

[53] Korhan Kocak and Özgür Kıbrıs. Social Media and Press Freedom. *British Journal of Political Science*, pages 1–23, January 2022. ISSN 0007-1234, 1469-2112. doi: 10.1017/S0007123421000594.

[54] Timur Kuran. Now Out of Never: The Element of Surprise in the East European Revolution of 1989. *World Politics*, 44(1):7–48, 1991.

[55] Yao Li. A Zero-Sum Game? Repression and Protest in China. *Government and Opposition*, 54(2):309–335, April 2019. ISSN 0017-257X, 1477-7053. doi: 10.1017/gov.2017.24.

[56] Mark Irving Lichbach. Deterrence or Escalation?: The Puzzle of Aggregate Studies of Repression and Dissent. *Journal of Conflict Resolution*, 31(2):266–297, June 1987. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002787031002003.

[57] Susanne Lohmann. A Signaling Model of Informative and Manipulative Political Action. *American Political Science Review*, 87(2):319–333, June 1993. ISSN 0003-0554, 1537-5943. doi: 10.2307/2939043.

[58] Susanne Lohmann. The Dynamics of Informational Cascades: The Monday Demonstrations in Leipzig, East Germany, 1989–91. *World Politics*, 47(1): 42–101, October 1994. ISSN 0043-8871, 1086-3338. doi: 10.2307/2950679.

[59] Peter Lorentzen. China's Strategic Censorship: CHINA'S STRATEGIC CENSORSHIP. *American Journal of Political Science*, 58(2):402–414, April 2014. ISSN 00925853. doi: 10.1111/ajps.12065.

[60] Peter Lorentzen. Designing Contentious Politics in Post-1989 China. *Modern China*, 43(5):459–493, September 2017. ISSN 0097-7004, 1552-6836. doi: 10.1177/0097700416688895.

[61] Peter L. Lorentzen. Regularizing Rioting: Permitting Public Protest in an Authoritarian Regime. *Quarterly Journal of Political Science*, 8(2):127–158, April 2013. ISSN 15540634. doi: 10.1561/100.00012051.

[62] Joseph Luders. The Economics of Movement Success: Business Responses to Civil Rights Mobilization. *American Journal of Sociology*, 111(4):963–998, January 2006. ISSN 0002-9602, 1537-5390. doi: 10.1086/498632.

[63] Doug McAdam. *Political Process and the Development of Black Insurgency, 1930-1970*. 1982. ISBN 978-0-226-55555-3.

[64] Doug McAdam and Sidney Tarrow. Ballots and Barricades: On the Reciprocal Relationship between Elections and Social Movements. *Perspectives on Politics*, 8(02):529–542, June 2010. ISSN 1537-5927, 1541-0986. doi: 10.1017/S1537592710001234.

[65] Doug McAdam, Sidney G. Tarrow, and Charles Tilly. *Dynamics of Contention*. Cambridge Studies in Contentious Politics. Cambridge University Press, Cambridge ; New York, 2001. ISBN 978-0-521-80588-9 978-0-521-01187-7.

[66] Will H. Moore. The Repression of Dissent: A Substitution Model of Government Coercion. *Journal of Conflict Resolution*, 44(1):107–127, February 2000. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002700044001006.

[67] Ragnhild Nordås and Christian Davenport. Fight the Youth: Youth Bulges and State Repression: FIGHT THE YOUTH. *American Journal of Political Science*, pages n/a–n/a, March 2013. ISSN 00925853. doi: 10.1111/ajps.12025.

[68] Kevin J. O'Brien and Yanhua Deng. Repression Backfires: Tactical radicalization and protest spectacle in rural China. *Journal of Contemporary China*, 24 (93):457–470, May 2015. ISSN 1067-0564, 1469-9400. doi: 10.1080/10670564.2014.953849.

[69] Kevin J. O'Brien and Lianjiang Li. *Rightful Resistance in Rural China*. Cambridge Studies in Contentious Politics. Cambridge University Press, Cambridge ; New York, 2006. ISBN 978-0-521-86131-1 978-0-521-67852-0.

[70] Jack Paine and Scott Tyson. Uses and Abuses of Formal Models in Political Science. 2019.

[71] John W. Patty. Signaling through Obstruction. *American Journal of Political Science*, 60(1):175–189, January 2016. ISSN 0092-5853, 1540-5907. doi: 10.1111/ajps.12202.

[72] Jan Henryk Pierskalla. Protest, Deterrence, and Escalation: The Strategic Calculus of Government Repression. *Journal of Conflict Resolution*, 54(1):

117–145, February 2010. ISSN 0022-0027, 1552-8766. doi: 10.1177/00220027 09352462.

[73] Kristopher W. Ramsay. Information, Uncertainty, and War. *Annual Review of Political Science*, 20(1):505–527, May 2017. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev-polisci-051215-022729.

[74] Emily Hencken Ritter. Policy Disputes, Political Survival, and the Onset and Severity of State Repression. *Journal of Conflict Resolution*, 58(1):143–168, February 2014. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002712468724.

[75] Emily Hencken Ritter and Courtenay R. Conrad. Preventing and Responding to Dissent: The Observational Challenges of Explaining Strategic Repression. *American Political Science Review*, 110(01):85–99, February 2016. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055415000623.

[76] Arturas Rozenas. A Theory of Demographically Targeted Repression. *Journal of Conflict Resolution*, 64(7-8):1254–1278, August 2020. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002720904768.

[77] John Gerard Ruggie. *Just Business: Multinational Corporations and Human Rights*. 2013. ISBN 978-0-393-08976-9.

[78] Idean Salehyan. Transnational Rebels: Neighboring States as Sanctuary for Rebel Groups. *World Politics*, 59(02):217–242, January 2007. ISSN 0043-8871, 1086-3338. doi: 10.1353/wp.2007.0024.

[79] Idean Salehyan and Brandon Stewart. Political Mobilization and Government Targeting: When Do Dissidents Challenge the State? *Comparative Political Studies*, 50(7):963–991, June 2017. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414016655541.

[80] Mehdi Shadmehr and Dan Bernhardt. Collective Action with Uncertain Payoffs: Coordination, Public Signals, and Punishment Dilemmas. *American Political Science Review*, 105(4):829–851, November 2011. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055411000359.

[81] Mehdi Shadmehr and Raphael Boleslavsky. International Pressure, State Repression, and the Spread of Protest. *The Journal of Politics*, 84(1):148–165, January 2022. ISSN 0022-3816, 1468-2508. doi: 10.1086/714763.

[82] Branislav L. Slantchev. Military Coercion in Interstate Crises. *American Political Science Review*, 99(04):533–547, November 2005. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055405051865.

[83] Branislav L. Slantchev and Kelly S. Matush. The Authoritarian Wager: Political Action and the Sudden Collapse of Repression. *Comparative Political Studies*, 53(2):214–252, February 2020. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414019843564.

[84] Jessica Steinberg. Strategic Sovereignty: A Model of Non-state Goods Provision and Resistance in Regions of Natural Resource Extraction. *Journal of Conflict Resolution*, 60(8):1503–1528, December 2016. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002714564429.

[85] Jessica Steinberg. 'Strong' states and strategic governance: A model of territorial variation in state presence. *Journal of Theoretical Politics*, 30(2):224–245, April 2018. ISSN 0951-6298, 1460-3667. doi: 10.1177/0951629817748204.

[86] Christopher M. Sullivan. Political Repression and the Destruction of Dissident Organizations: Evidence from the Archives of the Guatemalan National Police.

World Politics, 68(4):645–676, October 2016. ISSN 0043-8871, 1086-3338. doi: 10.1017/S0043887116000125.

[87] Milan W. Svolik. *The Politics of Authoritarian Rule*. Cambridge Studies in Comparative Politics. Cambridge University Press, Cambridge, 2012. ISBN 978-1-107-02479-3 978-1-107-60745-3.

[88] Charles Tilly. *From Mobilization to Revolution*. Addison-Wesley Pub. Co, Reading, Mass, 1978. ISBN 978-0-201-07571-7.

[89] Charles Tilly and Sidney G. Tarrow. *Contentious Politics*. Oxford University Press, New York, NY, second revised edition edition, 2015. ISBN 978-0-19-025505-3.

[90] Rory Truex. Focal Points, Dissident Calendars, and Preemptive Repression. *Journal of Conflict Resolution*, 63(4):1032–1052, April 2019. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002718770520.

[91] Zeynep Tufekci. *Twitter and Tear Gas: The Power and Fragility of Networked Protest*. Yale University Press, New Haven ; London, 2017. ISBN 978-0-300-21512-0.

[92] Scott A. Tyson. The Agency Problem Underlying Repression. *The Journal of Politics*, 80(4):1297–1310, October 2018. ISSN 0022-3816, 1468-2508. doi: 10.1086/698887.

[93] Barbara F. Walter. Information, Uncertainty, and the Decision to Secede. *International Organization*, 60(01), January 2006. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818306060048.

[94] Omar Wasow. Agenda Seeding: How 1960s Black Protests Moved Elites, Public Opinion and Voting. *American Political Science Review*, 114(3):638–659, August 2020. ISSN 0003-0554, 1537-5943. doi: 10.1017/S000305542000009X.

[95] Kurt Weyland. The Arab Spring: Why the Surprising Similarities with the Revolutionary Wave of 1848? *Perspectives on Politics*, 10(4):917–934, December 2012. ISSN 1537-5927, 1541-0986. doi: 10.1017/S1537592712002873.

[96] Kurt Gerhard Weyland. *Making Waves: Democratic Contention in Europe and Latin America since the Revolutions of 1848*. Cambridge University Press, Cambridge ; New York, 2014. ISBN 978-1-107-04474-6 978-1-107-62278-4.

[97] Samson Yuen and Edmund W Cheng. Neither Repression Nor Concession? A Regime's Attrition against Mass Protests. *Political Studies*, 65(3):611–630, October 2017. ISSN 0032-3217, 1467-9248. doi: 10.1177/0032321716674024.

[98] Kevin J. S. Zollman, Carl T. Bergstrom, and Simon M. Huttegger. Between cheap and costly signals: The evolution of partially honest communication. *Proceedings of the Royal Society B: Biological Sciences*, 280(1750):20121878, January 2013. ISSN 0962-8452, 1471-2954. doi: 10.1098/rspb.2012.1878.

2.7 Appendix One

2.7.1 Benchmark with No Disruption

The equilibrium is a **Perfect Bayesian Equilibrium** (PBE) which specifies:

1. A level of $m \geq$ for each type of activist with $\theta \in [0, 1]$.
2. A threshold strategy for each type of government with $\alpha \in [0, 1]$, where $t(\alpha)$, where it accommodates only if $m > t$.
3. A set of beliefs for the government regarding the type of activists after observing m.

and actions are sequentially rational strategy given and beliefs are consistent with strategies and updated via Bayes rule whenever possible.

Proof of Proposition 1: Because $d \geq \frac{1}{2}$ is there is no accommodation when $m = 0$.

G only accommodates $E[\theta|m] > \frac{d}{\alpha} \equiv t(\alpha)$. Consequently, a G with $\alpha \leq d$ never accommodates. Similarly, no type of G will accommodate A with a type $\theta \leq d$. G uses a threshold strategy, accommodating if $m > t(\alpha)$ and ignoring otherwise.

A's net expected utility for mobilization is:

$$Pr[m \leq t](-\theta) + (1 - Pr[m \leq t](-\theta))0 - cm^2 > -\theta$$
$$\theta - Pr[m \leq t](\theta) - cm^2 > 0$$

where,$(Pr[m \leq t(\alpha)]) = 1$ if $\theta \leq d$ and

$$(Pr[m \leq t]) = \int_0^1 t(\alpha) - m \, d\alpha$$

otherwise. The first-order condition is: $\theta - 2cm = 0$. The second-order condition is satisfied because $\frac{\partial m(\theta)}{\partial m^2} < 0$. So that $m^* = \frac{\theta}{2c}$. Given A's strategy, the equilibrium threshold for a type $1 \geq \alpha > d$ is:

$$t(\alpha) = \frac{d}{\alpha 2c}$$

In equilibrium, the ex-ante probability of failed mobilization for $\theta > d$ is $\frac{d}{\theta}$. Incentive compatibility requires that, A only mobilizes if:

$$\theta + (\frac{d}{\theta})(-\theta) - c(\frac{\theta}{2c})^2 > 0$$

$$\theta > \dot{\theta} \equiv 2c - 2\sqrt{c^2 - cd}$$

Proof of Proposition 2: Follows from above.

2.7.2 Disruption and Repression

Why protests are too costly ignore: If repression has failed to demobilize A, G accommodates only if letting disruption happen is costlier than conceding: $mv + \alpha m^{-1}(\theta) \geq d$. Rearranging gives $mv + \alpha 2cm \geq d$, $m \geq \frac{d}{v+\alpha 2c}$. So that $t_v(\alpha) < t(\alpha)$ as long as $v > 0$.

A's next expected utility for mobilization is similar to above. She maximizes disruption and signaling components. So that $m^* = \frac{\theta}{2c}$ as above. Without repression, the threshold for mobilization would be $\theta > \underline{\theta} \equiv 2c - \sqrt{2}\sqrt{2c^2 - 2cd + v}$. Where $\underline{\theta}$ clearly, decreases as v increases. I focus on cases where v is sufficiently high so that $\underline{\theta} \leq 0$.

The equilibrium now consists of:

1. A level of $m \geq$ for each type of activist with $\theta \in [0, 1]$.
2. A level of repression r and a decision to accommodate or ignore $d \in \{0, 1\}$ for each type of G.
3. A set of beliefs for the government regarding the type of activist after observing m.

Proof of Proposition 3&4: Similar to baseline model, G perfectly infers A's type after observing $m \geq 0$, and $m^* = \frac{\theta}{2c}$. Regardless of the outcome of repression G accommodates if $\alpha > \frac{d}{\theta}$.

Turning to G's repression decision, because it will accommodate whenever $m > \frac{d}{2\alpha c}$ regardless of the result of repression, there is no incentive to choose $r > \frac{d}{2\alpha c}$. The expected utility of $r = m$ for a G of type α is:

$$EU_G(r;\alpha) = -d + r(d - \tfrac{\alpha}{2}2cr) - kr^2$$

$-\frac{\alpha}{2}2cr$ because the indirect cost for repression at a level $r = m$ is, $-\frac{\alpha}{2}m^{-1}\theta$ which follows from the fact that $m^{-1}(\theta) = 2cm$ and:

$$\int m^{-1}(\theta)\, d\theta = 1m^{-1}(\theta) - (1 - \frac{1}{2})(m^{-1}(\theta)) = \frac{1}{2}2cm = \frac{1}{2}2cr$$

$\frac{\partial EU_G(\alpha)}{\partial r} = (d - \alpha 2cr) - 2kr$

$r^*(\alpha) = \frac{d}{2k+2\alpha c}$

A's decision to mobilize:

$$\begin{aligned}
\theta + Pr(m \leq r(\alpha))(-\theta) - c(\frac{\theta}{2c})^2 &> 0 \\
\theta + Pr(\frac{\theta}{2c} \leq \frac{d}{2\alpha c + 2k})(-\theta) - c(\frac{\theta}{2c})^2 &> 0 \\
\theta + Pr(\alpha \leq \frac{dc - \theta k}{\theta c})(-\theta) - c(\frac{\theta}{2c})^2 &> 0 \\
\ddot{\theta} \equiv \theta &> 2(c+k) - 2\sqrt{c^2 - cd + 2ck + k^2}
\end{aligned}$$

Proof of Proposition 5: Follows from the main text and above.

Proof of Proposition 6: Follows from the main text and above.

2.8 Appendix Two

2.8.1 Robustness Check for Government's Incentive to Accommodate Higher Grievances

The model in the main text assumes that the government has an interest in the well-being of the activists captured by the parameter $\alpha \in [0, 1]$. This does not mean that the government would make concessions under complete information. Governments with $\alpha \leq \frac{d}{\theta}$ reject concessions without the threat of disruption.

Because, (59; 61) provide a model where highly aggrieved groups can revolt, I build a larger model with an extended period of voting.

The median voter, representing the general public, prefers a high-quality government to a low-quality one. This can either be because of expressive motivations to have a "good" government, or because of instrumental reasons. The general public can link the government's response to publicly expressed grievances to their future responses and policies. Such a link is not hard to imagine if one presumes that the government will respond to future grievances similarly (71). Furthermore the general public's response can be interpreted more broadly than just voting for the opposition. The public can withhold their support in other ways, which can directly or indirectly challenge the incumbent's future payoffs.

Consider the following setup:

- An Activist with a privately known grievance $\theta \in [0, 1]$.

- A Government with a privately known quality, which represents its interest in the well-being of citizens: $\alpha \in [0, 1]$.
- Activist can choose to mobilize at a cost $C(m) = cm$. If she receives concessions, her grievance is completely alleviated and her payoff is set to $0 - cm$.
- After observing m, G can choose to accommodate or not $a \in \{0, 1\}$ at a cost d.
- The Voter votes prospectively $v \in \{0, 1\}$ if $E[\alpha] > k$. Where k is public knowledge k captures the valence-based support the incumbent, where lower k means higher support. For example, a conservative leaning voter always prefers a higher quality conservative government to a lower quality one. But his decision to reelect the incumbent also depends on the expected quality of the liberal opposition candidate.
- If the Voter withdraws support (i.e. votes for the challenger), the Government's payoff is $-1 - \alpha\theta$ if it ignored, or $-1 - d$ if it accommodated.
- The Voter's payoff in the end is simply the quality of the (possibly new) incumbent : α or k.

After observing m and a, the activist reelects the incumbent if:

$$E[\alpha|m, a] > k$$

This means for any level of mobilization $m^* > 0$, mobilization provides information about the activist's type θ. Consequently, ignoring grievances would provide information about government's type to the voter. That is, after observing

$m > 0$ and $a = 0$, the voter would know that $\alpha \leq \frac{d}{\theta}$. This means, as long as $k > \frac{d}{2\theta}$, the government cannot ignore the protests under equilibrium because it would lead to loss of support from the electoral voter. Similar to the baseline model, the government has an incentive to satisfy high level grievances (rather than low ones) even if it is not directly, or intrinsically motivated to do so. This means the an activist with $\theta > \frac{d}{2k}$ can potentially "force" concessions by mobilizing at level $m^* = \frac{d}{2kc}$ while $\theta > \frac{d}{\alpha}$ would receive concessions under complete information. Note that the threshold m^* decreases or increases with c similar to Proposition 2.

Chapter 3

Ignoring or Responding to Protests

3.1 Introduction

Of university student protests in 1968, Suleyman Demirel, then Prime Minister of Turkey, famously said "roads won't wear off by walking on them" and that his party had no reason to be upset over the matter.[1]Almost fifty years later, President Recep Tayyip Erdogan repeated the famous line–albeit with a lot of anger– as a response to the The March for Justice led by the opposition leader Kemal Kilicdaroglu.[2] President George W. Bush had a similar response when thousands of people protested against the invasion of Iraq: "Size of protest –it's like deciding,

[1]https://t24.com.tr/haber/suleyman-demirel-yollar-yurumekle-asinmaz-demedi,301188

[2]https://en.wikipedia.org/wiki/2017_March_for_Justice

well, I'm going to decide policy based upon a focus group."[3] Of course, neither Turkey, nor the US are strangers to government violence against protesters. However, these cases, where governments simply dismissed the demands of protesters without resorting to repression, are not isolated or special. In fact, simply ignoring the participants is the most common government response to collective action around the world (97; 52; 55).

Despite decades of research on government response to popular mobilizations, the literature fails to adequately explain why and when governments simply choose to ignore protesters (10). The modal approach to government response assumes all public mobilizations are threats against the status quo that the government must respond either with coercion or accommodation (36; 25; 32; 75; 52; 81). Protests are considered threatening either because they directly impose costs on the state (75; 52), or provide the spark that will trigger prairie-fire like cascades and lead to revolution (54; 58; 45; 60). While certainly fitting for a limited number of cases, this framework does not explain why activists, more often than not, take the streets without the intention—let alone the capacity— to harm or threaten the state. Similarly, it provides a poor fit to the empirical evidence that governments routinely ignore protests, even when they amass huge numbers.

This paper presents a formal model of collective action and government response before the general public. In the model activists cannot directly force the government to accept their demands (72; 74; 81). Rather, they use mobilization to signal their grievances, with the hope that the government will take action and respond to their demands (57; 49; 43). Changing policy is costly for the incum-

[3]https://www.nytimes.com/2003/02/19/world/threats-responses-white-house-antiwar-protests-fail-sway-bush-plans-for-iraq.html

bents. Even good governments—those with preferences that are relatively aligned with their citizens— often want to make sure that the issue at stake is sufficiently salient before incurring these costs. Popular mobilization is necessary to credibly communicate this salience (43).

While good governments often welcome credible signals about issue salience, bad governments—those that are less interested in citizen preferences— have little use for this information. They would rather ignore the protesters' demands, but because the information is revealed publicly through popular mobilization, this would inform the public about their lack of interest in citizens' needs. When the public's baseline support for the incumbent is neither very high or very low, this information is decisive in determining whether they will withdraw their support or not. When this is the case, bad governments have to consider how the broader public will react to their response to protester demands. When the public believes that the government is likely to be a good type, a bad government can accommodate protesters just like a good one in order to maintain their popularity.

However, when public's belief in the government's quality is already low, this strategy becomes less useful. Consequently, the incumbents ignores the protesters with a positive probability in equilibrium. Observationally, it looks like governments end up ignoring protesters precisely when they would gain the most from boosting their popularity through accommodation. Indeed, the model shows that governments can become less likely to accommodate protests as they their popularity decreases. Similarly, they respond—either with repression or accommodation— when it is seemingly less necessary for them.

In addition to explaining why activists take the streets only to get dismissed by the government, the model also provides insight into why governments respond

to protests in counter-intuitive ways. Governments that feel confident enough to ignore thousands of protesters sometimes accommodate or repress small protests with modest goals. When they protest, activists with high level of grievances— those with more to gain from accommodation— have to mobilize enough to credibly signal that the issue at stake is indeed salient for them. Because the activists' resources affect their capacity for mobilization, governments—but more importantly the general public— take this into account and do not expect the same level of mobilization from every group on every issue (43). That is, both the government's and the public's threshold for deciding that an issue is highly salient vary across contexts. For good governments, this sometimes means responding to protests with modest numbers is worth the cost. For bad governments, it means that even a small number of protesters with no capacity to directly threaten the regime risk exposing their lack of interest in the citizens' welfare, thereby forcing them to respond.

In an extension, I examine when the governments will benefit from repression. Contrary to common wisdom, the model shows that repression is only useful in relatively limited circumstances, when it will backfire if observed. In other cases, governments are better off either ignoring or accommodating the protests. Furthermore, the model highlights how repression is more likely to be employed against groups whose cost of mobilization is already high. Thus, it explains why governments often target marginalized groups, such as ethnic minorities, with violence even though these groups have the least capacity to directly threaten the regime.

Taking governments' option to ignore protests seriously is crucial to improve the study of protest dynamics for three reasons. First, almost all empirical and theoretical accounts, formal or informal, are based on the assumption that governments only face a "concession-repression dilemma" in dealing with popular

mobilization (10; 32). However, the prevalence of ignoring over other forms of response suggests that it cannot be treated as a residual category that only happens off-equilibrium path.

Second, any research aiming to gain causal insight on the occurrence or the effect of government sanctions has to deal with ignored mobilizations as a potentially relevant counterfactual. Focusing on cases where there is a clear, observable government response is inevitably going to lead to biased findings (48; 75).

Third, relationship between protests and their outcomes is equifinal. Distinguishing these pathways and drawing the right lessons are essential because they have different practical implications. Lack of repression against protests does not always mean that protesters are successful in achieving their goals, or are resolved enough to deter government violence. Similarly, activists who achieve their goals do not always do so because they threaten or impose costs on the government. Failing to differentiate these distinct mechanisms is likely to lead researchers to wrong results, and bad advice for citizens and governments.

3.2 Mobilization, Information, and Government Response

Both formal and empirical literature on popular mobilization and government response typically assume that governments always want to maintain the status quo (45; 66; 72; 74; 32). This often leads to classifying all popular mobilization as efforts to threatening to or actually imposing costs on the government in order to extract concessions (75; 52). All protests are treated as mini-revolutions, where the

protesters' victory is necessarily the government's loss. This approach does not accurately capture why most activists take the streets in the first place. It is also a poor fit for the empirical evidence that mobilizations that do inflict direct costs on the government—through property damage, looting, or blockades— are less likely to succeed (42; 52; 94).

A key reason people engage in public collective action is to make their grievances known (65; 64). Protests often affect policy outcomes by informing the incumbent leaders about the citizens' preferences (57; 43). That is, key channel of effect for most public mobilizations is informational (12). There is of course, an extensive formal literature on informational role of protests starting with (54)'s work on preference falsification and informational cascades. But this literature focuses on contexts where the goal of protesters is to incite regime change by *coordinating* anti-government sentiment or information about government strength (58; 45; 31; 80; 17). My model is focused on settings where activists have reformist goals, but can still potentially *lead* to anti-government sentiment by revealing the government to be non-responsive.

The works of (43) and (61), where protests similarly function as way for citizens to communicate their grievances are closer in scope. Focusing on the protests by low-income and racial-minority groups in the US, (43) presents a formal model where groups can take costly action to communicate their interests to an reelection-minded legislator. Taking a mechanism design approach, (61) argues that the Chinese regime prevents anti-government actions from aggrieved populations as well as opportunistic protests by conditioning transfers to sufficiently high levels of protests. The model presented here similarly features a vertical information transfer to the government about the citizens' needs (60). The key addition in my model is that

protests can also provide information about the responsiveness or the quality of government to the broader public. Once protests make a small group of citizens' grievances public, the broader population observes how the government responds and updates its belief about the government's quality.

The reference to protests in China might be surprising, given the focus on government's interest in citizen grievances and the government's accountability to the broader public. However, scholars of contentious action in China have long highlighted that the Chinese regime—despite being highly repressive and authoritarian—routinely tolerates protests with narrow and modest goals, and addresses the participants' grievances (69; 68; 60; 55). If protests can achieve goals by signaling grievances in a highly repressive regime with a vast coercive apparatus, one would expect this dynamic even more prevalent in more democratic contexts.

(81) also consider a context where the potential response from the general public influences the interaction between the activists and the government. In their model, the bystander has to decide between supporting the government or joining the activists after observing repression. The key tension for the general public is that it cannot observe the types of the activists or the government. Therefore, upon observing repression the public remains uncertain about which side best represents its interest. Because their primary focus is how international pressure affects the use of government coercion—both legitimate and illegitimate— they assume that the activists will succeed unless stopped by coercion. Consequently, their analysis does not cover the settings where governments have the option to ignore the protests, which is the focus of my model. In addition in my model the uncertainty of the general public (and the government) with regards to activists is not whether they

are good or bad for the public, but rather whether their grievances are high enough to warrant costly policy change.

3.3 The Model

3.3.1 The Setup

I model a scenario with three players: an Incumbent government (I,it), an Activist(A,they), and a median voter (V,he) who represents the general public.[4] Similar to political delegation models (14; 8; 9), the Incumbent's interest in the well-being of citizens is determined by its privately known type $\gamma \in \{G, B\}$, where $1 \geq G > B = 0$. That is, the Incumbent is either "good (G)" or "bad (B)." Under the common prior, the incumbent is good with a probability $p \in (0, 1)$. Both types of incumbent get a utility of 1 from holding office.

Activist also has a privately known type $\theta \in \{L, H\}$, where $H > L \geq 0$. The Activist's type determines their gain from policy change: activists with type H have higher grievances, and gain more from accommodation than low L types. If the incumbent accommodates the activist, their payoff is θ. Both types of activists have the same status-quo payoff of 0.[5] Under the common prior, the activist is a high

[4]Having the general public represented by a unit mass of voters, rather than the median voter would not change the results.

[5]An alternative way to capture grievances is to make the status-quo costlier for High type activists such that $-H < -L \leq 0$, and set payoffs after accommodation to 0. This has no bearing on the results.

type with a probability $q \in (0,1)$. The activist can choose a level of mobilization $m \geq 0$ to signal grievance at a cost $C(m) = cm$.[6]

For simplicity, I assume that the activists are a small enough portion of the society that they cannot impact the elections through voting. However, considering the activists also as a small percentage of voters does not change the results presented here. This is in line with the empirical evidence. Even the biggest mass-protests typically feature only a small subset—around 3%— of the population (19; 18).

After observing the level of mobilization, the incumbent decides to accommodate the activist or not $a = \{0,1\}$. I call the option to not accommodate as ignoring throughout, and consider the option to repress in a subsequent section. If the incumbent accommodates the activist, it pays a cost a regardless of its type, but gains $\gamma\theta$. Only good incumbents gain from accommodating the activists.[7] Even good incumbents gain more from accommodating an activist of the high type than the low type. I assume $1 > a > LG$ to focus on cases, where the costs of policy change are neither trivial or prohibitively high for the good incumbent.

Finally, the voter decides whether to reelect incumbent or not: $v \in \{0,1\}$. If the voter chooses to reelect the incumbent, $v = 1$, his payoff is simply the incumbent's type γ. The voter is forward-looking and is not directly impacted by the accommodation.[8] Nevertheless, he prefers a good incumbent to a bad one. His deci-

[6]The linear costs are chosen for simplicity, and the results would be the same if the costs were convex such as $C(m) = cm^2$.

[7]This assumption does not drive any of the results presented. All results would be preserved if $G > B > 0$ was assumed instead.

[8]The neutral activist assumption is apt for many empirical cases. However, adding a direct impact of policy change to the voter utility would not fundamentally change the results presented.

sion also depends on the expected quality of the opposition candidate $1 > k > -1$.[9] Voter's payoff is simply the quality of the (possibly new) incumbent in the end. Consequently, the voter reelects the incumbent if $E[\gamma] > k$. An alternative way to interpret the parameter k is the valence-based support the incumbent, where lower k means higher support. For example, a conservative leaning voter always prefers a higher quality conservative government to a lower quality one. But his decision to reelect the incumbent also depends on the expected quality of the liberal opposition candidate.

To sum up the sequence is :

1. Types γ, θ chosen by Nature and revealed to I and A respectively. $Pr[\gamma = G] = p$ and $Pr[\theta = H] = q$.
2. A chooses a level of mobilization $m \geq 0$ at a cost cm.
3. G decides whether to accommodate or not $\alpha \in \{0, 1\}$ at a cost a.
4. V decides whether to vote for the incumbent or not $v \in \{0, 1\}$.

And the utilities are:

$$U_I = v + \alpha\theta\gamma - a\alpha$$
$$U_A = \alpha\theta - cm$$
$$U_V = k + v(\gamma - k)$$

[9] I consider A's uncertainty about k in addition to γ in the appendix.

The solution concept is Perfect Bayesian Equilibrium. Any proofs that do not follow from the main text are in the appendix.

3.3.2 Analysis

Voter's Decision

I begin the analysis with the voter's decision in the end. The voter updates his belief about the incumbent's type after observing the activist's and the incumbent's actions. The voter reelects incumbent if he expects it to be higher quality than the opposition candidate. Formally:

$$\dot{p}G > k \tag{3.1}$$

where $\dot{p}$ is the updated belief about $Pr[\gamma = G]$, which depends on the strategy of I. For the voter's belief's about the incumbent's type to matter for his decision, it must be $G \geq k \geq 0$. If $k > G$, the incumbent is so unpopular that even if it is revealed to be a good type, the voter does not reelect him. Similarly, when $k < 0$, the incumbent is popular enough that he wins reelection regardless of his type. When information about the incumbent's type matters, the voter reelects the incumbent his updated belief that it is a good type is sufficiently high:

$$\dot{p} > \frac{k}{G} \equiv \bar{p} \tag{3.2}$$

Lemma 1 *The voter's belief about I's type only matters if the incumbent's popularity compared to the opposition is neither too high or too low.* $G \geq k \geq B = 0$.

The parameter ranges of Lemma 1 are depicted in Figure 1 below.

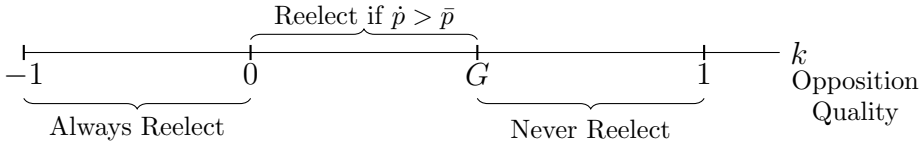

Figure 3.1: Voter's decision with regards to k

Incumbent's Decision

After updating its belief's about the activist, the incumbent decides whether to accommodate or not depending on the cost of accommodation, and the voter's expected reaction. Let σ_V be the probability that the voter reelects the incumbent after accommodation. After observing a level of mobilization $m \geq 0$, an incumbent of type γ accommodates if:

$$\underbrace{\sigma_V - a + \gamma(L + \dot{q}(H - L))}_{\text{Expected Utility of Accommodation}} > \underbrace{1 - \sigma_V}_{\text{Expected Utility of Ignoring}} \tag{3.3}$$

where $\dot{q}$ is the updated belief about the activist's type. Because the bad incumbent does not benefit from policy change, its only motivation for accommodation comes from electoral pressures. A good incumbent accommodates if:

$$\dot{q} > \frac{a - LG}{G(H - L)} \equiv \bar{q} \tag{3.4}$$

To see how the incumbent's, and sometimes more importantly the voter's posterior beliefs, $\dot{q}$, are formed, I now turn to the activist's decision to mobilize.

Activist's Decision

Intuitively, the activist only mobilizes if it is necessary. If the incumbent (and the voter) already believes that the activist is likely to be highly aggrieved— $q > \bar{q}$— neither type of activist mobilizes. When the activists do not mobilize, the incumbent gains no additional information about their grievances and acts on their prior belief.

When this is not the case, activist has to mobilize to get concessions. However, only the high type mobilizes, because the low type has no incentive to reveal their type. When the high type activist mobilizes, they choose a level mobilization high enough to credibly reveal their type.

$$m \geq \frac{L}{c} \equiv \bar{m} \tag{3.5}$$

Finally, incentive compatibility requires that the high type activist prefers $\bar{m}$ to not mobilizing at all. Let σ_I be the probability that the incumbent accommodates after observing $\bar{m}$. The high type only mobilizes if:

$$\sigma_I H - L > 0 \tag{3.6}$$

3.3.3 Protest Equilibria

Given the paper's focus on government response to protests, I focus the analysis on equilibria where protests are necessary to gain accommodations. That is, the likelihood that the activist is a high type is sufficiently low, $q \leq \bar{q}$. A complete

statement of all equilibria is in the appendix. Figure 2 below depicts the protest equilibria.

Conditions 5 and 6 point to an important result for the protest equilibria, summarized in Proposition 1 below.

Proposition 7 *In all protest equilibria—when $q \leq \bar{q}$— the equilibrium level of mobilization of the high type activist $\bar{m}$ decreases as the marginal cost of mobilization c increases.* $\frac{\partial \bar{m}}{\partial c} < 0$

Proposition 1 points to why simply comparing number of participants across protests can be deceptive. The highly aggrieved activist has to mobilize enough, $\bar{m}$, to credibly show their type. Because activists have the same marginal cost for mobilization regardless of their grievance, this threshold changes with the cost of mobilization. When mobilization becomes easier, for example due to pleasant weather, easier transportation and communication, or simply more resources, both the incumbent and the voter demand to see a higher level of mobilization to be convinced. Put differently, both the government and the general public know that a protest of 1000 people organized by a resource rich group on a sunny day is different than a protest of 1000 people with low resources in the rain (12).

(43), makes a similar argument, suggesting that lawmakers should pay attention to resource constraints of protesters. Empirically, she finds that US legislators are more likely to pay attention to protests by low-resource groups such as ethnic minorities, even when the size of protests are similar. The model here shows the opposite is true as well: governments also pay attention to reduced costs of mobilization and adjust their expectations accordingly.

(13) also find evidence for this dynamic. Using Friday —a day of congregation for many Muslims— as an instrument for exogenous change in protests, they find higher number of participants are not associated with higher likelihood of concessions from the government. Fridays, particularly Friday prayers, make mobilization easier for activists. Consequently, governments and the general public adjust their expectations and discount the numbers.

Separating Equilibria

Observing ignored protests allows the voter to infer that the incumbent is a bad type, reducing his support. However, this reduced support is only consequential within the parameter space of Lemma 1. Consequently the bad incumbent can fully reveal its type only outside Lemma 1, where the voter's support is already so high or so low that its poor quality does not matter. This is the Region I in the Figure 2.

For example, President George W. Bush went on to the win the reelection after ignoring the demands of tens of thousands of protesters against the invasion of Iraq. Similarly, Suleyman Demirel was reelected as Prime Minister in 1969, shortly after his remarks about students protests. While both politicians drew ire for their dismissive attitude towards the demands of thousands, they had enough support among the electorate.

On the other extreme, Brazilian President Michel Temer already had a single-digit approval rating in 2016, when students occupied schools to protest against budget cuts. Temer did not try to repress the students and prevent them from protesting. He also did not attempt to boost his popularity by accommodating

the protesters knowing it would not help. In each case, the incumbents did not feel the need to concede to the demands of the protesters, knowing that it would have little impact on their electoral prospects.

Of course, the activist does not know what type of incumbent they are facing before mobilizing. When activists cannot count on electoral pressures, they only mobilize if the incumbent is likely to be a good type. Because even without electoral pressures, a good incumbent always accommodates after protests. If there are no protests, neither type of incumbent accommodates when $q \leq \bar{q}$. Thus, the incumbent's type is not revealed.

Proposition 8 *: **Ignored Protests***

Incumbents only fully separate outside Lemma 1, where k is either low or high.

Low type activist never mobilizes. High type activist mobilizes if $p > \frac{L}{H}$*, at a level* $\bar{m}$*.*

Upon observing mobilization, the good incumbent accommodates and the bad incumbent ignores.

Pooling Equilibria

Protesters succeed in acquiring accommodations in two different ways. In the first case, the good incumbent accommodates genuinely: based on its own preferences rather than electoral pressure. Good governments use the information from protests to make accommodations that they would have already done under complete information.

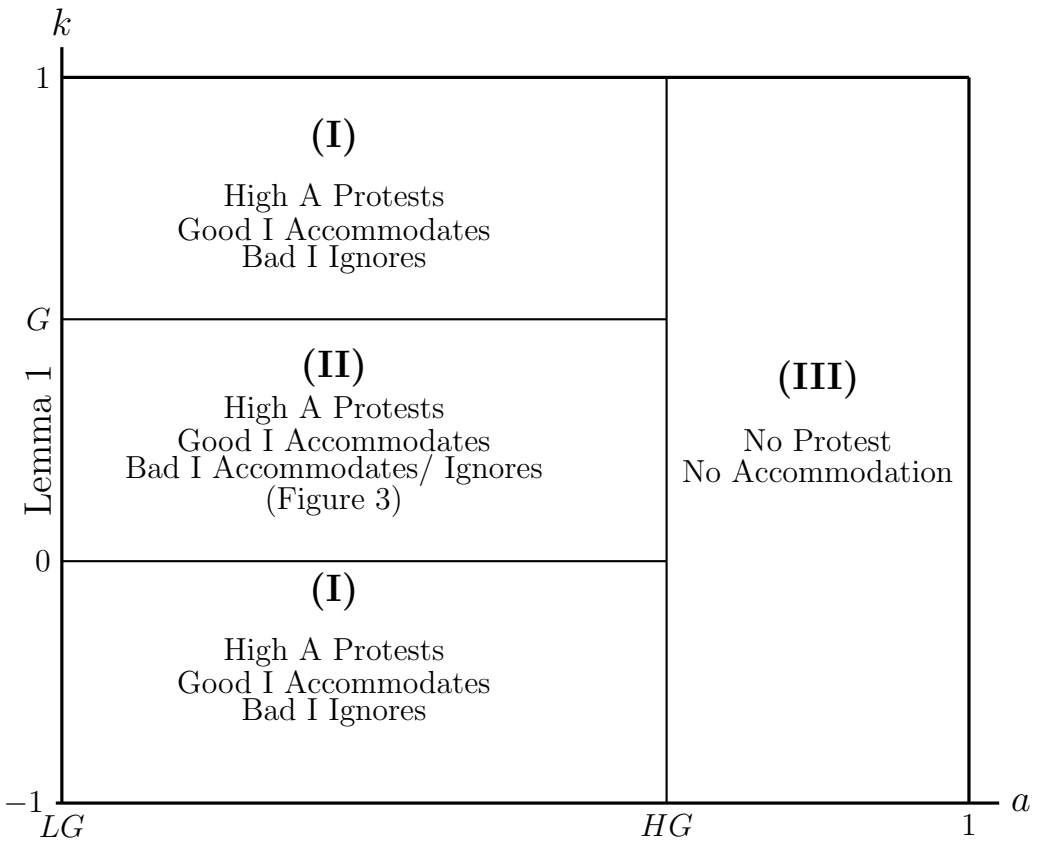

Figure 3.2: Equilibria Ranges as a Function of a and k.

In the second case, protesters succeed in getting policy changes that the bad incumbent does not prefer. Within Lemma 1, the bad type cannot ignore protests because it would reveal its type and cost it the voter's support. Thus, the bad incumbent has to balance making accommodations it does not want and its chances of reelection. This trade off is simple when voter's prior belief that the incumbent is a good type high: $p > \bar{p}$. In this case, the bad type mimics the good type and accommodates the activist. The voter does not gain any additional information. Consequently, he acts on his prior and reelects the incumbent. This outcome occurs in Region II of Figure 2, which is further detailed in Figure 3.

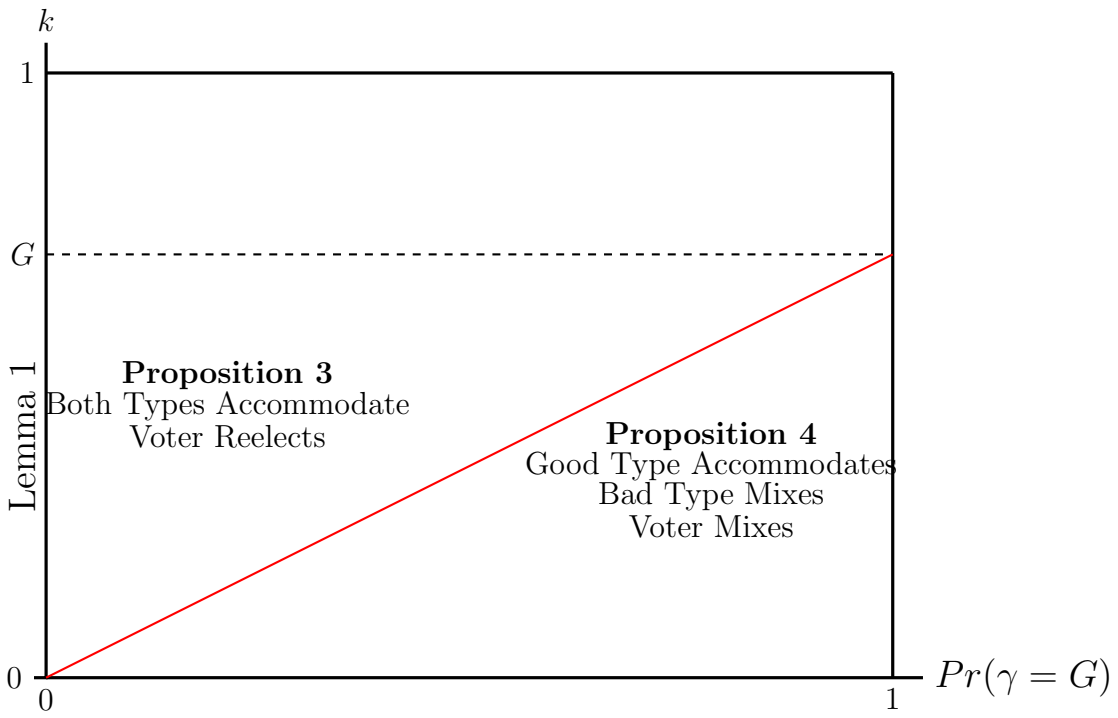

Figure 3.3: Equilibrium outcomes of protests with intermediate values of k as a function of p and k. The red line represents the $\bar{p} = \frac{k}{G}$.

Proposition 9 ***Successful Protest***

For intermediate values of k, when the likelihood that the incumbent is a good type is high, $p > \bar{p}$:

High type activist always mobilizes.

Both types of incumbent accommodate.

Voter reelects the incumbent.

Semi-Pooling Equilibria

The bad incumbent's trade off gets a little more complicated if the voter's belief in the quality of the incumbent is not high: when $p \leq \bar{p}$. In this case, absent new information the voter chooses not to reelect the incumbent. While the good

incumbent still prefers to accommodate, this plays out poorly for the bad types. If they pool by accommodating, they lose the reelection and make costly concessions they do not want. However, it also cannot fully separate as this would reveal their type leading the voter to always vote for the opposition.

The remaining possibility is that the bad types semi-separate. This strategy ensures that the voter is indifferent between reelecting the incumbent or not. From the point of view of the bad incumbents, this a preferable outcome to the alternative: getting voted out of the office for certain. However, the voter sometimes ends up reelecting the bad incumbents, and dismissing the good ones. Similarly, the activists end up taking the streets only for their demands to fall on deaf ears. This parameter range is depicted in Region II of Figure 2, and further detailed in Figure 3.

Proposition 10 ***Successful and Ignored Protests***

For intermediate values of k, when $p \leq \bar{p}$*:*

Incumbents semi-separate after protests: $\dot{p} = \frac{k}{G}$

The good type always accommodates. The bad type accommodates with a probability $\sigma_B^* = \frac{\dot{p}(G-k)}{(k)(1-\dot{p})}$.

The voter reelects the incumbent with probability $\sigma_V{}^* = a$ *if it accommodates, and never reelects if it ignores.*

High type activist mobilizes if $(p + (1-p)\sigma_B^*)H - L > 0$

Unlike the separating equilibrium in Proposition 2, revealing their lack of interest in citizens' demands proves more consequential for the bad incumbents. In this equilibrium, the voter always votes against the incumbent if protests are ignored. One might think that these governments are shooting themselves in the

foot by dismissing the demands of their citizens. However, this is not the case. In this parameter range, the voter does not reelect incumbent absent new information. Consequently, if bad incumbents simply mimic the good types, they end up making concessions they do not want only to gain zero additional support. Thus, mixing between accommodating and ignoring becomes a rational response for bad types, even if ignoring costs them valuable electoral support.

However, accommodating protesters does not guarantee an electoral victory. In fact, accommodating protests can never boost an incumbents popularity to certain electoral victory. It either provides a modest increase—Proposition 4—or maintains what popularity the incumbent already has—Proposition 3—. Put differently, accommodation happens when it is seemingly needed the least: when the incumbent is already expected to win the reelection.

Within the semi-pooling equilibrium under Proposition 4, the voter sometimes does not reelect the incumbent even after accommodation. This is when the incumbent can gain the most by demonstrating that they are a good type. However, because the bad incumbents mimic the good types, after observing accommodation the voter is never certain that the incumbent is a good type. Consequently, he sometimes votes against the incumbent after accommodation, possibly voting good types out of office and retaining bad ones. Indeed, the comparative statics highlight that the less popular the incumbent is compared to the opposition, the more likely he is to ignore protests.

Conditional on being in the semi-pooling equilibria under Proposition 4, the likelihood of accommodation is decreasing in incumbent's relative popularity. In other words, as the opposition candidate's quality, k, increases, the bad incumbent becomes less willing to accommodate. The intuition is as follows. The bad incum-

bent mixes between and accommodating to create the particular belief of the voter that makes him indifferent: $\dot{p} = \frac{k}{G}$. As k increases and approaches G, the voter becomes less willing to vote for the incumbent. In order to retain the incumbent, he must have a stronger belief that it is a good type after observing accommodation. This means that for the voter to be indifferent and continue mixing, the bad incumbent must accommodate less.

The voter engages in a similar calculation. Because accommodations are more unpalatable for the bad incumbents, the voter has to reelect the incumbent with a higher probability to keep the bad type indifferent. The substantive intuition is straightforward. The voter is more likely to reward the incumbent after costly concessions than the small ones.

Proposition 11 *Conditional on being in the semi-pooling equilibrium under Proposition 4:*
As the incumbent's relative popularity decreases, k increases, accommodation becomes less likely.
As the cost of accommodation a increases, voter is more likely to reelect the incumbent after accommodation.

Although it looks like the accommodation often leads to worse prospects for the incumbent as in the standard models of protests and government response (74), the dynamics are quite different. In the standard models, accommodation leads to the incumbents losing office because it either directly diminishes the prospects of the incumbents (74), or signals their weakness to potential challengers (45; 72). Here, accommodation is followed by electoral defeat because it cannot credibly signal to the general public that the incumbent is a good type that cares about citizens'

grievances. Put differently, accommodation does not necessarily diminish the popularity of incumbents. However, it also often fails to increase incumbent's popularity when it is needed the most.

For example, Ecuadorian President Lenin Moreno rescinded the cuts of on fuel subsidies after protests in October 2019.[10]. However, his popularity had already fallen considerably throughout his term, reaching lower than 30 percent before the protests. Accommodating protesters, while perhaps preventing an even bigger drop in his approval, did not boost his popularity.[11]

When is Repression Useful?

Having examined when governments will ignore protests, I now consider when they will resort to repression. Suppose the game is played just as in the main analysis, except now the incumbent can preemptively choose a level of repression r at a cost kr. Repression succeeds in preventing mobilization if $r \geq m$. This is in line with both the theoretical and empirical literature on repression, which argues that governments primarily use repression in expectation of protests. Key goal of repression is either to prevent protests from materializing in the first place, or demobilize them before they attract public or media attention.[12] Finally, assume that with a probability $n \in [0, 1]$ repression is revealed to the broader public. This can happen either through international organizations, free press, or social media.

[10]https://www.nytimes.com/2019/10/13/world/americas/ecuador-protests-lenin-moreno.html

[11]https://www.economist.com/the-americas/2019/04/11/lenin-morenos-new-economic-policy

[12]See (75; 30; 35; 83; 76; 34)

Because good incumbents prefer to accommodate protesters, only bad incumbents have incentives to use repression. Intuitively, they only need to repress in order to avoid concessions that they do not prefer. This only happens within the parameter space of Lemma 1, where ignoring the activist's demands affects their electoral prospects. Otherwise, they can simply ignore the protesters and not pay the costs of repression.

Even within the parameter space of Lemma 1, repression is only useful when suppressing information would benefit them. That is, when they can count on winning the reelection absent additional information. This is only possible within the pooling equilibrium in Proposition 3, when the incumbent is already popular, $p > \bar{p}$. This might seem counter-intuitive. Repression is used when it is least expected and when it is seemingly most counterproductive. Furthermore, the bad incumbent must choose a level of repression enough to deter the high type activist from mobilizing: $r \geq \frac{H}{c}$. Thus, the bad type only uses repression if:

$$\underbrace{1 - n - k\frac{H}{c}}_{\text{Expected Utility of Repression}} > \underbrace{1 - a}_{\text{Expected Utility of Accommodation}} \tag{3.7}$$

Proposition 12 *The good incumbent never uses repression.*
The bad incumbent uses repression only within Proposition 3 if Condition 7 is satisfied.

To see the intuition behind Proposition 6, recall why governments cannot simply hold on to power by accommodating when their support is already low as in the parameter range Proposition 4. Within this parameter range, the incumbent loses the reelection without additional information. If it successfully preempts protests, it ends up paying the cost of repression only to lose the reelection for cer-

tain. However, if it accommodates it can still win the reelection with a probability σ_V^*. Consequently, the bad incumbent never represses within Proposition 4.

Finally, Condition 7 points to another important result. Repression becomes more likely as the cost of mobilization for the activist increases. This might seem counter-intuitive from the common approaches to repression-dissent nexus. After all, governments should feel more secure against groups that have less capacity to directly threaten them.

However, the explanation follows intuitively from Proposition 1. Recall that both the good incumbent and the voter pay attention to the cost of mobilization in determining the level of grievance of the activist. If the cost of mobilization is high, they adjust their threshold for accommodation downwards accordingly. This means that even relatively small scale protest can reveal the incumbents poor quality when they are ignored. Incumbents who want to hide their type and retain their popularity will find it cheaper to repress these smaller protests than larger ones. Consequently, repression will be more likely targeted at activists who have limited resources to mobilize. In other words, groups who are already disadvantaged— for example due to low economic resources— can become even more discriminated through repression.

Proposition 13 *Repression is more likely to be used against activists whose costs of mobilization is high.*
Repression is more likely when the cost of accommodation is high.

Propositon 7 provides insight into why governments crack down on seemingly innocuous protests, only for repression to backfire. However, the mechanism here is different from the "backlash hypothesis" (41; 3; 81) which is often invoked to

explain why more dissent is observed after repression. According to this hypothesis, repression fails when it motivates the bystanders to join the opposition, making the opposition even stronger than before. While the backlash effect might be at play, it does not explain why governments engage in repression if it only makes the opposition stronger.

Here, governments repress because protests threaten to reveal their poor quality. What makes the general public turn against the government is not necessarily the repression. Repression might of course create additional discontent with the general public. However, in many cases learning that the incumbent is uninterested in their grievances is often sufficient for the public to turn against it (10). Governments use repression to retain support that they would lose by ignoring. Put differently, repression is used when its most likely to be harmful for the government if it is observed by the broader public.

Consider the Gezi Park protests took place in Turkey in late May, 2013. The initial protests were aimed to oppose the demolition of Gezi Park, a green space in the center of Istanbul (91; 3). The initial group of activists were small number of environmentalists and members of the Istanbul's LGBTQ community (91). From a coercion, or disruption perspective, their numbers were too small to be effective or threatening. Yet they had a modest demand to preserve a park, which the general public was mostly unaware or agnostic about. However, the activists clearly signaled it was a salient issue for them with a relatively high level of mobilization given their scarce resources. The combination of modest demands and the small group of participants made them a target for repression. The government calculated–very erroneously as it turned out— that rather than cancel a building project, or look

unresponsive to modest pleas of preserving trees, it would be much less costly to forcefully remove a small number of protesters from the park (53).

3.4 Discussion

The assertion that governments respond to popular challenges with repression is so commonly accepted that it has been come to known as the "Law of Coercive Responsiveness"(25; 32; 75). Yet this assertion lacks robust empirical support (48; 75). One reason is that empirical and formal literature often rely on a zero-sum framework to understand all popular mobilization. This leads to categorization of all collection action as a challenge to the government's authority. Yet for many activists, the goal of mobilization is not to undermine the authority of the government, but rather to implicitly recognize it and put it to the task of addressing their needs. In some cases, this might be equally threatening for governments. An incumbent government that ignores legitimate and modest demands of activists can lose crucial support from the general public. In others, governments can safely ignore the protesters.

This is indeed, what governments do most of the time. (52) find that around 40 percent of protests between 1990 and 2014 have received no response from the government. As the model presented demonstrates, the window of opportunity for protesters can be narrow. Governments that are already unpopular have few incentives to accommodate or repress protesters. Similarly, sufficiently popular governments can safely ignore the demands for policy change they do not prefer, knowing their supporters will not switch sides.

Yet in many empirical work, government's option to simply ignore protests is not taken into account (10). For example, (75) use rainfall as an instrument to account for the endogeneity between repression and dissent. They find that once selection effects are accounted for, the expected relationship between observed protests and repression disappear. While they point to strategic interaction as an explanation for the lack of statistical and substantive significant relationship, their argument is based on protester resolve and threat (39). Protesters that survive preventive coercion or mobilize in expectation of repression are more resolved, thus repression is a poor response against them.

As the model presented here demonstrates, lack of repression does not mean successful protests. Governments routinely ignore protesters, not because protesters are resolved dissidents that are too strong to repress, but because protests are not threatening to their existing support. Indeed, as Proposition 6 demonstrates, preventing protests through coercion is useful in a relatively limited set of circumstances. In other settings, letting protests happen and either accommodating or ignoring them is much more efficient.

Furthermore, focusing on how protests can reveal issue salience and consequently the governments' quality is key to understanding why governments often target smaller protests by marginalized groups by repression, even when these group have the least capacity to directly threaten the regime (Proposition 7), while ignoring larger protests by relatively more privileged groups with more resources. The informational mechanism presented here is a better fit to explain why governments often respond to protests by ethnic minorities in more repressive ways than the one focusing on direct threats (24; 29; 34).

(52) consider ignoring as a strategic response as an alternative to repression or accommodation. Looking at protests across the world, they find that protests with modest demands and high participation are more likely to be accommodated. However, they similarly frame protests are a zero-sum game, where protesters' only leverage to gain accommodation is to threaten economic disruption. That is, protest numbers matter not because they reveal issue salience, but because higher numbers make protests directly more costly. They argue that activists that are ignored reveal "a weak hand" by not threatening sufficient enough disruption. This line of reasoning cannot explain why activists often mobilize without any intention to create disruption, and that disruptive forms of collective action such as riots and looting are less likely to succeed (42; 94).

Rather than treating all protests as potential revolutions or purely extractive efforts, my model points to a informational dynamics. Protests are necessary to credibly reveal issue salience to the governments (43). When activists are accommodated, its rarely because of their direct coercive capacity as the zero-sum framework argues. In many cases, accommodation occurs because the government is willing to act on the information provided by the protests, which tells them the cost of policy changes are warranted by the salience of grievances (Proposition 2) (57). More often than not, this is how activists themselves frame their mobilization efforts. As one protester from South Africa put it, the goal of contention is: "a message to the top...so they know what is going on." (49)

Of course, governments can be "forced" to accommodate by the expected response from the broader public (Proposition 3). Governments are forced, not because of coercion or disruption by protesters, but rather ignoring protesters would reveal the government's poor quality to the broader public. This is a distinct dy-

namic that is not captured by the modal approach, where governments are always assumed to be adamant in upholding the status quo and thus the activists' only source of strength is their direct, coercive threat. Indeed, if this were the case activists would only mobilize when they could credibly threaten the government, which is a hard case to make given how common they are ignored.

3.5 Conclusion

The modal approach to collective mobilization assumes all protests are threats to status quo that the governments must respond. Yet governments often simply disregard protesters, neither repressing or accommodating them. This paper explored why activists take costly political action when they cannot coerce to government, and why and when governments respond to them. Activists mobilize to signal their grievances with the status quo policies. Governments that care about their constituents can use this information to enact policy, even when such change is costly. For governments who care little about grievances, the response is a little more complicated. When their support is very high or very low, they can ignore protests and safely reveal their lack of interest to the broader public. In other cases, they have to respond in a way that balances making costly accommodations, and hiding their poor quality.

By focusing on the informational effects of the protests, the model explains why governments often ignore large protests with no repercussions, but also target much smaller protests with coercion. In contrast to common approaches to informational effects of the protests, protests do not simply coordinate existing anti-government sentiment. Rather, by potentially revealing the government to be

non-responsive to legitimate and modest demands, they can cause it. This dynamic can make some public mobilizations "threatening" even their size is relatively small.

The closest the paper comes to a policy implication is that researchers should be wary about making causal claims about collective mobilization and government response without accounting for multiple dynamics at play. Appreciating, and distinguishing various dynamics between mobilizations and their outcome is crucial for the validity of empirical claims as well as the lessons drawn from them. Assuming all protests are disruptive efforts, or threats to government authority not only gets the data generating process wrong, but also paints repression as an obvious choice for governments. This can lead to normalization of government violence and the undermining of the efforts by non-violent activists.

3.6 References

Bibliography

[1] Moisés Arce. *Resource Extraction and Protest in Peru*. Pitt Latin American Studies. University of Pittsburgh Press, Pittsburgh, Pa, 2014. ISBN 978-0-8229-6309-7.

[2] Moises Arce. THE POLITICAL CONSEQUENCES OF MOBILIZATIONS AGAINST RESOURCE EXTRACTION. *Mobilization: An International Quarterly*, 21(4):469–483, December 2016. ISSN 1086-671X. doi: 10.17813/1086-671X-21-4-469.

[3] S. Erdem Aytaç, Luis Schiumerini, and Susan Stokes. Why Do People Join Backlash Protests? Lessons from Turkey. *Journal of Conflict Resolution*, 62 (6):1205–1228, July 2018. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002716686828.

[4] Steven Beard and Joshua A Strayhorn. When Will States Strike First? Battlefield Advantages and Rationalist War. *International Studies Quarterly*, 62(1): 42–53, March 2018. ISSN 0020-8833, 1468-2478. doi: 10.1093/isq/sqx080.

[5] Anthony Bebbington, editor. *Social Conflict, Economic Development and the Extractive Industry: Evidence from South America*. Routledge, London ; New York, 2012. ISBN 978-0-415-62071-0 978-0-203-63903-0.

[6] Curtis Bell and Scott Wolford. Oil Discoveries, Shifting Power, and Civil Conflict. *International Studies Quarterly*, 59(3):517–530, September 2015. ISSN 00208833. doi: 10.1111/isqu.12150.

[7] Eva Bellin. Reconsidering the Robustness of Authoritarianism in the Middle East: Lessons from the Arab Spring. *Comparative Politics*, 44(2):127–149, 2012.

[8] J. Bendor, A. Glazer, and T. Hammond. Theories of Delegation. *Annual Review of Political Science*, 4(1):235–269, June 2001. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev.polisci.4.1.235.

[9] Jonathan Bendor and Adam Meirowitz. Spatial Models of Delegation. *American Political Science Review*, 98(2):293–310, May 2004. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055404001157.

[10] Dina Bishara. The Politics of Ignoring: Protest Dynamics in Late Mubarak Egypt. *Perspectives on Politics*, 13(04):958–975, December 2015. ISSN 1537-5927, 1541-0986. doi: 10.1017/S153759271500225X.

[11] Ethan Bueno De Mesquita and Catherine Hafer. PUBLIC PROTECTION OR PRIVATE EXTORTION? *Economics & Politics*, 0(0):070916223556005–???, September 2007. ISSN 0954-1985, 1468-0343. doi: 10.1111/j.1468-0343.2007.00314.x.

[12] Ethan Bueno De Mesquita and Scott A. Tyson. The Commensurability Problem: Conceptual Difficulties in Estimating the Effect of Behavior on Behavior. *American Political Science Review*, pages 1–17, February 2020. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055419000911.

[13] Charles Butcher and Jonathan Pinckney. Friday on My Mind: Re-Assessing the Impact of Protest Size on Government Concessions. *Journal of Conflict*

Resolution, page 002200272210998, May 2022. ISSN 0022-0027, 1552-8766. doi: 10.1177/00220027221099887.

[14] Brandice Canes-Wrone, Michael C. Herron, and Kenneth W. Shotts. Leadership and Pandering: A Theory of Executive Policymaking. *American Journal of Political Science*, 45(3):532, July 2001. ISSN 00925853. doi: 10.2307/2669237.

[15] Peter D Carey, Curtis Bell, Emily Hencken Ritter, and Scott Wolford. Oil discoveries, civil war, and preventive state repression. *Journal of Peace Research*, page 002234332110473, January 2022. ISSN 0022-3433, 1460-3578. doi: 10.1177/00223433211047365.

[16] Sabine C. Carey. The Dynamic Relationship Between Protest and Repression. *Political Research Quarterly*, 59(1):1–11, March 2006. ISSN 1065-9129, 1938-274X. doi: 10.1177/106591290605900101.

[17] Brett Allen Casper and Scott A. Tyson. Popular Protest and Elite Coordination in a Coup d'état. *The Journal of Politics*, 76(2):548–564, April 2014. ISSN 0022-3816, 1468-2508. doi: 10.1017/S0022381613001485.

[18] Erica Chenoweth. *Civil Resistance: What Everyone Needs to Know*. Oxford University Press, New York, NY, 2021. ISBN 978-0-19-024439-2 978-0-19-024440-8.

[19] Erica Chenoweth and Maria J. Stephan. *Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict*. Columbia Studies in Terrorism and Irregular Warfare. Columbia Univ. Press, New York, NY, paperback ed edition, 2013. ISBN 978-0-231-15683-7.

[20] Olga V. Chyzh and Elena Labzina. Bankrolling Repression? Modeling Third-Party Influence on Protests and Repression: BANKROLLING REPRES-

SION? *American Journal of Political Science*, 62(2):312–324, April 2018. ISSN 00925853. doi: 10.1111/ajps.12341.

[21] Courtenay R. Conrad and Emily Hencken Ritter. Treaties, Tenure, and Torture: The Conflicting Domestic Effects of International Law. *The Journal of Politics*, 75(2):397–409, April 2013. ISSN 0022-3816, 1468-2508. doi: 10.1017/S0022381613000091.

[22] Mark J. C. Crescenzi. Violence and Uncertainty in Transitions. *Journal of Conflict Resolution*, 43(2):192–212, April 1999. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002799043002005.

[23] Nathan Danneman and Emily Hencken Ritter. Contagious Rebellion and Preemptive Repression. *Journal of Conflict Resolution*, 58(2):254–279, March 2014. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002712468720.

[24] Christian Davenport. Multi-Dimensional Threat Perception and State Repression: An Inquiry into Why States Apply Negative Sanctions. *American Journal of Political Science*, 39(3):683, August 1995. ISSN 00925853. doi: 10.2307/2111650.

[25] Christian Davenport. State Repression and Political Order. *Annual Review of Political Science*, 10(1):1–23, June 2007. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev.polisci.10.101405.143216.

[26] Christian Davenport. *State Repression and the Domestic Democratic Peace*. Cambridge University Press, Cambridge, 2007. ISBN 978-0-511-51002-1 978-0-521-86490-9 978-0-521-16871-7. doi: 10.1017/CBO9780511510021.

[27] Christian Davenport and David A. Armstrong. Democracy and the Violation of Human Rights: A Statistical Analysis from 1976 to 1996. *American Journal*

of Political Science, 48(3):538–554, July 2004. ISSN 0092-5853, 1540-5907. doi: 10.1111/j.0092-5853.2004.00086.x.

[28] Christian Davenport and Cyanne Loyle. The States Must Be Crazy: Dissent and the Puzzle of Repressive Persistence. *International Journal of Conflict and Violence (IJCV)*, Vol 6:No 1: (De)Radicalization–, April 2012. doi: 10.4119/unibi/ijcv.187.

[29] Christian Davenport, Sarah A. Soule, and David A. Armstrong. Protesting While Black?: The Differential Policing of American Activism, 1960 to 1990. *American Sociological Review*, 76(1):152–178, February 2011. ISSN 0003-1224, 1939-8271. doi: 10.1177/0003122410395370.

[30] Kris De Jaegher and Britta Hoyer. Preemptive Repression: Deterrence, Backfiring, Iron Fists, and Velvet Gloves. *Journal of Conflict Resolution*, 63(2):502–527, February 2019. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002717750450.

[31] Ethan Bueno De Mesquita. Regime Change and Revolutionary Entrepreneurs. *American Political Science Review*, 104(3):446–466, August 2010. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055410000274.

[32] Jacqueline H. R. deMeritt. *The Strategic Use of State Repression and Political Violence*. Oxford University Press, October 2016. ISBN 978-0-19-022863-7. doi: 10.1093/acrefore/9780190228637.013.32.

[33] Tiberiu Dragu and Yonatan Lupu. Collective Action and Constraints on Repression at the Endgame. *Comparative Political Studies*, 51(8):1042–1073, July 2018. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414017730077.

[34] Tiberiu Dragu and Yonatan Lupu. Digital Authoritarianism and the Future of Human Rights. *International Organization*, pages 1–27, February 2021. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818320000624.

[35] Tiberiu Dragu and Adam Przeworski. Preventive Repression: Two Types of Moral Hazard. *American Political Science Review*, 113(1):77–87, February 2019. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055418000552.

[36] Jennifer Earl. Tanks, Tear Gas, and Taxes: Toward a Theory of Movement Repression. *Sociological Theory*, 21(1):44–68, January 2003. ISSN 0735-2751, 1467-9558. doi: 10.1111/1467-9558.00175.

[37] Jennifer Earl. Political Repression: Iron Fists, Velvet Gloves, and Diffuse Control. *Annual Review of Sociology*, 37(1):261–284, August 2011. ISSN 0360-0572, 1545-2115. doi: 10.1146/annurev.soc.012809.102609.

[38] Jennifer Earl, Sarah A. Soule, and John D. McCarthy. Protest under Fire? Explaining the Policing of Protest. *American Sociological Review*, 68(4):581, August 2003. ISSN 00031224. doi: 10.2307/1519740.

[39] James D Fearon. Rationalist Explanations for War. *International Organization*, 49(3):379–414, 1995. ISSN 0020-8183. doi: 10.1017/S0020818300033324.

[40] Ronald Francisco. After the massacre: Mobilization in the wake of harsh repression. *Mobilization: An International Quarterly*, 9(2):107–126, 2004. doi: 10.17813/maiq.9.2.559246137656n482.

[41] Ronald A. Francisco. The relationship between coercion and protest: An empirical evaluation in three coercive states. *The Journal of Conflict Resolution*, 39(2):263–282, 1995. ISSN 00220027, 15528766.

[42] James C. Franklin. Contentious Challenges and Government Responses in Latin America. *Political Research Quarterly*, 62(4):700–714, December 2009. ISSN 1065-9129, 1938-274X. doi: 10.1177/1065912908322405.

[43] LaGina Gause. Revealing Issue Salience via Costly Protest: How Legislative Behavior Following Protest Advantages Low-Resource Groups. *British Journal of Political Science*, pages 1–21, December 2020. ISSN 0007-1234, 1469-2112. doi: 10.1017/S0007123420000423.

[44] Michael Gibilisco. Mowing the Grass. 2021.

[45] John Ginkel and Alastair Smith. So You Say You Want a Revolution: A Game Theoretic Explanation of Revolution in Repressive Regimes. *The Journal of Conflict Resolution*, 43(3):291–316, 1999. ISSN 00220027, 15528766.

[46] Paul Alexander Haslam. Beyond voluntary: State–firm bargaining over corporate social responsibilities in mining. *Review of International Political Economy*, 25(3):418–440, May 2018. ISSN 0969-2290, 1466-4526. doi: 10.1080/09692290.2018.1447497.

[47] Paul Alexander Haslam and Nasser Ary Tanimoune. The Determinants of Social Conflict in the Latin American Mining Sector: New Evidence with Quantitative Data. *World Development*, 78:401–419, February 2016. ISSN 0305750X. doi: 10.1016/j.worlddev.2015.10.020.

[48] Daniel W. Hill and Zachary M. Jones. An Empirical Evaluation of Explanations for State Repression. *American Political Science Review*, 108(3):661–687, August 2014. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055414000306.

[49] Karl Von Holdt, Malose Langa, Sepetla Molapo, Nomfundo Mogapi, Kindiza Ngubeni, Jacob Dlamini, and Adele Kirsten. The smoke that calls: Insurgent

citizenship, collective violence and the struggle for a place in the new South Africa. 2011. doi: 10.13140/RG.2.1.1327.2804.

[50] James R. Hollyer and B. Peter Rosendorff. Why Do Authoritarian Regimes Sign the Convention Against Torture? Signaling, Domestic Politics and Non-Compliance. *Quarterly Journal of Political Science*, 6(3–4):275–327, 2011. ISSN 1554-0626. doi: 10.1561/100.00010059.

[51] Zachary M. Jones and Yonatan Lupu. Is There More Violence in the Middle?: IS THERE MORE VIOLENCE IN THE MIDDLE? *American Journal of Political Science*, 62(3):652–667, July 2018. ISSN 00925853. doi: 10.1111/ajps.12373.

[52] Graig R. Klein and Patrick M. Regan. Dynamics of Political Protests. *International Organization*, 72(02):485–521, 2018. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818318000061.

[53] Korhan Kocak and Özgür Kıbrıs. Social Media and Press Freedom. *British Journal of Political Science*, pages 1–23, January 2022. ISSN 0007-1234, 1469-2112. doi: 10.1017/S0007123421000594.

[54] Timur Kuran. Now Out of Never: The Element of Surprise in the East European Revolution of 1989. *World Politics*, 44(1):7–48, 1991.

[55] Yao Li. A Zero-Sum Game? Repression and Protest in China. *Government and Opposition*, 54(2):309–335, April 2019. ISSN 0017-257X, 1477-7053. doi: 10.1017/gov.2017.24.

[56] Mark Irving Lichbach. Deterrence or Escalation?: The Puzzle of Aggregate Studies of Repression and Dissent. *Journal of Conflict Resolution*, 31(2):266–297, June 1987. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002787031002003.

[57] Susanne Lohmann. A Signaling Model of Informative and Manipulative Political Action. *American Political Science Review*, 87(2):319–333, June 1993. ISSN 0003-0554, 1537-5943. doi: 10.2307/2939043.

[58] Susanne Lohmann. The Dynamics of Informational Cascades: The Monday Demonstrations in Leipzig, East Germany, 1989–91. *World Politics*, 47(1): 42–101, October 1994. ISSN 0043-8871, 1086-3338. doi: 10.2307/2950679.

[59] Peter Lorentzen. China's Strategic Censorship: CHINA'S STRATEGIC CENSORSHIP. *American Journal of Political Science*, 58(2):402–414, April 2014. ISSN 00925853. doi: 10.1111/ajps.12065.

[60] Peter Lorentzen. Designing Contentious Politics in Post-1989 China. *Modern China*, 43(5):459–493, September 2017. ISSN 0097-7004, 1552-6836. doi: 10.1177/0097700416688895.

[61] Peter L. Lorentzen. Regularizing Rioting: Permitting Public Protest in an Authoritarian Regime. *Quarterly Journal of Political Science*, 8(2):127–158, April 2013. ISSN 15540634. doi: 10.1561/100.00012051.

[62] Joseph Luders. The Economics of Movement Success: Business Responses to Civil Rights Mobilization. *American Journal of Sociology*, 111(4):963–998, January 2006. ISSN 0002-9602, 1537-5390. doi: 10.1086/498632.

[63] Doug McAdam. *Political Process and the Development of Black Insurgency, 1930-1970*. 1982. ISBN 978-0-226-55555-3.

[64] Doug McAdam and Sidney Tarrow. Ballots and Barricades: On the Reciprocal Relationship between Elections and Social Movements. *Perspectives on Politics*, 8(02):529–542, June 2010. ISSN 1537-5927, 1541-0986. doi: 10.1017/S1537592710001234.

[65] Doug McAdam, Sidney G. Tarrow, and Charles Tilly. *Dynamics of Contention*. Cambridge Studies in Contentious Politics. Cambridge University Press, Cambridge ; New York, 2001. ISBN 978-0-521-80588-9 978-0-521-01187-7.

[66] Will H. Moore. The Repression of Dissent: A Substitution Model of Government Coercion. *Journal of Conflict Resolution*, 44(1):107–127, February 2000. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002700044001006.

[67] Ragnhild Nordås and Christian Davenport. Fight the Youth: Youth Bulges and State Repression: FIGHT THE YOUTH. *American Journal of Political Science*, pages n/a–n/a, March 2013. ISSN 00925853. doi: 10.1111/ajps.12025.

[68] Kevin J. O'Brien and Yanhua Deng. Repression Backfires: Tactical radicalization and protest spectacle in rural China. *Journal of Contemporary China*, 24 (93):457–470, May 2015. ISSN 1067-0564, 1469-9400. doi: 10.1080/10670564.2014.953849.

[69] Kevin J. O'Brien and Lianjiang Li. *Rightful Resistance in Rural China*. Cambridge Studies in Contentious Politics. Cambridge University Press, Cambridge ; New York, 2006. ISBN 978-0-521-86131-1 978-0-521-67852-0.

[70] Jack Paine and Scott Tyson. Uses and Abuses of Formal Models in Political Science. 2019.

[71] John W. Patty. Signaling through Obstruction. *American Journal of Political Science*, 60(1):175–189, January 2016. ISSN 0092-5853, 1540-5907. doi: 10.1111/ajps.12202.

[72] Jan Henryk Pierskalla. Protest, Deterrence, and Escalation: The Strategic Calculus of Government Repression. *Journal of Conflict Resolution*, 54(1):

117–145, February 2010. ISSN 0022-0027, 1552-8766. doi: 10.1177/00220027 09352462.

[73] Kristopher W. Ramsay. Information, Uncertainty, and War. *Annual Review of Political Science*, 20(1):505–527, May 2017. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev-polisci-051215-022729.

[74] Emily Hencken Ritter. Policy Disputes, Political Survival, and the Onset and Severity of State Repression. *Journal of Conflict Resolution*, 58(1):143–168, February 2014. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002712468724.

[75] Emily Hencken Ritter and Courtenay R. Conrad. Preventing and Responding to Dissent: The Observational Challenges of Explaining Strategic Repression. *American Political Science Review*, 110(01):85–99, February 2016. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055415000623.

[76] Arturas Rozenas. A Theory of Demographically Targeted Repression. *Journal of Conflict Resolution*, 64(7-8):1254–1278, August 2020. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002720904768.

[77] John Gerard Ruggie. *Just Business: Multinational Corporations and Human Rights*. 2013. ISBN 978-0-393-08976-9.

[78] Idean Salehyan. Transnational Rebels: Neighboring States as Sanctuary for Rebel Groups. *World Politics*, 59(02):217–242, January 2007. ISSN 0043-8871, 1086-3338. doi: 10.1353/wp.2007.0024.

[79] Idean Salehyan and Brandon Stewart. Political Mobilization and Government Targeting: When Do Dissidents Challenge the State? *Comparative Political Studies*, 50(7):963–991, June 2017. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414016655541.

[80] Mehdi Shadmehr and Dan Bernhardt. Collective Action with Uncertain Payoffs: Coordination, Public Signals, and Punishment Dilemmas. *American Political Science Review*, 105(4):829–851, November 2011. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055411000359.

[81] Mehdi Shadmehr and Raphael Boleslavsky. International Pressure, State Repression, and the Spread of Protest. *The Journal of Politics*, 84(1):148–165, January 2022. ISSN 0022-3816, 1468-2508. doi: 10.1086/714763.

[82] Branislav L. Slantchev. Military Coercion in Interstate Crises. *American Political Science Review*, 99(04):533–547, November 2005. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055405051865.

[83] Branislav L. Slantchev and Kelly S. Matush. The Authoritarian Wager: Political Action and the Sudden Collapse of Repression. *Comparative Political Studies*, 53(2):214–252, February 2020. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414019843564.

[84] Jessica Steinberg. Strategic Sovereignty: A Model of Non-state Goods Provision and Resistance in Regions of Natural Resource Extraction. *Journal of Conflict Resolution*, 60(8):1503–1528, December 2016. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002714564429.

[85] Jessica Steinberg. 'Strong' states and strategic governance: A model of territorial variation in state presence. *Journal of Theoretical Politics*, 30(2):224–245, April 2018. ISSN 0951-6298, 1460-3667. doi: 10.1177/0951629817748204.

[86] Christopher M. Sullivan. Political Repression and the Destruction of Dissident Organizations: Evidence from the Archives of the Guatemalan National Police.

World Politics, 68(4):645–676, October 2016. ISSN 0043-8871, 1086-3338. doi: 10.1017/S0043887116000125.

[87] Milan W. Svolik. *The Politics of Authoritarian Rule*. Cambridge Studies in Comparative Politics. Cambridge University Press, Cambridge, 2012. ISBN 978-1-107-02479-3 978-1-107-60745-3.

[88] Charles Tilly. *From Mobilization to Revolution*. Addison-Wesley Pub. Co, Reading, Mass, 1978. ISBN 978-0-201-07571-7.

[89] Charles Tilly and Sidney G. Tarrow. *Contentious Politics*. Oxford University Press, New York, NY, second revised edition edition, 2015. ISBN 978-0-19-025505-3.

[90] Rory Truex. Focal Points, Dissident Calendars, and Preemptive Repression. *Journal of Conflict Resolution*, 63(4):1032–1052, April 2019. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002718770520.

[91] Zeynep Tufekci. *Twitter and Tear Gas: The Power and Fragility of Networked Protest*. Yale University Press, New Haven ; London, 2017. ISBN 978-0-300-21512-0.

[92] Scott A. Tyson. The Agency Problem Underlying Repression. *The Journal of Politics*, 80(4):1297–1310, October 2018. ISSN 0022-3816, 1468-2508. doi: 10.1086/698887.

[93] Barbara F. Walter. Information, Uncertainty, and the Decision to Secede. *International Organization*, 60(01), January 2006. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818306060048.

[94] Omar Wasow. Agenda Seeding: How 1960s Black Protests Moved Elites, Public Opinion and Voting. *American Political Science Review*, 114(3):638–659, August 2020. ISSN 0003-0554, 1537-5943. doi: 10.1017/S000305542000009X.

[95] Kurt Weyland. The Arab Spring: Why the Surprising Similarities with the Revolutionary Wave of 1848? *Perspectives on Politics*, 10(4):917–934, December 2012. ISSN 1537-5927, 1541-0986. doi: 10.1017/S1537592712002873.

[96] Kurt Gerhard Weyland. *Making Waves: Democratic Contention in Europe and Latin America since the Revolutions of 1848*. Cambridge University Press, Cambridge ; New York, 2014. ISBN 978-1-107-04474-6 978-1-107-62278-4.

[97] Samson Yuen and Edmund W Cheng. Neither Repression Nor Concession? A Regime's Attrition against Mass Protests. *Political Studies*, 65(3):611–630, October 2017. ISSN 0032-3217, 1467-9248. doi: 10.1177/0032321716674024.

[98] Kevin J. S. Zollman, Carl T. Bergstrom, and Simon M. Huttegger. Between cheap and costly signals: The evolution of partially honest communication. *Proceedings of the Royal Society B: Biological Sciences*, 280(1750):20121878, January 2013. ISSN 0962-8452, 1471-2954. doi: 10.1098/rspb.2012.1878.

3.7 Appendix

3.7.1 Proofs and Full Equilibria

Proof of Lemma 1: Follows from the main text.

I's Decision:Let σ_V be the probability that V votes for the incumbent after $\alpha = 1$. After observing $m \geq 0$, a type γ accommodates if:

$$v(1 - a + \gamma(L + \dot{q}(H - L)) + (1 - v)(0 - a + \gamma(L + \dot{q}(H - L))) > (1 - v)1 + v0$$
$$\sigma_V - a + \gamma(L + \dot{q}(H - L)) > (1 - \sigma_V)$$

where $\dot{q}$ is the updated belief about q after observing $m \geq 0$.

A's decision: Only mobilize to signal they are the high type. Low type never mobilizes. To show that it is a high type it must be the $H > cm^* \geq L$ or $cm \geq L$ or $m^* = \frac{L}{c}$. Incentive compatibility requires:

$$\sigma_I H - cm^* > 0$$
$$\sigma_I H - c(\frac{L}{c}) > 0$$

Full Description of Equilibria The following proposition describes the Perfect Bayesian Equilibria of the overall game, in which both types of activists choose a level of mobilization; both types of incumbents choose to accommodate or not; and voter decides to reelect the incumbent or not.

Proposition 14 *The game has multiple equilibria. On the equilibrium path:*

1. *Neither type of activist mobilizes and both types of incumbents pool on ignoring or accommodating.*

2. *Neither type of activist mobilizes and the Incumbents separate. Good I accommodates, and bad I ignores.*

3. *Neither type of activist mobilizes and the Incumbents semi-pool. Good I accommodates, and bad I accommodates with a positive probability. The Voter votes against the incumbent if it ignores, and reelects with a positive probability if it accommodates.*

4. *High type activists mobilizes and the incumbents pool on accommodating.*

5. *High type activist mobilizes and the incumbents separate. Good I accommodates, and bad I ignores.*

6. *The high type activist mobilizes, the good type accommodates and the bad type mixes.*

The voter reelects the incumbent if Condition 1 is satisfied.

No Protest Equilibria

Activists Pool; Incumbents Separate. Suppose $q > \bar{q}$. Neither type of activists mobilizes, so that $\dot{p} = p$. Good I accommodates, Bad I does not accommodate. So that $\dot{q} = 0$. This is only possible outside Lemma 1, when $a > HB$, otherwise Bad I would have a profitable deviation to $a = 1$.

Activists Pool; Incumbents Pool. Suppose $q > \bar{q}$. Neither type of activists mobilizes, so that $\dot{p} = p$. Good I accommodates, Bad I accommodates. $\dot{q} = q$. This is only possible when $a < HB$, or within Lemma 1 when $p > \bar{p}$. Bad I would have a profitable deviation to $a = 1$.

Activists Pool; Incumbents Semi-Pool. Suppose $q > \bar{q}$. Neither type of activists mobilizes, so that $\dot{p} = p$. Good I accommodates, Bad I accommodates with a probability σ_I. The voter retains with a probability σ_V, similar to the protest equilibria below.

Protest Equilibria

Proof of Proposition 1: Follows from the main text from Condition 5.

Proof of Proposition 2: Follows from the main text and above. Where $\sigma_B = 0$ and $\sigma_G = 1$, so that $\sigma_I = p$.

Remark 1 *Conditional on being in the pooling equilibrium under Proposition 3:*
The cost of accommodation, a, has no effect on the outcome of protest, and the voter's decision.
The incumbent's relative popularity, k, has no effect on the outcome of the protest, and the voter's decision.

Proof of Proposition 3: Follows from the main text and above. Where $\sigma_I = 1$ so that Condition 6 is always satisfied.

Proof of Proposition 4: Semi-pooling. Bad I accommodates with a probability σ_B.

V's posterior after observing $a = 1$ is $\dot{p} = \frac{p}{p+(1-p)\sigma_B}$, and when $a = 0$ is $\dot{p} = 0$.

V must be indifferent between reelecting the incumbent:

$$\dot{p} = \frac{k}{G}$$

$$\begin{aligned}
\frac{p}{p + (1-p)\sigma_B} &= \frac{k}{G} \\
\frac{p(G)}{k} &= p + (1-p)\sigma_B \\
\frac{p(G) - p(k)}{k} &= (1-p)\sigma_B \\
\frac{p(G-k)}{(k)(1-p)} &= \sigma_B \equiv \sigma_B^*
\end{aligned}$$

σ_V has to make bad I indifferent between $a = 1$ and $a = 0$.

$$\begin{aligned}
\sigma_V(1-a) + (1-\sigma_V)(0-a) &= 0 \\
\sigma_V - a &= 0 \\
\sigma_V^* &= a
\end{aligned}$$

Which is $\in (0, 1)$ and positive when $1 \geq G\theta > a > 0$.

For A, this means that the probability of accommodation is: $p+(1-p)\sigma_B$ for it to mobilize:

$$(p+(1-p)\sigma_B)H - c\frac{L}{c} > 0$$
$$(p+(1-p)\sigma_B)H - L > 0$$

So when $p \leq \bar{p} = \frac{k}{G}$: High type A mobilizes if above is satisfied. Good I always accommodates. Bad I accommodates with a probability σ_B. Voter retains with a probability σ_V.

Proof Proposition 5: The derivative of σ_B with respect to k is: $-\frac{p(G-k)}{k^2(1-p)} - \frac{p}{k(1-p)}$, which is always negative within the parameter ranges of the equilibrium. The bad incumbent's indifference condition, i.e. the voter's probability of reelection after $a = 1$, follows from the statement of equilibrium above.

Proof Proposition 6: Follows from the main text.

Proof Proposition 7: Follows from the main text.

3.7.2 Robustness Checks

Unit Mass Voters and A's Uncertainty About I's Support

To see how considering multiple voters do not change the results, suppose now that there are a unit mass of voters $[0, 1]$.

Assume a voter i reelects the incumbent $E[\gamma] > k_i$. Without loss of generality, order voters in increasing order so that k_i, so that if $i < j$, $k_i \leq k_j$. Now Lemma 1 changes to $G \geq k_i \geq B = 0$. And the incumbent wins the reelection if $F[k_i < E[\gamma] \geq x$, where x is the electoral threshold. Since k is common knowledge, this would reproduce same results in the baseline model.

To add another layer of uncertainty, suppose now that the Activist does not know the realization of k, but I does. This means that the government has better information about the electorate than the activists. The voters and the incumbent's strategy are unchanged, but now activists condition for victory becomes:

$$\sigma_I H - L > 0$$

where, $\sigma_I = p + (1-p)Pr[(F[0 < k < G]) \leq x]$.
Consider the switchers, that is all with $(F[0 < k_i < G])$. Which is

$$1 - (1 - F(G)) - F(0) = F(G) - F(0)$$

Second term is strong opposition to the incumbent who will never vote for the incumbent. Third term is strong supporters who will always vote for the incumbent. Right hand side gives the voters that do vote for I after it ignores i.e. revealed to be the bad type.

For a uniform distribution, second term is $\frac{2-G}{2}$ and third is $\frac{1}{2}$. So overall $\frac{G+1}{2}$ are the expected proportion of switchers. Which is the same if it was just one single vote with uniformly distributed k.

Chapter 4

How does Violence Deter? Functional and Informational Effects of Preemptive Repression

4.1 Introduction

How does repression affect dissent? The scholarly consensus is that governments repress to stave off political challenges, and keep their hold on power (16; 24; 25; 38; 37; 67). The claim that repression is a response to dissent is so fundamental that it is regarded as the "Law of Coercive Responsiveness" (25). However, despite the ubiquity of repression as a response to dissent, empirical findings on its effect on dissent are much more inconclusive. As (16) points out, there is some evidence to support "almost every possible relationship between protest and repression". The ambiguity of the effect of repression, along with its ubiquity, has

come to be referred to as the "puzzle of persistent repression" (25; 28; 32). Why do authorities keep using costly repression despite its at best uncertain—and at worst counterproductive— effects on dissent?

Recent work has made significant progress towards understanding the effect of repression on dissent by moving away from decision-theoric models, and focusing instead on the strategic interaction between governments and dissidents (66; 72; 74; 75). Dissent and repression are strategic, both governments and their opponents choose their actions in anticipation of what they expect the other side will do. Dissidents expecting repression refrain from mobilizing in the first place. Governments expecting dissent repress preemptively, rather than risk facing an open challenge. Indeed, one key empirical finding from this line of inquiry is that governments repress not just to put down active challenges, but also to deter opposition from mobilizing against them in the first place (67; 23; 86; 75; 90; 83).

Despite increased attention to strategic dynamics, mechanisms linking *preemptive* repression and dissent have received scant attention. Examining *how* repression is linked to dissent is crucial to improve our understanding of repression-dissent nexus. It helps us better understand the intended goal of repression, and its seemingly inconsistent effects on dissent. Repression can succeed or fail to prevent dissent through different pathways. In some cases, repression only diminishes the opposition's resources to mobilize (92). In others, repression can succeed by convincing the opposition that more and harsher repression is forthcoming should they mount an open challenge (88; 56; 93; 89). Identifying and distinguishing these pathways is essential to interpret existing empirical findings correctly and to guide further research.

To examine these pathways, I develop a formal model that examines two different channels through which preemptive repression works, and can lead to successful deterrence or open conflict: a functional, direct channel, and a signaling, informational channel (12). The first channel—direct, functional— is often the focus of the literature on preemptive repression and dissent. Governments repress preemptively because it is more efficient than fighting an open conflict. Preemptive repression tactics such as arrests, torture, and the disappearing of opponents, or similar acts of one-sided violence, decrease the capacity of regime opponents before they can mobilize and challenge the government.

The second channel—informational— is commonly ignored, or lumped together with the direct channel. The extent to which a government can employ preemptive repression provides information about its capabilities to the opponents. This information, in turn influences their decision to challenge the regime. Governments can engage in preemptive repression to signal that they are strong enough to defeat any challengers in an open conflict (93).

Although these two channels might be complementary, they need not be. To demonstrate how they might interact in different strategic settings, I model a baseline case of complete information, where preemptive repression works purely through the direct, functional channel. I then introduce uncertainty about the government's strength to demonstrate how the informational channel interacts with the functional channel. I highlight how these two channels are not simply additive or separable, even when they are complementary. Finally, I extend the model to a two-sided asymmetry setting, where the opposition's capacity is unknown the government.

In the model, an opposition group has to decide whether to mobilize against a government, which results in open conflict. Before the opposition can mobilize, the government can repress preemptively, decreasing the opposition's likelihood of victory in the conflict. Because strong governments are better at both preemptive and reactive repression, they need to repress less to deter the opposition under complete information. If the opposition's capacity is low enough, the government can simply ignore the opposition because it does not pose a credible to threat to mobilize.

The dynamic changes when government's strength is private knowledge. When their strength is private knowledge, governments use repression both for its informational and functional effect. This gives rise to interesting signaling behaviors. Weaker governments get the opportunity to deter the opposition either by repressing at lower levels than they would have to under complete information, or not repressing at all. As the opposition's capacity increases, governments need to repress at higher levels in order to deter the opposition. Because they cannot rely on their strength to deter the opposition, this forces strong governments to engage in increasingly higher repression to deter challengers. Consequently, uncertainty about the government's strength decreases or increases observed repression depending on opposition's capacity and beliefs.

Furthermore, the model demonstrates that increased cost of repression can make it more effective and vice versa. When the opposition has to infer the government's strength from the level of repression, they factor in the cost of repression. As the cost of repression decreases, weaker governments can repress at higher levels. This means that even after suffering same deterioration of their capacity, the opposition expects a higher likelihood of victory if they mobilize. Thus, governments

are forced to repress at higher levels in order to prevent mobilization. Similarly, increased costs of repression make it more effective at deterring dissent.

This paper makes two contributions to the literature on repression and dissent. It clearly distinguishes between preemptive and responsive repression by modeling these as distinct choices, with different goals and effects. This distinction has been brought up in recent empirical (75; 23; 67), as well as formal work (30; 76; 35; 83) but different forms of repression have been analyzed separately. Modeling these choices together helps reveal how the informational role of preemptive repression interacts with its functional role.

The analysis presented here also highlights some of the challenges facing observational empirical work in the study of repression and dissent. Besides highlighting the different likelihood and severity of repression, it argues the data generating process can be different even when the observed level of repression and outcome—deterrence or conflict— are similar. That is, relationship between repression and dissent are equifinal. Depending on why it is used, repression can have a different aggregate effect on dissent.

Low levels of repression can be effective in deterring the opposition when used by strong governments under complete information. Yet, the same level of repression will have a different effect under asymmetric information when it also has an informational effect. Scholars of repression and dissent should focus not just on endogeneity, but also different mechanisms linking level of repression to its outcome (75). Thus, future empirical work should be more explicit and precise about the expected functional form between repression and its effects (27; 28; 51).

4.2 Repression, Preemption, and Signaling

Governments repress strategically to counter and deter opposition (32). Repression often takes the form of First-Amendment-type rights violations such as political arrests, torture, or restriction of movement and expression in an effort to inhibit the capacity to mobilize against the state (88; 25; 74).

One important direction in the study of the repression-dissent nexus in recent research has been to factor in that governments being rational, forward-looking actors, will repress preemptively to prevent challenges from materializing. (67) find that governments experiencing "youth bulges" become more repressive, even when controlling for the levels of actual protests. Because young populations are more likely to challenge authority and participate in rebellion —a fact known to governments as well— governments that face rising populations of young adults increase their repressive activity to preempt challenges. Similarly, (23) point out that governments repress preemptively when their geographic neighborhood is experiencing civil conflict. Because civil conflicts tend to spread—which is, again, a phenomenon recognized by state authorities— governments use preemptive repression to deter challenges at home.

While this line of research provides important evidence that governments repress preemptively, it does not examine whether or how preemptive repression works. For example, preemptive repression viewed against the backdrop of a relatively slow-moving trend such as youth bulges might simply be a functional response as the governments target opposition's potentially increased recruitment pool. However, in a setting where neighboring governments are forced to face the opposition in open civil conflicts—such as the Arab Spring—they might resort to preemption

both for functional and signaling purposes. On one hand, preemptive repression might be necessary to decrease the capacity of domestic opposition as it gains access to cross-border flows of recruits, arms, and other resources (78). On the other hand, governments might also resort to repression for informational purposes. Authorities can also use preemptive repression to signal to the opposition that they are more capable in facing challengers than their neighboring states, thus deterring their citizens from rebellion. Distinguishing these channels and examining how they operate is crucial to understand both why states repress and the effect of repression on dissent, as the two are inescapably interrelated.

Like the aforementioned empirical work, formal literature on repression-dissent has either not distinguished between different channels of repression's effect, or treated them in isolation. (72) examines a setup in which a government is facing an opposition that can potentially threaten the regime. In his model, similar to the model presented below, governments differ in their capacity, or resolve, to employ repression, which cannot be directly observed by the opposition. One of Pierskalla's key arguments is that strong governments repress protesters to signal their resolve, while weak governments accommodate, fearing escalation to open conflict by the opposition. In his model, repression primarily has a signaling purpose, because it has no effect on the likelihood of government victory in open conflict, and thus should not happen under complete information. The model presented here not only incorporates the direct, functional effect of repression, but also distinguishes between preemptive, and reactive repression. Furthermore, it relaxes the simplifying assumption that repression is binary, and yields insight into the probability and severity of repression and its effect on the likelihood of dissent.

In contrast, (74) presents a bargaining model between opposition and government domestic conflict contexts, where both accommodation and conflict influence the likelihood of the political survival of the government. She demonstrates that while strong leaders are less likely to be challenged, they will face higher levels of dissent, and thus respond with more severe repression when challenges do arise. As executive security decreases, challenges become more common and are met with less severity. While linking the likelihood of observed challenges to severity of repression, this model only considers a complete information setting where repression is not employed until bargaining breaks down and conflict starts. Consequently, the level of repression has no informational content.

More recent formal work focusing on preventive or preemptive repression typically do not feature reactive repression. (30) focus on the interaction between the government's expected tenure length and its preemption efforts. (34) examine the effect of information and communication technologies on the severity and success of preventive repression. (76) analyzes a situation, where a government facing potential dissent from two different groups chooses a repression policy preventively. Finally, (35) focus on moral hazard by security forces tasked with preventive repression. Thus, they do not consider the interaction of informational and functional channels that is the focus of this paper.

(83) consider both preventive and reactive repression, but in their model preventive repression has no informational content: it increases the cost of mobilization, but the government's preventive capacity is independent of its reactive capacity. Consequently, repression does not provide information about the strength of the government, which is the focus of my model.

In order keep the focus on the relationship between the different effects of preemptive repression on dissent, the model presented here excludes mechanisms such as principal-agent problems (92; 33), and the loyalty or autonomy of security forces (87). I follow what (70) call the "experimental" approach to formal modeling: my goal is not to capture all aspects of the repression-dissent nexus, but rather to elucidate how functional and informational channels of preemptive repression interact and affect the likelihood of observed dissent. My focus is on highlighting a mechanism that previous research has not addressed, rather than capture all substantive factors or details of particular empirical cases. Nevertheless, the findings of the model provide insights in interpreting some of the conflicting findings on the study of repression and dissent.

4.3 The Model

4.3.1 Setup

I analyze a setting with two actors: a government (G, it), and an opposition (O, they). The government has a value of 1 for holding office. Similarly, the opposition's value for overthrowing the government is 1.

The government's privately known type θ determines its effectiveness in preemptive and reactive repression. θ is drawn from a uniform distribution $[0, 1]$.[1]

[1]The uniform distribution does not drive any of the results presented, but makes the exposition simpler.

I refer to θ as the government's strength throughout.[2] The government acts first, choosing a level of preemptive repression $p \geq 0$ at a cost $\frac{p^2 k}{\theta}$, where $0 < k < 1$.[3] If used, preemptive repression acts as a "first strike" (4), and reduces opposition capacity γ by p. Consequently, the remaining capacity of the opposition is $\gamma - p$.

After observing p, but not the government's type, the opposition decides whether to mobilize to challenge the government $m \in \{0, 1\}$ at a cost $c \in (0, 1)$. If the opposition mobilizes, conflict ensues. For simplicity, I assume that the government wins the conflict if its strength is higher than the remaining capacity of the opposition: $\theta > \gamma - p$. The government pays a cost of $\frac{\gamma - p}{\theta}$ for reactively repressing the opposition if it is successful, and loses the office otherwise. This ensures that governments always prefer to deter the opposition rather than fight an uprising regardless of opposition capacity, but has otherwise no bearing on the results presented. The substantive results presented would remain the same if the outcome of conflict was decided probabilistically via a contest success function. [4]

To sum up, the sequence of the game is:

1. Nature chooses θ from a uniform distribution $\in [0, 1]$. θ is revealed to G.
2. G chooses $p \geq 0$ at a cost $\frac{p^2 k}{\theta}$.
3. O chooses to mobilize at a cost $c \in (0, 1)$ or not: $m \in \{0, 1\}$.
4. The outcome of conflict is decided and payoffs allocated.

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[2] All results would be preserved if the government's type determined the value it places on office

[3] The convex cost function is only necessary for the interior solution in the to the two-sided asymmetry extension. All other results would remain substantively unchanged if a linear cost function was used instead.

[4] See Appendix B.

The utilities are:

$$U_G = 1 - \frac{kp^2}{\theta} - m(I_{(\gamma-p>\theta)}(-1) - (1 - I_{(\gamma-p>\theta)})(\frac{\gamma - p}{\theta}))$$
$$U_O = m(I_{(\gamma-p>\theta)} - c)$$

where $I \in \{0, 1\}$ is the indicator variable for $\gamma - p > \theta$. The solution concept is Subgame Perfect Equilibrium in the baseline model with complete information, and Perfect Bayesian Equilibrium otherwise. Full definition and proofs are in the appendix, when they do not follow from the main text. Finally, I assume that the opposition's off-the-path beliefs are "intuitive" in the sense that they mobilize if the level of preemption repression is unexpectedly low, and do not mobilize if it is unexpectedly high.

4.3.2 Purely Function Preemption

I begin with the complete information analysis. The complete information case illustrates how both actors would behave if repression had no informational content. This provides a baseline for comparison for the incomplete information case. It also helps builds intuition for the incomplete information case. In addition, as I argue in more detail below, it captures the dynamics of preemptive repression in certain empirical cases.

Under complete information, the opposition mobilizes if their remaining capacity after a level of preemption p is enough to win the upcoming conflict:

$$\gamma - p > \theta \tag{4.1}$$

Given the opposition's expected decision to mobilize, to deter an opposition with capacity γ, a government of type θ has to use preemptive repression at a level $\max\{0, \gamma - \theta\} \equiv p^{\dagger}$. This points to an important result: Strong governments are more effective at preemptive repression, but they also need less of it under complete information. If the government's capacity is sufficiently high, $\theta \geq \gamma$, it can deter the opposition with no preemption. The opposition knows they will be subdued by reactive mobilization if they mobilize, so they do not challenge the government. Similarly, if a government has to repress preemptively, $\gamma > \theta$, the stronger it is, the less it will need to repress preemptively to deter the opposition.

Proposition 15 *The level of preemptive repression is required to deter mobilization, $p^{\dagger}$, decreases as the government's strength, θ, increases: $\frac{\partial p^{\dagger}}{\partial \theta} < 0$.*

Finally, the government must be able repress at a level $p^{\dagger}$, which requires:

$$1 - \frac{(p^{\dagger})^2 k}{\theta} \geq 0$$

$$\theta \geq \frac{2\gamma k - \sqrt{4\gamma k + 1} + 1}{2k} \equiv \theta^{\dagger} \tag{4.2}$$

Conditions 1 and 2 together provide the equilibria of the baseline model, which is summarized in the Proposition below.

Proposition 16 *When the government's strength is common knowledge, there is a unique equilibrium where:*
Opposition only mobilizes if $p < p^{\dagger}$.
Government chooses $p = p^{\dagger}$ and deters conflict if $\theta \geq \theta^{\dagger}$. Otherwise, it chooses $p = 0$.

Proposition 2 is depicted in the Figure 1 below. In Region I, the government deters mobilization without resorting to preemptive repression. Below this region, the government has to preemptively repress at level $p^{\dagger}$ to stay in power. In Region II, the government represses and prevents mobilization. In Region III, the government is too weak to muster enough repression to deter the opposition.

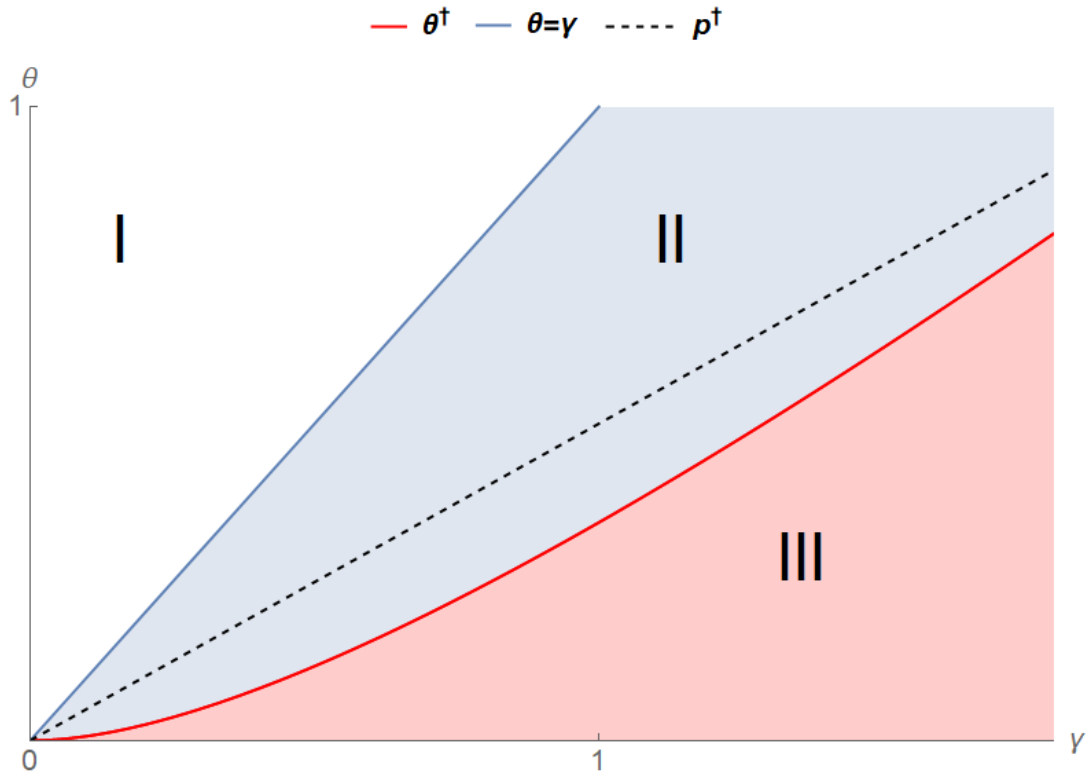

Figure 4.1: Equilibria ranges of the game under complete information as function of θ and γ, when $k = 0.6$

The complete information setting explains the use of preemptive repression under relative certainty. This dynamics happens when the power balance between the opposition and the government shifts in an expected, observable manner. Consider the preemptive use of force in "mowing the grass" campaigns, such as the Israeli Defense Force (IDF) incursions into the Gaza Strip (44). When terrorist groups' capacity increases, governments respond with preemptive force before the groups can

deploy said capacity. As (44) points out, this cyclical pattern can occur even when the governments do not have to signal strength. After all, the capabilities of IDF is hardly secret to Hamas after years of conflict. This dynamic, where preemption is used in even under complete information is not unique to counterterrorism.

(90) finds that the Chinese Communist Party (CCP) increases the use preemptive repression in dates corresponding to "focal events", such as the anniversary of Tiananmen Square Massacre. Focal dates increase the capacity of opposition groups by making it easier to organize. Expecting this, the government increases repression preemptively before these dates to avoid public mobilization. Furthermore, CCP uses a "catch and release" strategy, detaining potential dissidents for short periods of time without formal charges or overt public displays of force. As Proposition 2 points out, when its strength is known by the opposition, a government with a vast coercive apparatus requires lesser levels of preemptive repression. This regular, cyclical pattern of low level preemption is a stark contrast to other instances of CCP's use of coercion, such as the harsh, public and unapologetic targeting of Uighurs or the crack down against the Falun Gong movement (59; 60). Indeed, the extensive crackdown on Falun Gong movement provided a clear, lasting message to potential protesters in China by providing a clear demonstration of strength.[5]

4.3.3 Preemption with Asymmetric Information

Having examined the model where preemptive repression is only used for the purpose of reducing opposition capacity, I now turn to the asymmetric infor-

[5]Note that (90)'s data starts in 1998, one year before the widespread crackdown on Falun Gong.

mation setting, where θ is only observed by the government. When the government has private knowledge about its strength, it has the opportunity, and the incentive to signal or bluff using preemptive repression.

If the opposition mobilizes to challenge the government, the results are the same as in the complete information case. However, because they cannot directly observe the government's strength, θ, they do not know whether they can win the conflict or not. Their decision to mobilize depends on their belief after observing p. After suffering a level of repression $p \geq 0$, they lose against all governments with $\theta \geq \gamma - p$ if the mobilize. But, they win against the rest: those with $\theta < \gamma - p$. Consequently the opposition with a remaining capacity $\gamma - p$ uses a cut off strategy: they mobilize only if repression was lower than a threshold $p^{\dagger}$. Formally:

$$\underbrace{Pr[\theta < \gamma - p|p]}_{\text{Probability of Victory}}(1-c) + \underbrace{Pr[\theta \geq \gamma - p|p]}_{\text{Probability of Defeat}}(-c) > 0$$

$$Pr[\theta < \gamma - p|p] > c \tag{4.3}$$

The right side of Condition 3 is simply the opposition's cost of mobilization. The left side of Condition 3 is the opposition's expected chance of victory after observing p.

To see how the opposition's posterior belief and thus, $p^{\ddagger}$ is formed. Note that after observing $p \geq 0$, the opposition knows that the government must be at least sufficiently strong enough to employ it: $\theta \geq p^2 k$. Given that θ is uniformly distributed between 0 and 1, the opposition's expected probability of defeat is:

$$Pr[\theta \geq \gamma - p|\theta \geq p^2 k] = \frac{1-(\gamma - p)}{1 - p^2 k}$$

Rearranging gives us the level of preemptive repression that will deter an opposition with capacity γ, and cost of mobilization c.

$$p = \max\{\frac{\sqrt{1 + 4(\gamma - c)k(1 - c)} - 1}{2k(1 - c)}, 0\} \equiv p^{\ddagger} \tag{4.4}$$

Equation 4 points to an intuitive result that the complete information setting also has: as the opposition's capacity increases, the level of preemptive repression required to deter them also increases.

However, Equation 4 also includes a counterintuitive result that the complete information setting does not feature. As the marginal cost of preemption, k, increases, the level repression required to deter the opposition $p^{\ddagger}$, decreases. Put differently, as the cost of repression increases, it becomes more effective in deterring the opposition.

Proposition 17 *As the marginal cost of preemption k increases, the level of deterrent repression, $p^{\ddagger}$, decreases.* $\frac{\partial p^{\ddagger}}{\partial k} < 0$

To see the logic underpinning Proposition 4, recall how the opposition updates their belief about the government's strength after observing repression. The higher the observed repression is, the stronger the government must be in order to deploy it. As the marginal cost of repression goes up, the opposition changes their estimation of government strength accordingly. When the costs are high, the opposition correctly infers that the government must be a stronger type to be able to use the same level of repression. Similarly, when the cost of repression is low, the opposition expects higher levels of repression from weaker governments, and becomes more willing to mobilize after suffering any level of repression.

Importantly, this change in the effectiveness of repression occurs even when the functional effect of repression remains constant. Repression still deteriorates opposition capacity at the same level regardless of its costs. However, because the level of repression also provides information about the government's capabilities, the aggregate effect of a given level of repression changes.

The government must be able to employ $p^{\ddagger}$ in order to deter the opposition. Which requires:

$$1 - \frac{k}{\theta}(p^{\ddagger})^2 \geq 0$$

$$\theta \geq \frac{1 + 2(1-c)k(\gamma - c) + \sqrt{1 + 4(1-c)k(\gamma - c)}}{2(1-c)^2 k} \equiv \theta^{\ddagger} \tag{4.5}$$

Consider the government's incentives. Any government with $\theta \geq \theta^{\dagger}$, prefers successful preemption to open conflict ($0 < k < 1$), they have no profitable deviation to any $p < p^{\ddagger}$. Similarly, because preemption is costly, a government has no incentive to repress more than $p^{\ddagger}$: $1 - p^{\ddagger 2}\frac{k}{\theta} > 1 - \dot{p}^{2}\frac{k}{\theta}$, for any . Finally the government has no incentive to repress if it is unable to hold on to power: $0 - p^{\ddagger}\frac{k}{\theta} < 0$

Taken together, Conditions 3-5 provide the equilibria of the incomplete information game where the government's strength is private knowledge. The equilibria is summarized in the Proposition 4 below:

Proposition 18 *When the government's strength is private information, there is a unique equilibrium where:*
Opposition only mobilizes if $p < p^{\ddagger}$.
Government chooses $p = p^{\ddagger}$ *and deters conflict if* $\theta \geq \theta^{\ddagger}$. *Otherwise it chooses* $p = 0$.

Having explored the equilibria when both functional and informational elements of repression are at play, we can examine the implications of the model more closely. Recall from Proposition 3 that when governments have to signal strength through repression, the effectiveness of any given level of repression depends on its cost. Knowing this, governments adjust their level of repression accordingly as best they can. If cost of repression is low, governments use higher levels repression to deter the opposition. This might seem obvious. After all, one would expect governments to use more repression when it is cheaper.

However, the logic presented here is quite different. Governments do not simply use more repression because they can, but because they have to. Similarly, when the costs of repression are higher, governments can signal their strength with relatively lower levels of repression. Under incomplete information, repression's effect and thus, its equilibrium level do not only depend on its cost. They also depend on what the opposition can infer from observing the government paying the said cost.

Furthermore, uncertainty about the government's strength changes the level of repression in another way. Recall from the complete information setting that stronger governments need less preemption to deter the opposition's mobilization (Proposition 1). If the government is sufficiently strong, they can even forego repression, knowing the opposition will not mobilize. However, this dynamic disappears when the government's strength is unknown to the opposition. Because they cannot observe the government's strength, the opposition has to condition their decision to mobilize on what they can infer from government's use of repression. This creates new dynamics that can either decrease or increase the level of preemptive repression. This comparison is depicted in Figure 2 below.

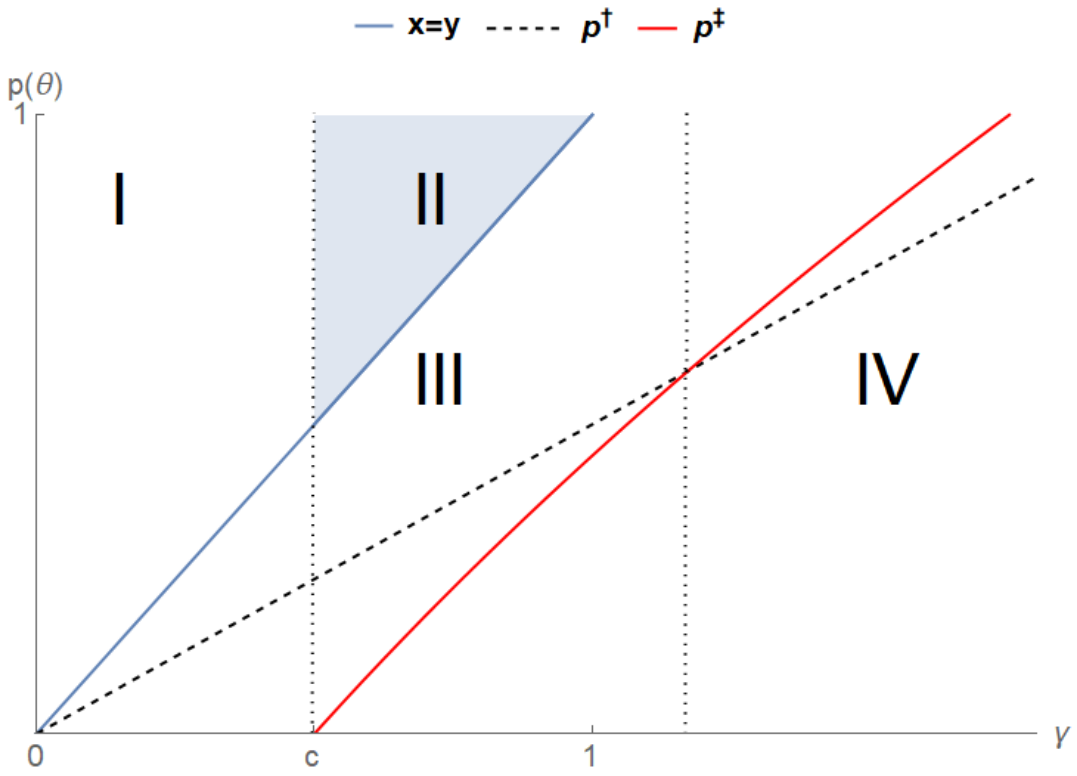

Figure 4.2: Equilibrium levels of deterrent repression under complete— $p^{\dagger}$— and incomplete information—$p^{\dagger}$— as a function of γ, when $c = 0.5$ and $k = 0.8$.

The opposition's uncertainty about the government's strength does not always lead to more repression. It can also have a pacifying effect on the opposition. If the opposition's capacity is low enough, they can be deterred with low, or even no preemptive repression. The logic is as follows: after observing any level of preemption, the opposition evaluates their chances of victory should they mobilize. The weaker they are, the more likely they are to meet a strong government that can defeat them in conflict. This means that even when repression was low, the opposition becomes more hesitant to mobilize for fear of facing a strong government. This creates an opportunity for weaker governments to bluff strength by using less repression than they would need to under complete information.

To illustrate this dynamic more clearly, consider the case when $\gamma = c$. In this parameter range, all governments pool on $p^{\ddagger} = 0$. That is, they forego the opportunity to repress preemptively. If the opposition mobilizes, they can defeat weaker governments that needed to repress preemptively. That is, those with $\theta < \gamma$. However, they will lose to stronger governments. Thus, their likelihood of victory is $Pr(\theta < \gamma) = \gamma$. Because this equals their cost of mobilization, they do not mobilize. Consequently, uncertainty proves to be especially valuable for weaker governments that would have to repress at higher levels under complete information. This is the Region I in Figure 2.

Research on repression and dissent have argued that governments can often induce cooperation and obedience through the threat of violence rather than its application (25; 74; 18). Of course, in many cases the opposition does not have information about the strength of their government. Provided they are sufficiently pessimistic about their prospects in conflict, the government can hide its weakness by refraining from repression. Even though the opposition could take advantage of the window of opportunity, their expectation that the government is likely to be too strong to defeat leads them to refrain from mobilization.

As the opposition's capacity increases, signaling—or bluffing— strength through not repressing preemptively stops being effective. This means that the strongest governments—those with $\theta \geq \gamma > c$— have to use repression, which they would have avoided under complete information. In this parameter range, the government uses repression primarily for its informational effect: they do not need to diminish the opposition's capacity to hold on to power. However, because preemption is preferable to fighting an uprising, they use just enough repression to deter the opposition. This the blue shaded Region II in Figure 2.

While uncertainty forces the strongest governments to preemptively repress, their presence still creates hesitancy for the opposition. This proves beneficial for weaker governments, who now can use less repression compared to the complete information case. This the Region III in Figure 2. The dynamic at play is the same as the zero preemption case described above. Of course, in this parameter range the aggregate effect of uncertainty is ambiguous. While strong governments have to repress preemptively, weaker governments repress less than they would have to under complete information.

Uncertainty forces governments to use to more preemption as the opposition's gets higher, leading to higher levels of observed repression than the complete information case. That is, $p^{\dagger} < p^{\ddagger}$. One part of this dynamic is simply the functional effect of repression: similar to the complete information case, opposition with higher capacity requires more repression to deter. The other part is the informational effect. In this parameter range, the script from previous ranges flips. The presence of weaker governments makes the opposition bolder. Because the opposition expects a higher chance of victory even after suffering a relatively high level of repression, governments increase their efforts in expectation. Consequently, governments use more repression than they would have under complete information to credibly demonstrate their strength and deter mobilization. This is the parameter range of Region IV in Figure 2.

Proposition 19 *Opposition's uncertainty about government strength can either decrease or increase observed preemptive repression.*

4.3.4 Two-Sided Asymmetry

I now consider extend to model to have two sided asymmetry, where the government lacks information about the opposition's capacity γ. Suppose now that γ is drawn from a uniform distribution with range $[0, \bar{\gamma}]$. Analogous to the one-sided asymmetry case, an opposition with capacity γ mobilizes after suffering a level repression $p \geq 0$ if:

$$\underbrace{Pr[E(\theta) < \gamma - p|p]}_{\text{Probability of Victory}} > c \tag{4.6}$$

In equilibrium, an opposition with type γ uses a threshold strategy, mobilizing only if $p < p(\gamma)$, where $p(\gamma)$ is increasing in γ.

Expecting the opposition's strategy, but unaware of the threshold $p(\gamma)$, the government balances the cost of repression, and the benefit of deterrence and staying in power. Formally:

$$p^* \equiv \underset{p}{\text{argmax}}(1 - Pr[p \geq p(\gamma)])0 + Pr[p \geq p(\gamma)] - \frac{k}{\theta}p^2 \tag{4.7}$$

So that $p^* = \frac{\theta}{2k}$. The government's level of repression perfectly reveals its type to the opposition. After observing a level of repression p, the opposition can perfectly estimate the government's strength and thus their likelihood of victory: $E[\theta|p] = 2pk$. Accordingly, the opposition is indifferent between mobilizing or not when:

$$p = \frac{\gamma}{1 + 2k} \equiv p(\gamma) \tag{4.8}$$

Combining these results we get the equilibria of the game with two-sided asymmetry, summarized in Proposition 6 below:

Proposition 20 *When the government's strength and the opposition's capacity are private information, there is a unique equilibrium where:*
A government of type θ represses at a level $p^* = \frac{\theta}{2k}$.
An opposition with capacity γ mobilizes if $p < p(\gamma)$.

The two-sided asymmetry extension features the same key insight with the single-sided case. In updating their belief about the strength of the government, the opposition factors the cost of repression. Formally, $p(\gamma)$ is decreasing in k. As the cost of repression decreases, the opposition expects weaker governments to repress higher levels. Consequently, the effectiveness of a given level of repression in preventing mobilization decreases. Even when repression's functional effect— reduction in opposition capacity— remains the same, the aggregate effect is reduced.

Furthermore, two-sided asymmetry captures the repression-escalation dynamic that precede many major uprisings. Governments repress preemptively best they can, hoping they will deter the opposition. When their repressive efforts prove sufficient, repression is observed but not mobilization (75). In other cases, both repression and mobilization is observed. Note that, this mechanism is different from the "backlash hypothesis" (41; 3) which is often invoked to explain the positive association between repression and subsequent dissent. According to this hypothesis, repression fails when it motivates the bystanders to join the opposition, making them even stronger than before.

The mechanism at work here is in line with the arguments of (75) highlighting selection effects: governments repress preemptively in expectation of dissent. Consequently, conditional on observing preemptive repression, the opposition groups that mobilize will be systematically more resolved than those who do not.

For example, leading up to the 2013-2014 campaign that led to the removal of former Ukranian President Yanukovich, activists were targeted by pro-government militias and plainclothes police (20; 18). Despite his best efforts to repress preemptively to deter mass mobilization, which included kidnapping and torturing activists and journalists, he quickly lost power once the protesters showed up to streets in thousands. Rather than treating Yanukovic's use of repression as a simple blunder, we should see it as an ex-ante rational effort to to preempt mass protests (20).

A similar process played out in the Arab Spring, where the quick fall of Tunisia's Ben Ali led to other authoritarian leaders ramp up repression in their own countries to prevent challenges at home (7). The model explains why authoritarians were quick to ramp up repression even when they ended up failing to nip the protests in the bud. Both the authoritarian and their opponents generally lacked informational and organizational structures such as well organized political parties or civil society organizations. As a result, they operated under great uncertainty (87; 95; 7). This uncertainty lead to a quick rise in repression, which proved effective in deterring uprisings for regimes like Saudi Arabia and Bahrain, but not in others. The model provides a strategic explanation as to why all regimes in the region were quick to ramp up repression, despite having different repressive capabilities.

4.4 Empirical Implications

The model can be employed to make better theoretical sense of empirical findings on the study of repression and dissent. As previous research highlighted, one reason for the lack of robust evidence in the relationship between repression and dissent is endogeneity arising through strategic interaction: governments repress in

expectation of dissent (72; 74; 48; 75). Failing to account for the endogenous process that leads to repression has lead to support for "almost every possible relationship between protest and repression (16)." Yet endogeneity is not the only challenge to the study of repression and dissent. Repression is used under different contexts and has different effects depending on its intended purpose.

When their strength is well-known to the opposition, strong governments need less preemptive repression to deter challenges (Proposition 1). When governments need to signal their strength through repression, it can lead to more or less repression depending on the context (Proposition 5). Put differently, the same level of observed repression can have a different effect depending on the purpose it was used. Overlooking distinct dynamics that lead to repression is one potential reason why previous research has found inconsistent effects. Nevertheless, the predictions of the model are in line with several empirical findings.

For example, slow moving population trends such as youth bulges (67), or cyclical patterns such as focal dates (90) can increase the opposition's capacity to mobilize without creating uncertainty. Similarly, oil discoveries can potentially provide increased resources for the opposition, and prompt governments to increase repression to prevent challenges (6; 15). While these phenomena potentially shift the balance of power between the opposition and the government, they do not by themselves create uncertainty about the government's strength. In these cases repression, we would expect repression to be used for purely functional effect. Thus, the model expects these shifts should only lead to significant increases in repression where the governments is not sufficiently strong. With regards to oil discoveries, (15) find empirical evidence that this is indeed the case. Furthermore, in these cases relatively lower levels of repression can be effective at deterring dissent. This helps

explain why China does not deploy its vast coercive apparatus to its full effect in focal dates (90), in contrast to their crackdown on Falun Gong (60).

Other phenomena, most notably democratization (22; 72) or fall of similar, neighboring regimes (7; 95; 96) both shift the balance of power and create uncertainty. For example, opening up to political contestation increases the opposition's capacity to mobilize (83), but these periods are also riddled with uncertainty about the government's commitment to liberalization, or its capacity repress. In these cases, dynamics leading to preemptive repression and thus its effect will be different.

When repression is used to signal strength—when it has an informational effect— its the aggregate effect changes with its cost. Repression becomes more effective in signaling strength when it is costlier (Proposition 3). For example, authoritarian regimes that signed the United Nations Convention Against Torture (CAT), do engage in less torture than those who did not (21; 50). Signing CAT increases the cost of repression for signatory regimes by opening possibilities for litigation. As the model predicts, this increase in costs makes repression more effective against the opposition when they are uncertain about the government's strength. (50) find that authoritarian signatories to CAT do indeed repress less, but they also enjoy longer tenures and face fewer protests. The opposition adjusts their expectation to the increased cost of repression, and infer that the government is not any weaker even after they suffer less repression. (21) find a similar result, strong governments—those with higher expected tenures—, are more likely to sign CAT and reduce repression afterwards.

The opposite is also true. When the cost of repression is low, as it is for authoritarian, resource-rich regimes, governments repress more (27; 25; 48; 51). While

the relationship is well-established, the existing explanations are choice theoric in nature. It is doubtful that governments repress more, simply because they can. It is more plausible that they respond to the expected behavior of the opposition, ramping up repression to maintain deterrence.

This is not to suggest that increases in the cost of repression, whether through democratization or international human rights treaties, are bound to be ineffective. As the model demonstrates, increasing the cost of repression makes it more effective precisely because only stronger governments are able to employ it. This means that the functional relationship between cost of repression—such as democracy— and observed repression can be both linear and have a threshold effect (27; 25; 32; 51). Modest increases in the cost of repression can make it more effective, allowing governments to keep deterring the opposition with lower levels. As the costs mount up, governments can suddenly find repression too costly, and be forced to switch to alternative strategies (83).

Put differently, under uncertainty, increased costs of repression can steadily decrease human rights violations while still allowing the government to deter challenges. However, preemptive repression can suddenly collapse if the costs reach beyond a certain point ($\theta < \theta^{\dagger}$). Consequently, empirical evidence for steady, linear effect of democratization on repression (51), and threshold effect for "Domestic Democratic Peace" (26) are not necessarily inconsistent.

An important path forward for future empirical work is to distinguish, and specify different data-generating processes that lead to changes in preemptive repression. Repression can be a result of uncertainty, either the opposition's or the government's, but need not be. As the model presented here highlights, the challenge for empirical work is not just endogeneity but also specifying the correct functional

form for the expected relationship between observed repression and dissent. While it is intuitive to expect lower probability of mobilization after more repression, the relationship can be less straightforward.

One way to tackle this empirical challenge is to look for conditions that approximate "ideal experiments" as proposed by (12). A necessary condition required for this approach is for repression to have no informational content (12). This is quite the challenge for observational, or quasi-experimental research that seeks to identify the effect of repression. However, it is not necessarily impossible. For example, repression during periods of regularized contentious politics (61; 90) within long standing regimes during focal dates is less likely to have informational content. Similarly, institutions such as political parties can provide information about the government to the opposition, reducing the necessity of signaling strength through violence (87). Comparing the effect of repression in these cases to settings where they also have informational effects is likely to be fruitful avenue for future research.

4.5 Conclusion

The effect of repression depends on its purpose and how it is perceived by its target. In this paper, I have suggested two distinct channels through which repression, used preemptively, can help governments deter challenges. These channels have either been lumped together, or studied separately. However, to understand the relationship between repression on dissent, they need to be studied together in a way that focuses on their interaction. When asymmetric information about the strength of governments is a factor, the expected relationship between preemptive repression and dissent becomes much less straightforward.

Repression affects dissent through two distinct channels: reducing opposition capacity before it can mobilize, or by convincing the opposition that the government is strong enough to put down any challenges. As the model presented here demonstrates, these channels are not always complementary and can interact in different ways. Governments can show strength by not repressing at all, or repress at higher levels to credibly signal their strength.

Finally, the challenges of inference from observational data in the study of repression and dissent might be beyond the presence of endogeneity and censoring. Governments expecting dissent will repress preemptively, but the severity and the effect of repression will inevitably depend on its function. Repression used during periods of relative certainty for its direct function, is likely to have different effect than when its used under asymmetric information. Consequently, even though researchers might observe the same severity of repression, they will not necessarily observe the same effect (12). Even when the observed effect on dissent, or likelihood of conflict show similar relationships, researchers should be wary of making causal arguments when not accounting for different mechanisms at play.

4.6 References

Bibliography

[1] Moisés Arce. *Resource Extraction and Protest in Peru*. Pitt Latin American Studies. University of Pittsburgh Press, Pittsburgh, Pa, 2014. ISBN 978-0-8229-6309-7.

[2] Moises Arce. THE POLITICAL CONSEQUENCES OF MOBILIZATIONS AGAINST RESOURCE EXTRACTION. *Mobilization: An International Quarterly*, 21(4):469–483, December 2016. ISSN 1086-671X. doi: 10.17813/1086-671X-21-4-469.

[3] S. Erdem Aytaç, Luis Schiumerini, and Susan Stokes. Why Do People Join Backlash Protests? Lessons from Turkey. *Journal of Conflict Resolution*, 62 (6):1205–1228, July 2018. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002716686828.

[4] Steven Beard and Joshua A Strayhorn. When Will States Strike First? Battlefield Advantages and Rationalist War. *International Studies Quarterly*, 62(1): 42–53, March 2018. ISSN 0020-8833, 1468-2478. doi: 10.1093/isq/sqx080.

[5] Anthony Bebbington, editor. *Social Conflict, Economic Development and the Extractive Industry: Evidence from South America*. Routledge, London ; New York, 2012. ISBN 978-0-415-62071-0 978-0-203-63903-0.

[6] Curtis Bell and Scott Wolford. Oil Discoveries, Shifting Power, and Civil Conflict. *International Studies Quarterly*, 59(3):517–530, September 2015. ISSN 00208833. doi: 10.1111/isqu.12150.

[7] Eva Bellin. Reconsidering the Robustness of Authoritarianism in the Middle East: Lessons from the Arab Spring. *Comparative Politics*, 44(2):127–149, 2012.

[8] J. Bendor, A. Glazer, and T. Hammond. Theories of Delegation. *Annual Review of Political Science*, 4(1):235–269, June 2001. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev.polisci.4.1.235.

[9] Jonathan Bendor and Adam Meirowitz. Spatial Models of Delegation. *American Political Science Review*, 98(2):293–310, May 2004. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055404001157.

[10] Dina Bishara. The Politics of Ignoring: Protest Dynamics in Late Mubarak Egypt. *Perspectives on Politics*, 13(04):958–975, December 2015. ISSN 1537-5927, 1541-0986. doi: 10.1017/S153759271500225X.

[11] Ethan Bueno De Mesquita and Catherine Hafer. PUBLIC PROTECTION OR PRIVATE EXTORTION? *Economics & Politics*, 0(0):070916223556005–???, September 2007. ISSN 0954-1985, 1468-0343. doi: 10.1111/j.1468-0343.2007.00314.x.

[12] Ethan Bueno De Mesquita and Scott A. Tyson. The Commensurability Problem: Conceptual Difficulties in Estimating the Effect of Behavior on Behavior. *American Political Science Review*, pages 1–17, February 2020. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055419000911.

[13] Charles Butcher and Jonathan Pinckney. Friday on My Mind: Re-Assessing the Impact of Protest Size on Government Concessions. *Journal of Conflict*

Resolution, page 002200272210998, May 2022. ISSN 0022-0027, 1552-8766. doi: 10.1177/00220027221099887.

[14] Brandice Canes-Wrone, Michael C. Herron, and Kenneth W. Shotts. Leadership and Pandering: A Theory of Executive Policymaking. *American Journal of Political Science*, 45(3):532, July 2001. ISSN 00925853. doi: 10.2307/2669237.

[15] Peter D Carey, Curtis Bell, Emily Hencken Ritter, and Scott Wolford. Oil discoveries, civil war, and preventive state repression. *Journal of Peace Research*, page 002234332110473, January 2022. ISSN 0022-3433, 1460-3578. doi: 10.1177/00223433211047365.

[16] Sabine C. Carey. The Dynamic Relationship Between Protest and Repression. *Political Research Quarterly*, 59(1):1–11, March 2006. ISSN 1065-9129, 1938-274X. doi: 10.1177/106591290605900101.

[17] Brett Allen Casper and Scott A. Tyson. Popular Protest and Elite Coordination in a Coup d'état. *The Journal of Politics*, 76(2):548–564, April 2014. ISSN 0022-3816, 1468-2508. doi: 10.1017/S0022381613001485.

[18] Erica Chenoweth. *Civil Resistance: What Everyone Needs to Know*. Oxford University Press, New York, NY, 2021. ISBN 978-0-19-024439-2 978-0-19-024440-8.

[19] Erica Chenoweth and Maria J. Stephan. *Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict*. Columbia Studies in Terrorism and Irregular Warfare. Columbia Univ. Press, New York, NY, paperback ed edition, 2013. ISBN 978-0-231-15683-7.

[20] Olga V. Chyzh and Elena Labzina. Bankrolling Repression? Modeling Third-Party Influence on Protests and Repression: BANKROLLING REPRES-

SION? *American Journal of Political Science*, 62(2):312–324, April 2018. ISSN 00925853. doi: 10.1111/ajps.12341.

[21] Courtenay R. Conrad and Emily Hencken Ritter. Treaties, Tenure, and Torture: The Conflicting Domestic Effects of International Law. *The Journal of Politics*, 75(2):397–409, April 2013. ISSN 0022-3816, 1468-2508. doi: 10.1017/S0022381613000091.

[22] Mark J. C. Crescenzi. Violence and Uncertainty in Transitions. *Journal of Conflict Resolution*, 43(2):192–212, April 1999. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002799043002005.

[23] Nathan Danneman and Emily Hencken Ritter. Contagious Rebellion and Preemptive Repression. *Journal of Conflict Resolution*, 58(2):254–279, March 2014. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002712468720.

[24] Christian Davenport. Multi-Dimensional Threat Perception and State Repression: An Inquiry into Why States Apply Negative Sanctions. *American Journal of Political Science*, 39(3):683, August 1995. ISSN 00925853. doi: 10.2307/2111650.

[25] Christian Davenport. State Repression and Political Order. *Annual Review of Political Science*, 10(1):1–23, June 2007. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev.polisci.10.101405.143216.

[26] Christian Davenport. *State Repression and the Domestic Democratic Peace*. Cambridge University Press, Cambridge, 2007. ISBN 978-0-511-51002-1 978-0-521-86490-9 978-0-521-16871-7. doi: 10.1017/CBO9780511510021.

[27] Christian Davenport and David A. Armstrong. Democracy and the Violation of Human Rights: A Statistical Analysis from 1976 to 1996. *American Journal*

of Political Science, 48(3):538–554, July 2004. ISSN 0092-5853, 1540-5907. doi: 10.1111/j.0092-5853.2004.00086.x.

[28] Christian Davenport and Cyanne Loyle. The States Must Be Crazy: Dissent and the Puzzle of Repressive Persistence. *International Journal of Conflict and Violence (IJCV)*, Vol 6:No 1: (De)Radicalization–, April 2012. doi: 10.4119/unibi/ijcv.187.

[29] Christian Davenport, Sarah A. Soule, and David A. Armstrong. Protesting While Black?: The Differential Policing of American Activism, 1960 to 1990. *American Sociological Review*, 76(1):152–178, February 2011. ISSN 0003-1224, 1939-8271. doi: 10.1177/0003122410395370.

[30] Kris De Jaegher and Britta Hoyer. Preemptive Repression: Deterrence, Backfiring, Iron Fists, and Velvet Gloves. *Journal of Conflict Resolution*, 63(2): 502–527, February 2019. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002717750450.

[31] Ethan Bueno De Mesquita. Regime Change and Revolutionary Entrepreneurs. *American Political Science Review*, 104(3):446–466, August 2010. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055410000274.

[32] Jacqueline H. R. deMeritt. *The Strategic Use of State Repression and Political Violence*. Oxford University Press, October 2016. ISBN 978-0-19-022863-7. doi: 10.1093/acrefore/9780190228637.013.32.

[33] Tiberiu Dragu and Yonatan Lupu. Collective Action and Constraints on Repression at the Endgame. *Comparative Political Studies*, 51(8):1042–1073, July 2018. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414017730077.

[34] Tiberiu Dragu and Yonatan Lupu. Digital Authoritarianism and the Future of Human Rights. *International Organization*, pages 1–27, February 2021. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818320000624.

[35] Tiberiu Dragu and Adam Przeworski. Preventive Repression: Two Types of Moral Hazard. *American Political Science Review*, 113(1):77–87, February 2019. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055418000552.

[36] Jennifer Earl. Tanks, Tear Gas, and Taxes: Toward a Theory of Movement Repression. *Sociological Theory*, 21(1):44–68, January 2003. ISSN 0735-2751, 1467-9558. doi: 10.1111/1467-9558.00175.

[37] Jennifer Earl. Political Repression: Iron Fists, Velvet Gloves, and Diffuse Control. *Annual Review of Sociology*, 37(1):261–284, August 2011. ISSN 0360-0572, 1545-2115. doi: 10.1146/annurev.soc.012809.102609.

[38] Jennifer Earl, Sarah A. Soule, and John D. McCarthy. Protest under Fire? Explaining the Policing of Protest. *American Sociological Review*, 68(4):581, August 2003. ISSN 00031224. doi: 10.2307/1519740.

[39] James D Fearon. Rationalist Explanations for War. *International Organization*, 49(3):379–414, 1995. ISSN 0020-8183. doi: 10.1017/S0020818300033324.

[40] Ronald Francisco. After the massacre: Mobilization in the wake of harsh repression. *Mobilization: An International Quarterly*, 9(2):107–126, 2004. doi: 10.17813/maiq.9.2.559246137656n482.

[41] Ronald A. Francisco. The relationship between coercion and protest: An empirical evaluation in three coercive states. *The Journal of Conflict Resolution*, 39(2):263–282, 1995. ISSN 00220027, 15528766.

[42] James C. Franklin. Contentious Challenges and Government Responses in Latin America. *Political Research Quarterly*, 62(4):700–714, December 2009. ISSN 1065-9129, 1938-274X. doi: 10.1177/1065912908322405.

[43] LaGina Gause. Revealing Issue Salience via Costly Protest: How Legislative Behavior Following Protest Advantages Low-Resource Groups. *British Journal of Political Science*, pages 1–21, December 2020. ISSN 0007-1234, 1469-2112. doi: 10.1017/S0007123420000423.

[44] Michael Gibilisco. Mowing the Grass. 2021.

[45] John Ginkel and Alastair Smith. So You Say You Want a Revolution: A Game Theoretic Explanation of Revolution in Repressive Regimes. *The Journal of Conflict Resolution*, 43(3):291–316, 1999. ISSN 00220027, 15528766.

[46] Paul Alexander Haslam. Beyond voluntary: State–firm bargaining over corporate social responsibilities in mining. *Review of International Political Economy*, 25(3):418–440, May 2018. ISSN 0969-2290, 1466-4526. doi: 10.1080/09692290.2018.1447497.

[47] Paul Alexander Haslam and Nasser Ary Tanimoune. The Determinants of Social Conflict in the Latin American Mining Sector: New Evidence with Quantitative Data. *World Development*, 78:401–419, February 2016. ISSN 0305750X. doi: 10.1016/j.worlddev.2015.10.020.

[48] Daniel W. Hill and Zachary M. Jones. An Empirical Evaluation of Explanations for State Repression. *American Political Science Review*, 108(3):661–687, August 2014. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055414000306.

[49] Karl Von Holdt, Malose Langa, Sepetla Molapo, Nomfundo Mogapi, Kindiza Ngubeni, Jacob Dlamini, and Adele Kirsten. The smoke that calls: Insurgent

citizenship, collective violence and the struggle for a place in the new South Africa. 2011. doi: 10.13140/RG.2.1.1327.2804.

[50] James R. Hollyer and B. Peter Rosendorff. Why Do Authoritarian Regimes Sign the Convention Against Torture? Signaling, Domestic Politics and Non-Compliance. *Quarterly Journal of Political Science*, 6(3–4):275–327, 2011. ISSN 1554-0626. doi: 10.1561/100.00010059.

[51] Zachary M. Jones and Yonatan Lupu. Is There More Violence in the Middle?: IS THERE MORE VIOLENCE IN THE MIDDLE? *American Journal of Political Science*, 62(3):652–667, July 2018. ISSN 00925853. doi: 10.1111/ajps.12373.

[52] Graig R. Klein and Patrick M. Regan. Dynamics of Political Protests. *International Organization*, 72(02):485–521, 2018. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818318000061.

[53] Korhan Kocak and Özgür Kıbrıs. Social Media and Press Freedom. *British Journal of Political Science*, pages 1–23, January 2022. ISSN 0007-1234, 1469-2112. doi: 10.1017/S0007123421000594.

[54] Timur Kuran. Now Out of Never: The Element of Surprise in the East European Revolution of 1989. *World Politics*, 44(1):7–48, 1991.

[55] Yao Li. A Zero-Sum Game? Repression and Protest in China. *Government and Opposition*, 54(2):309–335, April 2019. ISSN 0017-257X, 1477-7053. doi: 10.1017/gov.2017.24.

[56] Mark Irving Lichbach. Deterrence or Escalation?: The Puzzle of Aggregate Studies of Repression and Dissent. *Journal of Conflict Resolution*, 31(2):266–297, June 1987. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002787031002003.

[57] Susanne Lohmann. A Signaling Model of Informative and Manipulative Political Action. *American Political Science Review*, 87(2):319–333, June 1993. ISSN 0003-0554, 1537-5943. doi: 10.2307/2939043.

[58] Susanne Lohmann. The Dynamics of Informational Cascades: The Monday Demonstrations in Leipzig, East Germany, 1989–91. *World Politics*, 47(1): 42–101, October 1994. ISSN 0043-8871, 1086-3338. doi: 10.2307/2950679.

[59] Peter Lorentzen. China's Strategic Censorship: CHINA'S STRATEGIC CENSORSHIP. *American Journal of Political Science*, 58(2):402–414, April 2014. ISSN 00925853. doi: 10.1111/ajps.12065.

[60] Peter Lorentzen. Designing Contentious Politics in Post-1989 China. *Modern China*, 43(5):459–493, September 2017. ISSN 0097-7004, 1552-6836. doi: 10.1177/0097700416688895.

[61] Peter L. Lorentzen. Regularizing Rioting: Permitting Public Protest in an Authoritarian Regime. *Quarterly Journal of Political Science*, 8(2):127–158, April 2013. ISSN 15540634. doi: 10.1561/100.00012051.

[62] Joseph Luders. The Economics of Movement Success: Business Responses to Civil Rights Mobilization. *American Journal of Sociology*, 111(4):963–998, January 2006. ISSN 0002-9602, 1537-5390. doi: 10.1086/498632.

[63] Doug McAdam. *Political Process and the Development of Black Insurgency, 1930-1970*. 1982. ISBN 978-0-226-55555-3.

[64] Doug McAdam and Sidney Tarrow. Ballots and Barricades: On the Reciprocal Relationship between Elections and Social Movements. *Perspectives on Politics*, 8(02):529–542, June 2010. ISSN 1537-5927, 1541-0986. doi: 10.1017/S1537592710001234.

[65] Doug McAdam, Sidney G. Tarrow, and Charles Tilly. *Dynamics of Contention*. Cambridge Studies in Contentious Politics. Cambridge University Press, Cambridge ; New York, 2001. ISBN 978-0-521-80588-9 978-0-521-01187-7.

[66] Will H. Moore. The Repression of Dissent: A Substitution Model of Government Coercion. *Journal of Conflict Resolution*, 44(1):107–127, February 2000. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002700044001006.

[67] Ragnhild Nordås and Christian Davenport. Fight the Youth: Youth Bulges and State Repression: FIGHT THE YOUTH. *American Journal of Political Science*, pages n/a–n/a, March 2013. ISSN 00925853. doi: 10.1111/ajps.12025.

[68] Kevin J. O'Brien and Yanhua Deng. Repression Backfires: Tactical radicalization and protest spectacle in rural China. *Journal of Contemporary China*, 24 (93):457–470, May 2015. ISSN 1067-0564, 1469-9400. doi: 10.1080/10670564.2014.953849.

[69] Kevin J. O'Brien and Lianjiang Li. *Rightful Resistance in Rural China*. Cambridge Studies in Contentious Politics. Cambridge University Press, Cambridge ; New York, 2006. ISBN 978-0-521-86131-1 978-0-521-67852-0.

[70] Jack Paine and Scott Tyson. Uses and Abuses of Formal Models in Political Science. 2019.

[71] John W. Patty. Signaling through Obstruction. *American Journal of Political Science*, 60(1):175–189, January 2016. ISSN 0092-5853, 1540-5907. doi: 10.1111/ajps.12202.

[72] Jan Henryk Pierskalla. Protest, Deterrence, and Escalation: The Strategic Calculus of Government Repression. *Journal of Conflict Resolution*, 54(1):

117–145, February 2010. ISSN 0022-0027, 1552-8766. doi: 10.1177/00220027 09352462.

[73] Kristopher W. Ramsay. Information, Uncertainty, and War. *Annual Review of Political Science*, 20(1):505–527, May 2017. ISSN 1094-2939, 1545-1577. doi: 10.1146/annurev-polisci-051215-022729.

[74] Emily Hencken Ritter. Policy Disputes, Political Survival, and the Onset and Severity of State Repression. *Journal of Conflict Resolution*, 58(1):143–168, February 2014. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002712468724.

[75] Emily Hencken Ritter and Courtenay R. Conrad. Preventing and Responding to Dissent: The Observational Challenges of Explaining Strategic Repression. *American Political Science Review*, 110(01):85–99, February 2016. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055415000623.

[76] Arturas Rozenas. A Theory of Demographically Targeted Repression. *Journal of Conflict Resolution*, 64(7-8):1254–1278, August 2020. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002720904768.

[77] John Gerard Ruggie. *Just Business: Multinational Corporations and Human Rights*. 2013. ISBN 978-0-393-08976-9.

[78] Idean Salehyan. Transnational Rebels: Neighboring States as Sanctuary for Rebel Groups. *World Politics*, 59(02):217–242, January 2007. ISSN 0043-8871, 1086-3338. doi: 10.1353/wp.2007.0024.

[79] Idean Salehyan and Brandon Stewart. Political Mobilization and Government Targeting: When Do Dissidents Challenge the State? *Comparative Political Studies*, 50(7):963–991, June 2017. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414016655541.

[80] Mehdi Shadmehr and Dan Bernhardt. Collective Action with Uncertain Payoffs: Coordination, Public Signals, and Punishment Dilemmas. *American Political Science Review*, 105(4):829–851, November 2011. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055411000359.

[81] Mehdi Shadmehr and Raphael Boleslavsky. International Pressure, State Repression, and the Spread of Protest. *The Journal of Politics*, 84(1):148–165, January 2022. ISSN 0022-3816, 1468-2508. doi: 10.1086/714763.

[82] Branislav L. Slantchev. Military Coercion in Interstate Crises. *American Political Science Review*, 99(04):533–547, November 2005. ISSN 0003-0554, 1537-5943. doi: 10.1017/S0003055405051865.

[83] Branislav L. Slantchev and Kelly S. Matush. The Authoritarian Wager: Political Action and the Sudden Collapse of Repression. *Comparative Political Studies*, 53(2):214–252, February 2020. ISSN 0010-4140, 1552-3829. doi: 10.1177/0010414019843564.

[84] Jessica Steinberg. Strategic Sovereignty: A Model of Non-state Goods Provision and Resistance in Regions of Natural Resource Extraction. *Journal of Conflict Resolution*, 60(8):1503–1528, December 2016. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002714564429.

[85] Jessica Steinberg. 'Strong' states and strategic governance: A model of territorial variation in state presence. *Journal of Theoretical Politics*, 30(2):224–245, April 2018. ISSN 0951-6298, 1460-3667. doi: 10.1177/0951629817748204.

[86] Christopher M. Sullivan. Political Repression and the Destruction of Dissident Organizations: Evidence from the Archives of the Guatemalan National Police.

World Politics, 68(4):645–676, October 2016. ISSN 0043-8871, 1086-3338. doi: 10.1017/S0043887116000125.

[87] Milan W. Svolik. *The Politics of Authoritarian Rule*. Cambridge Studies in Comparative Politics. Cambridge University Press, Cambridge, 2012. ISBN 978-1-107-02479-3 978-1-107-60745-3.

[88] Charles Tilly. *From Mobilization to Revolution*. Addison-Wesley Pub. Co, Reading, Mass, 1978. ISBN 978-0-201-07571-7.

[89] Charles Tilly and Sidney G. Tarrow. *Contentious Politics*. Oxford University Press, New York, NY, second revised edition edition, 2015. ISBN 978-0-19-025505-3.

[90] Rory Truex. Focal Points, Dissident Calendars, and Preemptive Repression. *Journal of Conflict Resolution*, 63(4):1032–1052, April 2019. ISSN 0022-0027, 1552-8766. doi: 10.1177/0022002718770520.

[91] Zeynep Tufekci. *Twitter and Tear Gas: The Power and Fragility of Networked Protest*. Yale University Press, New Haven ; London, 2017. ISBN 978-0-300-21512-0.

[92] Scott A. Tyson. The Agency Problem Underlying Repression. *The Journal of Politics*, 80(4):1297–1310, October 2018. ISSN 0022-3816, 1468-2508. doi: 10.1086/698887.

[93] Barbara F. Walter. Information, Uncertainty, and the Decision to Secede. *International Organization*, 60(01), January 2006. ISSN 0020-8183, 1531-5088. doi: 10.1017/S0020818306060048.

[94] Omar Wasow. Agenda Seeding: How 1960s Black Protests Moved Elites, Public Opinion and Voting. *American Political Science Review*, 114(3):638–659, August 2020. ISSN 0003-0554, 1537-5943. doi: 10.1017/S000305542000009X.

[95] Kurt Weyland. The Arab Spring: Why the Surprising Similarities with the Revolutionary Wave of 1848? *Perspectives on Politics*, 10(4):917–934, December 2012. ISSN 1537-5927, 1541-0986. doi: 10.1017/S1537592712002873.

[96] Kurt Gerhard Weyland. *Making Waves: Democratic Contention in Europe and Latin America since the Revolutions of 1848*. Cambridge University Press, Cambridge ; New York, 2014. ISBN 978-1-107-04474-6 978-1-107-62278-4.

[97] Samson Yuen and Edmund W Cheng. Neither Repression Nor Concession? A Regime's Attrition against Mass Protests. *Political Studies*, 65(3):611–630, October 2017. ISSN 0032-3217, 1467-9248. doi: 10.1177/0032321716674024.

[98] Kevin J. S. Zollman, Carl T. Bergstrom, and Simon M. Huttegger. Between cheap and costly signals: The evolution of partially honest communication. *Proceedings of the Royal Society B: Biological Sciences*, 280(1750):20121878, January 2013. ISSN 0962-8452, 1471-2954. doi: 10.1098/rspb.2012.1878.

4.7 Appendix

The **Perfect Bayesian Equilibrium** (PBE) specifies:

1. A level of $p \geq 0$ for each type of G with $\theta \in [0, 1]$.
2. A threshold strategy for each type of O with γ, where they mobilize only after $p^{\ddagger}$.
3. A set of beliefs for O regarding the type of G after observing p.

and actions are sequentially rational strategy given beliefs, and beliefs are consistent with strategies and are updated via Bayes rule whenever possible.

Proofs of Propositions 1&2: Follow from the main text.

Proof of Proposition 3: As marginal cost of preemption, k, increases, the denominator in equation 4 decreases. Holding p fixed, the remaining capacity of the opposition is $\gamma - p$. As k increases, $1 - p^2k$ decreases, which means expected probability of victory goes down.

Proof of Proposition 4: Follows from the main text.

Proof of Proposition 5: Follows from the main text.

Proof of Proposition 6: First order condition is $1 - \frac{k}{\theta}2p = 0$. So that $p^* = \frac{\theta}{2k}$. Second order condition satisfied:$-\frac{2k}{\theta} < 0$. Going back to O's decision: After observing p $E[\theta|p] = 2pk$. Which O means, mobilizes if:

$$\gamma - p > 2pk$$

$$\gamma > 2pk + p$$

$$p = \frac{\gamma}{1 + 2k} \equiv p(\gamma)$$

4.7.1 Contest Success Function

Complete Information

- Contest success function where O wins with a probability $\frac{\gamma-p}{\gamma-p+\theta}$.
- Conflict costs $1 > w > 0$ for G and $1 > c > 0$ for O. Assume w is sufficiently high so that G always prefers to preempt rather than fight an open conflict.
- For the O to mobilize after p it must be that:

$$\frac{\gamma - p}{\gamma - p + \theta} - c > 0$$

$$p \geq \frac{\gamma - c(\theta + \gamma)}{1 - c} \equiv p^{\dagger}$$

- No need for any $p > p^{\dagger}$. Similarly, government must be able to repress at a level $p^{\dagger}$. The lower solution to quadratic: $1 - kp^2 \geq 0$ gives us the $\theta^{\dagger}$ as in the main text.

Incomplete Information

- Conflicts happens same as the complete information case.

- After observing $p \geq 0$ the updated belief of O with regards to θ is the same as in the main text. Which means O is indifferent between mobilizing and not when is:

$$\frac{\gamma - p}{\gamma - p + \int_{1-p^2k}^{1} \theta d\theta} = c$$

where rearranging and solving for p gives the unique $p^{\ddagger}$ as in the main text.

- Similarly, The lower solution to quadratic: $1 - k(p^{\ddagger})^2 \geq 0$ gives us the $\theta^{\dagger}$ as in the main text.

Chapter 5

Conclusion

The papers comprising this dissertation suggest both good and bad news for the research on the repression-contention nexus. The good news is that once informational dynamics are considered, some of the enduring puzzles cease to be puzzling. As the first paper demonstrates, the puzzle of persistent repression is not puzzling at all if states use repression as a way to screen protest, rather than subduing them all.

The bad news is that the study of contention and repression, whether empirical or theoretical, might be more challenging than we have realized. Of course, some of the challenges such as unobservability, and endogeneity have already been widely acknowledged (2). Yet these are not the only ones that challenge robust and valid empirical research. As the second paper demonstrates, informational dynamics can both increase or decrease the aggregate effect of repression depending on the context. This makes empirical inference significantly harder because the are generated by different processes.

What is more challenging is that, there is no one "true" model for contention or repression. For example, while signaling effect of repression is important, it is not necessarily always present. After all, repression is not a purely informative action: it is often used for purely functional reasons. Similarly, contention is neither simply disruptive or informative. Consequently, while the mechanisms and dynamics identified and highlighted in this dissertation are surely important, it is hard to examine when and to what extent they are in any given case, let alone in aggregate data.

Nevertheless, the research on repression and contention are not limited to formal modeling, whose limitations are now well-known. Broader, more robust adoption of computational modeling, most notably agent-based modeling can build upon the insights of formal models, and combine diverse dynamics to generate more accurate empirical predictions. Similarly, experimental approach to formal models combined with focus identification strategies (1) can generate robust inference in well specified contexts.

Chapter 6

Bibliography

Bibliography

[1] Jack Paine and Scott Tyson. Uses and Abuses of Formal Models in Political Science. 2019.

[2] Emily Hencken Ritter and Courtenay R. Conrad. Preventing and Responding to Dissent: The Observational Challenges of Explaining Strategic Repression. *American Political Science Review*, 110(01):85–99, February 2016.