

Regularizing Rioting: Permitting Public Protest in an Authoritarian Regime*

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ABSTRACT

Lacking the informative feedback provided by competitive elections, an unfettered press and an active civil society, authoritarian regimes can find it difficult to identify which social groups have become dangerously discontented and to monitor lower levels of government. While a rise in public protest is often seen as a harbinger of regime collapse in such states, this paper uses a formal model and a close examination of the Chinese case to show that the informal toleration and even encouragement of small-scale, narrowly economic protests can be an effective information gathering tool, mitigating these informational problems. The analysis demonstrates that protests should be observed

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most frequently where discontent is neither too high nor too low. This calls into question the common assumption in comparative politics that an increase in protests necessarily reflects an increase in discontent or the weakness of a regime.

1 Introduction

Protest reflects instability. This is a common assumption in discussions of authoritarian regimes, with good reason. The apparently unchallengeable East German Communist state fell rapidly as a series of protests grew from what could have been characterized as a small group of malcontents into a mass movement (Lohmann, 1994). Other examples are easy to find both before and since, most recently in the 2011 protests that upended politics throughout the Arab world. Formal models of authoritarian regimes have maintained this assumption: if they are considered at all, protests are treated as a prelude to regime overthrow (Kuran, 1991; Lohmann, 1994) or as a disturbance the regime wishes to minimize (Padro i Miquel and Yared, 2012). Yet, while protest frequently precedes political transitions, many dictatorships have fallen without an upsurge in protest. In one analysis of failed dictatorships, almost half saw a below-average number of strikes, riots, and anti-government demonstrations in the year before transition (Przeworski *et al.*, 2000, p. 114). Nor is a high level of protest sufficient for a regime to collapse — in China, the number of protests and other “mass incidents” increased from approximately 10,000 in 1994 to over 80,000 in 2008 by the regime’s own count and a rumored 180,000 in 2010 without leading to its collapse (*Prevention and Disposal of Mass Disturbances*, 2009; Demick, 2012). To some, these protests indicate unrest that has spiraled to “the point where the Beijing leadership is in danger of losing control of vast tracts of the countryside” (Lam, 2005). But is the Chinese Communist Party (CCP) so weak that it simply must endure a constant barrage of challenges, barely surviving from year to year? The harsh crackdowns on the 1989 student protests, the 1999 Falun Gong movement, protests by ethnic minorities, and others less well-known suggest not.

This paper shows through a formal model and a detailed case study of China that tolerating regular small-scale protests in an authoritarian regime can enhance its stability rather than detracting from it. How could it benefit an

authoritarian regime to tolerate protests if it is capable of suppressing them? Permitting protests of limited scale and scope can enable a regime to identify and deal with discontented communities before they turn to more extreme counter-regime activities or revolt. Protests, being costly, provide a clear division between groups whose grievances are tolerable and those with grievances severe enough to drive counter-regime challenges. Protests also serve as a useful device with which to monitor local governments, inhibiting corruption.

In addition to demonstrating why tolerating protests can be useful for an authoritarian regime, the model shows that the absence of protest could indicate a particularly brittle regime rather than a particularly strong and successful one. To be sure, a successful regime would see little protest because its citizens are mostly happy enough not to bother. However, an absence of protest could indicate that discontent is so common that the regime is better off suppressing or preempting discontent across the board instead of using protests to reveal information. Consequently, protests of the particular type analyzed here are most likely to be observed when discontent is neither so rare as to be irrelevant nor so widespread as to be unmanageable.

The model hinges on the assumption that the regime lacks information about which groups are discontented enough to revolt and which are not. This might seem implausible if one has in mind the classic totalitarian state, served by a network of informers and “the superefficient and super-competent services of the secret police” (Arendt 1985, 1951, p. 420). Indeed, formal models of authoritarianism have tended to assume complete information, focusing on the problems of credible commitment by dictatorial leaders, as Myerson (2008) points out.¹ Yet around the world apparently strong authoritarian regimes have collapsed suddenly, revealing systems riddled with corruption and populations eager for change. Competitive elections, independent interest groups, the free press, and other institutions provide democratic governments with constant feedback, but such institutions are typically eliminated or suppressed by authoritarian regimes. The authoritarian regime’s characteristic lack of accurate information about citizen preferences and resulting widespread discontent is precisely what can lead small-scale protests to spread like a “prairie fire” (Kuran, 1991).

¹ There are a few important exceptions. Egorov *et al.* (2009) consider how resource wealth affects a dictator’s willingness to permit media freedom as a means to monitor and incentivize officials. Padro i Miquel and Yared (2012) examine the dynamic incentive problem facing a regime wishing to incentivize local agents to suppress disturbances. Svobik (2012) demonstrates the importance of institutions for sharing information within the ruling elite.

Authoritarian elites must find a way to resolve this problem if they are to hold power for the long term.

In the model, a community (such as the inhabitants of one village) faces three alternatives — to accept the status quo, to attempt to overthrow the regime (through protest or other means), or to protest in a *loyalist* manner, hoping for benevolent treatment from a higher level of government. A loyalist protest must make clear that it is not the first step in a substantive challenge to the regime, both through its rhetoric, which must praise the regime as a whole and reflect its values, and in its scope, which must be limited to benefits or recompense for the protesting group, rather than for a broader class of citizens. The utility to this community of accepting the status quo is affected partly by luck (e.g. whether the harvest was good) and partly by the choices of a local government official under whose authority they live. This official faces the choice of whether to be honest or to be corrupt, knowing that corruption increases the likelihood that the community be discontented. This corruption is assumed to be of a type that the government cannot easily monitor and keep in check through other mechanisms.

I approach this as a problem of optimal mechanism design from the perspective of a higher level of government with authority over the official. It has three policy options. First, it could choose to make a pre-emptive transfer to the group, ensuring that the status quo is more attractive than revolt even if times are bad. Second, it could just sit back, waiting for revolutionary challenges to erupt and dealing with them on an ad hoc basis. However, if it chooses either of these options, the official knows that he may engage in corruption with impunity. The government's third option is to indicate that it will respond favorably to sufficiently costly loyalist protest by punishing the official and rewarding the protesting group. To avoid inducing indiscriminate protests, of course, it must calibrate the costliness of the protest it requires (such as the time protesters must spend on the streets, the risk of violence by police or thugs, or the risk of being targeted as a ringleader and imprisoned) and the benefits it grants to protesters. Because such costs are greater to communities and individuals that are doing well (with jobs, businesses, or crops to attend to), this calibration ensures that the requirement of loyalist protest is sufficient to screen out the opportunistic and identify only the truly discontented.

Analysis of the model shows that the weaker the government's ability to monitor official corruption or to identify discontented groups, the more attractive it becomes to permit loyalist protest. In addition, an increase

in discontent may actually reduce the observed level of protest because it decreases the government's willingness to tolerate it. As it becomes more certain that a community is discontented, it becomes less necessary to require that they protest in order to demonstrate that their discontent is genuine.

The model helps us understand a number of unusual features of protest in China over the past two decades. First, protests are typically narrow in scope, involving only one or a few neighborhoods, villages, or groups of laid-off workers. Protesters avoid rather than seek out broader support. Second, protesters' demands almost always have to do only with material interests and local grievances. Third, they are explicitly loyal in rhetoric, not challenging the CCP's right to rule or the overall direction of its policies. Such decisions may appear self-defeating, but the model demonstrates that this behavior makes sense when one recognizes that the CCP is setting the terms of engagement. The model also helps us understand how China's rise in protests resulted in part from the regime's need for new sources of ground-level information as processes of marketization and decentralization made it much less involved in people's daily lives. Finally, as predicted by the model, the frequency of protest within different social groups in China is not a simple function of their objective grievances, but rather depends on how attractive the government finds a policy of protest toleration relative to the alternatives.

While the setup of the model is grounded in specific features of contemporary Chinese politics, the theory is also of more general interest. First, China has emerged as something of a standard-bearer and role model for authoritarian regimes hoping to achieve economic development while keeping political liberalization at bay. Second, there is some evidence that other long-lived authoritarian regimes, such as Suharto's Indonesia and Mubarak's Egypt, have taken a similar approach to dealing with certain kinds of protest, as discussed in the conclusion. This suggests that scholars interested in authoritarian resilience and collapse might find it worthwhile to reconsider the role of social protest in other regimes in light of the model presented here.

2 The Model

2.1 Setup

There are three players in this game, a higher level of government (such as a central or provincial government), a local government, and a community

under the jurisdiction of the local government. To avoid confusion when discussing the interaction between the levels of government I refer to the higher level as the *government* and to the local government as the *official*.

The government acts first, specifying the wage w it will offer to the official, the schedule of transfers $\tau(\lambda)$ it will make in response to a protest of level λ by the community, and the size of the punishment p it will impose on the official following protests. The official chooses either to accept the job or to take an outside option with a payoff normalized to 0.² If the official accepts the job, he receives the government-specified wage of w up front. After taking the job, there is a probability π that he has an opportunity to take advantage of his position in a way that cannot be directly observed by the government. If he does so, he earns an amount g in graft. Note that the parameter π is not intended to capture all possible opportunities for corruption or misbehavior. I have not explicitly modeled other more-routine means of bureaucratic monitoring, such as auditing, accounting controls, and monitoring of government agents' personal finances, or other means more typical of democratic societies such as investigative journalism, activism by non-governmental organizations, and so forth. It is assumed that the government is already making the best possible use of such mechanisms (given its political and other constraints), allowing us to focus on the marginal contribution of protests to deterring any remaining opportunities for corruption. Thus, an increase in π reflects the incapacity of existing institutions to keep pace with new opportunities for corruption.

Official corruption imposes a direct cost on the government of $(1 + \gamma)g$, with $\gamma > 0$. Corruption also creates an indirect cost for the government: increasing the likelihood of citizen discontent. Following the official's action, the community gains private information about its expected utility under the status quo (its type). This takes either a low value θ_L or a high value θ_H , where $\theta_H > \theta_L > 0$. If the official is honest, the community gets the bad outcome θ_L with probability β , while if the official is corrupt, θ_L is received with the higher probability $\beta + \eta$, where $\eta \in (0, 1 - \beta)$. The community then chooses a level of loyalist protest $\lambda \in [0, 1]$ at cost $\lambda\theta$, where a choice of $\lambda = 0$ indicates that no protest occurs.³

² I assume that bureaucratic indifference is resolved in favor of taking the job, and that not hiring any official is prohibitively costly.

³ As noted in the Introduction, this cost is increasing in the type of the community. Time spent on the streets, in prison, or recovering from beatings matters more to the economically successful than it does to unemployed workers or farmers with unworkable pollution-contaminated fields.

The government observes λ and makes a transfer of $\tau(\lambda) \geq 0$ to the community according to its policy. In addition, if there is a protest, the government imposes a punishment $p \geq 0$ on the official at a cost $c(p)$, with $c'(p) > 0$. If the community has not engaged in loyalist protest ($\lambda = 0$), it has two choices: either to accept the status quo payoff of $\theta + \tau(0)$ or to participate in revolutionary activities (revolt, for short). If the community revolts, it forgoes its status quo income and earns an expected payoff of $R_C \in (\theta_L, \theta_H)$. Revolt also imposes an expected cost of R_G on the government from suppressing (or failing to suppress) the revolt.⁴

To recap, the game proceeds as follows: first, the government sets its policies $\tau(\lambda)$, w , and p . Second, the official chooses whether or not to be corrupt. Third, the community learns its status quo outcome and chooses whether to protest and at what level λ . The government reacts according to its policies by imposing punishments and making transfers to the community. If a community has not drawn attention to its discontent by protesting, it can foment revolt.

2.2 The Government's Optimal Policy

2.2.1 Managing discontent

Communities have three qualitatively different strategies available to them. The first is to eschew protest ($\lambda = 0$), and accept the status quo. That strategy yields a payoff for a community with type θ of $\theta + \tau(0)$. The second strategy is to eschew protest and to revolt. This strategy yields a payoff of R_C . The third strategy is to protest at some level λ , receiving an expected utility of $\theta - \lambda\theta + \tau(\lambda)$. I will first examine how the government could elicit each of these responses from a community (possibly conditional on the group's type) and then consider the expected costs to the government of doing so.

Suppose that only the first two options are available ($\lambda = 0$), because the government is unwilling or unable to permit limited protest. Then a community of type θ revolts if $\tau(0) < R_C - \theta$.⁵ Given our earlier assumption that $\theta_L < R_C < \theta_H$, revolt will only be tempting for communities who have received the low outcome, θ_L . Thus, I refer to this type of community as

⁴ R_C and R_G should be thought of as expected costs — reduced-form representations of the highly uncertain process of challenging the regime.

⁵ Since the government is acting as mechanism designer to set incentives for the other players, I resolve indifference in the government's favor throughout.

discontented. The government's only consequential choice becomes at what level to set $\tau(0)$. If the government chooses to pay any positive amount, it should set it just high enough to ensure that the community accepts the status quo regardless of whether or not it is discontented. This *pre-emptive* strategy costs the regime $R_C - \theta_L$, a lump sum that will be paid to the community regardless of its true status.

Alternatively, the government can set $\tau(0) = 0$, taking the risk that a community is discontented and therefore revolt. I call this strategy *suppression* because it implies that the government responds with ad hoc suppression to the beginnings of revolt whenever it can identify them. The expected cost of this strategy is ρR_G , where ρ denotes the probability of the community getting the low outcome and R_G is the cost incurred if discontent does indeed erupt in revolt. If the official is honest, $\rho = \beta \in [0, 1]$. If the official is willing to be dishonest, $\rho = \beta + \pi\eta$.

A subtler policy is to *permit* protests as a costly signal enabling discontented communities to distinguish themselves from contented communities and thereby receive a transfer. This mechanism must be structured such that it screens out contented communities (keeping them from protesting) while also ensuring that no community will prefer revolt. While a wide variety of possible transfer schedules $\tau(\lambda)$ are theoretically possible, the optimal policy of this kind will involve a protest level λ^* and a transfer τ^* that the community will only accept if disgruntled. Full technical details are in the Appendix, but the intuition is straightforward — since protest is costly, there is no reason to require a contented community to protest. Furthermore, since the contented community would prefer the status quo to revolt, there is no reason to make a transfer to that community. Any other protest level $\lambda' \neq \lambda^*$ can be discouraged by setting $\tau(\lambda') = 0$, since without a reward there is no motivation to protest.

Given this, two constraints will be binding on the government's choice of λ^* and τ^* , each of which will push in opposite directions. First, it must satisfy a *non-revolt condition* to ensure that discontented communities will choose to protest instead of challenging the regime, satisfying the inequality $\theta_L - \lambda^*\theta_L + \tau^* \geq R_C$. We can rewrite this to emphasize the minimum transfer that will keep the discontented satisfied:

$$\tau^* \geq R_C - \theta_L(1 - \lambda^*)$$

Since any increase in λ^* will also lead to an increase in the required transfer, the government would naturally prefer to minimize the level of

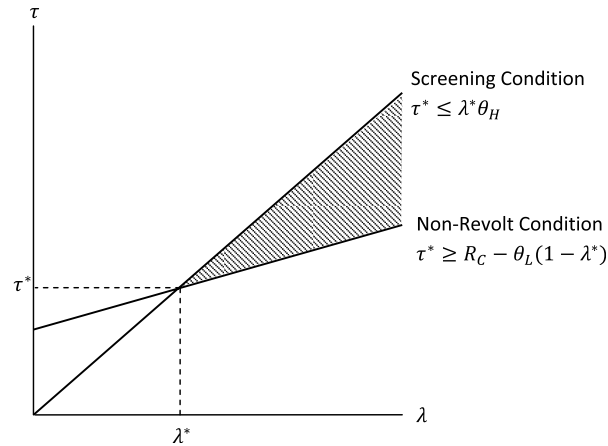


Figure 1.

protest required. However, in doing so its policy must also satisfy a *screening condition*, which ensures that contented communities do not find it attractive to protest in order to receive the transfer, rather than simply accepting the status quo as they would otherwise do. That is, we need $\theta_H \geq \theta_H - \lambda^* \theta_H + \tau^*$, which we can rewrite more conveniently as:

$$\tau^* \leq \lambda^* \theta_H$$

Figure 1 shows how these two constraints interrelate.⁶ Given λ^* , the transfer must be large enough to ensure that the discontented will protest, but not so large that the contented will also take advantage of the opportunity. This will be true of any pair (λ, τ) in the shaded region of the figure. Since protest brings no benefit to the government (and indeed could be costly, although that additional assumption is unnecessary) the government will choose the lowest possible level of λ , at the intersection of the two constraints. Thus we have the following result:

Proposition 1 *In the optimal protest-permitting mechanism, a community that protests to level $\lambda^* = (R_C - \theta_L)/(\theta_H - \theta_L)$ will receive a transfer $\tau^* = \theta_H \lambda^*$, or equivalently $\tau^* = (\theta_H(R_C - \theta_L))/(\theta_H - \theta_L)$. Any other level of protest will receive no transfer. Discontented communities will protest to λ^* and contented communities will accept the status quo, choosing $\lambda = 0$.*

⁶ Other constraints also apply, but are non-binding, as shown in the Appendix.

Finally, we must assess how this mechanism compares in cost to the two simpler mechanisms evaluated earlier, taking ρ as fixed. Algebraically, permission will be cheaper than preemption when $\theta_L/\theta_H < 1 - \rho$. We can understand this condition better by looking at the full costs of the two mechanisms. Let $T^* = R_C - \theta_L$, representing the unconditional transfer that would be made if the government chose to pre-empt protests. The benefit of screening relative to pre-emption is that with probability $1 - \rho$ the community will not protest. They thus reveal to the government that they can be safely ignored, so the government makes no transfers and does not fear revolt. To better understand the cost of screening, note that $\tau^* = T^* + [\theta_L/\theta_H - \theta_L]T^*$. The second part of this decomposition is the extra payment that must be made in order to compensate the community for the risk and effort it expends in the costly signaling activity of protesting. Thus, the government faces a tradeoff between making larger payments less frequently and making a smaller payment that might be wasted if the community is not in fact sufficiently discontented to revolt.

The other alternative is suppression, which is a more straightforward comparison. Toleration is preferable to suppression if $\rho\tau^* < \rho R_G$. In this comparison, the likelihood of discontent is irrelevant as the community will neither protest nor revolt if contented. The question the government faces is whether to allow protests and pay off a discontented community sooner, incurring the cost τ^* in its response to protest, or to wait to deal with a revolutionary challenge later, incurring a cost R_G .

These results can be summarized as follows:

Proposition 2 *Treating ρ as fixed, permitting protests is the cheapest option for managing discontent if and only if $\theta_L/\theta_H < (1 - \rho)$ and $[\theta_H(R_C - \theta_L)]/(\theta_H - \theta_L) < R_G$.*

However, this is only part of the story. I now turn to the government's agency problem in dealing with officials.

2.2.2 Managing corruption

This section will answer two questions: what is the optimal way for the government to use the information contained in protests to forestall corruption, and will it choose to do so? It again faces both a participation constraint and

an incentive compability constraint. The participation constraint requires that the official be willing to accept the job, while incentive compatibility is needed if the government wishes to control the official's actions once he takes the job (by forbidding corruption).

First consider what happens if corruption is tolerated. The official will receive utility both from his wage and (with probability π) from corruption, giving an expected payoff of $w + \pi g$. The government's problem is simply to minimize w subject to the official's participation constraint, $w + \pi g \geq 0$. This yields a wage $w = -\pi g$. Corruption will cost the government $(1 + \gamma)g$, but the low wage will partially cancel that out, yielding a net cost of γg . Toleration of corruption is compatible with all three strategies of dealing with discontent: preemption, suppression, or permission of protests.

If, however, the government wishes to limit corruption by punishing the official following a protest, there are two additional considerations. First, the wage must be raised to $w = \beta p$ to satisfy the participation constraint of $w - \beta p \geq 0$. The wage differential of $\beta p + \pi g$ compensates the official both for eschewing corruption and for the risk of being punished even when the protest is not due to his corruption. Secondly, the government must decide how severely (if at all) to punish the official when protests occur. Incentive compatibility now requires $w - \beta p \geq w - (\beta + \eta)p + g$. Since punishment is costly to the government, this implies a punishment of $p^* = g/\eta$. Combining this with the participation constraint implies a wage of $w^* = \beta p^* = \beta g/\eta$. The total expected costs of each of the four policy options are summarized in the following table.

Policy option	Expected cost
Preemption	$\pi g \gamma + T^*$
Suppression	$\pi g \gamma + (\beta + \pi \eta) R_G$
Permission without corruption control	$\pi g \gamma + (\beta + \pi \eta) \tau^*$
Permission with corruption control	$\beta(p^* + c(p^*) + \tau^*)$

Protests will be permitted when doing so (with or without corruption control) is cheaper than both preemption and suppression, yielding the next proposition.

Proposition 3 *The government will tolerate protests if either of the following conditions hold:*

$$\frac{\theta_L}{\theta_H} < (1 - (\beta + \pi\eta)) \quad \text{and} \quad \tau^* < R_G$$

or

$$\beta(p^* + c(p^*) + \tau^*) < \pi\gamma g + \min\{T^*, (\beta + \pi\eta)R_G\}$$

The first inequality determines whether protest permission without corruption control is preferable to suppression. This is essentially the same as Proposition 2, where $\rho = \beta + \pi\eta$. The second inequality captures the fact that even if tolerating protests is not the cheapest way to address discontent, it may be worthwhile if the additional check on corruption it provides is sufficiently valuable.

Comparing the last two options, we can see that limiting corruption by punishing officials when a protest occurs in their jurisdiction brings two benefits to the government. First, it directly reduces the inefficiencies caused by corruption, saving $\pi\gamma g$. Secondly, it reduces the likelihood of discontent by $\pi\eta$, lowering the frequency with which the government must pay off protesters. In addition to offering these direct insights into a government's possible motivations for allowing protest, these results have implications both for under what conditions protests will be tolerated and what they will look like when they occur, which I will examine next.

2.3 Analysis

The first important implication of this framework is that protests are most likely to be observed among communities for which the government's prior estimate of β is neither too low nor too high. Permissiveness will not be optimal for the government if β is too high, for the following reasons. If $\tau^* > R_G$, then it is cheaper to suppress the discontented than to pay them off after protesting. However, when β is sufficiently low permitting protests is almost costless and has the additional value of controlling corruption, making it a better choice than suppression. As β rises (discontent becomes more likely), the costs of this strategy will increase at rate $p^* + c(p^*) + \tau^*$, whereas the cost of suppression will only rise at the rate R_G . $\tau^* > R_G$ of course implies that $p^* + c(p^*) + \tau^* > R_G$, so the cost of suppression will rise at a slower rate in β . This means that there will be a point above which suppression will become cheaper than permission.

On the other hand, if $\tau^* < R_G$, then suppression will never be preferred to permission even without corruption control. However, the cost of preemption is constant in β , whereas the costs of the other options all increase in β . That is, if the government is very sure that a community is discontented, it should simply pay them all off, ameliorating their discontent without requiring that they protest or risking that they revolt. Thus, there will always be a cutoff level of β above which preemption is most attractive. Together these facts give us the following:

Corollary 1 *There exists $\beta' > 0$ such that protest permission (with or without corruption control) is preferred if and only if $\beta < \beta'$.*

Figure 2 illustrates the relationship between β and observed frequency of protest. For sufficiently low levels of β , protest will be permitted to occur, but will be rare. As β increases, more and more protest will be observed, up until β hits the threshold β' , after which the government will choose either suppression or preemption, depending on other parameters. Thus, protest should be seen most often in communities for which β takes on intermediate values.

This has two different implications. First, intermediate values of β arise when the government has relatively poor information about a community's well-being. A well-informed government could segment communities into those that are almost certainly discontented, with β close to 1, and those

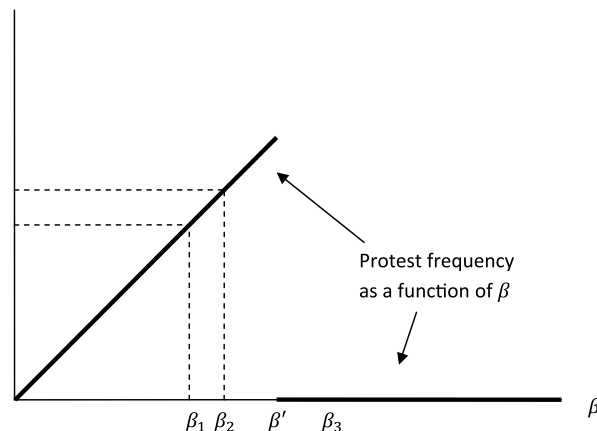


Figure 2.

that are almost certainly not, with β close to 0. Neither category of community would be observed to protest frequently. So protests should be more commonly observed at times or in communities for which the government has relatively poor information. Second, an increase in the likelihood of discontent in a particular category of communities or nationwide may actually reduce the observed frequency of protest. Looking again at Figure 2, if the likelihood of discontent increased but stayed below the threshold β' , such as a shift from β_1 to β_2 , this would result in an increase in protests, but if discontent increased past the threshold, for instance to β_3 on the figure, then there would be no protest, because the government would instead choose a preemptive strategy.

This result provides reason to question the common assumption that an increase in protests must mean an increase in discontent. Taking into account strategic considerations on the part of government and communities, we can see that even if protests are motivated only by economic deprivation, in equilibrium the poorest areas may not protest. On the contrary, a decrease in discontent may make the government more willing to tolerate protest in order to avoid making unnecessary preemptive transfers. Of course, given that the government is willing to tolerate protest from a range of groups in society and they are not near the cutoff level of β such that preemption is more attractive, an increase in β will result in more observed protest in the way that is typically assumed.

The second important implication regards the quality of the government's mechanisms for gathering information on official corruption. Recall that with probability π , the official is able to engage in corruption that cannot be observed by other mechanisms. This is thus a measure of government ignorance. From Proposition 3 we can also derive the following:

Corollary 2 *The value to the government of monitoring corruption through protests relative to choosing the next-best alternative policy will increase with π , γ , and η .*

That is, it will be more attractive to the regime to permit protests as a means of stopping corruption when there are more opportunities for corruption, they have a higher efficiency cost to the regime, or they are more likely to cause discontent.

In sum, toleration of protests confers two potential benefits on the government. First, it permits discontented communities to be identified and paid

off, making them unlikely to challenge the regime. Second, it provides the government with a useful signal with which to enhance its monitoring of officials. As a result, protests are more likely to be observed if the government is uncertain about the likelihood of a community being willing to revolt and if the government is dealing with a reduced ability to monitor some forms of corruption.

2.4 Commitment

The tools of mechanism design used in analyzing the model thus far require that I make the assumption that the principal (in this case the central government) can pre-commit to its actions. This may seem a strong assumption, but it is actually just a simplified way to examine a repeated game in which a single principal faces a series of identical challengers. While a folk theorem would certainly apply in that case, allowing a multiplicity of possible equilibria, a long-lived player with substantial control over the media should be able to set expectations about equilibrium strategies. I therefore follow Levin (2003) and Padro i Miquel and Yared (2012) in focusing on the optimal outcome the government can achieve in the repeated game without commitment and will show that the conditions under which protest toleration is sustainable are very similar to those derived in the static game.

Let the game described previously be the stage game of an infinitely repeated game, with the difference that the government G acts last rather than first. G is the long-lived player, acting in each round. Each community C_t and each bureaucrat/official B_t plays only in round t . The government discounts future losses at rate $\delta \in (0, 1)$. Since I have already shown the government's optimal strategy with commitment in the static setting, it remains only to establish the conditions under which protest toleration is dynamically incentive compatible. As is standard in such models I assume that both communities and officials follow grim trigger strategies. That is, if the government ever deviates from its declared policies with respect to either officials or communities, both assume that it can never again be relied upon. Since communities will only protest if they believe the government will live up to its promises, this forces the government to choose between suppression and pre-emption. The government's payoff in every subsequent round will be $\pi g\gamma + \min\{T^*, (\beta + \pi\eta)R_G\}$, yielding an expected future payoff from $t + 1$ onward of $[\delta/(1 - \delta)](\pi g\gamma + \min\{T^*, (\beta + \pi\eta)R_G\})$.

This allows us to derive the following result:

Proposition 4 *An equilibrium with protest toleration as described in the single-round setting can be sustained in the infinitely repeated game if and only if at least one of the following dynamic incentive compatibility conditions hold:*

$$\frac{1 - \delta}{\delta} \tau^* + (\beta + \pi\eta)\tau^* < \min\{T^*, (\beta + \pi\eta)R_G\}$$

or

$$\frac{1 - \delta}{\delta} (c(p^*) + \tau^*) + \beta(p^* + c(p^*) + \tau^*) < (\pi g\gamma + \min\{T^*, (\beta + \pi\eta)R_G\}).$$

The first condition applies if the government prefers the equilibrium in which officials are not punished, while the second applies if the officials would be punished in equilibrium. These expressions capture the government's temptation to renege after the official has made its decision and the community has been lured into revealed its type. In the first case, where corruption is not punished, the government could save itself the payment τ^* by deviating. In the second case, where the government has committed to punishing the official following a protest, the government's temptation is to fail to follow through on this policy, saving the cost of punishment $c(p^*)$, as well as again saving τ^* by not paying off the protesters. As δ approaches 1, these conditions approach those presented in Proposition 3. Thus, the key consideration here is whether the government's discount factor is high enough to ensure commitment. As will be discussed in more detail in the case study, this will depend on the frequency with which the government engages in stage-game interactions with potentially discontented communities and its likelihood of surviving from one period to the next.

3 Case Study: Protests in Contemporary China

I now turn to the motivating case for this research. While the model was constructed in an attempt to understand events in China, this does not make it untestable. Rather, the exercise of formalization makes clearer what assumptions we must believe in order for the model to hold, and generates empirical predictions that are not all inherent in a verbal characterization

of the case. Although the empirical research with which we can evaluate the model is qualitative and incomplete due to the sensitivity of the topic, it does broadly support the applicability of the model to the Chinese case.

3.1 Key Assumptions

3.1.1 Distinction between protest and revolution

A crucial assumption of the model is that the government can distinguish between protests and the beginnings of a revolt. If revolutionaries could blur the lines, such as by forming a local movement based on relatively moderate economic demands and then moving up to a national scale, then the use of the mechanism described here would be much more risky for the government.

In practice, it is clear that the Chinese government has successfully drawn a sharp distinction between loyalist and revolutionary protest in the years since the 1989 protests. Loyalist protests follow strict rules in their demands, their rhetoric, and their actions. They use the rhetorical strategy that O'Brien (1996) has characterized as "rightful resistance," accepting the regime's legitimacy while framing demands in terms of the government's own regulations or espoused values. Participants in such protests take pains to distinguish their actions from the first stage of a challenge to the regime. They do not attempt to link up with other groups who may have related issues. Furthermore, by framing their protests as purely a response to local concerns they reduce the likelihood that outsiders might try to make common cause with them. These are the kinds of protests examined in the model above and that have occurred frequently in China in recent years. Revolutionary protests, on the other hand, go past these boundaries and thereby challenge the regime as a whole, making them revolts in the terms of this model. These are much rarer and are dealt with firmly when they arise.

This distinction emerges clearly from the existing research on China. The 1980s saw many protests directly addressing central government policies and the nation as a whole, a pattern of revolutionary protest that arguably culminated in the student-led Tiananmen Square protests of 1989. In contrast, starting in the 1990s "many grievances of the Chinese urban population were now aimed at leaders of a particular factory or firm" (Zhao, 2001), a pattern that Lee (2007) characterizes as a "decentralized, 'cellular' activism [that] seldom evolves into lateral, cross-locality rebellion." Worker protests have typically been triggered by plant closures, mass layoffs, or default on unemployment or pension benefits by a state-owned enterprise or the local

government, and their demands have been narrowly focused on economic compensation for these changes (Hurst and O'Brien, 2002).

Rural protests have been similarly focused. In the 1980s and early 1990s, protests were often sparked by excessive fees and rigged elections in a single village (O'Brien and Li, 2005). As China's economy has continued to grow and urbanize, an emerging issue has become the seizure of land for commercial development from the farmers who worked it. The vast majority of protesting farmers demand higher compensation for the land in question but do not demand a reform of China's property rights regime or the right to organize (Yardley, 2004; Cody, 2008).

Protesters do not just demand economic transfers. Most protests pair complaints about economic suffering with accusations of corruption or malfeasance by the local government or by state-owned enterprise managers, demanding an investigation by higher levels of government. The complaints are carefully phrased in patriotic and legalistic language, focusing on corruption or poor local implementation of national policies without questioning the legitimacy of the national government, the CCP, or the political system as a whole (Bernstein and Lu, 2003; O'Brien and Li, 2006; Lee, 2007). Again, this helps to ensure that the protest will remain within the confines of a well-defined community.

Where these implicit rules of loyalist protest are followed and communities demonstrate their discontent through sufficiently costly protest they can generally expect some kind of redress. The government will typically provide some compensation to the protesters and punish local leaders for letting discontent get out of hand.⁷ Indeed, Perry (2001) argues that this is simply the continuation of a norm that has been established in China since imperial times. The fact of historical continuity does not explain why this distinction holds in equilibrium or under what conditions protests of this nature should be more or less common, but it does help us understand why the central government has found it relatively easy to re-establish this pattern of equilibrium behavior.

While not all protests fit this loyalist pattern, most do. Furthermore, the government's response to protests clearly depends on whether this form is followed. Protests and political actions that overstep the bounds of the loyalist model are dealt with much more harshly. A widely publicized series

⁷ See Cai (2010) for a thorough exploration of 266 protest incidents occurring between 1994 and 2007 for which information on outcomes could be obtained.

of demonstrations by workers in Liaoyang culminated in seven- and four-year sentences for the two most important leaders, as well as the short-term detention and alleged beatings of others who had taken organizing roles. These protests were unusual in that at their height they involved a reported 30,000 workers from at least six factories (Eckholm, 2003; Pan, 2002). What is less often highlighted is that the government's reaction to the first wave of protests, involving only workers from a single ferro-alloy factory, was quite moderate. Although protesters numbered as many as a few thousand in some of these incidents, most of the protests in 2000 and 2001 were tolerated and their leaders were detained only briefly. Only when employees from other factories joined in the protests in March 2002 did the government escalate its response. Notably, the organizer given the longest sentence had been organizing protests since 1992. In addition, he was not himself one of the employees of the ferro-alloy factory whose workers he was organizing, although his wife was (Pan, 2002). Yet, as with loyalist protests that fall more clearly within bounds, protesters who had not taken leadership roles received some of their back pay and pensions. The government ultimately launched an investigation that resulted in a 13-year criminal sentence for the former manager of the ferro-alloy plant (Eckholm, 2003).

In the Liaoyang case, attempts to unite workers from multiple organizations brought a stern response from the government, but protesters did not attempt to go beyond this scope, for instance by demanding systemic changes such as the legal right to demonstrate or to form independent labor unions or political parties. Attempts to organize protests of this nature are notable by their absence. Since 1989, there has been only one glaring exception. In April 1999, over 10,000 followers of the Falun Gong spiritual and health movement assembled from six provinces and municipalities to conduct an all-day sit-in in front of the party headquarters in Beijing. The contrast with loyalist protests could not have been sharper. By mobilizing the Beijing protest and many smaller protests around the country, the Falun Gong showed that it had established itself as a national organization. While it did not have a clear political goal other than to be allowed to register and legally organize at the national level, this would have made it the only truly national organization outside the control of the CCP (Leung, 2002). This show of power brought no conciliation or payoffs from the Chinese government, but rather an unrelenting political purge and propaganda campaign more extensive than any since the 1989 Tiananmen protests. The Falun Gong's top leaders in China were arrested and quickly given sentences ranging from 8

to 18 years. Television shows broadcast a constant stream of stories of practitioners who became insane after following Falun Gong practices or who died after turning down urgently needed health care. The media accused the movement of being a highly profitable cult designed to enrich its leaders. Communist party branches and enterprises held “study sessions” to reinforce and transmit the party’s negative view of the group. All subsequent attempts at public protest were rapidly and effectively broken up (Tong, 2002).

3.1.2 Government commitment

A second important assumption of the model is that the government can pre-commit to its responses. As demonstrated in the repeated game in Section 2.4, this is equivalent to the discount factor δ being sufficiently high. In countries or settings where this assumption does not hold, we should expect to see more ad-hoc reactions to protest. There are two reasons why the assumption of commitment is sensible in China.

First, the government engages in the same interaction with literally thousands of similar units — in 1999 China had about 44,500 townships and villages (Yang, 2004, p. 46). The time lag between one potential protest and the next is very small, making δ large. By contrast, in a smaller country the temptation to choose the most expedient response to a given protest would be greater.

Secondly, the discount factor δ is also affected by the government’s beliefs about its likelihood of surviving into future periods. The present-day Chinese Communist Party is notable for its organizational strength and stability. In the 30 years since Mao’s death, the party has established a cohesive, reform-oriented leadership that has held together despite generational transitions and a variety of economic challenges. Indeed, the rare disunity of the central leadership in the face of the 1989 protests was a major reason why those protests attained the scale they did (Pye, 2001). Since then, leadership has passed from one generation to another in an increasingly routinized fashion, without disruptive factional struggles (Miller, 2005; Nathan, 2003).⁸ As a result, the

⁸ Reasonable arguments can be made as to whether the Bo Xilai affair of 2012 constituted a departure from this routinization or ultimately reaffirmed it. In any case, the elite unity over the prior two decades is clear.

party leaders appear able to plan for the long term, acting as Olsonian stationary bandits (Olson, 1993), rather than simply pillaging the country.⁹

3.2 *Empirical implications*

3.2.1 *Variation across time*

The model also helps to explain the steady increase in the incidence of popular protest that we have observed in China since the 1990s. An important new book argues that this is due to persistent ideological contradictions in CCP thought and practice that imply a tolerant attitude toward some kinds of mass action, combined with the decline in the all-encompassing work unit system that previously contained and channeled grievances at the local level (Chen, 2012). While discord and confused objectives within the regime are doubtless part of the story, the model presented here offers a reason why a unified regime might still choose to tolerate protest, and why this tolerance should have increased over the past two decades. In particular, the processes of marketization and decentralization during this period have meant that higher levels of government found it more costly to obtain information about either the well-being of communities or the activities of officials in lower levels of government. This has made toleration of protests a more attractive means of gathering this information.

In the early 1980s, it was easier for the government to know how a given community was doing. The Maoist goal of transforming every aspect of society meant that the government had a network of informants and active party members throughout society, and the ending of the Cultural Revolution ushered in a relatively stable era. The planned economy was still dominant, so most people worked on farms or in state-owned enterprises (Cai *et al.*, 2008). The strict household registration (*hukou*) system made it difficult for people to seek opportunities away from their registered residences without losing their rights to education, health care and other social services. In sum, citizens' economic lives were closely monitored by the state.

The first phases of economic reform began during this time, but the majority of economic reforms through the 1980s and early 1990s were Pareto-improving, not only allowing citizens to keep what they had under the planned economy but also to seek out new and more profitable opportunities created by the market economy (Lau *et al.*, 2000). Thus the government

⁹ Although see Pei (2006) for a more pessimistic view.

could take for granted that citizens who had moved outside the planned economy were probably better off than they would have been within it. This all meant that for a given community, the state had a fair degree of certainty about the likelihood they were suffering excessively. Society could be more easily segmented into communities that were either clearly well off (β low) or clearly a danger (β high).

By the 1990s, this strategy of “reform without losers” was no longer feasible (Qian, 2003). The government needed to make tough decisions in order to move to the next stage of market reform. State-owned enterprises began massive layoffs, the private sector grew dramatically, and many farmers left their land to pursue work as construction or factory workers in the urban areas, creating a “floating population” that had reached an estimated 79 million by the time of the 2000 census (Naughton, 2007) and has only grown since then. Those who succeeded in seizing the opportunities afforded by the market reforms and rapid economic growth could do quite well, but many were left behind.

The new private economy, however, was very poorly monitored. At the end of 2005, the Chinese government acknowledged that failure to accurately measure and account for the growth in the difficult-to-monitor service sector meant that China’s GDP had been undervalued by 16.8% (Holz, 2008). Unemployment data were also of poor quality, making it difficult to institute an effective social insurance system (Cai *et al.*, 2008). Identifying the prosperous proved as difficult as identifying the poor — an attempt to require high wage earners to file income tax returns in 2007 was widely disregarded (Batson, 2008). In terms of the model, β was no longer as close to either 0 or 1 as it had been for any given group — the government had less certainty about which citizens were doing well or poorly.

Official corruption also became easier during this time. While there is no question that local leaders had opportunities to abuse their power in the early post-Mao years, the opportunities for accumulation of personal assets and conspicuous consumption were still relatively limited. Since then, as veteran China-watcher David Shambaugh has written, “the CCP’s traditional instruments of control... have all atrophied and eroded considerably...” (2008, p. 3). The dismantling of the planned economy and decentralization of economic decision-making have presented lower-level officials many opportunities to engage in corruption unobserved (higher π in the model), and the CCP found itself less able to identify or bring a halt to these activities in a variety of economic arenas.

In the cities, the process of privatizing state assets provided fruitful ground for corruption at the expense of workers. In 1994, the government announced that its policy toward state-owned enterprises (SOEs) would be to “keep hold of the large and release the small” (*zhua da fang xiao*) (Cai *et al.*, 2008). As a result, many state-owned enterprises were closed or dismantled and their assets sold off. Book valuations of these assets were based on communist accounting standards. Financial and goods markets were still developing, making the appropriate pricing of these assets opaque. This made it much more difficult to catch managerial self-dealing through deliberate mispricing and other means. At the same time, the workers who had been employed at these factories for years before being laid off had both the incentives and the insider knowledge to ring the alarm when managerial corruption meant that their pensions were not being paid.

In the countryside, many rural protests were sparked by excessive taxation, especially in the late 1990s and early 2000s (Bernstein and Lu, 2003). Tax levels might seem straightforward for the central government to monitor, but they were not. Following decollectivization, the fiscal system fragmented into a bewildering collection of taxes, surtaxes, and fees, authorized by a variety of state agencies, in part as a result of the decentralization that was a fundamental component of reform. While there was a legal requirement that total taxation should not exceed 5% of farmers’ income, the information on taxation was not collected in one place where it could easily be checked (Wedeman, 2001). In the 2000s, illegal land seizures became a serious issue, as local governments realized that re-designating farmland for industrial or commercial development could yield substantial revenues. (Cody, 2008). Over one million cases of illegal seizure of land were reportedly uncovered between 1998 and 2005 (People’s Daily, 2005). While farmers are supposed to have long-term usage rights, these are poorly documented. In 2002, a new Rural Land Contracting Law required that local governments give every farm household documentation of their usage rights, but by 2005 fewer than half of rural households had received this (Dean, 2006). As with SOE privatization, the re-allocation of assets to more productive use provides opportunities for local officials to take advantage of their positions in a way that is difficult to monitor.

All of these facts suggest that tolerating protests as a monitoring device became a much more useful strategy for the government during the reform period as its ability to identify discontented citizens and control local officials through other means declined.

3.2.2 Variation within China

In addition to change over time, differences in the prevalence of protests across different groups of citizens, different geographical regions, and different issue areas provide further evidence against which to evaluate this model. While the facts here are even more difficult to establish, they appear broadly consistent with the model.

Looking first at the countryside, recall that the model predicts that protests will be observed most frequently in areas where β takes on intermediate values — neither so high that preemptive transfers are optimal for the government, nor so low that although protests might be permitted they would rarely be observed. This is consistent with the findings of qualitative researchers. Bernstein and Lu (2003), examining rural tax protests, found that indeed, these protests occurred primarily in regions of the country that were neither the wealthiest nor the poorest.

Land expropriation, by contrast, is more closely associated with relatively wealthy rural areas. The process of commercializing agricultural land offers local officials many opportunities to profit at the expense of their citizens (π is high). Determining the fair price for expropriated land, identifying whether kickbacks have been paid by developers, and evaluating whether local governments used appropriate tactics in moving the citizens affected, are very difficult. Tolerating protests presents another way to keep tabs on local governments and to defuse tensions in those cases where citizens are in fact seriously harmed by the process.

Among urban regions, it is generally agreed that northeast China saw the most protests from the late 1990s through the early 2000s (Tanner, 2005). SOE reform hit hardest in that region, resulting in many layoffs without compensating growth of the market economy. Those workers who failed to find alternate work and were not supported by their former employers could be in dire straits. However, the model suggests that the level of distress among these workers varied enough that requiring protests in order to receive compensation was preferable to making pre-emptive transfers for the central government. In addition, the process of privatizing these industrial giants created numerous opportunities for corruption by their managers and the local government (π was large). While these temptations also existed in more prosperous regions, the vibrance of the economy may have made them less worth the risk to local governments in these areas. In addition, whether the process of privatization is corrupt or not is less likely to have a decisive

impact on the livelihoods of workers who have many good alternatives to working in the remnants of the planned economy (η is small).

Looking not just at protests but at the full spectrum of labor activism, Lee (2007) finds that workers from the northeastern “rustbelt” resorted to protests routinely, whereas migrant workers in the southern “sunbelt” made much more extensive use of the legal system, engaging in disruptive protests only rarely, as a last resort. Hurst (2004) finds a similar pattern when comparing the actions of laid-off SOE workers in the northeast with those in prosperous Shanghai. While Lee attributes this pattern primarily to an incomplete “transition from social contract to legal contract” (2007, p. 22) in the northeast, the model here would place an emphasis on some of the more prosaic factors that are also raised in Lee’s richly detailed analysis. Sunbelt workers come from rural areas around the country to work in export-oriented coastal factories. When treated poorly, they maintain the option to return to their homes and land in the countryside. Thus, the worst possible outcome they could experience is to be forced to return to the conditions from which they came. The likelihood that the mistreatment they experience in urban factories would be severe enough to lead them to consider mobilizing against the central government (β in the model) is quite small. In addition, the typical sunbelt complaints of wage nonpayment or poor working conditions are largely about the redistribution of profits between capital and labor in a growing economy. In contrast to the stripping of state assets in a stagnant local economy that often occurred in the northeast, this injustice has less of an efficiency impact (γ is low), making it less desirable for the central government to use protests to stop it.

We can also observe important variation across issue areas. In 2005, a group of over 1500 military veterans from several provinces gathered in Beijing to protest. The demands of these protests were essentially loyalist — higher pensions and better post-retirement employment options. But by gathering from around the country and acting as representatives for a nationwide and potentially dangerous constituency, these protesters stepped beyond the bounds of loyalist protest. In addition, these protests provided no useful information about lower-level government agencies, thus serving no monitoring function. As a consequence, the protesters were rounded up and bused home within 36 hours (Lim, 2005). Later, somewhat smaller protests were shut down by the police within hours, their participants apparently taken into custody before being sent home (BBC Monitoring, August 2005). Following these protests, the *Liberation Army Daily* announced that any

members of the military who participated in protests or joined religious or political groups would be punished (Associated Press, 2005). In 2007, other regional protests by veterans were broken up and followed up with surveillance (Economist, 2007).

4 Conclusion

Despite more than a decade of warnings from outsiders that unrest threatens to destabilize the Chinese regime, China has continued to grow rapidly and to push ahead with economic reforms. This paper explains how an authoritarian government could maintain political stability not despite regular protests but in part because of them. This theory emerges naturally when the informational problems of running an authoritarian regime are taken into account. Authoritarian governments have limited sources of information about either the actions of the officials at their lower levels or the discontent of their citizens. Permitting protests provides information about both, helping to limit corruption and to bring discontented communities out in the open rather than driving them underground. This explanation of the Chinese government's tolerance and even encouragement of (some) protesters contradicts the conventional conclusion that protest under authoritarian rule necessarily indicates government weakness, a strengthening civil society, or pervasive discontent.

While some features of this model are particular to China, there are indications that similar phenomena may have been at play in other long-lived authoritarian regimes. In Suharto's Indonesia, students were permitted to mobilize protests in rural areas over local issues, as long as they did not try to set up any type of permanent organization (Boudreau, 2004). Labor protests in Mubarak's Egypt also long took a loyalist form, with workers focusing on narrow economic issues while eschewing broader demands or attempts to coordinate across plants (Posusney, 1993; Beinin, 2011). Like China, these regimes each had a long-standing, unified ruling elite that could respond to individual protests with the aim of setting or maintaining precedents that would become known to other potential protesters. All three regimes were engaged in market-oriented reforms that undid socialist policies put in place by the regime's founder. Indonesia, as a large and diverse archipelago, naturally faced challenges in maintaining local control. Egypt, while smaller and more compact, also faced problems in controlling

lower-level officials (Rosberg, 1995). While both regimes ultimately fell, they did so under extraordinary circumstances, with Suharto facing an unprecedented economic crisis and Mubarak challenged by a civil society emboldened by the region-wide anti-authoritarian protest wave.

The case of China and these other examples suggest that whether using case studies or cross-national datasets, scholars studying protests or social movements in authoritarian regimes should be careful before assuming these reflect or measure a zero-sum conflict between state and society. Closer attention to the qualitative character of protests may lead to very different conclusions.

Appendix: Proofs

Proof of Proposition 1. By the Revelation Principle, we know that there need only be at most two attractive options made available to the community, corresponding to the two possible types it might reveal. Let λ_L and $\tau(\lambda_L) = \tau_L$ be the offer made to the discontented type and λ_H and $\tau(\lambda_H)$ be that made to the contented type. Setting $\tau(\lambda) = 0 \forall \lambda \notin \{\lambda_L, \lambda_H\}$ ensures no other positive level of protest will be chosen. The government's policy must satisfy a non-revolt condition (participation constraint) and screening condition (incentive compatibility constraint) for each type. The non-revolt conditions are $\theta_k - \lambda_k \theta_k + \tau(\lambda_k) \geq R_C$ for $\theta_k \in \{\theta_L, \theta_H\}$. Note that if the participation constraint holds for the low types, then it also holds for the high types, since $\theta_H > \theta_L$ implies $\theta_H(1 - \lambda_L) + \tau(\lambda_L) \geq \theta_L(1 - \lambda_L) + \tau(\lambda_L)$. Furthermore, this constraint will hold with equality in an optimal mechanism because transfers are costly, so we can rewrite it as an equation determining the optimal transfer $\tau(\lambda_L) = R_C - \theta_L(1 - \lambda_L)$.

The screening conditions are $\theta_k - \lambda_k \theta_k + \tau(\lambda_k) \geq \theta_k - \lambda_j \theta_k + \tau(\lambda_j) \forall j \neq k$. Assume that this condition will bind for the contented, since transfers are costly, yielding $\tau(\lambda_H) + \theta_H(1 - \lambda_H) = \tau(\lambda_L) + \theta_H(1 - \lambda_L)$. This constraint is only tightened as λ_H increases, so $\lambda_H = 0$ is optimal, giving us $\tau_H = \tau_L - \lambda_L \theta_H$. The government's expected cost of implementing this mechanism is $\rho \tau_L + (1 - \rho) \tau_H$. Substituting for τ_L and τ_H and minimizing yields two possible solutions, depending on parameters. If $\theta_L / \theta_H < 1 - \rho$, the solution is as described in the proposition. If $\theta_L / \theta_H > 1 - \rho$, then $\lambda_L = 0$ and $\tau(0) = R_C - \theta_L$, the preemption solution in which no protest is permitted.

It remains to confirm that it is incentive compatible for low types not to imitate high types. Incentive compatibility for low types requires $\theta_L(1 - \lambda_H) + \tau(\lambda_H) \leq \theta_L(1 - \lambda_L) + \tau(\lambda_L)$. If $\theta_L/\theta_H > 1 - \rho$, then this condition holds with equality because both high and low types choose $\lambda = 0$ and get $\tau = R_C - \theta_L$. If $\theta_L/\theta_H < 1 - \rho$, substituting in the solution reduces the condition to $\theta_L \leq \theta_H$, which holds by assumption. ■

Proof of Proposition 2. This follows directly from the analysis in the text. ■

Proof of Proposition 3. This follows directly from the analysis in the text. ■

Proof of Corollary 1. First note that if $\beta = 0$, permission with corruption control will have a cost of 0, less than all other options. I now show that there will be a single cutoff β' above which permission (with or without corruption control) will not be the cheapest option.

Case 1: $R_G < \tau^*$. Then permission without corruption control is never the cheapest option. Permission with corruption control will only be the cheapest option if $\beta(p^* + c(p^*) + \tau^*) < \pi g\gamma + T^*$ and $\beta(p^* + c(p^*) + \tau^*) < \pi g\gamma + (\beta + \pi\eta)R_G$, or $\beta < \beta' \equiv \min\left\{\frac{\pi g\gamma + T^*}{(p^* + c(p^*) + \tau^*)}, \frac{\pi(\gamma g + \eta R_G)}{(p^* + c(p^*) + \tau^* - R_G)}\right\}$. Note that the denominator of $\frac{\pi(\gamma g + \eta R_G)}{(p^* + c(p^*) + \tau^* - R_G)}$ is positive by our assumption $R_G < \tau^*$.

Case 2: $R_G > \tau^*$. Then suppression will never be preferred to permission without corruption control, so we will observe protests when at least one permissive option is cheaper than preemption, or $\beta < \beta' \equiv \max\left\{\frac{T^*}{\tau^*} - \pi\eta, \frac{\pi g\gamma + T^*}{(p^* + c(p^*) + \tau^*)}\right\}$. ■

Proof of Corollary 2. Follows directly from the inequalities in Proposition 3. ■

Proof of Proposition 4. I give the government the strongest possible incentive to comply with commitments made at the beginning of the round by focusing on grim trigger equilibria. That is, if there is a protest in period i and the government fails to follow the transfer function $\tau_i(\lambda)$ as declared at the outset of period i , or fails to punish the official at declared level p_i , then for all periods thereafter communities and officials assume that the government's strategy will be $p = 0$ and $\tau(\lambda) = 0\forall\lambda$ irrespective of the government's declared policies at the start of any round. To verify that this

equilibrium is subgame perfect, note that given the lack of punishment, officials will always choose to be corrupt if the opportunity arises and given the lack of reward for loyalist protesting, communities will choose $\lambda = 0$. In addition, discontented communities will revolt, because $R_C > \theta_L$. Since the government implements its policies after these choices are made and these policies will not affect the actions of other officials or communities the government's reversion strategy of $p = 0$ and $\tau(\lambda) = 0 \forall \lambda$ is also subgame perfect. Next I explore whether the threat of the grim trigger outcome can sustain the regime's policy commitment.

Case 1: If the government commits to a policy of permission without corruption control, its loss in each round will be $\pi g\gamma + (\beta + \pi\eta)\tau^*$, with a net present value of $\frac{1}{1-\delta}(\pi g\gamma + (\beta + \pi\eta)\tau^*)$. The most profitable deviation would be to renege on paying τ^* following a protest. In that case its loss in the round in which it deviated would be $\pi g\gamma$, followed by $\pi g\gamma + \min\{T^*, (\beta + \pi\eta)R_G\}$ in all subsequent rounds, with a net present value of $\frac{\pi g\gamma}{1-\delta} + \frac{\delta}{1-\delta}(\min\{T^*, (\beta + \pi\eta)R_G\})$. The net present value of its expected loss without deviation would be $\tau^* + \pi g\gamma + \frac{\delta}{1-\delta}(\pi g\gamma + (\beta + \pi\eta)\tau^*)$. Comparison of these two values yields the first condition.

Case 2: If the government commits to a policy of protest permission with corruption control, the most profitable deviation would be to renege on paying τ^* and to fail to punish the official following a protest. In that case, its loss in that round will be only the amount of the wage βp^* , followed by $\pi g\gamma + \min\{T^*, (\beta + \pi\eta)R_G\}$ in all subsequent rounds, with a net present value of $\frac{\beta p^*}{1-\delta} + \frac{\delta}{1-\delta}(\min\{T^*, (\beta + \pi\eta)R_G\})$. Honoring its policy would cost $\beta p^* + c(p^*) + \tau^*$ in the current period and $\beta(p^* + c(p^*) + \tau^*)$ in all future periods, for a net present value of $\frac{\beta p^*}{1-\delta} + c(p^*) + \tau^* + \frac{\delta}{1-\delta}\beta(c(p^*) + \tau^*)$. Comparison of these two values yields the second condition. ■

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