# Deliberately Incomplete Press Censorship Preliminary version—please cite only with author's permission

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#### Abstract

The level of press freedom in non-democratic states is commonly interpreted as the outcome of a contest between a civil society pushing for greater press freedom and an authoritarian regime struggling to suppress all independent voices. This paper presents a formal model showing that significant press freedom may in fact be desirable to an authoritarian central government as a check on difficult-to-control local officials, and explores how this motivation is balanced against the potentially destabilizing effects of negative media reports. The model helps to explain why the Chinese Communist Party has permitted greater media freedom since the early 1990s despite its continued strength.

### 1 Introduction

A free press is one of the crucial elements of democratic governance, both valued for its own sake and instrumentally for its ability to increase the public accountability of political actors. As a corollary, it is often assumed that less-democratic governments will attempt to control the media and restrict the flow of news, whether through bribery or force. Centralized state control of the mass media is part of the standard definitions of totalit (Friedrich and Brzezinski, 1956). Levitsky and Way (2002) note that in "most full-blown autocracies, the media are entirely state-owned, heavily censored, or systematically repressed" (57) and characterize "competitive authoritarian" regimes in part by their inability to completely suppress the media. Indeed, lack of control over the press has been associated with the downfall of many authoritarian regimes. Lawson (2002) argues that in Mexico press liberalization played an important part in the gradual ending of the PRI monopoly on power. The case of Peru provides an even more stark example—a single television broadcast, clearly showing Fujimori's security chief engaging in bribery, led rapidly to the collapse of authoritarian rule (McMillan and Zoido, 2006).

But is press freedom inevitably in opposition to the goals of an authoritarian regime? In 2007 Freedom House ranked China 181st of 195 countries in press freedom-above Iran, Cuba, and North Korea, but below Syria, Saudi Arabia, and Russia (Freedom House, 2008), and Reporters without Borders ranked China 163rd of 169 countries (Reporters without Borders, 2008). The Committee to Protect Journalists reported among a variety of other offenses against the press, China led the world in the number of imprisoned journalists from 1999 to 2007 (Committee to Protect Journalists, 2007). This bleak picture has been consistent over many years. Yet it has also been sincerely argued that "Chinese news coverage... is in the midst of something of a golden age" (French, 2007). Investigative journalism has become an important part of the Chinese media environment, pioneered by newspapers like Southern Metropolitan Post and Southern Weekend (Zhao, 2000; Esarey, 2005; Fowler and Dean, 2006). While reporters and editors are sometimes disciplined, fired, or imprisoned, the majority of investigative reports face objections only from the local governments that are the targets of the unfavorable coverage. Nor is such reporting limited to regional newspapers. In 1994, China Central Television (CCTV) began broadcasting a primetime television show, "Focus," that included a substantial component of investigative reporting on government corruption (Li, 2002). CCTV is not a renegade band of journalists but rather is the government's single most important propaganda vehicle and is supervised closely by the party

<sup>&</sup>lt;sup>1</sup>Taking into account population size of course makes this number seem less extreme, but it remains substantial. As of December 1st, 2007, China had 29 of the world's 127 imprisoned journalists (CPJ, 2007).

(Zhao, 2000).

These changes do not seem to indicate a significant weakening of the regime, yet neither are they irrelevant noise–small-scale acts of journalistic heroism in a sea of oppression. Instead, it appears that the Chinese central government is consciously using journalists as a check on corruption in lower levels of government without letting them go so far as to cause political instability, a form of sophisticated (but not competitive) authoritarianism.<sup>2</sup> This paper develops a formal model to better understand several issues surrounding this conjecture. What factors should affect how an authoritarian government would deal with this tradeoff? Under what circumstances would a strategy of limited media freedom be preferred to the more conventional extremes of total media suppression on the one hand or an active free press on the other? What are the possible implications of such a strategy being deployed? While the model is motivated first by an attempt to understand the Chinese case, it also hopes to provides a basis with which to consider media policy in other authoritarian regimes.

This paper models this as an interaction between a central government and a large number of officials and communities. Each official chooses whether to be honest or (if given the opportunity) to engage in corruption in a way which the state's more-routine methods of administrative monitoring cannot observe. Each community then observes whether its members' prospects look good or bad under the current regime. This is affected in part by the honesty of their local official and in part by other economic variables such as the distributions of income, wealth, and future opportunities. The media then engage in muckraking journalism, reporting on the lives of some of the communities whose members are not doing well (the "discontented"). However, they do so within limits set by the regime. Whereas without limits the journalists would report on every instance of discontent, the regime sets a cutoff level of reporting beyond which journalists will no longer be permitted to report.

Having observed the reported level of discontent, the communities can choose either to accept the status quo or to revolt against the regime. The greater the number of communities willing to revolt, the higher is their probability of success. Government policy determines at what point censorship will be imposed and how much it will punish an official whose jurisdiction is the subject of a negative report.

Censorship has value to the government because it creates uncertainty on the part of communities about the true state of the world, and thus about the potential level of support for a revolt. If all the news were reported, discontented communities would know exactly how many other communities shared their grievances. Total censorship would of course maximize this uncer-

<sup>&</sup>lt;sup>2</sup>This possibility has been raised by Zhao and Sun (2007) among others.

tainty. However, sufficient uncertainty to forestall revolt can also be achieved by moderating the level of bad news that is reported, allowing freer reporting when the economy is in a relatively good state and restricting it when the economy is in a relatively bad state. This allows the government to reap the benefit of journalism as a check on corruption without communities being aware of when times are bad enough that a revolt would likely attract many participants.

Media opening becomes attractive when corruption would otherwise exert a significant drag on the economy and reduce the rents available to the regime. Partial media opening is more attractive than full opening when both the risk of revolt and the rents that would be lost by the government following a regime change are both substantial. Finally, a decreased ability of the government to monitor and check corruption through means other than a watchdog press (such as through internal party discipline or police investigations) will make this use of the press more attractive.

Another crucial assumption for such an approach to work is that reporting can be restricted to local outcomes. Were there to be unfettered critical reporting on national politics such partial censorship would be ineffective.

The model helps explain why in China very few areas of reporting are completely and continually off limits, especially with regard to local-level news. Instead, once a certain number of reports have appeared, the Central Propaganda Department acts rapidly to censor further negative reporting in order to ensure stability is maintained.

This paper builds on a small but growing formal literature on media control and propaganda in authoritarian regimes. Gehlbach and Sonin (2008) show that a government should be more likely to take direct control of the media when it has a substantial need for "mobilization" and when a privately-owned news organization's incentives to report objectively are large due to large potential earnings from advertisement. Edmond (2008) argues that new information technologies may strengthen autocracy by giving the regime more precise control over a distorted and noisy signal received by communities. Debs (2007) treats media manipulation as a way of changing community preferences that makes it easier for a dictator to cement his base of support. Huang (2008) argues that a moderately competent regime may choose to permit media openness in order to distinguish itself from a less effective regime, thereby avoiding a revolt, while a very competent regime can suppress the media without fearing community action.

The most closely related paper in substance and modeling approach is Egorov, Guriev, and Sonin (2007), which argues that if a regime has abundant natural resources, a dictator will be more likely to suppress press freedom and will instead use a secret police force to control his agents. This paper reaffirms this conclusion, but also demonstrates that press freedom will become more attractive to the regime when bureaucratic mechanisms such as secret police are weakened.

In addition to providing new hypotheses about the extent of media openness under an authoritarian government, this paper contributes to this literature on a technical level. This model shows how citizens may aggregate a large number of news items on many different topics, coming from a very large number of sources, without coming to an absolute conclusion about the regime's performance. Communities form their opinion about the overall state of the world from the aggregate of this information rather than from a single signal. This significantly restricts the government's ability to effectively bias communities' view of the world. This contrasts with the models by Egorov et al (2007) and Huang (2008), which assume that media freedom is an all or nothing decision. Gehlbach and Sonin (2008) and Edmond (2008), by contrast, enable the government to bias citizens' perceptions by manipulating a single signal of the state of the world. Furthermore, explicitly modeling the government's efforts to balance the costs and benefits of media freedom gives us a better understanding of the logic of some of the institutional details of media politics in regimes such as China's—in particular the constant adjustment of the limits of media freedom.

Of course, media policy is only one mechanism semi-democratic authoritarian governments have with which to try to discipline lower-level officials. Others include street protests (O'Brien and Li, 2006; Lorentzen, 2008), an independent judiciary (Rosberg, 1995), and elections (Geddes, 1999). Oi (2003) provides a survey of the use and impact of some of these institutions in China and the essays in Perry and Goldman (2007) examine the origin and effects of these and other "grassroots" reforms in China in greater depth. For tractability and parsimony, this model focuses on only one of these mechanisms.

We will now present and analyze the formal model before returning to discuss the evidence in favor of its applicability in China and some of its implications.

## 2 The Model

In this model there are three types of players: a central government, officials, and communities. The central government is treated as a unitary actor. The officials and communities are considered to be sufficiently numerous that each group can be treated as a mass 1 of identical individual actors. Each community indexed i is under the jurisdiction of a corresponding official i.

The game begins with the government setting a policy that includes a censorship level  $\bar{\lambda}$  (explained below) and a contract to the officials that comprises a wage w, paid up front, and a punishment  $p \geq 0$  that will be imposed if the media report unfavorable news about an official. Officials can either accept the contract or leave government service, taking an outside option with

value  $\bar{w}$ .<sup>3</sup> If an official accepts the job, he then receives an opportunity to engage in corruption with probability  $\gamma$ .  $h_i \in \{0,1\}$  denotes his level of honesty where  $h_i = 1$  indicates honest behavior (by choice or not) and  $h_i = 0$  indicates that an opportunity for corruption is taken. <sup>4</sup> Let  $h = \int_0^1 h_i$ , the overall fraction of officials who are honest (willingly or not) in the population.

Each community then learns its status quo outcome  $Q \in \{Q_B, Q_G\}$ , with  $0 < Q_B < 1 < Q_G$ . The probability that community i's payoff is bad is  $(1 - h_i \eta) \theta$ .  $\theta$  is a state variable distributed randomly with full support over the interval [0, 1], according to a cumulative distribution function F with continuous and strictly positive density function f. It captures nationwide factors that affect the likelihood of communities receiving a bad outcome, such as the effectiveness of government policies, overall economic growth, and the degree of inequality.  $\eta \in (0,1)$  is the value of an official's honest behavior in reducing the likelihood of a community receiving the bad outcome  $Q_B$ . Since there is a continuum of players, a fraction  $\lambda := \int_0^1 (1 - h_i \eta) \theta di$  of the population will receive a bad outcome.  $\theta$  is not directly observed by any of the players.

A piece of news in this model is the fact that a particular community has received a bad outcome. Thus, if all the news were reported, all players would observe  $\lambda$  directly. However, the government can choose to set a cutoff level for reporting  $\bar{\lambda} \in [0,1]$ . The media are assumed to go up to but not exceed this limit but are not treated explicitly as strategic players. Once that level of negative reporting is achieved, further reporting is shut down. That is, if  $\bar{\lambda} \geq \lambda$ , every bad outcome will be reported, but if  $\lambda > \bar{\lambda}$ , then only a fraction  $\bar{\lambda}/\lambda$  of incidents will be reported, with the remainder being censored. Importantly, if the government censors, it is also unaware of the true level of discontent and cannot identify all of those officials whose communities have experienced bad outcomes. The commonly observed reported level of discontent will be  $\hat{\lambda} = \min \left\{ \lambda, \bar{\lambda} \right\}$ . However, this pre-arranged cutoff may not actually be implemented. The government is assumed to only be able to make credible pre-commitments to policies that are payoff-relevant for officials.  $\bar{\lambda}$  will not be payoff-relevant if p = 0. If p = 0, then the government can choose any level of  $\bar{\lambda}$  after the officials' actions and citizen status quo outcomes are realized.

Neither the government nor the communities can observe official corruption directly, but they can make use of news reports for their own purposes.<sup>5</sup> The government can use the news to

<sup>&</sup>lt;sup>3</sup>For technical completeness, we assume that if the official refuses the job, the game ends and the government receives infinite disutility.

<sup>&</sup>lt;sup>4</sup>This is substantively equivalent to learning about the opportunity and then making the decision about whether to be corrupt, but simplifies some of our subsequent expressions.

<sup>&</sup>lt;sup>5</sup>As noted in the introduction, the government is without a doubt using many different mechanisms concurrently to control corruption. This model is intended to focus on residual corruption that cannot be addressed through other

incentivize officials. Wages, once paid, cannot be withdrawn, but the government can impose a punishment at level p on each official whose community is the subject of an expose.<sup>6</sup> Punishment p costs c(p), and we assume c'(p) > 0, c''(p) > 0,  $p \ge 0$ , and c(0) = 0. This means that taking back an agent's salary or finding where the gains from corruption have been hidden will cost at least as much as the value of the wage or the stolen sum recovered, and that the harsher the penalty, the more costly it is to impose.

Communities can also use the news. Given the media policy and the true level of discontent, each community will learn from the aggregate of the media reports an overall level of reported discontent. Based on this information, a community can choose either to accept its status quo payoff or to participate in an attempt to overthrow the regime (to revolt). Let  $\rho_i = 0$  denote the choice to accept the status quo and  $\rho_i = 1$  the choice to revolt. A revolt (whether successful or not) requires the community to forego its status quo payoff Q. If the revolt succeeds, it earns each participating community a payoff normalized to 1. A revolt succeeds with probability  $\pi(\rho)$  where  $\rho = \int_0^1 \rho_i di$ , that is, the fraction of the population revolting. We assume that  $\pi(0) = 0$ ,  $\pi'(\rho) > 0$ , and  $\pi(1) = 1$ —a revolt needs participants, is more likely to succeed the more communities are involved, and will succeed with certainty if every community joins in.

If there has been no successful revolt the government accrues rents of R > 0, but suffers a direct cost of corruption hK, with K > g.<sup>7</sup>

To recap, the game proceeds as follows:

- 1. The government sets a policy  $\{\bar{\lambda}, w, p\}$ .
- 2. Each official i chooses whether to accept the job and then an honesty level  $h_i \in \{0, 1\}$ .
- 3. Nature determines the state  $\theta$  according to the distribution  $F(\theta)$ .
- 4. Each community receives either a bad or a good payoff,  $y_i \in [Q_B, Q_G]$ , where  $0 < Q_B < 1 < Q_G$ . A community i gets the bad payoff  $Q_B$  with probability  $(1 h_i \eta) \theta$ .
- 5. If p > 0, then  $\bar{\lambda}$  is as specified in step 1. If p = 0, the government can revise  $\bar{\lambda}$  at this stage. Each community's low payoff is made public by the media in a negative media report with

means, making the assumption that other mechanisms are neither substitutes not complements for media scrutiny.

<sup>&</sup>lt;sup>6</sup>We disregard the possibility of randomized punishment (mixed strategies) on grounds of realism.

<sup>&</sup>lt;sup>7</sup>We could also assume that the officials are harmed directly by a successful revolt, but this should only affect their value of taking the job relative to their outside options, because they are so numerous that none's actions will have an appreciable marginal effect on the probability of revolt. It might also mean that they will accept lower wages if the regime's policies tend to foster stability. This remains for future work to examine.

probability max  $\left\{1, \frac{\bar{\lambda}}{\lambda}\right\}$  and is otherwise known only to that community. High payoffs are not reported.

- 6. The government imposes the punishment of p on all officials whose communities were featured in a negative media report.
- 7. Each community i chooses whether to revolt  $(\rho_i = 1)$  or to remain quiescent  $(\rho_i = 0)$ . A revolt (whether successful or not) results in the loss of the community's income for that period. A successful revolt earns each participant a one-time payoff normalized to 1. A revolt succeeds with probability  $\pi(\rho)$  where  $\rho = \int_0^1 \rho_i di$ .

The expected utility of a community i is:

$$U_i = (1 - \rho_i) Q + \rho_i \pi (\rho).$$

Note that because  $Q_B < 1 < Q_G$ , any community receiving a bad status quo outcome would prefer a successful revolution and no community receiving a good outcome would want revolution. Thus, we will refer to communities with  $Q_B$  as "discontented."

Let  $\alpha(h_i, h, \bar{\lambda})$  be the ex-ante likelihood of an official i receiving a negative media report (before the state  $\theta$ ) is realized. The utility of an official i who takes the job with the plan of choosing  $h_i$  is then:

$$U_{i} = w + \gamma g - p\left(\gamma \left(1 - h_{i}\right) \alpha \left(0, h, \bar{\lambda}\right) + \left(1 - \gamma \left(1 - h_{i}\right)\right) \alpha \left(1, h, \bar{\lambda}\right)\right)$$

and  $\bar{w}$  otherwise. That is, the official benefits from the wage and any corruption, balanced against the risk of being punished for presiding over a discontented community.

The government's expected utility is:

$$(1 - \pi(\rho)) (R - hK) - w - c(p) \int_{0}^{1} (\gamma(1 - h_{i}) \alpha(0, h, \bar{\lambda}) + (1 - \gamma(1 - h_{i})) \alpha(1, h, \bar{\lambda})) di$$

This comprises the rents of staying in power, less any direct costs of corruption, and the administrative costs of paying officials and punishing those who are exposed by the media.

# 3 Analysis

We will focus on the pure strategy perfect Bayesian equilibria of the game, with some additional assumptions (both technical and substantive) introduced and discussed at the points where they affect the analysis.

#### 3.1 The government's contract with officials

We first examine the government's optimal contract with the officials, taking the media policy  $\bar{\lambda}$  as given and focusing only on the government's expected direct costs of how it structures its relationship with officials:  $w + c(p) \int_0^1 \alpha(h_i, h, \bar{\lambda}) di$ . For simplicity, we focus on equilibria in which officials will resolve indifference in accord with the government's preferences, i.e. accepting their posts and being honest. This assumption implies that in equilibrium either all officials will be corrupt given the opportunity, h = 0, or all will be honest, h = 1, since all are responding to an identical contract.

If the government chooses not to use the media to impede corruption, it need never punish the officials, setting p=0. Given the lack of punishment and consequent unrestrained corruption, it can pay a salary lower than their outside option in return for allowing them to keep their jobs (and the corrupt gains thereof), implying a wage  $w=\bar{w}-\gamma g$ .

If the government does wish to stop corruption, then it must minimize:

$$w + c(p) \int_0^1 \alpha(1, 1, \bar{\lambda}) di.$$

This problem must be solved subject to two constraints. The first is a participation constraint ensuring that an official would be willing to take the job,

$$w - p\alpha\left(1, 1, \bar{\lambda}\right) \ge \bar{w},$$

and the second is an incentive compatibility constraint ensuring that the increased likelihood of receiving a negative media report outweighs the gains from corruption should an opportunity become available,

$$p\alpha\left(0;1,\bar{\lambda}\right)-p\alpha\left(1,1,\bar{\lambda}\right)\geq g.$$

Recall that the term  $\alpha\left(0;1,\bar{\lambda}\right)$  is the probability of an official being the subject of a negative media report (and therefore punished) if he is corrupt, given that all other officials are honest.  $\lambda := \int_0^1 \left(1 - h_i \eta\right) \theta di$ , which under the assumption of general honesty becomes  $\lambda = (1 - \eta) \theta$ . The state of the world corresponding to a censorship level of  $\bar{\lambda}$ , given h = 1, is  $\bar{\theta} = \bar{\lambda}/(1 - \eta)$ . Conditional on  $\theta < \bar{\theta}$ , then every instance of discontent will be reported, so  $\alpha\left(0,1,\bar{\lambda},\theta\right) = \theta$ . Conditional on  $\theta > \bar{\theta}$ , a particular negative media report will make it out before censorship is imposed with probability  $\frac{\bar{\theta}}{\bar{\theta}}$ , so  $\alpha\left(1,1,\bar{\lambda},\theta\right) = \frac{\bar{\theta}}{\bar{\theta}}\theta$ . Combining these two facts yields an unconditional  $\alpha\left(0,1,\bar{\lambda}\right) = \int_0^{\bar{\theta}} \theta f\left(\theta\right) d\theta + \int_{\bar{\theta}}^1 \bar{\theta} f\left(\theta\right) d\theta$ . By a similar logic,  $\alpha\left(1,1,\bar{\lambda}\right) = (1 - \eta) \alpha\left(0;1,\bar{\lambda}\right)$ .

If  $\bar{\lambda} = 0$ , then of course  $\alpha(0, 1, 0) = \alpha(1, 1, 0)$  so the government has no way of enforcing incentive compatibility since the media provide no information about discontent.

**Lemma 1** If  $\bar{\lambda} > 0$  and the government chooses to forestall corruption, it will impose a punishment  $p^* = \frac{g}{\eta \alpha(0;1,\bar{\lambda})}$  and set a wage  $w^* = \bar{w} + (1-\eta) \alpha(0;1,\bar{\lambda}) p^*$ , or  $\bar{w} + \frac{g(1-\eta)}{\eta}$ .

**Proof.** Note first that the participation constraint will bind. If not, the wage w could be reduced, thus reducing the government's costs. Incentive compatibility is unaffected by changes in w, since w does not appear in that constraint. This allows us to fix the wage using the participation constraint at  $w = p(1 - \eta) \alpha(0; 1, \bar{\lambda})$ . The incentive compatibility condition can then be rewritten as  $p \geq g/\alpha(0; 1, \bar{\lambda}) \eta$ . This will also bind. If not, the punishment p could be reduced, directly reducing the government's expected costs and also loosening the participation constraint. Thus we can fix the punishment at  $p = \frac{g}{\alpha(0; 1, \bar{\lambda})\eta}$ . Substituting for p in the wage function yields  $w = \bar{w} + \frac{g(1-\eta)}{\eta}$ .

These results give us the reasonable conclusions that the required level of punishment will increase as g increases (the temptations of graft go up) and as  $\eta$  decreases (the performance difference between a corrupt official and an honest one declines). The same holds true for the wage, primarily because there will be false positives ("unjust punishments") in equilibrium. As the level of punishment increases, higher wages must be offered to compensate for this.

Knowing this, we can now consider the impact of the government's censorship policy  $\bar{\lambda}$  on corruption control. Given Lemma 1 we can write the government's minimum cost of corruption control given  $\bar{\lambda}$  as  $\bar{w} + C(\bar{\lambda})$  where  $C(\bar{\lambda}) := (1 - \eta) \alpha(0; 1, \bar{\lambda}) [p^* + c(p^*)]$ .

**Lemma 2** Greater media freedom makes corruption control cheaper. That is,  $C'(\bar{\lambda}) < 0$ .

**Proof.** Let  $z=g/\eta$ . Then given Lemma 1 we can substitute for  $w^*$  and  $p^*$  and write  $C\left(\bar{\lambda}\right)=(1-\eta)\,\alpha\left(0;1,\bar{\lambda}\right)\left[\frac{z}{\alpha(0;1,\bar{\lambda})}+c\left(\frac{z}{\alpha(0;1,\bar{\lambda})}\right)\right]$ . This simplifies to  $(1-\eta)\left[z+\alpha c\left(\frac{z}{\alpha(0;1,\bar{\lambda})}\right)\right]$ . Since  $(1-\eta)$  is positive and z is a constant, changes in  $\phi\left(\theta\right)$  will affect costs only through their effect on  $\alpha\left(0;1,\bar{\lambda}\right)c\left(\frac{z}{\alpha(0;1,\bar{\lambda})}\right)$ . This is strictly decreasing in  $\alpha\left(0;1,\bar{\lambda}\right)$ , which can be seen as follows:  $\frac{d}{d\alpha}\alpha c\left(\frac{z}{\alpha}\right)=c\left(\frac{z}{\alpha}\right)-\alpha c'\left(\frac{z}{\alpha}\right)\frac{z}{\alpha^2}$ . Replacing  $\frac{z}{\alpha}$  with p, we can see that this will be negative if  $c\left(p\right)-c'\left(p\right)p<0$  for  $p\in[z,\infty)$ . (noting that p=z when  $\alpha=1$  and  $\lim_{\alpha\to 0}\frac{z}{\alpha}=\infty$ ).  $c\left(0\right)-c'\left(0\right)0=0$  by our initial assumptions.  $\frac{d}{dp}\left[c\left(p\right)-c'\left(p\right)p\right]=-pc''\left(p\right)<0$ , so the expression is negative for any p>0. Finally, note that  $\alpha\left(0;1,\bar{\lambda}\right)$  is increasing in  $\bar{\lambda}$ . To see this, recall that  $\bar{\theta}=\bar{\lambda}/\left(1-\eta\right)$ , so for a given  $\eta$  we need  $\alpha\left(0;1,\bar{\lambda}\right)=\int_0^{\bar{\theta}}\theta f\left(\theta\right)d\theta+\int_{\bar{\theta}}^1\bar{\theta}f\left(\theta\right)d\theta$  to be increasing in  $\bar{\theta}$ . Differentiating yields  $\frac{d\alpha\left(0;1,\bar{\lambda}\right)}{d\bar{\theta}}=1-F\left(\bar{\theta}\right)>0$ .

An increase in media freedom will have two competing effects. On the one hand, it means that the government can dissuade officials from corruption with less-severe punishments. On the other hand, because the government must punish poor performance in any case, it will increase the frequency with which the government must impose punishments. The assumption that the cost of punishment is convex means that having more frequent punishments due to more frequent negative media reports is always preferable. That is, on the margin, punishing more often but less severely will always be the cheaper option.

Were this the only consideration, this would imply that any central government, authoritarian or not, would allow the press free rein (at least with regard to reporting on the misbehavior of local officials). However, we must also take into account the impact of bad news on political stability.

#### 3.2 Forestalling revolt

We now turn to communities' decisions to revolt. In equilibrium, a discontented community's subjective estimate of the probability of a successful revolt will be a function of the level of discontent reported in the media (call it  $\hat{\lambda}$ ) and will depend on each of the communities' inferences about the actual underlying level of discontent as well as their beliefs about the equilibrium behavior of other discontented communities. Coordination is an issue in games of this nature, since there is always an equilibrium in which no one revolts because no one else will. However, we will set this aside in order to focus on other issues of interest, making the following assumption about equilibrium behavior:

Condition 1 A discontented community will revolt if 
$$E\left[\pi\left(\lambda\right);\hat{\lambda}\right] > Q_{B}$$
.

That is, we assume that a community will revolt if it is in its interest, given its beliefs about the likely level of discontent and the assumption that other communities will also rise up. While there are other plausible assumptions one could make, this one has the virtue of simplicity and has the key realistic feature that the more widespread communities believe discontent to be, the more likely it is that they will revolt.

Given a censorship policy  $\bar{\lambda}$ , there are two important cases. For  $\hat{\lambda} < \bar{\lambda}$ ;, communities can infer precisely the true state  $\theta$  and level of discontent  $\lambda$ . Furthermore, it is easy to confirm that the equation  $\pi(\lambda) = Q_B$  can be solved for a single cut-point  $\tilde{\lambda}$ , above which communities would prefer to revolt if  $\lambda$  were known precisely, and below which they would not.<sup>8</sup> Note that  $\tilde{\lambda}$  is not a function of h.

**Lemma 3**  $\tilde{\lambda} \in (0,1)$  exists and is unique.

**Proof.** This follows directly from our assumptions that  $\pi(\rho)$  is continuous,  $\pi(0) = 0$ ,  $\pi'(\rho) > 0$ , and  $Q_B \in (0,1)$ .  $\tilde{\lambda} = 0$  is ruled out because  $\pi(0) = 0$  and  $Q_B > 0$ .

<sup>&</sup>lt;sup>8</sup>Continuity of the distribution means that  $\lambda = \tilde{\lambda}$  occurs with zero probability.

Suppose  $\hat{\lambda} = \bar{\lambda}$ , so a discontented community only knows that its own members are discontented and that the true level of discontent is somewhere in the range of  $\theta \in [\bar{\lambda}, 1]$ . Let  $\lambda(h, \theta) = (1 - h\eta)\theta$ . Communities will revolt given censorship when the expected value of doing so is greater than that of staying home, yielding the condition:

$$\frac{\int_{\bar{\theta}}^{1} \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_{\bar{\theta}}^{1} \theta f(\theta) d\theta} > Q_{B}.$$

We can now consider the government's optimal choice of  $\bar{\lambda}$ . For a given h, this will be equivalent to choosing an optimal  $\bar{\theta}$ . First, we observe that increasing the cutoff (increasing media freedom) will increase the expected value of revolting for the citizens if they observe  $\hat{\lambda} = \bar{\lambda}$ .

**Lemma 4** 
$$\frac{\int_{\bar{\theta}}^{1} \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_{\bar{\theta}}^{1} \theta f(\theta) d\theta}$$
 is increasing in  $\bar{\theta}$ .

**Proof.** Since 
$$\pi(\lambda(h,\theta))$$
 is increasing,  $\left(\pi(\lambda(h,\theta)) - \pi(\lambda(h,\bar{\theta}))\right) > 0 \forall \theta > \bar{\theta}$ , so  $\frac{\left(\bar{\theta}f(\bar{\theta})\left(\int_{\bar{\theta}}^{1}\theta f(\theta)(\pi(\lambda(h,\theta)) - \pi(\lambda(h,\bar{\theta})))d\theta\right)\right)}{\left(\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta\right)^{2}} > 0$ . The lemma is then implied by the following chain of equalities:

Tallites: 
$$\frac{\left(\bar{\theta}f(\bar{\theta})\left(\int_{\bar{\theta}}^{1}\theta f(\theta)\left(\pi(\lambda(h,\theta))-\pi\left(\lambda(h,\bar{\theta})\right)\right)d\theta\right)\right)}{\left(\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta\right)^{2}}=\frac{\left(\bar{\theta}f(\bar{\theta})\left(-\int_{\bar{\theta}}^{1}\pi\left(\lambda(h,\bar{\theta})\right)\theta f(\theta)d\theta+\int_{\bar{\theta}}^{1}\theta f(\theta)\pi(\lambda(h,\theta))d\theta\right)\right)}{\left(\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta\right)^{2}}=\frac{\left(-\bar{\theta}f(\bar{\theta})\pi(\lambda(h,\bar{\theta}))\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta+\bar{\theta}f(\bar{\theta})\int_{\bar{\theta}}^{1}\theta f(\theta)\pi(\lambda(h,\theta))d\theta\right)}{\left(\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta\right)^{2}}=\frac{\left(\left(\frac{d}{d\bar{\theta}}\int_{\bar{\theta}}^{1}\theta f(\theta)\pi(\lambda(h,\theta))d\theta\right)\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta-\left(\frac{d}{d\bar{\theta}}\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta\right)\int_{\bar{\theta}}^{1}\theta f(\theta)\pi(\lambda(h,\theta))d\theta\right)}{\left(\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta\right)^{2}}=\frac{\frac{d}{d\bar{\theta}}\int_{\bar{\theta}}^{1}\theta f(\theta)\pi(\lambda(h,\theta))d\theta}{\int_{\bar{\theta}}^{1}\theta f(\theta)d\theta}.$$

This lemma simply states that the higher the cutoff  $\bar{\theta}$  is, the higher the expected value of revolt for communities when they do know that censorship has been imposed, because they know that actual discontent must be higher than this cutoff. This in turn leads us to the following:

**Lemma 5** Given h, either discontented communities revolt for any  $\bar{\lambda}$ , or there exists a unique  $\lambda^*(h) \in \left[0, \tilde{\lambda}\right]$  such that if  $\bar{\lambda} > \lambda^*(h)$ , discontented communities revolt upon observing  $\hat{\lambda} = \bar{\lambda}$ , and if  $\bar{\lambda} \leq \lambda^*(h)$ , they will not revolt upon observing  $\hat{\lambda} = \bar{\lambda}$ .  $\lambda^*(h) < \tilde{\lambda} \forall h$ .

**Proof.** If  $\frac{\int_0^1 \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_0^1 \theta f(\theta) d\theta} > Q_B$ , then communities revolt if  $\bar{\theta} = 0$ , and by Lemma 4, for any higher  $\bar{\theta}$ . If  $\frac{\int_0^1 \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_0^1 \theta f(\theta) d\theta} < Q_B$ , observe that  $\lim_{\bar{\theta} \to 1} \frac{\int_0^1 \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_0^1 \theta f(\theta) d\theta} = \pi (1 - h\eta)$ . By our initial assumption that  $\pi (1) = 1$ , continuity of  $f(\theta)$  and  $\pi (.)$ , and the intermediate value theorem, we know that  $\lambda^* (0) = \theta^* (0)$  solving  $\frac{\int_{\theta^*(0)}^1 \theta f(\theta) \pi(\theta) d\theta}{\int_{\theta^*(0)}^1 \theta f(\theta) d\theta} = Q_B$  exists and is unique because  $f(\theta)$  has full support and  $\pi (\rho)$  is strictly increasing. If h = 1,  $\lim_{\bar{\theta} \to 1} \frac{\int_0^1 \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_0^1 \theta f(\theta) d\theta} = \pi (1 - \eta)$ . If  $\pi (1 - \eta) \ge 0$ 

 $Q_B$ , then a similar logic holds,  $\theta^*(1)$  solves  $\frac{\int_{\theta^*(0)}^1 \theta f(\theta) \pi((1-\eta)\theta) d\theta}{\int_{\theta^*(0)}^1 \theta f(\theta) d\theta} = Q_B$ , and  $\lambda^*(1) = (1-\eta)\theta^*(1)$ . Further,  $\theta^*(0) < \theta^*(1)$  by the implicit function theorem. Otherwise, we can define  $\lambda^*(1) = (1-\eta)$ , noting that  $\lambda \geq \lambda^*(1)$  implies  $\theta \geq 1$ , which will occur with zero probability.

To see why  $\lambda^*(h) < \tilde{\lambda}(h)$ , suppose in contradiction that  $\lambda^*(h) \geq \tilde{\lambda}(h)$ . This implies that if we set  $\bar{\lambda} = \tilde{\lambda}$ , communities would revolt upon observing  $\lambda = \bar{\lambda}$ , since they know this implies  $\lambda \geq \bar{\lambda}$ , and therefore that revolt is costless in expectation if  $\lambda = \bar{\lambda}$  and has a positive expected value for any  $\lambda > \bar{\lambda}$ . This contradicts the definition of  $\lambda^*(h)$ , so it must be the case that  $\lambda^*(h) < \tilde{\lambda}$ .

This lemma tells us that there is an upper limit  $\lambda^*(h)$  to the cutoff  $\lambda$  above which censorship will have no effect in forestalling revolt. If the cutoff is set too high, then despite communities' uncertainty about the precise level of discontent, their expect utility of revolt will still be high enough to make it worthwhile.

**Proposition 1** If the government chooses not to use the media to mitigate corruption, then if  $\frac{\int_0^1 \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_0^1 \theta f(\theta) d\theta} < Q_B$ , the optimal media policy will be any  $\bar{\lambda} \in [0, \lambda^*(0)]$ . If  $\frac{\int_0^1 \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_0^1 \theta f(\theta) d\theta} > Q_B$ , the optimal media policy will be any  $\bar{\lambda} \geq \tilde{\lambda}$ , but given the government's inability to pre-commit to  $\bar{\lambda}$ , the actual media policy will be  $\bar{\lambda} = 0$ .

**Proof.** Since corruption is tolerated, the only consideration affecting the optimal media policy is the likelihood fo revolt. By Lemma 5, any media policy that sets  $\bar{\lambda} \in [0, \lambda^*(0)]$  will eliminate the possibility of revolt. Such a policy  $\bar{\lambda}$  is of course only possible if  $\lambda^*(0) > 0$ , which requires  $\frac{\int_0^1 \theta f(\theta) \pi(\lambda(h,\theta)) d\theta}{\int_0^1 \theta f(\theta) d\theta} < Q_B$ . If this condition does not hold, then eliminating revolt is impossible. Suppose  $\bar{\lambda} < \tilde{\lambda}$ , then if the realization of  $\lambda$  is between  $\bar{\lambda}$  and  $\tilde{\lambda}$ , there will be a revolt, but if  $\lambda$  were known to the population, there would be no revolt. Thus,  $\bar{\lambda} < \tilde{\lambda}$  increases the probability of revolt and is suboptimal. For any  $\bar{\lambda} > \tilde{\lambda}$ , citizens will revolt if and only if  $\lambda < \tilde{\lambda}$ . However, such a strategy is only possible with pre-commitment, which we assume is not possible in this case. Without pre-commitment, the government will always choose total censorship. To see this, suppose in contradiction that there exists a  $\bar{\lambda} > 0$  that communities believe the government would not revise. Then the communities would revolt if  $\lambda = \bar{\lambda}$ , since  $\bar{\lambda} > \lambda^*(0)$ , but would not revolt if  $\lambda < \min \left\{ \bar{\lambda}, \tilde{\lambda} \right\}$ . Given this, the government should choose to change  $\bar{\lambda}$  to any level  $\lambda < \min \left\{ \bar{\lambda}, \tilde{\lambda} \right\}$ . Since this is true for any  $\bar{\lambda} > 0$ , communities will only believe  $\bar{\lambda} = 0$ .

Informally, if the first condition holds, then the government can permit some media freedom without risking revolt (although this provides no benefit to the government). If this condition does not hold, total censorship would still lead to revolt because the prior probability of a large number of communities being discontented is very high. Given this, the government would actually benefit from greater media freedom because then a low level of (honestly reported) discontent would

forestall revolt. However, this is not credible, since if communities believed the media were free, the government could eliminate all chance of revolt by censoring  $\hat{\lambda}$  to a lower level.

Recall that this inability to commit comes from the assumption that the government can only make credible pre-commitments to policies that are payoff-relevant for officials. This assumption is reasonable because a regime that is unable to make commitments to provide incentives to its own officials would have no control whatsoever.<sup>9</sup>

On the other hand, if the government does want to use the media to control corruption, we have the following result:

**Proposition 2** If the government wishes to mitigate corruption, then it will optimally either set  $\bar{\lambda} = \lambda^*(h)$  or  $\bar{\lambda} = 1$ . If  $\bar{\lambda} = \lambda^*(h)$ , communities will never revolt. If  $\bar{\lambda} = 1$  (i.e. there is no censorship) then communities will revolt if  $\lambda > \tilde{\lambda} \in (\lambda^*(h), 1)$ .

**Proof.** Changes in  $\bar{\lambda}$  will influence the government's utility through the probability of a successful revolt and the frequency of negative media reports  $\alpha(1,1,\bar{\lambda})$ . In all cases, increasing  $\bar{\lambda}$  will increase the government's utility by lowering the expected cost of monitoring, by Lemma 2. Let  $r(\hat{\lambda})$  be an indicator function for whether discontented communities revolt in equilibrium, given the signal  $\hat{\lambda}$ . Then  $\omega = \int_0^1 \pi(\lambda(h,\theta)) r(\lambda(h,\theta)) d\theta$  is the probability of the government being overthrown in equilibrium. To understand the effects of  $\bar{\lambda}$  on  $\omega$ , we examine two cases.

Case 1:  $\bar{\lambda} \leq \lambda^*$  (1).If  $\hat{\lambda} < \bar{\lambda}$ , communities can infer  $\lambda$  precisely and know it is too low to make revolting worthwhile, while if  $\hat{\lambda} = \bar{\lambda}$ , they are sufficiently uncertain about whether  $\lambda$  is high enough that they will still not revolt. Thus,  $\omega = 0$ .  $\frac{d\omega}{d\bar{\lambda}} = 0$ , so  $\bar{\lambda} = \lambda^*$  (1) achieves the same  $\omega$  with a lower cost of enforcement  $C(\bar{\lambda})$ .

Case 2: If  $\bar{\lambda} \geq \tilde{\lambda}(1)$ , then if  $\hat{\lambda} < \bar{\lambda}$ ,  $\theta$  will be inferred precisely, resulting in revolt iff  $\lambda > \tilde{\lambda}$ . However, if  $\hat{\lambda} = \bar{\lambda}$ , discontented communities will still revolt, despite the uncertainty about the precise level of  $\lambda$ .  $\omega = \int_{\tilde{\theta}(h)}^{1} \pi\left(\lambda\left(h,\theta\right)\right) d\theta$ .  $\frac{d\omega}{d\bar{\lambda}} = 0$ , so  $\bar{\lambda} = 1$  dominates all other possibilities in this range due to its effect on enforcement costs  $C\left(\bar{\lambda}\right)$ .

Thus, the government faces a choice between four types of policy, each characterized by  $(\bar{\lambda}, p, w)$ . If the media are used to control corruption, then there are two options. Under <u>media freedom</u>, the policy is  $\left(1, \frac{g}{\eta \alpha(0,1,1)}, \bar{w} + \frac{g(1-\eta)}{\eta}\right)$ , officials will be honest, but citizens will revolt with the positive probability  $1 - F\left(\tilde{\theta}\left(1\right)\right)$  and the probability of a revolt both occurring and succeeding will be

<sup>&</sup>lt;sup>9</sup>This might emerge endogenously from a repeated game setting in which officials learn about whether censorship has occurred after the fact. If the government censored at a level below the expected  $\bar{\lambda}$ , thereby letting some officials go unpunished, the government would lose credibility in future periods.

 $\int_{\tilde{\lambda}/(1-\eta)}^{1} \pi\left((1-\eta)\theta\right) f\left(\theta\right) d\theta. \text{ Under } \underline{\text{loose censorship}}, \text{ the policy is } \left(\lambda^{*}\left(1\right), \frac{g}{\eta\alpha(0,1,\lambda^{*}(1))}, \bar{w} + \frac{g(1-\eta)}{\eta}\right)$  and the outcome will be that officials will always be honest and citizens will never revolt.

If the government tolerates corruption, and  $\lambda^*(0) > 0$ , the policy will be  $(\bar{\lambda}, 0, \bar{w} - \gamma g)$ , with  $\bar{\lambda} \in [0, \lambda^*(0)]$ . That is, the government does not punish poor performance uncovered by the media, if it even permits reporting. As a consequence, officials will seize available opportunities for corruption, h = 0. It may permit some negative reporting, but it is indifferent between reporting cutoff points between 0 and  $\lambda^*(0)$ . No revolts will occur in equilibrium. Because  $\theta^*(0) < \theta^*(1)$ , the probability that a given negative report will not be publicized is lower under this policy, so we will refer to it as strict censorship. If  $\frac{\int_0^1 \theta f(\theta)\pi(\theta)d\theta}{\int_0^1 \theta f(\theta)d\theta} > Q_B$  (or equivalently, no  $\lambda^*(0) > 0$  exists), strict censorship is not feasible because even if  $\bar{\lambda} = 0$ , citizens will choose to revolt. In this case, the only credible policy is  $(0, 0, \bar{w} - \gamma g)$ , which we will refer to as media blackout.

The government's expected utility from each of these options is summarized in the following table:

Several results emerge from comparing these alternatives. First, an increase in R will tend to favor loose censorship over media freedom, as the potential loss resulting from allowing total media freedom and thereby risking revolt is greater. For parameters where tight censorship eliminates revolt, the choice between this option and controlled corruption will be driven by the comparison between K and  $C(\lambda^*(1))$ . If K is large, which might occur if corruption were deterring foreign investment or leading to the misallocation or expatriation of domestic investment, and thereby slowing growth, then the pressure will increase to loosen censorship. In addition, as  $\gamma$ , the frequency of opportunities for corruption, increases, media freedom becomes more valuable as a tool to restrict it.<sup>10</sup>

This section has established conditions under which partial media freedom may be preferable either to more conventional censorship or full media freedom, from the perspective of an authoritarian government. We will now consider what some of the empirical implications of such a policy would be and argue that evidence from contemporary China suggests that such a policy has been employed there.

<sup>&</sup>lt;sup>10</sup>This of course hinges on the assumption that K > g, discussed earlier.

# 4 Evidence from China

China's since early the 1990s appears to have moved toward a policy of loose censorship, designed to control corruption while minimizing the risk to social stability. First, there is clearly not unlimited journalistic freedom. All journalists are subject to government control and influence in a variety Most directly, all media outlets must be sponsored by and under the authority of a government entity (Hassid, 2008). This entity can hire and fire the editors and managers of the journal and is responsible for ensuring that it complies with government and party directives. Yet, as noted in the introduction, Chinese reporters have gone from being party mouthpieces to taking a much more entrepreneurial role, especially in the commercially-oriented media. Even though all media outlets are under government supervision, both journalists and the government make a clear distinction between the flagship party newspapers, which speak as the authoritative voice of the party, and commercially-oriented papers that are considered less official but more accurate in their reporting of facts. Indeed, both types of media are often under the same government authority, with the commercial spinoffs generating profits and subsidizing the party papers. For example, in Guangdong Province, the Southern Daily Press Group encompasses both the conservative party paper and the more-dynamic Southern Metropolitan Post and Southern Weekend (Esarey, 2005). The market-oriented papers are both less tightly controlled and under greater commercial pressure. Unsurprisingly, this has made them much more popular, while the central and provincial party newspapers have declined in circulation (Esarey, 2005).

These commercial pressures have been accompanied by a substantial rise in investigative journalism. To give just a few examples: In 2000, Southern Weekend broke the news that entire villages in rural Henan had been infected with HIV because of faulty blood donation procedures, often with the tacit or explicit collusion of local officials who profited from the business (Rosenthal, 2000). In 2007, a television journalist exposed that as many as a thousand people, including children, had been essentially enslaved to work in brick kilns in Shanxi province (French, 2007). Following the 2008 Sichuan earthquakes, national news magazines ran cover stories examining the issue of the many schools that collapsed due to what many believed was shoddy construction due to corruption in government procurement (Wong, 2008).

Yet the limits of journalistic freedom are quite well understood. All journalists understand that investigative reports should "only target low level officials and solvable problems" (Brady, 2006: 66). Critiquing the broader political system is much riskier, and criticizing the central role of the party is out of the question. In more colorful language, the injunction has been to "swat flies but don't beat tigers" (Zhao, 2000). Other areas that are off limits to independent reporting include "the military, ethnic conflict, religion (particularly the outlawed spiritual movement Falun Gong),

and the internal workings of the party and government" (CPJ 2007). This fits the assumption of the model that journalists cannot report  $\theta$ , the overall state of the country, directly, but are restricted to reporting smaller-scale instances of discontent, poor performance, or corruption at specific localities.

Based just on this evidence, one might argue that the government is simply prioritizing its efforts at censorship based on the importance and sensitivity of the topic. However, the dynamic aspects of the model are also clearly in evidence. Rather than setting guidelines ahead of time, the Central Propaganda Department, reporting directly to the Party's Central Committee, issues frequent specific directives and guidance regarding what news items can be reported and how to report them. Its representatives are located in all major government news outlets, and editors from more-independent news organizations are expected to subscribe to a bulletin containing this information and pay close heed when they receive instructions (often only verbal) from the Propaganda Department (Brady, 2006). This makes sense in the context of the model. Indeed, the Central Propaganda Department will often permit investigative reporting on a incident or a specific topic for a period of time, then require reporters to close ranks, writing fewer articles or only reiterating government press releases. This happened with the Sichuan earthquake of 2008 (Anderlini et al, 2008), with the Henan brick kiln slaves (Freedom House, 2008), with the reporting on SARS (Esarey, 2005), and with many other incidents (personal interviews). Often (as with the earthquake reporting) the existence of such reporting is explained as the courageous exploiting of "loopholes" by journalists (e.g. French, 2008). The idea is that by writing on topics that have not yet been expressly forbidden or by claiming not to have received the Central Propaganda Department's instructions they can avoid punishment. However, many of the Central Propaganda Department's guidelines are only ever communicated verbally. In addition, the Central Propaganda Department has the authority to fire journalists or editors without formal justification, so the fact that reporting on a specific topic has not expressly been forbidden seems unlikely to protect a journalist who has crossed the wrong line. One editor explained to me that the reason for that reporting is closed off after a short window is that the more reporting is done on one incident, the more the articles are likely to go beyond the bare facts and into interpretation and analysis of the underlying causes of the incident (personal interview). While this subtlety is not fully captured by the model in this paper, it fits with the government's goal of using journalists to uncover poor performance and misbehavior by officials. Further reporting would provide additional information with which communities could update their beliefs about the state of the world and the quality of the government, which is no longer necessary from the government's perspective once the malfeasance has been uncovered. Thus, rather than placing the emphasis on courageous journalists staying one step ahead of authority, I would argue that the regular updates from the Central Propaganda Department serve the purpose of giving it flexibility to adjust the level of negative news as the environment changes, as it does in the model analyzed here.

In addition to outright bans on certain types of reporting, news outlets are instructed not to print too much bad news in a short time frame, in order not to "convey the wrong impression" (Brady, 2006). The producers of one of CCTV's investigative shows were reportedly given explicit guidelines that only a certain percentage of their reports should be negative (personal interviews).

Indeed, the theory of journalism taught in Chinese universities explicitly takes into consideration the factors mentioned here. While the theory insists that only the truth should be reported, it places a high emphasis on guiding media consumers to the truth by providing context and interpretation rather than simply documenting events (Latham, 2000). The justification for this is that while educated communities might be expected to cope with unfiltered news, the vast majority of Chinese are not educated enough and would "overreact" to a large number of negative news reports, causing instability. While this theory is phrased in a paternalistic language, with the implicit assumption that any instability (i.e. revolt) could only arise from communities' misjudgment of the potential benefits, the practical implications are the same as those in the model presented here—the government must restrict reporting in order to stay in power.

# 5 Change over time

The model can helps us not just to understand how media control works in China now, but also why this mechanism of loose censorship was introduced. In particular, the government's ability to monitor officials through routine administrative measures has gone down over time. In the model, this means that  $\gamma$  has increased making the media blackout or tight censorship mechanisms more costly. Under the planned economy, the opportunities for corruption by local officials were relatively limited in scope. In contrast, the decisions to decentralize economic decision-making to lower levels of government, combined with the marketization of the economy, opened up many opportunities for misappropriation of government funds, SOE assets, or rural land for private gain in ways that the existing system of party discipline was ill-equipped to cope with.

Following the Tiananmen protests of 1989, and the collapse of communism in Eastern Europe and the Soviet Union, the Chinese Communist Party was forced to rethink its approach to social control just as it had earlier rethought its approach to the economy (Shambaugh, 2008). The 1989 protests and the events of the early 1990s also appear to have marked a significant consolidation, unification, and institutionalization of party leadership that has progressed through the present

(Nathan, 2003). This is important because the demands of this model of media control are quite strict and could only be implemented by a reasonably unified leadership with a well-disciplined propaganda department, as China has now.<sup>11</sup>

# 6 Conclusion: Only in China?

This paper has presented a formal model designed to capture key aspects of China's media policy. The model highlights how this policy has been shaped by the tradeoff between allowing a freer press to monitor the performance of local officials and the risk that investigative reporting may spur discontented communities to challenge the regime during periods of poor economic performance. The remaining question is to what extent other regimes could be engaged in similar activities. Some key assumptions in the setup of the model suggest why this may be difficult. First, the government must exert a significant and fine-grained control over the media, bringing reporting rapidly to a stop when it reaches the target level, and ensuring that penetrating critiques of the national government (directly revealing  $\theta$ ) never appear. Second, it must be able to set policies and stick to them, despite post-hoc pressures to restrict reporting even more than initially planned. Further research will examine whether any other regimes have in fact pursued similar policies and what has shaped them.

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<sup>&</sup>lt;sup>11</sup>See Brady (2008) for an in-depth examination of the Propaganda Department.

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