Propaganda to Persuade

Tinghua Yu *

Abstract

I analyze a model in which an incumbent ruler designs a rule for propaganda disclosure that reveals information about her competence to her allies and opponents. A message that increases beliefs about the incumbent's competence is considered as propaganda. I show that for propaganda to be persuasive, it must be limited in frequency. I also demonstrate how various features of the environment affect the frequency of propaganda. Propaganda increases in frequency as the incumbent's allies become more dependent on her and as her opponents become weaker. Further, there is a non-monotonic relationship between the strength of the conflict of interest between both her allies and her opponents and the frequency of propaganda. As conflict increases, the frequency of propaganda decreases up to a threshold beyond which increased conflict is associated with more frequent propaganda.

*Email address: t.yu5@lse.ac.uk; Department of Government and School of Public Policy, London School of Economics and Political Science. I thank Elliott Ash, Alessandra Casella, Tim Frye, Tom Groll, John Huber, Navin Kartik, Kimuli Kasara, John Marshall, Massimo Morelli, Suresh Naidu, Andy Nathan, Carlo Prato, Stephane Wolton and seminar participants at Political Science Graduate Student Workshop at Columbia University, and panelists at the 2016 annual APSA Conference. All remaining errors are my own.

Propaganda is a common feature of autocratic regimes. Empirical studies show that propaganda has a large effect on the beliefs and behavior of the target population (Adena et al., 2015; Cantoni et al., 2017; Yanagizawa-Drott, 2014). Yet a propaganda apparatus does not just distribute laudatory news about autocratic leaders. State-controlled newspapers in autocratic regimes have been known to publish unfavorable information. For example, some state-controlled newspapers in the Soviet Union criticized Gorbachev for the political turmoil caused by the reform in 1988 (Gibbs, 1999).

How and when is propaganda persuasive? How often does a propaganda apparatus distribute propaganda as opposed to unfavorable information? To answer these questions, I develop a model that explains the persuasive effect of propaganda as well as the frequency of propaganda. In the model, there is an incumbent ruler and two groups – the incumbent's ally who shares her policy preference and her opponent who has distinct policy preferences. Both groups prefer a competent ruler. Groups decide whether to support the incumbent. As in Kamenica and Gentzkow (2011), the incumbent can influence decisions of the groups by designing a rule to reveal information about her competence, which is usually referred to as information disclosure rule. Given the context, I refer to this rule as propaganda disclosure rule. A message that increases beliefs about the incumbent's competence is considered as propaganda.

In line with the Bayesian persuasion literature, I show that to persuade any group to support the incumbent, propaganda must be limited in its frequency. More importantly, I study how various features of the environment affect the frequency of propaganda.[1] First, an increase in the political strength of the incumbent's opponent's, defined as the probability that its decision determines the leadership of the regime, reduces the frequency of propa-

[1]Conflicts among various kinds of competing groups are used to explain economic and political outcomes in autocracies (Geddes, 1999; Bueno De Mesquita, 2005; Gandhi, 2008; Padró i Miquel, 2007; Besley and Kudamatsu, 2007).

ganda. Second, the ally's dependence on the autocrat increases the frequency of propaganda. Third, interest conflict among groups has a non-monotonic effect on the frequency of propaganda. As conflict increases, the frequency of propaganda decreases up to a threshold beyond which increased conflict is associated with increased frequency of propagandaa.

This paper contributes to the research on propaganda. Little (2017) and Huang (2015) provide a different rationale for propaganda which is not based on its persuasive effect. More broadly, this paper relates to the literature on information control in autocracies (Egorov et al., 2009; Gehlbach and Sonin, 2014; Guriev and Treisman, 2015; Lorentzen, 2014; Luo and Rozenas, 2016; King et al., 2013; Shadmehr and Bernhardt, 2015; Hollyer et al., 2015). Finally, this paper also contributes to the research on persuasive communication in a symmetric information setting (Kamenica and Gentzkow, 2011). Recent contributions study persuasive communication with a single sender and multiple receivers (Alonso and Câmara, 2016). A key contribution of this paper is to relate the frequency of messages that favor the sender to various features of the environment.

The Model

Players There is an incumbent ruler R and two groups in the society. One group is the incumbent's ally A and the other is her opponent O. The groups have conflicting interests over a policy issue. Each has an ideal point $z_i \in \mathbb{R}$ where $i \in \{A, O\}$. Let $d \in [0, \sqrt{1/2}]$ be the difference between z_A and z_O.[2] d thus measures the strength of the conflict of interest. A ruler could be competent ($\theta = 1$) or incompetent ($\theta = 0$). Both groups prefer a competent ruler. Let μ be the belief that a ruler is competent. $x \in \mathbb{R}$ is denoted as the ruler's policy choice. z_A is assumed to be the exogenous policy choice of the incumbent ruler. Group i derives an expected payoff $E(u_i(x)) = -(x - z_i)^2 + \mu$. The incumbent cares only about her

[2] As I will show later when the belief about the incumbent's competence is above a threshold, her opponent will support the incumbent. To ensure the threshold is in a unit interval, I assume that $d \in [0, \sqrt{1/2}]$.

political survival. She makes a payoff of 1 if she stays in power and 0 otherwise.

Selection of the Ruler Groups decide the ruler in society. First, the incumbent's ally chooses whether to retain the incumbent ($\sigma_A = 1$) or replace her with a candidate from its group ($\sigma_A = 0$). z_A is assumed to be the exogenous policy choice of the ally's candidate. All players share a common belief that the ally's candidate is competent with probability $\frac{1}{2}$. Afterward, the ruler's opponent chooses whether to retain the candidate chosen by the incumbent's ally ($\sigma_O = 1$) or replace her with its candidate ($\sigma_O = 0$). z_O is assumed to be the exogenous policy choice of the opponent's candidate. All players share a common belief that the opponent's candidate is competent with probability $\frac{1}{2}$. If the incumbent's ally retains her, the probability that the opponent's decision determines the ruler is $1 - \rho$ where $\rho \in [0, 1]$; otherwise, the probability is $1 - (1 - e)\rho$ where $e \in [0, 1]$. Thus, ρ measures the ally's political strength and $1 - \rho$ measures the opponent's political strength. e measures the degree to which the ally depends on the incumbent.

Propaganda Disclosure Rule The incumbent's competence $\theta \in \{0, 1\}$ is unknown to all players. Let μ^0 be the common prior that the incumbent is competent ($\theta = 1$). Assume that $\mu^0 < -ed^2 + \frac{1}{2}$. Under this assumption, the groups won't support the incumbent given the prior. There might be some turmoil so that the incumbent is not secure. I analyze the case where this assumption doesn't hold.

The groups' beliefs about the incumbent's competence θ play a key role in their decisions. To stay in power, the incumbent designs a rule to reveal information about her competence, which is usually referred to as information disclosure rule. Given the context, I refer to this rule as propaganda disclosure rule. Formally, she chooses π which consists of a finite message space S and a family of distributions $\{\pi(\cdot|\theta)\}_{\theta \in \Theta}$ over S. A message that increases beliefs about the incumbent's competence is considered as propaganda.

The incumbent commits to her rule for propaganda disclosure. This assumption cap-

tures the key observation that information gathering and reporting is often delegated to a bureaucracy. Once the bureaucracy is structured, bureaucrats make decisions about what information to gather and how to report it. This gives the ruler some commitment power to truthfully communicate the message produced by the bureaucracy.[3] In the appendix, I build a micro foundation for the commitment assumption and discuss how bureaucracies in Maoist China and the Soviet Union served as commitment devices.

Timing The timing of the game is as follows. 1. R chooses a propaganda disclosure rule π. 2. Nature chooses the value of θ. 3. The message is realized and received by all players. 4. A makes a decision σ_A. 5. O makes a decision σ_O.

Solution Concept The solution concept is perfect Bayesian equilibria in pure strategies: given R's choice of π and a message realization $s \in S$, A and O form a posterior μ_s using Bayes's rule and take actions σ_A and σ_O sequentially.

Analysis

The first result summarizes the decision of the incumbent's opponent and the second summarizes her ally's decision (all proofs are in the appendix).

Lemma 1. *The decision of the incumbent's opponent is as follows.*

$$\sigma_O = \begin{cases} 0 & \text{if } \sigma_A = 0 \text{ or } \sigma_A = 1 \text{ and } \mu_s < \mu_O \\ 1 & \text{if } \sigma_A = 1 \text{ and } \mu_s \geq \mu_O, \end{cases} \tag{1}$$

where $\mu_O \equiv d^2 + \frac{1}{2}$.

The incumbent's opponent supports the incumbent if the belief about her competence is strong enough to compensate for the conflict of interest. It always ousts the candidate

[3] Gehlbach and Keefer (2012); Myerson (2008), and Svolik (2012) examine how institutions in autocracies alleviate the commitment problem.

chosen by the incumbent's ally who shares the same expected competence with its candidate but represents different interests.

Lemma 2. *The decision of the incumbent's ally is as follows.*

$$\sigma_A = \begin{cases} 0 & \text{if } \mu_s < \mu_A \\ 1 & \text{otherwise,} \end{cases} \tag{2}$$

where $\mu_A \equiv -ed^2 + \frac{1}{2}$.

The incumbent's ally supports the incumbent if the belief about her competence is above a threshold. As the conflict of interest between the two groups increases and as the incumbent's ally becomes more dependent on her, her ally requires a weaker belief about her competence to support her. Replacing the incumbent increases the chance that the incumbent's opponent's candidate takes over. If the incumbent's opponent's candidate takes over, her ally incurs a policy loss. Supporting the incumbent could avoid such loss. As the conflict of interest increases, this loss increases. When the incumbent's ally becomes more dependent on her, the increase in the chance that the opponent's candidate takes over caused by the replacement of the incumbent is greater. As a result, the incumbent's ally needs a weaker belief about her competence to support her.

Consider the incumbent's design of a propaganda disclosure rule. First, I show that the incumbent either distributes propaganda to persuade her ally or propaganda to persuade her opponent. I then show that the frequency of propaganda that would be chosen has to be limited. Finally, I derive the optimal propaganda disclosure rule and examine how exogenous features of the environment affect the frequency of propaganda.

The incumbent designs the propaganda disclosure rule to affect the groups' decisions. If the incumbent loses the support of her ally, she loses the support of her opponent. There-

fore, in terms of the groups' decisions, there are three possibilities: Both groups withdraw support, only the incumbent's ally supports her, or both groups support the incumbent. The incumbent will construct a propaganda disclosure rule π with three messages — each leads to one outcome among the three possibilities. A message s^- leads to no support from both groups. A message s^+ persuades the ally and hence political survival with probability ρ. A message s^{++} persuades both groups and thus political survival with certainty. The groups are Bayesian. s^- must induce a posterior of 0; otherwise, the incumbent would benefit from further disclosing information. By the same token, s^+ must induce a posterior of μ_A and s^{++} a posterior of μ_O. Therefore, s^+ and s^{++} are the possible propaganda that she would distribute in equilibrium.

The incumbent chooses the frequency of s^+, denoted by α_A and the frequency of s^{++}, denoted by α_O. The groups update their beliefs about the incumbent's competence such that the expectation of the posteriors must equal the prior. This constrains the frequency of s^+ and the frequency of s^{++}. In other words, to persuade any group to support the incumbent, favorable news must be limited in its frequency. Formally, $\alpha_A \times \mu_A + \alpha_O \times \mu_O = \mu^0$.

The incumbent's problem of propaganda disclosure is equivalent to the optimization problem as follows.

$$\max_{\alpha_A, \alpha_O} V(\pi) = \alpha_A \rho + \alpha_O, \text{ s.t.} \alpha_A \times \mu_A + \alpha_O \times \mu_O = \mu^0.$$

Propaganda s^{++} ensures that the incumbent stays in power for certain while propaganda s^+ leads to probabilistic political survival. Moreover, s^{++} induces a higher posterior. If she sends one additional s^{++}, she has to decrease the frequency of s^+ by $\frac{\mu_O}{\mu_A}$ which is greater than one. Therefore, the incumbent faces trade-off between the frequency of propaganda and the frequency of political survival upon the arrival of propaganda. When the

increased frequency of subsequent political survival by sending s^{++} is lower or equal to the reduced frequency of propaganda (i.e. $\frac{1}{\rho} \leq \frac{\mu_O}{\mu_A}$), the incumbent distributes s^{+} as propaganda. Otherwise, the incumbent distributes s^{++} as propaganda. The following proposition summarizes optimal rule for propaganda disclosure.

Proposition 1. *If $\frac{1}{\rho} \leq \frac{\mu_O}{\mu_A}$, the optimal rule for propaganda disclosure π_1^+ has support on $\{s^-, s^+\}$, where given realization s^-, $\sigma_A = 0$ and $\sigma_O = 0$ and given realization s^+, $\sigma_A = 1$ and $\sigma_O = 0$. Let $\pi_\theta^+ \equiv \Pr[s^+|\theta]$, then*

$$\pi_\theta^+ = \begin{cases} 1 & \text{if } \theta = 1 \\ \frac{\mu^0}{1-\mu^0}\frac{1-\mu_A}{\mu_A} & \text{if } \theta = 0. \end{cases} \tag{3}$$

If $\frac{1}{\rho} > \frac{\mu_O}{\mu_A}$, the optimal rule for propaganda disclosure π_1^{++} has support on $\{s^-, s^{++}\}$, where given realization s^-, $\sigma_A = 0$ and $\sigma_O = 0$ and given realization s^{++}, $\sigma_A = 1$ and $\sigma_O = 1$. Let $\pi_\theta^{++} \equiv \Pr[s^{++}|\theta]$, then

$$\pi_\theta^{++} = \begin{cases} 1 & \text{if } \theta = 1 \\ \frac{\mu^0}{1-\mu^0}\frac{1-\mu_O}{\mu_O} & \text{if } \theta = 0. \end{cases} \tag{4}$$

$\mu_A = -ed^2 + \frac{1}{2}$ and $\mu_O = d^2 + \frac{1}{2}$.

When the incumbent's ally's dependence on her is strong, the ally requires a weak belief to support her. The incumbent thus could distribute s^+ at a high frequency. When the degree of the conflict of interest between the groups is large, the difference in the strength of the beliefs required by two groups to support the incumbent is large. The frequency of propaganda when she sends s^+ could be much higher than that of propaganda when she sends s^{++}. When the opponent is weak, the likelihood of political survival upon the arrival

of s^+ is high. Under the above conditions, the incumbent distributes propaganda to persuade only her ally. Otherwise, the incumbent uses propaganda to persuade both groups.

In the equilibrium, the incumbent sends either s^+ or s^{++} as propaganda. I summarize the frequency of propaganda as follows.

Proposition 2. *The frequency of propaganda is* $\frac{\mu^0}{\mu_A}$ *if* $\frac{1}{\rho} \leq \frac{\mu_O}{\mu_A}$ *and* $\frac{\mu^0}{\mu_O}$ *otherwise, where* $\mu_A \equiv -ed^2 + \frac{1}{2}$ *and* $\mu_O \equiv d^2 + \frac{1}{2}$.

Figure 1 shows the comparative statics of propaganda. Panel A illustrates that when the incumbent's opponent is weak, she distributes propaganda more often. When her opponent is weak, the incumbent expects to stay in power with a high probability with only the support from her ally. As a result, she uses propaganda to persuade only her ally, which implies more frequent propaganda. Panel B shows that when ally's dependence on her is strong, propaganda is more frequent. When ally's dependence on her is strong, it requires a weak belief about her competence to support her. She thus uses propaganda to persuade only the ally. As ally's dependence on her increases, she distributes propaganda more frequently. Panel C demonstrates the effect of conflict of interest on propaganda. When the conflict is below a threshold, the opponent requires a slightly stronger belief than the ally to support her. As the conflict increases, her opponent needs a much stronger belief than her ally. To persuade her opponent, she has to distribute propaganda less often. Eventually, the incumbent finds it no longer optimal to persuade her opponent when the conflict is above a threshold. She thus uses propaganda only to persuade her ally. As the conflict increases, the frequency of such propaganda increases.

Conclusion

This paper aims to understand how propaganda is persuasive and why the frequency of favorable news is limited. It shows that to persuade any group to support an incumbent, propaganda must be limited in its frequency. It also shows that the frequency of propaganda is

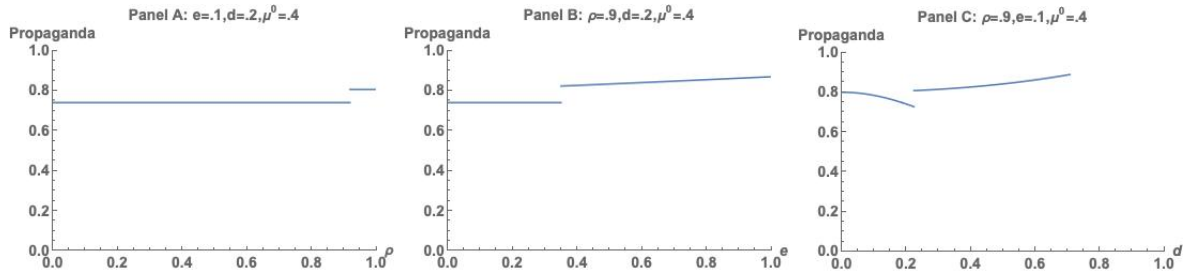

Figure 1: Comparative Statistics of Propaganda

affected by various features of the environment, including the dependence of the incumbent's allies on the incumbent, the power of her opponents and the conflict of interest between the allies and the opponents. These ideas are most relevant in institutionalized autocracies where autocrats can commit to limiting propaganda. In democracies, incumbents can also commit to limiting propaganda. Yet, unlike citizens in the model, voters in a democracy have access to information other than what is tightly controlled by the government. They might not necessarily consume information distributed by the government.[4] In future work, it would be interesting to develop a model of propaganda where citizens can decide whether to listen to the government's message.

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Appendix A: Proofs

Proof. Lemma 1. The expected competence of the incumbent autocrat is μ_s, which is $\mu_s - 1/2$ greater than the expected competence of politician from its group. The difference between the incumbent's ideology and her opponent's ideology is d. Based on the trade-off between competence and ideology, the opponent retains the incumbent if the posterior belief about her competence μ_s is above a threshold $\mu_O \equiv d^2 + \frac{1}{2}$. □

Proof. Lemma 2. If $\mu_s \geq \mu_O$, the opposition keeps the incumbent if the incumbent is kept by the ally. Expecting this, the ally always supports the incumbent.

If $\mu_s < \mu_O$, her opponent will place its own candidate. The ally expects to make a payoff of $E(u_A^0) \equiv \frac{1}{2} + (1-(1-e)\rho)(-d^2)$ from replacing the incumbent and a expect payoff of $E(u_A^1) \equiv \rho\mu_s + (1-\rho)\frac{1}{2} + (1-\rho)(-d^2)$ from keeping the incumbent. If $\mu_s \geq \mu_R \equiv -ed^2 + \frac{1}{2}$, $E(u_A^1) \geq E(u_A^0)$, and the ally thus supports the incumbent. □

Proof. Proposition 1. When group i holds some belief μ, it takes action σ_i according to their optimal decision derived in equation (1) and (2) and the incumbent makes an expected payoff, denoted by $\hat{v}(\mu)$, accordingly. An rule for propaganda disclosure π induces a distribution of posterior beliefs, denoted by $\tau(\mu)$. The incumbent's payoff from any rule for propaganda disclosure is thus the expectation of $\hat{v}$ under τ. Because the groups update beliefs following a bayesian rule, the expected posterior belief must equal the prior. The incumbent's problem is thus equivalent to choosing $\tau(\mu)$ to solve the following optimization problem.

$$\begin{aligned} \max_{\tau} \quad & E_\tau \hat{v}(\mu) \\ \text{s.t.} \quad & \sum_{Supp(\tau)} \mu d\tau(\mu) = \mu_0 \end{aligned}$$

To solve the above problem, first, we derive $\hat{v}(\mu)$, i.e. the expected payoff for the incumbent given some belief μ. When $\mu < \mu_A$, the ally replaces the incumbent and so does the opposition. The incumbent is ousted for certain. When $\mu \in [\mu_A, \mu_O)$, the ally keeps the incumbent and the opposition ousts the incumbent. When $\mu \geq \mu_O$, the ally keeps the incumbent and so does the opponent. The incumbent stays in the office with certainty. In summary, we have

$$\hat{v}(\mu) = \begin{cases} 0 & \text{if } \mu < \mu_A \\ \rho & \text{if } \mu \in [\mu_A, \mu_O) \\ 1 & \text{if } \mu \geq \mu_O \end{cases} \tag{5}$$

where $\mu_A \equiv -ed^2 + \frac{1}{2}$ and $\mu_O \equiv d^2 + \frac{1}{2}$.

I follow the concave-closure approach developed by Kamenica and Gentzkow (2011) to

solve the optimization problem. Let V be the concave closure of $\hat{v}$:

$$V(\mu) \equiv sup\{z|(\mu, z) \in co(\hat{v})\}$$

where $co(\hat{v})$ denotes the convex hull of the graph of v.

$V(\mu)$ is the largest payoff the incumbent can achieve with any rule for propaganda disclosure when the prior is μ. If $(\mu, z) \in co(\hat{v})$, then there exists a distribution of posteriors τ such that $E_\tau \mu = \mu^{'}$ and $E_\tau \hat{v}(\mu) = z$. Thus, $co(\hat{v})$ is the set of (μ, z) such that if the prior is μ, there exists a rule for propaganda disclosure with value z. Hence, $V(\mu)$ is the largest payoff she can achieve with any signal when the prior is μ. The concave-closure approach shows that there are two formats of optimal rule for propaganda disclosure. When a certain condition is satisfied, the incumbent ruler chooses one as opposed to the other.

Figure 2 shows the function $\hat{v}$, the concave closure V, and the optimal rule for propaganda disclosure when $\frac{1}{\rho} \leq \frac{\mu_O}{\mu_A}$. μ denotes the probability that $\theta = 1$. $\hat{v}$ is a step function: the incumbent's expected payoff is 0 whenever $\mu < \mu_A$, ρ whenever $\mu_A \leq \mu < \mu_O$, and 1 whenever $\mu \geq \mu_O$. As panel C in Figure 2 shows, the signal induces two posterior values: $\mu^l = 0$ and $\mu^h = \mu_A$.

Let the probability that the realized signal induces belief of μ_R be α. Because the distribution τ is Bayes plausible, we must have

$$(1 - \alpha) \times 0 + \alpha \times \mu_A = \mu^0.$$

This implies that $\alpha = \frac{\mu^0}{\mu_A}$. Hence, the optimal τ is that with probability $\alpha = \frac{\mu^0}{\mu_A}$ the posterior belief is μ_A and with probability $1-\alpha = 1-\frac{\mu^0}{\mu_A}$ the posterior belief is 0. Now, we compute the signal that induces the optimal τ. Denote the optimal rule for propaganda disclosure with a realization space $\{s^-, s^+\}$ by π^*. If the realization is s^-, the ally replaces the incumbent, $\sigma_A = 0$. If the realization is s^+, the ally retains the incumbent, $\sigma_A = 1$, while the opponent replaces the incumbent, $\sigma_O = 0$. Let $\pi_\theta^+ = \Pr[s^+|\theta]$, i.e. the probability that the realized signal is s^+given the state of the world θ and $\pi_\theta^- = \Pr[s^-|\theta]$, i.e. the probability that the realized signal is s^-given the state of the world θ. We have

$$\pi_\theta^+ = \begin{cases} 1 & \text{if } \theta = 1 \\ \frac{\mu^0}{1-\mu^0}\frac{1-\mu_A}{\mu_A} & \text{if } \theta = 0 \end{cases} \tag{6}$$

and $\pi_\theta^- = 1 - \pi_\theta^+$.

Similarly, we could derive the optimal rule for propaganda disclosure in panel C Figure 3. Notice that when $\frac{\rho}{\mu_A} = \frac{1}{\mu_O}$. R is indifferent to the following rule for propaganda disclosures. The rule for propaganda disclosure induces posteriors which are 0, μ_A, and μ_O. The probability combination $(1 - \alpha_A - \alpha_O, \alpha_A, \alpha_O)$ over the above posterior combination must

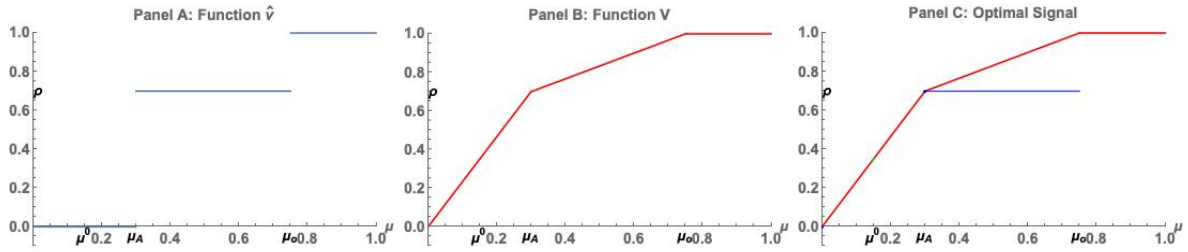

Figure 2: Design of Optimal Propaganda Disclosure $\frac{1}{\rho} \leq \frac{\mu_O}{\mu_A}$

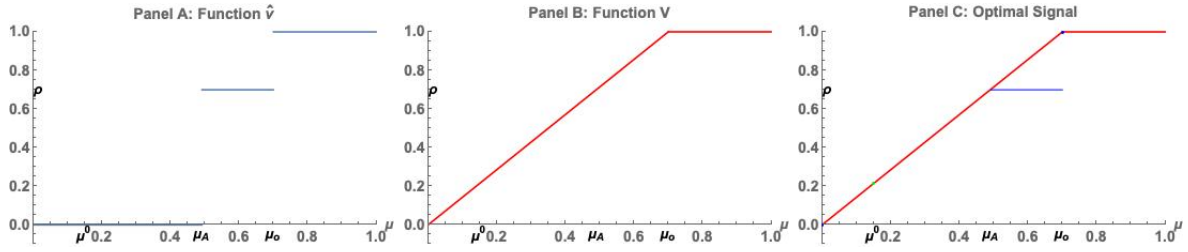

Figure 3: Design of Optimal Propaganda Disclosure $\frac{1}{\rho} > \frac{\mu_O}{\mu_A}$

satisfy the following Bayesian plausible requirement

$$(1 - \alpha_A - \alpha_O) \times 0 + \alpha_A \times \mu_A + \alpha_O \times \mu_O = \mu^0$$

where $\alpha_A \in [0, 1]$ and $\alpha_O \in [0, 1]$. To simplify the discussion without loss of generality, I assume that among all the indifferent rules for propaganda disclosures, the incumbent chooses the one which assigns 0 probability to the posterior α_O. Denote the optimal rule for propaganda disclosure with a realization space $\{s^-, s^{++}\}$ by π^{**} . If the signal realization is s^-, the ally replaces the incumbent, $\sigma_A = 0$. If the signal realization is s^{++}, the ally retains the incumbent, $\sigma_A = 1$, and the opponent retains the incumbent, $\sigma_O = 1$. Let $\pi_\theta^{++} = \Pr[s^{++}|\theta]$ and $\pi_\theta^- = \Pr[s^-|\theta]$. We have

$$\pi_\theta^{++} = \begin{cases} 1 & \text{if } \theta = 1 \\ \frac{\mu^0}{1-\mu^0} \frac{1-\mu_O}{\mu_O} & \text{if } \theta = 0 \end{cases} \tag{7}$$

and $\pi_\theta^- = 1 - \pi_\theta^{++}$.

□

Appendix B: Commitment

The incumbent commits to a rule for propaganda disclosure by designing bureaucracies that gather and distribute information. First, I build a selection model as a micro foundation for the commitment assumption in the main model. Then I discuss how autocratic leaders in Maoist China and the Soviet Union designed bureaucracies to implement the rule for

propaganda disclosure.

Micro Foundation

Consider that the incumbent wants to commit to a rule for propaganda disclosure such that with probability q that her incompetence will be communicated as propaganda. To implement such rule for propaganda disclosure, the autocrat could staff the bureaucracy such that $1-q$ proportion of the bureaucrats are honest and the rest q proportion corrupted. Both honest and corrupted bureaucrats generate propaganda when the competence is high. When the competence is low, an honest bureaucrat generates an unfavorable message while a corrupted bureaucrat generates propaganda. A random bureaucrat is picked and his/her message is the message distributed by the bureaucracy.

The Maoist China Case

In the late 1950s, Mao, the then leadership of the Chinese government, adopted the Great Leap Forward policy. This policy caused one of the greatest famines in human history. However, when the famine was spreading over the country, reports that demonstrate the effectiveness of the Great Leap Forward Policy were abundant. Mao didn't not directly engaging in gathering and reporting information about the outcome of the Great leap forward policy. Instead, Mao delegated to the statistical report system and the local governments. By implementing structure features in the statistical report system and local governments, Mao shaped the rule for propaganda disclosure. Mao advocated that politics should take command over the statistical report system. Data collected by party cadres assisted by the masses were supposed to be more accurate than the bureaucrats in the statistical system. The result was a gross exaggeration of production figures in 1958 and the breakdown of the statistical reporting for several years(Banister, 1991). Besides, Mao waged political campaigns to cultivate low-level officials' radical ideology and to shape their career incentives accordingly. Motivated by radical ideology and career incentives, lower-level officials tended to over-report grain production (Kung and Chen, 2011).

The Soviet Union Case[5]

The communist party in the Soviet Union exercised control over the media through its propaganda department. The propaganda department decided the appointment of the chief editors in news agencies. The chief editor was the key decision-maker in the editorial board which exercised the daily decision over what information to gather and how to report it. Chief editors who were loyal to the communist party used their newspaper as a platform for communist propaganda. Influenced by professionalism, some chief editors made decisions according to true journalism. By choosing the composition of chief editors, the party affects the rule for propaganda disclosure.

[5]See McNair (2006), for example, for studies on Soviet media.

Appendix C: Results if $\mu^0 > -ed^2 + \frac{1}{2}$.

If the prior $\mu^0 > d^2 + 1/2$, both groups support the incumbent. The incumbent babbles in equilibrium. If the prior $-ed^2 + 1/2 < \mu^0 \leq d^2 + 1/2$, the incumbent chooses between the following rules for propaganda disclosure. The incumbent could babble which leads to the support from her ally. With babbling, the incumbent stays in the office with probability ρ. The incumbent could also use propaganda to persuade the opponent. With such rule for propaganda disclosure, the incumbent stays in the office with probability $\frac{\mu^0}{\mu_O}$. If $\rho > \frac{\mu^0}{\mu_O}$, the incumbent babbles; otherwise, the incumbent designs a rule for propaganda disclosure to persuade the opposition. I summarize the results in the following proposition.

Proposition 3. *If $\rho > \frac{\mu^0}{\mu_O}$ or $\mu^0 > d^2 + 1/2$, the optimal rule for propaganda disclosure is babbling. If $\rho \leq \frac{\mu^0}{\mu_O}$ and $-ed^2 + 1/2 < \mu^0 \leq d^2 + 1/2$, the optimal rule for propaganda disclosure π_1^{++} has support on $\{s^-, s^{++}\}$, where given realization s^-, $\sigma_R = 0$ and $\sigma_O = 0$ and given realization s^{++}, $\sigma_R = 1$ and $\sigma_O = 1$. Let $\pi_\theta^{++} \equiv \Pr[s^{++}|\theta]$, then*

$$\pi_\theta^{++} = \begin{cases} 1 & \text{if } \theta = 1 \\ \frac{\mu^0}{1-\mu^0}\frac{1-\mu_O}{\mu_O} & \text{if } \theta = 0. \end{cases} \tag{8}$$

$\mu_O = d^2 + \frac{1}{2}$.