Participatory Persuasion

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Abstract

Participatory persuasion, a distinct form of information manipulation, has emerged as a hallmark of informational autocracies. Unlike traditional methods such as speech control and propaganda, participatory persuasion relies on controlled communication among citizens. Individuals who benefit from the authoritarian regime engage in persuading those who suffer, aiming to restore their confidence in the regime. This strategy, however, presents a trade-off for the authoritarian state: While participatory persuasion can yield informational gains, it also risks revealing too much information about the regime's true nature.

This paper develops an overlapping-generation model with Bayesian persuasion to study this tradeoff. We characterize the optimal participatory persuasion scheme for the state in a dynamic environment. In our analysis, we distinguish and compare two types of participatory persuasion: horizontal persuasion among citizens of the same generation and vertical persuasion across generations within a household. We discuss their implications for long-term social welfare and offer extensions

Model

We consider a model with overlapping generations. Time is discrete, infinite, and indexed by t. There is a unit mass of households indexed by i. Each household consists of the old (parents) and the young (children) generations. Each generation lives for two periods. Individuals in the same household i receive the same payoff in a given period t, denoted by $u_{i,t}$. The payoff takes value of (+1) or (−1): $u_{i,t} \in \{-1, +1\}$. Denote the state of the economy in period t by θ_t, which takes value of 0 or 1. In period 0, it is common knowledge that the economy starts with $\theta_0 = 0$. For any t, the economy transitions from state 0 to 1 with probability $p < 1/2$, and once the transition takes place, the economy will stay in state 1 forever. Formally, we have

$$P(\theta_{t+1} = 1|\theta_t = 0) = p, P(\theta_{t+1} = 1|\theta_t = 1) = 1$$

The public policy in period t is denoted by $\eta_t \in \{0,1\}$. The payoff in period t depends on the match between the public policy and the state of the economy:

$$P(u_{i,t} = 1|\eta_t = \theta_t) = \lambda, P(u_{i,t} = -1|\eta_t \neq \theta_t) = \lambda$$

where $\lambda \in (0,1/2)$. The initial political regime of the society is autocratic. In an autocratic regime, the ruling elite consists of an old dictator and a young successor. The policy is decided by the old dictator, who only cares about his own welfare. The old dictator derives a rent $r > 0$ if the policy $\eta_t = 0$, and there is no rent for $\eta_t = 1$.

In every period t, the timeline can be summarized as follows:
(1) At the beginning of period t, the young generation is born, one period-t old citizen and one period-t young citizen comprise a household.
(2) The dictator sends a public message m_t about the state to the public

$$P(m_t = 0|\theta_t = 0) = \omega_0^t, P(m_t = 1|\theta_t = 1) = \omega_1^t$$

(3) The true state θ_{t-1} is not known to the period-t citizens, but the dictator's disclosure history $\Omega_t = \{(\omega_0^1, \omega_1^1), (\omega_0^2, \omega_1^2) \dots \dots (\omega_0^t, \omega_1^t)\}$ is known by the period-t citizens. Based on the inference about the state, old citizens decide whether to rebel.
(4) A successful rebellion leads to a democratic system in which future policies will be determined by the majority voting rule. The rebellion succeeds if more than half of the old citizens choose to rebel (We assume only the old citizens can take political actions).
(5) If the rebellion fails, the autocracy regime continues to survive, the period-t dictator will pick policy η_t and commit to next period disclosure rule (ω_0^t, ω_1^t).
(6) Household pay-offs $u_{i,t}$ are realized.

Because of the rent, when the true state changes, the dictator has incentive to conceal the truth. Thus, ω_0^t and ω_1^t capture the extent to which the dictator is willing to reveal the truth. In the paper, we consider mainly three settings, the first two of which are covered in this poster:
(1) Benchmark: no communication among citizens
(2) Horizontal communication: Communication among citizens of the same generation
(3) Vertical communication: Communication across generations within a household

Results

Benchmark

Theorem 1 *Let $\lambda^2 < 0.5$ and $\bar{t} \in N$ such that $(1-p)^{\bar{t}} < \lambda$ and $(1-p)^{\bar{t}-1} \geq \lambda$. In the absence of any communication among citizens, the dictator's persuasion strategy (ω_0^t, ω_1^t) is given by $\omega_0^t = 1$ for all t and*

$$\omega_1^{t+1} = \begin{cases} 0, & 1 \leq t < \bar{t} \\ \dfrac{\lambda - (1-p)^{\bar{t}}}{\lambda - \lambda(1-p)^{\bar{t}}} & t = \bar{t} \\ \bar{\omega} = \dfrac{p}{1-\lambda+\lambda p} & t > \bar{t} \end{cases}$$

Figure 1 illustrates the disclosure dynamics with no communication. ω_1^t is weakly decreasing in p: the dictator can reveal less information for a smaller p.

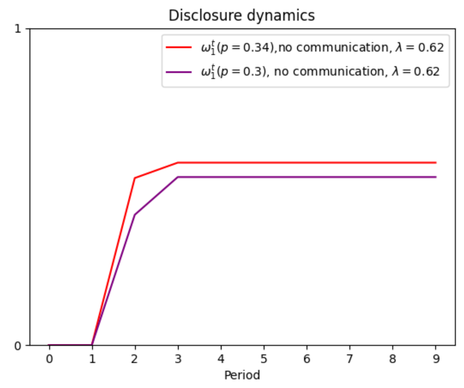

Figure 1. Disclosure dynamics without communication.

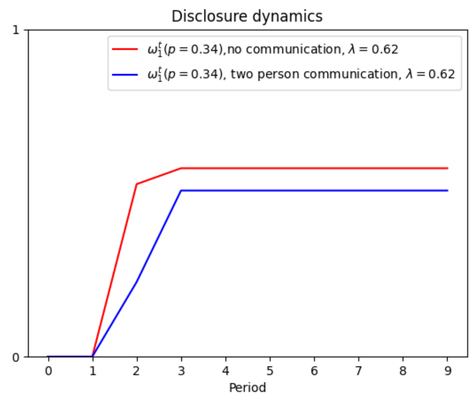

Figure 2. Disclosure dynamics with communication

Horizontal Communication

The following theorem considers a special case of horizontal communication in which every citizen is randomly matched with another citizen of the same generation.

Theorem 2 *Let $\lambda^2 < 0.5$ and $\bar{t} \in N$ such that $(1-p)^{\bar{t}} < \lambda$ and $(1-p)^{\bar{t}-1} \geq \lambda$. Under horizontal communication of a group size two, the dictator's persuasion strategy (ω_0^t, ω_1^t) is given by $\omega_0^t = 1$ for all t and*

$$\tilde{\omega}_1^{t+1} = \begin{cases} 0, & 1 \leq t < \tilde{t} \\ \dfrac{0.5 - (1-p)^{\tilde{t}}}{0.5 - 0.5(1-p)^{\tilde{t}}} & t = \tilde{t} \\ \tilde{\omega} = \dfrac{p}{0.5+0.5p} & t > \tilde{t} \end{cases}$$

We can show that $\tilde{\omega}_1^{t+1} \leq \omega_1^{t+1}$: dictator can reveal less information under horizontal communication. Figure 2 illustrates this comparison.

Example: Consider a case with $\lambda = 0.6$. If the state has changed but the dictator sticks to policy 0, 40% citizens receive pay-off +1 and 60% citizens receive pay-off -1. In the absence of communication, the dictator has to persuade those with pay-off -1 to believe the state has not changed. However, if citizens are randomly paired to exchange private information, then 36% receive two negative signals (-1,-1), 48% receive (-1,+1), and 16% receive (+1,+1). To save the regime, the dictator only needs to persuade the citizen with information set (-1,+1), which is easier than the case of no communication. In this example, citizens with pay-off +1 play the role of "participatory persuasion."

Conclusion

The example of horizontal communication highlights how limited citizen communication facilitates dictators' persuasion. Dictators do not need to persuade everyone to save the regime; they can target a specific persuasion group by manipulating citizen communication. Participatory persuasion may occur in this process when citizens participate in communication. In the paper, we further discuss vertical communication between generations within a household and provide more general characterizations.

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