Informational Autocrats, Diverse Societies

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(with Pooya Molavi)

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Informational Autocrats

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These "spin dictators":

- survive through popular support from citizens,
- rely on information manipulation to cultivate their image as competent leaders, by:
  - controlling state media (Rozenas and Stukal 2019),
  - censoring independent media (Lorentzen 2014),
  - capturing private media (Szeidl and Szucs 2021),
  - bribing private media (McMillan and Zoido 2004)...

More Motivation

What We Do

We present a model of an informational autocrat with sophisticated and heterogeneous citizens.

- autocrat can manipulate information, but the autocrat's strategy is known to the citizens.
- heterogeneity $\Longrightarrow$ difficult to align messaging with the citizens' attitudes.

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Questions:

1. Given the distribution of attitudes, how does information manipulation play out in equilibrium?
2. Which societies are more susceptible to information manipulation?
   - lots of variation in media freedom across autocracies Egorov and Sonin, 2022

Takeaway of Today's Talk:
When the attitudes in society are more dispersed, the autocrat manipulates information less.

Literature

Media capture, information manipulation, censorship: Besley and Prat (2006); Edmond (2013); Gehlbach and Sonin (2014); Shadmehr and Bernhardt (2015); Boleslavsky, Shadmehr and Sonin (2021)... Prat (2015) and Enikolopov and Petrova (2015) for two surveys

Variation in information manipulation and its limits: Egorov, Guriev and Sonin (2009); DiTella, Galiani and Schargrodsky (2012); Durante and Knight (2012); VonDoepp and Young (2013); Qin, Strömberg and Wu (2018); Knight and Tribin (2019); Gläßel and Paula (2019); Knight and Tribin (2022); Enikolopov, Rochlitz, Schoors and Zakharov (2023)

Bayesian persuasion: Kamenica and Gentzkow (2011)

- Heterogeneous preferences: Wang (2015); Alonso and Câmara (2016); Kolotilin, Mylovanov, Zapechelnyuk and Li (2017)...
- Heterogeneous priors: Alonso and Câmara (2016); Laclau and Renou (2017); Kosterina (2022)
- Comparative statics: Kolotilin, Mylovanov and Zapechelnyuk (2022); Curello and Sinander (2022)

The Model

Model

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Prior	$\mathbb{P}(\theta = 1) = p$	

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Receivers $r \in [0,1]$ (citizens)

Action	$a_r \in \{0,1\}$	"support the autocrat"
Cost of support	$c_r \in (0,1)$	$c_r \sim F$, density f
Payoff	$u_r(a_r, \theta) = a_r(\theta - c_r)$	"$a_r = 1$ iff posterior is above c_r"

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Sender (autocrat)

Payoff	$u_s(\{a_r\}_r) = \int_0^1 a_r dr$	"maximize support"

Autocrat

Autocrat sends message m from set M.

Bayesian persuasion: Autocrat can **commit** to a public communication strategy More on Commitment

$$\sigma : \{0, 1\} \to \Delta(M)$$

Timing: Autocrat commits to σ, message drawn according to σ, each citizen updates and acts.

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Value function: When posterior is $\mathbb{P}(\theta = 1|m) = \mu$, what is the autocrat's payoff?
Recall: r takes $a_r = 1$ if and only if $\mu \geq c_r$. Thus, total support/autocrat's payoff is:

$$v(\mu) = F(\mu)$$

Then, $v'(\mu) = f(\mu)$.

Monolithic and Divided Societies

$f(\mu)$: density of "on-the-fence" citizens when the posterior is μ.

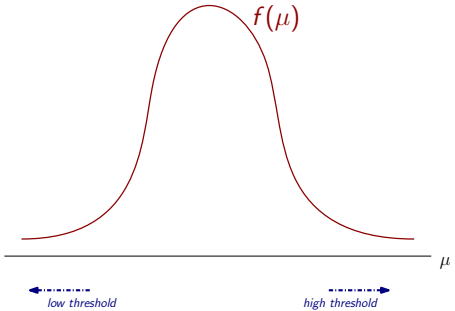

Figure: A monolithic society.

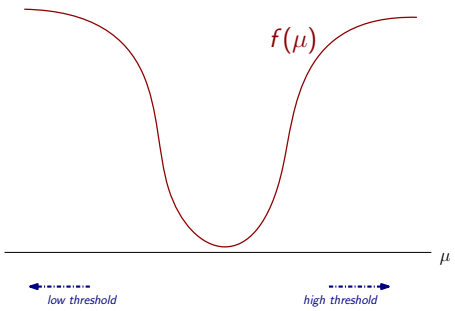

Figure: A divided society.

Monolithic Societies

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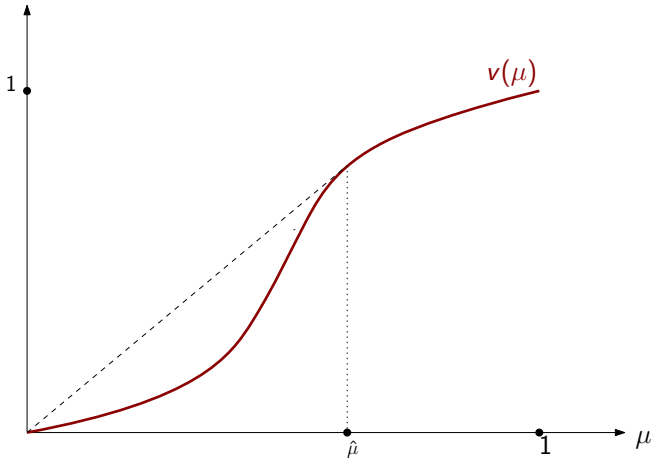
Definition

The density $f(\mu)$ is **single-peaked** if there exists some $\tilde{\mu} \in [0,1]$ such that $f'(\mu) > 0$ for all $\mu < \tilde{\mu}$ and $f'(\mu) < 0$ for all $\mu > \tilde{\mu}$.

Single-peaked densities $\leftrightarrow$ societies with many moderate citizens.

Information Manipulation in a Monolithic Society



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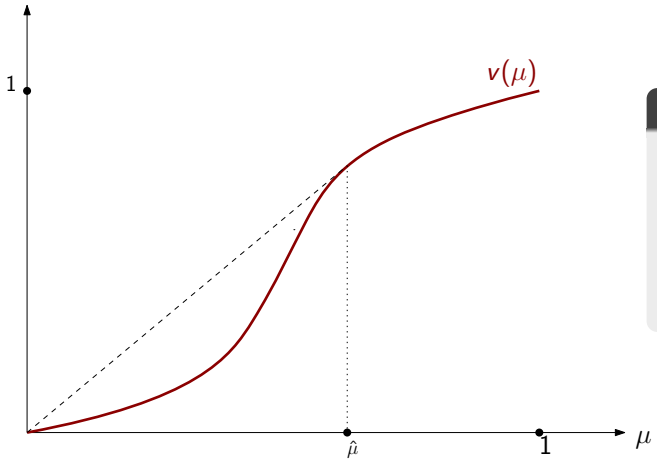

Proposition

If the density is single-peaked,

1. the optimal strategy uses only two messages.
2. one of the messages fully reveals the bad state.

A Measure of Information Manipulation

Let $M = \{good, bad\}$.

A strategy is represented by two numbers:

$$\sigma^0 \equiv \mathbb{P}(m = good \mid \theta = 0)$$
$$\sigma^1 \equiv \mathbb{P}(m = good \mid \theta = 1)$$

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With a single-peaked density, the optimal strategy has $\sigma^1 = 1$.

So σ^0 summarizes the extent of manipulation.

Definition

Consider single-peaked densities f_1 and f_2 with the corresponding optimal strategies σ_1^0 and σ_2^0. The autocrat **manipulates information less** given f_1 than given f_2 if $\sigma_1^0 \leq \sigma_2^0$.

A Measure of Dispersion

Here is a partial order to compare dispersion of two densities:

Definition

Consider single-peaked densities f_1 and f_2 satisfying

$$f_2(\mu) = \alpha\left(f_1(\mu)\right) \qquad \text{for all } \mu$$

for some strictly increasing and convex function α.

Then, f_2 is **less dispersed** than f_1 and f_1 is **more dispersed** than f_2.

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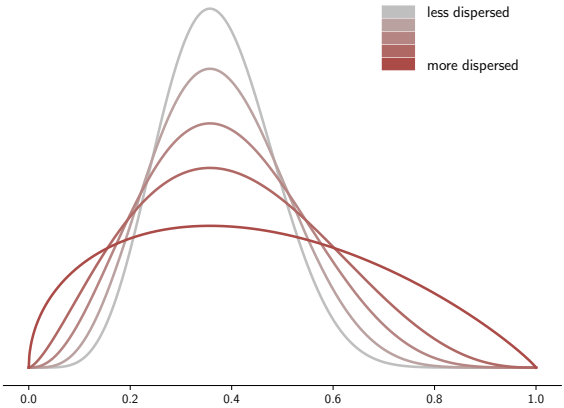

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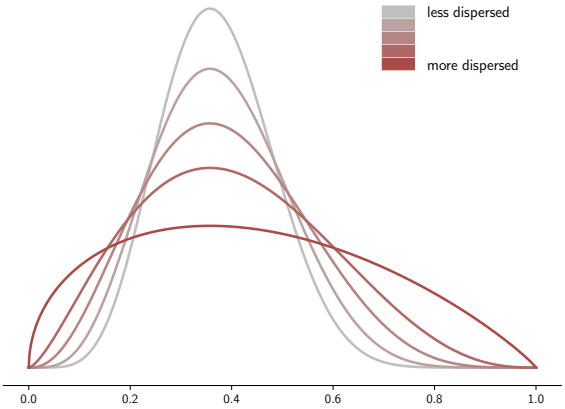

Examples of densities that can be ranked:

- Beta distributions with the same mode
- truncated normals with the same mean

Dispersion and Information Manipulation

Theorem

Let f_1 and f_2 be two single-peaked densities. If f_1 is more dispersed than f_2, then the autocrat manipulates information less given f_1 than f_2.

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Intuition: if the autocrat reduces σ^0,

- $-$ "good" message sent less frequently ($\sim$ intensive margin)
- $+$ more people pay attention to messages sent ($\sim$ extensive margin)

Dispersion: less citizens "on-the-fence"

$\Longrightarrow$ given a strategy, fewer citizens pay attention to messages

$\Longrightarrow$ autocrat increases informativeness

Conclusion

"When the society is single-minded, it can be manipulated more easily.

A diverse society is less susceptible to manipulation."

Divided Societies | Putting Everything Together | Some Patterns

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Factors leading to more dispersed societies: independent and online media (Enikolopov, Rochlitz, Schoors and Zakharov, 2023)

Future research:

- How do repression and information manipulation interact in heterogeneous societies? (Gitmez and Sonin, 2023)

Information Manipulation

An autocrat can force the media to bias its coverage, but can't force the citizens to pay attention to coverage.

Information manipulation is a double-edged sword:

- biasing the coverage may convince some citizens...
- but citizens ignore obviously biased coverage.

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Paying attention to coverage is a strategic choice that depends on

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which, in turn, depends on the distribution of attitudes.

Return

Lots of Variation in Information Manipulation

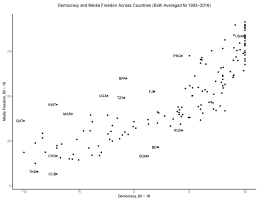

Figure 3: Media freedom around the world, 1993–2016.

As a result, media freedom varies a lot across nondemocratic regimes, from levels comparable to mature democracies to that of totalitarian regimes (see Figure 3).

Figure: From Egorov and Sonin (2022). Return

An Aside on Commitment

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How to make sense of the commitment assumption?

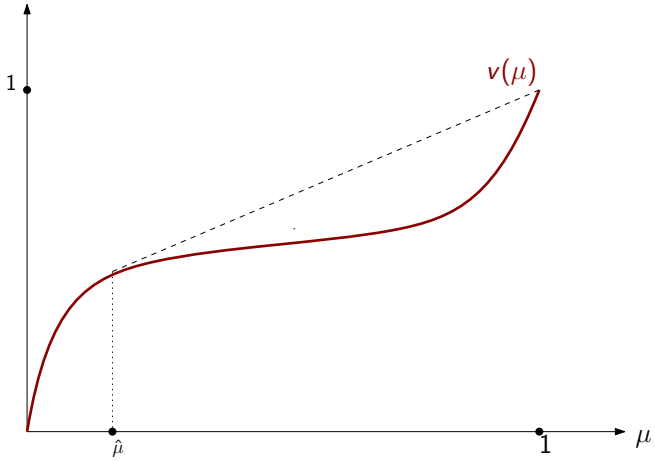
1. Can somehow relax it, allowing certain deviations (Lin and Liu, 2022) or embedding it in a richer setup (Titova, 2022)
2. Think of it as committing to an editorial policy/general guidelines (Gehlbach and Sonin, 2014)
3. Think of it as the "best case scenario": what is the ideal media landscape for the autocrat?

Return

Divided Societies

Divided Societies

A single-dipped density corresponds to a divided society. Definition



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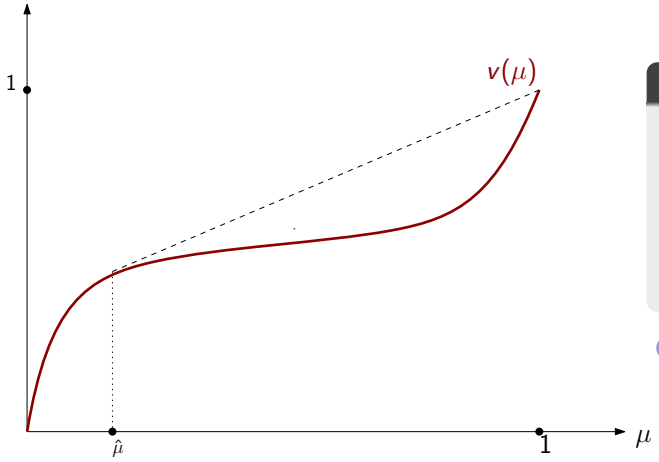


Proposition

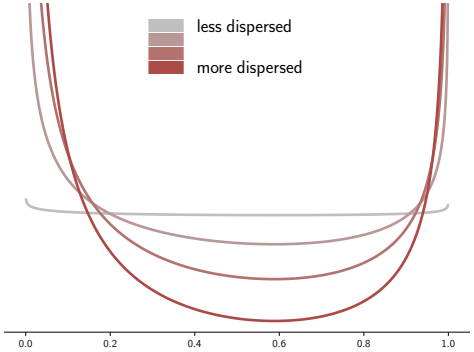
If the density is single-dipped,

1. the optimal strategy uses only two messages.
2. the good message fully reveals the good state, i.e, $\sigma^0 = 0$.

Intuition

Dispersion in Divided Societies

The same argument goes for single-dipped densities and the corresponding measure of dispersion. Formally



more dispersed density

$\Longrightarrow$

autocrat manipulates information less (i.e., higher σ^1)

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for some strictly increasing and convex function α.

Then, f_2 is **more dispersed** than f_1 and f_1 is **less dispersed** than f_2.

Optimal Strategy under Divided Societies

Intuition:

- There are few citizens on the fence: autocrat has to be informative.
- If autocrat sends very informative bad news, risks losing the supporters.
- Instead, autocrat sends very informative good news $\implies$ convince opponents without alienating supporters.

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- $\sim$ allow for a media source that opposes the autocrat, so that:
  - Extreme supporters do not follow it and keep supporting,
  - Rare but credible good news sway the opponents (Baum and Groeling 2009; Ladd and Lenz 2009; Chiang and Knight 2011).
    - Putin in 2012 (Sobolev, 2023), Nazarbayev in 2011 (Lewis, 2016).

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Dispersion and Information Manipulation: Divided Societies

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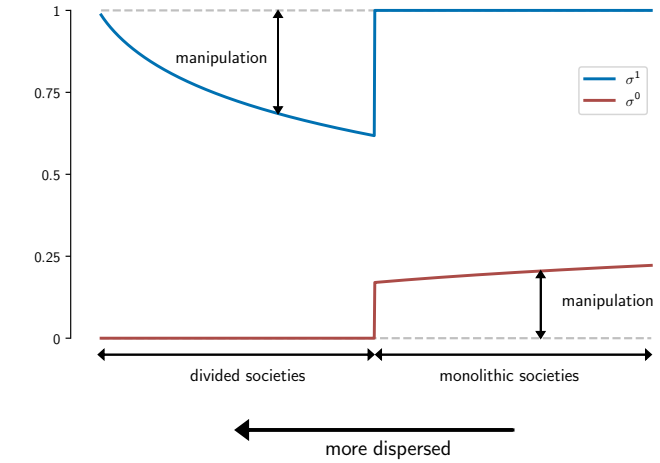

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(In)Consistent Patterns

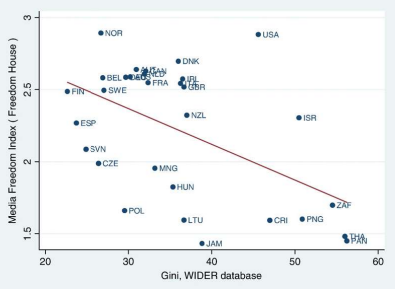

Fig. 1. Inequality and media freedom (Freedom House) for democratic for countries (democracy score ≥ 9); controlling for GDP per capita.

Figure: From Petrova (2008).

Consistent Patterns

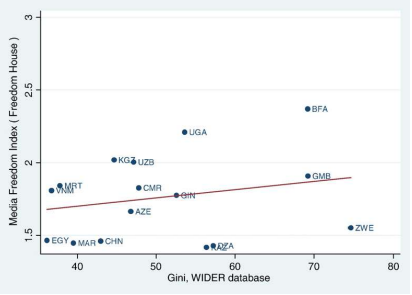

Fig. 2. Inequality and media freedom (Freedom House) for autocracies (democracy score ≤ 1); controlling for GDP per capita.

Figure: From Petrova (2008).

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