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ORIGINAL ARTICLE

Propaganda to a cynical audience

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Abstract

Using a model, we explain why propaganda in autocracies can be blatantly false and unconvincing. We model two news outlets that report on a hidden state of the world, motivated by the ex-post beliefs of the audience about the state of the world. News outlets face a tradeoff when making egregiously false statements. On the one hand, such statements are easily verifiable as false. On the other hand, a demonstrably false report reduces the credibility of the report made by the competing outlet. This is especially true for audiences in autocracies that are characterized by high media cynicism and are prone to making sweeping generalizations about the self-serving nature of all media.

Keywords: autocracy; cynicism; media; propaganda

JEL codes: D03; D72; D82; D83

> ...a despot easily forgives his subjects for not loving him, provided they do not love each other.
> *Alexis De Tocqueville "Democracy in America" (de Tocqueville, 2000).*

1. Introduction

Propaganda in autocracies can be crude and unconvincing, making claims that are often egregious, conspicuously false, and mutually exclusive (Paul and Matthews, 2016), contrary to the more conventional understanding of propaganda as persuasive, instilling pro-regime values, and indoctrinating the populace to achieve political legitimacy (Schaar, 1981; Brady, 2009). False and easily disprovable claims are also increasingly a feature of democratic politics, promoted by both politicians and media platforms (Allcott and Gentzkow, 2017; Starbird, 2017; Jerit and Zhao, 2020; Nyhan, 2020).

In this paper, we use a formal model to argue that crude and unconvincing propaganda can be effective when it exploits the audience's inherent media cynicism. Cynicism is the negative view that the actions of others are motivated by self-interest (Neumann and Zaki, 2023), as opposed to expressive motives such as values or integrity. Media cynicism, in particular, involves the uncritical attribution of self-serving motives to journalists and media outlets, and the rejection of the idea that values and professionalism could be a motive behind reporting (Markov and Min, 2022). Media cynicism has recently been characterized as a way in which audiences relate to news media (Markov and Min, 2023; Tsfati and Barnoy, 2025) that is distinct from skepticism or distrust. A distrustful skeptic deliberates over the motivations and professionalism of a news source to allay (or prove) his suspicions that the source is self-serving. A cynic makes negative moral judgments (Neumann and Zaki, 2023), resulting in sweeping, deterministic conclusions about the self-serving and instrumental motives of all media.

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Our paper argues that cynicism primarily matters in situations where the audience is exposed to sharply different reports by competing media outlets. In such cases, a less cynical individual will reflect on the motivations of different media sources and put more weight on reports that appear more truthful. For a cynic, a single untruthful-looking report will cast a shadow over news reporting as such, making him less likely to update on prior beliefs when witnessing sharply divergent reports, some of which appear truthful and others do not.[1] With a cynical audience, extremely exaggerated and untruthful news reporting will become more common, as it has the added benefit of making the reporting of outlets with competing objectives less credible.

Our analysis is premised on the assumption that some audiences are inherently more cynical or disposed to ignore the possibility of idealistic, ethical, or professional motives, and are more likely to think that individuals and organizations pursue purely instrumental and material goals (Roudakova, 2017; Citrin and Stoker, 2018). Audiences rely on prior levels of cynicism when interpreting political information (Dancey, 2012), leading to spillover effects when negative information about some politicians or institutions impacts others (Lee, 2018). Cynical beliefs are commonly formed under authoritarian practices (Walker and Orttung, 2014; Zhelnina, 2020; Shields, 2021) or in a poor institutional environment (Stavrova and Ehlebracht, 2019).[2] This way, we argue that crude and unconvincing propaganda can be effective in modern authoritarian regimes that are commonly characterized by political demobilization (Linz, 2000) and the accompanying deep distrust of the media (Tsfati and Ariely, 2014), exploiting the audience's inherent cynicism to discredit alternative news sources.

Importantly, people are more likely to make sweeping, cynical generalizations about the corrupt and self-serving nature of media outlets after witnessing malfeasance, such as conspicuously false or biased news reporting. Experimental studies note that exposure to false news triggers a mindset where all news is distrusted (Altay *et al.*, 2025). A similar pattern is present in observational studies (Ognyanova *et al.*, 2020), with spillovers of mistrust across different media channels (Lee *et al.*, 2023). McKay and Tenove (2021) argue that disinformation campaigns promote the distrust of media and objective knowledge acquisition as such. Because of this, cynicism has been characterized as a cognitive schema or a mental shortcut that helps an individual organize, quickly interpret, and store political information (Bartlett, 1995; Shields, 2021). In response to conspicuously false or biased reporting, the cynical view of the media (and politics in general) is brought into awareness, making one more likely to draw sweeping conclusions attributing instrumental motives to all news, and to believe that professional-looking reporting merely masks self-interest (Cappella and Jamieson, 1997).

We formalize the argument assuming two news outlets, controlled by the state and the opposition, that observe the ruler's strength and inform the public about their observation. News outlets can be principled (invariably reporting what they observe) or self-serving, which can make false reports and maximize (or minimize, for the opposition outlet) the public's Bayesian expectation of regime strength. A false report may be perceived as unconvincing, revealing the outlet as self-serving. Based on the observed reports and their apparent truthfulness, the public infers both the ruler's strength and the motivations of news outlets.

The public's degree of cynicism is operationalized by the correlation between the types of the two news outlets. This assumption captures the essential characteristics of media cynicism and its impact on how people perceive and process news. In particular, this setting is strategically equivalent to the one where the types of the media outlets are uncorrelated, but the public and the media outlets themselves perceive the correlation as positive. Higher correlations correspond to more cynical audiences:

[1]Cynics generally resist attempts to change their opinions (Alyukov, 2023); widespread political cynicism aligns with findings that people often recognize false news as false but misjudge true news as false (Shirikov, 2024a; Pfänder and Altay, 2025).

[2]Specific styles of news coverage (Cappella and Jamieson, 1997; Jones-Jang *et al.*, 2021) or exposure to conspiracy narratives (Jolley and Douglas, 2014; Invernizzi and Mohamed, 2023) can increase mistrust in the political system and the perception that politicians are self-serving.

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If one observes a false report from one outlet (learning that the outlet is self-serving), the individual begins to view all media with suspicion and assigns a higher probability to the event that the other outlet is also self-serving. For a non-cynical public, the correlation will be zero—learning the type of one news outlet will not, by itself, tell the public anything about the type of the other outlet.

We find that the public's inherent cynicism increases news outlets' incentives to make reports that are egregiously false and bend the truth to a great degree. In the eyes of a cynical audience, getting caught making a false report discredits the competing news source. Suppose there are three levels of ruler strength: Weak, Normal, and Strong. The state news outlet reports the ruler is Strong, and the opposition outlet reports the ruler is Weak. In addition, the state outlet's report sounds false and unconvincing, while the other report looks credible. When inferring the ruler's strength, the public must consider two possibilities. First, the ruler can be Weak, with the state outlet greatly exaggerating the ruler's strength. Second, the ruler can be Normal, with both outlets making false reports, but only the state outlet getting caught. A more cynical public will assign greater probability to the second event. Thus, cynicism increases the incentive to make egregiously false reports—as long as an unconvincing report does not reveal any additional information about the state of the world. A key insight from our analysis is that, with a cynical audience, the risk of appearing unconvincing and untruthful does not deter news outlets from making egregiously false reports. That can happen even if egregiously false reports are sure to sound unconvincing. This way, our work resolves an empirical puzzle in authoritarian politics: the use of propaganda that is easily verifiable as false.

We describe other conditions leading to egregiously and demonstrably false reporting. First, uncertainty about the underlying state of the world should not be too great. This way, if news outlets make radically divergent reports and one of the reports sounds untrue, it is more likely due to both of them making moderately false reports rather than one of them reporting the truth and the other making a blatantly false statement. Second, the public should be confident in its ability to identify moderately false statements as false; otherwise, the public will identify any conspicuously false report as egregiously false. Finally, if the state is ex ante more likely to be strong than weak, the state media outlet will be more inclined to make egregiously false reports than the opposition outlet.

The rest of this paper is structured as follows. Section 2 describes a case study. Section 3 reviews relevant literature. Section 4 formulates and analyzes the model. Section 5 concludes.

2. Case study: Russian propaganda following the MH17 shootdown

Russian state propaganda after the shootdown of Malaysian Airlines Flight 17 is an example of how crude, unconvincing, and inconsistent reporting has been used to sow doubt and confusion, undermining public trust in the media (Paul and Matthews, 2016). In June 2014, pro-Russian rebels shot down the passenger aircraft over eastern Ukraine with a missile system that was supplied by the Russian state. Within hours of the disaster, Russian state media engaged in a chaotic and contradictory media campaign, amplifying multiple theories to confuse public perception. Russian officials and state media initially suggested that a Ukrainian fighter jet shot down MH17. State television broadcasts showed alleged evidence—crudely superimposed out-of-scale photos of a fighter jet and a passenger airplane on satellite imagery; this image was quickly exposed as fake[3]. The Russian Defense Ministry forwarded a different (and mutually exclusive) version involving a Ukrainian surface-to-air missile launcher[4]. Other, even less credible theories emerged, such as that the plane was already filled with dead bodies before takeoff, suggesting a bizarre Western plot to discredit Russia. This type of coverage is characteristic of the Russian state media's lack of commitment to consistency and its willingness to quickly discard discredited narratives in favor of new ones (Paul and Matthews, 2016). It differs from more traditional approaches that emphasize credibility and the avoidance of contradiction.

[3] https://www.bbc.com/news/world-europe-30064374

[4] https://www.businessinsider.com/russias-story-about-mh17-2014-7

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Consumers of news on the Russian state television recognize that reporting there is manipulative and untrue. In a qualitative study (Shields, 2021), interviewed subjects were acutely aware that news broadcasts and political talk shows from Russian state television were biased and intended to "brainwash" the viewers, and often expressed disgust after watching the clips presented to them. At the same time, these experiences reinforced preexisting cynical attitudes toward politics and the general misbelief that genuine democracy and faithful news reporting are not possible anywhere. This way, rather than turning people into supporters, propaganda reduced dissent by sustaining mistrust and political disengagement (Shields, 2021).

3. Related literature

Unconvincing propaganda in authoritarian settings is argued to inform the populace that the regime is strong (Huang, 2015; Hassan *et al.*, 2022), including by affecting second-order beliefs (Huang and Cruz, 2022), and ultimately reducing the public's willingness to resist the regime (Huang, 2018). We argue that similar empirical patterns can result from a different mechanism. If the audience is cynical, hard propaganda can help maintain regime stability by reducing the credibility of independent news sources, potentially lowering the perceived value of anti-regime collective action.

Little (2017) assumes that some people are credulous and perceive propaganda at face value. Others are sophisticated and can discern it as false, but are still affected because collective behavior requires the cooperation of the credulous part of the population. In our setting, the sophistication of the public is homogeneous, and we explicitly model the mechanism through which cynical but otherwise Bayesian rational individuals come to stop trusting the news.

Other studies examine the impact of media outlets with varying objectives on accountability and welfare. Li *et al.* (2022) argue that biased alternative media can contribute to democratic breakdown, enabling propaganda outlets to persuade voters to support an aspiring autocrat. In Wolton (2019), a voter updates information on the state of the world and leader type from sources with known reporting strategies. Competing news sources can interfere with each other's messages, preventing the public from learning the truth (Minozzi, 2011). In contrast, concerns about news sources' reputations can prevent truthful reporting (Sheen, 2021). Our study differs from those in several essential respects. We assume that the types of news outlets are unknown to the public but correlated, so, as the public updates beliefs on both the state of the world and the types of news outlets, making visibly false and exaggerated reports can be an attractive strategy.

More broadly, our work studies how autocracies manipulate public beliefs to reduce dissent. The strategy we describe is distinct from capturing, censoring or suppressing alternative news sources (Shadmehr and Bernhardt, 2015; Gläß el and Paula, 2020; Kolotilin *et al.*, 2022; Louis-Sidois and Mougin, 2023) or inducing self-censorship through the fear of reprisals (Gehlbach *et al.*, 2022). Kang and Sheen (2024) assume that the incumbent can jam undesired signals by directly manipulating the perceived probability that a piece of news is false; we show that it can be achieved through reporting on the state of the world. In an intriguing model, Sonin (2025) shows how an autocratic ruler can avoid accountability by lying about his performance and thus reducing the credibility of good performance by leaders in other countries. Our work is different in that it models two competing news outlets reporting on a domestic agenda, and an outlet can leverage media cynicism of the audience if the state of the world is unfavorable. Other works assume the possibility of voters being directly persuaded by propaganda (Horz, 2021; Szeidl and Szucs, 2024).

Our analysis can also explain why autocracies can allow some media freedom. Earlier explanations focus on aspects such as control over the bureaucracy (Egorov *et al.*, 2009), controlling corruption while managing social tensions (Lorentzen, 2014), avoiding incentives for censorship circumvention (Hobbs and Roberts, 2018), or making independent media appear unattractive to regime supporters (Shirikov, 2024b). Our account is that the regime can utilize hard propaganda to exploit the public's

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predisposition to cynicism, thereby limiting the impact of alternative information sources on political attitudes and, ultimately, on collective action. The tradeoff between repression and propaganda, argued to be central to dictatorships (Guriev and Treisman, 2019, 2020), can also be similarly affected.

4. The model

There are two media outlets, state S and opposition O. Each outlet $i \in \{S, O\}$ can be either principled ($b_i = 0$) or self-serving ($b_i = 1$) with probability $\frac{1}{2}$ each. Let the correlation between the values b_S and b_O be $\rho \in (-1, 1)$.

We have $P(b_S = 1|b_O = 1) = \frac{1+\rho}{2}$ and $P(b_S = 1|b_O = 0) = \frac{1-\rho}{2}$. So, if $\rho > 0$, then knowing that one of the sources is self-serving increases the observer's belief that the other source is self-serving. This is what should happen if the observer, after witnessing malfeasance from one news outlet, makes generalizations about the media as a whole. In the limiting case of $\rho = 1$, observing a false report from one news source leads one to immediately reach the conclusion that faithful, professional reporting is impossible, and that the other news source is invariably self-serving. For values of ρ closer to 0, learning the type of one news source, by itself, does not convey any information about the type of the other: people are willing to admit that news sources are principled or self-serving for purely idiosyncratic reasons. Finally, the polar case of $\rho = -1$ corresponds to the tendency to adopt a black-and-white worldview quickly: if one outlet is self-serving, the other must be principled.

Suppose that the media outlets observe the level of ruler strength $x \in \{0, 1, 2\}$, where $x = 0$ denotes a weak ruler, $x = 1$ denotes a normal-strength ruler, and $x = 2$ denotes a strong ruler. Ex-ante, the ruler is weak, normal-strength, or strong with positive probabilities $\frac{1-\beta}{2}$, β, and $\frac{1-\beta}{2}$, respectively, with $\beta \in (0, 1)$ (later, one of our results will be obtained for generic positive probabilities over $\{0, 1, 2\}$). The media outlets then choose their reporting tactics. A principled outlet always reports the state of the world truthfully. A self-serving outlet $i \in \{O, S\}$ observing state x can report any state $y_i \in \{0, 1, 2\}$. We will refer to a report $y \neq x$ as *false* and to a report $|y-x| = 2$ as *egregiously false*.

If a report y by outlet i is false, this becomes known to the outside observer with probability $r_{|x-y|}$, with $0 < r_1 \leq r_2 = 1$. In that case, the outside observer learns only that the report is false (and, hence, that the news source is self-serving) but not the actual state of the world x. We assume that an egregiously false report is also demonstrably false: if a news outlet makes an egregiously false claim, the public will know for sure that this claim is false, but may remain uncertain about how much the truth has been distorted.[5]

The *ex post* beliefs p of the public about $x \in \{0, 1, 2\}$ are formed conditional on the reports y_S and y_O of the state and media outlets, and on whether any of them was observed making a false report. We do not explicitly model the public's actions after the ex post expectations are formed. Instead, it is assumed that both media outlets (if they are self-serving) value the public's ex-post beliefs about regime strength (and that the public is homogeneous), with the state-owned outlet seeking to portray the ruler as stronger and the opposition outlet aiming to portray the ruler as weaker.

Without loss of generality, the public's belief that the state of the world is $x = 0$ is valued by the state outlet with weight 0, the belief that $x = 1$ is valued with a unit weight, and the belief that $x = 2$ (or that the regime is strong) is valued with weight $\alpha > 2$. The opposition outlet's payoffs are symmetric, with a weight of 0 on the belief that $x = 2$, a weight of 1 on the belief that $x = 1$, and a weight of α on the belief that $x = 0$.

Denote by $u_S(x, y_S)$ the expected payoff of S if the state of the world is x and report y_S is chosen. When forming payoff expectation, S must consider two possibilities. First, with some probability, O is principled and, in that case, invariably chooses the truthful report $y_O = x$. Second, O can be

[5] In the Supplemental Appendix consider the more general case where $0 < r_1 \leq r_2 \leq 1$.

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self-serving; in that case, the expectation is calculated over all possible values of y_O, considering the possibility that the falsehood of reports will become known to the public.[6]

Denote by $q_{ix}(y)$ the probability that state y is reported by outlet i if the actual state is x and the media outlet is self-serving, and by q the profile of reporting strategies. We will use the following solution concept:

Definition 4.1. A *reporting equilibrium* will be reporting strategies q and public beliefs p such that

(i) $q_{ix}(y) = 0$ if $u_i(x, y) < \max_{y'} u_i(x, y')$,
(ii) In every information set visited with positive probability, p are derived via Bayes rule from q; otherwise, p must be the limit of a sequence of beliefs derived from a sequence of totally mixed strategy profiles converging to q,
(iii) $q_{Sx}(y) = q_{O2-x}(2 - y)$ for $x \in \{0, 1, 2\}$,
(iv) $q_{Sx}(y) = 0$ if $y < x$; $q_{Ox}(y) = 0$ if $y > x$.

The first two conditions are standard for a sequential equilibrium in an extensive-form game (Kreps and Wilson, 1982), applied to a game where observer beliefs enter directly into the utility functions of the players (Battigalli and Dufwenberg, 2009). The third condition further requires any equilibrium to be symmetric. The fourth condition means no downward false reporting, when the state outlet underreports the ruler's strength or the opposition outlet overreports it.

In an equilibrium, neither outlet will truthfully report its least desirable state of the world:

Lemma 4.2. *In any equilibrium we have* $q_{S0}(0) = q_{O2}(2) = 0$.

Since we assume that a news outlet does not report a state that is less favorable than the true state, reporting one's least favorable state reveals it as the true state and results in zero payoff to the news outlet. At the same time, reporting one's most favorable state always yields a positive payoff. It follows that any equilibrium is characterized by a pair of probabilities (q_1, q_2), where $q_1 = q_{S1}(2) = q_{O1}(0)$ and $q_2 = q_{S0}(2) = q_{O2}(0)$. Our next result is as follows:

Lemma 4.3. *There exists an equilibrium with* $(q_1, q_2) = (0, 1)$*, no equilibria with* $q_1 = 0, q_2 < 1$*, and no equilibria with* $q_2 = 0$.

This result implies that, while multiple equilibria are possible, we must have some egregiously false reporting. An equilibrium with no false reporting for the normal level of ruler strength requires very specific assumptions on the beliefs in an information set off the equilibrium path.[7] In this equilibrium, both outlets make egregiously false reports with probability one.

Our primary objective is to investigate the existence of equilibria where false reports are made with a positive probability in every state of the world, and to examine the comparative statics in the case where the equilibria are mixed-strategy. We have the following result.

Lemma 4.4. *If* $q_1 > 0$ *in equilibrium, then we have* $q_1 = 1$.

[6] See the proofs section for formal definitions of the payoff functions of the outlets.

[7] Choosing the report $y_S = 2$ when $x = 1$ can result in the public observing $y_S = 2, y_O = 1$, and outlet S but not O observed making a false report. If $q_1 = 0$, this information set lies off the game path, so the payoff of deviating to $y_S = 2$ depends on what belief in this information set is assumed. Let p_x be the probability assigned to state $x \in \{0, 1, 2\}$. Consider any sequence of mixed strategy profiles that converges to $q_1 = 0$, $q_2 = 1$, and does not allow downward reporting. While any belief such that $p_1 + p_2 = 1$ can arise at the limit, only $p_1 = 1$ guarantees us that deviating to $y_S = 2$ will not increase the payoff of S.

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Unless $q_1 = 0$, we are left with equilibria where a false report is always made if the ruler is at normal strength, and an egregiously false report is made with a positive (perhaps unit) probability. Such an equilibrium is unique and characterized by the following statement:

Proposition 4.5. *In any equilibrium such that $q_1 = 1$, we have*

$$q_2 = \min\left\{1, \frac{r_1(1+\rho)(1-\beta+\beta r_1-\beta r_1\rho)}{(1-\beta)(1+r_1-\rho+r_1\rho)}\right\}. \quad (1)$$

The primary goal of our analysis is to study how the public's cynicism, characterized by parameter ρ, affects the probability that an egregiously false report is made in this equilibrium if the state of the world is unfavorable to that outlet (such as $x = 0$ and the outlet is state-owned). Proposition 4.5 tells us that, for a range of parameter values, the equilibrium is pure-strategy, meaning that an egregiously false report is always made, even though it is guaranteed to be recognized as false. This can occur if three conditions are met—β is sufficiently large, r_1 is sufficiently large relative to β, and the cynicism parameter ρ is sufficiently large relative to β and r_1:

Corollary 4.6. *We have $q_2 = 1$ if and only if the following three conditions are satisfied: $\beta > \frac{1}{3}$, $r_1 > \sqrt{\frac{1-\beta}{2\beta}}$, and $\rho \geq \frac{1-\beta}{\beta r_1^2} - 1$.*

We now provide an intuitive explanation for this result. Suppose the state of the world is $x = 0$. Then, the opposition outlet invariably reports $y_O = 0$. Let the state outlet report $y_S = 2$ and assume the report is perceived to be false. From the observer's position, this can happen under two circumstances. First, the ruler can be weak, with the state outlet misrepresenting the truth a great deal and the opposition outlet reporting truthfully. Second, the ruler can be at normal strength, with both outlets misrepresenting the truth to some extent, but only the state outlet getting caught. This means that making an egregiously false report always has some value, because even though the public will know the report is a lie, it will still be left guessing about the true state of the world.

The payoff of reporting $y_S = 2$ depends on the probabilities that the observer assigns to these two events, conditional on observing $y_S = 2$, $y_O = 0$, and on the state outlet's report being known to be false. The second probability is larger (and the first one is smaller) if the audience is cynical and believes that if one news outlet is self-serving, so is the other. For this logic to be valid, however, both β and r_1 must be large enough so that the state of the world $x = 1$ is plausible if $y_S = 2$, $y_O = 0$, and *S*'s report is observed as false.

We proceed by looking at the comparative statics of q_2 in case the equilibrium is mixed-strategy. The following is true:

Corollary 4.7. *Let $q_2 < 1$. Then $\frac{\partial q_2}{\partial \rho} > 0$ and $\frac{\partial q_2}{\partial \beta} > 0$. Moreover, $\frac{\partial^2 q_2}{\partial \rho \partial \beta} > (<, =)\, 0$ if $r_1 < (>, =) \left(\frac{1-\rho}{1+\rho}\right)^2$.*

As the audience becomes more cynical, the probability of egregiously false reports q_2 increases. For values of ρ close to -1, egregiously false reports will be made rarely because being caught lying will increase the credibility of the opponent's report. An exception is when the probability that the ruler is at a normal strength is high—in that case, two wildly divergent reports are both likely to be false.

As the extreme states of the world become less likely, the probability q_2 increases as well. To see this, suppose that the outlets report $y_S = 2$, $y_O = 0$, and that the state outlet's report is known to be

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false. This can potentially be a result of either $x = 0$ or $x = 1$ and both outlets making moderately false reports. The second is more likely if β is large, so the effect of making an egregiously false report on the public's beliefs is larger if β is large.

Finally, Corollary 4.7 states that if the probability that a moderately false report is exposed is small, then the effects of β and ρ discussed above are complementary: Blatantly false reporting is more sensitive to audience cynicism when the extreme states of the world become less likely.

The next result investigates the comparative statics of q_2 with respect to r_1:

Corollary 4.8. *Let* $q_2 < 1$. *Then* $\frac{\partial q_2}{\partial r_1} > 0$.

Potentially, r_1 has several different effects on equilibrium behavior. First, an increase in r_1 means that the observed outcome $y_S = 2$, $y_O = 0$, conditional on S but not O getting caught making a false report, is more likely to have resulted from $x = 1$. This increases the attractiveness of choosing $y_S = 2$ when $x = 0$. For values of $r_1 > \frac{1}{2}$, this effect reverses sign: if r_1 is close to 1 and $y_O = 0$, it is unlikely that outlet O will not be detected while making a false report. Second, a higher r_1 means a lower probability of $x = 1$ (and a higher probability of $x = 2$) conditional on observing $y_S = 2$, $y_O = 0$, and no visibly false reports; as $\alpha > 2$, this results in a higher payoff from choosing the egregiously false report $y_S = 0$ conditional on not getting caught. Third, as r_1 increases, the utility of reporting $y_S = 1$ decreases. Hence, one may expect a nonmonotonic effect, but Corollary 4.7 shows that the combined effect is always positive, and probability q_2 increases with r_1.

In the final part of our analysis, we relax the assumption that states $x = 0$ and $x = 2$ are equally likely, allowing the ruler to be *ex ante* strong or weak. Denote by $\beta_0 \neq \beta_2$ the probabilities of these two states. In such a case, Lemma 1 is still true, but there may not exist an equilibrium where the strategies of state and opposition outlets are symmetric. Therefore, the equilibrium strategy of the state outlet will be q_{S1} or q_{S2}, or the probability that the report $y_S = 2$ will be made if $x = 1$ or $x = 2$. Define q_{O1}, and q_{O2} similarly. The following result is established:

Proposition 4.9. *Let* $\beta_0 < \beta_2$. *Then* $q_{S2} \geq q_{O2}$ *if* $q_{S1} = q_{O1} = 1$.

Thus, if β_0 is small (so the ruler is *ex ante* strong), then state-owned media is more inclined to make egregiously false reports than the opposition media in any equilibrium where the outlets misreport if $x = 1$.

5. Conclusion

Our work argues that crude, unconvincing propaganda will be effective because it discredits competing news sources even when the audience understands that the content of propaganda messages is being manipulated, provided that the audience is sufficiently cynical.

We assume that the media outlets also believe, similarly to the audience, that there is a correlation between the types of outlets. Political and media elites themselves are often highly cynical, so the latter assumption is realistic.[8] More importantly, the equilibrium in this model does not differ from the one where the true correlation ρ between the types of media outlets is known to the fully rational media outlets, and the public is rational except that it believes that the *ex ante* correlation between media outlet types is some $\hat{\rho}$ that is not necessarily equal to ρ.[9]

[8]For example, people in the position of power are more likely to attribute self-serving motives to generous acts (Inesi *et al.*, 2012), while in corrupt nations clever people are more likely to be cynical (Stavrova and Ehlebracht, 2019).

[9]The cynical processing of news can be modeled more explicitly. For example, we can examine the model where the media types are uncorrelated, but a cynical response is triggered with probability λ when an individual observes a false news report.

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Our model can be extended in several ways. First, in the Supplemental Appendix, we consider the case where the probability that an egregiously false report is exposed is less than one. Second, the current model assumes a homogeneous audience, with no social division with regard to the regime or the leader, and a uniform level of cynicism/sophistication. Future research can consider multiple audiences that vary in ex ante beliefs, or when a part of the public is loyal or gullible, perceiving messages from regime-affiliated news sources at face value and/or enjoying holding beliefs that are consistent with one's identity. Alternatively, general distrust in news sources can make one more likely to listen to messages that are congruent with one's position or identity. Third, it is for future research to study why authoritarian states not only benefit from a more cynical populace, but sometimes deliberately instill cynicism and mistrust (Alyukov, 2022; Rosenfeld and Wallace, 2024), benefiting from the political apathy of the populace (Gerschewski, 2023; Libman *et al.*, 2024). A version of this logic was explored in Bräuninger and Marinov (2022), where competing elites can engage in a "war on truth," affecting the non-Bayesian public's perception of the quality of information that it receives from a news source; this can stop the voters from enacting policy change that the elites currently oppose, at the expense of making them less likely to support the elites in the future. Further work can examine the different persuasive mechanisms that the state uses to influence the correlation parameter ρ, and how the decision to do so depends on the nature of threats faced by the regime: external, requiring the mobilization of regime supporters, or internal, requiring the suppression of anti-regime collective action.

Supplementary material. The supplementary material for this article can be found at https://doi.org/10.1017/psrm.2025.10081. To obtain replication material for this article, please visit https://doi.org/10.7910/DVN/B66HLL.

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The equilibrium will be similar to the one described in Proposition 4.5, with λ playing the same role as ρ. This will happen for the same reason: A cynic is less likely to learn about the state of the world when media reports differ widely and one of the reports appears false.

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Definition of payoffs

Denote by $d_i \in \{0,1\}$ whether it was revealed that outlet i is self-serving, and let $\eta_{d_i}(x, y_i)$ be the probability of d_i given x and y_i; so $\eta_0(x,x) = 1$, $\eta_0(x,y) = 1 - r_{|x-y|}$ if $x \neq y$, and $\eta_1(x,y) = 1 - \eta_0(x,y)$.

Denote by $p : \{0,1,2\}^2 \times \{0,1\}^2 \to \Delta^2$ the belief of the public about state $x \in \{0,1,2\}$ following reports $y_S, y_O \in \{0,1,2\}$ and observations $d_S, d_O \in \{0,1\}$.[10] Denote by $q_{ix}(y)$ the probability that state y is reported by outlet i if the actual state is x and the media outlet is self-serving.

Let $p_x(y_S, y_O, d_S, d_O)$ be the probability assigned to state $x \in \{0,1,2\}$ by the public depending on the reports made by both news outlets and whether these reports appear as false. The payoff of outlet S if it chooses report $y_S \in \{0,1,2\}$ and the state of the world is x is defined by taking the expectation of $p_1 + \alpha p_2$ over all possible values of y_O, d_S, and d_O:

$$u_S(x, y_S) = \frac{1-\rho}{2} \sum_{d_S} \eta_{d_S}(x, y_S)(p_1(y_S, x, d_S, 0) + \alpha p_2(y_S, x, d_S, 0)) + \\ + \frac{1+\rho}{2} \sum_{y_O, d_S, d_O} q_{Ox}(y_O)\eta_{d_S}(x, y_S)\eta_{d_O}(x, y_O)(p_1(y_S, y_O, d_S, d_O) + \alpha p_2(y_S, y_O, d_S, d_O)). \tag{A.1}$$

The first summand of (A.1) is the expected payoff of S conditional on O being principled and invariably choosing $y_O = x$, times $\frac{1-\rho}{2}$ or the probability that O is principled if S is self-serving. The second summand is the expected payoff of S conditional on O being self-serving (and, hence, choosing a y_O that is potentially different from x), calculated over all possible realizations of y_O, d_O, and d_S given x and y_S and multiplied by $\frac{1+\rho}{2}$ or the probability that O is self-serving if S is self-serving.

Define the payoff of the opposition outlet symmetrically:

$$u_O(x, y_O) = \frac{1-\rho}{2} \sum_{d_O} \eta_{d_O}(x, y_O)(p_1(x, y_O, 0, d_O) + \alpha p_0(x, y_O, 0, d_O)) + \\ + \frac{1+\rho}{2} \sum_{y_S, d_S, d_O} q_{Sx}(y_S)\eta_{d_S}(x, y_S)\eta_{d_O}(x, y_O)(p_1(y_S, y_O, d_S, d_O) + \alpha p_0(y_S, y_O, d_S, d_O)). \tag{A.2}$$

Proofs of statements

Proof of Lemma 4.2 Given any equilibrium strategies, we have $u_S(0,0) = 0$. It follows that we should have $p_0 = 1$ if $(y_S, y_O, d_S, d_O) \in \{(1,0,0,0), (1,0,1,0), (2,0,1,0)\}$; otherwise, S will not choose $y_S = 0$ if $x = 0$. As $p_0(1,0,0,0) = 1$, it follows that we should have $q_{S1}(1) = 0$ and $q_{S1}(2) = 1$. This means that we observe $(y_S, y_O, d_S, d_O) = (2,0,1,0)$ with positive probability if $x = 1$, which is a contradiction.

Proof of Lemma 4.3 Here, we provide a sketch of the proof; for the full derivation, please refer to the Supplemental Appendix. We first derive $u_S(1,1)$, $u_S(1,2)$ by taking the expectations of posterior beliefs over the possible combinations of (y_S, y_O, d_S, d_O). If $q_{S1} = q_{O1} = 0$, then the information set $y_S = 2$, $y_O = 1$, $d_S = 1$, $d_O = 0$ is off the game path. If

[10] The symbol Δ^2 denotes the 2-dimensional simplex or the set of all probability distributions over $\{0,1,2\}$.

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$q_{S2} = q_{O2}$, then for any sequence of totally mixed strategy profiles converging to $q_{S1} = q_{O1} = 0$, $q_{S2} = q_{O2} < 1$ we should have $u_S(1,2) > u_S(1,1)$, unless $q_{S2} = q_{O2} = 1$. We then similarly derive $u_S(0,1)$ and $u_S(0,2)$; it immediately follows that $u_S(0,1) < u_S(0,2)$ if $q_{S1} = q_{O1} > 0$ and $q_{S2} = q_{O2} = 0$, ruling it out as an equilibrium.

Proof of Lemma 4.4 Assume $r_2 \in (r_1, 1]$, $q_{S1} = q_{O1} = q_1$, and $q_{S2} = q_{O2} = q_2$. Put

$$H_1(q_1,q_2) = u_S(1,2) - u_S(1,1) = \frac{(1-r_1)(1-\beta)(1-q_2)}{2}\frac{2(\alpha-1)+q_1(1+\rho)(2-\alpha)}{\beta q_1(2-q_1-q_1\rho)+(1-\beta)(1-q_2)} + \\ + \frac{1+\rho}{2}q_1(1-r_1)^2\frac{(\alpha-2)(1-\beta)q_2(1-r_2)}{\beta(1+\rho)q_1^2(1-r_1)^2+2(1-\beta)q_2(1-r_2)} + \\ + \frac{1+\rho}{2}q_1r_1(1-r_1)\frac{2\beta(1+\rho)q_1^2r_1(1-r_1)+\alpha(1-\beta)q_2r_2}{\beta(1+\rho)q_1^2r_1(1-r_1)+(1-\beta)q_2r_2}, \tag{B.1}$$

$$H_2(q_1,q_2) = u_S(0,2) - u_S(0,1) = \frac{\beta(1+\rho)q_1^2r_1(1-r_1)r_2}{\beta(1+\rho)q_1^2r_1(1-r_1)+(1-\beta)q_2r_2} + \\ + \frac{\beta(1+\rho)q_1^2(1-r_1)^2(1-r_2)+\alpha(1-\beta)q_2(1-r_2)^2}{\beta(1+\rho)q_1^2(1-r_1)^2+2(1-\beta)q_2(1-r_2)} - \frac{\beta q_1(1-r_1)(2-q_1-q_1\rho)}{\beta q_1(2-q_1-q_1\rho)+(1-\beta)(1-q_2)}. \tag{B.2}$$

For any equilibrium $(q_1, q_2) \neq (0,1)$, we must have $H_i = 0$ if $q_i \in (0,1)$ or $H_i \geq 0$ if $q_i = 1$, for $i = 1, 2$. If $\alpha > 2$, then $H_1(q_1, q_2) > 0$, so $q_1 = 1$. Now, $H_2(1,0) > 0$, so for some $q_2 \in (0,1]$ we have $H_2(1,q_2) = 0$ and/or we have $H_2(1,1) > 0$.

Proof of Proposition 4.5 Fix $r_2 = 1$. Then $H_1(q_1,q_2) > 0$, so $q_1 = 1$. We have $u_S(0,1)$ increasing in q_2 and $u_S(0,2)$ is decreasing in q_2, with $u_S(0,1) < u_S(0,2)$ at $q_2 = 0$. So, we either have $q_2 = 1$, or a closed-form solution for $u_S(0,1) = u_S(0,2)$ in q_2 exists, given by the expression (1).

It remains to show that backward misinformation is not optimal; please refer to the Supplementary Appendix for details.

Proof of Corollary 4.6 We have $q_2 = 1$ if $\beta(1 + r_1^2(1+\rho)) \geq 1$. The statement immediately follows.

Proof of Corollary 4.7 Assume that $q_2 < 1$. Differentiating q_2 by β and r_1 yields positive values. Now, $\frac{\partial q_2}{\partial \rho}$ has no more than one zero on $(-1,1)$, with $q_2 = 0$ for $\rho = -1$ and $q_2 = 1$ for $\rho = 1$. This means that q_2 is strictly increasing in ρ whenever $q_2 < 1$.

Proof of Proposition 4.9 If $r_2 = 1$ we have $u_S(0,1) \leq u_S(0,2)$ if and only if

$$\frac{(2-q_{S1}-q_{S1}\rho)}{\beta_1 q_{O1}(2-q_{S1}-q_{S1}\rho)+2\beta_0(1-q_{S2})} \leq \frac{(1+\rho)q_{S1}r_1}{\beta_1(1+\rho)q_{S1}q_{O1}r_1(1-r_1)+2\beta_0 q_{S2}}$$

so

$$q_{S2} = \min\left\{1, \frac{(1+\rho)q_{S1}r_1\left(1+\frac{\beta_1}{2\beta_0}q_{O1}r_1(2-q_{S1}(1+\rho))\right)}{2-q_{S1}(1+\rho)(1-r_1)}\right\}. \tag{B.3}$$

Similarly, we have

$$q_{O2} = \min\left\{1, \frac{(1+\rho)q_{O1}r_1\left(1+\frac{\beta_1}{2\beta_2}q_{S1}r_1(2-q_{O1}(1+\rho))\right)}{2-q_{O1}(1+\rho)(1-r_1)}\right\}. \tag{B.4}$$

The statement follows immediately for $q_{S1} = s_{O1} = 1$.

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