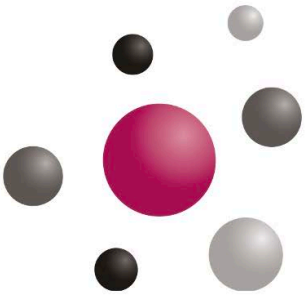


V-Dem INSTITUTE

Disinformation and Episodes of Regime Transformation

Yuko Sato, Felix Wiebrecht,
and Staffan I. Lindberg

September 2023

Working Paper

SERIES 2023:144

THE VARIETIES OF DEMOCRACY INSTITUTE

UNIVERSITY OF GOTHENBURG
DEPT OF POLITICAL SCIENCE

Varieties of Democracy (V-Dem) is a unique approach to conceptualization and measurement of democracy. The headquarters – the V-Dem Institute – is based at the University of Gothenburg with 20 staff. The project includes a worldwide team with 5 Principal Investigators, 22 Project Managers, 33 Regional Managers, 134 Country Coordinators, Research Assistants, and almost 4,000 Country Experts. The V-Dem project is one of the largest ever social science research-oriented data collection programs.

Please address comments and/or queries to:

V-Dem Institute
Department of Political Science
University of Gothenburg
Sprängkullsgatan 19, Box 711
405 30 Gothenburg
Sweden
E-mail: contact@v-dem.net

V-Dem Working Papers are available in electronic format at https://www.v-dem.net

Disinformation and Episodes of Regime Transformation*

Yuko Sato[1], Felix Wiebrecht[2], and Staffan I. Lindberg[2]

[1]Waseda Institute for Advanced Study, Waseda University
[2]V-Dem Institute, University of Gothenburg

September 11, 2023

*For useful feedback and comments on previous versions of this paper, we thank Jennifer McCoy, Yilin Su, Kevin Aslett, Natalia Bueno, Anam Kuraishi, and participants at PSA 2023, MPSA 2023, EPSA 2023, and APSA 2023.

Corresponding author: Yuko Sato, yuko.sato@aoni.waseda.jp

Funding: We recognize support by Knut and Alice Wallenberg Foundation to Wallenberg Academy Fellow Staffan I. Lindberg, Grant 2018.0144; by European Research Council, Grant 724191, PI: Staffan I. Lindberg; as well as by internal grants from the Vice- Chancellor's office, the Dean of the College of Social Sciences, and the Department of Political Science at University of Gothenburg. The computations of expert data were enabled by the Swedish National Infrastructure for Computing (SNIC) at National Supercomputer Centre, Linköping University, partially funded by the Swedish Research Council through grant agreement no. 2019/3-516.

Abstract

Disinformation has transformed into a global issue and while it is seen as a growing concern to democracy today, autocrats have long used it as a part of their propaganda repertoire. Yet, no study has tested the effect of disinformation on regime breakdown and stability beyond country-specific studies. Drawing on novel measures from the Digital Society Project (DSP) estimating the levels of disinformation disseminated by governments across 179 countries between 2000-2022 and from the Episodes of Regime Transformation (ERT) dataset, we provide the first global comparative study of disinformation and survival of democratic and authoritarian regimes, respectively. The results show that in authoritarian regimes, disinformation helps rulers to stay in power as regimes with higher levels of disinformation are less likely to experience democratization episodes. In democracies, on the other hand, disinformation increases the probability of autocratization onsets. As such, this study is the first to provide comparative evidence on the negative effects of disinformation on democracy as well as on the prospects of democratization.

Keywords: Disinformation, Propaganda, Democratization, Autocratization, Regime Survival

Introduction

Disinformation by political actors is a growing concern worldwide, and its deleterious effects were becoming palpable even before the Covid-19 pandemic and Russia's invasion of Ukraine (e.g., Bennett and Livingston, 2018; Newman et al., 2021). Here, we concur with prior conceptualizations of disinformation and define it as purposefully created information that "has the function of misleading" (Fallis, 2015, p.422) and is "intentionally and verifiably false" (Allcott and Gentzkow, 2017, p.213). Although disinformation has long been part of dictatorships' propaganda machines, autocrats appear to have become more blatant in 'spinning' false narratives in attempts to secure their hold on power (e.g., Guriev and Treisman, 2022; Tenove, 2020). Anti-pluralists and aspiring autocrats in democracies such as the United States, Brazil, Germany, and Sweden are also increasingly spreading 'fake news' (e.g., Zimmermann and Kohring, 2020; Larsson, 2020). Targeted campaigns abroad by regimes such as Russia, China, and Iran are adding further stress to democracies (e.g., Pomerantsev, 2015; Hjorth and Adler-Nissen, 2019). As information is a fundamental resource for voters to hold governments accountable, disinformation is characterized as one of the key challenges to democracy (e.g., Benkler, Faris, and Roberts, 2018).

Despite the abundance of disinformation and the growing concern around it, comparative research on the issue and its political consequences is rare (for exceptions see Piazza 2022, Humprecht, Esser, and Van Aelst 2020, and Hunter 2023). In autocracies, disinformation is an inherent part of propaganda, but to date, empirical research has almost exclusively studied the cases of Russia and China (e.g., Huang, 2015; Huang, 2018; Rozenas and Stukal, 2019). Here, the primary focus of these studies is on governments' strategies for information control and dissemination. At the same time, the macro-level political consequences, such as its effect on regime stability, have been understudied. In democracies, most prior research has focused on questions at the individual level, such as voters' exposure and susceptibility to disinformation (e.g., Hjorth and Adler-Nissen, 2019; Enders et al., 2021; Erlich and Garner, 2023), but also less on its consequences on the political system. Thus, it remains debated whether disinformation poses an immediate threat to democracy or remains a marginal phenomenon without

far-reaching consequences (e.g., Lanoszka, 2019; Allcott and Gentzkow, 2017; Jungherr and Schroeder, 2021).

In this paper, we seek to analyze the consequences of disinformation used by governments on political systems more specifically and combine insights from both regime types into a common framework of the effect of disinformation on regime survival. We argue that disinformation proves to be an effective tool for dictators to retain their hold on power and show that democratization is less likely in authoritarian regimes that disseminate more disinformation. On the other hand, we also echo concerns surrounding growing disinformation in democracies and suggest that higher levels of disinformation are associated with onsets of autocratization. Taken together, we suggest that disinformation is detrimental to democracy across regime types. In order to test this argument, we go beyond the existing China/Russia- (for autocracies) and US-centrism (for democracies) of prior studies and employ a comparative study. We draw on measures of disinformation from the Digital Society Project (DSP) (Mechkova et al., 2022) and combine it with the Episodes of Regime Transformation (ERT) dataset (Edgell et al., 2023) that identifies episodes of autocratization as well as liberalization. These datasets allow us to conduct a cross-national time-series study to systematically examine the effects of disinformation on regime survival across 179 countries between 2000-2022.

Empirically, we find that once we disaggregate the sample by regime types, our results show support for the regime-stabilizing function of disinformation in authoritarian regimes, making democratization episodes overall less likely. In contrast, in democracies, higher levels of disinformation increase the probability of autocratization onsets but are not associated with democratic breakdowns. To explain this finding, we point to the fact that disinformation in democracies is not fully capable of manipulating public opinion. Instead, it promotes polarization in society, which inflates the risk of onsets of autocratization episodes. However, as a consequence, it also accelerates pro-democratic mobilization that can ultimately help in averting democratic breakdowns.

The contributions of this study are twofold. First, we overcome the scope limitations of previous studies and add further generalizability to prior studies on disinformation. Research on authoritarian regimes' use of disinformation is mostly based on findings from China and

Russia (e.g., Huang, 2015; Rozenas and Stukal, 2019) while studies on disinformation's threat to democracy primarily emanate from the United States (e.g., Tucker et al., 2018). As such, this study is the first to identify the effects of disinformation on regime survival globally as well as across autocracies and democracies.

Second, the findings from this study contribute to debates about the impact of disinformation. Although research on authoritarian regimes has identified propaganda as a pillar of regime stability (e.g., Huang, 2015; Carter and Carter, 2021), others noted that propaganda and especially disinformation can also backfire (e.g., Huang, 2018; Wang and Huang, 2021). Adding to this debate, we find that across autocracies, disinformation can be an effective tool for dictators and is more likely to stabilize autocracies. Likewise, while many identify disinformation as a major challenge for democracies (e.g., Bennett and Livingston, 2018), others see the reach of disinformation, and consequently, its influence as limited (e.g., Lanoszka, 2019; Allcott and Gentzkow, 2017; Grinberg et al., 2019; Guess, Nagler, and Tucker, 2019). Echoing these mixed results, we highlight that, on the one hand, disinformation is associated with severe consequences, namely the onset of autocratization episodes. Yet, disinformation itself is unlikely to lead to a complete democratic breakdown.

In the following, this paper will introduce its theoretical framework and hypotheses of how disinformation affects regime stability both in autocracies and democracies. Next, we introduce the empirical strategy to test these arguments. Then, we present the statistical results of the effect of disinformation on regime survival. Finally, we discuss the possible implications of our findings in the conclusion.

Defining Disinformation

Especially since the presidency of Donald Trump, disinformation and 'fake news' have received heightened attention in popular as well as academic discourses. While notions such as 'misinformation', 'disinformation', 'conspiracy theory', and 'propaganda' are often used interchangeably, it is important to retain conceptual clarity. Starting from the broadest category, we follow prior research in this line of work and define misinformation as claims "that contradict or distort com-

mon understandings of verifiable facts" (Persily and Tucker, 2020, p.10). Disinformation, then, is a subcategory of misinformation with the difference being that it is purposely disseminated (e.g., Persily and Tucker, 2020; Tucker et al., 2018). In other words, both concepts describe false claims but while misinformation may be shared accidentally and without malicious intent, disinformation "has the function of misleading" (Fallis, 2015, p.422) and deceiving. Although the question of intent may be difficult to prove, 'organized attempts' of disseminating false information can be seen as a good indicator of such (Persily and Tucker, 2020). Typical examples of disinformation may include Russia's strategic disinformation campaigns domestically and abroad (e.g., Pomerantsev, 2015) but also unsubstantiated claims of electoral fraud in the US (e.g., Berlinski et al., 2021).

As such, disinformation is different from other concepts such as conspiracy theories, even though they may often go hand in hand in practice. While the (lack of) truthfulness is a defining element of disinformation, conspiracy theories, however, can rarely be classified as verifiably false and instead often share the belief into secretive elites that exercise control over society (e.g., Sunstein and Vermeule, 2009; Pirro and Taggart, 2022). Yet, disinformation shares some overlap with the concept of propaganda. The latter is defined as a "deliberate, systematic attempt to shape perceptions, manipulate cognitions, and direct behavior to achieve a response that furthers the desired intent of the propagandist" (Jowett and O'Donnell, 2018, p.6). As a broader strategy, this may and often does, contain disinformation (e.g., Lanoszka, 2019) but also entails presenting and framing true pieces of information in a way that "disparages opposing viewpoints" (Tucker et al., 2018, p.3). Elements of disinformation have therefore long been part of autocrats' broader propaganda and information control strategies including in Rwanda and Nazi Germany (e.g., Yanagizawa-Drott, 2014; Adena et al., 2015).

Disinformation in Autocracies: Pillar of Regime Stability

Naturally, disinformation is more prevalent in dictatorships than in democracies (Boese et al., 2022). Not only do authoritarian regimes frequently disseminate disinformation but they also do so in an environment in which alternative channels of information are hardly available.

In other words, disinformation from official channels is often the only 'truth' as it cannot be verified or triangulated with different sources (e.g., Guriev and Treisman, 2022). We hold that this strategy is an effective tool for dictators to remain in power as it hampers prospects for democratization in autocracies. In particular, it insulates dictators from mass protests, and we identify two primary ways in which disinformation affects citizens' willingness to protest.

First, disinformation can directly deflect responsibility and blame from dictators, making it more difficult for people to rally against them. In the absence of alternative sources of information and tight control of the internet, disinformation is significantly harder to detect, creating an opportunity for autocratic governments to present their performance better than it actually is (Boese et al., 2022). For example, authoritarian regimes regularly and frequently manipulate statistics on indicators such as economic growth (Martinez, 2022) and deaths from Covid-19 (e.g., Annaka, 2021; Neumayer and Plümper, 2022). Instead, both Russia and China, for instance, repeatedly blame the West for bad economic situations and escalating tensions with them (e.g. Rozenas and Stukal, 2019). Accordingly, disinformation often increases citizens' support for the regime while decreasing their motivation to protest against the government (e.g., Guriev and Treisman, 2022). Even if citizens do not change their attitude about the government's performance themselves as a result of propaganda, they may still believe that others have been persuaded, making coordination more difficult (e.g., Huang and Cruz, 2021; Buckley et al., 2022). Consequently, in a regime that is dominated by propaganda and disinformation, consensus over the government's performance is difficult to establish, and thus, collective action problems are unlikely to be solved. Ultimately, people may be less inclined to mobilize against the regime.

In addition, disinformation, similar to propaganda, may not only deter citizens from protesting because of its persuasiveness but because it may signal the government's strength (e.g., Huang, 2015). Blatant disinformation can showcase a regime's grip on society and its intolerance for open debates. A regime that is willing to severely manipulate the information environment and disseminate false narratives, is likely to also resort to traditional forms of repression. For potential dissidents, extensive disinformation campaigns may signal the government's extensive reach and make them less willing to protest in fear of likely repression. Indeed,

prior work shows that digital repression including disinformation campaigns often goes hand in hand with traditional repression tools (e.g., Kendall-Taylor, Frantz, and Wright, 2020). In consequence, as a government resorts more explicitly to disinformation, potential regime critics may abstain from protesting due to the fear of repression.

On the other hand, disinformation may not only disincentivize regime opponents from protesting against the regime but it may also mobilize regime supporters to rally in favor of the government. Pieces of disinformation often claim to identify out-groups as perpetrators or causes of societal issues, whether they are internal (e.g., opposition actors, ethnic and religious minorities) or external (e.g., the US, the EU, or migrants generally). Simultaneously, this may enable autocrats to present themselves and their supporters as victims - a narrative that is often used to mobilize supporters (e.g., Pirro and Taggart, 2022; Ekiert, Perry, and Yan, 2020). Once pro-regime supporters are mobilized, these rallies also secure autocrats' hold on power since they signal strength and restrain mobilization against the regime (Hellmeier and Weidmann, 2020).

In line with these suggested mechanisms, we hypothesize that high levels of disinformation are detrimental to the chances of democratization in authoritarian regimes. Our first hypothesis is thus, as follows:

H1: Autocracies are less likely to experience democratization when the government is more actively disseminating disinformation.

Disinformation in Democracies: Threat to Autocratization

In addition to dictators' long-established propaganda strategies, political leaders in some democracies also increasingly use disinformation (Boese et al., 2022). In Poland, for example, public broadcasters have increasingly become amplifiers of the right-wing government's disinformation campaigns attacking migrants and discrediting civil society, ultimately blurring lines between

reality and fiction.[1] Instances like this distort people's preferences and pose a challenge to democratic systems' capacity for inclusion and reasoned deliberation (McKay and Tenove, 2021). Therefore, we expect disinformation to be a significant factor in undermining democracies and making autocratization more likely.

Disinformation is primarily disseminated by anti-pluralist parties and actors in government attempting to remain in power (Boese et al., 2022), including Republicans in the US (e.g., Allcott and Gentzkow, 2017), radical right parties in Europe (e.g., Bennett and Livingston, 2018; Hameleers and Minihold, 2022), or pro-Russian parties in Ukraine (e.g., Peisakhin and Rozenas, 2018; Erlich and Garner, 2023). Through false stories targeting competitors (e.g., Tenove, 2020; Zimmermann and Kohring, 2020; Pirro and Taggart, 2022), anti-pluralists attempt to boost their own popularity or avoid blame in government (e.g., Pirro and Taggart, 2022). Unfortunately for democracy, being exposed to disinformation also has an impact on voting choices at least in some cases (Zimmermann and Kohring, 2020; Cantarella, Fraccaroli, and Volpe, 2023).

More generally, however, disinformation also threatens democracy due to its inherent potential to polarize society. Disinformation can affect citizens' trust in democratic institutions and, thus, their preference for a democratic regime. Trump's false allegations of electoral fraud in 2020, for instance, reduced trust in electoral integrity (e.g. Clayton et al., 2021; Berlinski et al., 2021). Other examples include unjustified campaigns against expert commissions and institutions that undermine their credibility and trust in them (e.g., McKay and Tenove, 2021). Often, an inherent part of disinformation is the use of "false claims, conspiracy theories, chauvinistic language, and visual imagery to stoke moral revulsion toward particular individuals, political parties, and social groups" (McKay and Tenove, 2021, p. 709). In turn, disinformation and the branding of political opponents also inflate negative feelings and distrust, reinforce partisan identities, increase polarization of public opinion, and even instigate violence (Osmundsen et al., 2021; Berlinski et al., 2021; Hjorth and Adler-Nissen, 2019; Peisakhin and Rozenas, 2018).

[1] https://ipi.media/polands-division-hinders-fight-against-fake-news-2/

In such highly polarized contexts, voters may be more likely to sacrifice democratic principles to elect a candidate who champions their party or interests (Svolik, 2019; Graham and Svolik, 2020). Over time, these differences may transform into separate political camps with distinct understandings of what constitutes factual information. Such 'pernicious polarization' (McCoy and Somer, 2019) may be unsustainable for democracies.

Based on these proposed effects, we suggest that disinformation increases democracies' chances of autocratization and propose the following hypothesis:

H2: Democracies are more likely to experience autocratization when the government is more actively disseminating.

In sum, following these proposed theoretical mechanisms, we argue that disinformation stabilizes authoritarian regimes and destabilizes democracies. In the following, we will illustrate our research design and empirical strategy.

Research Design

Despite burgeoning bodies of literature on disinformation and propaganda, comparative analyses are rare. Most existing work has focused on individual-level effects, primarily in the United States (for disinformation) as well as China and Russia (for propaganda). While these have led to tremendous progress in the study of these phenomena, we complement them with a comparative country-level study to understand their systemic effects on political regimes.

In order to test the relationship between disinformation and regime survival, we combine data from two primary sources. First, we utilize data from the Digital Society Project (DSP) (Mechkova et al., 2022). Among others, this data contains variables on online censorship, polarization, and politicization of social media as well as politicians' social media presence from 2000 to 2022 for 179 countries across the globe. For the purposes of this paper, we are primarily interested in the variable that captures domestic disinformation efforts by the respec-

tive government ($v2smgovdom$).[2] This is an expert-coded variable describing how prevalent the dissemination of false information by the government to influence its own population is and ranges from 'extremely often' to 'never or almost never.'[3] The experts' ratings are aggregated using a Bayesian item response theory measurement model that can account for coder differences (Pemstein et al., 2018). This variable enables us to capture the core definition of disinformation – purposefully created information that "has the function of misleading" (Fallis, 2015).

As a dependent variable, we consider three sets of variables. The first set of dependent variables is *onsets of democratization and autocratization episodes*. We utilize the Episodes of Regime Transition (ERT) dataset (Edgell et al., 2023), which contains a complete sample of democratization and autocratization episodes between 1900 and 2022.[4] Democratization or autocratization episodes are defined as periods of substantial and sustained improvements or declines of democratic attributes (Maerz et al., 2023).[5] Here, we code the country-year in which a democratization or autocratization episode starts as one and zero otherwise. The country-years in ongoing episodes are excluded. We estimate how the government's use of disinformation increases or decreases the probability of a country experiencing an onset of a democratization or autocratization episode.

Second, we consider how disinformation affects the likelihood of *democratic transition* and *democratic breakdown* as a result of democratization or autocratization episode onsets. Using the ERT dataset, we identify whether democratization or autocratization episodes resulted in a regime transition.

Figure 1 illustrates the general relationship between the level of disinformation and the EDI. The figure shows a clear negative relationship between the government's use of disinforma-

[2]It is important to note here that we study disinformation disseminated by the government in their respective countries. We do not study disinformation campaigns targeting other countries, such as Russia's efforts in Central and Eastern Europe or China's meddling in Taiwan. These cases go beyond the scope of this paper, but future research may utilize the corresponding variable from the DSP to understand countries' resilience to the foreign disinformation campaign.

[3]For presentation purposes, we reverse the order of the responses so that 'never, or almost never' becomes the lowest score and 'extremely often' the highest score. We primarily look at the *level* of government use of disinformation, but we also test the effect of *change* in the level of disinformation to take into account the temporal dependency in the variable.

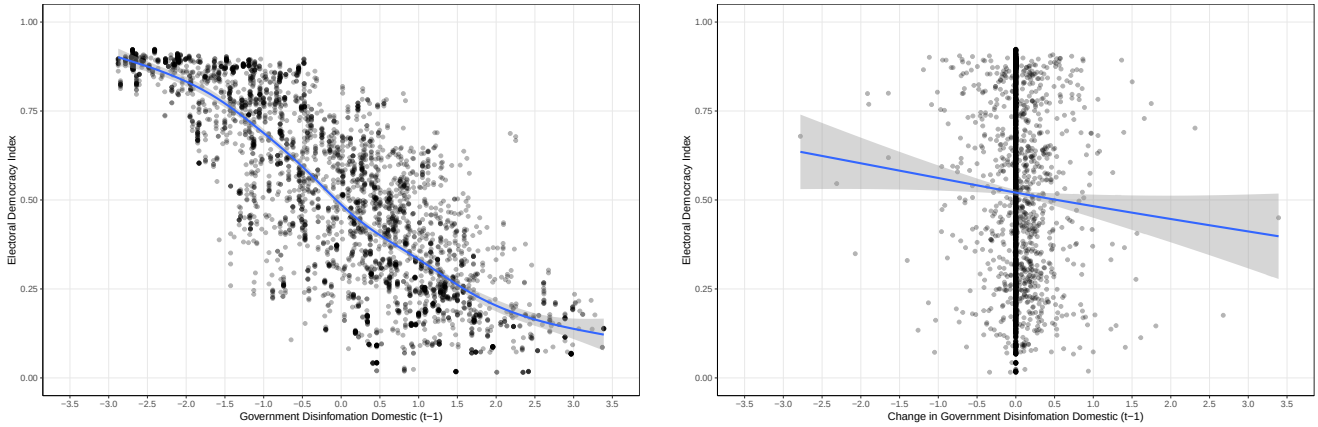
[4]Table A2 of the Appendix summarizes all democratization and autocratization episodes since 2000.

[5]See Maerz et al. (2023) for details.

tion and the quality of democracy. This negative relationship holds when we use the change in the use of disinformation (right side of the panel) instead of the level of disinformation, taking into account the temporal dependency. Figure A1 in the Appendix further demonstrates the relationship between disinformation, levels of democracy, and whether countries democratized or autocratized for the year 2021. The figure shows that the stable democracies (such as Sweden, Denmark, and Switzerland) and autocracies (such as North Korea, China, and Cuba) are clustered at the lowest and highest end of the range of disinformation. Generally, countries undergoing autocratization episodes tend to have higher levels of disinformation, while states experiencing democratization episodes tend to observe lower levels of disinformation. Yet, there are also some outlier cases, such as Mali, Myanmar, and Brazil. In the cases of Mali and Myanmar, the governments are unable to use disinformation despite their autocratic characteristics. On the other hand, while Brazil's level of democracy is relatively high, the government extensively uses disinformation. In sum, disinformation tends to correlate with both, the levels of democracy and transition episodes despite some deviating cases from the trend. We further test these relationships using statistical models.

Finally, in order to illustrate the mechanisms behind the relationship between disinformation and regime stability, we draw attention to disinformation's potential for mobilization and polarization of society. First, as the theory indicates, the government's use of disinformation, especially under autocracies, may decrease the citizens' willingness to protest against the government, while it is often used to mobilize the regime supporters to show their legitimacy. Second, disinformation under democracy tends to be used to polarize the voters intentionally. Therefore, we estimate the effect of disinformation on the levels of (i) polarization of public opinion and (ii) mass mobilization. To measure polarization, we use V-Dem's (Coppedge et al., 2023a; Coppedge et al., 2023b; Coppedge et al., 2023c) political polarization variable ($v2cacamps$), which captures the extent to which political differences affect social relationships beyond political discussions. Mass mobilization is measured by V-Dem's mobilization for democracy ($v2cademmob$) and autocracy ($v2caautmob$) variables which measure the scale and frequency of pro-democratic and pro-autocratic mobilization in society.

Figure 1. Correlation between Disinformation and the Level of Electoral Democracy



Note: Lines show the predicted level of electoral democracies with the 95% confidence intervals.

Empirical Approach

To estimate the relationship between the government's use of disinformation and regime stability, we run two sets of statistical analyses. First, to estimate episode onset, we use a probit model with Firth's method of bias reduction (Kosmidis and Firth, 2021; McGrath, 2015) in which those experiencing the beginning of an episode are treated as ones. The onset of an episode as given by the ERT is coded as one and country-years in ongoing episodes are excluded. Since we use panel data, we have taken a number of measures to account for different forms of estimation error. First, we use clustered standard errors by countries to account for heteroskedasticity as well as autocorrelation. Second, we include regional dummies to control for unobserved time-invariant factors. In addition, a linear time trend accounts for global trends in autocratization. Finally, we first lag the level of disinformation by one year to alleviate the potential endogeneity problem where the government's use of disinformation is determined by the level of democracy.

To demonstrate the heterogeneous effect of disinformation in different regime types, we further divide the sample into democratic and autocratic regimes based on V-Dem's Regimes of the World (RoW) classification (Lührmann, Tannenberg, and Lindberg, 2018).

Second, we test how disinformation strategies used by governments affect regime stability using the two-step model developed by Boese et al. (2021) based on Heckman (1979)'s selection model. In this analysis, we estimate both the probability of (i) the onset of episodes

and (ii) the breakdown of the regime (democratic breakdown or democratic transition).[6] The first "selection" stage estimates the probability that a given country-year falls within a democratization (1,599 observations) or an autocratization (1,742 observations in the estimation sample) episode, using the ERT dataset. The second outcome stage includes the subsample of country-years in which episodes begin and estimates the probability of either democratic transition (330 observations) or democratic breakdown (361 observations). Thus, the model accounts for the selection bias estimated in the first stage. The outcome variable is coded as one for each episode-year in which regime breakdown occurs and zero for other years.

Lastly, to estimate the relationship between the disinformation and the mediation variables (polarization and mobilization), we use OLS models. To estimate the relationships, we include a number of control variables to account for potential confounding factors between disinformation and regime survival. The first set of variables relates to countries' economic situation. Since Lipset's (1959) seminal work, existing studies indicate a strong correlation between levels of economic development and democratic regimes' development and stability (e.g., Przeworski and Limongi, 1997; Boix and Stokes, 2003; Epstein et al., 2006). In addition, studies indicate that negative economic growth is a predictor of regime breakdown either through democratization (e.g., Teorell, 2010) or democratic breakdown (e.g., Bernhard, Reenock, and Nordstrom, 2004; Gates et al., 2006). Such economic conditions may also affect the government's capacity to use disinformation (Rozenas and Stukal, 2019). Thus, we control for *GDP per capita*, and *GDP growth rate*, extracted from the World Bank (WDI, 2023).

As autocratic leaders often use education as a tool of indoctrination for their ideology, such levels of indoctrination affect both the voters' susceptibility to the government's disinformation efforts and their support for the regime. Accordingly, we control for *indoctrination potential in education* (*v2xed_ed_inpt*) from Coppedge et al. (2023a).

The second set of variables relates to the government's motivation to use a disinformation strategy. First, we control for *the population size* as it might affect a polity's susceptibility to disinformation and regime change. Second, we control for *the number of internet users*. As contemporary disinformation primarily spreads through the internet and social media (e.g.,

[6]Here, we divide the samples into democratic and autocratic states and run the two-step models separately.

Bradshaw and Howard, 2018), the effect of disinformation on democratization or autocratization may depend on the share of internet users among the population. Third, we control for *the government's internet filtering capacity* to account for the extent to which a government can produce and disseminate disinformation in the first place. This variable is also taken from the DSP, but in further robustness tests, we replace it with the more general state capacity index by Hanson and Sigman (2021).

The last set of variables relates to countries' democratic embeddedness. First, we include *the regional levels of democracy* across six world regions in the empirical models. This variable controls for the diffusion effects of democratization (e.g., Brinks and Coppedge, 2006) and autocratization (e.g., Lührmann and Lindberg, 2019) from neighboring countries. Specifically, autocratic leaders may try to combat the diffusion of pro-democratic movements by controlling information (Weyland, 2016), increasing their motivation to use disinformation as a strategy. Second, we control for countries' previous experience under democracy (*democratic stock*). Studies indicate that the institutionalization of democratic institutions increases the probability of democratization and the stability of democracy (Svolik, 2015; Boese et al., 2021). Finally, onsets of an episode of transition may correlate with the initial levels of democracy – the countries in the middle categories are more likely to experience regime changes (Carothers, 2018). Thus, we include *levels of democracy* as a control. Descriptive statistics of all variables used in our empirical models are presented in Table A1 in the Appendix.

As we assume that the country-level factors affect regime stability retrospectively, we include the lagged values for each explanatory variable.

Results

First, we disaggregate the sample into democratic and autocratic regimes (Table 1) and see if the level of disinformation affects episode onsets. As our primary interest is the effect of disinformation on regime transitions, we exclude the analysis on autocratization in autocracies and democratization in democracies. First, Model 1 indicates the effects of variables on the probability of democratization onset in autocracies. The result demonstrates that the govern-

ment's use of disinformation negatively affects the probability of democratization onset, and the effect is statistically significant at high confidence levels.

Model 2 in Table 1 further presents the results with a two-step selection model estimating both "selection into" episodes (the probability of a given country-year falling within a democratization episode) and democratic transition. Model 2 tests the effects of variables on selection into democratization episodes and democratic transition. The results indicate that the government's disinformation strategy significantly decreases the probability of democratization onsets. Model 2 contains the results from the two-stage Heckman model that we use to assess factors associated with democratic transition, only taking into account countries that experienced democratization onsets. The coefficient for disinformation is negative but not statistically significant. Thus, the result demonstrates that disinformation is effective in preventing democratization onsets, but its effects on the transition to democracy are not distinguishable from 0.

Next, Model 3 indicates the effect of variables on the likelihood of autocratization onset in democracies. The effect of the government disinformation is positive and statistically significant indicating that disinformation increases the probability of a country to start autocratizing. The result indicates that disinformation decreases the stability of democracies.

Model 4 indicates the effects of variables on selection into autocratization episodes and democratic breakdown, respectively. Model 4 identifies the factors associated with higher levels of selection into autocratization episodes. The results indicate that the government's use of disinformation increases the probability that the country experiences an autocratization onset. The effect is statistically significant at the 95% confidence level. The coefficient of the second stage, on the other hand, is negative and not statistically significant, indicating that it does not affect the probability of democratic breakdown.

Figure 2 further shows the predicted probabilities of democratization onsets in autocracies (left panel) and autocratization onsets in democracies (right panel). The left panel indicates that the predicted probabilities of democratization onset decreases on average from 12% to 0% when the disinformation scores move from the lowest to the highest in autocracies. On the other hand, the right panel indicates that the predicted probability of an autocratization onset

Table 1. The effect of disinformation on democratization and autocratization

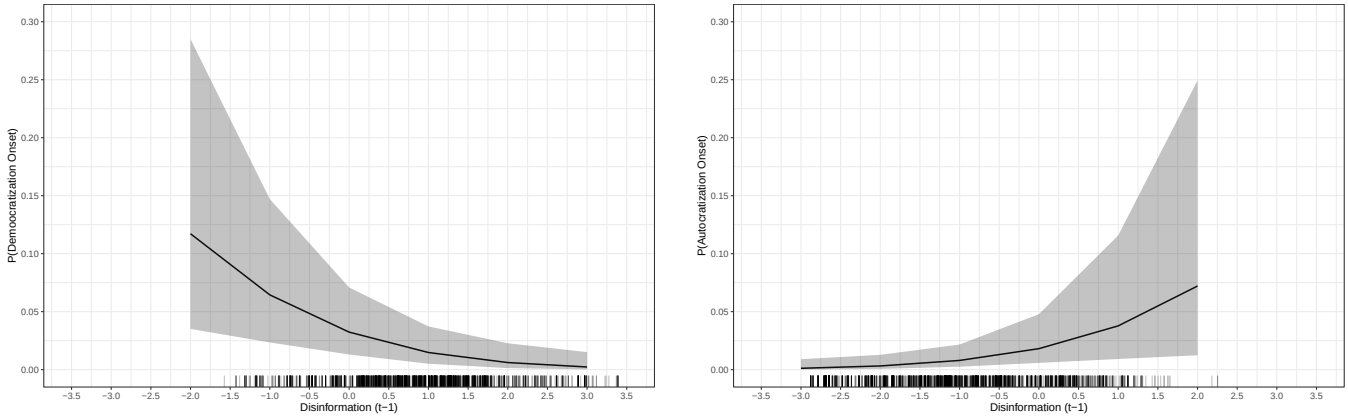
	Dependent variable:					
	(1)	(2)		(3)	(4)	
	Democratization			Autocratization		
	Onset	[I]	Transition	Onset	[I]	Breakdown
Disinformation$_{t-1}$	-0.329^{***}	-0.269^{***}	-0.331	0.317^{***}	0.324^{***}	-0.363
	(0.068)	(0.062)	(0.209)	(0.086)	(0.121)	(0.222)
Indoctrination potential$_{t-1}$	-0.424^{*}	-0.514^{**}	1.095	0.262	0.659	0.693
	(0.247)	(0.212)	(0.734)	(0.431)	(0.690)	(1.251)
GDP growth$_{t-1}$	-0.020	-0.003	0.031^{*}	-0.014	0.004	0.111^{***}
	(0.013)	(0.007)	(0.019)	(0.010)	(0.012)	(0.038)
GDP per capita (log)$_{t-1}$	-0.080	-0.224^{***}	-0.219	-0.229^{**}	-0.304	-0.288
	(0.068)	(0.058)	(0.197)	(0.106)	(0.012)	(0.435)
Population (log)$_{t-1}$	0.012	-0.162^{***}	-0.078	0.033	0.140^{*}	-0.346^{**}
	(0.044)	(0.032)	(0.133)	(0.043)	(0.080)	(0.139)
Internet filtering capacity$_{t-1}$	-0.106	0.084^{*}	0.121	0.212^{***}	0.310^{***}	-0.020
	(0.070)	(0.048)	(0.185)	(0.056)	(0.103)	(0.288)
Internet users$_{t-1}$	0.003	0.002	-0.011	-0.004	0.004	-0.003
	(0.005)	(0.004)	(0.018)	(0.005)	(0.009)	(0.022)
Democratic stock$_{t-1}$	3.826^{***}	-0.754	-3.663	-0.922	3.713^{*}	0.780
	(1.073)	(1.065)	(4.983)	(0.622)	(1.896)	(2.822)
Regional democracy levels$_{t-1}$	-3.943^{*}	-3.240^{*}	-1.116	13.058^{***}	-2.445	-9.043
	(2.377)	(1.901)	(0.219)	(4.043)	(3.653)	(5.729)
Democracy levels$_{t-1}$	-3.373^{***}	3.309^{***}	4.905^{***}	4.246^{***}	-1.521	-10.774^{***}
	(0.707)	(0.442)	(1.823)	(0.795)	(1.129)	(2.532)
Episode duration			0.000			0.019
			(0.001)			(0.102)
Episode duration^2			-0.000			0.003
			(0.000)			(0.005)
Constant	1.083	4.075^{***}	-0.130	-10.385^{***}	0.755	13.966^{***}
	(1.108)	(1.151)	(0.114)	(2.364)	(2.352)	(4.893)
ρ		-	0.000		-	0.000
Sample	Autocracies			Democracies		
Region FE	✓	✓		✓	✓	
Nonlinear time trend	✓	✓		✓	✓	
Log Likelihood	-140.160	-1300.553		-131.846	-646.139	
Total obs.	1,305	1,599		1,417	1,742	
Censored obs.	-	1,269		-	1,381	
Obs. in outcome stage	-	330		-	361	

Notes: Probit model with Firth's bias reduction (Models 1 & 3) and Heckman-style selection model (Models 2 & 4). Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

increases as governments' use of disinformation increases. This increase amounts to, on average, from 0% to 8% when disinformation levels move from the lowest to the highest in democracies.

Thus, we find empirical support for the two hypotheses: (i) autocracies are less likely to experience democratization when high levels of disinformation are prevalent (H1), and (ii) democracies are more likely to experience autocratization when high levels of disinformation

Figure 2. Predicted probabilities (democratization and autocratization onsets)



Note: Lines show the predicted probabilities with the 95% confidence intervals. The left figure is generated from Model 1 and the right figure is generated from Model 3 of Table 1.

are prevalent (H2). On the other hand, we find that in both autocratic and democratic regimes, the government's disinformation strategy is significant and strongly associated with episodes' onsets, but not with regime transitions.

Mechanisms

In order to illustrate the mechanisms behind the findings above, we draw attention to disinformation's potential for mobilization and polarization of society. We test how the effect of disinformation on regime stability is mediated by polarization and mobilization of the society (Table 2). The models indicate the effects of disinformation on *Political Polarization* (Models 5-6), *Mass Mobilization for Democracy* (Models 7-8), and *Mass Mobilization for Autocracy* (Models 9-10).

First, the government's use of disinformation only has a strongly positive and highly significant impact on political polarization in democracies (Model 6), meaning higher levels of disinformation are linked to a more polarised society. Such political polarization may destabilize democracy and thus create an opportunity for autocratization onsets. The results from Models 8 and 10 further indicate that the government's disinformation increases both the level of pro-democratic and pro-autocratic mobilization in democracies. Thus, disinformation in democracies has the capacity to destabilize society and lead to an onset of autocratization, but

due to increased mobilization from both pro- and anti-democratic forces, the outcome of such an episode is all but given and does not have to be a breakdown of democracy.

In authoritarian regimes, on the other hand, the government's use of disinformation promotes neither polarization (Model 5) nor pro-democratic mobilization (Model 7). The disinformation strategy only positively affects the level of autocratic mobilization, (Model 9), or in other words, only the regimes' supporters are mobilized but not their opponents. This is in line with the findings that disinformation helps dictators avoid democratization. The null findings from the two-step model regarding regime transitions may be explained by the relatively low variation in terms of levels of disinformation among authoritarian regimes that enter an episode of democratization. Regimes with the highest levels of disinformation such as Belarus, China, Cuba, Hong Kong, North Korea, Russia, and Syria generally avoid liberalization episodes altogether.

In sum, we find strong evidence that disinformation helps dictators to remain in power and makes democratization less likely. In democracies, our results suggest that although it is associated with the onset of autocratization episodes, there is no relationship to democratic breakdown. Since democracies retain alternative sources of accurate information, disinformation will rather polarize society and cause a backlash of pro-democratic mobilization that may halt and/or reverse processes of autocratization. We see this as the reason why disinformation increases the probability of autocratization onsets but does not determine the outcome of an autocratization episode.

Robustness check

We ran several robustness tests to check the sensitivity of our results. These robustness tests add confidence to our results while also indicating important scope conditions for the relationship between disinformation and regime survival.

First, we conduct a robustness check on the effect of variables by considering all unobserved unit-specific effects derived from the country and the observation year. A general challenge is the small number of episodes and the rarity of episode onset and regime transition. Thus, including a large number of explanatory variables can be problematic, as the exclusion

Table 2. Mediating Effects (Mechanism)

	Dependent variable:					
	Polarization		Dem. Mobilization		Aut. Mobilization	
Sample	Aut.	Dem.	Aut.	Dem.	Aut.	Dem.
	(5)	(6)	(7)	(8)	(9)	(10)
Disinformation$_{t-1}$	0.230	0.732***	0.225	0.385**	0.557***	0.388***
	(0.150)	(0.121)	(0.149)	(0.150)	(0.159)	(0.105)
Indoctrination potential$_{t-1}$	−0.155	0.794	−0.284	−0.131	1.261**	−1.036**
	(0.606)	(0.551)	(0.690)	(0.564)	(0.569)	(0.422)
GDP growth$_{t-1}$	−0.006	−0.005	−0.018**	0.005	−0.004	−0.006
	(0.008)	(0.006)	(0.008)	(0.006)	(0.007)	(0.005)
GDP per capita (log)$_{t-1}$	−0.263**	0.076	−0.107	−0.119	−0.092	−0.221*
	(0.124)	(0.153)	(0.133)	(0.141)	(0.131)	(0.114)
Population (log)$_{t-1}$	−0.106	0.227***	0.088	0.280***	0.035	0.118**
	(0.081)	(0.082)	(0.086)	(0.056)	(0.091)	(0.049)
Internet filtering capacity$_{t-1}$	−0.014	−0.018	−0.108	0.050	0.127	0.024
	(0.125)	(0.102)	(0.125)	(0.072)	(0.097)	(0.079)
Internet users$_{t-1}$	0.003	0.004	0.003	−0.001	−0.007	0.008*
	(0.007)	(0.006)	(0.006)	(0.005)	(0.006)	(0.004)
Democratic stock$_{t-1}$	8.806***	−2.855**	2.457	−1.930**	1.864	−1.912***
	(2.763)	(1.305)	(2.655)	(0.965)	(2.658)	(0.694)
Regional democracy levels$_{t-1}$	−0.456	−0.483	−5.810**	−1.005	−0.751	2.263
	(2.276)	(2.643)	(2.814)	(2.228)	(2.043)	(1.969)
Democracy levels$_{t-1}$	−0.660	1.339	5.492***	1.044	0.378	−0.153
	(1.269)	(0.997)	(1.142)	(1.169)	(1.025)	(0.907)
Constant	2.432	−3.773*	−0.315	−3.164**	−1.301	−1.410
	(2.113)	(2.255)	(2.494)	(1.323)	(2.031)	(1.804)
Regional FE	✓	✓	✓	✓	✓	✓
Nonlinear time trend	✓	✓	✓	✓	✓	✓
Observations	1,450	1,624	1,450	1,606	1,450	1,615
Adjusted R^2	0.228	0.526	0.366	0.494	0.310	0.425

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

or inclusion of influential episode cases may bias the result. However, as Tables A3 of the Appendix indicates, our main findings are robust by including country and year fixed effects.

In addition, testing the sensitivity of the findings is especially important for estimating the probabilities of a rare event. The models in Tables A4 of the Appendix show the results of the duration models (Beck, Katz, and Tucker, 1998). Once we are controlling for autocorrelation effects (Table A4), disinformation does not affect autocratization onsets in democracies. The effect of disinformation on democratization onsets, however, is consistent with the main result,

namely that disinformation decreases the probability of democratization in autocracies. The models in Table A5 use the residual as a dependent variable in order to alleviate problems in estimation using a rare event as a dependent variable (McGrath, 2015). The models in Table A6 use linear probability estimations for the probabilities of autocratization and democratization onsets. With these model specifications, the findings are all consistent with the main results in Table 1. Finally, we use the change in the level of disinformation between the observation year and the year before to account for the possible autocorrelation effect (Table A7). The result is consistent with the main models in Table 1.

Next, we include additional control variables that may also affect the level of democracy and probabilities of democratization or autocratization onsets: state capacity taken from Hanson and Sigman (2021) (Table A8), government's control over social media (Table A9), judicial and legislative constraints on the executive both taken from the V-Dem's dataset (Coppedge et al., 2023a) (Table A10), and the occurrence of coups in observation years taken from Albrecht, Koehler, and Schutz (2021) (Table A11). The results are largely consistent with the main results, adding confidence to our findings.

Lastly, we test if the general relationship holds by excluding the extreme cases where disinformation is used, Russia, China, and the United States (Table A12). By excluding these cases, disinformation still affects the probability of democratization and autocratization onsets. Thus, the statistical result indicates that the observed relationship is not only driven by the extreme cases but equally applies to a broader range of samples.

In sum, we find the most consistent and robust empirical support for Hypothesis 1 – autocracies are less likely to experience democratization when high levels of disinformation are prevalent. On the other hand, the positive effect of disinformation on autocratization onset in democracies (Hypothesis 2) disappears when accounting for temporal dependencies. These results may be due to the divisive effects of disinformation found in democracies – it increases pro-democratic as well as anti-democratic mobilization and, thus, the effect of disinformation on autocratization is less persistent.

Conclusion

Disinformation is a growing concern worldwide. While disinformation campaigns have been a prominent tool for autocracies as part of their propaganda and information control schemes, such strategies are also increasingly used by anti-pluralist leaders in democracies and are widely seen as a threat to democracy. Yet, despite the importance of the issue, cross-national evidence systematically demonstrating the effect of disinformation on regime stability has been largely absent. This study is the first to fill this gap by conducting cross-national time-series analyses with a global sample, testing the effect of disinformation on both democratic and autocratic stability.

Our findings provide robust evidence for the fact that disinformation negatively affects the quality of democracy in any regime type and highlight that disinformation helps dictators to remain in power as it reduces the likelihood of democratization in autocracies. We also find that disinformation is linked to the onset of autocratization episodes, although these findings are not robust to all model specifications. Disinformation especially does not appear to affect the chances of democracy breaking down entirely once an autocratization episode has begun. We trace these results back to the mechanism that disinformation in democracies, as opposed to in autocracies, leads to higher levels of societal polarization into separate camps of those who believe in false information (supporting the government) and those who do not (opposing the government). Under this polarization, in which both pro- and anti-democratic forces mobilize more intensely, the outcome of the autocratization episode is uncertain and may very well avoid democratic breakdown, as recently seen in Brazil, for instance.

These findings have important implications. First, we highlight the importance of civil society and strong pro-democratic mobilization in counteracting disinformation and corresponding autocratization strategies in democracies that are crucial in avoiding a democratic breakdown (e.g., Tomini, Gibril, and Bochev, 2023). Second, our study reveals the effectiveness of the disinformation strategy used in autocracies to keep their regimes stable, while disinformation might have limited capacity to drive regime transitions once the episodes started. It opens up new research questions regarding the conditions under which disinformation can seriously threaten democracy or lead to democratic breakdown.

References

Adena, Maja, Ruben Enikolopov, Maria Petrova, Veronica Santarosa, and Ekaterina Zhuravskaya (2015). "Radio and the Rise of the Nazis in Prewar Germany". In: *The Quarterly Journal of Economics* 130.4, pp. 1885–1939.

Albrecht, Holger, Kevin Koehler, and Austin Schutz (2021). "Coup agency and prospects for democracy". In: *International Studies Quarterly* 65.4, pp. 1052–1063.

Allcott, Hunt and Matthew Gentzkow (2017). "Social media and fake news in the 2016 election". In: *Journal of Economic Perspectives* 31.2, pp. 211–236.

Annaka, Susumu (2021). "Political regime, data transparency, and COVID-19 death cases". In: *SSM-population health* 15, p. 100832.

Beck, Nathaniel, Jonathan N Katz, and Richard Tucker (1998). "Taking time seriously: Time-series-cross-section analysis with a binary dependent variable". In: *American Journal of Political Science* 42.4, pp. 1260–1288.

Benkler, Yochai, Robert Faris, and Hal Roberts (2018). *Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics*. New York: Oxford University Press.

Bennett, W Lance and Steven Livingston (2018). "The disinformation order: Disruptive communication and the decline of democratic institutions". In: *European Journal of Communication* 33.2, pp. 122–139.

Berlinski, Nicolas, Margaret Doyle, Andrew M Guess, Gabrielle Levy, Benjamin Lyons, Jacob M Montgomery, Brendan Nyhan, and Jason Reifler (2021). "The effects of unsubstantiated claims of voter fraud on confidence in elections". In: *Journal of Experimental Political Science*, pp. 1–16.

Bernhard, Michael, Christopher Reenock, and Timothy Nordstrom (2004). "The legacy of Western overseas colonialism on democratic survival". In: *International Studies Quarterly* 48.1, pp. 225–250.

Boese, Vanessa A, Amanda B Edgell, Sebastian Hellmeier, Seraphine F Maerz, and Staffan I Lindberg (2021). "How democracies prevail: democratic resilience as a two-stage process". In: *Democratization* 5.28, pp. 885–907.

Boese, Vanessa Alexandra, Martin Lundstedt, Kelly Morrison, Yuko Sato, and Staffan I Lindberg (2022). "Autocratization Changing Its Nature?" In: *Democratization (Forthcoming)*.

Boix, Carles and Susan C Stokes (2003). "Endogenous democratization". In: *World politics* 55.4, pp. 517–549.

Bradshaw, Samantha and Philip N Howard (2018). "The global organization of social media disinformation campaigns". In: *Journal of International Affairs* 71.1.5, pp. 23–32.

Brinks, Daniel and Michael Coppedge (2006). "Diffusion is no illusion: Neighbor emulation in the third wave of democracy". In: *Comparative Political Studies* 39.4, pp. 463–489.

Buckley, Noah, Kyle L. Marquardt, Ora John Reuter, and Katerina Tertytchnaya (2022). "Endogenous popularity: How perceptions of support affect the popularity of authoritarian regimes". In: *American Political Science Review*, pp. 1–7.

Cantarella, Michele, Nicolò Fraccaroli, and Roberto Volpe (2023). "Does fake news affect voting behaviour?" In: *Research Policy* 52.1, p. 104628.

Carothers, Christopher (2018). "The surprising instability of competitive authoritarianism". In: *Journal of Democracy* 29.4, pp. 129–135.

Carter, Erin Baggott and Brett L Carter (2021). "Propaganda and protest in autocracies". In: *Journal of Conflict Resolution* 65.5, pp. 919–949.

Clayton, Katherine, Nicholas T Davis, Brendan Nyhan, Ethan Porter, Timothy J Ryan, and Thomas J Wood (2021). "Elite rhetoric can undermine democratic norms". In: *Proceedings of the National Academy of Sciences* 118.23, e2024125118.

Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Jan Teorell, David Altman, Michael Bernhard, Agnes Cornell, M. Steven Fish, Lisa Gastaldi, Haakon Gjerløw, Adam Glynn, Ana Good God, Sandra Grahn, Allen Hicken, Katrin Kinzelbach, Joshua Krusell, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Juraj Medzihorsky, Natalia Natsika, Anja Neundorf, Pamela Paxton, Daniel Pemstein, Josefine Pernes, Oskar Ryd´en, Johannes von Römer, Brigitte Seim, Rachel Sigman, Svend-Erik Skaaning, Jeffrey Staton, Aksel Sundström, Eitan Tzelgov, Yi-ting Wang, Tore Wig, Steven Wilson, and Daniel Ziblatt (2023a). *V-Dem Country-Year Dataset v13*. DOI: https://doi.org/10.23696/vdemds23.

Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Jan Teorell, David Altman, Michael Bernhard, Agnes Cornell, M. Steven Fish, Lisa Gastaldi, Haakon Gjerløw, Adam Glynn, Sandra Grahn, Allen Hicken, Katrin Kinzelbach, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Anja Neundorf, Pamela Paxton, Daniel Pemstein, Oskar Rydén, Johannes von Römer, Brigitte Seim, Rachel Sigman, Svend-Erik Skaaning, Jeffrey Staton, Aksel Sundström, Eitan Tzelgov, Luca Uberti, Yi ting Wang, Tore Wig, and Daniel Ziblatt (2023b). "V-Dem Codebook v13". In.

Coppedge, Michael, Gerring John, Carl Henrik Knutsen, Staffan I. Lindberg, Jan Teorell, Kyle L. Marquardt, Juraj Medzihorsky, Daniel Pemstein, Lisa Gastaldi, Sandra Grahn, Josefine Pernes, Oskar Rydén, Johannes von Römer, Eitan Tzelgov, Yi ting Wang, and Steven Wilson (2023c). "V-Dem Methodology v13". In.

Edgell, Amanda B., Seraphine F. Maerz, Laura Maxwell, Richard Morgan, Juraj Medzihorsky, Matthew C. Wilson, Vanessa A. Boese, Sebastian Hellmeier, Jean Lachapelle, Patrik Lindenfors, Anna Lührmann, and Staffan I. Lindberg (2023). *Episodes of Regime Transformation Dataset, v13*. URL: https://github.com/vdeminstitute/ERT.

Ekiert, Grzegorz, Elizabeth J Perry, and Xiaojun Yan (2020). *Ruling by other means: State-mobilized movements*. Cambridge University Press.

Enders, Adam M, Joseph E Uscinski, Michelle I Seelig, Casey A Klofstad, Stefan Wuchty, John R Funchion, Manohar N Murthi, Kamal Premaratne, and Justin Stoler (2021). "The relationship between social media use and beliefs in conspiracy theories and misinformation". In: *Political Behavior*, pp. 1–24.

Epstein, David L, Robert Bates, Jack Goldstone, Ida Kristensen, and Sharyn O'Halloran (2006). "Democratic transitions". In: *American journal of political science* 50.3, pp. 551–569.

Erlich, Aaron and Calvin Garner (2023). "Is pro-Kremlin disinformation effective? Evidence from Ukraine". In: *The International Journal of Press/Politics* 28.1, pp. 5–28.

Fallis, Don (2015). "What is disinformation?" In: *Library Trends* 63.3, pp. 401–426.

Gates, Scott, Håvard Hegre, Mark P Jones, and Håvard Strand (2006). "Institutional inconsistency and political instability: Polity duration, 1800–2000". In: *American Journal of Political Science* 50.4, pp. 893–908.

Graham, Matthew H and Milan W Svolik (2020). "Democracy in America? Partisanship, polarization, and the robustness of support for democracy in the United States". In: *American Political Science Review* 114.2, pp. 392–409.

Grinberg, Nir, Kenneth Joseph, Lisa Friedland, Briony Swire-Thompson, and David Lazer (2019). "Fake news on Twitter during the 2016 US presidential election". In: *Science* 363.6425, pp. 374–378.

Guess, Andrew, Jonathan Nagler, and Joshua Tucker (2019). "Less than you think: Prevalence and predictors of fake news dissemination on Facebook". In: *Science Advances* 5.1, eaau4586.

Guriev, Sergei and Daniel Treisman (2022). *Spin Dictators: The Changing Face of Tyranny in the 21st Century*. Princeton University Press.

Hameleers, Michael and Sophie Minihold (2022). "Constructing discourses on (un) truthfulness: Attributions of reality, misinformation, and disinformation by politicians in a comparative social media setting". In: *Communication Research* 49.8, pp. 1176–1199.

Hanson, Jonathan K and Rachel Sigman (2021). "Leviathan's latent dimensions: Measuring state capacity for comparative political research". In: *The Journal of Politics* 83.4, pp. 1495–1510.

Heckman, James J (1979). "Sample selection bias as a specification error". In: *Econometrica: Journal of the econometric society*, pp. 153–161.

Hellmeier, Sebastian and Nils B Weidmann (2020). "Pulling the strings? The strategic use of pro-government mobilization in authoritarian regimes". In: *Comparative Political Studies* 53.1, pp. 71–108.

Hjorth, Frederik and Rebecca Adler-Nissen (2019). "Ideological asymmetry in the reach of pro-Russian digital disinformation to United States audiences". In: *Journal of Communication* 69.2, pp. 168–192.

Huang, Haifeng (2015). "Propaganda as signaling". In: *Comparative Politics* 47.4, pp. 419–444.

— (2018). "The pathology of hard propaganda". In: *The Journal of Politics* 80.3, pp. 1034–1038.

Huang, Haifeng and Nicholas Cruz (2021). "Propaganda, presumed influence, and collective protest". In: *Political Behavior*, pp. 1–24.

Humprecht, Edda, Frank Esser, and Peter Van Aelst (2020). "Resilience to online disinformation: A framework for cross-national comparative research". In: *The International Journal of Press/Politics* 25.3, pp. 493–516.

Hunter, Lance Y (2023). "Social media, disinformation, and democracy: how different types of social media usage affect democracy cross-nationally". In: *Democratization*, pp. 1–33.

Jowett, Garth S and Victoria O'Donnell (2018). *Propaganda & Persuasion*. Sage publications.

Jungherr, Andreas and Ralph Schroeder (2021). "Disinformation and the structural transformations of the public arena: Addressing the actual challenges to democracy". In: *Social Media+ Society* 7.1, pp. 1–13.

Kendall-Taylor, Andrea, Erica Frantz, and Joseph Wright (2020). "The digital dictators: How technology strengthens autocracy". In: *Foreign Aff.* 99, p. 103.

Kosmidis, Ioannis and David Firth (2021). "Jeffreys-prior penalty, finiteness and shrinkage in binomial-response generalized linear models". In: *Biometrika* 108.1, pp. 71–82.

Lanoszka, Alexander (2019). "Disinformation in international politics". In: *European Journal of International Security* 4.2, pp. 227–248.

Larsson, Anders Olof (2020). "Right-wingers on the rise online: Insights from the 2018 Swedish elections". In: *New Media & Society* 22.12, pp. 2108–2127.

Lipset, Seymour Martin (1959). "Some social requisites of democracy: Economic development and political legitimacy1". In: *American political science review* 53.1, pp. 69–105.

Lührmann, Anna and Staffan I Lindberg (2019). "A third wave of autocratization is here: what is new about it?" In: *Democratization* 26.7, pp. 1095–1113.

Lührmann, Anna, Marcus Tannenberg, and Staffan I Lindberg (2018). "Regimes of the world (RoW): Opening new avenues for the comparative study of political regimes". In: *Politics and Governance* 6.1, p. 60.

Maerz, Seraphine F, Amanda Edgell, Matthew C Wilson, Sebastian Hellmeier, and Staffan I Lindberg (2023). "Episodes of Regime Transformation". In: *Journal of Peace Research* 60.

Martinez, Luis R (2022). "How much should we trust the dictator's GDP growth estimates?" In: *Journal of Political Economy* 130.10, pp. 2731–2769.

McCoy, Jennifer and Murat Somer (2019). "Toward a theory of pernicious polarization and how it harms democracies: Comparative evidence and possible remedies". In: *The Annals of the American Academy of Political and Social Science* 681.1, pp. 234–271.

McGrath, Liam F (2015). "Estimating onsets of binary events in panel data". In: *Political Analysis* 23.4, pp. 534–549.

McKay, Spencer and Chris Tenove (2021). "Disinformation as a threat to deliberative democracy". In: *Political Research Quarterly* 74.3, pp. 703–717.

Mechkova, Valeriya, Daniel Pemstein, Brigitte Seim, and Steven Wilson (2022). "Measuring Internet Politics: Digital Society Project (DSP) Annual Report v4". In.

Neumayer, Eric and Thomas Plümper (2022). "Does 'data fudging'explain the autocratic advantage? Evidence from the gap between official Covid-19 mortality and excess mortality". In: *SSM-Population Health* 19, p. 101247.

Newman, Nic, Richard Fletcher, Anne Schulz, Simge Andi, Craig T Robertson, and Rasmus Kleis Nielsen (2021). "Reuters Institute digital news report 2021". In: *Reuters Institute for the study of Journalism*.

Osmundsen, Mathias, Alexander Bor, Peter Bjerregaard Vahlstrup, Anja Bechmann, and Michael Bang Petersen (2021). "Partisan polarization is the primary psychological motivation behind political fake news sharing on Twitter". In: *American Political Science Review* 115.3, pp. 999–1015.

Peisakhin, Leonid and Arturas Rozenas (2018). "Electoral Effects of Biased Media: Russian Television in Ukraine". In: *American Journal of Political Science* 62.3, pp. 535–550. DOI: https://doi.org/10.1111/ajps.12355. eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/ajps.12355. URL: https://onlinelibrary.wiley.com/doi/abs/10.1111/ajps.12355.

Pemstein, Daniel, Kyle L Marquardt, Eitan Tzelgov, Yi-ting Wang, Joshua Krusell, and Farhad Miri (2018). "The V-Dem measurement model: latent variable analysis for cross-national and cross-temporal expert-coded data". In: *V-Dem Working Paper* 21.

Persily, Nathaniel and Joshua A Tucker (2020). "Social Media and Democracy: The State of the Field, Prospects for Reform". In.

Piazza, James A (2022). "Fake news: The effects of social media disinformation on domestic terrorism". In: *Dynamics of Asymmetric Conflict* 15.1, pp. 55–77.

Pirro, Andrea LP and Paul Taggart (2022). "Populists in power and conspiracy theories". In: *Party Politics*, p. 13540688221077071.

Pomerantsev, Peter (2015). "Authoritarianism Goes Global (II): The Kremlin's Information War". In: *Journal of Democracy* 26.4, pp. 40–50.

Przeworski, Adam and Fernando Limongi (1997). "Modernization: Theories and facts". In: *World politics* 49.2, pp. 155–183.

Rozenas, Arturas and Denis Stukal (2019). "How autocrats manipulate economic news: Evidence from Russia's state-controlled television". In: *The Journal of Politics* 81.3, pp. 982–996.

Sunstein, Cass R and Adrian Vermeule (2009). "Conspiracy theories: Causes and cures". In: *Journal of Political Philosophy* 17.2, pp. 202–227.

Svolik, Milan W (2015). "Which democracies will last? Coups, incumbent takeovers, and the dynamic of democratic consolidation". In: *British Journal of Political Science* 45.4, pp. 715–738.

— (2019). "Polarization versus democracy". In: *Journal of Democracy* 30.3, pp. 20–32.

Tenove, Chris (2020). "Protecting democracy from disinformation: Normative threats and policy responses". In: *The International Journal of Press/Politics* 25.3, pp. 517–537.

Teorell, Jan (2010). *Determinants of democratization: Explaining regime change in the world, 1972–2006*. Cambridge University Press.

Tomini, Luca, Suzan Gibril, and Venelin Bochev (2023). "Standing up against autocratization across political regimes: a comparative analysis of resistance actors and strategies". In: *Democratization* 30.1, pp. 119–138.

Tucker, Joshua A, Andrew Guess, Pablo Barberá, Cristian Vaccari, Alexandra Siegel, Sergey Sanovich, Denis Stukal, and Brendan Nyhan (2018). "Social media, political polarization, and political disinformation: A review of the scientific literature". In: *Political Polarization, and Political Disinformation: A Review of the Scientific Literature (March 19, 2018)*.

Wang, Chengli and Haifeng Huang (2021). "When "fake news" becomes real: The consequences of false government denials in an authoritarian country". In: *Comparative Political Studies* 54.5, pp. 753–778.

WDI (2023). *World development indicators (WDI)*. The World Bank.

Weyland, Kurt (2016). "Crafting counterrevolution: How reactionaries learned to combat change in 1848". In: *American Political Science Review* 110.2, pp. 215–231.

Yanagizawa-Drott, David (2014). "Propaganda and conflict: Evidence from the Rwandan genocide". In: *The Quarterly Journal of Economics* 129.4, pp. 1947–1994.

Zimmermann, Fabian and Matthias Kohring (2020). "Mistrust, disinforming news, and vote choice: A panel survey on the origins and consequences of believing disinformation in the 2017 German parliamentary election". In: *Political Communication* 37.2, pp. 215–237.

Appendix

Table A1. Descriptive Statistics

Variable	Obs.	Max.	Min.	Mean	SD.
Democratization onset	3,771	1	0		
Autocratization onset	3,789	1	0		
Political Polarization	4,279	4.18	-3.87	-0.12	1.36
Mobilization for Democracy	4,259	4.43	-3.22	-0.18	1.35
Mobilization for Autocracy	4,269	3.58	-2.53	-0.54	1.34
Disinformation$_{t-1}$	3,928	3.64	-2.88	-0.08	1.36
Indoctrination potential in education$_{t-1}$	3,632	0.93	0.01	0.50	0.23
GDP growth$_{t-1}$	3,915	96.96	-48.39	2.13	5.40
GDP per capita (log)$_{t-1}$	3,928	11.80	4.60	8.29	1.55
Population (log)$_{t-1}$	4,021	21.07	11.29	16.01	1.68
Internet filtering capacity$_{t-1}$	3,928	2.75	-3.33	-0.13	1.25
Internet users$_{t-1}$	3,887	100.00	0.00	33.24	31.06
Democratic stock$_{t-1}$	3,883	0.73	0.00	0.22	0.17
Regional democracy levels$_{t-1}$	4,105	0.88	0.23	0.52	0.18
Democracy levels$_{t-1}$	4,105	0.92	0.01	0.52	0.26

Table A2. List of the Autocratization and Democratization Episodes (Starting in 2000-2021)

	Democratization Episodes				Autocratization Episodes			
	Country	Start	End	Outcome	Country	Start	End	Outcome
1	Bahrain	2000	2005	Reverted liberalization	Fiji	2000	2001	Democratic breakdown
2	Burkina Faso	2000	2013	Democratic transition	India	2000	2022	Democratic breakdown
3	Kosovo	2000	2003	Democratic transition	Solomon Islands	2000	2001	Democratic breakdown
4	Lebanon	2000	2013	Reverted liberalization	Bulgaria	2001	2018	Averted regression
5	Niger	2000	2005	Democratic transition	Philippines	2001	2005	Democratic breakdown
6	Oman	2000	2002	Reverted liberalization	Bangladesh	2002	2007	Democratic breakdown
7	Serbia	2000	2003	Democratic transition	North Macedonia	2005	2012	Democratic breakdown
8	Afghanistan	2001	2006	Stabilized electoral autocracy	Sri Lanka	2005	2006	Democratic breakdown
9	Ivory Coast	2001	2001	Stabilized electoral autocracy	Thailand	2005	2007	Democratic breakdown
10	Burundi	2002	2006	Reverted liberalization	Turkey	2005	2017	Democratic breakdown
11	Comoros	2002	2005	Stabilized electoral autocracy	Bolivia	2006	2020	Democratic breakdown
12	Fiji	2002	2003	Preempted democratic transition	Honduras	2006	2010	Democratic breakdown
13	Lesotho	2002	2003	Democratic transition	Hungary	2006	2022	Democratic breakdown
14	North Macedonia	2002	2004	Democratic transition	Nicaragua	2006	2022	Democratic breakdown
15	Pakistan	2002	2010	Stabilized electoral autocracy	Palestine/West Bank	2006	2008	Democratic breakdown
16	Solomon Islands	2002	2004	Preempted democratic transition	Ecuador	2007	2013	Averted regression
17	Somaliland	2002	2011	Reverted liberalization	Mali	2007	2013	Democratic breakdown
18	Iraq	2003	2007	Stabilized electoral autocracy	Papua New Guinea	2007	2013	Democratic breakdown
19	Seychelles	2003	2007	Stabilized electoral autocracy	South Korea	2008	2014	Averted regression
20	Georgia	2004	2004	Democratic transition	Indonesia	2009	2022	Ongoing episodes
21	Rwanda	2004	2009	Stabilized electoral autocracy	Niger	2009	2010	Democratic breakdown
22	Central African Republic	2005	2006	Stabilized electoral autocracy	Serbia	2010	2022	Democratic breakdown
23	Kyrgyzstan	2005	2018	Reverted liberalization	Ukraine	2010	2014	Democratic breakdown
24	Liberia	2005	2010	Democratic transition	Zambia	2010	2017	Democratic breakdown
25	Maldives	2005	2009	Democratic transition	Slovenia	2011	2021	Averted regression
26	Togo	2005	2014	Democratic transition	Maldives	2012	2016	Democratic breakdown
27	Ukraine	2005	2007	Democratic transition	Croatia	2013	2022	Ongoing episodes

Continued on next page

Table A2 – *Continued from previous page*

28	Haiti	2006	2012	Stabilized electoral autocracy	Moldova	2013	2017	Averted regression
29	Nepal	2006	2009	Preempted democratic transition	Burkina Faso	2014	2015	Democratic breakdown
30	Bhutan	2007	2009	Democratic transition	Mauritius	2014	2022	Ongoing episodes
31	Mauritania	2007	2007	Reverted liberalization	Tunisia	2014	2022	Democratic breakdown
32	Solomon Islands	2007	2022	Democratic transition	Botswana	2015	2022	Ongoing episodes
33	Angola	2008	2011	Stabilized electoral autocracy	Lesotho	2015	2017	Averted regression
34	Thailand	2008	2012	Preempted democratic transition	Mongolia	2015	2022	Ongoing episodes
35	Bangladesh	2009	2010	Reverted liberalization	Uruguay	2015	2022	Ongoing episodes
36	Malawi	2009	2013	Democratic transition	Brazil	2016	2022	Ongoing episodes
37	Moldova	2009	2011	Democratic transition	Niger	2016	2022	Ongoing episodes
38	Armenia	2010	2019	Democratic transition	Philippines	2016	2022	Democratic breakdown
39	Burma/Myanmar	2010	2019	Reverted liberalization	Poland	2016	2022	Ongoing episodes
40	Guinea	2010	2014	Stabilized electoral autocracy	United States of America	2016	2022	Ongoing episodes
41	Kenya	2010	2014	Preempted democratic transition	Mali	2017	2022	Democratic breakdown
42	Mauritania	2010	2010	Reverted liberalization	Benin	2018	2020	Democratic breakdown
43	Nigeria	2010	2015	Democratic transition	Burkina Faso	2018	2022	Ongoing episodes
44	Sri Lanka	2010	2018	Democratic transition	El Salvador	2018	2022	Democratic breakdown
45	Libya	2011	2013	Preempted democratic transition	Guatemala	2018	2022	Ongoing episodes
46	Niger	2011	2012	Democratic transition	Ghana	2019	2022	Ongoing episodes
47	Tunisia	2011	2012	Democratic transition	Guyana	2019	2022	Ongoing episodes
48	Georgia	2012	2016	Democratic transition	Armenia	2020	2022	Ongoing episodes
49	Ivory Coast	2012	2017	Democratic transition	Ivory Coast	2020	2022	Democratic breakdown
50	Madagascar	2013	2015	Stabilized electoral autocracy	Romania	2021	2022	Ongoing episodes
51	Seychelles	2013	2022	Democratic transition	Guinea-Bissau	2022	2022	Ongoing episodes
52	Fiji	2014	2022	Ongoing episodes				
53	Guinea-Bissau	2014	2019	Democratic transition				
54	Mali	2014	2014	Democratic transition				
55	Nepal	2014	2016	Democratic transition				
56	Burkina Faso	2016	2016	Democratic transition				
57	Central African Republic	2016	2016	Reverted liberalization				
58	North Macedonia	2017	2019	Democratic transition				

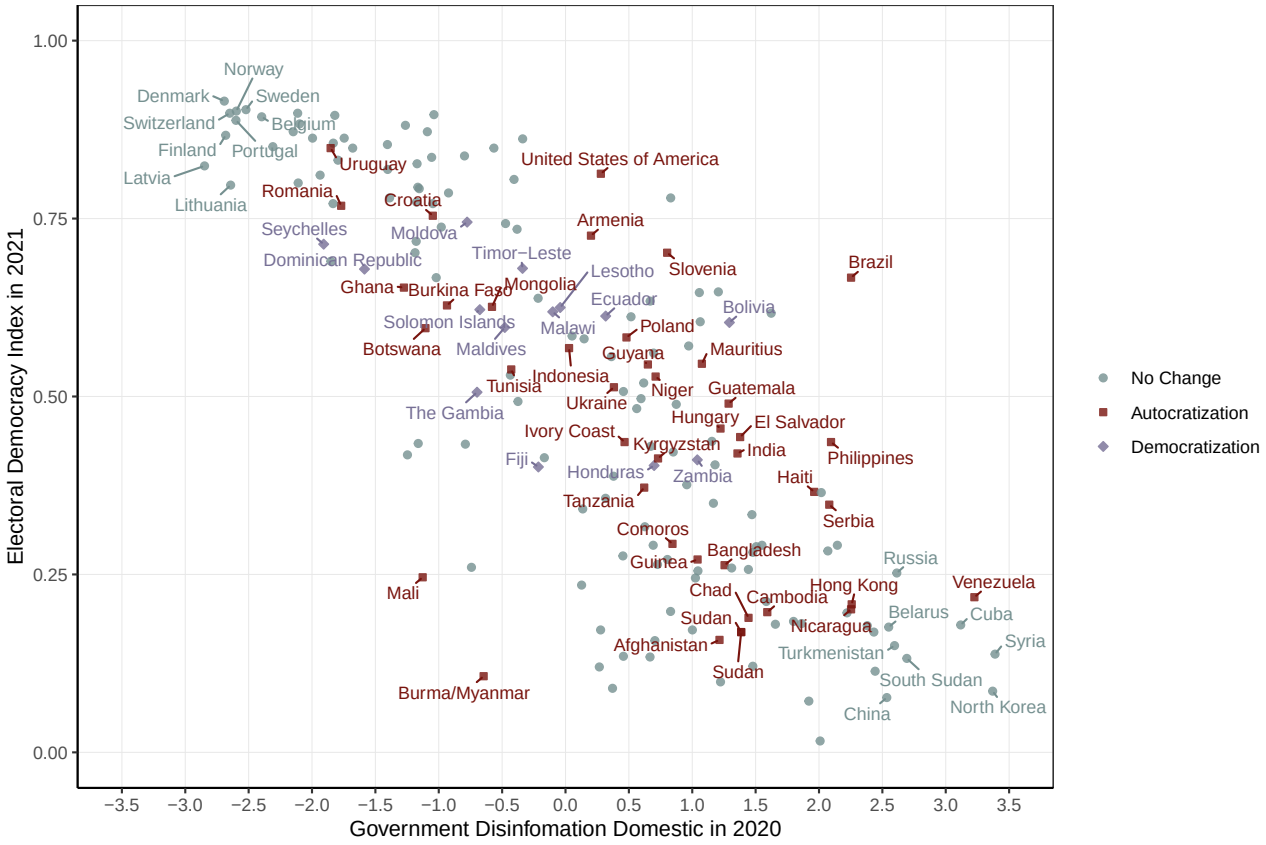
Continued on next page

Table A2 – *Continued from previous page*

59	The Gambia	2017	2022	Democratic transition	
60	Ethiopia	2018	2019	Reverted liberalization	
61	Malaysia	2018	2019	Reverted liberalization	
62	Maldives	2018	2022	Democratic transition	
63	Ukraine	2019	2020	Preempted democratic transition	
64	Malawi	2020	2022	Democratic transition	
65	Bolivia	2021	2022	Ongoing episodes	
66	Honduras	2021	2022	Ongoing episodes	
67	Zambia	2021	2022	Ongoing episodes	

Notes: The list only includes episodes that have the potential of regime transformation (either democratic transition or breakdown).

Figure A1. Disinformation, Levels of Electoral Democracy, and Regime Transitions



Note: The name of countries is labeled if the countries are in episodes of democratization or auotcratization, or observed values of disinformation are less than the 5th percentile and higher than the 95th percentile of entire observations.

Table A3. Country and Year Fixed Effects

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(1)	(2)
Disinformation$_{t-1}$	-0.455^{***}	0.598^{***}
	(0.098)	(0.118)
Indoctrination potential$_{t-1}$	0.293	4.917^{***}
	(0.203)	(1.062)
GDP growth$_{t-1}$	-0.001	0.011
	(0.007)	(0.007)
GDP per capita (log)$_{t-1}$	0.530^{***}	-0.590^{***}
	(0.116)	(0.132)
Population (log)$_{t-1}$	0.080	2.227^{***}
	(0.358)	(0.617)
Internet filtering capacity$_{t-1}$	-0.546^{***}	0.365^{***}
	(0.086)	(0.098)
Internet users$_{t-1}$	0.015^{***}	0.016^{***}
	(0.003)	(0.004)
Democratic stock$_{t-1}$	2.469	58.406^{***}
	(3.408)	(4.915)
Regional democracy levels$_{t-1}$	4.020^{**}	10.240^{***}
	(1.869)	(2.183)
Democracy levels$_{t-1}$	-10.583^{***}	12.626^{***}
	(0.852)	(0.750)
Constant	-3.006	-73.935^{***}
	(6.930)	(11.145)
Sample	Aut.	Dem.
Country FE	✓	✓
Year FE	✓	✓
Observations	1,305	1,417
Log-likelihood	-106.105	-96.020

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A4. Duration Model (Beck, Katz, and Tucker, 1998)

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(3)	(4)
Disinformation$_{t-1}$	-0.666^{***}	-0.118
	(0.136)	(0.140)
Indoctrinate potential$_{t-1}$	-1.328^{***}	0.481
	(0.494)	(0.890)
GDP growth$_{t-1}$	-0.062^{***}	0.004
	(0.015)	(0.015)
GDP per capita (log)$_{t-1}$	-0.083	-0.823^{***}
	(0.104)	(0.207)
Population (log)$_{t-1}$	0.012	0.099
	(0.077)	(0.076)
Internet filtering capacity$_{t-1}$	-0.122	0.259^{**}
	(0.111)	(0.112)
Internet users$_{t-1}$	-0.009	0.012^{*}
	(0.007)	(0.007)
Democratic stock$_{t-1}$	30.699^{***}	-0.316
	(4.391)	(1.752)
Regional democracy levels$_{t-1}$	-11.397^{***}	14.473^{***}
	(3.677)	(3.976)
Democracy levels$_{t-1}$	-9.285^{***}	5.695^{***}
	(1.086)	(1.181)
t	-1.633^{***}	-0.742^{***}
	(0.172)	(0.081)
t^2	0.039^{***}	0.016^{***}
	(0.004)	(0.002)
t^3	-0.000^{***}	-0.000^{***}
	(0.000)	(0.000)
Constant	4.722^{**}	-9.049^{***}
	(2.009)	(2.619)
Sample	Aut.	Dem.
Regional FE	✓	✓
Nonlinear time trend	✓	✓
Observations	1,305	1,417
Log-likelihood	-47.766	-82.796

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A5. Residual as DV (McGrath, 2015)

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(5)	(6)
Disinformation$_{t-1}$	0.811***	−0.755**
	(0.216)	(0.311)
Indoctrinate potential$_{t-1}$	1.028	−0.964
	(0.790)	(1.628)
GDP growth$_{t-1}$	0.033	0.030
	(0.042)	(0.033)
GDP per capita (log)$_{t-1}$	0.199	0.542
	(0.245)	(0.395)
Population (log)$_{t-1}$	−0.074	−0.123
	(0.148)	(0.179)
Internet filtering capacity$_{t-1}$	0.252	−0.461**
	(0.217)	(0.194)
Internet users$_{t-1}$	−0.008	0.009
	(0.020)	(0.016)
Democratic stock$_{t-1}$	−7.933**	1.872
	(3.291)	(2.880)
Regional democracy levels$_{t-1}$	8.753	−30.257**
	(9.526)	(14.988)
Democracy levels$_{t-1}$	8.199***	−10.235***
	(2.247)	(2.889)
Constant	−2.366	24.765***
	(4.082)	(8.827)
Sample	Aut.	Dem.
Regional FE	✓	✓
Nonlinear time trend	✓	✓
Observations	1,305	1,417
Log-likelihood	-138.550	-130.429

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A6. Linear Probability Model

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(7)	(8)
Disinformation$_{t-1}$	-0.025^{***}	0.015^{**}
	(0.008)	(0.007)
Indoctrinate potential$_{t-1}$	-0.019	-0.002
	(0.025)	(0.029)
GDP growth$_{t-1}$	-0.001	-0.000
	(0.001)	(0.001)
GDP per capita (log)$_{t-1}$	-0.006	-0.018^{**}
	(0.005)	(0.009)
Population (log)$_{t-1}$	-0.000	-0.000
	(0.004)	(0.003)
Internet filtering capacity$_{t-1}$	-0.011	0.011^{**}
	(0.007)	(0.005)
Internet users$_{t-1}$	0.000	-0.000
	(0.000)	(0.000)
Democratic stock$_{t-1}$	0.324^{**}	-0.031
	(0.135)	(0.050)
Regional democracy levels$_{t-1}$	-0.587^{**}	0.464
	(0.271)	(0.283)
Democracy levels$_{t-1}$	-0.263^{***}	0.236^{***}
	(0.083)	(0.071)
Constant	0.418^{***}	-0.211
	(0.129)	(0.154)
Sample	Aut.	Dem.
Regional FE	✓	✓
Nonlinear time trend	✓	✓
Observations	1,305	1,417
Adjusted R^2	0.033	0.040

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A7. Using Change in Disinformation Instead of the Level

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(9)	(10)
Change in Disinformation	-1.818^{***}	1.092^{***}
	(0.381)	(0.161)
Indoctrinate potential$_{t-1}$	-0.458^{*}	0.625
	(0.276)	(0.388)
GDP growth$_{t-1}$	-0.011	-0.016
	(0.011)	(0.010)
GDP per capita (log)$_{t-1}$	0.097	-0.268^{**}
	(0.081)	(0.108)
Population (log)$_{t-1}$	0.061	0.056
	(0.045)	(0.047)
Internet filtering capacity$_{t-1}$	-0.226^{***}	0.216^{***}
	(0.081)	(0.059)
Internet users$_{t-1}$	0.001	-0.009^{*}
	(0.005)	(0.005)
Democratic stock$_{t-1}$	4.208^{***}	-0.224
	(1.147)	(0.646)
Regional democracy levels$_{t-1}$	-4.376^{**}	12.632^{***}
	(2.207)	(3.601)
Democracy levels$_{t-1}$	-2.930^{***}	2.264^{***}
	(0.704)	(0.622)
Constant	-0.902	-9.218^{***}
	(1.264)	(2.158)
Sample	Aut.	Dem.
Regional FE	✓	✓
Year FE	✓	✓
Observations	1,022	1,294
Log-Likelihood	-104.240	-88.954

Notes: Change in disinformation variable is a difference between disinformation at t and $t-1$. Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A8. Including State Capacity as a Control

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(11)	(12)
Disinformation$_{t-1}$	-0.405^{***}	0.536^{***}
	(0.080)	(0.093)
State capacity$_{t-1}$	-0.027	0.598^{***}
	(0.125)	(0.221)
Indoctrinate potential$_{t-1}$	-0.308	0.658
	(0.218)	(0.420)
GDP growth$_{t-1}$	-0.027^{*}	-0.009
	(0.016)	(0.011)
GDP per capita (log)$_{t-1}$	-0.131^{*}	-0.528^{***}
	(0.079)	(0.142)
Population (log)$_{t-1}$	0.081^{*}	-0.008
	(0.047)	(0.045)
Internet users$_{t-1}$	-0.118	0.110^{**}
	(0.087)	(0.054)
Internet users$_{t-1}$	-0.007	-0.001
	(0.006)	(0.005)
Democratic stock$_{t-1}$	4.304^{***}	-0.627
	(1.350)	(0.594)
Regional democracy levels$_{t-1}$	-6.216^{*}	0.116
	(3.239)	(3.322)
Democracy levels$_{t-1}$	-4.553^{***}	5.197^{***}
	(0.752)	(0.832)
Constant	1.484	-1.632
	(1.777)	(2.189)
Sample	Aut.	Dem.
Regional FE	✓	✓
Nonlinear time trend	✓	✓
Observations	904	1,008
Log-Likelihood	-104.390	-98.963

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A9. Including Government Control over Social Media as a Control

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(13)	(14)
Disinformation$_{t-1}$	-0.363^{***}	0.271^{***}
	(0.063)	(0.091)
Socila Media Control$_{t-1}$	-0.096^{**}	-0.177^{*}
	(0.048)	(0.091)
Indoctrinate potential$_{t-1}$	-0.451^{**}	0.426
	(0.215)	(0.455)
GDP growth$_{t-1}$	-0.022^{*}	-0.014
	(0.013)	(0.010)
GDP per capita (log)$_{t-1}$	-0.066	-0.235^{**}
	(0.068)	(0.104)
Population (log)$_{t-1}$	0.007	0.047
	(0.045)	(0.045)
Internet filtering capacity$_{t-1}$	-0.125^{*}	0.205^{***}
	(0.068)	(0.057)
Internet users$_{t-1}$	0.003	-0.003
	(0.005)	(0.005)
Democratic stock$_{t-1}$	4.483^{***}	-0.653
	(1.050)	(0.676)
Regional democracy levels$_{t-1}$	-3.643	13.314^{***}
	(2.350)	(3.987)
Democracy levels$_{t-1}$	-3.277^{***}	4.243^{***}
	(0.714)	(0.795)
Constant	0.935	-10.571^{***}
	(1.068)	(2.341)
Sample	Aut.	Dem.
Regional FE	✓	✓
Nonlinear time trend	✓	✓
Observations	1,303	1,414
Log-Likelihood	-139.531	-131.009

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A10. Including Judicial and Legislative Constraints as Controls

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(15)	(16)
Disinformation$_{t-1}$	-0.304^{***}	0.274^{***}
	(0.067)	(0.083)
Judicial constraints on executive$_{t-1}$	-0.037	-1.069^{*}
	(0.433)	(0.570)
Legislative constraints on executive$_{t-1}$	1.566^{***}	-0.192
	(0.359)	(0.614)
Indoctrination potential$_{t-1}$	-0.338	0.235
	(0.235)	(0.376)
GDP growth$_{t-1}$	-0.020	-0.012
	(0.014)	(0.009)
GDP per capita (log)$_{t-1}$	-0.025	-0.184^{*}
	(0.071)	(0.103)
Population (log)$_{t-1}$	-0.020	0.030
	(0.050)	(0.041)
Internet filtering capacity$_{t-1}$	-0.035	0.214^{***}
	(0.073)	(0.052)
Internet users$_{t-1}$	0.001	-0.005
	(0.004)	(0.004)
Democratic stock$_{t-1}$	2.882^{***}	-0.855
	(1.087)	(0.626)
Regional democracy levels$_{t-1}$	-3.710^{*}	11.832^{***}
	(2.014)	(3.916)
Democracy levels$_{t-1}$	-4.606^{***}	4.944^{***}
	(0.907)	(1.003)
Constant	1.061	-9.643^{***}
	(1.218)	(2.294)
Sample	Aut.	Dem.
Regional FE	✓	✓
Nonlinear time trend	✓	✓
Observations	1,292	1,417
Log-Likelihood	-126.433	-130.906

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A11. Including Coup as a Control

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(17)	(18)
Disinformation$_{t-1}$	-0.327^{***}	0.314^{***}
	(0.066)	(0.084)
Coup$_{t-1}$	0.067	1.604^{***}
	(0.244)	(0.406)
Indoctrinate potential$_{t-1}$	-0.425^{*}	0.379
	(0.248)	(0.443)
GDP growth$_{t-1}$	-0.020	-0.013
	(0.012)	(0.010)
GDP per capita (log)$_{t-1}$	-0.079	-0.224^{**}
	(0.067)	(0.107)
Population (log)$_{t-1}$	0.012	0.045
	(0.044)	(0.043)
Internet filtering capacity$_{t-1}$	-0.106	0.222^{***}
	(0.068)	(0.055)
Internet users$_{t-1}$	0.003	-0.005
	(0.005)	(0.005)
Democratic stock$_{t-1}$	3.827^{***}	-0.863
	(1.077)	(0.623)
Regional democracy levels$_{t-1}$	-3.937^{*}	12.470^{***}
	(2.363)	(4.085)
Democracy levels$_{t-1}$	-3.364^{***}	4.344^{***}
	(0.701)	(0.778)
Constant	1.070	-10.448^{***}
	(1.113)	(2.398)
Sample	Aut.	Dem.
Regional FE	✓	✓
Nonlinear time trend	✓	✓
Observations	1,305	1,417
Log-Likelihood	-140.220	-130.157

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.

Table A12. Excluding the Extreme Cases (Russia, China, and the United States)

	Dependent variable:	
	Dem. Onset	Aut. Onset
	(19)	(20)
Disinformation$_{t-1}$	-0.323^{***}	0.324^{***}
	(0.067)	(0.091)
Indoctrinate potential$_{t-1}$	-0.486^{*}	0.529
	(0.252)	(0.447)
GDP growth$_{t-1}$	-0.021^{*}	-0.017^{*}
	(0.013)	(0.009)
GDP per capita (log)$_{t-1}$	-0.058	-0.255^{**}
	(0.070)	(0.101)
Population (log)$_{t-1}$	0.027	-0.004
	(0.048)	(0.042)
Internet filtering capacity$_{t-1}$	-0.112	0.221^{***}
	(0.070)	(0.057)
Internet users$_{t-1}$	0.003	-0.003
	(0.005)	(0.005)
Democratic stock$_{t-1}$	3.782^{***}	-1.255^{*}
	(1.069)	(0.689)
Regional democracy levels$_{t-1}$	-3.956^{*}	12.547^{***}
	(2.378)	(3.947)
Democracy levels$_{t-1}$	-3.409^{***}	4.488^{***}
	(0.714)	(0.854)
Constant	0.809	-9.522^{***}
	(1.101)	(2.240)
Sample	Aut.	Dem.
Regional FE	✓	✓
Nonlinear time trend	✓	✓
Observations	1,261	1,401
Log-Likelihood	-139.539	-125.624

Notes: Standard errors clustered by country. ***, **, * significant at .01, .05, .10, respectively.