

Cultivating the Appearance of Neutrality: Autocratic Propaganda in Africa and Asia*

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Abstract

How do autocrats manipulate the beliefs of their citizens during political crises? We argue that they cultivate a reputation for neutrality so that, during moments of crisis, their pro-regime arguments have some measure of credibility. To test the argument, we employ a corpus of 24 state-affiliated newspapers from Africa and Asia. Using a differences-in-differences estimation strategy, we find that propaganda in autocracies is generally indistinguishable from state-affiliated newspapers in democracies, save for the 15 days prior to an election, when positive coverage of the autocrat and the ruling party triples. This increase, we show, is driven not by more effusive articles, but an increase in the share of articles about the regime. Consequently, the aggregate volume of pro-regime coverage increases, but the per article positive coverage does not. By contrast, autocratic propaganda generally avoids defaming the opposition. State-affiliated newspapers in democracies exhibit generally neutral coverage.

Word Count: 10,221

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1 Introduction

The battle for citizens’ minds has long preoccupied the world’s autocrats. Joseph Goebbels, architect of Nazi Germany’s propaganda apparatus, believed that “propaganda becomes ineffective the moment we are aware of it.”¹ This conviction permeated his work. Since broadcasting exclusively positive news would “fairly compel the German public to listen to foreign and enemy broadcasts,” Goebbels instructed state media to report information that damaged the government. When crafting propaganda, Goebbels again insisted on truth, “otherwise the enemy or the facts might expose falsehoods.” He also routinely employed “black propaganda”: “word of mouth propaganda” campaigns waged by “faithful citizens, which were successful as long as the citizens targeted by these campaigns were unaware of them.”²

If Goebbels is correct, then the modern world should be particularly inhospitable for autocratic propaganda. Two decades ago, less than 1% of the world’s population enjoyed internet access; today, roughly 40% does. Each passing second registers more than 50,000 Google searches and 2.5 million emails. The challenges posed by the Information Age to the world’s autocrats are compounded by Western donors, who pressure autocrats to permit independent media. As a result, citizens around the world are cognizant of democratic norms and their governments’ failures to abide them. Even in Africa, where internet access remains limited, citizens Google their democratic aspirations – with words like “democracy,” “human rights,” and “constitution” – more than anywhere else in the world.³

How do autocrats manipulate their citizens’ beliefs when they have access to alternative sources of information? We argue that autocrats cultivate a reputation for neutrality in order to persuade citizens of useful fictions.⁴ To test the theory, we identify common moments of crisis across many post-Cold War autocracies: election seasons. Although many autocrats can guarantee electoral victory with fraud, they still have an interest in cultivating public support before voting begins. Most obviously, doing so reduces the amount of fraud required to secure victory. But even when autocrats can guarantee victory with fraud, election seasons constitute focal moments for popular protests. By enabling citizens to coordinate anti-regime activities, election seasons render collective action less difficult. Moreover, by increasing the probability of a post-regime future, election seasons occasion defections by the autocrat’s erstwhile allies to the political opposition.⁵ For all these reasons, autocrats have particularly strong incentives to manipulate their citizens’ beliefs during election seasons. To do so, the theory suggests, autocrats must direct their propaganda apparatuses to cultivate a reputation for neutrality outside of election seasons.

¹Quoted in Taylor (1998).

²For a distillation of Goebbels’ 6,800 page diary into 19 core principles, see Doob (1950).

³These statistics are drawn from www.internetlivestats.com. See Figure 7 in the online appendix.

⁴This is the conclusion of a number of recent theoretical models; see, for example, Gehlbach and Sonin (2014), Little (2015), and Gehlbach, Svulik and Sonin (2016).

⁵Kuran (1991), Beissinger (2002), McFaul (2005), Tucker (2007), Radnitz (2010), Fearon (2011), and Carter (2016).

We employ a differences-in-differences estimator to compare the rate and substance of propaganda during election seasons with the rate and substance of propaganda during all other times of the year. We draw on an original dataset of state-run newspapers from all countries in Africa and Asia that maintain state-run newspaper archives and where English, French, or Chinese are widely spoken. Our corpus encompasses 24 countries and 662,463 articles. To create the dataset, we collected state-run newspapers by scraping their online archives using the Python programming language or downloading them from Lexis Nexis. Next, we identified each country’s executive during the sample period, his political party, his chief political opponents, and their opposition political parties; we refer to these proper nouns as identifiers. We then transformed the corpus of articles into time series data by measuring the valence – both positive and negative – of words surrounding each identifier on a given day. This yields a measure of the net positive coverage afforded to country i ’s chief political leaders on day t . From this, we build a country-day dataset that records the amount of coverage for the executive and the opposition, as well as its tone. This operationalization reflects Goebbel’s view – and ours – that propaganda should be defined as positive spin rather than outright lies. Accordingly, in our dataset, more “propagandistic” coverage presents the regime in a more favorable light.

Consistent with the theory, we find that state-run newspapers in autocracies are remarkably similar to state-affiliated newspapers in democracies.⁶ Throughout the calendar year, the volume of pro-regime coverage – both *per reference* and *per article* – is remarkably stable, and remarkably similar across regime types. During election seasons, however, autocratic propaganda apparatuses expand pro-regime coverage sharply. They do so not with more effusive articles, but by increasing the share of articles that cover the regime, all while maintaining the newspaper’s usual, mildly positive tone. As a result, the aggregate volume of pro-regime coverage increases sharply, even while, at the sentence and article level, pro-regime coverage is unchanged. We observe no such change in state-affiliated newspapers in democracies. We also find no evidence that autocratic propaganda apparatuses systematically defame the opposition during election seasons, or deliver threats of repression. In the online appendix we present tentative evidence that, during election seasons, autocrats shift the *substance* of their propaganda: to more general claims about economic performance under the autocrat’s stewardship.

In short, we show that autocrats in profoundly different political, linguistic, and cultural contexts employ a remarkably similar propaganda strategy. When the stakes are low, they employ relatively unbiased reporting to cultivate a reputation for neutrality, something akin to “credibility capital.” When the stakes are high – as they are prior to elections, when citizens most easily

⁶In autocracies, these newspapers are generally subject to direct control by the incumbent government. Accordingly, we refer to them as “state-run.” We refer to their counterparts in democracies as “state-affiliated,” since it is often unclear how pervasively they are controlled by the incumbent government. Although we treat state-affiliated newspapers in democracies as a baseline for comparison with state-run newspapers in autocracies, future research might consider the possibility of strategic interaction between state-run newspapers in autocracies and independent newspapers in autocracies.

overcome their collective action problems – autocrats exploit their reputation for neutrality by increasing the volume of positive coverage of the regime, the better to ensure their political survival. During these moments of tension, they draw they down the credibility capital they acquired earlier.

This paper is closely related to recent work by King, Pan and Roberts (2016), who study the Chinese government’s “50 cent party”: the several million citizens, all anonymous, who are paid by the government for their pro-regime commentary on social media. These social media posts, King, Pan and Roberts (2016) find, spike around politically sensitive moments of the calendar year, when popular protests are more likely. In Goebbels’ lexicon, the Chinese regime employs “black” propaganda, which is feasible only when the origins of propaganda are unclear, as they are for consumers of Chinese social media. Our findings are complementary, and equally anticipated by Goebbels. When the regime can obscure its agency, it is free to employ unmitigatedly positive propaganda. When it cannot, the regime must cultivate a reputation for neutrality so that its propaganda during political crises will appear credible to citizens.

This paper proceeds as follows. Section 2 surveys recent scholarship on propaganda, advances our theoretical framework, and presents hypotheses for empirical testing. Section 3 introduces a corpus of two dozen state-run newspapers from across Africa and Asia and describes our measure of propaganda. Section 4 employs a differences-in-differences estimator to measure the effect of election seasons on the rate and substance of propaganda, and uses topic models to probe the substance of propaganda throughout the calendar year. Section 5 concludes with suggestions for future research. The online appendix includes a range of robustness checks.

2 Theoretical Framework

2.1 Existing Literature and the Appearance of Neutrality

Scholars routinely seek the origins of autocratic survival in formal political institutions: single party regimes⁷ or national legislatures populated by regular elections.⁸ For much of the 20th century, however, perhaps inspired by the role of propaganda in the Soviet Union, scholars emphasized the role of citizen beliefs. As Tullock (1987) put it: “As long as people think that the dictator’s power is secure, it is secure.” If citizen beliefs were critical to sustaining an autocrat’s power, so too, these scholars concluded, could citizen beliefs bring an autocrat down. In this, scholars drew not on the durability of the 20th century’s most famous dictators, but rather the stunning ease with which they were toppled. Kuran (1989, 1991) famously explained how the Soviet Union could collapse so quickly by applying “tipping point” models of collective action.⁹

⁷Brownlee (2007), Slater (2010), Svolik (2012).

⁸Lust-Okar (2006), Magaloni (2008), Gandhi and Przeworski (2007), Gandhi (2008), Wright (2008), Blaydes (2008), Gandhi and Lust-Okar (2009).

⁹See also Lohmann (1993).

Inspired by the Arab Spring, scholars have again returned to the role of citizen beliefs in sustaining autocratic power,¹⁰ and so too propaganda as a critical tool of survival. By employing Bayes' Rule to study how citizens should judge regime performance after observing propaganda, scholars have come to the same conclusion as Goebbels.¹¹ Indeed, Goebbel's core insight follows directly from the definition of conditional probability. Imagine that citizens need to determine the probability that the autocrat provided some public good A , conditional on observing positive coverage in the regime's media apparatus. According to Bayes' Rule, citizens compute this probability as:

$$\Pr(A \mid \text{Positive}) = \frac{\Pr(\text{Positive} \mid A) \times \Pr(A)}{\Pr(\text{Positive} \mid A) \times \Pr(A) + \Pr(\text{Positive} \mid \sim A) \times \Pr(\sim A)} \quad (1)$$

where $\Pr(A)$ gives the citizen's *prior* belief about the probability the autocrat provided the public good, and $\Pr(\sim A) = 1 - \Pr(A)$ gives the citizen's prior belief about the probability the autocrat *did not* provide the public good. Two terms are key. First, $\Pr(\text{Positive} \mid A)$ gives the probability that regime media reports that the autocrat provided the public good *if he did*. Second, $\Pr(\text{Positive} \mid \sim A)$ gives the probability that regime media reports that the autocrat provided the public good *if he did not*.

If autocratic propaganda is unmitigatedly positive – that is, if regime media claims the autocrat provided the public good *regardless of whether he did* – then $\Pr(\text{Positive} \mid A) = \Pr(\text{Positive} \mid \sim A) = 1$. In this case, Bayes' Rule reduces to

$$\begin{aligned} \Pr(A \mid \text{Positive}) &= \frac{\Pr(A)}{\Pr(A) + \Pr(\sim A)} \\ &= \Pr(A) \end{aligned} \quad (2)$$

If citizens are rational and autocratic propaganda is *purely positive*, then citizens disregard propaganda altogether. A citizen's beliefs about the autocrat's performance *after* consuming propaganda are identical to her beliefs *before*.

When does consuming propaganda compel rational citizens to judge the autocrat more positively than they did before before? From Bayes' Rule, this occurs when

$$\begin{aligned} \Pr(A \mid \text{Positive}) &> \Pr(A) \\ \frac{\Pr(\text{Positive} \mid A) \times \Pr(A)}{\Pr(\text{Positive} \mid A) \times \Pr(A) + \Pr(\text{Positive} \mid \sim A) \times \Pr(\sim A)} &> \Pr(A) \\ \Pr(\text{Positive} \mid A) &> \Pr(\text{Positive} \mid \sim A) \end{aligned} \quad (3)$$

For simplicity, assume that regime media always provides positive coverage of the autocrat when he

¹⁰Howard and Hussain (2013), Tufekci and Wilson (2012), Forelle et al. (2015).

¹¹Gehlbach and Sonin (2014), Little (2015), Gehlbach, Svolik and Sonin (2016).

provides the public good A , such that $\Pr(\text{Positive} \mid A) = 1$. Then, to manipulate citizens' beliefs, autocrats must set $\Pr(\text{Positive} \mid \sim A) < 1$. Put otherwise, autocrats must direct their propaganda apparatuses to report the autocrat's failings – that is, to occasionally report when the autocrat *did not* provide the public good – to have any hope of persuading citizens of his merits.

This is the central insight from recent models of autocratic propaganda. To manipulate their citizens' beliefs, autocrats must establish reputations for neutrality, as Goebbels contended. And the more unbiased reporting autocrats provide, the more effective their biased reporting in times of crisis.

2.2 Election Seasons as Focal Moments for Protest

The vast majority of the world's autocrats govern with nominally democratic political institutions: presidential term limits, multiparty legislatures, and regular elections. Many have little choice. As scholars have observed, Western donors virtually require nominally democratic institutions in exchange for development aid and debt relief.¹²

The regular elections occasioned by nominally democratic institutions are profoundly destabilizing. Most obviously, elections can be lost if autocrats are excessively confident or fraud is costly. But even when autocrats can guarantee electoral victory with fraud, regular elections enable citizens to overcome collective action problems and organize protests.¹³ During election seasons, citizens are more engaged in politics and more aware of their neighbors' discontent.¹⁴ Opposition leaders have strong incentives to coordinate mass protests and alert citizens to electoral fraud.¹⁵ By affirming the possibility of a post-regime future, elections decrease the costs to frustrated regime elites of defecting from the coalition and joining the opposition. Hale (2005) concludes that revolutions in Georgia, Kyrgyzstan, and Ukraine succeeded, in part, because high ranking security officials refused to suppress the opposition leaders who “might be the authorities of the future.” Elite defections occasioned by elections helped end Senegalese President Abdoulaye Wade's ambitions for his son, catalyzed the Burkinabé Revolution of October 2014 that toppled President Blaise Compaoré, and gave rise to Jean Ping's candidacy against Gabonese President Ali-Ben Bongo.

Using day-level data from post-Cold War Africa, Carter (2016) finds that the daily probability of popular protest during election seasons – defined as the 15 days before and after election day – is twice as high as any other day of the calendar year. On election day itself, the probability of popular protest is three times greater. These protests have important consequences. Aidt and Leon (2015) find that as the number of protests per year rises, so too does the probability that an incumbent autocrat loses power. In post-Cold War Africa, the theories of democratic change proffered by Acemoglu and Robinson (2005) and Boix (2003) are catalyzed by regular elections. As

¹²Dunning (2004), Levitsky and Way (2010).

¹³Olson (1977), Granovetter (1978), Tullock (1987), Przeworski (2006).

¹⁴Kuran (1991), Tucker (2007), Hollyer, Rosendorff and Vreeland (2014).

¹⁵Beissinger (2002), Javeline (2003), McFaul (2005), Radnitz (2010), Bunce and Wolchik (2011), Fearon (2011).

the rate of military coups declines,¹⁶ popular protests are increasingly the chief threat to autocratic survival.

2.3 Hypotheses: Propaganda and Election Seasons

This research makes clear that autocrats have particularly strong incentives to manipulate the beliefs of their citizens during election seasons. Most obviously, propaganda can increase an autocrat’s vote share, as White, Oates and McAllister (2005) and Enikolopov, Petrova and Zhuravskaya (2011) document in Putin’s Russia. But equally important, by persuading citizens that the regime’s performance is better than it is – or that the autocrat is more popular than he is – propaganda is also useful for preventing collective action.

Over time, citizens may observe temporal trends in the use of propaganda. As a result, even if autocratic propaganda apparatuses acquire a reputation for neutral reporting outside election seasons, citizens may discount positive reporting about the regime during election seasons. However, a range of scholarship makes clear that individuals are less than fully rational.¹⁷ In particular, Little (2015) shows that if citizens believe their neighbors view government propaganda as credible, then propaganda can affect mass behavior without affecting mass beliefs. Accordingly, our theory suggests a first hypothesis for empirical testing:

Hypothesis 1: Autocratic propaganda apparatuses should cultivate the appearance of neutrality outside election seasons. During election seasons, positive coverage of the regime should increase.

Existing theories of propaganda seldom address bias against opposition parties. And, though we regard it as an important direction for future research, a full theory of opposition coverage in autocracies is outside the scope of this paper. Such a theory would likely incorporate the possibility of diminishing marginal returns to pro-regime coverage, which would compel some amount of anti-opposition coverage. Still, as a baseline, we expect autocratic propaganda apparatuses to focus predominantly on pro-regime coverage. First, routine coverage of the regime’s fiercest critics damages the perception of broad support that autocrats often attempt to create.¹⁸ We expect the defining feature of opposition coverage to be omission rather than denigration. Second, by covering the political opposition with relative neutrality, autocratic propaganda apparatuses reduce the appearance of overt partisanship, and hence mitigate the diminishing marginal returns to pro-regime coverage. In short, neutral coverage of the opposition affords the autocrat an opportunity to further cultivate the appearance of neutrality. This yields our second hypothesis for empirical testing:

Hypothesis 2: Autocratic propaganda apparatuses should report relatively neutrally – and infrequently – on the political opposition, regardless of whether day t occurs during an election season.

¹⁶Goemans and Marinov (2014).

¹⁷Caplan (2011).

¹⁸Wedeen (1999).

In the empirical analysis in Section 4, we treat the rate and substance of propaganda in state-affiliated newspapers in democracies as a baseline for comparison. Although there is little empirical research on how state-affiliated media apparatuses in democracies employ propaganda, Gehlbach and Sonin (2014) show formally that democratic governments should employ less propaganda than autocratic governments. The reason is that democratic leaders are more inclined to value citizen welfare, and so should spend less effort persuading citizens to support policies that undermine their interests.

We suggest another reason that state-affiliated newspapers in democracies should employ less propaganda than their counterparts in autocracies. Since democracies have higher rates of media freedom and lower rates of censorship – both official and self-imposed by journalists – any deviation from neutral reporting in state-affiliated newspapers should be more apparent to readers. As a result, state-affiliated newspapers in democracies should be constrained to report neutrally at higher rates than their counterparts in autocracies. These two insights inform our final hypothesis for empirical testing:

Hypothesis 3: State-affiliated newspapers in democracies should cover the regime less positively than their counterparts in autocracies, whether during election seasons or otherwise.

To be clear, our theoretical expectation is not that state-affiliated newspapers in democracies refrain from mixing neutral and biased reporting. There is considerable evidence that they do. In India, ostensibly credible newspapers quietly sell positive coverage to paying clients, who hope to advance their political careers or financial interests.¹⁹ Rather, like Gehlbach and Sonin (2014), we simply expect coverage of the regime during election seasons to be more positive in state-affiliated newspapers in autocracies than in democracies.

3 Measuring Propaganda

To probe the dynamics of autocratic propaganda, we assembled a corpus of state-run newspapers from 24 countries in Africa and Asia. In Section 3.1 we describe the corpus: how we identified its constituent newspapers and whether our sample may be subject to selection bias. In Section 3.2 we explain how we created a day-level measure of propaganda from newspaper text. We present a brief validation of our measure, and refer readers to the online appendix for additional validations.

3.1 Identifying and Collecting State-Run Newspapers

To create the dataset, we identified the most widely distributed state-run newspapers for as many countries as possible in Africa and Asia. We then restricted attention to newspapers that are published in English, French, and Chinese. We did so for two reasons. First, quantitative text

¹⁹See the 2013 report submitted to India’s parliament by the Standing Committee on Information Technology.

analysis methods are particularly well developed for these three languages. Second, since we speak these languages and have conducted extensive fieldwork in China and francophone Africa, we can identify important colloquialisms.

We further restricted attention to state-run newspapers with online archives. Although doing so was critical for data collection, it entails a drawback. It is possible that state-run newspapers with online archives are systematically different than those without, and for a variety of reasons. Some autocrats may publish an English or French newspaper for distribution to expatriates, and a separate local language newspaper for distribution to citizens; the former may be more neutral, and the latter more biased. Likewise, autocrats who finance online archives for their propaganda newspapers may do so because their populations enjoy higher rates of internet access. As a result, they may be constrained to employ more neutral coverage than their counterparts who govern less connected societies.

We cannot rule out either possibility. However, our case knowledge suggests that neither is a significant concern. First, the vast majority of African countries conduct their official business not in local languages, but in the language of their European colonizer. Accordingly, their newspapers are published overwhelmingly in the language of the European colonizer as well. These newspapers target an overwhelmingly urban audience, usually in the national capital and a small handful of regional capitals. Among these populations, English and French are widely spoken, and often at higher rates than local languages. Indeed, for countries with multiple politically salient ethnic groups, publishing a propaganda newspaper in a local language would prevent many citizens from consuming it, and so limit its distribution. For instance, Denis Sassou Nguesso, who has ruled the Republic of Congo for all but five years since 1979, publishes *Les Dépêches de Brazzaville* in French rather than Lingala, which is spoken almost exclusively by the country's northerners. The urban populations who consume English and French media are also particularly critical for the survival of autocrats. Because of their close geographic proximity to the national capital, protests by urbanites are far more threatening than by rural dwellers.²⁰

Second, reflecting the growing prevalence of internet access across the world, we found that autocrats who govern Africa's poorest countries are as likely to maintain online archives as those from far more affluent countries. The list of newspapers in Table 1 makes this clear. Rather, whether state-run newspapers maintain freely available online archives appears to be more a function of regime type than GDP. We found that the vast majority of autocrats make their state-run newspapers available online, accessible without restriction. Since propaganda is useful only when consumed, most autocrats maximize its distribution, and so seldom regard it as intellectual property. This is consistent with their approach to domestic distribution. Sassou Nguesso is again instructive. *Les Dépêches de Brazzaville* remains Congo's only daily newspaper, printed in color on high quality paper. At a market price of roughly \$0.20, it is heavily subsidized by the state.²¹

²⁰Bates (1983).

²¹Interviews with anonymous journalists. Many claim that *Les Dépêches de Brazzaville* is subsidized by the state

Its primary competitor is *La Semaine Africaine*, an independent newspaper that appears twice per week. Constrained by market forces, it sells for roughly \$1.00, despite being printed in black ink on cheap paper. In democracies, we found that state-affiliated newspapers are far more likely to operate as a business, with articles behind a paywall. When newspaper archives were not freely available, we acquired them from Lexis Nexis.

Although our chief theoretical focus is propaganda strategies in autocracies, we include state-affiliated newspapers from democracies as a baseline for comparison. These newspapers are generally holdovers from a previous autocratic regime. In Senegal, for instance, *Le Soleil* was founded in May 1970 by President Leopold Sedar Senghor. Though by some accounts benevolent, Senghor nonetheless tightly circumscribed press freedom, and *Le Soleil* remained the only newspaper that published uninterrupted until the early 1990s. Senegal transitioned to democracy in 2000, when Abdoulaye Wade defeated Senghor’s successor, Abdou Diouf, in an election so lopsided that Diouf chose to step down after two decades rather than suppress protesters. In the years since the democratic transition, the Senegalese state has remained the chief shareholder of *Le Soleil*. While its editorial line remains somewhat pro-regime, it is regarded as far less biased than before the transition.²²

Our final sample includes state-run newspapers from 24 countries: 21 from Africa and the three Asian autocracies in which English, French, or Chinese are widely spoken.²³ Of our 24 state-affiliated newspapers, 15 were published under autocratic governments throughout the sample period, seven under democratic governments throughout, and two experienced transitions from autocracy to democracy.²⁴ Many of the countries are vastly different. Singapore and Gambia, for instance, have very little in common, save for the fact that they are governed by dictators. We regard this as an asset. If such different autocracies employ similar propaganda strategies, we can be more confident in the external validity of the results.

3.2 From Text to Time Series Data on Propaganda

After we finalized our sample of state-run newspapers, we either scraped their online archives using the Python programming language or manually downloaded all available articles from Lexis Nexis. To convert newspaper text into time series data on propaganda, we identified each instance that a newspaper from country i referenced the autocrat or his ruling party on day t . The variable $References_{it}$ counts these references. For each, we then extracted the 10 words before and after the identifier, a string known as a “concordance segment.” Drawing on standard semantic dictionaries, we measured how fulsome or critical were these 20 words.²⁵

oil company.

²²IREX (2014).

²³We include a detailed description of all newspapers in our sample in Section 10 of the online appendix.

²⁴We draw our regime classifications from Svobik (2012) and update them through 2015.

²⁵For English, we used Harvard General Inquirer (2015). For French, we translated the Inquirer. For Chinese, we used Dong and Dong (2014). We lowercased and stemmed each word in our corpus, dictionaries, and list of identifiers.

The variable *Positive Coverage: Executive_{it}* constitutes our measure of pro-regime propaganda, and it measures the number of fulsome words, less critical words, among the 20, summed for day *t*. To measure the per reference rate of propaganda, we standardize *Positive Coverage: Executive_{it}* as:

$$\text{Positive Coverage Standardized: Executive}_{it} = \frac{\text{Positive Coverage: Executive}_{it}}{\text{References}_{it}}$$

The variable *Positive Coverage Standardized: Executive_{it}* gives net positive pro-regime coverage per reference: how many positive less negative words are found among the surrounding 20, on average, from every reference to the autocrat or ruling party on day *t*. We employed a similar technique to measure positive coverage for country *i*'s opposition parties and leaders. The result is a country-day dataset that records the amount and tone of coverage for the executive and his political party, as well as for the opposition. Descriptive statistics for these variables appear in Table 1.

Unsurprisingly, Gambia's *Daily Observer* is our sample's most propagandistic newspaper. President Yahya Jammeh seized power in a 1994 coup and has ruled Gambia since.²⁶ He has accumulated among the world's worst human rights records. In 2011, Jammeh announced that he would rule for "one billion years." In 2015, he announced his support for making homosexuality a capital punishment. Gambians enjoy few independent newspapers, and their journalists routinely self-censor to avoid incarceration or worse. Observed one Gambian journalist:

A cloud of fear to freely express oneself now hovers over the country. Citizens tend to openly express their true opinions only in safe corners.²⁷

By contrast, from Column 6 of Table 1, Mali's *L'Essor*, is equidistant between the least propagandistic country in the sample and the most propagandistic. Strikingly, its reputation for journalistic integrity is among the strongest in Africa. First published in 1949, *L'Essor* became the organ of the military dictatorship following a 1968 coup. Until Mali's democratic transition in 1991, *L'Essor*'s coverage was limited to local news, government decrees and speeches, and articles from Soviet and Chinese wire services. After the democratic transition, *L'Essor* was transferred to a state-owned printing house, managed by the Ministry of Communications. One of 15 French daily newspapers, *L'Essor* confronts a competitive media market. The government fosters this competition by exempting all media organizations from taxes. Malian journalists are generally poorly compensated, and hence vulnerable to purchase by politicians, government and opposition alike. One prominent journalist called this "rent-paying journalism." Another called this "lack of professionalism" the "great scourge of the Malian press." But journalists generally agree – including from *L'Essor* – that "there is of course no taboo subject."²⁸

We removed numbers, symbols, and punctuation from the corpus before generating the concordance segments from which we extracted our measure of tone. See Grimmer and Stewart (2013) and Lowe et al. (2010).

²⁶He conceded defeat in the December 2016 elections, but has not yet transferred power.

²⁷IREX (2014).

²⁸IREX (2008).

To substantively scale our measure of positive coverage, Table 2 displays concordance segments from *The New Times*, the chief propaganda organ of Paul Kagame, president of Rwanda since 2000. We **bold** references to the executive – for Rwanda, either “Kagame” or “RPF,” his political party – and show the 10 words on either side. Positive words are rendered in *blue*, while negative words are rendered in *red*.

The most flattering concordance, listed first, describes a speech in which Kagame thanks supporters for their “continued trust and support.” This concordance contains five positive words surrounding our identifier, “Kagame,” and 0 negative words, so it registers a net positive coverage of 5. Concordance segments with scores of 2, 3, and 4 are also quite positive. They credit the RPF for promoting education, job creation, and urbanization. By contrast, negative concordances feature criticism of the ruling party, sometimes severe. The most critical among them acknowledges that some citizens believe the RPF participated in the 1994 genocide.²⁹ Concordance segments that register between 1 and -1 net positive words are strikingly ambiguous, and somewhat difficult to distinguish from each other. This, in turn, underscores just how similar are the mean levels of propaganda *per reference* for newspapers in our dataset, given in Table 1.

To be clear, our measure of propaganda does not distinguish between positive spin and factual good news. Likewise, our measure of propaganda does not explicitly incorporate the use of *justification* or *comparison* frames: articles that defend the government’s record by appealing to past difficulties or current difficulties in neighboring countries. Neither, however, constitutes a threat to inference, as we discuss in Section 4.6 and in the online appendix.

4 Evidence from Africa and Asia

4.1 The Life Cycle of Propaganda

To visualize the life cycle of pro-regime propaganda, we identified every election in the 24 countries for which we have propaganda data.³⁰ Our dataset includes 56 elections. For each, we focused on the 26 weeks prior to election day and the 26 weeks after. Next, for each of these 52 weeks, we averaged the volume of positive coverage for either the regime or the opposition, as well as the number of references, across all countries in the dataset. The results appear in Figure 1. For each panel, the left *y*-axis records the mean level of positive coverage, as well as the mean number of references; the right *y*-axis records the mean level of positive coverage standardized by the number of references. The *x*-axis records weeks until and since election day, given as 0.

These visualizations suggest several observations. First, from the right *y*-axis, the standardized rate of pro-regime propaganda – given for autocracies in the top left panel, for democracies in the

²⁹Section 2 of the online appendix provides a series of newspaper articles to further validate our measure of propaganda.

³⁰We employed Hyde and Marinov (2012)’s National Elections Across Democracy and Autocracy (NELDA) dataset and updated it through 2015.

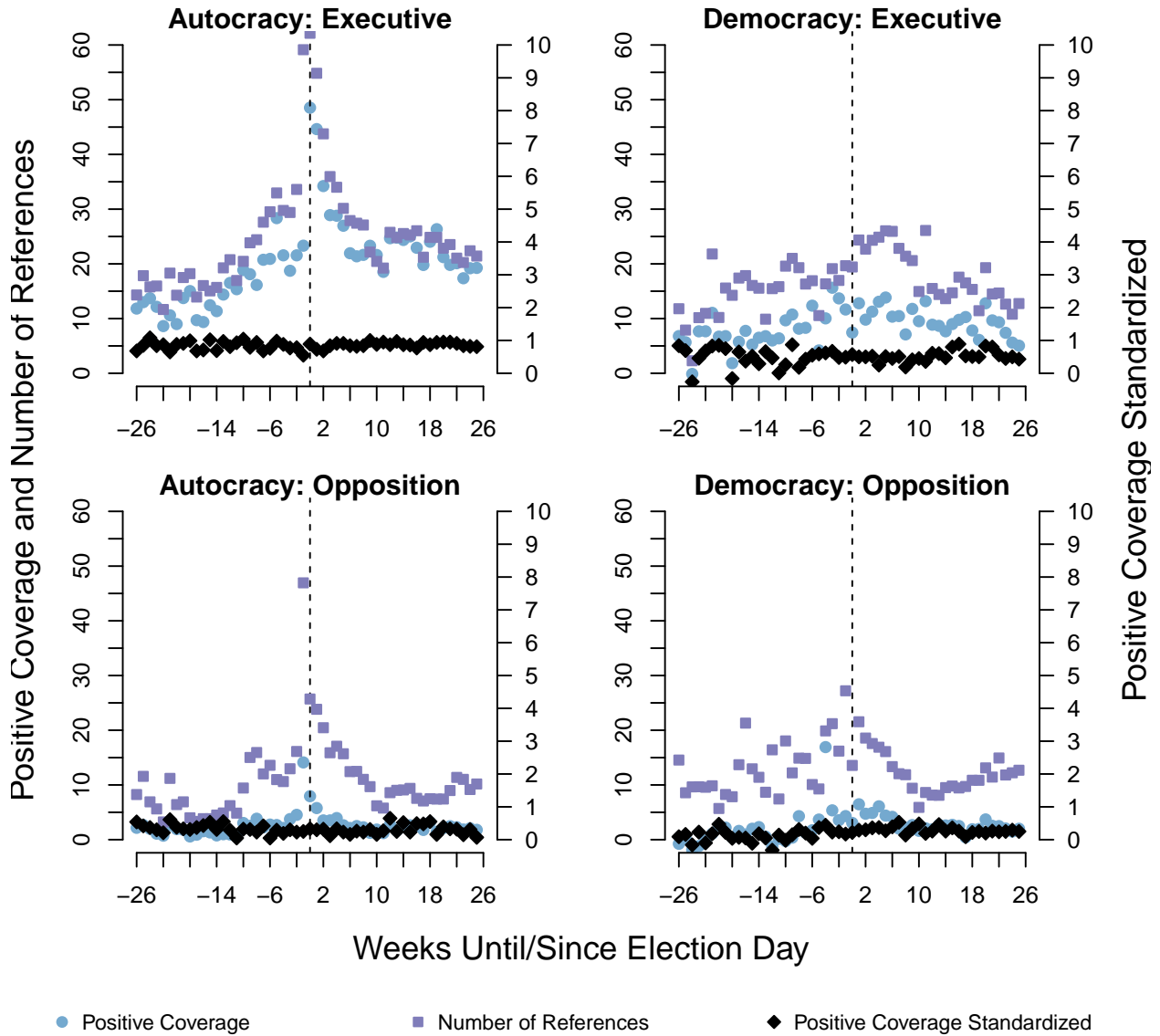


Figure 1: The life cycle of propaganda. For each of the 56 elections in the dataset, we identified the 26 weeks prior to election day and the 26 weeks after election day. Next, for each of these 52 weeks, we averaged the volume of positive coverage for the regime, as well as the number of references, across all countries in the dataset. The x -axis records weeks until and since election day – with election day given as 0 – and the left y -axis gives the mean volume of positive coverage for the regime. The right y -axis gives the mean level of positive coverage, standardized by number of references.

top right panel – is strikingly similar throughout the calendar year, and virtually constant. For autocracies, it hovers just below 1; for democracies, just below that. Although the per reference

level of positive coverage is virtually constant, we find a striking increase in the total volume of positive coverage in autocracies in the week immediately before election day. This is driven entirely by the increase in references. Put simply, although autocratic propaganda apparatuses treat the executive virtually the same throughout the year *at the sentence level*, aggregate coverage increases dramatically during election seasons, and so increases the aggregate level of positive coverage as well. In democracies, by contrast, we observe no similar spike. At the reference level, state-affiliated newspapers treat the executive much as their counterparts in autocracies do. Yet their reference frequency is lower throughout the year, and, during elections, less than half.

Second, the bottom panels make clear that state-run newspapers in autocracies and state-affiliated newspapers in democracies treat the political opposition almost identically. Per reference positive coverage hovers around 0.25 for both. For every four references to the political opposition, newspapers offer one net positive descriptor from among the surrounding 80 words. Again, across regime type, coverage of the opposition increases slightly during election seasons, but the aggregate volume of positive coverage remains strikingly neutral. Given their generally positive reputations in the donor community, this neutral coverage in democracies should be unsurprising. In autocracies, it is quite surprising.

In short, outside election seasons, state-run newspapers in autocracies and state-affiliated newspapers in democracies appear to engage in *very* similar pro-regime coverage: modestly positive, but not overwhelmingly so. During these moments, autocratic propaganda newspapers strongly resemble their democratic counterparts, which are generally well regarded by Western donors. These patterns are intuitive in the context of the theory above. To cultivate the appearance of neutrality, autocrats manage their media apparatuses outside election seasons much like their democratic counterparts.

4.2 Estimating Equations

To probe the determinants of propaganda more systematically, we build on the existing literature described in Section 2.2, which makes clear that the rate of popular protest spikes during the 15 days before an election. Accordingly, we define this 15 day period as an *election season*. We then specify estimating equations for each of three outcomes, all measured at the day level: standardized positive coverage, number of references, and aggregate positive coverage. Since the effects of election seasons may vary by regime type, we also specify separate estimating equations for autocracies and democracies. Since state-run newspapers cover the regime and the opposition differently, we specify separate estimating equations for these political classes as well. Our baseline model is

$$y_{it}|\text{Political Class, Regime Type}_{it} = \alpha + \beta (\text{Election Season}_{it}) + \kappa X_{is} + \phi W_{it} + \gamma_i + \epsilon \quad (4)$$

where i indexes country, t indexes day, and s indexes year. To accommodate any unobserved characteristics by country, we include a full set of country fixed effects, given by γ_i . The explanatory variable of interest in all models is $Election\ Season_{it}$. Since this variable is dichotomous, we employ OLS for ease of interpretation. The results are substantively unchanged if, for reference models, we employ Poisson or Negative Binomial count models.

We include a range of potential confounding variables in the vectors X_{is} and W_{it} . At the year level, we control for the extent of country i 's internet penetration, its GDP per capita, and its oil supplies. At the day level, we control for whether day t witnesses an election, or falls within the 15 days afterwards. We do so because newspaper coverage may be systematically different when election results are announced and the inauguration approaches. Since executives may have a stronger interest in propaganda following episodes of protest and repression, we control for whether either occurred on day $t - 1$. We draw these variables from the Social Conflict in Africa Dataset (SCAD), introduced by Salehyan et al. (2012). SCAD records the daily number of repression and protest events throughout the African continent since 1989. In these models we restrict attention to African countries.

To accommodate other forms of instability that might increase pro-regime coverage, we control for whether a rebel group engaged in a violent offensive as part of an ongoing civil war on day t , as well as whether the government engaged in a violent offensive on day t . We draw this information from the Uppsala Conflict Data Program's (UCDP) Georeferenced Event Dataset, introduced by Sundberg and Melander (2013). This dataset includes day-level conflict events that occurred as part of inactive conflicts, which do not exceed 25 annual battle deaths. The full list of variables and sample means appears in Table 46 in the online appendix.

4.3 Results

Table 3 presents the baseline models; Tables 4 and 5 present the models with all covariates. The estimated marginal effects of $Election\ Season_{it}$ appear at the bottom of all tables, along with 95% confidence intervals. Figure 2 uses these results to visualize predicted country intercepts, which give baseline positive coverage outside election seasons.

The emergent story is consistent with the descriptive statistics. At the reference level, throughout the calendar year, the words that state-run newspapers in autocracies employ to describe incumbents are remarkably similar to those employed in democracies. For days outside election seasons, Figure 2 visualizes this. On average, of the 20 words surrounding the incumbent or his ruling party, state-run newspapers in autocracies employ just 0.33 additional positive words.³¹ Put otherwise, of the 60 words surrounding three references to the executive and his ruling party, state-run newspapers in autocracies employ just one additional positive word. This difference is very

³¹From Figure 2, the predicted *Positive Coverage Standardized: Executive_{it}* average for democracies is roughly 0.5. For autocracies, it is 0.83.

small, as the scalings in Table 2 made clear: The difference between concordance segments with -1, 0, or 1 net positive words was substantively minimal.

Strikingly, at the reference level, state-run newspapers in autocracies exhibit no change in pro-regime coverage during election seasons. Model 2 in Tables 3 and 4 demonstrate this, as does the third graphic in Figure 3, which displays the predicted level of *Positive Coverage Standardized: Executive_{it}* both during and outside election seasons. The rate of pro-regime coverage per reference may even *decline* slightly during autocratic elections.

State-run newspapers in autocracies thus maintain the same mildly positive *per reference* coverage throughout the calendar year. During election seasons, however, Model 3 in Tables 3 and 4 show that autocratic newspapers sharply increase the total number of regime references. Outside of election seasons, state-run newspapers in autocracies reference the autocrat and ruling party perhaps 15 times per day. During election seasons, the average number of references per day increases sixfold, to nearly 65. The center graphic of Figure 3 visualizes this.

This reference increase drives the rise of positive coverage during election seasons. The left graphic in Figure 3, along with Model 1 in Tables 3 and 4 suggest that the aggregate level of positive coverage during election seasons rises from 15 words per day to 40. By increasing the number of references during election season, state-run newspapers in autocracies increase the total volume of positive coverage without rendering positive coverage *at the reference level* any more effusive.

4.4 Article and Reference Volume

Are increases in reference counts and the aggregate volume of positive coverage driven by more effusive articles during election seasons? Or do autocrats maintain the relative tone of *individual articles*, but simply publish more of them? The distinction is important. Since effusive articles may undermine the appearance of neutrality, we should expect autocrats to privilege subtlety. We should expect not more effusive articles, but simply more articles, which individually maintain the state-run newspaper’s mildly positive tone.

To answer this question, we count the number of published articles in country i ’s state-run newspaper on day t , as well as the number of those articles that reference the executive or ruling party. Figure 4 displays the life cycle of coverage volume. It suggests that the number of references to the autocrat *per article* remains relatively constant throughout the calendar year. During election seasons, however, the number of articles that reference the autocrat or ruling party triples, from an average of three per day to nine.

To explore this more systematically, we estimate models of the form

$$y_{it}|\text{Regime Type}_{it} = \alpha + \beta (\text{Election Season}_{it}) + \kappa X_{is} + \phi W_{it} + \gamma_i + \epsilon \quad (5)$$

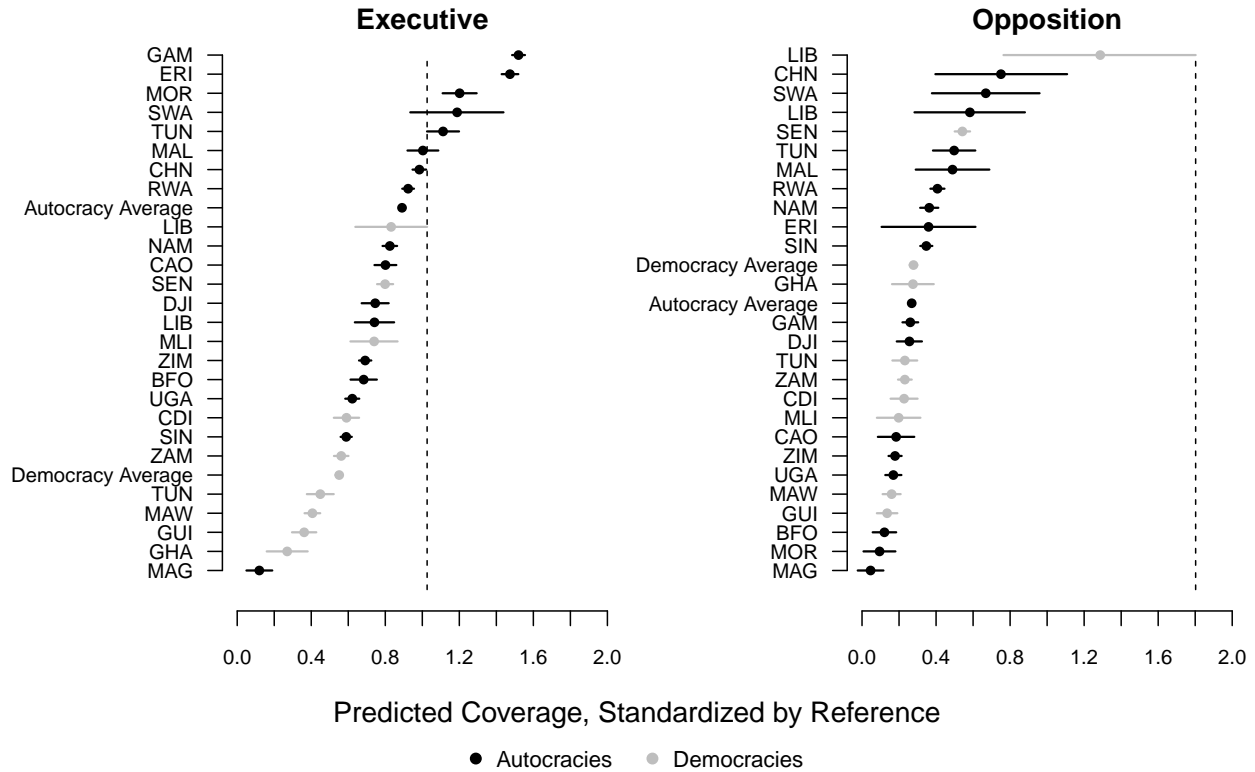


Figure 2: Predicted country intercepts for Positive Coverage Standardized: $Executive_{it}$, based on the statistical results from Models 2 and 5, Table 3. Point estimates are surrounded by 95% confidence intervals.

where y_{it} gives the outcome variables in Figure 4, X_{is} is a vector of year level controls, W_{it} is a vector of day level controls, and γ_i is a set of country fixed effects.

The results appear in Tables 6 and 7, and they are consistent with the descriptive statistics in Figure 4. The expansion of pro-regime coverage during election seasons – documented in Section 4.3 – is driven not by a drastic increase in the effusiveness of individual articles, but by an increase in the number of articles that reference the autocrat. During election seasons, the number of articles that reference the autocrat increases by six each day. By contrast, from Model 2 in Table 6, a given article during election season has, on average, only one additional reference to the autocrat.

Interestingly, Model 3 suggests that the increase in articles that reference the autocrat during election seasons is driven not by an increase in the total number of articles published. Rather, a larger share of published articles simply include references to the regime. This makes sense, for newspaper space is scarce and content is costly to produce.

4.5 The Results in Context

We observe few of these trends in state-affiliated newspapers in democracies. The statistical results in Section 4.3 are consistent with the descriptive statistics in Figure 1. Although the relative tone of pro-regime coverage in democracies is nearly indistinguishable from that in autocracies, the right panels of Tables 3 through 5 suggest that state-affiliated newspapers in democracies increase executive references only slightly, and by the same amount as the opposition. Since *per reference* positive coverage is virtually identical across the executive and opposition in democracies – and, we find, generally neutral – the aggregate level of pro-regime positive coverage during election seasons increases relatively little. From Tables 6 and 7, we find no evidence that state-affiliated newspapers in democracies increase the frequency of regime coverage during election seasons: Neither the number of articles that reference the executive nor the number of references per article increases appreciably.

We find no evidence that autocratic propaganda systematically defames the opposition. Figure 2 displays the predicted country intercepts for *Positive Coverage Standardized: Opposition_{it}*, across both autocracies and democracies. There is essentially no difference across regime type. By comparing the left and right panels, it also becomes clear that, on average, state-run newspapers in autocracies accord only 0.4 additional positive words to the regime, per reference, than they do the opposition. The descriptive statistics in Figure 1 and the statistical results in Tables 3 through 5 suggest no change during election seasons. Although opposition references increase, there is no concomitant rise in aggregate positive coverage, but neither is there additional negative coverage. In short, autocratic newspapers spend credibility capital not on defaming the opposition, but on subtly shifting coverage towards the autocrat.

4.6 Online Appendix: The Content of Electoral Propaganda, Alternative Explanations, and Additional Robustness Checks

These results may also be consistent with an alternative mechanism. Autocrats may employ relatively unbiased reporting outside of election seasons to induce their citizens to read state-run newspapers during election seasons. Then, as election day approaches, autocrats may use their propaganda apparatus to issue threats of violence to secure their acquiescence. Our case knowledge suggests that this occurs. The Republic of Congo suffered a series of civil wars between 1993 and 2003. The most intense round of fighting occurred between June and October 1997, when Denis Sassou Nguesso deposed Pascal Lissouba, the only democratically elected president in Congo’s history. The war killed roughly 1% of the country’s citizens and displaced at least 30%.³² Since 1997 Sassou Nguesso has organized three presidential elections, all fraudulent. In the weeks before election day, his propaganda newspaper, *Les Dépêches de Brazzaville*, reminds readers that Sassou

³²Clark (2007).

Nguesso is the “apostle of peace,” the “guarantor” of the country’s “cherished” stability. Congolese citizens widely interpret these allusions as threats: about the violence Sassou Nguesso is willing to employ to retain power. By providing generally neutral news coverage outside of election seasons, autocrats may seek to ensure that their electoral threats are delivered.

If this alternative explanation is driving the results above, we should expect articles to address “law and order” related topics much more frequently during election seasons. To assess how the *content* of propaganda varies across the calendar year, we employ supervised learning models. We randomly sampled 300 articles from each state-run newspaper; we refer to these 300 articles as each newspaper’s training set, and the remaining articles in the corpus as the test set. A team of research assistants then labeled each article in the training set with as many topics as applicable. Next, we ran a multi-label topic model on each state-run newspaper, which assigned as many topics as appropriate to each test set article.³³ After implementing the topic model, we recorded how often topic h appears in country i ’s state-run newspaper on day t .

To visualize the life cycle of propaganda topics, we adapted Figure 1 by calculating the share of articles about topic h , for each of 26 weeks before and after election day, across both autocracies and democracies. The results for autocracies appear in Figure 2; the results for democracies appear in Figure 3. These descriptive statistics suggest that during election seasons, state-run newspapers in autocracies devote more coverage to the economy and public goods provision. In Section 6 of the online appendix, we confirm this statistically. In Section 7, we present tentative evidence that coverage of the economy and public goods provision becomes more *positive* during election season. We find no evidence that law and order reporting increases during election season, suggesting that autocratic propaganda aims to cultivate performance legitimacy rather than deliver threats.

We include several additional robustness checks in the online appendix. First, readers may be concerned that autocrats can schedule elections when good news (about economic indicators, for instance) is more likely. Alternatively, autocrats may delay the release of good news until election season. To be clear, this is consistent with our theory above: autocrats invest in building reputations for neutrality so that they can manipulate beliefs during political crises. Still, to accommodate the possibility that the effect of election seasons may be generated by a higher frequency of good news, we construct a measure of good news in country i on day t from international news reports. Section 8 of the online appendix confirms that our result is robust to including this variable.

Second, in Section 9 of the online appendix we reestimate the results in Sections 4.3 and 4.4 with local polynomial regressions, adapted from a regression discontinuity (RD) framework. The results are consistent with those in the main text.

Finally, in Sections 2 and 3 of the online appendix we validate our measure of propaganda more extensively. In addition to reproducing a range of propaganda articles, we show that the

³³We used the `multilabel` package in Python’s `sklearn` module to do so. The multi-label classifier employs a linear SVC OvR model to assign as many topics as appropriate to test set articles. Before classifying articles, we removed stop words from the corpus, in addition to the other preprocessing techniques mentioned above.

most common dictionary words in our corpus are stable across election seasons and non-election seasons. This establishes that the results are not artifacts of a few positive words that are especially common during election seasons. In Section 11 we reconstruct our measure of positive coverage using exclusively named entities, rather than general identifiers such as “president,” which may be especially common during election seasons because of general political coverage.

5 Conclusion

To manipulate citizens’ beliefs during moments of political tension, autocratic propaganda must cultivate the appearance of neutrality. To do so, we find, state-run newspapers in autocracies are remarkably similar to state-affiliated newspapers in democracies. Throughout the calendar year, the volume of pro-regime coverage *per reference* and *per article* is remarkably stable, and remarkably similar across regime types. During election seasons, however, autocratic propaganda apparatuses expand pro-regime coverage: not with more effusive articles, but by increasing the share of articles that cover the regime, all while maintaining the state-run newspaper’s mildly positive tone. As a result, the aggregate volume of pro-regime coverage increases sharply, even while the per reference and per article tone do not.

More broadly, this paper insists on the role of information and beliefs in sustaining the world’s autocrats. Perhaps because these concepts are so difficult to measure, the new wave of research on autocratic politics has largely overlooked them. Of course, this research has taught us much about the role of institutions: of single parties, especially, but also how autocrats have learned to survive nominally democratic institutions and, in some cases, use these institutions to advance their interests. Yet this focus on institutions has obscured the centrality of beliefs and, ultimately, a citizen’s decision to acquiesce to autocratic rule. As Goebbels reminds us, however, this battle for citizens’ beliefs has long been a central preoccupation of the world’s autocrats. New computational tools enable us to understand how autocrats wage it.

This paper suggests a range of important topics for future research. First, it remains unclear when – or whether – the propaganda strategy documented above can successfully manipulate citizens’ beliefs. Future research should clarify when propaganda is successful, and why. Second, an autocrat’s ability to cultivate the appearance of neutrality may be a function of the domestic informational landscape. This suggests a range of important questions. Is there systematic variation in the baseline rate of pro-regime coverage across autocrats? If so, is this variation associated with differences in internet penetration, press freedom, or the availability of independent newspapers? Finally, autocrats surely confront other political crises for which the capacity to manipulate citizen beliefs is vital for survival: protests, coups, corruption scandals, and others. Perhaps counterintuitively, the theory above suggests that, to cultivate the appearance of neutrality, the optimal response for autocratic propaganda apparatuses may be to acknowledge the deep concerns that compelled popular frustration in the first place. How, then, do autocrats employ propaganda to

curb this frustration? By employing justification or comparison frames? By scapegoating other – perhaps Western – governments? Or even by ignoring those frustrations altogether?

Country	Newspaper	Language	Coverage	Regime Spell	Executive		Opposition		Election Seasons		
					Positive Coverage Std.	Positive Coverage	Positive Coverage Std.	Positive Coverage			
Madagascar	<i>La Vérité</i>	French	2012-15	Aut	0.12	0.37	4.52	0.05	0.55	7.31	2
Ghana	<i>Ghanaian Times</i>	English	2013-15	Dem	0.27	1.67	6.33	0.28	1.44	4.93	3
Guinea	<i>Aminata</i>	French	2012-15	Dem	0.36	1.10	2.78	0.13	1.42	13.49	4
Malawi	<i>The Nation</i>	English	2012-15	Dem	0.40	6.17	17.19	0.16	0.74	5.24	2
Tunisia	<i>La Presse</i>	French	2011-12	Dem	0.45	1.67	3.78	0.23	0.75	4.11	4
Zambia	<i>The Times</i>	English	2010-15	Dem	0.56	17.80	32.93	0.23	3.83	16.89	3
Cote d'Ivoire	<i>Fraternité Matin</i>	French	2013-15	Dem	0.59	1.96	4.27	0.23	0.62	3.72	2
Singapore	<i>Straits Times</i>	English	2010-15	Aut	0.59	21.34	40.00	0.35	6.01	20.41	3
Uganda	<i>New Vision</i>	English	2010-13	Aut	0.62	18.55	29.59	0.17	1.91	16.09	1
Burkina Faso	<i>Sidwaya</i>	French	2010-12	Aut	0.68	1.47	2.90	0.12	3.30	27.00	3
Zimbabwe	<i>The Herald</i>	English	2010-15	Aut	0.69	30.59	45.88	0.18	3.00	21.73	4
Libya	<i>JANA/LANA</i>	English	2010-11	Aut	0.74	5.86	7.73	0.58	0.10	0.17	0
Mali	<i>L'Essor</i>	French	2014-15	Dem	0.74	3.18	4.43	0.20	0.67	4.56	7
Djibouti	<i>La Nation</i>	French	2013-15	Aut	0.75	2.15	3.00	0.26	2.21	7.38	3
Senegal	<i>Le Soleil</i>	French	2010-15	Dem	0.79	13.57	16.13	0.54	5.94	10.46	5
Cameroon	<i>Cam. Tribune</i>	French	2010-15	Aut	0.80	6.82	8.32	0.18	0.17	1.23	4
Namibia	<i>New Era</i>	English	2010-15	Aut	0.82	19.33	24.09	0.36	1.75	6.33	2
Libya	<i>JANA/LANA</i>	English	2014-15	Dem	0.83	1.02	1.28	1.29	0.07	0.12	3
Rwanda	<i>The New Times</i>	English	2010-15	Aut	0.92	16.94	18.61	0.41	1.31	4.06	5
China	<i>People's Daily</i>	Chinese	2007-08	Aut	0.98	71.54	72.27	0.75	0.01	0.02	0
Malaysia	<i>The Star</i>	English	2012-15	Aut	1.00	0.67	0.64	0.49	0.04	0.10	2
Tunisia	<i>La Presse</i>	French	2010-11	Aut	1.11	16.18	15.50	0.50	0.93	1.54	1
Swaziland	<i>Swazi Observer</i>	English	2015-15	Aut	1.19	22.25	18.79	0.67	2.29	3.14	2
Morocco	<i>Ag. M. De Presse</i>	French	2013-15	Aut	1.20	1.11	1.02	0.09	0.49	9.82	2
Eritrea	<i>Hadas Shabait</i>	English	2010-15	Aut	1.47	2.66	1.93	0.36	0.01	0.02	0
Gambia	<i>Daily Observer</i>	English	2009-15	Aut	1.52	66.17	42.89	0.26	1.03	2.81	2

Table 1: Propaganda Statistics by Country-Regime Spell. For clarity, countries are listed by their mean level of standardized positive coverage for the executive. Democracy spells are recorded in gray.

Tone	Concordance Segment
5	2010 presidential candidate. In his acceptance speech, President Kagame thanked
4	RPF members for their continued trust and support for him. He
3	focus on education as well as job creation. Murayire said RPF 's goal is to enable
2	young people realise their full potential
1	about, among other factors, is rapid rural-to-urban migration; which the RPF
0	liberation unleashed with the freedoms accorded the people to seek
-1	to be. Our history has taught us the right choice. RPF made the choice to work
-2	hard to achieve the dignity
-3	at the National University of Rwanda, said. Omar said the RPF electorate
-4	appreciated their MPs' previous performance basing on the infrastructure
-5	Rwanda to free the people from fear caused by the RPF government. She made
	the statements during an interview at Voice
	Kayibanda before him. Yet, there was no guarantee that the RPF government
	would itself not fall in the same trap as
	ground in Rwanda. Trevidic's predecessor, Jean-Louis Bruguiere, previously
	accused the RPF of shooting down the plane, a move that led Rwanda
	a different story of the genocide in which he blames RPF for the massacres in
	1994 that claimed over one million
	all sorts of allegations and fabrications aimed at undermining the RPF party and
	its leadership. In a lecture he held at
	opponents and exiled members of the genocidal machinery, Bruguiere accused
	RPF of carrying out the deadly April 6, 1994 attack that

Table 2: Example Concordance Segments. Positive valence words are shown in blue and negative valence words in red. The first column reports our measure of *Positive Coverage*, positive words less negative words in concordance segments centered upon an executive identifier. We employed standard text preprocessing practices. We lowercased and stemmed all words and removed numbers, symbols, and punctuation. For ease of interpretation, we did not preprocess the above concordance segments.

Table 3: Election Seasons and Propaganda: Baseline Models

	Pro-Regime Coverage in Autocracies			Pro-Regime Coverage in Democracies		
	Positive Coverage Model 1	Standardized Model 2	References Model 3	Positive Coverage Model 4	Standardized Model 5	References Model 6
<i>Day Level Variables</i>						
Election Season	21.070** (1.896)	-0.121* (0.057)	44.269** (1.771)	1.408 (1.239)	-0.065 (0.078)	7.771** (1.547)
Election Day	22.313** (7.434)	-0.160 (0.227)	54.985** (6.943)	-5.827 (5.876)	-0.321 (0.379)	-5.147 (7.335)
Post-Election Season	10.773** (1.897)	-0.124* (0.058)	24.328** (1.771)	3.631** (1.222)	-0.078 (0.077)	8.274** (1.526)
Country Level Effects	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
N	16,483	13,912	16,483	6,351	5,636	6,351
Significance levels:	† : 10%	* : 5%	** : 1%			
Marginal effect of Election Season _{it} = 1 (with 95% confidence intervals)						
Election Season	21.070 (17.35, 24.79)	-0.121 (-0.23, -0.01)	44.269 (40.80, 47.74)	1.408 (-1.02, 3.84)	-0.065 (-0.22, 0.09)	7.771 (4.74, 10.80)
<i>Day Level Variables</i>						
Marginal effect of Election Season _{it} = 1 (with 95% confidence intervals)						
Election Season	10.839** (0.427)	0.005 (0.062)	40.351** (1.346)	1.931** (0.711)	-0.039 (0.074)	7.940** (1.208)
Election Day	9.745** (1.672)	0.012 (0.231)	49.241** (5.277)	-0.267 (3.370)	0.232 (0.350)	0.359 (5.729)
Post-Election Season	4.999** (0.427)	-0.096 (0.064)	22.610** (1.346)	0.200 (0.701)	-0.081 (0.070)	8.068** (1.192)
Country Level Effects	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
N	16,483	10,183	16,483	6,351	5,003	6,351
Significance levels:	† : 10%	* : 5%	** : 1%			
Marginal effect of Election Season _{it} = 1 (with 95% confidence intervals)						
Election Season	10.839 (10.00, 11.67)	0.005 (-0.12, 0.13)	40.351 (37.71, 42.99)	1.931 (0.54, 3.32)	-0.039 (-0.18, 0.11)	7.940 (5.57, 10.31)

Table 4: Election Seasons and Propaganda: Executive

	Pro-Regime Coverage in Autocracies		Pro-Regime Coverage in Democracies		
	Positive Coverage Model 1	Standardized Model 2	Positive Coverage Model 4	Standardized Model 5	References Model 6
<i>Day Level Variables</i>					
Election Season	22.415** (2.703)	-0.142 (0.089)	32.570** (2.239)	6.815** (1.982)	-0.127 (0.086)
Election Day	4.281 (9.640)	-0.485 (0.346)	27.125** (7.984)	-6.081 (15.309)	-9.805 (19.448)
Post-Election Season	1.418 (2.587)	-0.116 (0.089)	4.489* (2.143)	6.228** (2.010)	5.999* (2.554)
Protest _{t-1}	-1.544 (1.592)	-0.004 (0.053)	-3.016* (1.319)	-1.234 (0.920)	0.400 (1.169)
Repression _{t-1}	-1.310 (4.229)	0.139 (0.147)	-7.720* (3.503)	-4.812 (10.859)	-1.105 (13.796)
Civil War Event: State _{t-1}			0.109 (5.478)	-0.007 (0.228)	0.128 (6.959)
<i>Country Level Variables</i>					
Internet Penetration Rate	-0.185 (0.260)	-0.009 (0.008)	0.237 (0.215)	-2.144** (0.511)	-0.027 (0.022)
ln Per Capita GDP	-1.496 (8.247)	-0.341 (0.274)	-2.978 (6.830)	106.581** (32.518)	1.998 (1.377)
Oil Supply	0.008 (0.007)	0.001** (0.0002)	0.007 (0.006)	-2.120 (1.550)	-0.077 (0.072)
Country Level Effects	Fixed	Fixed	Fixed	Fixed	Fixed
N	6,641	5,881	6,641	2,223	2,223
Significance levels:	† : 10%	* : 5%	** : 1%		
Marginal effect of Election Season _{it} = 1 (with 95% confidence intervals)					
Election Season	22.415 (17.12, 27.71)	-0.142 (-0.32, 0.03)	32.570 (28.18, 36.96)	6.815 (2.93, 10.70)	-0.127 (-0.30, 0.04)
					12.343 (7.41, 17.28)

Table 5: Election Seasons and Propaganda: Opposition

	Opposition Coverage in Autocracies			Opposition Coverage in Democracies		
	Positive Coverage	Standardized	References	Positive Coverage	Standardized	References
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<i>Day Level Variables</i>						
Election Season	5.829** (0.531)	0.009 (0.097)	15.505** (1.704)	3.101** (0.873)	-0.035 (0.094)	12.991** (1.784)
Election Day	3.025 (1.896)	0.101 (0.332)	24.341** (6.079)	-0.550 (9.523)	0.061 (0.952)	-1.026 (19.455)
Post-Election Season	0.242 (0.509)	-0.151 (0.098)	4.524** (1.631)	2.950** (0.883)	-0.017 (0.090)	7.816** (1.804)
Protest _{t-1}	-0.618* (0.311)	-0.037 (0.059)	-1.753† (0.997)	-0.450 (0.408)	-0.061 (0.046)	0.026 (0.834)
Repression _{t-1}	-0.315 (0.922)	-0.108 (0.176)	0.867 (2.956)	-1.613 (6.737)	0.524 (0.674)	-4.126 (13.763)
Civil War Event: State _{t-1}				-0.832 (2.422)	-0.072 (0.343)	-1.185 (4.947)
<i>Country Level Variables</i>						
Internet Penetration Rate	0.080 (0.051)	-0.003 (0.010)	-0.195 (0.164)	0.775** (0.225)	0.090** (0.025)	-0.097 (0.460)
ln Per Capita GDP	-4.648** (1.622)	-0.035 (0.331)	-14.543** (5.198)	-87.035** (14.334)	-6.662** (1.552)	-119.569** (29.284)
Oil Supply	0.004** (0.001)	0.001** (0.0004)	0.011** (0.004)	-1.289† (0.683)	0.155* (0.074)	-6.234** (1.396)
Country Level Effects	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
N	6,641	4,509	6,641	2,223	1,903	2,223
Significance levels:	† : 10%	* : 5%	** : 1%			
Marginal effect of Election Season _{it} = 1 (with 95% confidence intervals)						
Election Season	5.829 (4.79, 6.87)	0.009 (-0.18, 0.20)	15.505 (12.17, 18.84)	3.101 (1.39, 4.81)	-0.035 (-0.22, 0.15)	12.991 (9.49, 16.49)

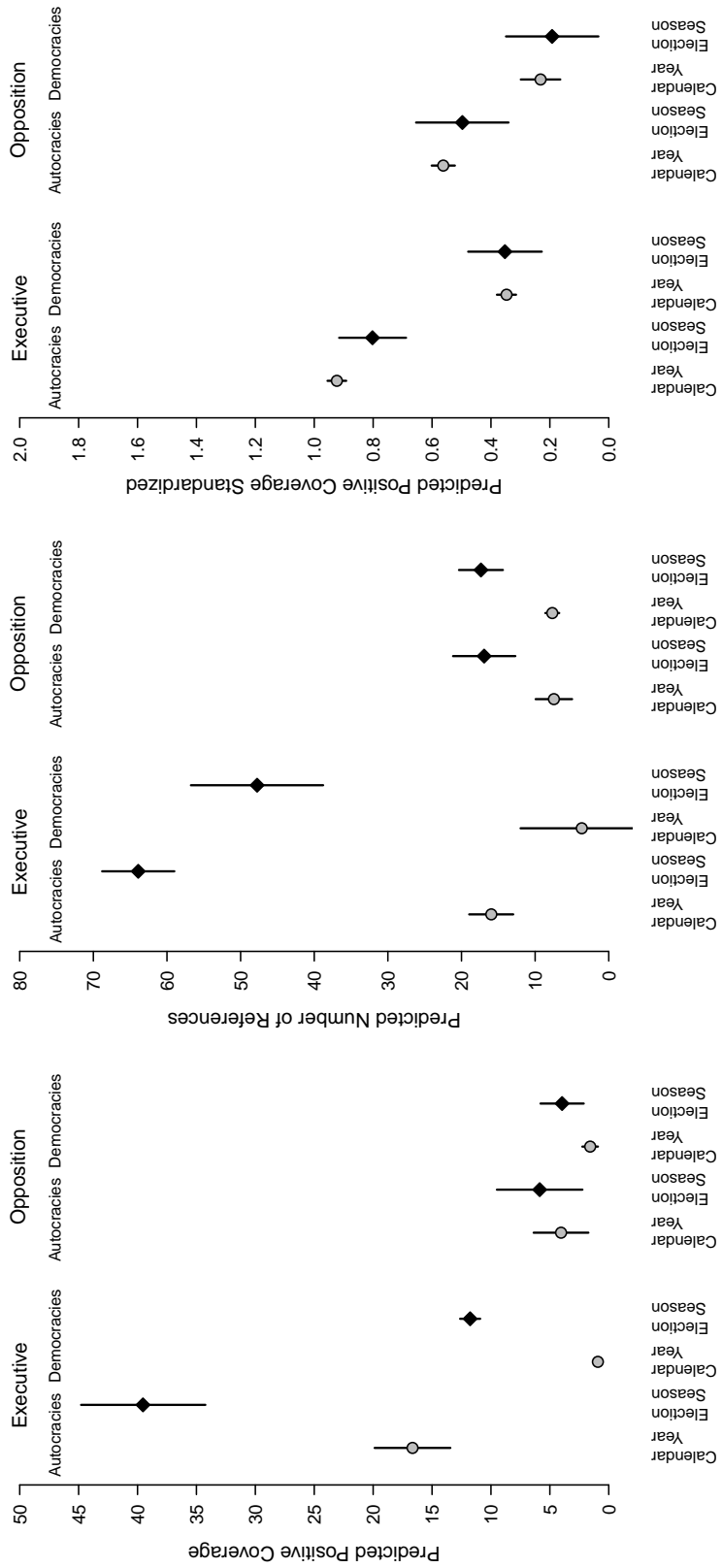


Figure 3: Predicted values of $Positive\ Coverage_{it}$, $References_{it}$, and $Positive\ Coverage\ Standardized_{it}$ from the coefficient estimates in Table 3. For each, we show the predicted value of \hat{y}_{it} across regime type, political class, and election seasons. Point estimates are surrounded by 95% confidence intervals. As a baseline for prediction, we use the median country intercept across models.

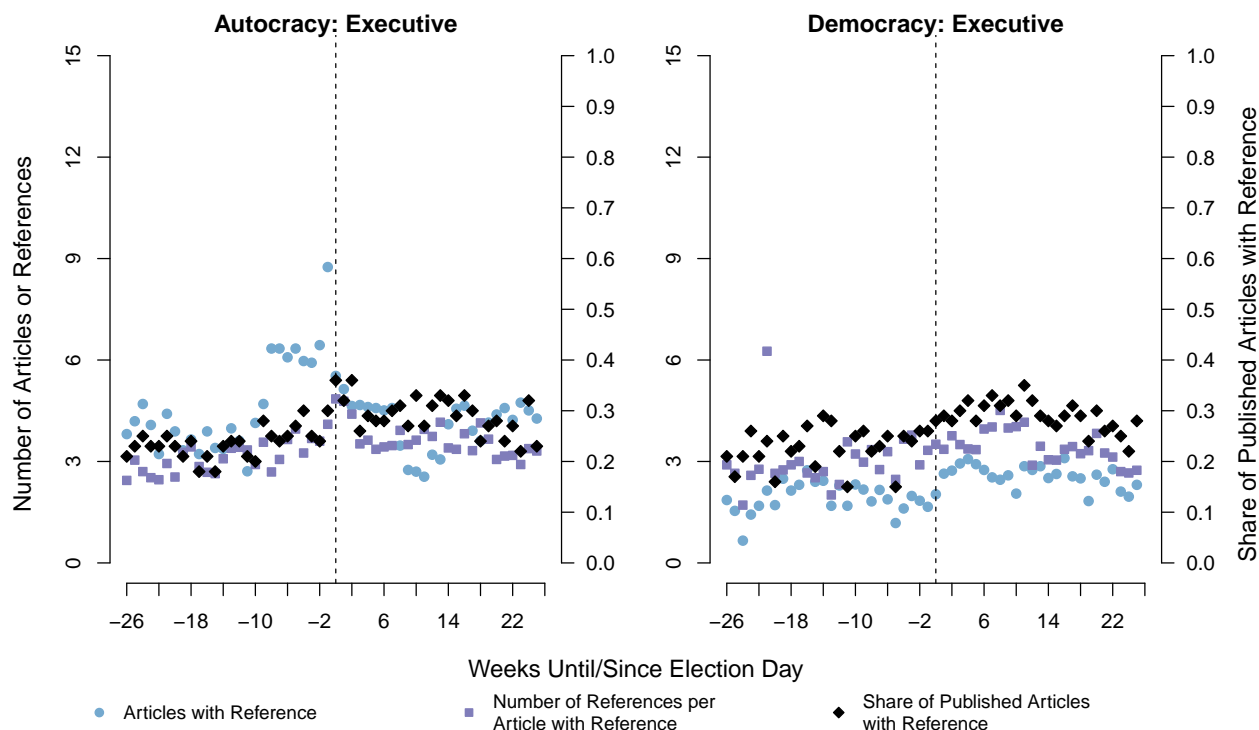


Figure 4: The life cycle of article volume for state-run newspapers in autocracies and state-affiliated newspapers in democracies. For each of the 56 elections in the dataset, we identified the 26 weeks prior to election day and the 26 weeks after election day. Next, for each of these 52 weeks, we averaged the number of articles published, as well as the number of those articles that reference the executive or ruling party. The x -axis records weeks until and since election day, with election day given as 0. The left y -axis gives the mean number of references, as well as the mean number of references per article. The right y -axis gives the mean share of published articles that contain a reference to the executive or ruling party.

Table 6: Election Seasons and Article Volume: Baseline Models

	Autocracies			Democracies		
	Articles with Reference Model 1	References Per Article Model 2	Total Articles Published Model 3	Articles with Reference Model 4	References Per Article Model 5	Total Articles Published Model 6
<i>Day Level Variables</i>						
Election Season	5.856** (0.335)	1.389** (0.168)	1.152 (0.954)	0.484* (0.286)	0.199 (0.243)	-0.634 (0.624)
Election Day	6.948** (1.314)	0.834 (0.668)	1.670 (3.696)	-1.124 (1.354)	-0.708 (1.179)	-4.295† (2.389)
Post-Election Season	2.199** (0.335)	1.308** (0.170)	-0.727 (0.962)	0.244 (0.282)	0.904** (0.239)	-0.712 (0.624)
Country Level Effects	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
N	16,483	13,917	25,863	6,351	5,636	12,762
Significance levels:	† : 10%	* : 5%	** : 1%			
Marginal effect of Election Season _{it} = 1 (with 95% confidence intervals)						
Election Season	5.856 (5.20, 6.51)	1.389 (1.06, 1.72)	1.152 (-0.72, 3.02)	0.484 (-0.08, 1.04)	0.199 (-0.28, 0.68)	-0.634 (-1.86, 0.59)

Table 7: Election Seasons and Article Volume: Full Models

	Pro-Regime Coverage in Autocracies			Pro-Regime Coverage in Democracies		
	Articles with Reference Model 1	References Per Article Model 2	Total Articles Published Model 3	Articles with Reference Model 4	References Per Article Model 5	Total Articles Published Model 6
<i>Day Level Variables</i>						
Election Season	3.553* (0.456)	1.493** (0.277)	-0.068 (1.037)	1.138* (0.442)	0.119 (0.275)	2.320* (1.039)
Election Day	5.923** (1.627)	-0.040 (1.079)	-2.914 (3.969)	-4.227 (3.410)		-10.523** (3.897)
Post-Election Season	-0.597 (0.437)	0.925** (0.275)	-4.060** (1.037)	0.404 (0.448)	0.463 (0.285)	0.617 (1.037)
Protest _{t-1}	-0.677* (0.269)	-0.055 (0.165)	-1.254* (0.498)	-0.022 (0.205)	0.233† (0.129)	-0.855* (0.436)
Repression _{t-1}	-1.033 (0.714)	-0.175 (0.457)	-4.003* (1.848)	2.060 (2.419)	-1.165 (1.437)	7.661 (5.960)
Civil War Event: State _{t-1}				0.687 (1.220)	0.011 (0.725)	3.254 (3.007)
<i>Country Level Variables</i>						
Internet Penetration Rate	0.079† (0.044)	-0.036 (0.026)	0.001 (0.070)	-0.807** (0.114)	0.129† (0.069)	0.078 (0.247)
ln Per Capita GDP	-2.981* (1.392)	1.536† (0.855)	9.130** (3.374)	60.689** (7.244)	-27.114** (4.386)	126.318** (15.573)
Oil Supply	0.004** (0.001)	-0.001* (0.001)	-0.006* (0.003)	0.507 (0.345)	-0.484* (0.228)	19.224** (0.847)
Country Level Effects	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
N	6,641	5,887	10,591	2,223	2,068	4,474
Significance levels:	† : 10%	* : 5%	** : 1%			
Marginal effect of Election Season _{it} = 1 (with 95% confidence intervals)						
Election Season	3.553 (2.66, 4.45)	1.493 (0.95, 2.04)	-0.068 (-2.10, 1.96)	1.138 (0.27, 2.00)	0.119 (-0.42, 0.66)	2.320 (0.28, 4.36)

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