

# Selective Control

## The Political Economy of Censorship

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## Abstract

In recent years, alongside democratic backsliding and security threats, censorship is increasingly used by governments and other societal actors to control the media. Who is likely to be affected by censorship and why? Does censorship as a form of punishment coexist with or act as a substitute for reward-based forms of media capture such as market concentration or bribes? First, this argues that censors employ censorship only toward certain targets that provide information to politically consequential audiences, while allowing

media that caters to elite audiences to report freely. Second, the paper hypothesizes that coercion and inducements are substitutes, with censorship being employed primarily when bribes and ownership fail to control information. To test these hypotheses, a new data set was built of 9,000 salient censorship events and their characteristics across 196 countries between 2001 and 2015. The study finds strong empirical support for the theory of media market segmentation.

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# Selective Control: The Political Economy of Censorship

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## 1. Introduction

*(...) Seditious is no longer a mere vituperative babbling which passes harmlessly over the heads of the mass of the people, as it did perhaps a quarter of a century ago. Education and internal communications have now been so largely developed, and a disaffected press has been so many years at work, that libels against the government have become a political danger, which it is the duty of the criminal courts to check, and, if possible, to uproot by stern justice.*

A judge of the British Raj, 1905 (in Darnton 2014, 132)

Following the 1990s wave of democratization, some observers of the newly gained media freedoms held two core beliefs. First, that autocratic regimes censored all media indiscriminately, while democracies rarely engaged in censorship. Second, welcoming the prompt legal bans on official censorship, that blatant Soviet-style coercion is an obsolete strategy of information control and will be replaced by more subtle forms of media capture via economic inducements, such as concentration of ownership and bribery. The oligopolistic nature of the media market in many developing countries and its informal connections to government officials and politicians can indeed secure an informational environment dominated by pro-government reporting without resorting to repressive tactics or the use of coercion.

Twenty-five years later, both assumptions have been challenged by evidence. Many autocrats including some of the communist regimes, despite curbing freedoms systematically, allowed dual information control systems to co-exist. Media catering to narrow elite audiences

could publish or broadcast politically sensitive materials, whereas outlets targeting large audiences were systematically censored. Moreover, over the last decade, in contrast to the early transition optimism, following general trends in democratic backsliding and security threats, ‘old-time’ media censorship trends have dramatically increased around the world, affecting both democracies and autocracies, with negative consequences for the overall quality of political institutions and civil liberties.

Yet domestic variations in strategies of censorship and its targets are currently under-theorized. Who are the censors? Who is likely to be most affected by censorship and why? Are all media outlets equally exposed to capture? Are media capture tools based on coercion (censorship) or inducements (bribes and economic control) mutually exclusive or do they work jointly to insure information control? We argue that individual exposure to punitive measures depends on the size of a media outlet’s audience and on the transaction costs of censorship. Irrespective of political regime type, censors are likely to allow free information in narrow, elite segments of the media market while suppressing it for larger audiences that, as the historical quotation above suggests, include a critical enough number of voters to pose a political risk for the incumbent when exposed to compromising information left uncensored. Building on the seminal Besley and Prat (2006) model of media capture, the paper proposes two major sets of hypotheses. First, censors economize coercion by targeting only the politically threatening segments of the media market. Second, punitive and inducement-based capture are substitutes, except for media outlets that pose the highest political threat, where capture tools act jointly to insure compliance.

Since currently there are no individual-level data that allow us to test empirically whether the segmentation of news consumption can lead to heterogeneous levels of censorship within a country’s media market, we generated a new cross-national data set containing around 9,000

salient censorship events and their characteristics, and covering 196 countries between 2001 and 2015. Conventional wisdom commonly associates censorship with autocratic regimes. We show that censorship also systematically affects advanced and wealthy democracies, and that it is committed by both governments and non-governmental actors alike. Our findings suggest that when controlling for country-level characteristics, censorship is indeed likely to disproportionately affect journalists and media outlets that reach the broadest politically consequential audiences. We assume that the political importance of an audience depends on whether it includes the median voter and/or whether its collective mobilization as a result of uncensored news would threaten the government and other censors. The paper also captures a substitutability effect on the media market between punitive censorship and economic forms of media capture. This is not a case of the high-frequency media where short timelines and unpredictability make censors jointly use all forms of capture to maximize information control.

This study aims at making a two-fold contribution to the academic literature on media capture as well as to the policy efforts to operationalize the United Nations' Sustainable Development Goals (SDGs), by proposing a theoretical mechanism that accounts for strategic variation of censorship targets and by testing it on an original data set. Understanding these processes is particularly salient now that SDG 16 explicitly calls for better measurement of public access to information, with a focus on media personnel safety. The paper proceeds as follows. First, we review the relevant literature. Second, we propose a formal model. Third, after introducing our new data set, we verify whether the hypotheses derived from our model hold empirically and analyze the results. Finally, a short conclusion summarizes the findings and suggests avenues for further research.

## **2. Literature Review**

### **2.1 What is censorship?**

According to an operational definition, censorship means “direct and indirect suppression of speech, books, music and other materials considered morally, politically or otherwise objectionable” (IFEX 2017). Historically, the meaning and purposes of such suppression have been context specific, rather than universalistic, and did not always have a negative connotation (Darnton 2014). In Ancient Rome, the office of the censor was tasked with educating citizens, and filtering speech and text was perceived, by some, as a legitimate strategy for pursuing societal goals. The Founding Fathers of the United States defended the idea of the censor as social welfare maximizer and final guarantor of information quality. A similar curatorial approach has been documented even in some of the more recent censorship regimes of Cold War autocracies.

Censorship of the media, one subset of the broader targets of information suppression, commonly refers to formal or informal interference with the freedom of media outlets, individual journalists and other media professionals which prevents them from exercising freedom of expression and performing their daily work – collecting information, exchanging ideas and reporting to the public “through any media and regardless of frontiers”, as per Article 19 of the 1948 UN Universal Declaration of Human Rights.

Types of interference vary widely from a systematic lack of access to government information to the suppression of publications or the torture, killings or disappearance of journalists and their collaborators. Despite the instinct to associate censorship with government action, the censor(s) often take the form of non-state actors, such as organized crime networks,

foreign armies or radical religious groups. The empirical section of this paper introduces new data that demonstrate such varieties.

What renders censorship difficult to study comparatively is the subtlety with which it occurs in many contexts. While legal restrictions of access to information are easy to identify, the line between regulatory harassment of media outlets and censorship, as well as the culture of self-censorship – or self-refraining from reporting on politically sensitive information – are blurrier and much harder to systematically capture. Media censorship is the final outcome of an institutional ecosystem that goes beyond legal restrictions governing reporting and publishing. Informal political pressures, advertising revenue rules or media market concentration can place significant constraints on the informational environment.

## **2.2 Political costs and benefits of media censorship**

The consequences of censorship for policy makers in terms of both benefits and costs are well documented. The benefits for political leaders and bureaucrats revolve around being shielded from public scrutiny. This allows them to pursue private agendas, including corrupt activities and abuses of power or contested public policies, without running the risk of criticism and without the threats of collective action that an information-free environment can facilitate. Existing cross-national and country-specific evidence strongly suggests that a lack of information facilitates the use of public office for private gain (Brunetti and Weber 2003; Adsera et al. 2003; Besley and Burgess 2002; Keefer and Khemani 2014; Ferraz and Finan 2008; Strömberg 2004), and political underperformance in terms of public good production (Djankov et al. 2003). For autocratic leaders



in particular, censoring the media is an essential strategy of rule because it prevents public contestation of policies, the revelation of human rights infringements or high-level political corruption (Van Belle 2000).

Censorship is not without costs for censors in democracies and non-democracies. Vibrant news reporting grants politicians electoral visibility, and, in contexts with legitimacy deficits, provides the veneer of respect for fundamental freedoms of expression. A higher likelihood of losing office leads to increased political costs of censorship as future uncertainties of rule make incumbents likely to secure access to information if and when they lose elections (Berliner 2014). In fact, within autocracies and democracies alike, political competition increases the costs of censorship since a relatively free media grants public visibility for politicians, allowing them to pander or posture to their electoral constituency (Malesky et al. 2012; Strömberg 2015). Surprisingly, even some of the most repressive autocrats tolerate or encourage a certain extent of free media because of legitimacy concerns (Whitten-Woodring 2009).

Media freedom also allows political principals to monitor the performance of agents such as bureaucrats or politicians of lower tier governments, thus minimizing moral hazard problems. Even in autocratic regimes where media may facilitate collective action, the benefits of press freedom are non-trivial for the government. Investigative journalism helps central leadership collect and transmit credible information about lower level officials, thus contributing to improved bureaucratic oversight and governance (Egerov et al 2009; Lorentzen 2014). In the words of one Chinese journalist who protested a local censor's interference, "if media lose all credibility and influence, then we ask, how is the ruling Party to speak?" (Richburg 2013)

Counterintuitively, limiting censorship boosts the credibility of pro-government narratives irrespective of regime type. A provocative study of US White House whistleblowers asked why a

surprisingly low number of leaks to the press were criminally prosecuted despite these being a daily occurrence (Pozen 2013). The explanation stems from a complex political communication landscape whereby the government occasionally has incentives to “plant leaks” to the media, under the guise of anonymity, in order to further a favorable narrative. Accordingly, under-enforcement allows such informational disclosures to appear “truthful” since otherwise their conspicuous exemption from prosecution would signal their lack of credibility to the public. Recent work also demonstrates how repressive authoritarian regimes thrive on an excess, rather than the suppression, of information because a multiplicity of media sources producing competing stories end up creating public uncertainty and “post-truth” confusion, thus undermining collective action focused on the political leaders (Wedeen 2015). Balancing these costs and benefits, a selective, as opposed to an all-or-nothing, enforcement of censorship pays off for political leaders and other censors.

### **2.3 “Segmented” censorship regimes**

In terms of the “supply” of censorship, there is growing evidence that censors prioritize selective tools that ensure the cost-effective suppression of information while maximizing political benefits. In one of the most sophisticated studies of censorship, King et al. (2013) analyzed the censors’ real-time activity affecting nearly 1,400 different types of social media outlet in China and concluded that censorship was driven not by an attempt to purge criticism of the regime, but to prevent coordinated collective action. These findings also confirm MacKinnon’s (2008) evidence that the Chinese Communist Party (CCP) allows certain types of criticism, such as nationalist outrage at foreign powers as well as the use of the internet, to provide feedback loops on public service provision and bolster its legitimacy, while being able to tightly control “dangerous

activities” that might threaten its grip on power. When voters have different levels of information, it is possible to achieve the effects of censorship by only targeting media outlets that cater to informed citizens (Prat and Stromberg 2013; Stromberg 2004). Media capture may also occur unevenly due to the existence of inequality, with rich citizens potentially having an incentive to misinform poor citizens. Thus, certain groups with more information and facing fewer restrictions can incentivize politicians to censor outlets that cater to the poor in order to limit political demands for redistribution (Petrova 2007).

Because of the potential political threat posed by their audience, some types of media are more exposed to suppression. Before 2004, the Ukrainian government of Leonid Kuchma allowed free internet and small circulation newspapers since they had minimum sway in affecting the prospects of the government’s survival, while strongly controlling the outlets it considered influential (Dyczok 2004). This relative freedom was also used to deny the existence of censorship. In many developing countries, internet use is highly skewed towards elites that are more likely to support the political status quo, and therefore it is less likely to be censored (Warf 2011). Even across the range of traditional media outlets, such as radio, TV and newspapers, there is evidence that there are benefits derived from selectively allowing “non-threatening” outlets to function. In the Russian Federation, despite overwhelmingly controlling the media, Putin left some vocal dissident newspapers open in order to appease the middle class (Applebaum 2014). In post-Soviet environments, in particular, political leaders refrained from using blatant government propaganda, discredited after Communism. Keeping segments of the media to perform real journalism and produce “believable” stories turned out to be a more successful agenda-setting strategy in Nazarbaev’s Kazakhstan (Schatz 2009). A similar use of so-called positive propaganda in order to

preempt and appease credibility concerns, has been documented in the case of China (Stockmann and Gallagher 2011).

#### **2.4. Censorship versus economic media capture**

One of the empirical observations of Besley and Prat, valid at the time of writing, was the end of “old fashioned preemptive censorship” that accompanied democratization trends worldwide (Besley and Prat 2006, 720). In fact, most newly adopted constitutions in emerging democracies have explicitly banned censorship. Therefore, in the new world of information, censorship seems to be obsolete, replaced by more subtle forms of media capture via non-coercive means: the expansion of state ownership of media outlets; a high market-concentration of media in the hands of a few oligarchs; selective regulatory favors; and bribery. In transition countries, state control of the media came to replace old censorship (Djankov et al. 2003; Leeson 2008). The Chinese Communist Party was able to control information despite an exponential increase in the number of privately-owned media since the 1970s (Hassid 2008; Stockmann and Gallagher 2011). Often, media capture through economic means is not the explicit action of the government. Many of the largest media firms are owned by private families, with or without connections to governments. Our theory of segmented censorship regimes argues that governments and other entities use a mix of punitive censorship and inducement tools to control information for different audiences. Theoretically and empirically, there is a need to understand whether these tools of media control are employed jointly or in a mutually exclusive manner.

Theoretically, it is not clear whether censorship is still the last resort of censors to control information, despite media capture through non-coercive means, or if it is used for independent

media market segments only. Anecdotal evidence points at both possibilities. In China, despite widespread media capture, the CCP can deem any broadcast or article offensive post publication. Such a “regime of uncertainty” induces effective self-censorship across the entire media spectrum, whether public or private, captured or not (Hassid 2008). In Peru, Fujimori and his proxy explicitly bribed some TV channels to fire investigative journalists, thus combining inducement-based capture with direct news suppression (McMillan and Zoido 2004). On the other hand, in Russia, blatant censorship has been used in the relatively independent, non-captured segments of the media market only when going too far. The many intimidation attempts and the brutal murder of well-known journalist Anna Politkovskaya in 2006 are reminders of the lines that cannot be crossed.

Empirically, since Besley and Prat’s argument, “old-fashioned” censorship has increased dramatically as part of the democratic backsliding and security related trends worldwide. All existing metrics of media freedoms, including our data set described below, confirm this reversal empirically. Even established democracies, such as the United States and France, and countries once perceived as regional leaders of democratization, such as Poland and Hungary, have experienced a rapid deterioration of media freedoms since 2001. We collected an original data set capturing all the salient censorship worldwide between 2001 and 2015. Figure 1 plots the data trend and shows a dramatic increase in such events by 231%, from 219 global episodes in 2001 to 725 in 2014. Figure 2 considers three subjective *Freedom House* indexes that proxy the main types of media capture tools: legislation that openly sets limits to freedom of reporting (*Legal constraints*); political interference with information collecting, reporting and dissemination (*Political constraints*); and economic media capture through positive inducements such as bribes, regulatory favors and market concentration de facto placing media into the hands of the state or government-connected oligarchs (*Economic constraints*).

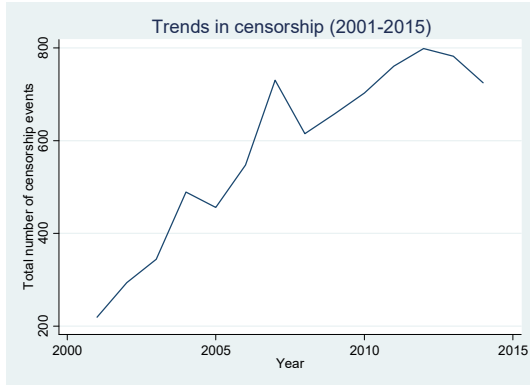


Figure 1: Global trends in the total number of salient censorship events (2001–2015)

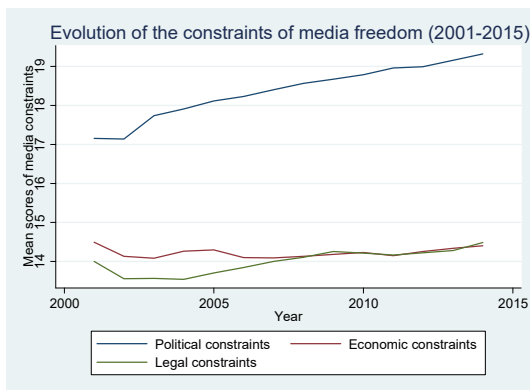


Figure 2: Censorship versus other forms of capture: global trends in three media freedoms over time (2001–2015)

It is worth noting that the increasing trend in our objective count of censorship events is corroborated by the subjective indicator of political constraints of the press that worsened significantly during the last 15 years. In comparison, the economic constraints indicator - an inducement-based proxy of media capture – remained relatively constant over time (Figure 2). Non-coercive media capture achieved via economic means also seems to affect some outlets more than others, as a function of the political importance of their audiences, in line with our theoretical hypotheses. In one of the most systematic studies of bribes ever conducted, the ‘price’ that

Peruvian president Alberto Fujimori paid to media outlets in exchange of control over content during the 1990s varied widely, from 1 million dollars for tabloids to 9 million dollars for TV channels. The visibility of the outlet and its reach clearly determined the size of the bribe (McMillan and Zoido 2004).

### **3. Model and hypotheses**

Our theoretical model builds directly on Besley and Prat (2006) expanded by Prat and Stromberg (2013). In this original model, *ibid.* (2006), the authors used a two time period selection game between incumbent politicians, the media, and voters to show that if media control was to be effective all media outlets had to be controlled. Like other extensions of this model (e.g. Trombetta 2017), we show that the existence of different types of audiences can result in heterogeneous levels of censorship co-existing in the same country. As a result, our theoretical extension allows us to explain incidences of no censorship and extensive censorship, but also the conditions under which a “segmented” equilibrium may be observed within countries, where different media outlets are unevenly exposed to censorship based on which segments of the market they serve. Similar to some of the ways in which Gehlbach and Sonin (2012), Egorov et al. (2009) and Shadmehr and Bernhardt (2015) depart from the original model, our model also explores how political incumbents may use multiple strategies and tools to realize their goal of controlling a media market.

### 3.1 The baseline model: control in segmented media markets

Following closely Besley and Pratt (2006), we use a two-period retrospective selection model with the following steps:<sup>3</sup>

(i) Nature assigns an incumbent in the first period; (ii) who is one of two types,  $u \in \{b, g\}$ , with  $\Pr(u=g) = \gamma$  where  $g$  stands for “good” (public goods maximizing) selected with a probability of  $\gamma$ , and  $b$  stands for “bad” (rent- $r$  – maximizing). Here  $r$  can be defined as the proportion of public resources which can be diverted to the private agenda of the incumbent in both periods of the game; (iii) citizens do not observe their payoffs at the end of the first period; (iv) there are  $N$  media outlets and two distinct segments,  $s$ , of the media market, with one segment catering to mass audiences,  $N_m$ , and one to elite audiences,  $N_e$ .  $N = N_e + N_m$ . By definition, the mass audience is larger than the elite audience  $\alpha_m > \alpha_e$  and includes the median voter. The segmentation of the media market also means that the transaction costs ( $\tau$ ) for incumbents to control either segment of the media market segments are not the same:  $\tau_e \neq \tau_m$ ; (v) if the incumbent is of a good type, media outlets observe no signal. If the incumbent is of a bad type, then with probability  $q \in [0, 1]$ , an outlet receives a signal; (vi) the  $N$  media outlets in both segments are (qualitatively) identical in the salient respects that their payoffs are dependent on: audience related revenues, policy related revenues (bribes)

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<sup>3</sup> Voter and voting refer to the non-governing selectorate. In democratic regimes, this will be the electorate. In non-democratic regimes, it is possible to substitute the terms with the selectorate.



and costs of reporting on the incumbent (determined by censorship)<sup>4</sup>; **(vii)** media consumers are assumed to favor truthful reporting and divide themselves equally among media outlets in their respective segment of the market; **(viii)** the audience-related outlet revenues are normalized to zero if the outlet has no news, and  $\alpha_m/N_m$  (non-elite-focused) and  $\alpha_e/N_e$  (elite-focused) where  $\alpha$  is the parameter that represents the maximum potential audience-related benefits and  $m$  and  $e$  is the number of (non-elite or elite-focused) outlets in each segment of the market,<sup>s</sup>; **(ix)** the costs of the outlet are also normalized to zero and it can be assumed that if total revenues minus costs are negative then the outlet is not able to break a story (censorship has rendered the costs of reporting too great to make the operation feasible). We also assume that outlets cannot credibly commit to self-censor a priori; **(x)** it is assumed that if one outlet in a segment of the market has informative news, then all do. There is no spill-over between the two markets; and **(xi)** while elite and non-elite media markets work in similar ways, there is one fundamental difference: their importance to the incumbent's ability to remain in office. Here we assume that non-elite audiences are essential for surviving in office, but that this is not the case with elite audiences. There are several reasons for this. First, the median voter is a non-elite member. All regimes are far more likely to need the non-elite media to suppress a signal about the incumbent's type. Second, elites

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<sup>4</sup> Despite this qualitative similarity, the quantitative parameters of these variables may differ across the different segments of the market e.g. costs may rise faster in one segment of the market vs. the other- but the salient variables remain the same.

tend to have private knowledge about the incumbent's type and may therefore not need to rely on media outlets to find this out.

The sequence of bargaining in the game is as follows:

1. The incumbent can choose to try and control the media via expending a portion ( $t$ ) of her rents to either bribe or censor outlets. The value of  $t$  is determined by the rents an incumbent can extract so, the maximum value of  $t$  is constrained by  $t \leq r$ .
2. If she chooses to try and control the mass media, the incumbent has recourse to two different instruments of control ( $\vartheta$ ): bribery or censorship  $\vartheta \in [b, c]$ . If the incumbent chooses to try and control an outlet through bribery, the cost to the incumbent is  $t_i$ , but yields  $t_i/\tau_s$  to media outlet  $i$ . The parameter  $\tau \in [0, \infty)$  is a transaction cost and varies by which market segment,  $s$ , the media outlet is in. In the second period, she receives  $r - \sum_{i \in I} t_{is\vartheta}$  if she is re-elected, and  $-\sum_{i \in I} t_{is\vartheta}$  if she is not, where  $I$  is the set of media outlets, in each segment of the market, who accept her offer.
3. If the incumbent attempts to induce control via censorship, then the cost to the incumbent is  $t_i$  and the outlet in a given segment of the media market will receive  $-(t_{ic}/\tau_{sc})$ ; in the second period the incumbent gets  $r - \sum_{i \in I} t_{is\vartheta}$  if she is re-elected and  $-\sum_{i \in I} t_{is\vartheta}$  if she is not.

The timing of the game is the same as in Besley and Prat (2006, 724): **(i)** the incumbent's type is realized; **(ii)** if the incumbent is of a good type, media receives no signal, but if she is of a bad type, media observe this fact with probability  $p$ ; **(iii)** the incumbent observes the media signal

received by each outlet and selects a bribery or censorship event  $\vartheta$  which costs  $t$  for each outlet  $i$  in each of the two segments  $s$  of the media market; **(iv)** in the case of bribery, each media outlet  $i$  observes  $t_i$  and decides whether or not to change its behavior. If it accepts the inducement, it reports  $s=\emptyset$  and receives  $t_i/\tau_s$ . If it rejects, it reports the true signal; **(v)** in the case of censorship, each media outlet  $i$  receives  $-t_i$  and decides whether or not to change its behavior. If  $\left|\frac{t_i}{\tau_s}\right| < \frac{\alpha_s}{N_s}$ , the outlet will still have the capacity and incentive to break the story. If  $\left|\frac{t_i}{\tau_s}\right| > \frac{\alpha_s}{N_s}$  the outlet is no longer able to break the story because the censorship event has rendered it incapable of doing so; **(iv)** mass and elite audiences observe the signal reported by the media and decide to either re-elect/tolerate the incumbent or support a challenger of an unknown type. By restricting our analysis to situations in which at least one outlet in both segments of the media receive a signal,<sup>5</sup> it is possible to see that two equilibria emerge, like in the original model. However, there is now a separating equilibrium in which the politically pivotal mass media market is captured, while the elite media market remains free.<sup>6</sup>

PROPOSITION 1: Equilibrium in the media market may be one of two kinds:

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<sup>5</sup> These are a subset of six equilibria that emerge depending on whether at least one/no outlet in a given segment of the market receives a signal.

<sup>6</sup> As in the original model, we focus only on perfect Bayesian equilibrium restricted to pure-strategy equilibria in which both elite and non-elite audiences always choose to support a candidate, whether the incumbent or the challenger.

1. If  $\sum(n_m) \geq \left(\frac{1}{\tau_m \alpha_m}\right) r$ , and at least one outlet in each segment of the market received a signal about the incumbent, the entire media industry is independent. Each media outlet reports its knowledge about the incumbent to its respective audience.
2. If  $\sum(n_m) < \left(\frac{1}{\tau_m \alpha_m}\right) r$ , the mass media segment is controlled. Media outlets in this segment do not report the information they have regarding the incumbent's bad type. On the other hand, the elite media segment remains free to report the incumbent's type.

Proof: See Appendix A.

We can now analyze the conditions under which an incumbent will decide whether to use bribery or censorship in situations in which controlling the mass media (separating equilibrium) is an optimal strategy  $\sum(n_m) < \left(\frac{1}{\tau_m \alpha_m}\right) r$ . Restricting our analysis to situations in which bribery and censorship are both viable (satisfy the above inequality):

**PROPOSITION 2:** In contexts in which controlling the mass media market is the optimal strategy, the incumbent will select the instrument of control which achieves this outcome while minimizing the costs of doing so.

$$\text{If } \sum(n_m) \leq \frac{r}{\tau_{mb} \alpha_m} \text{ and } \sum(n_m) \leq \frac{r}{\tau_{mc} \alpha_m}, \text{ the incumbent will bribe mass outlets if } \frac{r}{\tau_{sc} \alpha_s} < \frac{r}{\tau_{sb} \alpha_s}, \text{ or will censor the mass outlets of the market if } \frac{r}{\tau_{sc} \alpha_s} > \frac{r}{\tau_{sb} \alpha_s}.$$

Proof: See Appendix A.

### 3.2 Censorship and bribery with multiple opportunities to report on the incumbent's type

By assumption, in period one of the game, an outlet has a single chance to receive and report the incumbent's type. However, in reality, outlets may receive a signal multiple times in the first period and some (e.g. daily newspapers) may have an opportunity to report this information multiple times as well, thereby potentially generating unpredictability for an incumbent who does not have a clear strategy for controlling such outlets. Assuming it is possible to know the number of times a signal will be sent in the first period (e.g. major policy announcements), and which outlets may have multiple opportunities to report on these, we can now modify the decision maker's calculus regarding whether or not to control the media through bribery or censorship. Let  $1 \leq \mu < \infty$  be the number of times a given outlet in the first period will be able to report on the incumbent's bad type. In this case the incumbent will only choose to censor a politically pivotal segment of the market (mass media) if  $\sum(n_{m\mu}) < \left(\frac{1}{\tau_{m\mu}\alpha_{m\mu}}\right)r$ . As per Section 3.1, at any one point in time, bribery and censorship are substitutes. However, in situations where the same outlet may need to be controlled as part of the incumbent's optimal strategy, certain outlets may experience (sequentially) both bribery and censorship. This is because the desire of the incumbent to minimize costs and the fact that both censorship and bribery are likely to experience increasing costs ( $\Omega$ ) as they are utilized- as  $\frac{d'\Omega(b)}{d'q} > 1$ ,  $\frac{d''\Omega(b)}{d''q} > 1$  and  $\frac{d'\Omega(c)}{d'q} > 1$ ,  $\frac{d''\Omega(c)}{d''q} > 1$ , allows us to generate the following proposition:

PROPOSITION 3: Mass media outlets that receive multiple signals about the incumbent's type and are capable of reporting this multiple times are likely to be sequentially subject to both bribery and censorship.

Proof: See Appendix A.

### **3.3 Theoretical hypotheses**

Segmentation implies that the audience size and transaction costs are at the heart of the decision to censor or not a particular segment of the market. For empirical operationalization, whereas identifying the pivotal audience segment is context specific, we hypothesize that three general characteristics can place media outlets in different categories of risk: foreign versus domestic ownership; the type of media and, implicitly, the size of the audience it reaches; and the location of the outlet.

Despite its intuitive nature, the difference in political importance between domestic and international media market segments is non-trivial. Many observations in our data set in fact suggest that governments do not shy away from exercising control and inflicting censorship on reputable international media outlets or individual journalists. Extreme non-democratic regimes, such as North Korea, or governments of states with low domestic capacities for investigative journalism tend to persecute mostly international media since information at the national level is completely controlled or non-existent. However, even democracies and hybrid regimes that allow multiparty competition are increasingly escalating the costs of reporting for foreign media. BBC reporters and staff, for instance, were targets of censorship in about 66 cases in our data set, and

have suffered serious consequences in Russia, Rwanda, Somalia, Saudi Arabia, South Africa and other countries since 2001. In 2014, Turkey's then-Prime Minister, Recep Tayyip Erdoğan, accused foreign media of acting like spies for reporting on the Gezi protests that were being violently repressed by the police. In his words, "CNN International made an eight-hour broadcast during last year's Gezi events. Why? To stir up trouble in my country. This year, they have been caught red-handed. (...) [CNN] doesn't care about a free, impartial and independent press. They are assigned to work like spies." As a result, the reporting team was briefly detained by the police while presenting live footage during the protests.

While in recent years, many censors including governments, have been unapologetically attempting to silence foreign reporting, domestic journalism is significantly more at risk as the main news supplier for a large majority of national information consumers. Additionally, some argue that the suppression of local activist voices, besides entailing lower global legitimacy costs than the blatant censorship of foreign reporters, has also become more important for regime survival (Shirky 2011). Taking into account our model parameters, reputational and logistical costs associated with blatant repression of foreign journalists, and the size of the audience reached by foreign media, we propose the following hypothesis:

H1: Domestic media is more likely to be severely censored than foreign media because, on average, it reaches a wider segment of the population and entails lower transaction costs of punitive censorship.

According to our model, the audience size is a crucial determinant of censors' incentives to suppress news. Simply put, governments and other censors economize on cost-effectiveness by

targeting only media that reaches a critical mass of the population, but allow uncontrolled information for niche audience segments. In fact, abundant anecdotal evidence suggests that paradoxically, this is a valid hypothesis even for some of the most repressive autocracies.

The communist parties of Hungary, Poland and Czechoslovakia censored selectively, institutionalizing the so-called dual media systems. In Hungary, low-circulation elite publications, local papers, weekly magazines and late-night TV shows were allowed to openly criticize the regime. “The smaller the circulation of or audience for newspapers or programs, the freer of censorship it became. The larger the audience for a particular medium or message, the more heavily censored it remained” (Sükösd 2000, 136). In Czechoslovakia, even prior to 1968, cultural weeklies published critical journalism, while daily papers were heavily controlled. The transaction costs of censoring media targeting small, elite audiences was also higher as the official censors “found difficult to grasp [...] [their] more sophisticated and subtle style” (Havliček 1982, 22). McMillan and Zoido’s (2004) unique study of media capture in Peru clearly demonstrates the hierarchy of political importance of various media outlets. Alberto Fujimori’s proxy, Vladimir Montesinos, paid the highest bribes to the most-watched TV channels, while ignoring minor cable TV stations with limited viewership. Paradoxically, Canal N, the only TV channel not bribed because it had monthly fees perceived as too expensive for the majority of the population, was also the channel that broke the news of high-level political corruption which led eventually to the demise of the regime. Similarly, directly speaking to the issue of reach and distribution of newspapers, only one mainstream newspaper and four widely-read tabloids received the bulk of the bribes since they were able to transmit incumbent propaganda to a critical mass of news readers sizeable enough to shape electoral outcomes.



Historical colonial accounts also illustrate the strategic segmentation of media control, with censorship being used only for ‘dangerous’ types of outlets with mass appeal, and only when their political message had the potential to directly translate into actual dissent. For instance, in the nineteenth century, British censors kept track of Indian media and literature, but allowed it to be free “even to lament the country’s lack of independence” (Darnton 2014, 132). The nationalist movement following the 1905 partition of Bengal changed their attitude, but forced the colonial censors to adopt selective censorship by targeting only the wide-reach media. Even more than the seditious press, itinerant stage plays became the main target, ‘(...) for they appeal to persons who are not reached by the newspapers, and excite the nationalist spirits more easily’ (Darnton 2014, 142). Recent studies on the electoral influence of the media in OECD countries have also started to explore the effect of news consumption across platforms on information inequality and electoral outcomes (Kennedy and Prat 2017).

H2: Media with larger audience reach is more likely to be targeted by severe punitive censorship than media that reaches smaller audience segments.

The physical location of the media is also expected to affect the probability of censorship. Diaspora outlets are the only independent news providers or the only media targeting specific groups or minorities in many contexts. During the Cold War, Radio Free Europe, the BBC and Voice of America became major sources of “truthful” news for most of the communist bloc. This led former Polish president and Nobel Laureate Lech Walesa to compare the role of diaspora media in democratization to the sun, without which the earth would not exist. Governments, in response, either interfered by attempting to block or jam domestic radio reception or, in rare cases ordered

the intimidation and assault of diaspora journalists. In 1981, Romania's leader, Nicolae Ceaușescu, hired Carlos the Jackal, the notorious international political assassin, to bomb the Munich offices of Radio Free Europe, whose local language broadcasts were popular in an otherwise information-starved Romania. Despite its crucial importance particularly in opaque non-democratic regimes illustrated by such anecdotes, we anticipate that on average, diaspora sources tend to have smaller audiences and censors entail higher costs when targeting news outlets located abroad rather than domestically.

H3: Because diaspora media reaches smaller segments of the domestic audience, poses less direct political threat and entails higher transaction costs than media located domestically, its probability of being severely censored is likely to be lower.

In terms of cross-national implications, given that transaction costs are a central feature of the model and that censors face different institutional constraints across political regime types, the logistical, institutional and reputational costs of censorship are likely to see an increase in democratic settings.

H4: Democratic governments are less likely to censor severely, and punitive censorship is generally less likely to occur because of higher transaction costs.

Propositions 2 and 3 of our model go beyond segmentation and imply that transaction costs and audience size also determine the relationship between censorship and inducement-based forms of media capture, such as bribes, regulatory favors and market concentration. Simply put, if the

state or a handful of oligarchs control the consequential media outlets, punitive actions become redundant. Proposition 3 postulates, however, that in the case of media outlets with “high” political threat because of audience size, frequency of publication and high transaction costs of censorship, censors are likely to double up the tools of capture in order to insure compliance.

There is significant evidence that dailies are more difficult to control than other types of newspapers. According to a former head of the radio, TV and print section of the Communist Party Central Committee, even when the Czechoslovak media liberalized following the 1968 Prague Spring, daily newspapers were still kept under heavy censorship as they were considered unpredictable (Havliček 1982). Similarly, only in 2010 did the military government in Myanmar repeal a law banning daily newspapers; previously, they had only allowed the existence of weeklies because this had meant enough time was available to censors to detect and control dissent.

H5: Punitive censorship and economic media capture act as substitutes in general, but as joint tools of information control for high frequency media outlets with broad audience reach.

#### **4. Data**

Currently, there are several cross-national data sets evaluating media freedom. The most widely-used indicators are the Freedom of the Press Index by *Freedom House*, and the Press Freedom Index, by *Reporters without Borders*. They both have significant merits and shortcomings in terms of assessing capture. The Freedom of the Press Index takes scores between 0 and 100, with higher values capturing negative evaluations. Despite organizational attempts to apply uniform methodological standards to individual country scores assigned each year, scoring entails

significant subjective judgments (Deutsch Karlekar 2011; Schneider 2014). The comprehensive raw data compiled for its computation nevertheless offer systematic and objective information on punitive actions against individual media outlets. The detailed reports collected for each country and harmonized by the coordinating staff contain factual details on the most salient censorship events taking place during the year of analysis. *Beacon for Freedom of Expression*, a project of the National Library of Norway, also maintains a global database of country–year individual censorship events.

To test the implications of our model—namely that various types of media are unequally exposed to coercion because of the size of their audience and the transaction costs entailed by punitive actions—we generated the first original data set of individual censorship events between 2001 and 2015, covering 196 countries and territories. The data set contains 8,979 observations and uses factual information from several sources to code a series of variables of interest on both targets and censors. These include the name of the individual journalist or outlet facing censorship, the type of ownership, the type of censored news, the severity of censorship, the level of censorship, accusations, the frequency of censorship, and many other event-specific characteristics. The Online Appendix includes more information about the construction of our data set.

First, by developing our own data as opposed to relying on existing data sets, we aimed to work with objective rather than subjective variables capturing censorship, and at doing so consistently across countries and years. Second, the data set goes beyond government-led punitive actions to record censorship committed by editors, non-government entities such as organized crime networks, extremist religious groups and others. Figure 3 illustrates the extent of censorship by types of censors across 9,000 events.

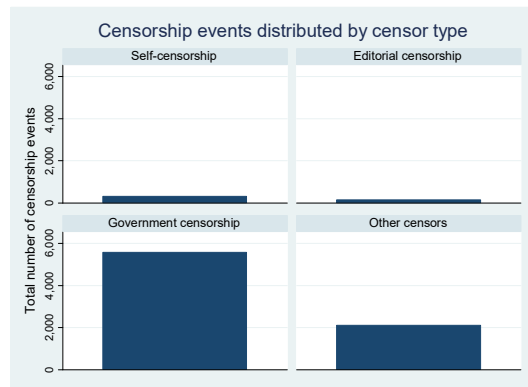


Figure 3: Salient censorship events by censor types (2001–2015)

Third, since we want to capture variations in the severity or magnitude of coercion, our definition of censorship is not limited to extreme human rights abuses such as killing and jail. In fact, we code a full range of acts that count as censorship, from legal suits and fines to accreditation withdrawal, and more severe forms of punishment such as intimidation, assault, death or disappearance. Fourth, this list of individual observations also goes beyond a simple event count and records all the relevant characteristics of the media outlets and individual journalists in order to test our main hypotheses. We are aware that the universe of censorship events worldwide is much larger than the ones we capture. However, the cross-national consistency of coding the most salient censorship events documented by country coders, as well as the cross-validation tests that our data set passed when compared with established data sets of media freedom, give us confidence that we capture representative censorship signals for each country-year.

## 5. Empirical investigation

### *Dependent variables*

Our dependent variables of interest are: (1) an ordinal measure capturing the intensity and type of punitive censorship incidents, and (2) an indicator of the total number of incidents of media censorship (count data of salient events) (see Figures 1–5 and Appendix B for descriptive statistics), covering 196 countries between 2001 and 2015. We selected these variables because they proxy two separate but complementary indicators of the prevalence and severity of censorship across countries and over time.

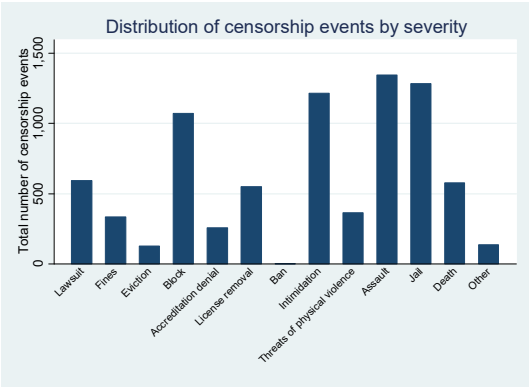


Figure 4: Distribution of censorship events by their severity (2001–2015)

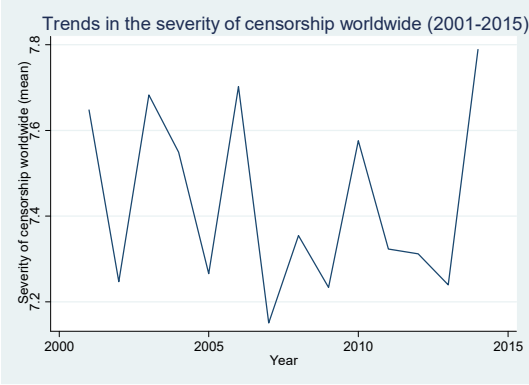


Figure 5: Time trends of censorship severity worldwide (2001–2015)

The first dependent variable proxies the severity of censorship by country-year. In terms of our theoretical hypotheses, this event-specific operationalization allows us to interpret the selective choice of censorship targets, if statistically significant, as signals that the censor may want to send to all similar outlets in terms of lines not to be crossed. We constructed an ordinal variable capturing thirteen categories of censorship actions, grouped by the consequences for targets, and ranging from lawsuits and fines all the way to jailing, death and disappearance (Figure 4). In our data set, intimidation, assault and jail are the most numerous censorship actions. The second dependent variable aggregates all punitive censorship events, in total and by types, by country-year into a panel format. Unlike the number of total censorship events that displays a clear and steep upward trend between 2001 and 2015 (Figure 1), the mean severity of censorship oscillated more sharply, exhibiting a recent increase (Figure 5).

#### *Independent variables*

To test the hypotheses of censors' selective control of different media market segments based on the audience size and transaction costs, the independent variables of interest aim at operationalizing several dimensions: (1) whether or not the targeted media outlet is foreign or domestic, stemming from the assumption that domestic constituencies are more important for the survival of the leader, and that there are higher transaction and reputation costs involved in repressing foreign media; (2) whether the media outlet is located in the capital city, in the regions or abroad; (3) whether the media outlet distributes or broadcasts information to a large or narrow audience depending on its type. Empirically, to assign meaningful values to an ordinal scale that accurately capture the size of the audience, we use the most recent Pew Research Center's *Global Attitudes and Trends* surveys asking respondents where they get their national and international news primarily from. While there is variation in terms of the audience size reached by each type

of media by country-year, television programs lead worldwide as the primary source of news, followed by radio, print, and remotely, by online sources. This empirical distribution confirms previous findings suggesting that especially in developing contexts with low internet penetration and literacy rates, online and print media mostly addresses urban elites, whereas TV and radio are the most politically consequential media platforms because they can reach the broadest and most diverse news consumers (Keefer and Khemani 2014). Accordingly, based on individual surveys on news consumption and insights from the theoretical literature, we created an ordinal variable ranging from 1 to 4, with lower values indicating a larger audience reachable by the outlet. TV is coded as 1; radio as 2; printed newspapers and magazines 3; and online 4. As an identification strategy, we take into account the variation in country-year specific audience sizes for each media type and use it as an instrumental variable for our reach measure. We employ several two least square regression (2SLS) analyses with the actual country-specific survey results regarding the audience size for each type of media. The instrument is very strong, with a large F-statistic, and the results of the 2SLS regressions hold across multiple specifications, confirming that the audience size drives up the severity of censorship via *Media reach* as an endogenous regressor. The Online Appendix also includes robustness checks with media supply used jointly with demand to construct the instrument.

For print media in particular, we also generated a measure of the frequency of publication (daily, weekly, biweekly, triweekly, monthly, bimonthly and quarterly). Other independent variables of interest include the gender of the journalist/actor being censored. In addition to our event-specific variables, a large number of country-level controls are included in the analysis: the economic concentration of the media market; the legal environment in which the media operates; the level of democracy; ethno-linguistic fragmentation; public sector corruption; the composition



and size of a government's majority in the legislature; the length of executive tenure; per capita income; population; country fixed effects; time fixed effects; and, where gender is used as an independent variable of interest, the proportion of women in the national legislature.

For the time series panel format, our baseline specification can be written as:

$$y_{it} = \beta_0 + \beta_1 x_{it} + \beta_2 z_{it} + \beta_3 \theta_t + \beta_4 \vartheta_i + \varepsilon_{it} \quad (1)$$

where  $y_{it}$  is the incidence of censorship in general and by types in country  $i$  and time period  $t$ ;  $x$  is a vector of news demand (percentage of survey respondents that get news from each media type),  $z$  is a vector of country-year variables that help us distinguish between types of media capture, and control for levels of democracy and economic development,  $\theta$  is a time fixed effect, and  $\vartheta$  is a country fixed effect. For the censorship event-specific analyses, we present both ordered probit analyses with country and year fixed effects, as well as Hierarchical Linear Model analyses with three levels (country, year and censorship events).

## 6. Results

Tables 1–3 report our findings when using the severity of censorship as the dependent variable. For robustness, we employ various types of statistical models, control variables and post-estimation tests. Table 1 shows Ordered Probit results with country and year fixed effects. Since we argue in the theoretical section that media market segmentation should carry a similar logic for all censors, we aim at generalizability and work with the entire sample.

Table 1: Severity of censorship by event characteristics (Ordered probit, country and year fixed effects, all censors)

	(1)	(2)	(3)	(4)	(5)	(6)
	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship
Foreign media	-0.299*** (0.0593)					-0.379*** (0.0764)
Media reach		-0.180*** (0.0240)				-0.162*** (0.0283)
Publication frequency (for print media only)			-0.102 (0.0694)			
Media location (Abroad)				-0.442*** (0.114)		
Gender					0.380*** (0.0902)	
Women representation					0.00102 (0.00991)	
Economic constraints	0.00904 (0.0147)	0.00182 (0.0151)	-0.00513 (0.0249)	0.0414 (0.0294)	0.0377 (0.0242)	0.00235 (0.0169)
Legal constraints	-0.00469 (0.0129)	0.0121 (0.0134)	-0.0217 (0.0263)	0.0121 (0.0236)	-0.00564 (0.0205)	0.00784 (0.0150)
GDP pc (log)	0.113 (0.121)	0.294* (0.134)	0.724** (0.270)	0.124 (0.261)	0.236 (0.183)	0.220 (0.151)
Population (log)	-0.209 (0.665)	-0.711 (0.685)	0.301 (1.363)	-0.0774 (1.550)	1.069 (0.990)	-1.091 (0.804)
Political competition	-0.00102 (0.00123)	-0.00121 (0.00128)	-0.00324 (0.00274)	-0.00301 (0.00235)	-0.00184 (0.00183)	-0.000702 (0.00147)
Gov. fractionalization	0.289~ (0.159)	0.105 (0.164)	-0.104 (0.322)	0.0926 (0.287)	0.0519 (0.244)	0.250 (0.186)
Incumbent tenure	0.00688 (0.00533)	0.00593 (0.00517)	0.0140 (0.0101)	-0.00297 (0.0119)	0.00390 (0.00600)	0.0107~ (0.00591)
Corruption	-0.639 (0.486)	-0.300 (0.469)	-1.464 (1.211)	0.319 (0.993)	-0.384 (0.818)	-0.192 (0.549)
Democracy	-0.0845* (0.0398)	-0.0446 (0.0410)	0.0177 (0.0760)	-0.0136 (0.0865)	-0.00969 (0.0648)	-0.0409 (0.0456)
Ethnic fractionalization	-31.60 (68.56)	-72.62 (70.57)	69.07 (140.1)	-16.25 (159.8)	98.39 (104.2)	-112.9 (82.65)
Country FE	√	√	√	√	√	√
Year FE	√	√	√	√	√	√
<i>N</i>	2988	2772	877	993	1705	2206
<i>Countries</i>	134	134	116	113	130	132
<i>Years</i>	12	12	12	12	12	12

Standard errors in parentheses ~ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Table 2 uses a similar technique, but reduces the sample to all the censorship events explicitly committed by governments.

Table 2: Severity of censorship by event characteristics (Ordered probit, country and year fixed effects, government as censoring agent. Models 1,3,4 and 5 use *Severity* truncated at 12 (Death) as a robustness check)

	(1)	(2)	(3)	(4)	(5)	(6)
	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship
Foreign media	-0.308*** (0.0672)					-0.331*** (0.0834)
Media reach		-0.148*** (0.0288)				-0.136*** (0.0339)
Publication frequency (for print media only)			-0.0891 (0.0915)			
Media location (Abroad)				-0.360** (0.129)		
Gender					0.404*** (0.121)	
Women representation					-0.00348 (0.0128)	
Economic constraints	0.0110 (0.0170)	0.0131 (0.0171)	-0.00671 (0.0234)	0.0655~ (0.0356)	0.0485 (0.0312)	0.0148 (0.0190)
Legal constraints	-0.00468 (0.0164)	0.0114 (0.0168)	-0.0458 (0.0359)	-0.0127 (0.0350)	-0.0496~ (0.0285)	0.00744 (0.0188)
GDP pc (log)	0.0215 (0.148)	0.217 (0.159)	0.549~ (0.306)	-0.00847 (0.360)	0.354 (0.247)	0.0694 (0.180)
Population (log)	-0.366 (0.786)	-0.930 (0.790)	2.277 (2.026)	-2.158 (2.052)	-0.132 (1.336)	-1.291 (0.930)
Political competition	-0.000580 (0.00149)	0.00195 (0.00154)	-0.00201 (0.00310)	-0.00570~ (0.00311)	0.00119 (0.00254)	0.00224 (0.00174)
Gov. fractionalization	0.0636 (0.187)	-0.00459 (0.192)	-0.215 (0.393)	0.262 (0.376)	-0.0442 (0.333)	0.120 (0.215)
Incumbent tenure	0.00751 (0.00660)	0.00750 (0.00662)	0.0116 (0.0120)	-0.0109 (0.0192)	0.00195 (0.00920)	0.0102 (0.00723)
Corruption	-0.968 (0.614)	-0.293 (0.573)	-0.169 (1.503)	1.159 (1.085)	0.843 (1.068)	-0.429 (0.691)
Political constraints	0.0236* (0.0113)	0.0261* (0.0117)	0.0124 (0.0207)	-0.00623 (0.0246)	0.0399* (0.0201)	0.0273* (0.0133)
Ethnic fractionalization	-47.31 (81.42)	-99.90 (81.70)	271.1 (208.3)	-242.7 (214.0)	-28.73 (139.6)	-141.9 (95.94)
Country FE	√	√	√	√	√	√
Year FE	√	√	√	√	√	√
<i>N</i>	2168	2033	660	667	1070	1639
<i>Countries</i>	130	133	106	109	125	129
<i>Years</i>	12	12	12	12	12	12

Standard errors in parentheses ~ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Table 3 takes advantage of the nested structure of our data set at three different levels (country, year and censorship events), and shows Hierarchical Linear Model results.

Table 3: Severity of censorship by event characteristics, country, and year (Hierarchical Linear Models, all censors)

	(1)	(2)	(3)	(4)	(5)	(6)
	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship
Foreign media	-1.09*** (0.18)					-1.21*** (0.23)
Media reach		-0.515*** (0.0737)				-0.44*** (0.09)
Publication frequency (for print media only)			-0.23 (0.20)			
Media location (Abroad)				-1.58*** (0.28)		
Gender					0.88*** (0.27)	
Economic constraints	0.00 (0.04)	-0.0252 (0.0367)	-0.04 (0.06)	0.07 (0.05)	0.01 (0.05)	-0.00 (0.04)
Legal constraints	-0.12*** (0.03)	-0.0891** (0.0298)	-0.08~ (0.05)	-0.08~ (0.04)	-0.12** (0.04)	-0.10** (0.03)
GDP pc (log)	-0.13 (0.10)		-0.25 (0.16)	-0.14 (0.14)	-0.12 (0.12)	-0.07 (0.10)
Population (log)	0.10 (0.07)	-0.116 (0.0955)	0.07 (0.12)	0.22* (0.10)	0.18* (0.09)	0.08 (0.08)
Political competition	-0.00 (0.00)	0.0819 (0.0707)	-0.00 (0.01)	-0.01~ (0.00)	-0.01 (0.00)	0.00 (0.00)
Gov. fractionalization	0.85* (0.37)		0.16 (0.65)	0.55 (0.52)	0.53 (0.46)	1.05** (0.40)
Incumbent tenure	0.01 (0.01)	-0.000733 (0.00305)	0.01 (0.02)	-0.01 (0.01)	0.00 (0.01)	0.01 (0.01)
Corruption	0.70 (0.56)	0.588	0.52 (0.98)	-0.25 (0.89)	0.64 (0.68)	0.42 (0.61)
Political constraints	0.12*** (0.02)	0.111*** (0.0246)	0.11* (0.04)	0.06~ (0.04)	0.11*** (0.03)	0.12*** (0.03)
Ethn. fractionalization	0.31 (0.45)	0.182 (0.443)	0.96 (0.76)	-0.13 (0.63)	0.14 (0.53)	0.23 (0.49)
Intercept	4.99** (1.55)	6.972*** (1.552)	7.20** (2.64)	4.83* (2.25)	4.57* (1.91)	5.96*** (1.69)
Ins1_1_1	-0.34* (0.16)	-0.423* (0.185)	0.02 (0.21)	-0.21 (0.22)	-0.39 (0.24)	-0.34~ (0.18)
Ins2_1_1	0.21** (0.08)	0.189* (0.0900)	0.45*** (0.13)	0.06 (0.19)	0.41*** (0.09)	0.18~ (0.10)
Insig_e	1.11*** (0.02)	1.131*** (0.0160)	1.06*** (0.04)	1.03*** (0.03)	1.07*** (0.02)	1.12*** (0.02)
AIC	15216.723	16044.051	4579.034	4982.870	8806.454	11552.555
BIC	15306.434	16134.487	4650.510	5056.168	8887.959	11643.738
N (censorship events)	2924	2772	867	979	1692	2206
Countries	133	137	116	113	130	132
Years	15	15	15	15	15	15

Standard errors in parentheses (two-tailed tests)

~ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Virtually all independent variables of interest remain statistically significant despite variations in the regression models used, as well as when using an instrumental variable for media reach. As expected theoretically, domestic media is associated with more severe forms of censorship vis-à-vis foreign outlets, and is highly significant. Foreign ownership increases the probability that censorship takes the least severe forms with about 4% on average. Overall, our statistical analysis demonstrates that the form censorship takes is significantly more severe in the case of domestic media since this is the primary source of information for a majority of the population and the transaction costs of censorship are lower.

We also tested a different, yet related, measure of media location. We constructed a variable capturing the actual physical location of news production and dissemination. The three conceptual categories for location are the capital city, sub-national regions and abroad. In terms of severity of censorship, the statistically significant result we identify is that media outlets disseminating news in the country are significantly more at risk of serious censorship consequences than outlets broadcasting or publishing abroad. Broadcasting from abroad reduces the probability of harsh censorship by about 3% with control variables kept at mean. This finding has particular relevance for non-democratic contexts where, because of a subdued domestic press, diaspora media has taken the front seat in providing a counter-narrative to government propaganda. On average, we find evidence that during our period of analysis, media outlets functioning inside the country are more exposed to censorship than diaspora media, and we believe that this is a function of the size of the domestic audience reached from these two types of location. We also find that in our full sample where we include all censors, media outlets located in the capital city are less at risk of censorship than those situated in other regions of the country. We do not report

this result here, but interpret it as capturing the political geography of media intimidation coming from terrorist groups, organized crime networks or paramilitary groups and militias.

In terms of audience size and its political consequences we constructed two variables. *Media reach* codes the outlets subject to censorship according to audience size, from TV (1), radio (2), print (3) to narrower segments of news consumers via online platforms (4). Model 2 in Tables 1, 2, and 3 shows that the size of the audience triggers different intensities of censorship. Mass (non-elite) media, such as television, a key medium in many developing countries, radio or newspapers are subject to significantly harsher censorship vis-à-vis more specialist or elite media outlets such as online news platforms. A change in type of media from TV to internet news reduces the chances of severe censorship by around 10% on average (Figure 6).

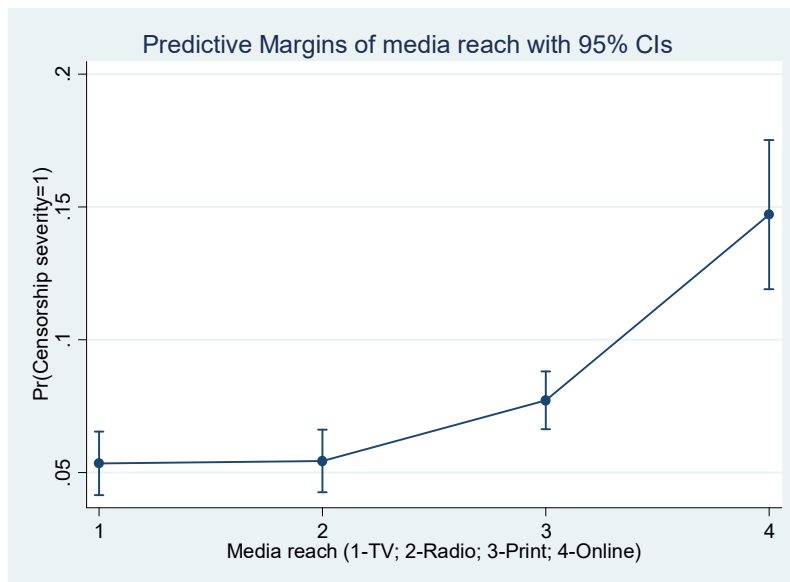


Figure 6: Predictive margins of *Media reach* on the probability of censorship severity

Table 4 presents the results of two least squared analyses when the *Media reach* variable is instrumented with the Pew survey data on outlet-specific news consumption.

Table 4: Two least squares models with demand measures for news consumption used as an instrumental variable

	(1)	(2)	(3)	(4)	(5)
	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship	Severity of censorship
Media reach (complete)	-0.412** (0.148)		-0.593** (0.200)		
Media reach (dichotomous)		-3.627** (1.277)			-4.102* (1.805)
Media reach (partial)				-0.529* (0.229)	
GDP pc (ln)	1.397 (0.981)	1.804~ (0.993)	1.820 (1.527)	-0.250 (1.334)	0.398 (1.444)
Population (ln)	-2.472 (3.771)	-5.159 (3.729)	-0.298 (4.708)	-3.832 (6.060)	-5.455 (6.008)
Political competition	-0.00723 (0.00913)	-0.00952 (0.00939)	0.00474 (0.0131)	0.00647 (0.0164)	0.00178 (0.0193)
Government fractionalization	1.284 (1.338)	0.937 (1.209)	0.0757 (1.233)	-1.109 (2.077)	-1.170 (2.222)
Incumbent tenure	-0.00339 (0.0323)	-0.00781 (0.0298)	0.0263 (0.0286)	-0.00941 (0.0421)	-0.0109 (0.0443)
Corruption	-6.787 (5.067)	-5.586 (5.505)	-17.76** (5.603)	-15.74* (7.858)	-19.01* (9.297)
Legal constraints	0.0444 (0.0703)	0.0209 (0.0705)	-0.00212 (0.115)	0.114 (0.144)	0.0844 (0.149)
Political constraints	0.153* (0.0701)	0.140~ (0.0747)	0.160~ (0.0851)	0.0486 (0.102)	0.0874 (0.106)
Economic constraints	-0.0619 (0.0807)	-0.0690 (0.0796)	-0.142 (0.150)	0.0692 (0.188)	0.00794 (0.223)
Country FE	√	√	√	√	√
Year FE	√	√	√	√	√
_cons	45.86 (71.97)	97.88 (70.74)	11.79 (93.91)	91.79 (118.4)	124.4 (117.3)
<i>N</i>	1258	1258	700	488	488
<i>Countries</i>	49	49	34	34	34
<i>Years</i>	15	15	15	15	15
<i>Censor type</i>	All	All	All	Government	Government
<i>Model</i>	2SLS	2SLS	2SLS	2SLS	2SLS
<i>Instrument</i>	All surveys	All surveys	Representative	Representative	Representative
<i>Shea partial R sq</i>	0.64	0.06	0.60	0.55	0.05
<i>F-statistic</i>	407.85	47.80	183.29	80.53	22.11
<i>p</i>	0.0000	0.0000	0.0000	0.0000	0.0000

Standard errors in parentheses

~ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

The instrument is strong and the alternative specifications of the *Media reach* variable render highly significant results and stable coefficients. Figure 7 below illustrates the relatively large effect of online (as opposed to traditional media) on the likelihood of severe censorship when we instrument our endogenous regressor.

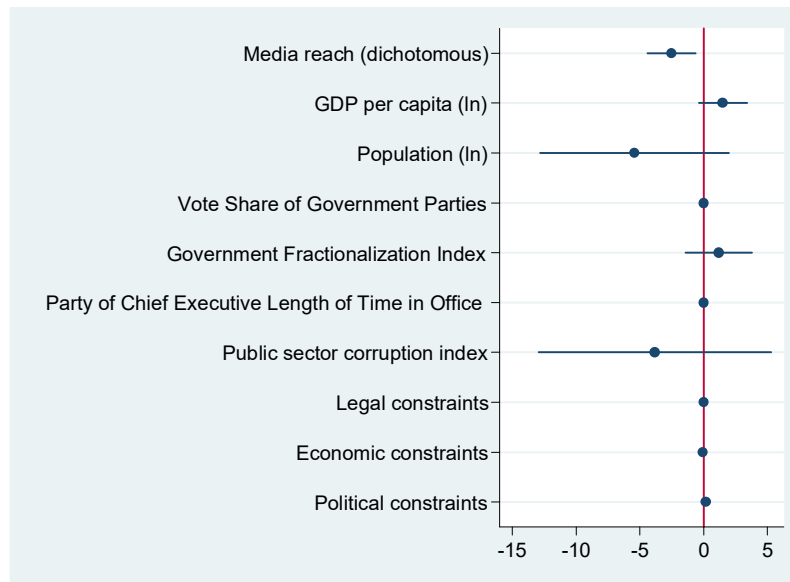


Figure 7: Coefficient plot for a dichotomous *Media reach* (Traditional media- TV, radio and print = 1, Online and blogging = 2) – 2SLS with media reach instrumented with Pew’s *News consumption* variable

We also code the type of publication by frequency, although we have such fine-grained information for a subsample of censorship events only. Our three categories of publications (daily, weekly, and less frequent than weekly) allow us to verify whether frequency, as an opportunity for media outlets to send multiple signals to their audience, despite higher transaction costs for censors



also have an impact on punitive risks. Model 3 in Tables 1–3 suggest that the severity of censorship is not related to the frequency of publication.

Model 5 in Tables 1–3 also shows that women media professionals are subject to less severe censorship than their male counterparts. In order to insure that we do not capture the statistical effects of a country-specific generalized gender bias, we control for the percentage of women in national parliaments. This result might be explained by gender discrepancies in the media, with males being overrepresented in investigative journalism and therefore more exposed to censorship, or by the general attitude of censors with respect to both the level of perceived threat and the level of severity that can be applied to different genders according to country-specific social norms. Given the importance of gender in public policy making, this finding deserves further in-depth exploration.

In line with our theoretical expectations, the only country-level variable that yields some significant results is the level of democracy. We use two alternative measures: first, the Haddenius-Teorell indicator of democracy computed as the mean of *Freedom House* and Polity IV scores for a general measure; and a more specific variable capturing political interference with media work, *Political constraints*, computed by Freedom of the Press. We find some evidence that democracies exhibit less severe punishments when engaging in censorship activities, despite the fact that even established democracies censor information. In fact, while the degree of political constraints to press freedom is robust across all models, our democracy indicators are only marginally significant. An interesting non-finding also suggests that economic media capture via market concentration, bribery, or regulatory favors, does not have any significant effect on the severity of censorship. The same interpretation applies to the effect of legal constraints.

For a second set of analyses using total numbers of salient censorship events, we transformed our data set into a country-panel format in order to be able to test the factors leading to the magnitude of censorship, and not only to its intensity. Table 5 shows the marginal changes in the magnitude of censorship events induced by demand (news consumption). Robustness checks included in the online appendix also test supply factors (total numbers of radio stations, TV channels, and print publications). For print media and TV, a one unit increase in audience size triggers significant increases in censorship events (around 2% and 10% respectively), whereas supply factors are insignificant. These results need to be interpreted with caution given that we have a smaller sample size with reliable data on the supply and demand of news compared to the salient censorship events data set, but overall they strongly confirm the importance of the audience size in censors' decision to control information.

Table 5: Number of censorship events by media type as a function of demand for news consumption

	(1)	(2)	(3)
	<b>Censorship events targeting:</b>		
	<b>TV</b>	<b>Radio</b>	<b>Newspapers</b>
TV audience size	0.0231** (0.0107)		
Radio audience size		0.00881 (0.0195)	
Newspaper audience size			0.0982** (0.0380)
Economic constraints	-0.0340 (0.0233)	-0.00419 (0.0242)	0.0525 (0.0389)
Legal constraints	-0.0305 (0.0196)	0.0208 (0.0204)	0.0263 (0.0326)
Political constraints	0.0237 (0.0166)	0.0783*** (0.0174)	0.0130 (0.0282)
Public corruption	-0.915 (1.101)	-0.0915 (1.160)	-2.011 (1.851)
GDP pc (ln)	0.0574 (0.211)	0.479* (0.221)	0.140 (0.356)
Population (ln)	0.259 (1.018)	2.819** (1.076)	2.102 (1.712)
_cons	-5.474 (17.81)	-54.69** (19.12)	-38.98 (30.13)
Country FEs	√	√	√
Year FEs	√	√	√
<i>N</i>	576	576	576
<i>Countries</i>	51	51	51
<i>Years</i>	12	12	12

Standard errors in parentheses  
\* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Table 6 presents the findings of time-series cross-sectional Poisson and OLS models with country and year fixed effects, given that our dependent variables are counts of total censorship events as well as events affecting our outlet-specific categories per country-year. These models test our second set of hypotheses that go beyond the media targets of censorship and also capture the types of “tools” that censors use to control information. In line with Besley and Prat (2006),

we consider the three types of media capture tools measured by the *Freedom of the Press* indicators: legislation that sets limits to reporting (*Legal constraints*); political interference with information collecting, reporting and dissemination (*Political constraints*); and economic media capture through positive inducements such as bribes, regulatory favors and market concentration de facto placing media into the hands of the state or government-connected oligarchs (*Economic constraints*).

Table 6: Alternative mechanisms of media capture by total number of censorship events and types of targets (Panel data Poisson, country and year fixed effects)

	(1)	(2)	(3)	(4)	(5)	(6)
	Total number of censorship events	Total number of censorship events	Total number of censorship events targeting foreign media	Total number of censorship events targeting TV broadcasters	Total number of censorship events targeting daily newspapers	Total number of censorship events targeting media located abroad
Political constraints		0.0458*** (0.00615)	0.0734*** (0.0192)	0.0679*** (0.0204)	0.000659 (0.0213)	0.0873*** (0.0265)
Economic constraints	-0.0270** (0.00934)	-0.0353*** (0.00939)	-0.0440~ (0.0265)	-0.1000** (0.0312)	0.0683* (0.0304)	-0.0908* (0.0421)
Legal constraints	0.0283*** (0.00798)	0.00788 (0.00815)	0.00517 (0.0278)	-0.0418 (0.0257)	-0.00574 (0.0255)	0.113** (0.0385)
GDP pc (log)	-0.103 (0.0718)	-0.0739 (0.0721)	0.230 (0.214)	-0.445~ (0.232)	-0.330 (0.262)	0.478 (0.332)
Population (log)	0.365 (0.344)	0.309 (0.345)	0.386 (0.832)	0.522 (0.885)	1.091 (1.034)	-0.147 (1.043)
Democracy	-0.0397~ (0.0219)					
Corruption	-0.512~ (0.290)	-0.659* (0.294)				
Country FE	√	√	√	√	√	√
Year FE	√	√	√	√	√	√
<i>N</i>	1918	1918	1473	1582	1438	1077
<i>Countries</i>	161	161	123	133	121	90
<i>Years</i>	12	12	12	12	12	12

Standard errors in parentheses

~ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

In Models 1 and 2 of Table 6, we tested the division of labor among such capture tools to verify whether coercion and economic inducements of media control are complementary or

substitutable. Overall, we find strong evidence of antagonistic incentives in media markets. Both political and legal constraints lead to a higher number of censorship events, validating the construction principle of our data set, whereas economic constraints and public corruption lower the overall number. In other words, it seems that censors that are able to control the media through bribes or favorable ownership structures refrain from using ex-post coercion, as information control occurs ex-ante. This finding also points at a normative nuance when interpreting the lack of censorship in a society. The fact that the government does not conspicuously punish is not equivalent to the freedom of the media since forms of economic control might insure the total domination of a pro-government narrative.

Models 3 to 6 of Table 6 also look into the substitutability effect depending on the different segments of the market identified as being politically consequential. Indeed, the number of censorship events affecting foreign outlets or reporting located abroad is inversely correlated with economic constraints, pointing at the hypothesized mechanism. If the media market is controlled domestically through economic inducements, there is no need to censor less threatening media alternatives. Since domestic media is the most consequential for our theory of market segmentation, we also decided to analyze two of the types of media with wide reach: TV broadcasting and daily newspapers. The results are more nuanced. The market for TV broadcasters seems to react to either positive or negative inducements from censors (Model 4 Table 6, and Model 1 Table 7), whereas in the case of newspapers with a daily distribution, coercive tools of control such as censorship seem to co-exist with non-coercive inducements for news control (Model 5 Table 6, and Model 2 Table 7).

Table 7: Alternative mechanisms of media capture by types of targets (GLM fractional logit models, country and year fixed effects)

	(1)	(2)
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	Share of censorship events targeting TV broadcasters	Share of censorship events targeting daily newspapers
Political constraints	0.0163 (0.0299)	-0.000478 (0.0311)
Economic constraints	-0.0820* (0.0398)	0.121** (0.0455)
Legal constraints	-0.0736* (0.0338)	0.0110 (0.0394)
GDP pc (log)	-0.445 (0.322)	0.0719 (0.367)
Population (log)	-0.735 (1.177)	0.649 (1.394)
Constant	16.94 (23.44)	-32.64 (27.76)
Country FE	√	√
Year FE	√	√
<i>N</i>	1646	1646
<i>Countries</i>	186	186
<i>Years</i>	12	12
<i>AIC</i>	0.680	0.452
<i>Log pseudolikelihood</i>	-359.20	-386.62

Standard errors in parentheses ~ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

This finding may indicate that, on average, newspapers with high frequency are more unpredictable and harder to silence, despite bribes and changes in ownership, and that they are more politically threatening. In many places around the world, they are the main sources of investigative journalism and have a crucial spill-over effect on other media platforms despite a decreasing trend in direct readership.

## 7. Conclusion

This paper has asked whether the censorship strategies employed by censors vary across individual targets, and whether punishment via censorship occurs when other forms of media capture through bribes or other economic inducements fail. Our leading theoretical hypothesis is that censors engage in a cost–benefit calculus of censorship targets based on the political threat posed by the audience size and transaction costs. This balance leads to economizing punitive censorship, by confining it only to segments of the media market that reach politically important constituencies, and only when economic inducements cannot effectively control information.

In order to test our theory of market segmentation, we constructed the first global data set that captures a full set of characteristics of salient punitive censorship events affecting individual media outlets and professionals, in 196 countries between 2001 and 2015. We found that, on average, foreign media, as well as outlets operating from abroad, are less exposed to censorship since on average they are less politically consequential than domestic media and entail higher transaction costs of suppression. One of the most interesting results suggests that the risk of being censored is strongly correlated with the audience reach of the media type. Even when controlling for the level of economic development that captures the prevalent types of media in a country, TV broadcasting, radio, and print are significantly more likely to be the targets of severe forms of censorship than media accessible mostly to elites, such as online news platforms, blogs or freelance journalism. The fact that traditional media reaches a wider audience renders censors more vulnerable to the perils of potential political dissent triggered by news.

The paper also investigated whether censors use different media capture tools simultaneously or in a substitutable manner. Besley and Prat’s (2006) seminal article suggests that coercion has been replaced with economic inducements, such as bribes or regulatory rewards for outlets. We show empirically that censorship is back, mirroring a general trend in democratic

backsliding and security threats worldwide. Further, it is employed mostly when and where media market concentration and bribes fail. We provide some evidence that the segments of the market that are more dominated through the use of economic pressure, or that carry less political weight, are less likely to face straightforward coercive action. We also showed that there is a difference between different forms of media, with newspapers of daily circulation still facing censorship despite the presence of the economic control of media markets. This situation needs further investigation, but might point at coercion as a last resort given the high transaction costs entailed by the unpredictability of rapidly produced and disseminated information.



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## Appendix A

### Proofs

#### PROOF OF PROPOSITION 1

Besley and Pratt (2006)<sup>7</sup> show how the pooled equilibria (when the entire media market is/is not controlled) are pure strategy perfect Bayesian equilibria when audiences do not play weakly dominated strategies (PSPBEW). As each segment of the market only interacts strategically with the incumbent, it is not difficult to demonstrate the conditions under which the mass media market will/will not be controlled, and the elite media will always remain free.

The equilibrium strategies and beliefs are:

(a) Audiences (of whatever type) believe:

$$\Pr(u = g) = \begin{cases} 0 & \text{if } signal = b \\ \gamma & \text{if } signal = \emptyset \end{cases}$$

(b) Citizens will not support the incumbent if they observe  $s = b$  (via an outlet in their segment of the market) and will support the incumbent if they observe  $s = \emptyset$ .

(c) Any given outlet  $i$  in a given segment,  $s$ , either accepts  $t_{is}$  if and only if

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<sup>7</sup> Adapted from Besley and Pratt (2006, 733–734).



$t_{is} \geq \tau_s \alpha_s$  or can no longer report a story if and only if a censor event ensures that  $\left| \frac{t_i}{\tau_s} \right| > \frac{\alpha_s}{N_s}$ .

(d) In the case that the incumbent: **(I)** offers a bribe  $t_{im} = \tau_{mb} \alpha_m$  if at least one outlet in the mass media segment has observed  $s = b$ ,  $\sum(n_m) < \left(\frac{1}{\tau_m \alpha_m}\right) r$  and  $\frac{r}{\tau_{sc} \alpha_s} > \frac{r}{\tau_{sb} \alpha_s}$  and uses censorship  $t_{im} = \tau_{mc} \alpha_m$  if  $\sum(n_m) < \left(\frac{1}{\tau_m \alpha_m}\right) r$  and  $\frac{r}{\tau_{sc} \alpha_s} < \frac{r}{\tau_{sb} \alpha_s}$ , and 0 to outlets in the elite segment of the media market—where at least one outlet has also observed  $s = b$ ; **(II)** offers 0 if at least one outlet in the mass media segment of has observed  $s = b$  and  $\sum(n_m) > \left(\frac{1}{\tau_m \alpha_m}\right) r$  and offers 0 to outlets in the elite segment of the media market—where at least one outlet has also observed  $s = b$ ; **(III)** offers 0 to both segments of the market if no outlet has received a signal; **(IV)** offers either  $t_{im} = \tau_{mb} \alpha_m$  or  $t_{im} = \tau_{mc} \alpha_m$  (whichever minimizes costs) if at least one outlet in the mass media segment has observed  $s = b$  and  $\sum(n_m) < \left(\frac{1}{\tau_m \alpha_m}\right) r$  and offers 0 to outlets in the elite segment of the media market—where no outlet has observed  $s = b$ ; **(V)** offers 0 if at least one outlet in the mass media segment of has observed  $s = b$  and  $\sum(n_m) > \left(\frac{1}{\tau_m \alpha_m}\right) r$  and offers 0 to outlets in the elite segment of the media market—where no outlet has observed  $s = b$ ; **(VI)** offers 0 to both mass and elite outlets when at least one elite but no non-elite outlet has observed  $s = b$ .

It is easy to check that this is a PSPBEW. For audiences, the only information citizens receive in each segment of the market is the signal (from their respective elite or mass media outlets). As audiences are unambiguously worse off by supporting a bad type incumbent, not supporting such an incumbent is a strictly dominant strategy if  $signal = b$  is observed. There is also no PSPBEW

in which the incumbent is not supported (by either or both the elite and non-elite audiences) if  $signal = \emptyset$ . As this outcome would be impossible because the incumbent would not suppress information (to either elite or non-elite audiences), the posterior when citizens observe  $signal = \emptyset$  would therefore be strictly greater than  $\gamma$ .

Now, consider the strategic interaction between the incumbent and the outlets. It is easy to demonstrate that in every PSPBEW, an informed outlet in a given segment of the media market accepts  $t_i > \alpha_s$  and rejects  $t_i < \alpha_s$ . First, the revenue of  $i$  cannot be higher than  $\alpha_s$ . Thus, in any equilibrium  $i$  must accept offers above  $\alpha_s$  (bribe) or will lose the capacity to report the story (censorship). Secondly, in equilibrium the incumbent buys off/censors either all the informed outlets in a given segment of the market or none of them. Suppose that outlet  $i$  in segment  $s$  accepts an offer/receives a censorship-inducing cost strictly below  $\alpha_s$ . In this case all outlets in the segment of the market in question are controlled. But then, if outlet  $i$  rejects the offer/breaks the story, it is the only outlet to break the news (to elite or non-elite citizens) and she gets  $\alpha$ : which is a contradiction.

The fact that the incumbent only gains utility from controlling the mass media means that the elite segment of the media is never bribed as doing so yields a lower level of rent for the incumbent  $r - \sum_{i \in I} t_{im} > r - \sum_{i \in I} t_{im} - \sum_{i \in I} t_{ic}$  without increasing her chances in remaining in office and enjoying period two rents. The fact that outlets accept/are effectively censored if  $t_i > \alpha_s$  and reject/are not effectively censored if  $t_i < \alpha_s$  means that in every PSPBEW the incumbent will: **(I)** control the mass the media if  $(n_m \tau_m \alpha_m) < r$  and at least one outlet in the mass media has received a signal about the incumbent's bad type; and **(IV)** does not control the mass media  $(n_m \tau_m \alpha_m) > r$ .

## PROOF OF PROPOSITION 2

If both bribery and censorship are viable strategies, that is  $\sum(n_s) < \frac{r}{\tau_{sb}\alpha_s}$  and  $\sum(n_s) < \frac{r}{\tau_{sc}\alpha_s}$ , then the incumbent will select censorship if  $\tau_{sc} < \tau_{sb}$  because  $r - \sum_{i \in I} t_{isc} > r - \sum_{i \in I} t_{isb}$ , thereby maximizing her net rents in the second period. Conversely, if  $\tau_{sb} < \tau_{sc}$  then  $r - \sum_{i \in I} t_{isb} > r - \sum_{i \in I} t_{isc}$  and the rent-maximizing incumbent will choose bribery over censorship.

## PROOF OF PROPOSITION 3

As shown in PROPOSITION 2, the incumbent's optimal strategy for control will be to minimize costs. If the optimal amount of bribery and censorship for an outlet which has  $y$  opportunities to break a story is  $\left[ \sum_{\Omega=1}^{\Omega=x} \left[ \sum(n_s) < \frac{r}{\tau_{sb}\alpha_s} \right] + \sum_{\Omega=x}^{\Omega=y} \left[ \sum(n_s) < \frac{r}{\tau_{sc}\alpha_s} \right] \right]$  (for brevity (\*)), then deviating from this by substituting for either marginally more censorship  $\Delta \frac{d'\Omega(c)}{d'q}$  and less bribery  $\nabla \frac{d'\Omega(b)}{d'q}$  (for brevity ( $\Delta c$ )) or more bribery  $\Delta \frac{d'\Omega(b)}{d'q}$  and less censorship  $\nabla \frac{d'\Omega(c)}{d'q}$  (for brevity ( $\Delta b$ )) will yield higher costs and lower rents in the second period, as  $r - \sum_{i \in I} t_{is\Omega} (*) > r - \sum_{i \in I} t_{is\Omega} (\Delta c)$ , and  $r - \sum_{i \in I} t_{is\Omega} (*) > r - \sum_{i \in I} t_{is\Omega} (\Delta b)$ .

## Appendix B

### Summary statistics

	Observations	Mean	Standard deviation	Min	Max
Censorship event	8704	0.9	0.23	0.00	1.00
Severity of censorship	7870	7.6	3.47	1.00	13.00
Ownership type	5117	0.2	0.38	0.00	1.00
Media type	5571	3.1	1.68	1.00	8.00
Frequency of publication (for print only)	1457	1.5	0.64	1.00	3.00
Media location (Abroad)	1745	0.3	0.44	0.00	1.00
Gender	3156	0.9	0.30	0.00	1.00
Economic constraints	8972	16.4	5.94	2.00	39.00
Legal constraints	8973	17.8	7.86	0.00	30.00
Political constraints	8973	23.0	8.75	1.00	40.00
GDP pc (log)	7124	7.9	1.45	4.41	12.11
Population (log)	7923	16.5	1.95	9.16	21.05
Political competition	6963	29.0	30.40	0.00	100.00
Government fractionalization	6530	0.2	0.27	0.00	1.00
Incumbent tenure	5401	12.9	14.12	1.00	63.00
Corruption	6723	0.6	0.26	0.01	0.97
Democracy	9026	5.6	3.01	0.00	10.00
Ethnic fractionalization	8798	0.5	0.25	0.00	0.93
Instruments					
News consumption (TV)	3407	70.4	19.21	2	96
News consumption (Radio)	3407	14.6	18.9	0	88
News consumption (Newspapers)	3407	8.8	4.9	1	28
News consumption (Internet)	3407	3.4	4.22	0	25

Table B.1: Summary statistics