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Abstract

Politicians are sometimes accused of sending "red herrings", irrelevant information meant to distract their audience from other information. When do they succeed in fooling voters? How is this affected by the media? This paper proposes a model of election with red herring. An incumbent running for re-election may send an irrelevant "tale" to distract voters from a scandal. Some politicians may simply enjoy telling irrelevant tales, making it difficult for voters to recognize red herrings. Red herrings can thus be "successful" in that the incumbent is re-elected despite the scandal. Equilibrium characterization sheds light on two non-trivial results. First, the game sometimes has multiple equilibria: society may coordinate on equilibria with no or some successful red herring through a self-fulfilling social norm of tale-telling. However, high media attention to tales may discipline scandal-free politicians due to voter suspicion of tales, leaving a unique equilibrium with no successful red herring. A dynamic extension introduces feedbacks between the pool of politicians and media attention. Polar cases in which red herring is predicted to increase over time or on the contrary disappear are highlighted. A second extension shows that voter polarization is predicted to have ambiguous effects on politician discipline and thereby on screening.

JEL Codes : C72, D72, D83, D91, L82.

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1 Introduction

> *"I want you to consider, this... **[theatrical pause, bends down and brandishes a smoked fish]** "kipper, which has been presented to me just now by the editor of a national newspaper who received it from a kipper smoker in the Isle of Man who is utterly furious because after decades of sending kippers like this through the post, he has had his costs massively increased by Brussels bureaucrats who have insisted that each kipper be accompanied by... this" **[bends down, brandishes an ice pillow]** "a plastic ice pillow. Pointless, damaging, environmentally damaging health and safety."*
>
> — **Boris Johnson, during the Conservative party leadership campaign in 2019**[1]

In 2019, after Boris Johnson made the headlines with a speech on fish packaging regulations while he campaigned for Prime Minister, observers were quick to call the speech a "*total* red herring".[2] The accusation was not only a pun on the fish brandished by the politician, but also a reference to a two hundred years old expression: in 1807, William Cobbett, an English politician and journalist indeed recounted how he had successfully distracted hounds from a prey... By planting a strongly smelling smoked fish (a "red herring"). Through this anecdote, he meant to decry the press for having let itself be distracted from important information by some fabricated story. The idiom "red herring" was born, hereafter referring to information disclosed with the intention of distracting from other information.[3] Since then, politicians from Boris Johnson to Donald Trump have often been accused of sending red herrings.

Under what conditions do politicians attempt to and succeed in concealing information to voters through red herrings? How do journalistic practices affect red herring success and ultimately candidate screening?

In 2017, *"Post-truth"* - "circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal beliefs" - was declared "word of the year" by the Oxford Dictionary. This echoed concerns over the role played by manipulations in the year's political upheavals, from the Brexit referendum to Donald Trump's election.[4] Besides outright lies, both the Brexit champion Boris Johnson and Donald Trump have often appeared to be spinning unrelated tales to distract their audience from some question: besides the kipper anecdote, Boris Johnson also rambled at length on a cup of tea he offered journalists or an amusement park he had visited, while Donald Trump evaded questions on racism and misogyny accusations by talking at length about the quietness of his

[1] **Media Mole**. 2021. "The truth about Boris Johnson's kipper". *The New Statesman*. Jun 07. https://www.newstatesman.com/politics/2012/06/truth-about-boris-johnson-s-kipper.

[2] See, e.g. **Brunsden, Jim and Parker, George**. 2019. "Boris Johnson's kipper claim is red herring, says EU", Jul 18. *The Financial Times*. https://www.ft.com/content/1ba5b9c4-a954-11e9-b6ee-3cdf3174eb89.

[3] **Stevens**, Heidi. 2011. "Catching a red herring". *Chicago Tribune*, Feb 02. https://www.chicagotribune.com/lifestyles/ct-tribu-words-work-herring-20110202-story.html.
Tréguer, Pacal. nd. "The authentic origin of 'red herring'". *Word histories*, Accessed Feb 01 2023. https://wordhistories.net/2017/07/06/red-herring-origin/.

[4] "Post-truth". nd. Oxford Learners Dictionary, Accessed Feb 01 2023. https://www.oxfordlearnersdictionaries.com/definition/english/post-truth?q=post-truth.
"'Post-truth' declared word of the year by Oxford Dictionary". 2016. *BBC News*, Nov 16. https://www.bbc.co.uk/news/uk-37995600.

accuser's wife or a terrorist group.[5] If successful, such red herring attempts may be thought to be a non-negligible tool in the post-truth arsenal. Importantly, politicians' tales often receive extensive media and public attention due to their entertaining dimension, raising the question of whether the media attention to such tales facilitates red herrings.[6]

This paper elicits conditions under which red herring attempts will be successful and investigates the role of the media attention to tales. To do this, it develops a model of election with red herring by a scandal-plagued incumbent running for re-election.

The first building block of this model is the simple adverse selection set-up already at the core of existing models of politician screening with media (Besley and Prat (2006), Andreottola and De Moragas (2020)): politicians are assumed to be either good or bad while a Bayesian representative voter is seeking to elect a good politician. At the beginning of the game, an incumbent running for re-election and his opponent are drawn independently from the same population. The voter cannot observe their types. If the incumbent is bad, the media detects with probability q^S a "scandal": a verifiable signal of the incumbent's quality. Regardless of the incumbent's type, the media always detects a "generic piece".

The main innovation of the model is the following: upon observing whether a scandal is detected, the incumbent can choose whether to "*remain silent*" or "*engage in tale-telling*". Besides quality, his type is assumed to consist of a "*preference for tale-telling*" orthogonal to quality: certain incumbents - "*newsmakers*" - enjoy a benefit from tale-telling, while the rest - "*non-newsmakers*" - incur a cost. If the incumbent engages in tale-telling, the media detects his tale with some probability q^T which captures the media attention to tales. The media then covers a subset of the stories it detected.

The voter comes across a subset of the stories covered by the media: if the media covers both a tale and scandal, the tale may "*crowd-out*" the scandal, in the sense that the voter may be distracted and see the tale but not the scandal. Based on the stories she comes across, the voter updates her belief on the incumbent's type and decides whether to re-elect him or vote him out.

Focusing on Perfect Bayesian Equilibria, this paper characterizes all PBEs of the game and sheds light on the following results:

First, it focuses on a no-newsmaker benchmark in which the population of politicians only consists of non-newsmakers. In this setting, an arbitrarily small cost of tale-telling is sufficient to ensure that the unique PBE of the game is one in which red herring attempts cannot fool the voter. Indeed, even if a tale sent in a red herring attempt crowded-out the scandal, a Bayesian voter should understand that the tale is a red herring and vote the incumbent out. This benchmark helps see the force making successful red herrings possible in the model: uncertainty over the incumbent's preference for tale-telling is essential in making it possible for red herrings to fool the voter. If she suspects the incumbent of having an

[5] "Johnson gives journalists tea while avoiding burka questions". 2018. *BBC News*. Aug 12. https://www.bbc.co.uk/news/av/uk-45164768.
"Boris Johnson says Peppa Pig World 'very much my kind of place'". 2021. *BBC News*. Nov 22. https://www.bbc.co.uk/news/av/uk-politics-59376386.
Cliff, Jim. 2019. "Red herring". *Fallacious Trump*. Sep 09. https://fallacioustrump.com/ft33/.
Transcripts of the speech or interview extracts can be found in Appendix.

[6] For instance: in 2017, Donald Trump's third most retweeted tweet was his infamous *"Covfefe"* tweet ; no fewer than 72 New-York Times articles mention "covfefe" (Data: Trump Twitter Archive Brown (2009-2021), https://www.nytimes.com/). 1,120 Guardian articles or videos mention *"Boris Johnson"* and *"kipper"*, while 567 mention *"Boris Johnson"* and the amusement park *"Peppa Pig World"* (Data: https://www.theguardian.com/uk).

intrinsic preference for tale-telling, the voter may give the benefit of the doubt to tale-tellers and re-elect them, making successful red herring attempts possible. A Bayesian voter can only be fooled by red herring attempts if the red herring sender pools with scandal-free newsmakers.[7]

Second, under certain conditions, multiple equilibria co-exist: society may coordinate on good (no successful red herring: "no herring equilibrium") or bad (some successful red herring) equilibria. A sufficiently strong social norm of tale-telling, whereby a sufficiently large fraction of scandal-free incumbents engage in tale-telling, indeed decreases the voter's suspicion of tales. This decreases the electoral sanction that incumbents may expect from engaging in tale-telling, thereby making the social norm of tale-telling sustainable. A sufficiently large electoral sanction against tale-telling would however lead scandal-free incumbents to systematically refrain from tale-telling, conducing society to equilibria with no successful red herring since a tale would signal an underlying scandal. Since a larger fraction of newsmakers makes a larger social norm of tale-telling possible, the maximum extent of successful red herring in equilibrium increases with the fraction of newsmakers.

Third, perhaps unexpectedly, if newsmakers are not too numerous and newsmakers' tale-telling benefit moderate, the media attention to tales q^T has an overall bell-shaped effect on successful red herring and U-shaped effect on screening: when the media attention to tales is sufficiently high, the game has a unique equilibrium ; in this equilibrium, red herring attempts never succeed (it is a "no herring equilibrium") and screening is identical to the no-newsmaker benchmark. Initial increases in q^T intuitively increase tale-telling and worsen screening by increasing the probability that a tale be detected by the media and therefore crowd-out a scandal. However, provided that newsmakers are not too numerous, the voter may be suspicious of tales if scandal-plagued non-newsmakers are known to make red herring attempts. If this is the case, she will vote out tale-tellers. Hence, further increases in q^T eventually lead scandal-free newsmakers to refrain from tale-telling as their expected electoral cost of tale-telling eventually outweighs their tale-telling benefit. This makes successful red herrings impossible, restoring benchmark screening.

Finally, whether newsmakers or non-newsmakers have the highest re-election probability hinges upon the media's scandal and tale detection probabilities q^S and q^T. When the media often detects scandals and seldom detects tales, newsmakers have an advantage over non-newsmakers. The reverse however sometimes holds when the media seldom detects scandals but often covers tales due to suspicion of tales, to the point that *good* newsmakers may have a lower re-election probability than *bad* non-newsmakers.

[7] One may often only speculate about the exact "intentions" behind a tale. For instance, Donald Trump's infamous "Covfefe" tweet was probably initially a simple mistake, and his strategic advisers were reported to have urged him against continuing to tweets, suggesting that his extravagant tales are not always intentional or politically strategic.

Levy, Gabrielle. 2017, "Trump: Fake Media Want Me to Stop Tweeting". *US News*, Jun 06. https://www.usnews.com/news/politics/articles/2017-06-06/donald-trump-defends-tweeting-as-staff-lawyers-urge-him-to-stop.

"'Hasta la vista, baby': Boris Johnson's last words at PMQs – video". 2022. *The Guardian*, Jul 20. https://www.theguardian.com/politics/video/2022/jul/20/hasta-la-vista-baby-boris-johnson-last-words-at-pmqs-video.

In turn, in July 2022, Boris Johnson made the headlines the phrase *"Hasta la vista, baby!"*, while he may be thought of having little at stake since he had already been voted out

"'Hasta la vista, baby': Boris Johnson's last words at PMQs – video". 2022. *The Guardian*, Jul 20. https://www.theguardian.com/politics/video/2022/jul/20/hasta-la-vista-baby-boris-johnson-last-words-at-pmqs-video.

Those results speak to two strands of the political economy literature: the recently emerging literature on electoral competition with inattentive voters (e.g. Nunnari and Zápal (2017), Matějka and Tabellini (2021)) and the older literature on the effects of the media on politician accountability (Besley and Prat (2006), Andreottola and De Moragas (2020)). This model contributes to the latter by investigating a theoretically unexplored facet of the media: its relative attention to different kinds of news.[8]

To the best of my knowledge, this is the first model of red herring. The closest story is probably to be found outside of political economy in Hermalin (2017)'s model of charismatic team leaders, in which leaders may choose to disclose soft rather than hard information when the state of nature is bad. However, as discussed in greater details in Section 2, Hermalin (2017)'s setting, assumptions and ultimately implications are very different. In particular, while in Hermalin (2017), charismatic leaders are systematically preferred, in this paper, voters may sanction tale-tellers due to suspicion of tales.

Overall, the main highlights of the core model are two non-trivial results induced by equilibrium shifts. First, it sheds light on the *role of the social norm of tale-telling* in making successful red herring possible or impossible. Second, while one might have expected increased media attention to tales to *systematically worsen screening* given the channel isolated, this paper shows that it may improve screening by disciplining politicians due to suspicion of tales.

Extensions explore the effect of initial conditions and polarization through two variants of the game.

First, a dynamic version is developed to investigate the role of initial conditions. Motivated by the finding that newsmakers may have an electoral advantage or disadvantage and the decisive roles played by the fraction of newsmakers and the media attention to tales, the latter quantities are jointly endogenized. Parties are assumed to respond to the electoral advantage or disadvantage of some type of politicians by reorganizing, changing their fraction of newsmakers. This triggers reallocations of media resources in response to the changing tale frequency. Depending on the PBE, the fraction of newsmakers and the media attention to tales are strategic complements or on the contrary strategic substitutes. Strategic complementarity implies that an arbitrarily small initial fraction of newsmakers will always grow. This, in turn, will increase red herring. By contrast, strategic substitution implies that, under certain conditions, a society starting with a very large fraction of newsmakers but an intermediate social norm of tale-telling will eventually settle on a "no herring equilibrium" due to suspicion of tales.

Finally, an infinite number of voters variant of the game is developed to allow for polarization of the electorate. Depending on the fraction and bias of incumbent supporters, a shrinking fraction of centrists will strengthen or weaken the discipline which media attention to tales exerts on scandal-free newsmakers. When discipline is sufficiently dampened, the equilibrium with a social norm of tale-telling of zero systematically co-exists with equilibria with a higher social norm of tale-telling and worse screening. Assuming social norm inertia, society will then never coordinate on a social norm of tale-telling of zero unless it starts there.

Section 2 contrasts the model's assumptions and main results with the related literature. Section 3 lays out the core model. Section 4 describes the steps followed to characterize

[8]Note that it relates to empirical work on the electoral effects of entertainment media such as Durante, Pinotti and Tesei (2019).

equilibria and defines concepts used to compare equilibria. Section 5 highlights the results of the baseline model. Proposition 1 characterizes the unique equilibrium in the absence of newsmakers. Proposition 2 and its corollary highlight the decisive role of coordination on a social norm of tale-telling and of the fraction of newsmakers. Proposition 3 is concerned with the effect of the media attention to tales on red herring and screening. It highlights the disciplining effect played by high media attention to tales when newsmakers are a minority. Proposition 4 and its corollary show that newsmakers may have an electoral advantage or disadvantage compared to non-newsmakers. Section 6 develops the extensions and their take-aways. Proposition 5, Proposition 6 and their corollaries highlight two polar cases in which successful red herring will increase or decrease over time. Proposition 7 and its corollary show that voter polarization may strengthen or dampen newsmakers' discipline, possibly making it impossible for society to settle on a social norm of tale-telling of zero. Section 7 concludes.

2 Related Literature

This section reviews the literature the paper contributes or relates to, contrasting the model's assumptions and results to the most closely related articles. It conclude by mentioning existing empirical evidence on some of the key forces behind the model's results.

This paper contributes to the literature on the effects of the media on elections and in particular on politician accountability.

As mentioned in introduction, some of the model's underpinnings build on earlier models of candidate screening with scandals detected by the media (Besley and Prat (2006) and Andreottola and De Moragas (2020)): elections are modelled as an adverse selection setting in which the media may detect a scandal on an incumbent running for re-election, where scandals are understood as verifiable signals of type. While earlier work focused on the effects of media pluralism, this paper however turns its focus to the effects of the media attention to different types of news, "scandals" and irrelevant "tales".[9]

Insofar as the media's attention to tales may be interpreted as the probability with which the media debunks a lie, the model also relates to the substrand on fact-checking and in particular to models of cheap talk with a lie detection probability (Balbuzanov (2019), Dziuda and Salas (2018), Ederer and Min (2022) and Levkun (2021)). However, by contrast to the fact-checking literature, it abstracts from standard persuasion channels to isolate a crowding-out mechanism, assuming that the content of tales are irrelevant for persuasion: tales are here assumed to only "persuade" voters through an information overload, by crowding-out more relevant information. The choice to isolate this previously-unexplored channel is motivated by the evidence of distrust towards politicians and the large media coverage often received by politicians' lies, suggesting that information overload might not be a second-order persuasion channel.[10]

[9] Media pluralism is however considered in Appendix.

[10] For skepticism of politicians honesty, see for instance:
Rainie, Lee and Andrew Perrin. 2019. "Key findings about Americans' declining trust in government and each other". *Pew Research Center*, Jul 22. https://policycommons.net/artifacts/616700/key-findings-about-americans-declining-trust-in-government-and-each-other/1597392/.
Van der Meer, Tom WG. 2017. "Political trust and the "crisis of democracy"". *Oxford research encyclopedia of politics*, Jan 25. https://oxfordre.com/politics/display/10.1093/acrefore/9780190228637.001.0001/acrefore-9780190228637-e-77;jsessionid=9086359A89F3C2A1D1B30961F3EBEFFF

The literature on the effects of the media on elections has often focused on media bias (Bernhardt, Krasa and Polborn (2008), DellaVigna and Kaplan (2007), Gentzkow and Shapiro (2006), Martin and Yurukoglu (2017)). By making repetition and fact-checking equivalent (subsumed under the umbrella term of "media attention to tales"), the crowding-out mechanism isolated here abstracts from this question. However, the results may have implications for the effects of biased media insofar that pro and anti incumbent media may be expected to pay different attention to different news.

The model also contributes to the emerging literature modelling electoral competition with inattentive voters (Nunnari and Zápal (2017), Matějka and Tabellini (2021)).

By assuming that a tale sent by the incumbent may distract the voter from a scandal, the model focuses on inattention driven by bottom-up salience like Nunnari and Zápal (2017) to use the terminology in Bordalo, Gennaioli and Shleifer (2022).[11] This contrasts with the top-down salience assumed by Matějka and Tabellini (2021) who build on the rational inattention literature. The rationale to explore bottom-up salience here is the following: although a large volume of information is today accessible to voters, information is often redundant rather than granular as media outlets often take their information from other outlets or common sources.[12] This leaves a large role to be played by the media or incumbent's discretion in supplying some piece of information: if an information is not broken by any source, a voter browsing news will never come across this information. Thus, the set of possible voter information sets is a subset of the set of all stories broken by intermediaries. Additionally, although voters can choose which sources to pay attention to, choosing to see or unsee some information is impossible. In this model, the information disclosure actions of the media and incumbent therefore play a key role in determining what the voter may or may not see.[13]

To the best of my knowledge, the existing literature on electoral competition with inattentive voters has focused on platform prediction, in echo of concerns over rising polarization. By building on the tradition of adverse selection models of elections, this paper abstracts from platform prediction to focus on candidate quality. Polarization of the electorate is however considered in extension as the baseline representative voter model is modified to allow for a polarized electorate and investigate how polarization this affects candidate screening.

Although the paper does not directly contribute to this literature, one may draw a parallel with the literature on charismatic leaders. In particular, as mentioned in introduction, the red herring story modelled here echoes the story in Hermalin (2017) where team leaders may decide to reveal soft over hard news when the state of the world is bad. However, the assumed driving forces and results are very different. Hermalin (2017)'s results are indeed driven by an assumption of irrationality of a fraction of followers combined with complementarity in team production absent from the election context on which this paper focuses: a fraction of followers is assumed not to be Bayesian and to therefore exert greater effort when

Also note that, in 2018, a Washington Post survey found that the majority of Americans, including Republicans, were skeptical of Donald Trump's claims, see: **Clement, Scott and Glenn Kessler**. 2018. "Trump routinely says things that aren't true. Few Americans believe him". *The Washington Post*, Dec 13. https://www.washingtonpost.com/graphics/2018/politics/political-knowledge-poll-trump-falsehoods/.

[11] In other settings, bottom-up salience has been used to model competition between firms for voter attention, e.g. Falkinger (2008).

[12] See, e.g. Angelucci and Cagé (2019)

[13] Note that the decisive role played by the incumbent's choice of sending a tale echoes Mukand and Rodrik (2018)'s idea that a candidate may, at some cost, find some idea to broadcast in order to sway voters.

the leader discloses soft news ; this generates positive externalities through team production so that Bayesian followers prefer charismatic leaders despite understanding their intentions. By contrast, in this paper, the representative voter is Bayesian but the assumed uncertainty over the incumbent's intentions makes it possible for the incumbent to hide a bad state of the world (scandal). In Hermalin (2017), charismatic leaders are systematically preferred over non-charismatic ones due to the positive externalities generated through teamwork. By contrast, in this model, a preference for tale-telling may be an electoral advantage through successful red herring or disadvantage due to voter suspicion of tales.

Before proceeding to the model set-up, it is worth mentioning some empirical papers which bring evidence on the mechanisms driving the results.

The core idea of this paper is that politicians may try to exploit voters' inattention and vulnerability to bottom-up stimuli to distract them from a scandal. A review of the empirical evidence showing that bottom-up stimuli such as prominence, contrast or surprise affects the attention received by different stimuli can be found in Bordalo, Gennaioli and Shleifer (2022). In turn, Durante and Zhuravskaya (2018) and Eisensee and Strömberg (2007) both show that politicians sometimes strategically exploit exogenous news pressure to hide unpopular information.

A key driving force behind one of the main results is that, although inattentive, voters are Bayesian and may therefore suspect that politicians' tales are meant to distract them from some scandal. Martinez-Bravo and Stegmann (2022) show that an actual red herring led to subsequent suspicion, suggesting that voters may indeed be suspicious of red herrings.

Finally, another driving force which arises endogenously can be interpreted as a self-fulfilling perceived social norm of tale-telling: if voters expect incumbents to often engage in tale-telling despite being scandal-free, incumbents who enjoy tale-telling need not fear electoral sanction against tale-telling. This, in turn, generates a social norm under which successful red herrings are possible. Interestingly, this result echoes the self-fulfilling perceived social norms previously highlighted in different contexts by Bursztyn, Egorov and Fiorin (2020) and Bursztyn, González and Yanagizawa-Drott (2020).

3 Model Set-Up

Players consist of an incumbent i ("he") running for re-election, a non-strategic media m and a Bayesian representative voter v ("she").

The incumbent can choose whether to remain silent or send a tale, choosing $T_i \in \{0;1\}$. The media detects and covers a set of stories $\mathcal{S}_m$ defined hereafter. The voter observes stories $\mathcal{S}_v \subseteq \mathcal{S}_m$ and accordingly decides whether to vote the incumbent out or re-elect him, choosing $V \in \{0;1\}$.

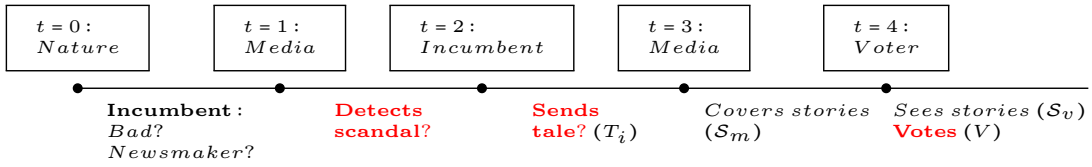
Figure 1 summarizes the timing of the game which is detailed below:

Timing of the game:

In $\mathbf{t = 0}$: The incumbent i and an opponent $-i$ are independently drawn from the same population of candidates.[14]

[14]The assumption of a single opponent is without loss of generality as the analysis would be identical for any positive integer of opponents.

Figure 1: Timing of the game



Candidates' types are two-fold: quality and preference for tale-telling which are independent. A fraction π are "bad" (rather than "good"), with $\pi \in (0;1)$. A fraction μ are "newsmakers" (rather than "non-newsmakers"), with $\mu \in (0;1)$. The voter is unaware of candidates' types while candidates know their preference for tale-telling but not their quality.[15]

The voter seeks to elect a good candidate but is indifferent between electing a newsmaker or non-newsmaker.

Formally, her payoff is: $U_v = V1\{i = good\} + (1 - V)1\{-i = good\}$

In turn, the incumbent's payoff U_i depends on whether he is re-elected, his action and his preference for tale-telling. All incumbents earn a positive payoff from re-election. However, newsmakers additionally enjoy a tale-telling benefit while non-newsmakers suffer a cost.[16]

Formally, his payoff is: $U_i = \begin{cases} V + BT_i \;\; if \;\; i = newsmaker \;\; (with \;\; B \in (0;1)) \\ V - \epsilon T_i \;\; otherwise \;\; (with \;\; \epsilon > 0) \end{cases}$ [17]

In **t = 1**: The media detects a set $\mathcal{S}_{d1}$ of "stories" on the incumbent. It always detects a "**generic story**" (G) which is assumed to have no informative content. If the incumbent is bad, it additionally detects a "**scandal**" (S) with probability $q^S \in (0;1)$. Scandals are verifiable signals of quality and are only detected if the incumbent is bad.[18]

Formally: $\mathcal{S}_{d1} = \begin{cases} \{G, S\} \;\; with \;\; Pr = q^S \;\; if \;\; i = bad \\ \{G\} \qquad otherwise \end{cases}$

[15]The assumption that the voter does not know the incumbent's type before his term is over is similar to the assumption made by Besley and Prat (2006) and Andreottola and De Moragas (2020). Possible interpretations range from: information not being immediately revealed, the voter quickly forgetting previous information and only remembering what she sees in the run-up to the election, only starting to pay attention to information in the run-up to the election, to the more conservative possibility that re-election-seeking incumbents all pool on the same behaviour during their first term.
Assuming ignorance of one's quality helps narrow down the set of equilibria. An interpretation could be that all candidates think of themselves as good ; alternatively, the suitability of an incumbent might be state-contingent and the state of the world unknown to the incumbent.

[16]Rather than a taste for tale-telling, B may equivalently be interpreted as minus a cost from watching one's words to stop oneself from committing blunders. In Appendix, an alternative specification is considered in which "newsmakers" are replaced by "attention-seekers" who derive B iff their tale is detected by the media but always incur the cost ϵ from tale-telling (interpreted as a technical cost of producing a tale).

[17]The assumption that $B < 1$ implies that newsmakers value re-election more than tale-telling. It helps narrow down the set of results but could be relaxed.

[18]The assumption that the media may only detect scandals on the incumbent rather than on both the incumbent and his opponent reflects the higher media scrutiny to which incumbents may be subject, as well as the fact that the media may have access to more information on the incumbent than on his opponent. It is similar to the assumption made by Besley and Prat (2006) and Andreottola and De Moragas (2020).

In **t = 2**: The incumbent sees the set of stories $\mathcal{S}_{d1}$ detected by the media and accordingly chooses whether to send a "**tale**" or remain silent: he chooses $T_i \in \{0;1\}$. Tales are assumed to have no informative content. If the incumbent sends a tale ($T_i = 1$), the media detects this tale (T) with probability $q^T \in (0;1)$.[19]

Formally, denoting $\mathcal{S}_{d2}$ the stories detected by the media by the end of t = 2:

$$\mathcal{S}_{d2} = \begin{cases} \mathcal{S}_{d1} \cup \{T\} & with \;\; Pr = q^T \;\; if \;\; T_i = 1 \\ \mathcal{S}_{d1} & otherwise \end{cases}$$

In **t = 3**: The media covers a subset $\mathcal{S}_m$ of the stories $\mathcal{S}_{d2}$ it has detected.

It is assumed to always cover a tale or a scandal it detected but to only cover a generic story if it did not detect any other story.[20]

$$\textit{Formally: } \mathcal{S}_m = \begin{cases} \mathcal{S}_{d2} \setminus \{G\} & if \;\; S \in \mathcal{S}_{d2} \;\; or \;\; T \in \mathcal{S}_{d2} \\ \mathcal{S}_{d2} & otherwise \end{cases}$$

In **t = 4**: The voter sees a subset $\mathcal{S}_v$ of the stories $\mathcal{S}_m$ covered by the media and votes: she chooses $V \in \{0;1\}$.

If only one story was covered by the media, she sees it. However, if multiple stories were covered, she might see only one: some story might be *crowded-out*. In particular, when a scandal *and* a tale are covered by the media, the scandal is crowded-out by the tale with a probability $H \in (0;1)$.[21]

$$\textit{Formally: } \mathcal{S}_v \in \begin{cases} \big\{\{S,T\},\{S\}\big\} & if \;\; \mathcal{S}_m = \{S\}, \;\; or \;\; with \;\; Pr = 1-H \;\; if \;\; \mathcal{S}_m = \{S,T\} \\ \big\{\{T\}\big\} & if \;\; \mathcal{S}_m = \{T\}, \;\; or \;\; with \;\; Pr = H \;\; if \;\; \mathcal{S}_m = \{S,T\} \\ \big\{\{G\}\big\} & otherwise \end{cases}$$

Based on her information set $\mathcal{S}_v$, the voter updates her prior on the incumbent's type and decides whether to re-elect him. Payoffs are then realized.

4 Analysis

Before proceeding to the presentation of the results in the next section, this section explains how equilibria are characterized and defines the concepts used to compare the equilibria of the game.

[19] q^T captures the media's attention to tales. To shut down the persuasion channel and focus on crowding-out only, tales are assumed to concern topics irrelevant for the voting decision. This implies that whether the media simply repeats the tale without fact-checking it or, on the contrary, debunks it and publishes a disclaimer, is equivalent.

[20] The assumption that the media covers both the scandal and the tale after detecting both stories is without loss of generality as the hereafter-defined probability H that a scandal be crowded-out conditional on a tale being detected could be reinterpreted as the probability that the media only covers the tale after detecting both the tale and the scandal.

[21] Alternatively, H may be interpreted as reflecting a combination of crowding-out on the voter and the media's side, whereby, when aware of both a scandal and a tale, the latter may choose to only cover the tale or to give a lower coverage to the scandal than it would have done in the absence of a tale.
Although a scandal may equivalently crowd-out a tale, the probability that this happens is of no consequence for the analysis and therefore does not need to be specified.

4.1 Equilibrium Characterization

The equilibrium concept used is Perfect Bayesian Equilibrium (hereafter "PBE"). In $t = 4$, the voter forms a belief on the incumbent's type following Bayes Rule whenever possible. Her strategy is optimal given this belief. The incumbent's strategy is, in turn, optimal given the voter's strategy.

The voter's strategy is a mapping from her $t = 4$ information set $\mathcal{S}_v$ to a probability distribution over possible actions (re-elect the incumbent or vote him out). The voter's problem is therefore:

$$\max_{V^* \epsilon \{0;1\}} \mathbf{E}_{v,t=4}(U_{v,t=4}(V|\mathcal{S}_v)) \tag{1}$$

By assumption, the voter has the same prior on the types of the two candidates. She is further assumed to be indifferent between electing a newsmaker or non-newsmaker but benefits from electing a good rather than bad candidate. Thus, she re-elects the incumbent if and only if her prior the the incumbent is good increases as she sees $\mathcal{S}_v$, possibly mixing if her prior does not change.

The incumbent's strategy is a mapping from his $t = 2$ information set (his preference for tale-telling and the set of stories detected by the media in $t = 1$) to a probability distribution over possible actions (sends tale or remains silent).[22] The incumbent's problem is therefore:

$$\max_{T_i{}^* \epsilon \{0;1\}} \mathbf{E}_{i,t=2}(U_{i,t=4}(T_i|preference\ for\ tale-telling, \mathcal{S}_{d1})) \tag{2}$$

All PBEs of the game are characterized in a three steps process summarized here:
(i) The set of all possible incumbent strategies is partitioned and Lemma 1 (defined below) is used to rule out strategies which cannot be optimal.
(ii) For each of the remaining strategies, the voter's posterior on incumbent quality depending on her information set $\mathcal{S}_v$ is calculated using Bayes Rule whenever possible.[23] The voter's best response to the incumbent's strategy is accordingly deduced as a function of the parameters (μ and H).
(iii) Conditions on the parameters (ϵ, B and q^T) for which the incumbent's strategy is optimal given the voter's best response are identified.

Lemma 1 is used to simplify steps (i)-(iii):

Lemma 1:

1. *In any PBE, the voter always re-elects the incumbent upon seeing the generic story.*
   Formally: $Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$

[22] Since the incumbent is assumed to be unaware of his quality, the incumbent's strategy is independent of his quality.

[23] The assumption that $q^T < 1$ (along with $\pi < 1$) implies that, regardless of the incumbent's strategy, seeing the generic story will always be on-path for the voter. Hence, the only candidate equilibrium for which off-path beliefs need to be specified is the candidate equilibrium where the incumbent never engages in tale-telling.

2. *In any PBE, scandal-free non-newsmakers never engage in tale-telling.*
   Formally: $Pr(T_i^* = 1 | non-newsmaker, S \notin \mathcal{S}_{d1}) = 0$

3. *In any PBE, scandal-plagued newsmakers always engage in tale-telling.*
   Formally: $Pr(T_i^* = 1 | newsmaker, S \in \mathcal{S}_{d1}) = 1$

4. *In any PBE in which scandal-free newsmakers never engage in tale-telling, scandal-plagued non-newsmakers never engage in tale-telling.*
   Formally: $Pr(T_i^* = 1 | newsmaker, S \notin \mathcal{S}_{d1}) = 0 \Rightarrow Pr(T_i^* = 1 | non-newsmaker, S \in \mathcal{S}_{d1}) = 0$

Proof: See Appendix. ■

The intuition behind Lemma 1 is the following. Seeing the generic story indicates that no scandal was detected by the media. This increases the voter's posterior that the incumbent is good so she re-elects the incumbent (Lemma 1-1). This, in turn, implies that scandal-free non-newsmakers have no reason to engage in tale-telling since it is costly to them (Lemma 1-2). Part 3 derives from the fact that, upon seeing a scandal, the voter votes the incumbent out so scandal-plagued newsmakers have no reason not to engage in tale-telling. Part 4 derives from the fact that, if only scandal-plagued incumbents send tales, the voter must understand that a tale signals a scandal and vote tale-tellers out. This leaves no reason for non-newsmakers to ever engage in costly tale-telling.

Parts 2 to 4 are used to rule out unfeasible candidate equilibria (see Appendix Table 1) in step (i) of equilibrium characterization.

Part 1 further implies that, in step (ii), the voter's posterior only needs to be calculated for the "only tale" information set ($\mathcal{S}_v = \{T\}$ in orange in Figure 2).

Indeed, we know from Lemma 1-1 that, if the voter sees the generic story ($\mathcal{S}_v = \{G\}$, in green in Figure 2), her prior that the incumbent is good increases so she re-elects him. By contrast, if she sees a scandal ($\mathcal{S}_v \in \big\{\{S\}, \{S,T\}\big\}$ in red in Figure 2), she learns that the incumbent is bad and votes him out.

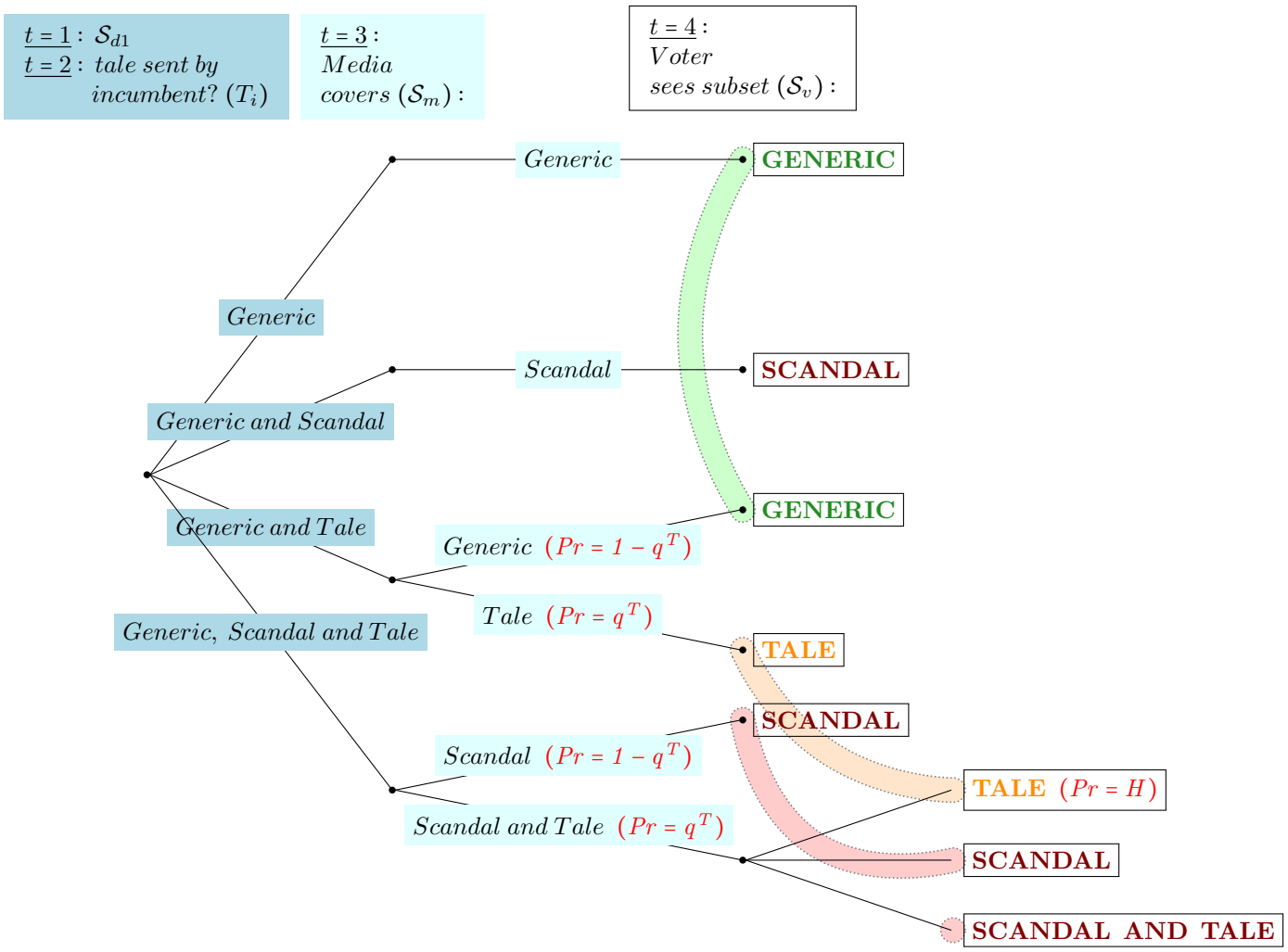
If she sees only a tale however, her posterior that the incumbent is good ($Pr(i = good | \mathcal{S}_v = \{T\})$) depends on the tale-telling frequencies of scandal-free newsmakers and scandal-plagued non-newsmakers. Using Bayes rule, Lemma 1-2 and 1-3, it takes the form:

$$\frac{(1-\pi)\mu Pr(T_i^* = 1 | i = newsmaker, S \notin \mathcal{S}_{d1})}{(1-\pi\mu q^S) Pr(T_i^* = 1 | i = newsmaker, S \notin \mathcal{S}_{d1}) + \pi\big(q^S(\mu + (1-\mu) Pr(T_i^* = 1 | i = non-newsmaker, S \in \mathcal{S}_{d1})\big) H} \tag{3}$$

Upon seeing only a tale, the voter re-elects the incumbent if this probability is higher than $1-\pi$, possibly mixing if it is equal to $1-\pi$.

Parts 2-4 can be used to simplify step (iii): Parts 2 and 3 can be used to reduce the number of incumbent incentive compatibility conditions which need to be verified to two (scandal-free newsmaker and scandal-plagued non-newsmaker), while Part 4 can be used to reduce the number of incumbent incentive compatibility conditions which need to be verified to one (scandal-free newsmaker) in candidate PBEs in which scandal-free newsmakers do not engage in tale-telling.

Figure 2: Steps Leading from the Incumbent's Action T_i to the Voter's Information Set $\mathcal{S}_v$ in $t = 4$



The regime of PBEs obtained following this procedure can be found in Appendix Table 2. Appendix Tables 3-4 order the PBEs depending on the values of μ and q^T. Details of the proofs can be found in Appendix. PBEs which only exist for singleton parameter values are characterized in Appendix but omitted from the tables for clarity.

4.2 Definitions

Before proceeding to the results and their interpretation, it is useful to define the following concepts which are used to compare the PBEs of the game:

"Red herring attempt": *A red herring attempt is defined as a tale which is sent by a scandal-plagued incumbent. Thus, a "tale" is not necessarily a red herring attempt.*[24]

"Successful red herring attempt": *A red herring attempt is successful if the incumbent is subsequently re-elected despite the scandal.*[25]

"(Equilibrium) red herring ": *The "Equilibrium red herring" of a PBE (hereafter referred to as "Red herring" for brevity) is defined as the share of scandal-plagued incumbents making a successful red herring attempt. It can be decomposed as the product of the probabilities that a scandal-plagued incumbent makes a red herring attempt, that his tale crowds-out the scandal, and that the voter re-elects him upon seeing only the tale.*[26]

PBE types:

1. ***"No herring equilibrium" (NH):*** *a PBE in which, either the incumbent never makes red herring attempts, or in which the voter never re-elects the incumbent upon seeing only a tale. In these PBEs, scandal-plagued incumbents are always voted out.*[27]

2. ***"Partial herring equilibrium" (PH):*** *a PBE in which, either scandal-plagued incumbents do not systematically make red herring attempts, or the voter mixes upon seeing only a tale. In these PBEs, scandal-plagued incumbents either do not always attempt to crowd-out scandals or are not always re-elected upon succeeding in crowding-out scandals.*[28]

3. ***"Full herring equilibrium" (FH):*** *a PBE in which scandal-ridden incumbents always make red herring attempts and the voter always re-elects the incumbent upon seeing only a tale. In these PBEs, scandal-plagued incumbents always attempt to crowd-out scandals and are re-elected whenever the scandal is crowded-out.*[29]

Suspicion of tales may lead good newsmakers to be voted out in certain PBEs. Thus, the voter's expected utility from a PBE does not only depend on equilibrium red herring, but also on the frequency with which good incumbents are voted out. When analyzing the PBEs

[24] *Formally:* $S \in \mathcal{S}_{d1} \wedge T_i = 1$

[25] *Formally:* $S \in \mathcal{S}_{d1} \wedge T_i = 1 \wedge V = 1$

[26] *Formally:* $Equilibrium\ red\ herring = Pr(T_i{}^* = 1 | S \in \mathcal{S}_{d1}) \times q^T H \times Pr(V^* = 1 | \mathcal{S}_v = \{T\})$

[27] *Formally:* $\big(Pr(T_i{}^* = 1 | S \in \mathcal{S}_{d1}) = 0\big) \vee \big(Pr(V^* = 1 | \mathcal{S}_v = \{T\}) = 0\big)$
In the infinite voter variant of the game considered in extension, a "No herring PBE" denotes a PBE in which red herring senders are never re-elected, including PBEs in which some voters vote for red herring senders.

[28] *Formally:* $\big(Pr(T_i{}^* = 1 | S \in \mathcal{S}_{d1}) \in (0;1)\big) \vee \big(Pr(V^* = 1 | \mathcal{S}_v = T) \in (0;1)\big)$

[29] *Formally:* $\big(Pr(T_i{}^* = 1 | type, S \in \mathcal{S}_{d1}) = 1 \ \forall\ type \in \{newsmaker; non-newsmaker\}\big) \wedge \big(Pr(V^* = 1 | \mathcal{S}_v = \{T\}) = 1\big)$

of the game, the concept of "equilibrium screening" is accordingly defined as the following:

"(Equilibrium) screening": *"Equilibrium screening" (hereafter referred to as "Screening" for brevity) is defined as the expected quality, in a given PBE, of the candidate eventually elected in t=4. It increases in the probability that good incumbents be re-elected and the probability that bad incumbents be voted out.*[30]

5 Results

In this section, the equilibria of the game in the absence of newsmakers (Proposition 1) are first characterized to establish a benchmark to which other equilibria are compared.

The section then proceeds to compare red herring and screening across the different PBEs, highlighting the implications that the fraction μ of newsmakers and the media attention to tales q^T have for red herring and screening. Proposition 2 details conditions under which PBEs with high and low red herring co-exist. its corollary clarifies the effect of the fraction of newsmakers on red herring. Proposition 3 shows how media attention to tales q^T affects red herring and screening. Proposition 4 and its corollary shows how the media attention to tales and scandals (q^T and q^S) affects the re-election probabilities of different types.

Proposition 1: (No newsmaker benchmark) *In the absence of newsmakers ($\mu = 0$), the unique PBE of the game is a no herring PBE which achieves first-best screening: good incumbents are always re-elected while bad incumbents are re-elected if and only if the media does not detect a scandal.*

Proof: See Appendix. ■

Proposition 1 highlights that successful red herrings are impossible in the absence of newsmakers, conducing to first-best screening.

Indeed, scandal-free non-newsmakers strictly prefer to remain silent since this is costless and would ensure their re-election (see Lemmas 1.1 and 1.3). This implies that, even if a non-newsmaker successfully crowded-out a scandal by sending a red herring, the voter would not be fooled: she would understand that a scandal has been crowded-out and vote the incumbent out. In the absence of (scandal-free) newsmakers among which scandal-plagued non-newsmakers can camouflage, an arbitrarily small cost of tale-telling ϵ is therefore sufficient to ensure that non-newsmakers never make red herring attempts. As scandal-plagued

[30] *Formally: Equilibrium screening* $= E_{v,t=0}(U_{v,t=4}) = (1-\pi)(Pr(V^* = 1|i = good) + Pr(V^* = 0))$

incumbents never make red herring attempts, the voter is never distracted from a scandal and can therefore systematically tell scandal-plagued incumbents apart from other incumbents. Incumbents are therefore systematically voted out when hit by a scandal and re-elected otherwise.

Having established that, in the absence of newsmakers, successful red herrings are impossible and is screening maximal, the rest of the paper assumes a strictly positive fraction of newsmakers ($\mu > 0$).
Before proceeding, it is useful to define the concept of "Social norm of tale-telling" as follows:

Social norm of tale-telling: *The "social norm of tale-telling" is defined as the fraction of scandal-free incumbents engaging in tale-telling. It follows from Lemma 1.3. that it can be decomposed as the product of the fraction μ of newsmakers times the tale-telling probability of scandal-free newsmakers.*[31]

Proposition 2 highlights that the social norm of tale-telling plays a decisive role in determining equilibrium red herring.

Proposition 2: (Multiplicity of equilibria) Under certain conditions, the game has multiple equilibria: a no herring PBE with first-best screening co-exists with a PBE with red herring (PH or FH) and worse screening.

This is the case when the fraction of newsmakers is low and the media attention to tales intermediate ($\mu < H$ and $q^T \in [B; \frac{\epsilon}{H} + B]$) or when the fraction of newsmakers is high and the media attention to tales intermediate or high ($\mu \geq H$ and $q^T \geq B$).

Proof: It follows from inspecting the sequence of PBEs in Appendix Tables 3-4. ■

The intuition behind Propositon 2 is that the social norm of tale-telling can be self-fulfilling and pins down the equilibium red herring.

Indeed, if scandal-free newsmakers anticipate that the voter will vote them out upon seeing a tale, they will refrain from tale-telling provided that the expected electoral cost outweighs their tale-telling benefit. This will be the case if the media attention to tales is sufficiently high ($q^T > B$). However, the voter's suspicion of tales decreases in the frequency with which scandal-free newsmakers send tales: ceteris paribus, the higher the frequency

[31] *Formally: Social norm of tale − telling* = $Pr({T_i}^* = 1 | S \notin \mathcal{S}_{d1}) = \mu Pr({T_i}^* = 1 | newsmaker, S \notin \mathcal{S}_{d1})$

with which scandal-free newsmakers send tales, the lower the probability that a tale is a red herring. This generates a multiplicity of equilibria as scandal-free newsmakers' electoral cost of tale-telling decreases in their tale-telling frequency.

On the one hand, if goods newsmakers' tale-telling frequency is large enough, it may be optimal for the voter to re-elect the incumbent upon seeing only a tale (provided that scandal-plagued incumbents do not make too many red herring attempts). This in turn makes it electorally costless for scandal-free newsmakers to engage in tale-telling, making a positive social norm of tale-telling sustainable. Scandal-plagued incumbents can therefore hide among scandal-free newsmakers when making red herring attempts (provided that they do not make red herring attempts too frequently). This worsens screening as they are sometimes re-elected.

On the other hand, if newsmakers only engage in tale-telling when hit by a scandal, non-newsmakers are strictly better-off never engaging in tale-telling (see Lemmas 1.2 and 1.4): red herring attempts would fail to fool the voter who would understand that tales signal an underlying scandal. This implies that, whenever $q^T \geq B$, there exists a no herring (NH) PBE where the incumbent engages in tale-telling if and only if he is a newsmaker hit by a scandal. In this PBE, the voter can tell scandal-plagued incumbents apart from other incumbents, restoring first-best screening.

Corollary: (Effect of the fraction of newsmakers on the feasible red herring)

- *When the fraction of newsmakers is low ($\mu < H$), the game only has no or partial herring PBEs.*
- *When the fraction of newsmakers is high ($\mu \geq H$), the game has a full herring PBE provided that the media attention to tales is not too low ($q^T \geq \frac{c}{H}$).*

Proof: This follows from comparing the PBEs in Appendix Table 3 (where $\mu < H$) and in Table 4 (where $\mu > H$). ■

A sufficiently large social norm of tale-telling can make a full herring PBE sustainable as the voter's suspicion of tales is low. Since scandal-free non-newsmakers never send tales, this however requires a sufficiently large fraction of newsmakers.

Indeed, if newsmakers are too rare, a full herring PBE is impossible: if scandal-plagued incumbents systematically sent tales, the voter would be too suspicious of tales and vote tale-tellers out. Thus, when $\mu < H$, only no or partial herring (NH or PH) PBEs are sustainable.

By contrast, if newsmakers are sufficiently numerous ($\mu \geq H$) and systematically engage

in tale-telling when scandal-free, the voter will not be too suspicious of tales - regardless of non-newsmakers' strategy. This makes a full herring equilibrium possible as long as $q^T \geq \frac{\epsilon}{H}$ (ensuring that non-newsmakers find red herring attempts profitable despite the cost ϵ). Provided that *newsmakers are sufficiently numerous*, the coordination of scandal-free newsmakers on tale-telling makes the social norm of tale-telling *sufficiently large* to enable a full herring (FH) PBE.

The decisive role of the social norm of tale-telling is driven by the disciplining effect of suspicion of tales on scandal-free newsmakers. Proposition 3 highlights that this mechanism has surprising implications for the effect of media attention to tales on red herring and screening.

Proposition 3: (Effect of media attention to tales on red herring and screening)

- *When the fraction of newsmakers and their tale-telling payoff are both small ($\mu < H$ and $B < 1 - \frac{\epsilon}{H}$):*

  Increasing the media attention to tales (q^T) initially increases red herring (worsening screening) but eventually decreases it (improving screening): when the media attention to tales is high ($q^T > B + \frac{\epsilon}{H}$), the unique PBE of the game is a no herring PBE which achieves first-best screening.

- *When the fraction of newsmakers or their tale-telling payoff is large ($\mu \geq H$ or $B \geq 1 - \frac{\epsilon}{H}$):*

  Increasing the media attention to tales (q^T) initially increases red herring (worsening screening), before decreasing or increasing red herring and screening depending on social norm coordination.

Proof: This follows from inspecting incumbents' strategies and re-election probabilities (see Appendix Table 5) in the sequence of equilibria formed by PBEs 2, 7 and 3 in Appendix Table 3. ■

Given the crowding-out mechanism isolated, one might have expected the media attention to tales to unambiguously increase red herring and worsen screening. However, under certain conditions, a high media attention to tales decreases red herring and improves screening by disciplining scandal-free newsmakers.

Within each red herring equilibrium (PH or FH), increasing q^T decreases screening by

increasing the probability that scandals be crowded-out. Provided that scandal-free newsmakers engage in tale-telling, it also increases scandal-plagued non-newsmakers' incentives to make red herring attempts: their tales are more likely to be covered by the media and therefore to eventually crowd-out the scandal. This further worsens screening.

However, when newsmakers are too few ($\mu < H$), increasing q^T dampens scandal-free newsmakers' incentives to engage in tale-telling through two mechanisms. First, by inducing scandal-plagued non-newsmakers to engage in tale-telling, it increases the voter's suspicion of tales. Second, it increases the visibility of scandal-free newsmakers' tales and therefore their expected electoral cost of tale-telling if the voter is too suspicious of tales.

Since scandal-plagued non-newsmakers' incentives to send tales increase with q^T provided that the voter re-elects tale-tellers, scandal-free newsmakers' tale-telling incentives eventually fall below scandal-plagued non-newsmakers' tale-telling incentives. This makes any PBE in which scandal-free newsmakers engage in tale-telling strictly more often than scandal-plagued non-newsmakers impossible. However, when newsmakers are too few ($\mu < H$), if scandal-plagued non-newsmakers send tales *oftener* than scandal-free newsmakers, the voter is too suspicious of tales and votes out tale-tellers. This leaves a unique PBE in which only scandal-plagued newsmakers send tales, such that the voter can tell scandal-plagued incumbents apart from other incumbents.[32]

When newsmakers are sufficiently numerous ($\mu \geq H$), the effect of increasing q^T is ambiguous and ultimately depends on equilibrium coordination: if all scandal-free newsmakers coordinate on tale-telling, they need not fear any electoral sanction regardless of non-newsmakers' strategy. As highlighted in Proposition 2 and its corollary, for $q^T \geq B$, a no herring and a full herring PBE therefore both exist ; increasing the media attention to tales may thus increase or decrease equilibrium red herring depending on the social norm of tale-telling on which society coordinates.

Having established that the media attention to tales may eventually improve screening by disciplining scandal-free newsmakers, Proposition 4 and its corollary highlight the implications of this mechanism for the re-election probabilities of different incumbents.

Proposition 4: (Re-election probabilities non-monotonous in type)

[32] One may fear that the result in Proposition 3 hinges upon the assumption that "newsmakers" obtain a hedonic benefit from sending tales regardless of whether their tale is detected by the media or not, while one might argue that they might instead be "attention-seekers", only obtaining a hedonic benefit from tale-telling if their tale is detected by the media. In Appendix, an alternative model is therefore considered in which "newsmakers" are "attention-seekers" who only obtain B if their tale is detected by the media and show that, under some similar parametric assumption, Proposition 3 qualitatively holds.

1. *In no and full herring PBEs, newsmakers are as likely to be re-elected as non-newsmakers of same quality.*

2. *In partial herring PBEs:*

   - *When the media attention to tales is low ($q^T < \frac{\epsilon}{H}$), newsmakers are more likely to be re-elected than non-newsmakers of same quality.*
   - *When the media attention to tales is high ($q^T > \frac{\epsilon}{H}$):*
     - *Good newsmakers are less likely to be re-elected than good non-newsmakers.*
     - *Bad newsmakers are less likely to be re-elected than bad non-newsmakers if the media attention to scandals is low ($q^S < \bar{q}^S$).*

Proof: This follows from examining the re-election probabilities in Appendix Table 5 along with the sequence of PBEs in Appendix Tables 3-4. In particular, when $q^T < \frac{\epsilon}{H}$, bad non-newsmakers are strictly less likely to be re-elected than newsmakers of the same quality, while good newsmakers are as likely to be re-elected as good non-newsmakers. When $q^T > \frac{\epsilon}{H}$ but the voter does not mix upon seeing a tale, newsmakers are always weakly more likely to be re-elected than non-newsmakers of the same quality. However, in the PBEs in which the voter mixes upon seeing only a tale (equilibria 4,6,7), good newmakers are systematically strictly less likely to be re-elected than good non-newsmakers and, for q^S small (resp large) enough, bad newsmakers are strictly less (resp more) likely to be re-elected than non-newsmakers of same quality. Exact conditions on q^S can be found in Appendix. ■

Corollary: *When the media attention to tales is high while the media attention to scandals is low (q^T large and q^S small), there exist PBEs and parameter values for which bad non-newsmakers are strictly more likely to be re-elected than good newsmakers.*

Proof: This follows from comparing the re-election probabilities of good newsmakers and bad non-newsmakers in equilibria 4, 6 and 7 in Table 5. Parameter conditions can be found in Appendix. ■

A propensity to send tales can constitute an electoral advantage through successful red herring attempts, or on the contrary an electoral disadvantage due to suspicion of tales.

In the no herring PBE, it is neither an electoral advantage nor a disadvantage since the voter can perfectly tell scandal-plagued incumbents from other incumbents. This is also the case in the full herring PBE since the voter does not sanction tale-telling and scandal-plagued newsmakers do not make more frequent red herring attempts than scandal-plagued non-newsmakers.

However, in partial herring PBEs, it can constitute an electoral advantage or disadvantage depending on whether tales or scandals are in the media spotlight.

For instance, when the media attention to tales is low ($q^T < \frac{\epsilon}{H}$), the game has a unique PBE in which the voter is not suspicious of tales: as media attention to tales is too low for scandal-plagued non-newsmakers to find red herring attempts profitable, seeing a tale increases the voter's prior that the incumbent is good. When the voter is not suspicious of tales, a high propensity to send tales constitutes an electoral advantage, especially if the media often detects scandals: tale-telling carries no electoral cost but may bring electoral benefits in the form of successful red herrings.

However, when the voter is suspicious of tales while tales rather than scandals are in the media spotlight, this turns into an electoral disadvantage: the expected electoral cost generated by suspicion of tales outweighs the expected benefit from red herrings. False positives may be so frequent that good newsmakers could enjoy a lower re-election probability than bad non-newsmakers.

6 Extensions: Endogenized Media Attention to Tales and Fraction of Newsmakers in Dynamic Game

Proposition 1, the corollary to Proposition 2 and Proposition 3 highlight that the fraction of newsmakers μ and the media's attention to tales q^T jointly play a decisive role in determining equilibrium red herring and screening. Proposition 4 and its corollary further highlight that, depending on the media attention to tales and to scandals and on the PBE of the game, newsmakers may have an electoral advantage or, on the contrary, an electoral disadvantage.

While the baseline model treats μ and q^T as exogenous, one could imagine, in light of Proposition 4, that political parties would seek to recruit newsmakers (or, depending on the PBE and parameters, non-newsmakers) to maximize chances of winning elections. This would change the fraction of newsmakers μ in the pool of politicians. Media may in turn decide to re-allocate resources across tale and scandal detection in order to maximize its expected profit: by affecting the frequency of tales or the effect that scandal detection has on the frequency of tales, a changing fraction of newsmakers may thus lead the media to change its attention to tales q^T.

Depending on the equilibrium, media attention to tales and the fraction of newsmakers may exhibit strategic complementarity or, on the contrary, strategic substitution if the voter is suspicious of tales. This could give rise to endogenous equilibrium shifts. This section is concerned in investigating under which initial conditions society will eventually settle on a PBE in which newsmakers never send tales highlighted in Proposition 3 or, on the contrary, on the full herring PBE.

To study the equilibrium path over time, this section assumes that the baseline election game of the previous section is iterated.[33] Political parties and the media make backward-looking choices which respectively affect μ and q^T, responding to incumbents and voters' equilibrium play in the baseline election game. In line with the standard interpretation of fixed points in best response correspondences as the eventual outcome of iterated play, those parties and the media are assumed not to anticipate how their actions will affect the equilibrium of the game but to solely best respond to the most recent equilibrium of the baseline election game. It additionally assumes that the social norm of tale-telling exhibits historical inertia: when the media attention to tales q^T enters an interval in which multiple PBEs are possible, society is assumed to coordinate on the PBE with the social norm of tale-telling closest to the previous social norm of tale-telling.

Results are first derived assuming the existence of a representative media firm before investigating how results would change in the presence of multiple media outlets.

Assumptions:

Parties' decision

Politicians are assumed to be recruited by parties from a general population of size $N = \infty$ consisting of a fraction $\mu_0 \in (0;1)$ of newsmakers and $1-\mu_0$ non-newsmakers. Parties seek to maximize the future average re-election probability of their politicians.

When round $R = 1$ of the dynamic game starts, they dispose of a pool of politicians of size $N < \infty$ randomly drawn from the general population.

In each round R of the dynamic game, parties can reorganize, replacing a maximum fraction $\bar{\eta}$ of their politicians by members of the general population, where $\bar{\eta}$ is strictly positive but arbitrarily small. Parties observe which members of the general population and politicians are newsmakers but not their quality.

When newsmakers have an electoral advantage, parties will therefore replace up to $\bar{\eta}N$ non-newsmaker politicians by newsmakers, increasing the fraction of newsmakers in the population of politicians. Conversely, if non-newsmakers have an advantage, they will replace newsmakers by non-newsmakers.[34] When neither type has an advantage, parties are

[33] When modelling the game as a dynamic game, the terminology of "incumbent" versus "opponent" may no longer be systematically appropriate as incumbents may not always run for re-election, but the dichotomy in the baseline model could be re-interpreted as the media paying greater attention to one of the two candidates.

[34] Note that, although the simplifying assumption that the incumbent and his opponent are drawn from the same population no longer holds as the incumbent and his opponent may now have different probabilities of being newsmakers, the results in Section 5 are unaffected as they solely hinge upon the fraction of good candidates being the same among incumbent and opponent populations. Although screening leads to an

assumed not to reorganize.[35] It follows that:

$$Pr_R(V^* = 1|non - newsmaker) > Pr_R(V^* = 1|newsmaker) \Rightarrow \mu_R = \mu_{R-1} + min\{\bar{\eta}; 1 - \mu_{R-1}\} \quad (4)$$

$$Pr_R(V^* = 1|non - newsmaker) < Pr_R(V^* = 1|newsmaker) \Rightarrow \mu_R = \mu_{R-1} - min\{\bar{\eta}; \mu_{R-1}\} \quad (5)$$

$$Pr_R(V^* = 1|non - newsmaker) = Pr_R(V^* = 1|newsmaker) \Rightarrow \mu_R = \mu_{R-1} \quad (6)$$

Media's decision

In each round R of the dynamic game, the media is assumed to choose how to allocate some fixed amount of journalistic resources κ to either detecting tales or detecting scandals.[36] It seeks to maximize the sum of its perceived expected profit from its different investments, best responding to the incumbent's strategy in H and to the composition of the pool of incumbents summarized by μ_{R-1}.[37]

When allocating $x_R \in [0; \kappa]$ to detecting tales and $\kappa - x_R$ to detecting scandals, its probabilities of detecting a tale versus of detecting a scandal are respectively:

$$q_R^T = q^T(x_R) = \delta + (1 - \delta)\frac{x_R}{a_T + x_R} \quad (7)$$

$$q_R^S = q(\kappa - x_R) = \delta + (1 - \delta)\frac{\kappa - x_R}{a_S + \kappa - x_R} \quad (8)$$

$a_T, a_S > 0$ can be interpreted as technological parameters capturing the resource intensiveness of tale and scandal detection: decreases in those parameters correspond to technological improvements, whereby, holding fixed the resources allocated to detecting a type of news, the probability of detecting a news of this type increases. $\delta > 0$ is assumed to be arbitrarily small and captures the probability that the media detects a story by chance, independently of the resources it allocates to story detection.[38]

Assuming additivity of the profit gains from covering different news, the media's perceived expected profit, in round R, is therefore proportional to: $\pi q(\kappa - x_R) + Pr_R(T_i^* =$

increase in the probability that the incumbent is good after he has been re-elected once, this asymmetry would be of no consequence if one assumes a limit of two terms as is common in many countries.

[35] This could be micro-founded with the assumption of a reorganization cost increasing and convex in the fraction of incumbents replaced.

[36] generic storys are assumed to require arbitrarily few journalistic resources to produce.

[37] This assumes that the media anticipates the effect that its choice of q_R^T may have on the tale-telling frequency by making scandals more or less likely and therefore red herring attempts more or less frequent. Without assuming that the media understands this channel, this could be obtained as the outcome of some trial and error adjustments of q_R^T.

[38] This ensures that $q^T > 0$ and $q^S > 0$.

$1|x_R)q^T(x_R)\lambda$, where $\lambda > 0$ corresponds to the expected profit from covering a tale, while the expected profit from covering a scandal is normalized to 1.[39]

The media's choice of resources allocated to detecting tales, when interior, thus solves the following first-order condition:

$$\lambda\Big[Pr_R(T_i^* = 1|x_R)\frac{a_T}{(a_T + x_R)^2} + \frac{\partial Pr_R(T_i^* = 1|x_R)}{\partial x}\Big(\frac{x_R}{a_T + x_R} + \frac{\delta}{1-\delta}\Big)\Big] = \pi\frac{a_S}{(a_S + \kappa - x_R)^2} \quad (9)$$

Timing of the dynamic game:

Figure 2 illustrates the timing of the dynamic game. The game starts in round $R = 1$ and continues for an infinite number of rounds.

In $R = 1$, society starts in one of the PBEs of the static election game. The game starts in equilibrium: incumbent and voter's strategies are optimal given initial conditions μ_0 and q_0^T, while q_0^T is itself optimal given μ_0 and incumbent strategy.

i) When $R = 1$ starts, the static election game is played sufficiently many times for parties to learn whether newsmakers have an advantage or a disadvantage.

ii) Parties then move first, choosing whether and how to reorganize the pool of politicians. This determines the fraction of newsmakers μ_1 in the next round of the dynamic game.

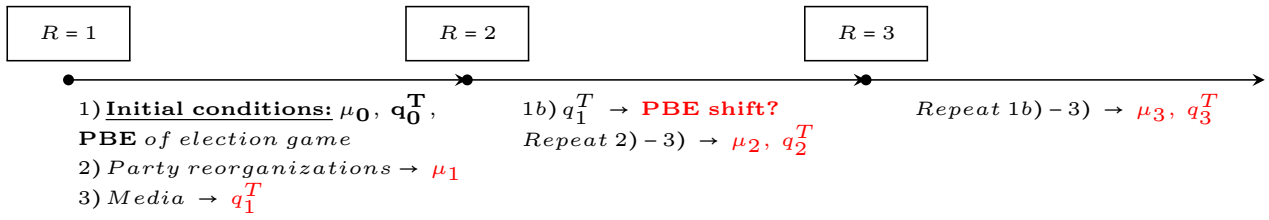
iii) The media then best responds to μ_1 by choosing how to allocate its resources across tale and scandal detection, determining q_1^T and q_1^S.

iv) A new round $R = 2$ then starts. If μ_1 or q_1^T are such that the previous voter and incumbent strategies are still an equilibrium, society stays in the same PBE of the election game. Otherwise, society moves to a new PBE of the election game, settling on the PBE with the social norm of tale-telling closest to the $R = 1$ social norm of tale-telling if multiple equilibria are possible.

Steps i) to iv) are infinitely iterated.

[39] In Appendix, the effect of media pluralism is considered, assuming that several outlets exist and that an outlet only gets profit from breaking a story if it is the first outlet to break this story.

Figure 3: Timing of the Dynamic Game



Results:

As highlighted in Proposition 4, newsmakers neither have an electoral advantage nor disadvantage in no herring and full herring PBEs (NH and FH). Therefore, if society starts in one of those PBEs, it will remain in this equilibrium unless some exogenous shock occurs.

In partial herring PBEs however, newsmakers may have an electoral advantage through successful red herrings, or an electoral disadvantage due to voter suspicion of tales. If the dynamic game starts in a partial herring PBE, society may therefore endogenously exit this equilibrium as party reorganizations trigger changes in the media attention to tales.

The exact direction of the resulting equilibrium shifts are sometimes ambiguous and contingent on the parameters.[40] Propositions 5 and 6 therefore highlight two features of the dynamic game equilibrium path which do not require imposing arbitrary parameter restrictions.

Proposition 5: (Increasing fraction of newsmakers) *If the dynamic game starts with an arbitrarily small fraction of newsmakers (μ_0 arbitrarily small), the newsmakers population will grow.*

Corollary: *The PBE where scandal-plagued non-newsmakers do not make any red herring attempt while scandal-free newsmakers send tales is unstable provided that journalistic resources are large enough ($\kappa > \underline{\kappa}$).*

[40] First, in certain PBEs, a newsmaker may have an advantage or on the contrary a disadvantage depending on the exact parameters of the game. Second, a decrease in the fraction of newsmakers may sometimes increase rather than decrease the media's incentives to invest in tale-detection: allocating resources to tale detection may indeed decrease the tale frequency by decreasing scandal detection and therefore incumbents' need for red herring. Thus, when this second effect dominates, an increase in the fraction of newsmakers may increase the opportunity cost of tale detection, thereby decreasing the media's optimal attention to tales.

Proof: See Appendix ■

If the dynamic game starts with an arbitrarily small fraction of newsmakers, very few scandal-plagued non-newsmakers can hide among scandal-free newsmakers when making red herring attempts. Thus, tales must be rare and the media attention to tales low. Society will therefore start in the partial herring PBE in which newsmakers always engage in tale-telling while non-newsmakers remain silent since the probability that their red herring attempts be amplified by the media is low. In this equilibrium, newsmakers have an electoral advantage over non-newsmakers since the voter is not suspicious of tales. The fraction of newsmakers will therefore gradually grow as parties reorganize. This will increase the frequency of tales and therefore weakly increase the media's attention to tales.

Provided that journalistic resources are sufficiently large, the tale detection probability will eventually increase above $\frac{\epsilon}{H}$, making it profitable for scandal-plagued non-newsmakers to pool with scandal-free newsmakers and make red herring attempts. Society will therefore eventually exit this PBE. Provided that journalistic resources are sufficiently large, the strategic complementarity between the fraction of newsmakers and the media attention to tales in this PBE makes this PBE unstable.

Proposition 6: (Decreasing fraction of newsmakers) *If the dynamic game starts with a large fraction of newsmakers ($\mu_0 > H$), an intermediate norm of tale-telling (norm $\in (0; \mu_0)$), a high media attention to tales but low to scandals ($q_0^T > \frac{\epsilon}{H} + B$ and $q_0^S < \frac{1-\pi}{\pi} H^2 + H$), the newsmaker population will shrink.*

Corollary: *If the dynamic game starts with a large fraction of newsmakers ($\mu_0 \geq H$), an intermediate norm of tale-telling (norm $\in (0; \mu_0)$), a high media attention to tales but low to scandals ($q_0^T > \frac{\epsilon}{H} + B$ and $q_0^S < \frac{1-\pi}{\pi} H^2 + H$), society will settle on the no herring PBE provided the tale-detection technology is not too resource-intensive ($a_T < \bar{a}_T$).*

Proof: See Appendix ■

When the media attention to tales is high while the fraction of newsmakers is high but the social norm of tale-telling intermediate (PBE 6), the voter is suspicious of tales. He therefore mixes when seeing a tale, sometimes voting good newsmakers out. Provided that the media attention to scandals is sufficiently low, the resulting electoral cost of tale-telling outweighs the electoral benefit from successful red herrings such that newsmakers have an

electoral disadvantage. Parties will therefore gradually re-organize, replacing newsmakers by non-newsmakers.

Eventually, the fraction of newmsmakers will fall below H. As highlighted in Section 5, when $\mu < H$, if scandal-plagued non-newsmakers send tales oftener than scandal-free newsmakers, the voter is too suspicious of tales to re-elect tale-tellers regardless of how often scandal-free newsmakers send tales. The unique remaining PBE is therefore the no herring PBE in which the only incumbents engaging in tale-telling are scandal-plagued newsmakers. When society enters this PBE, tale frequency however falls, possibly triggering a decrease in the media attention to tales. Provided that the tale detection technology is not too resource intensive, this decrease will however not be sufficient for the electoral cost of tale-telling to fall below newsmakers' tale-telling payoff. Society will therefore settle on the no herring PBE.

6.1 Voter Polarization

One might want to relax the assumption of a representative voter. In particular, one might want to investigate how the dynamics of the game change when allowing for a polarized electorate.

Assumptions:

In the following, political polarization is modelled by assuming that there is an infinite number of voters, engaging in sincere voting as typically assumed, and divided in three groups:

$$\alpha \text{ "}centrists\text{"} \tag{10}$$

$$\gamma - \frac{\alpha}{2} \text{ } incumbent \text{ "}supporters\text{"} \tag{11}$$

$$1 - \gamma - \frac{\alpha}{2} \text{ } incumbent \text{ "}detractors\text{"} \tag{12}$$

where $\alpha < 1$ *and* $\gamma < 1$

The payoff function of centrist voters is identical to that of the representative voter of Section 3. By contrast, although all voters get a payoff of 1 from voting for a "good" politician, when voting for the incumbent, incumbent's supporters get an additional positive payoff of β_S while his detractors get an additional negative payoff of $-\beta_D$, where $\beta_S, \beta_D > 0$. If $\beta_S > 1 - \pi$, supporters are labelled as "radical".

Analysis:

Centrists behave like the representative voter of Section 3, voting for the incumbent if and only if their posterior that he is good increases above $1-\pi$. By contrast, supporters will vote for him if and only if their posterior that he is good is higher than $1-\pi-\beta_S$ and detractors if and only if their posterior that he is good is higher than $1-\pi+\beta_D$. Since $-\beta_D < 0 < \beta_S$, it is sufficient to calculate the posterior of one type of voter per information set to infer the voting decision of the other groups since, for the same information set, supporters have strictly greater incentives to vote for the incumbent than centrists who themselves have strictly greater incentives to vote for the incumbent than detractors.

An increase in polarization can take the form of a "shrinking center", when the fraction α of centrists decreases, or an increase in β_S or β_D. In particular, if $\beta_S > 1-\pi$, the incumbent's supporters are so biased in favour of the incumbent that they will vote for him even if they see a scandal. To analyze the effects of increased polarization, this paper focuses on the empirically-relevant case where neither the incumbent's supporters nor his detractors constitute a majority, i.e. $\gamma - \frac{\alpha}{2} < \frac{1}{2}$ and $1-\gamma-\frac{\alpha}{2} < \frac{1}{2}$. This implies that the incumbent is re-elected if he receives the votes of all his supporters and all centrists, but not if he only receives the votes of his supporters.

An analogue to Lemma 1, Lemma 1-bis holds and can be used to rule out unfeasible PBEs following the procedure used in Section 4.[41] In each remaining candidate PBE described by the incumbent's strategy, voters' strategies and necessary conditions on parameters for the candidate PBE to be an equilibrium are then found by calculating voters' best responses and verifying under which conditions the incumbent's strategy is optimal given voters' best responses. In mixed strategy PBEs, voters are assumed to randomize in a coordinated rather than independent way when indifferent.

The resulting sequences of PBEs depend, like in the representative voter case of Section 3, on H and μ, but also on the polarization parameters α, γ, β_D and β_S, and can be found in Appendix Tables 6 to 10.

Results:

Before investigating the consequences that voter polarization has for the dynamic game, Proposition 7 highlights how polarization changes the sequence of PBEs of the static game.

[41] See Appendix. Further note that voters' strategy per information set can be summarized by the strategy of a single group per information set. Indeed, $\beta_S > 0$ and $\beta_D > 0$ implies that, for the same information set, incumbent's supporters are weakly more likely to vote for the incumbent than centrists, themselves weakly more likely to vote for the incumbent than incumbent's detractors and that it cannot be optimal for voters of two different groups to mix for the same information set.

Proposition 7: (Sequence of static game PBEs with voter polarization)
In the static game with infinite number of voters, there exist a threshold $\bar{H}$ such that:

1. *If the crowding-out probability is higher ($H > \bar{H}$), the game displays a sequence of equilibrium incumbent strategies, red herring and screening identical to the representative voter model.*

2. *If the crowding-out probability is lower ($H < \bar{H}$), the game displays a sequence of equilibrium incumbent strategies, red herring and screening different from the representative voter model. In particular, the PBE with a social norm of tale-telling of zero systematically co-exists with PBEs with a higher social norm of tale-telling and lower screening.*

A shrinking center increases $\bar{H}$ when supporters are not radical or are fewer than detractors ($\beta_S < 1-\pi$ or $\gamma - \frac{\alpha}{2} < 1-\gamma-\frac{\alpha}{2}$) ; otherwise, it decreases $\bar{H}$:

$$\beta_S < 1-\pi \Rightarrow \bar{H} = \frac{1}{2\gamma+\alpha} \tag{13}$$

$$\beta_S > 1-\pi \Rightarrow \bar{H} = \frac{1+\alpha-2\gamma}{2\alpha} \tag{14}$$

Proof: Part 1 follows from comparing the sequences of PBEs in Appendix Tables 6-7 (where $H > \bar{H}$) to those in Appendix Tables 8-10 (where $H < \bar{H}$). Part 2 follows from noticing that $\frac{1}{2\gamma+\alpha}$ decreases in α while $\frac{1+\alpha-2\gamma}{2\alpha}$ decreases in α if $\gamma < \frac{1}{2}$ but otherwise increases in α. ■

Proposition 7 highlights that increased polarization, in the form of a shrinking center, has ambiguous implications for the sequence of PBEs of the static game: depending on whether it makes it harder or easier for red herring senders to obtain a majority of votes, it will dampen or strengthen the disciplining incentives of scandal-free newsmakers.

When the crowding-out probability is sufficiently low ($H < \bar{H}$), red herring senders indeed require votes from their detractors to be re-elected. This in turn dampens the disciplining incentives of scandal-free newsmakers. There therefore remain PBEs with a positive social norm of tale-telling despite an arbitrarily high media attention to tales and an arbitrarily low fraction of newsmakers.

Two of these PBEs have lower screening than the no herring PBE of previous sections. In one PBE (PBE 7P), the lower screening is driven by false positives, i.e. successful red herring attempts from scandal-plagued incumbents being re-elected with the support of detractors. Suspicion of tales is not sufficient to discipline scandal-free newsmakers since they only need votes from centrists and supporters who are not sufficiently suspicious of tales to

vote for their opponent. In the other PBE (PBE 4P), the lower screening results from false negatives: red herring senders are never re-elected as detractors are too suspicious of tales but good newsmakers are sometimes voted out, being mistaken by centrists for scandal-plagued non-newsmakers.

A shrinking center may make it easier or on the contrary harder for red herring senders to be re-elected without the support of detractors. Indeed, when the incumbent's supporters are both more numerous than detractors and so radical that they vote for him even when they see a scandal, a shrinking center makes it less likely that red herring senders will need votes from their detractors to be re-elected. By contrast, when supporters are not radical or less numerous than detractors, a shrinking center will increase the fraction of centrists whose support red herring senders need in order to be re-elected without the support of their detractors.

Corollary: (Impossible coordination on a norm of tale-telling of zero)
When crowding-out is inferior to the threshold $\bar{H}$, social norm inertia implies that society will never endogenously enter the PBE with a social norm of tale-telling of zero.

Proof:
See Appendix. ■

Proposition 7 highlighted that, depending on whether it expands or shrinks the range of values for which red herring senders need the support of detractors, a shrinking center may dampen or strengthen the disciplining effect of media attention to tales.

When the disciplining effect of media attention to tales is dampened, the PBE with a social norm of tale-telling of zero systematically co-exists with PBEs with a higher social norm of tale-telling. When this is the case, social norm inertia implies that, when entering the range of media attention to tales for which a social norm of tale-telling of zero is possible ($q^T > \epsilon + B$), society will coordinate on a PBE with a higher social norm of tale-telling. In the absence of a social norm shock, society will therefore never endogenously settle on the PBE with a social norm of tale-telling of zero unless the dynamic game starts in this PBE.

7 Conclusion

Politicians are often accused of sending "red herrings", spinning irrelevant tales to distract their audience from prejudicial information. This paper proposes a model of red herring with inattentive but non-naïve voters. Scandal-plagued incumbents spinning distracting tales may be re-elected if they pool with politicians who have a hedonic taste for telling tales ("newsmakers").

Being non-naïve, voters may be suspicious of tales, giving rise to two non-trivial implications driven by equilibrium shifts.

In particular, a first highlight (Proposition 2) is the self-fulfilling role played by coordination on a low, intermediate or high social norm of tale-telling - where the social norm of tale-telling is defined as the frequency with which scandal-free incumbents engage in tale-telling. For intermediate media attention to tales q^T, a given society may coordinate on PBEs with different degrees of successful red herring. The electorate's perception that even scandal-free politicians often engage in tale-telling indeed increases its tolerance of tales, in turn making tale-telling electorally costless for scandal-free politicians and successful red herrings possible: scandal-plagued politicians may pass for scandal-free newsmakers. Due to this self-fulfilling role of the perceived social norm of tale-telling, two otherwise identical societies may thus end up in drastically different equilibria. The fraction of newsmakers μ however plays a decisive role, making a larger social norm of tale-telling possible, and thereby making more frequent successful red herrings possible.

A second highlight of the model (Proposition 3) is the ambiguous role played by media attention to tales q^T: given that the model isolates a crowding-out channel, entirely abstracting from the possibility that media's fact-checking of tales may help correct voters' beliefs on electorally-relevant topics, one could have expected the media attention to tales q^T to unambiguously worsen screening by making successful red herrings more likely. This is indeed the case *within equilibrium*, to the point that, as highlighted in the Corollary to Proposition 4, some bad incumbents (bad non-newsmakers) may have a strictly higher re-election probability than some good incumbents (good newsmakers). However, as highlighted by Proposition 3, when newsmakers are few and their hedonic tale-telling benefit B is not too large, increasing q^T will eventually conduce to a unique equilibrium with no successful red herring ("no herring PBE") by disciplining scandal-free newsmakers. Indeed, a small fraction of newsmakers makes tale-telling electorally costly due to voter suspicion of tales. Under those conditions, increasing media attention to tales eventually conduces all scandal-free incumbents to refrain from tale-telling unless they value tale-telling more than re-election. This makes it impossible for scandal-plagued incumbents to hide among scandal-free newsmakers when sending a red herring. In this PBE, conditional on the media attention to scandals q^S, screening of politicians is identical to the first-best achieved in a benchmark model with no newsmakers.

Suspicion of tales implies that voters' possible mistakes are not limited to re-electing red herring senders: they may also vote out good newsmakers. Thus, newsmakers may have an electoral advantage through successful red herrings or on the contrary an electoral disadvantage due to suspicion of tales (Proposition 4).

Extensions build on this result to develop a dynamic version of the game in which the fraction of newsmakers and media attention to tales are jointly endogenized to investigate

how red herring and screening could be expected to evolve over time. Parties are assumed to respond to the electoral advantage or disadvantage of newsmakers by reorganizing, changing the proportion of newsmakers within their ranks. This in turn affects the media's incentives to invest in tale detection by changing the frequency of tales. The resulting changes in the fraction of newsmakers or in the media attention to tales may trigger equilibrium shifts. Two polar trajectories stand out. On the one hand, if the game starts with an arbitrarily small fraction of newsmakers, the newsmaker population and red herring frequency will grow, worsening screening (Proposition 5). On the other hand, if the game starts with a large fraction of newsmakers but an intermediate social norm of tale-telling combined with a high media attention to tales but low to scandals, the newsmakers population will shrink (Proposition 6). Provided that the tale detection technology is not too resource intensive, society will then settle on the no herring equilibrium, improving screening (Corollary to Proposition 6).

The paper concludes by analyzing how polarization of the electorate, in the form of a shrinking fraction of centrist voters, affects screening and the dynamics of the game. Polarization may dampen or strengthen the discipline which media attention to tales exerts on scandal-free newsmakers. The direction of the effect ultimately hinges upon the fraction and bias of incumbent supporters. When discipline is sufficiently dampened, the static game equilibrium with a social norm of tale-telling of zero always co-exists with equilibria with higher social norms of tale-telling. The latter have lower screening, either due to successful red herring or good newsmakers being voted out (Proposition 7). When dynamics are introduced, assuming social norm inertia then implies that society will never coordinate on a social norm of tale-telling of zero unless the game starts from such a social norm (Corollary to Proposition 7).

8 Appendix

8.1 Tables

Table 1: **Baseline Model:** Partition of potential incumbent's strategies

Newsmaker / Non-newsmaker	Never engages in tale-telling	Always engages in tale-telling	Engages in tale-telling iff scandal	Engages in tale-telling iff no scandal	Always mixes (tale/silent)	Mixes (tale/silent) if scandal, silent otherwise	Mixes (tale/silent) if scandal, engages in tale-telling otherwise	Mixes (tale/silent) if no scandal, silent otherwise	Mixes (tale/silent) if no scandal, engages in tale-telling otherwise
Never engages in tale-telling	**PBE N°1**	**PBE N°2**	**PBE N°3**	L1.3	L1.3	L1.3	L1.3	L1.3	**PBE N°4**
Always engages in tale-telling	L1.3,1.2	L1.2	L1.3,1.2,1.4	L1.3,1.2	L1.3,1.2	L1.3,1.2,1.4	L1.3,1.2	L1.3,1.2	L1.2
Engages in tale-telling iff scandal	L1.3	**PBE N°5**	L1.4	L1.3	L1.3	L1.3,1.4	L1.3	L1.3	**PBE N°6**
Engages in tale-telling iff no scandal	L1.3,1.2	L1.2	L1.2,1.4	L1.3,1.2	L1.3,1.2	L1.3,1.2,1.4	L1.3,1.2	L1.3,1.2	L1.2
Always mixes (tale/silent)	L1.3,1.2	L1.2	L1.2,1.4	L1.3,1.2	L1.3,1.2	L1.3,1.2,1.4	L1.3,1.2	L1.3,1.2	L1.2
Mixes (tale/silent) if scandal, silent otherwise	L1.3	**PBE N°7**	L1.4	L1.3	L1.3	L1.3,1.4	L1.3	L1.3	**PBE N°8 (singleton)**
Mixes (tale/silent) if scandal, engages in tale-telling otherwise	L1.3,1.2	L1.2	L1.2,1.4	L1.3,1.2	L1.3,1.2	L1.3,1.2,1.4	L1.3,1.2	L1.3,1.2	L1.2
Mixes (tale/silent) if no scandal, silent otherwise	L1.3,1.2	L1.2	L1.2,1.4	L1.3,1.2	L1.3,1.2	L1.3,1.2,1.4	L1.3,1.2	L1.3,1.2	L1.2
Mixes (tale/silent) if no scandal, engages in tale-telling otherwise	L1.3,1.2	L1.2	L1.2,1.4	L1.3,1.2	L1.3,1.2	L1.3,1.2,1.4	L1.3,1.2	L1.3,1.2	L1.2

Note: Each cell is a candidate incumbent strategy. Rows correspond to the incumbent's strategy if non-newsmaker, while columns correspond to his strategy if newsmaker. When the incumbent "mixes" for some information set, he mixes over engaging in tale-telling or remaining silent. "PBE" indicates that there exists, for certain parameter values, a PBE in which the corresponding incumbent strategy is optimal, and is followed by the PBE number used to keep track of the equilibria. For clarity, all PBEs are in bold. L indicates that candidate PBEs with the corresponding incumbent strategy can be ruled out using a statement in Lemma 1 and is followed by the applicable statement number(s). "Singleton" indicates that the corresponding incumbent strategy is only possible in an equilibrium which only exists for a singleton parameter set.

Table 2: **Baseline Model:** Regime of PBEs

PBE		Incumbent strategy		Voter strategy	Necessary conditions	
N°	Red herring	$Pr(T_i^* = 1 \mid i = newsmaker, S \notin \mathcal{S}_{d1})$	$Pr(T_i^* = 1 \mid i = non-newsmaker, S \in \mathcal{S}_{d1})$	$Pr(V^* = 1 \mid \mathcal{S}_v = \{T\})$	$q^T \in$	$\mu \in$
1	NH	NA	$\mathbf{0}$	$\mathbf{0}$	$(0;1)$	$[0;0]$
2	PH	$\mathbf{1}$	$\mathbf{0}$	$\mathbf{1}$	$(0;\frac{\epsilon}{H}]$	$(0;1)$
3	NH	$\mathbf{0}$	$\mathbf{0}$	$\mathbf{0}$	$[B;1)$	$(0;1)$
4	PH	$\mathbf{H}$	$\mathbf{0}$	$\mathbf{1-\frac{B}{q^T}}$	$[B;\frac{\epsilon}{H}+B]$	$(0;1)$
5	FH	$\mathbf{1}$	$\mathbf{1}$	$\mathbf{1}$	$[\frac{\epsilon}{H};1)$	$[H;1)$
6	PH	$\mathbf{\frac{H}{\mu}}$	$\mathbf{1}$	$\mathbf{1-\frac{B}{q^T}}$	$[\frac{\epsilon}{H}+B;1)$	$[H;1)$
7	PH	$\mathbf{1}$	$\mathbf{\frac{\mu(1-H)}{(1-\mu)H}}$	$\mathbf{\frac{\epsilon}{q^T H}}$	$[\frac{\epsilon}{H};\frac{\epsilon}{H}+B]$	$(0;H]$

Note: Each row corresponds to a PBE. Column 1 numbers are used to keep track of the PBEs. Column 2 indicates whether the PBE is a no herring (NH), partial herring (PH) or full herring (FH) equilibrium as defined in Section 4.2. Columns 3-5 detail the action frequencies of scandal-free newsmakers, scandal-plagued non-newsmakers and the voter when she sees the only tale information set. Action frequencies for other information sets are omitted because identical across all PBEs: scandal-plagued newsmakers always engage in tale-telling ($Pr(T_i^* = 1 \mid i = newsmaker, S \in \mathcal{S}_{d1}) = 1$) while scandal-free non-newsmakers never engage in tale-telling ($Pr(T_i^* = 1 \mid i = non-newsmaker, S \notin \mathcal{S}_{d1}) = 0$) ; in turn, the voter always re-elects the incumbent when she sees the generic story ($Pr(V^* = 1 \mid \mathcal{S}_v = \{G\}) = 1$) and never re-elects him when she sees a scandal ($Pr(V^* = 1 \mid S \in \mathcal{S}_v) = 0$). Columns 6-7 detail the necessary parameter conditions for the corresponding strategy to be an equilibrium. PBEs which only exist for singleton sets of parameters are omitted for brevity but characterized in the proofs of equilibrium characterization.

Table 3: **Baseline Model:** Equilibrium path as q^T increases, for $B > \frac{\epsilon}{H}$, and $\mu < H$

PBE		Media Attention to Tales q^T in:			
N°	Red herring?	$(0; \frac{\epsilon}{H})$	$(\frac{\epsilon}{H}; B)$	$(B; \frac{\epsilon}{H} + B)$	$(\frac{\epsilon}{H} + B; 1)$
2	PH	✓			
7	PH		✓	✓	
4	PH			✓	
3	NH			✓	✓

Table 4: **Baseline Model:** Equilibrium path as q^T increases, for $B > \frac{\epsilon}{H}$ and $\mu > H$

PBE		Media Attention to Tales q^T in:			
N°	Red herring?	$(0; \frac{\epsilon}{H})$	$(\frac{\epsilon}{H}; B)$	$(B; \frac{\epsilon}{H} + B)$	$(\frac{\epsilon}{H} + B; 1)$
2	PH	✓			
5	FH		✓	✓	✓
4	PH			✓	
3	NH			✓	✓
6	PH				✓

Note: Each row corresponds to a PBE. A checkmark ✓ indicates that the corresponding PBE is an equilibrium for the range of values of q^T in the corresponding column. Column 1 numbers are used to keep track of the PBEs. Column 2 indicates whether the PBE is a no herring (NH), partial herring (PH) or full herring (FH) equilibrium as defined in Section 4.2. PBEs' incumbent and voter strategy can be found in Table 1. PBEs which only exist for singleton parameter sets are omitted for brevity but included in the proof of equilibrium characterization.

Table 5: **Baseline Model:** Re-election probabilities

PBE		$Pr_{t=0}(V^* = 1 \mid i's\ type)$ if incumbent's type is:			
N°	Red herring	good, non-newsmaker	good, newsmaker	bad, non-newsmaker	bad, newsmaker
1	NH	1	NA	$1 - q^S$	NA
2	PH	1	1	$1 - q^S$	$1 - q^S(1 - q^T H)$
3	NH	1	1	$1 - q^S$	$1 - q^S$
4	PH	1	$1 - BH$	$1 - q^S$	$1 - BH - q^S(1 - q^T H)$
5	FH	1	1	$1 - q^S(1 - q^T H)$	$1 - q^S(1 - q^T H)$
6	PH	1	$1 - B\frac{H}{\mu}$	$1 - q^S(1 - H(q^T - B))$	$1 - BH - q^S(1 - B\frac{H}{\mu} - H(q^T - B))$
7	PH	1	$1 - (q^T - \frac{\epsilon}{H})$	$1 - q^S(1 - \epsilon\frac{\mu(1-H)}{(1-\mu)H})$	$1 - (q^T - \frac{\epsilon}{H}) - q^S(1 - (q^T - \frac{\epsilon}{H}) - \epsilon)$

Note: Each row corresponds to a PBE. Columns 3-6 indicate the incumbent's re-election probability in the corresponding PBE for each incumbent type. Column 1 numbers are used to keep track of the PBEs. Column 2 indicates whether the PBE is a no herring (NH), partial herring (PH) or full herring (FH) equilibrium as defined in Section 4.2. PBEs' incumbent and voter strategies can be found in Table 1.

Tables 6-7: **Polarization:** Equilibrium path as q^T increases, for: either i) $\beta_S < 1-\pi$ and $H > \bar{H}_2$, or ii) $\beta_S > 1-\pi$ and $H > \bar{H}_4$ *(additional parameter conditions detailed below)*

Table 6: If $B > \epsilon$ and $\mu < H$

PBE		Incumbent Strategy		Media Attention to Tales q^T in:			
N°	Red herring?	$Pr(T_i^* = 1 \mid i = newsmaker, S \notin \mathcal{S}_{d1})$	$Pr(T_i^* = 1 \mid i = non-newsmaker, S \in \mathcal{S}_{d1})$	$(0;\epsilon)$	$(\epsilon;B)$	$(B;\epsilon+B)$	$(\epsilon+B;1)$
2P	PH	1	0	✓			
7P1	PH	1	$\frac{\mu(1-H)}{(1-\mu)H}$		✓	✓	
4P	PH	H	0			✓	
3P	NH	0	0			✓	✓

Table 7: If $B > \epsilon$ and $\mu > H$

PBE		Incumbent Strategy		Media Attention to Tales q^T in:			
N°	Red herring?	$Pr(T_i^* = 1 \mid i = newsmaker, S \notin \mathcal{S}_{d1})$	$Pr(T_i^* = 1 \mid i = non-newsmaker, S \in \mathcal{S}_{d1})$	$(0;\epsilon)$	$(\epsilon;B)$	$(B;\epsilon+B)$	$(\epsilon+B;1)$
2P	PH	1	0	✓			
5P	FH	1	1		✓	✓	✓
4P	PH	H	0			✓	
3P	NH	0	0			✓	✓
6P	PH	$\frac{H}{\mu}$	1				✓

Note: Each row corresponds to a PBE. A checkmark ✓ indicates that the corresponding PBE is an equilibrium for the range of values of q^T in the corresponding column. Column 1 numbers are used to keep track of the PBEs. Column 2 indicates whether the PBE is a no herring (NH), partial herring (PH) or full herring (FH) equilibrium as defined in Section 4.2. The incumbent and voter strategies in each PBE can be found in Table 1. Columns 3 and 4 specify the action frequences of scandal-free newsmakers and scandal-plagued non-newsmakers. The incumbent's action frequencies for other information sets are omitted because identical across all PBEs: scandal-plagued newsmakers always engage in tale-telling ($Pr(T_i^* = 1 \mid i = newsmaker, S \in \mathcal{S}_{d1}) = 1$) while scandal-free non-newsmakers never engage in tale-telling ($Pr(T_i^* = 1 \mid i = non-newsmaker, S \notin \mathcal{S}_{d1}) = 0$). Voters' action frequencies can be found in the proof of equilibrium characterization. PBEs which only exist for singleton parameter sets are omitted for brevity but included in the proof of equilibrium characterization.
$\bar{H}_1 = \frac{1}{2}$, $\bar{H}_2 = \frac{1}{2\gamma+\alpha}$, $\bar{H}_3 = \frac{1+\alpha-2\gamma}{2+\alpha-2\gamma}$, $\bar{H}_4 = \frac{1+\alpha-2\gamma}{2\alpha}$

Tables 8-10: **Polarization:** Equilibrium path as q^T increases, for: either i) $\beta_S < 1-\pi$ and $H < \bar{H}_2$, or ii) $\beta_S > 1-\pi$ and $H < \bar{H}_4$ *(additional parameter conditions detailed below)*

Table 8: If $\beta_D < \underline{\beta}_D$ (implies $\mu > H$) and, either i) $\beta_S < 1-\pi$ and $H > \bar{H}_1$, or ii) $\beta_S > 1-\pi$ and $H > \bar{H}_3$

PBE		Incumbent Strategies		Media Attention to Tales q^T in:			
N°	Red herring?	$Pr(T_i^* = 1 \mid i = newsmaker, S \notin \mathcal{S}_{d1})$	$Pr(T_i^* = 1 \mid i = non-newsmaker, S \in \mathcal{S}_{d1})$	$(0;\epsilon)$	$(\epsilon;B)$	$(B;\epsilon+B)$	$(\epsilon+B;1)$
2P	PH	1	0	✓			
5P	FH	1	1		✓	✓	✓
4P	NH	H	0			✓	✓
3P	NH	0	0			✓	✓

Table 9: If $\beta_D \in [\underline{\beta}_D; \bar{\beta}_D]$ and, either i) $\beta_S < 1-\pi$ and $H > \bar{H}_1$, or ii) $\beta_S > 1-\pi$ and $H > \bar{H}_3$

PBE		Incumbent Strategy		Media Attention to Tales q^T in:			
N°	Red herring?	$Pr(T_i^* = 1 \mid i = newsmaker, S \notin \mathcal{S}_{d1})$	$Pr(T_i^* = 1 \mid i = non-newsmaker, S \in \mathcal{S}_{d1})$	$(0;\epsilon)$	$(\epsilon;B)$	$(B;\epsilon+B)$	$(\epsilon+B;1)$
2P	PH	1	0	✓			
7P2	PH	1	$\frac{\mu}{(1-\mu)\pi q^S H}(\pi q^S(1-H) - \frac{\beta_D}{1-\pi+\beta_D})$		✓	✓	✓
4P	NH	H	0			✓	✓
3P	NH	0	0			✓	✓

Table 10: If, either: i) $\beta_D > \bar{\beta}_D$, ii) $\beta_S < 1-\pi$ and $H < \bar{H}_1$, or iii) $\beta_S > 1-\pi$ and $H < \bar{H}_3$

PBE		Incumbent Strategy		Media Attention to Tales q^T in:			
N°	Red herring?	$Pr(T_i^* = 1 \mid i = newsmaker, S \notin \mathcal{S}_{d1})$	$Pr(T_i^* = 1 \mid i = non-newsmaker, S \in \mathcal{S}_{d1})$	$(0;\epsilon)$	$(\epsilon;B)$	$(B;\epsilon+B)$	$(\epsilon+B;1)$
2P	NH	1	0	✓	✓	✓	✓
4P	NH	H	0			✓	✓
3P	NH	0	0			✓	✓

Note: Each row corresponds to a PBE. A checkmark ✓ indicates that the corresponding PBE is an equilibrium for the range of values of q^T in the corresponding column. Column 1 numbers are used to keep track of the PBEs. Column 2 indicates whether the PBE is a no herring (NH), partial herring (PH) or full herring (FH) equilibrium as defined in Section 4.2. The incumbent and voter strategies in each PBE can be found in Table 1. Columns 3 and 4 specify the action frequences of scandal-free newsmakers and scandal-plagued non-newsmakers. The incumbent's action frequencies for other information sets are omitted because identical across all PBEs: scandal-plagued newsmakers always engage in tale-telling ($Pr(T_i^* = 1 \mid i = newsmaker, S \in \mathcal{S}_{d1}) = 1$) while scandal-free non-newsmakers never engage in tale-telling ($Pr(T_i^* = 1 \mid i = non-newsmaker, S \notin \mathcal{S}_{d1}) = 0$). Voters' action frequencies can be found in the proof of equilibrium characterization. PBEs which only exist for singleton parameter sets are omitted for brevity but included in the proof of equilibrium characterization.

$\bar{H}_1 = \frac{1}{2}$, $\bar{H}_2 = \frac{1}{2\gamma+\alpha}$, $\bar{H}_3 = \frac{1+\alpha-2\gamma}{2+\alpha-2\gamma}$, $\bar{H}_4 = \frac{1+\alpha-2\gamma}{2\alpha}$, $\underline{\beta}_D = \frac{(1-\pi)\pi q^S(1-\frac{H}{\mu})}{1-\pi q^S(1-\frac{H}{\mu})} < \bar{\beta}_D = \frac{(1-\pi)\pi q^S(1-H)}{1-\pi q^S(1-H)}$.

Table 11: **Attention-seeker specification:** Partition of candidate incumbent's strategies

Non-attention-seeker \ Attention-seeker	Never engages in tale-telling	Always engages in tale-telling	Engages in tale-telling iff scandal	Engages in tale-telling iff no scandal	Always mixes	Mixes (tale/silent) if scandal, silent otherwise	Mixes (tale/silent) if scandal, engages in tale-telling otherwise	Mixes (tale/silent) if no scandal, silent otherwise	Mixes (tale/silent) if no scandal, engages in tale-telling otherwise
Never engages in tale-telling	**PBE N°1A**	**PBE N°2A**	**PBE N°3A**	L1.-ter.3.b)	L1.-ter.3.b)	**PBE N°4A**	L1.-ter.3.b)	L1.-ter.3.b)	**PBE N°5A**
Always engages in tale-telling	L1.-ter.3.c),1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2
Engages in tale-telling iff scandal	L1.-ter.3.c)	**PBE N°6A**	L1.4	L1.-ter.3.b)	L1.-ter.3.b)	L1.4	L1.-ter.3.b)	L1.-ter.3.b)	**PBE N°7A**
Engages in tale-telling iff no scandal	L1.-ter.3.c),1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2
Always mixes (tale/silent)	L1.-ter.3.c),1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2
Mixes (tale/silent) if scandal, silent otherwise	L1.-ter.3.c)	**PBE N°8A**	L1.4	L1.-ter.3.b)	L1.-ter.3.b)	L1.4	L1.-ter.3.b)	L1.-ter.3.b)	**PBE N°9A (singleton)**
Mixes (tale/silent) if scandal, engages in tale-telling otherwise	L1.-ter.3.c),1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2
Mixes (tale/silent) if no scandal, silent otherwise	L1.-ter.3.c),1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2
Mixes (tale/silent) if no scandal, engages in tale-telling otherwise	L1.-ter.3.c),1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2,1.4	L1.2	L1.2	L1.2

Note: Each cell is a candidate incumbent strategy. Rows correspond to the incumbent's strategy if non-attention-seeker, while columns correspond to his strategy if attention-seeker. When the incumbent "mixes" for some information set, he mixes over engaging in tale-telling or remaining silent. "PBE" indicates that there exists, for certain parameter values, a PBE in which the corresponding incumbent strategy is optimal, and is followed by the PBE number used to keep track of the equilibria. For clarity, all PBEs are in bold. L indicates that candidate PBEs with the corresponding incumbent strategy can be ruled out using a statement in Lemma 1 and is followed by the applicable statement number(s). "Singleton" indicates that the corresponding incumbent strategy is only possible in an equilibrium which only exists for a singleton parameter set.

Table 12: **Attention-seeker specification:** Equilibrium path as q^T increases, for $B \in (H;1)$ and $\mu < H$

PBE		Incumbent Strategies		Media Attention to Tales q^T in:			
N°	Red herring?	$Pr(T_i^* = 1 \mid i = attention-seeker, S \notin \mathcal{S}_{d1})$	$Pr(T_i^* = 1 \mid i = non-attention-seeker, S \in \mathcal{S}_{d1})$	$(0; \frac{\epsilon}{B})$	$(\frac{\epsilon}{B}; \frac{\epsilon}{H})$	$(\frac{\epsilon}{H}; \frac{\epsilon}{B}\frac{1-H}{1-B})$	$(\frac{\epsilon}{B}\frac{1-H}{1-B}; 1)$
1	NH	0	0	✓			
2	PH	1	0		✓		
5	PH	H	0		✓	✓	
3	NH	0	0			✓	✓

Note: Each row corresponds to a PBE. A checkmark ✓ indicates that the corresponding PBE is an equilibrium for the range of values of q^T in the corresponding column. Column 1 numbers are used to keep track of the PBEs. Column 2 indicates whether the PBE is a no herring (NH), partial herring (PH) or full herring (FH) equilibrium as defined in Section 4.2. The incumbent and voter strategies in each PBE can be found in Table 1. Columns 3 and 4 specify the action frequences of scandal-free attention-seekers and scandal-plagued non-attention-seekers. The incumbent's action frequencies for other information sets are omitted because (almost) identical across all PBEs: scandal-plagued newsmakers always engage in tale-telling ($Pr(T_i^* = 1 \mid i = newsmaker, S \in \mathcal{S}_{d1}) = 1$) while scandal-free non-attention-seekers never engage in tale-telling ($Pr(T_i^* = 1 \mid i = non-attention-seeker, S \notin \mathcal{S}_{d1}) = 0$) while scandal-plagued attention-seekers always engage in tale-telling ($Pr(T_i^* = 1 \mid i = attention-seekers, S \in \mathcal{S}_{d1}) = 1$) except in PBE 1 in which they never engage in tale-telling. Voters' action frequencies can be found in the proof of equilibrium characterization. PBEs which only exist for singleton parameter sets are omitted for brevity but included in the proof of equilibrium characterization.

8.2 Baseline Model: Proofs

Proof of Lemma 1:

Part 1:

Denote $t = Pr(T_i{}^* = 1|newsmaker, S \notin \mathcal{S}_{d1})$ and $s = Pr(T_i{}^* = 1|non-newsmaker, S \notin \mathcal{S}_{d1})$ the tale-telling probabilities of scandal-free newsmakers and scandal-free non-newsmakers.

Since the voter can only see the generic story in the absence of a scandal (i.e. $\mathcal{S}_v = \{G\} \Rightarrow S \notin \mathcal{S}_{d1}$), her posterior that the incumbent is good when she sees the generic story is:
$Pr(i = good|\mathcal{S}_v = \{G\}) = \frac{(1-\pi)(\mu(1-t+t(1-q^T))+(1-\mu)(1-s+s(1-q^T)))}{(1-\pi)(\mu(1-t+t(1-q^T))+(1-\mu)(1-s+s(1-q^T)))+\pi(1-q^S)(\mu(1-t+t(1-q^T))+(1-\mu)(1-s+s(1-q^T)))} = \frac{1-\pi}{1-\pi q^S}$.

$q^S > 0$ implies that it is larger than $1-\pi$, making it strictly optimal for her to re-elect the incumbent. ■

Part 2:

From Part 1, the voter will re-elect the incumbent if she sees the generic story ($Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$).

This makes it strictly suboptimal for a scandal-free non-newsmaker to engage in tale-telling. Indeed, remaining silent guarantees him a payoff of $Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$. By engaging in tale-telling, his expected payoff is $\mathbf{E}(U_i(T_i = 1|non-newsmaker, S \notin \mathcal{S}_{d1})) \leq 1 - \epsilon < 1$. ■

Part 3:

Any scandal-plagued incumbent who remains silent gets a payoff $\mathbf{E}(U_i(T_i = 0|S \in \mathcal{S}_{d1})) = 0$. Indeed, the voter sees the scandal and learns that the incumbent is bad, voting him out ($(S \in \mathcal{S}_{d1}) \wedge (T_i = 0) \Rightarrow S \in \mathcal{S}_v \Rightarrow V^* = 0$ since $S \in \mathcal{S}_v \Rightarrow S \in \mathcal{S}_{d1} \Rightarrow i = bad$).

Denote $r = Pr(V^* = 1|\mathcal{S}_v = \{T\}) \in [0;1]$ the probability with which the voter re-elects the incumbent when she sees only a tale. A scandal-plagued newsmaker who engages in tale-telling gets an expected payoff of $\mathbf{E}(U_i(T_i = 1|newsmaker, S \in \mathcal{S}_{d1})) = B + rq^T H > 0$.

Scandal-plagued newsmakers therefore strictly prefer engaging in tale-telling to remaining silent. ■

Part 4:

Assume that scandal-free newsmakers never engage in tale-telling.

We know from Part 2 that scandal-free non-newsmakers will never engage in tale-telling. Thus, it must be that incumbents only engage in tale-telling if a scandal was detected by the media, i.e. $(Pr(T_i{}^* = 1|newsmaker, S \notin \mathcal{S}_{d1}) = 0) \wedge (Pr(T_i{}^* = 1|newsmaker, S \in \mathcal{S}_{d1}) > 0) \wedge (Pr(T_i{}^* = 1|non-newsmaker, S \notin \mathcal{S}_{d1}) = 0) \Rightarrow Pr(S \in \mathcal{S}_{d1}|T_i{}^* = 1) = 1$ by Bayes rule.

By assumption, scandals can only be detected by the media if the incumbent is bad ($Pr(S \in \mathcal{S}_{d1}|i = good) = 0$). Thus, if she sees a tale, the voter learns that the incumbent is bad and votes him out ($Pr(V^* = 1|\mathcal{S}_v = \{T\}) = 0$).

This leaves no incentives for scandal-plagued non-newsmakers to engage in tale-telling since doing so would yield a payoff of $\mathbf{E}(U_i(T_i = 1|S \in \mathcal{S}_{d1}, non-newsmaker)) = Pr(V^* = 1|S \in \mathcal{S}_{d1}, T_i = 1) - \epsilon = 0 - \epsilon < 0$, while remaining silent would yield a payoff of $U_i(T_i = 0|non-newsmaker, S \in \mathcal{S}_{d1}) = Pr(V^* = 1|S \in \mathcal{S}_{d1}, T_i = 0) = 0$. ■

Proof of Proposition 1:

Sufficient: When $\mu = 0$, there is a PBE in which the incumbent never engages in tale-telling ($Pr(T_i = 1) = 0 \ \forall \ i$)

and the voter re-elects him iff she sees the generic story ($V = 1 \Leftrightarrow \mathcal{S}_v = \{G\}$). It can be supported by the off-path belief that the incumbent is bad if the voter sees a tale ($Pr(i = good|\mathcal{S}_v = \{T\}) = 0$)).

i) One can first show that the voter's strategy is optimal given her beliefs. From Lemma 1.1, $\mathcal{S}_v = \{G\} \Rightarrow V^* = 1$ (note that the proof of Lemma 1.1 did not require assuming equilibrium existence). Similarly, $S \in \mathcal{S}_v \Rightarrow S \in \mathcal{S}_{d1} \Rightarrow V^* = 0$. Given the voter's off-path belief, $\mathcal{S}_v = \{T\} \Rightarrow S \in \mathcal{S}_{d1} \Rightarrow V^* = 0$.

ii) Second, one can show that the incumbent's strategy is optimal given the voter's strategy. From Lemma 1.2, we know that scandal-free incumbents strictly prefers not to engage in tale-telling (note that Lemma 1.2 is a corollary of Lemma 1.1 and therefore does not require assuming equilibrium existence). Scandal-plagued incumbents similarly strictly prefer not to engage in tale-telling given the voter's strategy. Indeed, given the voter's strategy, scandal-plagued incumbents are voted out whether they remain silent or engage in tale-telling. However, engaging in tale-telling is costly to them: if they remain silent, they get $\mathbf{E}(U_i(T_i = 0|S \in \mathcal{S}_{d1})) = Pr(V = 1|S \in \mathcal{S}_v) = 0$; if they engage in tale-telling, they get $\mathbf{E}(U_i(T_i = 1|non - newsmaker, S \in \mathcal{S}_{d1})) = (1 - q^T + q^T(1 - H))Pr(V = 1|S \in \mathcal{S}_v) + q^T H Pr(V = 1|\mathcal{S}_v = \{T\}) - \epsilon = -\epsilon < 0$.

Necessary: When $\mu = 0$, the PBE in which the incumbent never engages in tale-telling is the unique PBE.

To show that there is no PBE in which the incumbent engages in tale-telling, the proof first shows that there is no PBE in which he engages in tale-telling when free from scandal, before showing that there is no PBE in which he engages in tale-telling with positive probability iff he is hit by a scandal.

i) The first part follows from Lemma 1.2.

ii) The second part can be proven by contradiction: Assume there is a PBE in which the incumbent engages in tale-telling with probability iff he is hit by a scandal. Upon seeing only a tale, the voter would learn that this incumbent is bad and vote him out ($Pr(T_i = 1) > 0 \Leftrightarrow S \in \mathcal{S}_{d1} \Rightarrow \mathcal{S}_v = \{T\} \Rightarrow S \in \mathcal{S}_{d1} \Rightarrow i = bad \Rightarrow V^* = 0$). Thus, scandal-plagued incumbents would have a strictly lower payoff from engaging in tale-telling than from remaining silent ($\mathbf{E}(U_i(T_i = 1|non-newsmaker, S \in \mathcal{S}_{d1})) = (1-q^T+q^T(1-H))Pr(V = 1|S \in \mathcal{S}_v)+q^T H Pr(V = 1|\mathcal{S}_v = \{T\})-\epsilon = -\epsilon < 0$, while $\mathbf{E}(U_i(T_i = 0|non - newsmaker, S \in \mathcal{S}_{d1})) = Pr(V = 1|S \in \mathcal{S}_v) = 0$). This implies that scandal-plagued incumbents strictly prefer deviating and not engaging in tale-telling. ■

Equilibrium characterization:

As explained in Section 4, the characterization of the PBEs is simplified by using Lemma 1 to 1) rule out incumbent strategies which cannot be optimal in any PBE, 2) notice that only three incentive compatibility conditions need to be verified.

1) Ruling-out unfeasible PBEs:

Candidate PBEs in which scandal-free non-newsmakers engage in tale-telling with positive probability (rows 3-5-6-8-9-10 in Table 1) can be ruled out using Lemma 1.2.

Candidate PBEs in which scandal-plagued newsmakers do not always engage in tale-telling (columns 5 to 9 in Table 1) can be ruled out using Lemma 1.3.

Candidate PBEs in which newsmakers engage in tale-telling iff scandal-plagued while non-newsmakers engage in tale-telling with positive probability (the intersection of rows 3 to 10 with either column 4 or column 7 in Table 1) can be ruled out using Lemma 1.4.

2) Restricting the set of IC which need to be verified As explained in Section 4, when characterizing PBEs, incentive compatibility only needs to be verified in three cases:

i) when the voter sees only the tale ($\mathcal{S}_v = \{T\}$)

ii) when the incumbent is a scandal-free newsmaker

iii) when the incumbent is a scandal-plagued non-newsmaker.

Other cases are covered by Lemma 1 and observing that the voter will vote the incumbent out whenever she sees a scandal ($S \in \mathcal{S}_v \Rightarrow i = bad \Rightarrow V^* = 0$).

In the following, equilibrium characterization proceeds by considering each incumbent strategy remaining in Table1, eliciting the voter's best response and then the parameter values for which the incumbent's strategy is optimal given the voter's best response.

For transparency, the PBE (strategies, beliefs and necessary parameter conditions) is first described before proceeding to the proof.

PBE 2:

- Incumbent's strategy: engages in tale-telling iff is a newsmaker, $T_i^* = 1 \Leftrightarrow newsmaker$
- Voter's posterior that the incumbent is good:
  - $Pr(i = good|\mathcal{S}_v = \{G\}) = \frac{1-\pi}{1-\pi q^S} > 1 - \pi$ if she sees the generic story
  - $Pr(i = good|\mathcal{S}_v = \{T\}) = \frac{1-\pi}{1-\pi q^S(1-H)} > 1 - \pi$ if she sees only a tale
  - $Pr(i = good|S \in \mathcal{S}_v) = 0$ if she sees a scandal
- Voter's strategy: re-elects the incumbent unless sees a scandal, $V^* = 1 \Leftrightarrow S \notin \mathcal{S}_v$
- **Necessary conditions:** $q^T \leq \frac{\epsilon}{H}$

i) **Voter IC:**

Given the incumbent's strategy, the voter's posterior that the incumbent is good if she sees only a tale is: $Pr(i = good|\mathcal{S}_v = \{T\}) = \frac{1-\pi}{(1-\pi)+\pi(1-q^S+q^S H)} > 1 - \pi$. It is therefore strictly optimal for her to re-elect the incumbent when she sees only a tale.

ii) **Incumbent IC**

Given the voter's strategy, it is strictly optimal for scandal-free newsmakers to engage in tale-telling. Indeed, $\mathbf{E}(U_i(T_i = 1|newsmaker, S \notin \mathcal{S}_{d1})) = (1 - q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) + rq^T H(V^* = 1|\mathcal{S}_v = \{T\}) = 1 + B$ while $\mathbf{E}(U_i(T_i = 0|newsmaker, S \notin \mathcal{S}_{d1})) = Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$.

Given the voter's strategy, by remaining silent, scandal-plagued non-newsmakers would earn an expected payoff $\mathbf{E}(U_i(T_i = 0|non - newsmaker, S \in \mathcal{S}_{d1})) = Pr(V^* = 1|S \in \mathcal{S}_v) = 0$. By engaging in tale-telling, they would earn $\mathbf{E}(U_i(T_i = 1|non - newsmaker, S \in \mathcal{S}_{d1})) = q^T HPr(V^* = 1|\mathcal{S}_v = \{T\}) - \epsilon = q^T H - \epsilon$. It is therefore optimal for them not to engage in tale-telling iff $q^T \leq \frac{\epsilon}{H}$. ■

PBE 3:

- Incumbent's strategy: engages in tale-telling iff is a scandal-plagued newsmaker $({T_i}^* = 1 \Leftrightarrow (S \in \mathcal{S}_{d1}) \wedge (newsmaker))$
- Voter's posterior that the incumbent is good:
  - $Pr(i = good|\mathcal{S}_v = \{G\}) = \frac{1-\pi}{1-\pi q^S} > 1 - \pi$ if she sees the generic story
  - $Pr(i = good|\mathcal{S}_v = \{T\}) = 0$ if she sees only a tale
  - $Pr(i = good|S \in \mathcal{S}_v) = 0$ if she sees a scandal
- Voter's strategy: re-elects the incumbent iff she sees the generic story $(V^* = 1 \Leftrightarrow \mathcal{S}_v = \{G\})$
- **Necessary conditions:** $q^T \geq B$

i) **Voter IC:**

Given the incumbent's strategy, whenever she sees a tale, the voter learns that the incumbent is bad and votes him out (since $Pr(S \in \mathcal{S}_{d1}|{T_i}^* = 1) = 1$, it follows that $\mathcal{S}_v = \{T\} \Rightarrow {T_i}^* = 1 \Rightarrow S \in \mathcal{S}_{d1} \Rightarrow V^* = 0$).

ii) **Incumbent IC:**

Given the voter's strategy, it is optimal for scandal-free newsmakers not to engage in tale-telling iff: $\mathbf{E}(U_i(T_i = 1|newsmaker, S \notin \mathcal{S}_{d1})) \leq \mathbf{E}(U_i(T_i = 0|newsmaker, S \notin \mathcal{S}_{d1})) \Leftrightarrow rq^T H(V^* = 1|\mathcal{S}_v = \{T\}) + (1 - q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) - B \leq Pr(V^* = 1|\mathcal{S}_v = \{G\}) \Leftrightarrow 1 - q^T + B \leq 1 \Leftrightarrow q^T \geq B$.

Incentive compatibility for scandal-plagued non-newsmakers follows from Lemma 1.4. ■

PBEs 4-6-8: *(joint proof)*

PBE 4:

- Incumbent's strategy: mixes if newsmaker and no scandal (engages in tale-telling with probability $Pr({T_i}^* = 1|newsmaker, S \notin \mathcal{S}_{d1}) = H$), engages in tale-telling if newsmaker and scandal $(Pr({T_i}^* = 1|newsmaker, S \in \mathcal{S}_{d1}) = 1)$, remains silent if non-newsmaker $(Pr({T_i}^* = 1|non - newsmaker) = 0)$
- Voter's posterior that the incumbent is good:

- $Pr(i = good|\mathcal{S}_v = \{G\}) = \frac{1-\pi}{1-\pi q^S} > 1-\pi$ if she sees the generic story
- $Pr(i = good|\mathcal{S}_v = \{T\}) = 1-\pi$ if she sees only a tale
- $Pr(i = good|S \in \mathcal{S}_v) = 0$ if she sees a scandal

- Voter's strategy: re-elects the incumbent if sees the generic story ($Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$), re-elects him with probability $Pr(V^* = 1|\mathcal{S}_v = \{T\}) = 1 - \frac{B}{q^T}$ if she sees only a tale, votes him out if she sees a scandal ($Pr(V^* = 1|S \in \mathcal{S}_v) = 0$)

- **Necessary conditions:** $q^T \in [B; \frac{\epsilon}{H} + B]$

PBE 6:

- Incumbent's strategy: mixes if newsmaker and no scandal (engages in tale-telling with probability $Pr(T_i{}^* = 1|newsmaker, S \notin \mathcal{S}_{d1}) = \frac{H}{\mu}$), engages in tale-telling if scandal ($Pr(T_i{}^* = 1|S \in \mathcal{S}_{d1}) = 1 \ \forall \ i$), remains silent if non-newsmaker and no scandal ($Pr(T_i{}^* = 1|non-newsmaker, S \notin \mathcal{S}_{d1}) = 0$)

- Voter's posterior that the incumbent is good:
  - $Pr(i = good|\mathcal{S}_v = \{G\}) = \frac{1-\pi}{1-\pi q^S} > 1-\pi$ if she sees the generic story
  - $Pr(i = good|\mathcal{S}_v = \{T\}) = 1-\pi$ if she sees only a tale
  - $Pr(i = good|S \in \mathcal{S}_v) = 0$ if she sees a scandal

- Voter's strategy: re-elects the incumbent if sees the generic story ($Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$), re-elects him with probability $Pr(V^* = 1|\mathcal{S}_v = \{T\}) = 1 - \frac{B}{q^T}$ if she sees only a tale, votes him out if she sees a scandal ($Pr(V^* = 1|S \in \mathcal{S}_v) = 0$)

- **Necessary conditions:** $(q^T \geq \frac{\epsilon}{H} + B) \wedge (\mu > H)$

PBE 8:

- Incumbent's strategy: mixes if non-newsmaker and scandal or newsmaker and no scandal (respectively engages in tale-telling with probability $Pr(T_i{}^* = 1|non-newsmaker, S \in \mathcal{S}_{d1}) = s \in [0; min\{1; \frac{\mu(1-H)}{(1-\mu)H}\}]$ and with probability $Pr(T_i{}^* = 1|newsmaker, S \notin \mathcal{S}_{d1}) = H\frac{(\mu+(1-\mu)s)}{\mu}$), engages in tale-telling if newsmaker and scandal $Pr(T_i{}^* = 1|newsmaker, S \in \mathcal{S}_{d1}) = 1$, remains silent if non-newsmaker and no scandal $Pr(T_i{}^* = 1|non-newsmaker, S \notin \mathcal{S}_{d1}) = 0$

- Voter's posterior that the incumbent is good:
  - $Pr(i = good|\mathcal{S}_v = \{G\}) = \frac{1-\pi}{1-\pi q^S} > 1-\pi$ if she sees the generic story
  - $Pr(i = good|\mathcal{S}_v = \{T\}) = 1-\pi$ if she sees only a tale
  - $Pr(i = good|S \in \mathcal{S}_v) = 0$ if she sees a scandal

- Voter's strategy: re-elects the incumbent if sees the generic story ($Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$), re-elects him with probability $Pr(V^* = 1|\mathcal{S}_v = \{T\}) = 1 - \frac{B}{q^T}$ if she sees only a tale, votes him out if she sees a scandal ($Pr(V^* = 1|S \in \mathcal{S}_v) = 0$)

- **Necessary conditions:** $q^T = \frac{\epsilon}{H} + B$

i) **Voter IC:**

Denote $t = Pr(T_i^* = 1|newsmaker, S \notin \mathcal{S}_{d1})$ the tale-telling probability of scandal-free newsmakers and $s = Pr(T_i^* = 1|non-newsmaker, S \in \mathcal{S}_{d1})$ the tale-telling probability of scandal-plagued non-newsmakers.

Upon seeing only a tale, the voter's posterior that the incumbent is good is: $\frac{(1-\pi)\mu t}{(1-\pi)\mu t+\pi((1-q^S)\mu t+q^S H(\mu+(1-\mu)s))}$. It will be superior to $1-\pi$ iff $t \geq H\frac{(\mu+(1-\mu)s)}{\mu}$.

ii) **Incumbent IC:**

$t \in (0;1)$ requires that scandal-free newsmakers be indifferent between engaging in tale-telling and remaining silent. Denoting $r = Pr(V^* = 1|\mathcal{S}_v = \{T\})$ the probability with which the voter will re-elect the incumbent if she sees only a tale, this indifference condition will therefore be satisfied iff: $\mathbf{E}(U_i(T_i = 1|newsmaker, S \notin \mathcal{S}_{d1})) = \mathbf{E}(U_i(T_i = 0|newsmaker, S \notin \mathcal{S}_{d1})) = Pr(V^* = 1|S \notin \mathcal{S}_{d1}, T_i = 0) = 1 \Leftrightarrow 1 = (1-q^T)+q^T r+B \Leftrightarrow r = 1-\frac{B}{q^T}$. $r \geq 0$ requires $q^T \geq B$.

If they engage in tale-telling, scandal-plagued non-newsmakers get an expected payoff of $\mathbf{E}(U_i(T_i = 1|non-newsmaker, S \in \mathcal{S}_{d1})) = rq^T H - \epsilon$. By remaining silent, they get an expected payoff of $\mathbf{E}(U_i(T_i = 0|non-newsmaker, S \in \mathcal{S}_{d1}) = Pr(V^* = 1|S \in \mathcal{S}_v) = 0$. Given r, scandal-plagued non-newsmakers will therefore prefer engaging in tale-telling if $\epsilon \leq q^T(1-\frac{B}{q^T})H$. They will prefer remaining silent if $\epsilon \geq q^T(1-\frac{B}{q^T})H$.

Hence, if $\epsilon \leq q^T(1-\frac{B}{q^T})H$, since scandal-plagued non-newsmakers strictly prefer engaging in tale-telling, $s = 1$ and $t = \frac{H}{\mu}$ (PBE 6). $t < 1$ requires $\mu > H$.

If $\epsilon \geq q^T(1-\frac{B}{q^T})H$, since scandal-plagued non-newsmakers prefer to remain silent, $s = 0$ and $t = H$ (PBE 4).

If $\epsilon = q^T(1-\frac{B}{q^T})H$, since scandal-plagued non-newsmakers are indifferent, there exist a continuum of PBEs with $t = H\frac{(\mu+(1-\mu)s)}{\mu}$ (PBE 9), where $s \in (0; min\{1; \frac{\mu(1-H)}{(1-\mu)H}\})$ is required to ensure that $t \in (0;1)$ and $s \in (0;1)$. **Since the paper focuses on PBEs which exist for intervals in the parameter space, this PBE is omitted in subsequent analysis.** ■

PBE 5:

- Incumbent's strategy: engages in tale-telling unless she is a scandal-free non-newsmaker (i.e. $T_i^* = 1 \Leftrightarrow \big((S \in \mathcal{S}_{d1}) \vee (newsmaker)\big)$)
- Voter's posterior that the incumbent is good:
  - $Pr(i = good|\mathcal{S}_v = \{G\}) = \frac{1-\pi}{1-\pi q^S} > 1-\pi$ if she sees the generic story
  - $Pr(i = good|\mathcal{S}_v = \{T\}) = \frac{(1-\pi)\mu q^T}{(1-\pi)\mu q^T H+\pi\mu(1-q^S)q^T+\pi q^S q^T H}$ if she sees only a tale
  - $Pr(i = good|S \in \mathcal{S}_v) = 0$ if she sees a scandal
- Voter's strategy: re-elects the incumbent unless she sees a scandal ($V^* = 1 \Leftrightarrow S \notin \mathcal{S}_v$)
- **Necessary conditions:** $(q^T \geq \frac{\epsilon}{H}) \wedge (\mu \geq H)$

i) **Voter IC:**

Given the incumbent's strategy, the voter's posterior that the incumbent is good is she sees only a tale is: $Pr(i = good|\mathcal{S}_v = \{T\}) = \frac{(1-\pi)\mu q^T}{(1-\pi)\mu q^T H+\pi\mu(1-q^S)q^T+\pi q^S q^T H}$. It is superior to $1-\pi$ iff $\mu \geq H$. Hence, it is optimal for the

voter to re-elect the incumbent upon seeing only a tale ($\mathcal{S}_v = \{T\} \Rightarrow V^* = 1$) iff $\mu \geq H$.

ii) **Incumbent IC**:

Denote $r = Pr(V^* = 1|\mathcal{S}_v = \{T\})$ the probability with which the voter re-elects the incumbent when seeing only a tale.

It is optimal for scandal-plagued non-newsmakers to engage in tale-telling iff: $\mathbf{E}(U_i(T_i = 1|non-newsmaker, S \in \mathcal{S}_{d1})) \geq \mathbf{E}(U_i(T_i = 0|non-newsmaker, S \in \mathcal{S}_{d1})) \Leftrightarrow (1-q^T)H(V^* = 1|S \in \mathcal{S}_v) + rq^T H - \epsilon > H(V^* = 1|S \in \mathcal{S}_v) \Leftrightarrow rq^T H - \epsilon \geq 0$. This requires $q^T \geq \frac{\epsilon}{H}$ and $\mu \geq H$ (since $\mu < H \Rightarrow r = 0$).

Since the paper focuses on PBEs which exist for intervals in the parameter space, one can abstract from the case in which $\mu = H$, making the voter indifferent.

When $\mu > H \Rightarrow r = 1$, it is strictly optimal for scandal-free newsmakers to engage in tale-telling since $\mathbf{E}(U_i(T_i = 1|newsmaker, S \notin \mathcal{S}_{d1})) = (1-q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) + q^T r + B = 1 + B > 1$ while $\mathbf{E}(U_i(T_i = 0|newsmaker, S \notin \mathcal{S}_{d1})) = Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$. ■

PBE 7:

- Incumbent's strategy: engages in tale-telling if newsmaker $Pr(T_i{}^* = 1|newsmaker) = 1$, mixes if scandal-plagued non-newsmaker (engages in tale-telling with probability $Pr(T_i{}^* = 1|non-newsmaker, S \in \mathcal{S}_{d1}) = \frac{\mu(1-H)}{(1-\mu)H}$), remains silent otherwise
- Voter's posterior that the incumbent is good:
  - $Pr(i = good|\mathcal{S}_v = \{G\}) = \frac{1-\pi}{1-\pi q^S} > 1-\pi$ if she sees the generic story
  - $Pr(i = good|\mathcal{S}_v = \{T\}) = 1-\pi$ if she sees only a tale
  - $Pr(i = good|S \in \mathcal{S}_v) = 0$ if she sees a scandal
- Voter's strategy: re-elects the incumbent when she sees the generic story ($\mathcal{S}_v = \{G\} \Rightarrow V^* = 1$), re-elects him with probability $Pr(V^* = 1|\mathcal{S}_v = \{T\}) = \frac{\epsilon}{q^T H}$ when she sees only a tale, votes him out otherwise
- **Necessary conditions:** $(q^T \in [\frac{\epsilon}{H}; \frac{\epsilon}{H} + B]) \wedge (\mu < H)$

i) **Voter IC:**

Denote $s = Pr(T_i{}^* = 1|non-newsmaker, S \in \mathcal{S}_{d1})$ the tale-telling probability of scandal-plagued newsmakers. Given the incumbent's strategy, the voter's posterior that the incumbent is good if she sees only a tale is: $Pr(i = good|\mathcal{S}_v = \{T\}) = \frac{(1-\pi)\mu q^T}{(1-\pi)\mu q^T + \pi\mu(1-q^S)q^T + \pi q^S(\mu+(1-\mu)s)q^T}$. For $s = \frac{\mu(1-H)}{(1-\mu)H}$, this is equal to $1-\pi$, making the voter indifferent between re-electing the incumbent or voting him out. $s = \frac{\mu(1-H)}{(1-\mu)H} < 1$ iff $\mu < H$.

ii) **Incumbent IC:**

For scandal-plagued non-newsmakers to mix, it must be that they are indifferent between engaging in tale-telling or not, i.e. $\mathbf{E}(U_i(T_i = 1|non-newsmaker, S \in \mathcal{S}_{d1})) = \mathbf{E}(U_i(T_i = 0|non-newsmaker, S \in \mathcal{S}_{d1}))$. Denoting $r = Pr(V^* = 1|\mathcal{S}_v = \{T\})$, this is the case iff $(1-q^T+q^T(1-H))Pr(V^* = 1|S \in \mathcal{S}_v) + rq^T H - \epsilon = Pr(V^* = 1|S \in \mathcal{S}_v) \Leftrightarrow r = \frac{\epsilon}{q^T H}$. $r \leq 1 \Leftrightarrow q^T \geq \frac{\epsilon}{H}$.

Giver the voter's strategy, it is therefore optimal for scandal-free newsmakers to engage in tale-telling iff:

$\mathbf{E}(U_i(T_i = 1|newsmaker, S \notin \mathcal{S}_{d1})) > \mathbf{E}(U_i(T_i = 0|newsmaker, S \notin \mathcal{S}_{d1})) \Leftrightarrow (1 - q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) + q^T r + B > Pr(V^* = 1|\mathcal{S}_v = \{G\}) \Leftrightarrow 1 - q^T + q^T r + B \geq 1 \Leftrightarrow q^T \leq \frac{\epsilon}{H} + B.$ ■

Proof of Proposition 4 and Corollary to Proposition 4: *(Conditions on q^S)*

PBE 4:

$q^S < \frac{B}{q^T}$ (resp $q^S < BH$) $\Rightarrow$ bad non-newsmakers are strictly more likely to be re-elected than bad (resp good) newsmakers (i.e. $Pr(V^* = 1|i = bad, non - newsmaker) > Pr(V^* = 1|i = bad, newsmaker)$, resp $Pr(V^* = 1|i = bad, non - newsmaker) > Pr(V^* = 1|i = good, newsmaker)$)

PBE 6:

$q^S < \mu$ (resp $q^S < \frac{BH}{\mu(1-H(q^T-B))}$) $\Rightarrow$ bad non-newsmakers are strictly more likely to be re-elected than bad (resp good) newsmakers (i.e. $Pr(V^* = 1|i = bad, non - newsmaker) > Pr(V^* = 1|i = bad, newsmaker)$, resp $Pr(V^* = 1|i = bad, non - newsmaker) > Pr(V^*1|i = good, newsmaker)$)

PBE 7:

$q^S < (q^T - \frac{\epsilon}{H})(q^T + \frac{\epsilon(1-H)(2\mu-1)}{H(1-\mu)})$ (resp $q^S < (q^T - \frac{\epsilon}{H})\frac{(1-\mu)H}{(1-\mu)H-\epsilon\mu(1-H)}$) $\Rightarrow$ bad non-newsmakers are strictly more likely to be re-elected than bad (resp good) newsmakers (i.e. $Pr(V^* = 1|i = bad, non - newsmaker) > Pr(V^* = 1|i = bad, newsmaker)$, resp $Pr(V^* = 1|i = bad, non - newsmaker) > Pr(V^* = 1|i = good, newsmaker)$) ■

8.3 Dynamic Extension: Proofs

Proof of Proposition 5:

Note first that, if the fraction of newsmakers μ_0 is arbitrarily small, society will start in PBE 2 in $R = 1$:

Indeed, if the fraction of newsmakers μ_0 is arbitrarily small, the maximum fraction of scandal-plagued non-newsmakers making red herring attempts must be arbitrarily small. Otherwise, the voter would be too suspicious of tales and vote tale-tellers out, leaving no incentives for scandal-plagued non-newsmakers to make red herring attempts. Formally, $Pr_1(T_i^* = 1 | i = non - newsmaker, S \in \mathcal{S}_{d1}) < \frac{\mu_0(1-H)}{(1-\mu_0)H}$.

Thus, the tale frequency $Pr_1(T_i = 1)$ must be arbitrarily low (it is bounded above by $\frac{\mu_0}{H}$) since only newsmakers and scandal-plagued non-newsmakers send tales. It follows from the media's FOC that the media will allocate no or arbitrarily low resources to tale detection. $\delta > 0$ ensures that the tale detection probability q_0^T, although arbitrarily low, is strictly positive.

We know from equilibrium characterization that the unique PBE of the static game when $q^T \in (0; \frac{\epsilon}{H})$ is PBE 2. Thus, society will start from this PBE.

Finally, note that, in PBE 2, newsmakers have an electoral advantage over non-newsmakers (the difference in the re-election probabilities of newsmakers and non-newsmakers is $\pi q^S q^T H > 0$). Parties will therefore re-organize, increasing the fraction of newsmakers. ■

Proof of Corollary to Proposition 5:

It follows from the fact that PBE 2 is an equilibrium iff $q^T \leq \frac{\epsilon}{H}$ and that the media attention to tales increases in response to the increase in the fraction of newsmakers highlighted in Proposition 2.

To show that there exists a threshold $\bar{\kappa}$ of journalistic resources above which society will eventually exit PBE 2, observe the following:

First, for $\kappa < a_T \frac{\epsilon - \delta H}{H - \epsilon}$, a media attention to tales of $\frac{\epsilon}{H}$ or larger cannot be reached even if the media invests all its resources in tale-detection ($x_R = \kappa$).

Second, consider the media's FOC $\lambda\Big[Pr_R(T_i^* = 1|x_R)\frac{a_T}{(a_T + x_R)^2} + \frac{\partial Pr_R(T_i^* = 1|x_R)}{\partial x}\big(\frac{x_R}{a_T + x_R} + \frac{\delta}{1-\delta}\big)\Big] = \pi \frac{a_S}{(a_S + \kappa - x_R)^2}$ and: replace $Pr_R(T_i^* = 1|x_R)$ by 1 (considering the extreme case where μ is arbitrarily close to 1 since μ_R will keep increasing as long as society remains in PBE 2, approaching 1), x_R by $a_T \frac{\epsilon - \delta H}{H - \epsilon}$, and $\frac{\partial Pr_R(T_i^* = 1|x_R)}{\partial x_R}$ by 0. After simplifying, one can observe that the right-hand side is continuously decreasing in κ and strictly lower than the left-hand side if $\kappa \to \infty$.

Thus, it follows that there exists a threshold $\bar{\kappa}$ such that, if $\kappa > \bar{\kappa}$, q_R^T will eventually increase above $\frac{\epsilon}{H}$ and society will therefore exit PBE 2. ■

Proof of Proposition 6:

If society starts with $\mu_0 > H$, $q_0^T > \frac{\epsilon}{H} + B$ and an intermediate social norm of tale-telling ($Pr_1(T_i^* = 1 | S \notin \mathcal{S}_{d1}) \in (0; \mu_0)$), it will start in PBE 6.

In this PBE, the difference in the re-election probabilities of newsmakers and non-newsmakers is $-(1 - \pi)\mu + \pi(\frac{q^S}{\mu} - 1)$. Newsmakers therefore have a disadvantage provided that $q^S < \frac{1-\pi}{\pi}\mu^2 + \mu$, implying that μ will gradually decrease as long as $q^S < \frac{1-\pi}{\pi}\mu^2 + \mu$. ■

Proof of Corollary to Proposition 6:

In PBE 6, tale frequency is independent of μ, so q^T will remain unchanged until μ falls below H. If $q_0^S < \frac{1-\pi}{\pi}H^2 + H$, μ will fall below H, bringing society into the NH PBE as $q^T > \frac{\epsilon}{H} + B$. Denote H^- the value of μ when society enters the NH PBE.

Provided that the media's marginal return to investing in detecting tales in the NH PBE is strictly positive for $\mu = H^-$ and $q^T = \frac{\epsilon}{H} + B$, the media will not decrease its attention to tales q^T below $\frac{\epsilon}{H} + B$. Society will then settle on the NH PBE. Since newsmakers have no electoral advantage or disadvantage in this PBE, society will remain in this PBE.

The media's marginal return to investing in detecting tales in the NH PBE when $\mu = H^-$ and $q^T = \frac{\epsilon}{H} + B$ will be strictly positive provided that $a_T < \bar{a}$. The existence of this threshold $\bar{a}$ can be shown by noting that the media's marginal return to increasing x_R in the NH PBE is continuously and strictly decreasing in x_R, implying that the FOC has a unique solution. It then suffices to show that there is a threshold a_T below which the marginal return to increasing x will be strictly positive when $q^T = \frac{\epsilon}{H} + B$ and $\mu = H^-$. Consider the case in which $\mu = H^-$ and $q^T = \frac{\epsilon}{H} + B$. Plugging $x = a_T\xi$ (where $\xi = \frac{\frac{\epsilon}{H}+B-\delta}{1-\frac{\epsilon}{H}-B}$) inside the media's FOC and simplifying yields: $\lambda H^-\left(\frac{1}{a_T(1+\xi)^2}\left(\delta + (1-\delta)\frac{\kappa-\xi a_T}{a_S+\kappa-\xi a_T}\right) - \left(\delta + (1-\delta)\frac{\xi}{1+\xi}\right)\frac{a_S}{(a_S+\kappa-\xi a_T)^2}\right) = \frac{a_S}{(a_S+\kappa-\xi a_T)^2}$.
Note that the left-hand side is continuously decreasing in a_T while the right-hand side is continuously increasing in a_T, that the right-hand side is strictly larger than the left-hand side for $a_T = 0$ but strictly lower for $a_T = \frac{\kappa}{\xi}$ (since δ is assumed to be arbitrarily small). This implies that there exist a threshold $\bar{a} \in \left[0; \frac{\kappa}{\xi}\right]$ such that the media will not decrease the resources allocated to tale detection below $x = a_T\xi$ if $a_T < \bar{a}$. ■

8.4 Voter Polarization Variant: Proofs

Analogue of Lemma 1 (Lemma 1-bis):

1. *In any PBE, centrist voters always vote for the incumbent upon seeing the generic story.*
2. *In any PBE, scandal-free non-newsmakers never engage in tale-telling.*
3. *In any PBE, scandal-plagued newsmakers always engage in tale-telling.*
4. *In any PBE in which scandal-free newsmakers never engage in tale-telling, non-newsmakers never engage in tale-telling.*

Proof:

The logic of the proof is similar to the proof of Lemma 1. Part 2 relies on the fact that the assumption that $\gamma + \frac{\alpha}{2} > \frac{1}{2}$ implies that a scandal-free incumbent who remains silent will systematically be re-elected. Part 3 relies on the fact that the assumption that $\gamma - \frac{\alpha}{2} < \frac{1}{2}$ implies that a scandal-plagued incumbent who remains silent will systematically be voted out. ■

Equilibrium Characterization:

Notice:

- Lemma 1-bis implies that the incumbent's incentive compatibility only needs to be verified for scandal-free newsmakers and scandal-plagued non-newsmakers.
- The assumption that $\gamma + \frac{\alpha}{2} > \frac{1}{2}$ implies that what detractors do has no effects on whether scandal-free incumbents are re-elected. The assumption that $H < 1$ implies that this may make a difference for whether red herring senders are re-elected.
- There exist thresholds $\bar{H}$ such that red herring senders cannot be re-elected if $H < \bar{H}$ as they cannot obtain a majority of the votes:
    1. If supporters, centrists and detractors vote for the incumbent when seeing a tale but not when seeing a scandal: $\bar{H}_1 = \frac{1}{2}$
    2. If supporters and centrists vote for the incumbent when seeing a tale but not a scandal while detractors do not vote for the incumbent when seeing a tale: $\bar{H}_2 = \frac{1}{2\gamma+\alpha}$
    3. If centrists and detractors vote for the incumbent when seeing a tale but not a scandal, while supporters vote for the incumbent when seeing a tale or a scandal: $\bar{H}_3 = \frac{1+\alpha-2\gamma}{2+\alpha-2\gamma}$
    4. If centrists vote for the incumbent when seeing a tale but not a scandal, supporters when seeing a tale or a scandal, while detractors do not vote for the incumbent when seeing a tale or a scandal: $\bar{H}_4 = \frac{1+\alpha-2\gamma}{2\alpha}$
- The assumption that $-\beta_D < 0 < \beta_S$ implies that it is sufficient to calculate the best response of one type of voter (supporters, centrists or detractors) per information set to infer the best response of the other types of voters for this information set.

Using the above observations, the parameter conditions for which different incumbent strategies are possible in equilibrium are elicited below. The paper abstracts from probability zero PBEs which only exist for points in the parameter space. In particular, it is assumed that $H \notin \{\bar{H}_1; \bar{H}_2; \bar{H}_3; \bar{H}_4\}$ and $\beta_S \neq 1-\pi$ and $\beta_D \notin \{\underline{\beta}_D; \bar{\beta}_D\}$.

The resulting sequence of equilibria can be found in Tables 5-9

PBE 2P: The incumbent sends a tale iff he is a newsmaker:

Necessary conditions: $(q^T \leq \epsilon) \vee \big((\beta_S < 1-\pi) \wedge (\beta_D < \bar{\beta}_D) \wedge (H < \bar{H}_1)\big) \vee \big((\beta_S < 1-\pi) \wedge (\beta_D > \bar{\beta}_D) \wedge (H < \bar{H}_2)\big) \vee \big((\beta_S > 1-\pi) \wedge (\beta_D < \bar{\beta}_D) \wedge (H < \bar{H}_3)\big) \vee \big((\beta_S > 1-\pi) \wedge (\beta_D > \bar{\beta}_D) \wedge (H < \bar{H}_4)\big)$.

It is optimal for scandal-free newsmakers to send tales provided that supporters and centrists vote for them when seeing a tale (since $\gamma + \frac{\alpha}{2} > \frac{1}{2}$). Given the incumbent's strategy, upon seeing a tale, voters' posterior that the incumbent is good strictly increases. Thus, supporters and centrists seeing only a tale will vote for the incumbent, making it optimal for scandal-free newsmakers to send tales.

It is optimal for scandal-plagued non-newsmakers to remain silent if, either: i) their probability of re-election when sending a tale is lower than their tale-telling cost ϵ, i.e. $q^T \leq \epsilon$, or: ii) H is too low for them to obtain a majority of votes. Note that it is optimal for detractors to vote for the incumbent when seeing only a tale iff $\beta_D \leq (1-\pi)\frac{\pi q^S (1-H)}{1-\pi q^S (1-H)} = \bar{\beta}_D$. ii) will therefore be satisfied if either: a) $\beta_S < 1-\pi$, $\beta_D < \bar{\beta}_D$ and $H < \bar{H}_1$, b) $\beta_S < 1-\pi$, $\beta_D > \bar{\beta}_D$ and $H < \bar{H}_2$, c) $\beta_S > 1-\pi$, $\beta_D < \bar{\beta}_D$ and $H < \bar{H}_3$, d) $\beta_S > 1-\pi$, $\beta_D > \bar{\beta}_D$ and $H < \bar{H}_4$. ■

PBE 3P: The incumbent sends a tale iff he is a scandal-plagued newsmaker:

Necessary conditions: $q^T \geq B$.

Given the incumbent's strategy, upon seeing a tale, voters learn that $S \in \mathcal{S}_{d1}$. Since $\gamma + \frac{\alpha}{2} < \frac{1}{2}$, red herring senders cannot be re-elected. Thus, incentive compatibility only needs to be verified for scandal-free newsmakers. Given the voters' strategy, they prefer remaining silent iff $q^T \geq B$. ■

PBE 4P: Scandal-free newsmakers mix, non-newsmakers are always silent:

Necessary conditions: $(q^T \geq B) \wedge \Big(\big(q^T \leq \epsilon + B\big) \vee \big((\beta_S < 1-\pi) \wedge (H < \bar{H}_2)\big) \vee \big((\beta_S > 1-\pi) \wedge (H < \bar{H}_4)\big)\Big)$

It is optimal for scandal-free newsmakers to mix iff they are indifferent between remaining silent or engaging in tale-telling. This will be the case if, when the media detects a tale, their re-election probability is $1 - \frac{B}{q^T}$. This requires that centrists mix with probability $r = 1 - \frac{B}{q^T}$ and requires that $q^T \geq B$.

Scandal-plagued non-newsmakers will prefer remaining silent if their re-election probability is lower than their tale-telling cost ϵ. This will be the case if either: i) $q^T \leq \epsilon + B$, or ii) H is too low for them to obtain a majority of

votes. Note that, since centrists mix when seeing a tale, detractors will never vote for the incumbent when seeing a tale. ii) will therefore be satisfied if either: a) $\beta_S < 1-\pi$ and $H < \bar{H}_2$, b) $\beta_S > 1-\pi$ and $H < \bar{H}_4$. ■

PBE 5P: Newsmakers always send tales, non-newsmakers send tales iff they are hit by a scandal:

Necessary conditions: $\big(\mu \geq H\big) \wedge \big(q^T \geq \epsilon\big) \wedge \Big(\big((\beta_S < 1-\pi) \wedge (\beta_D \leq \underline{\beta}_D) \wedge (H > \bar{H}_1)\big) \vee \big((\beta_S < 1-\pi) \wedge (\beta_D > \underline{\beta}_D) \wedge (H > \bar{H}_2)\big) \vee \big((\beta_S > 1-\pi) \wedge (\beta_D \leq \underline{\beta}_D) \wedge (H > \bar{H}_3)\big) \vee \big((\beta_S > 1-\pi) \wedge (\beta_D > \underline{\beta}_D) \wedge (H > \bar{H}_4)\big)\Big)$

Note it is optimal for centrists to vote for the incumbent when seeing a tale iff $\mu \geq H$, while it is optimal for detractors iff $\beta_D \leq (1-\pi)\frac{\pi q^S(\mu-H)}{\mu-\pi q^S(\mu-H)} \Rightarrow \mu > H$.

For scandal-plagued non-newsmakers to engage in tale-telling, it is necessary that centrists vote for them with positive probability when seeing a tale. Thus, $\mu \geq H$ is necessary. Assuming $\mu \geq H$, they have no interest to deviate if i) their cost of tale-telling ϵ is lower than the probability q^T that the tale be detected ($q^T > \epsilon$) and ii) if they can obtain a majority of votes when making a red herring attempts. ii) will be satisfied if either: a) $\beta_S < 1-\pi$, $\beta_D < \underline{\beta}_D$ and $H > \bar{H}_1$, b) $\beta_S < 1-\pi$, $\beta_D > \underline{\beta}_D$ and $H > \bar{H}_2$, c) $\beta_S > 1-\pi$, $\beta_D < \underline{\beta}_D$ and $H > \bar{H}_3$, d) $\beta_S > 1-\pi$, $\beta_D > \underline{\beta}_D$ and $H > \bar{H}_4$.

Provided that centrists vote for the incumbent when seeing a tale (which requires $\mu \geq H$), scandal-free newsmakers have no interest to deviate: if they send a tale which is detected by the media, all supporters and centrists will vote for them, ensuring their re-election. ■

PBE 6P: Scandal-free newsmakers mix, non-newsmakers send tale iff they are hit by a scandal:

Necessary conditions: $(q^T \geq \epsilon + B) \wedge \Big(\big((\beta_S < 1-\pi) \wedge (H > \bar{H}_2)\big) \vee \big((\beta_S > 1-\pi) \wedge (H > \bar{H}_4)\big)\Big)$.

For scandal-free newsmakers to mix, it must be that centrists mix when seeing a tale. Centrists must vote for the incumbent with probability $r = 1 - \frac{B}{q^T}$ when seeing only a tale, which requires $q^T \geq B$. For centrists to be indifferent, scandal-free newsmakers must send tales with probability $t = \frac{H}{\mu}$, which requires $\mu \geq H$.

For scandal-plagued non-newsmakers to prefer sending tales to remaining silent, it must be that their re-election probability when making a red herring attempt outweights their tale-telling cost. This requires: i) $q^T \geq B + \epsilon$, and ii) that red herring senders be able to gather a majority of votes. If centrists mix, detractors strictly prefer not voting for the incumbent when seeing a tale. ii) will therefore be satisfied if: a) $\beta_S < 1-\pi$ and $H > \bar{H}_2$, b) $\beta_S > 1-\pi$ and $H > \bar{H}_4$. ■

PBE 7P: Newsmakers always send tales, scandal-plagued non-newsmakers mix:

Necessary conditions:
$(\mu \leq H) \wedge (q^T \in [\epsilon; \epsilon + B]) \wedge \Big(\big((\beta_S < 1-\pi) \wedge (\beta_D > \bar{\beta}_D) \wedge (H > \bar{H}_2)\big) \vee \big((\beta_S > 1-\pi) \wedge (\beta_D > \bar{\beta}_D) \wedge (H > \bar{H}_4)\big)\Big)$ **(centrists mix)**
or $(q^T \geq \epsilon) \wedge \Big(\big((\beta_S < 1-\pi) \wedge (\beta_D < \bar{\beta}_D) \wedge (H > \bar{H}_1)\big) \vee \big((\beta_S > 1-\pi) \wedge (\beta_D < \bar{\beta}_D) \wedge (H > \bar{H}_3)\big)\Big)$ **(detractors mix)**

For scandal-plagued non-newsmakers to mix, it must be that the tie-breaking group (centrists or detractors) mixes when seeing a tale. This group must therefore be indifferent between voting for the incumbent or his opponent when seeing a tale. Given the incumbent's strategy, centrists will be indifferent if scandal-plagued non-newsmakers send tales with probability $s = \frac{\mu(1-H)}{(1-\mu)H}$, which requires $\mu \leq H$. Detractors will be indifferent if scandal-plagued non-newsmakers send tales with probability $s = \frac{\mu}{(1-\mu)\pi q^S(1-H)}\left(\frac{\pi q^S(1-H)}{1-\pi q^S(1-H)} - \frac{\beta_D}{1-\pi+\beta_D}\right)$, which requires $\beta_D \in [\underline{\beta}_D; \bar{\beta}_D]$.

For scandal-plagued non-newsmakers to mix, it must be that: i) $q^T \geq \epsilon$ and ii) that red herring senders be able to gather a majority of votes. ii) will be satisfied if: a) $\beta_S < 1-\pi$, $\beta_D < \bar{\beta}_D$ and $H > \bar{H}_1$ (detractors mix), b) $\beta_S < 1-\pi$, $\beta_D > \bar{\beta}_D$ and $H > \bar{H}_2$ (centrists mix), c) $\beta_S > 1-\pi$, $\beta_D < \bar{\beta}_D$ and $H > \bar{H}_3$ (detractors mix), d) $\beta_S > 1-\pi$, $\beta_D > \bar{\beta}_D$ and $H > \bar{H}_4$ (centrists mix).

For scandal-free newsmakers to prefer sending tales, it must be that either: detractors rather than centrists mix (see a) and c)), ensuring scandal-free newsmakers' re-election as they do not need the detractor vote, or $q^T \leq B + \epsilon$.
■

PBE 8P: Scandal-free newsmakers mix while scandal-plagued non-newsmakers mix:

Necessary conditions: $(q^T = \epsilon + B) \wedge \Big(\big((\beta_S < 1-\pi) \wedge (H > \bar{H}_2)\big) \vee \big((\beta_S > 1-\pi) \wedge (H > \bar{H}_4)\big)\Big)$

For scandal-free newsmakers to mix, it must be that centrists mix when seeing a tale, voting for the incumbent with probability $r = 1 - \frac{B}{q^T}$.

For scandal-plagued non-newsmakers to be indifferent, it must therefore be the case that: i) $q^T = B + \epsilon$, and ii) that red herring senders be able to gather a majority of votes. ii) will be satisfied if: a) $\beta_S < 1-\pi$ and $H > \bar{H}_2$, b) $\beta_S > 1-\pi$ and $H > \bar{H}_4$.

This PBE is mentioned for completeness. However, it only exists for a singleton parameter and is therefore omitted in the remaining analysis.
■

Proof of the Corollary to Proposition 7:

First, note that social norm inertia implies that, if q^T changes but the previous PBE remains a possible equilibrium, society will not exit this PBE.

Second, observe that the only PBE from which society could move into the range of values of q^T for which PBE 3P is an equilibrium and which would no longer be a PBE is PBE 2P. This PBE has a social norm of tale-telling of μ.

From Proposition 7, if $\beta_S < 1-\pi$ and $H < \frac{1}{2\gamma+\alpha}$ or $\beta_S > 1-\pi$ and $H < \frac{1+\alpha-2\gamma}{2\alpha}$, PBE 3P systematically co-exists with PBE 4P. This PBE has a social norm of tale-telling of μH.

Since $0 < \mu H < \mu$, the assumption of social norm inertia implies that society will not coordinate on the NH PBE 3P even if q^T increases above $\epsilon + B$. ■

8.5 Attention-Seeker Variant

One might argue that certain "newsmakers" may be better interpreted as "attention-seekers" who derive a benefit from their tale being picked-up by the media. This subsection shows that the discipline effect of media attention to tales evidenced in Proposition 3 is robust to this alternative modelling assumption.

Assumptions:

Attention-seekers are assumed to incur the same tale-telling cost ϵ as "non-attention-seekers" but to additionally earn a payoff $B > \epsilon$ when their tale is detected by the media ($T_m = 1$). Formally, the only change to the baseline model is that "newsmakers" are replaced by "attention-seekers" with the following payoff function:

$$U_i(T_i, attention-seeker) = V + BT_iT_m \tag{15}$$

Results:

To characterize the regime of equilibria under this alternative specification, note the following: only newsmakers' (now relabelled "attention-seekers") incentive compability conditions change. As a result, Lemmas 1.1, 1.2 and 1.4 still hold but Lemma 1.3 no longer holds (if q^T is very small such that $q^T B < \epsilon$, scandal-plagued attention-seekers may refrain from engaging in tale-telling). To rule out unfeasible candidate PBEs as done in Section 4, Lemma 1.3 can however be replaced by the two weaker conditions in Lemma 1-ter.3.b) and Lemma 1-ter.3.c):

Analogue of Lemma 1 (Lemma 1-ter):

1. In any PBE, the voter always re-elects the incumbent upon seeing the generic story.
   Formally: $Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$

2. In any PBE, scandal-free non-attention-seekers never engage in tale-telling.
   Formally: $Pr({T_i}^* = 1|non-newsmaker, S \notin \mathcal{S}_{d1}) = 0$

3. b) In any PBE, scandal-plagued attention-seekers engage in tale-telling weakly more frequently than scandal-free attention-seekers.
   Formally:
   $Pr({T_i}^* = 1|non-newsmaker - B\mathbf{1}\{T_m = 1\}, S \in \mathcal{S}_{d1}) \geq Pr({T_i}^* = 1|non-newsmaker - B\mathbf{1}\{T_m = 1\}, S \notin \mathcal{S}_{d1})$
   c) In any PBE, conditional on whether they are hit by a scandal, attention-seekers engage in tale-telling weakly more frequently than non-attention-seekers.
   Formally: $Pr({T_i}^* = 1|non-newsmaker - B\mathbf{1}\{T_m = 1\}, S) \geq Pr({T_i}^* = 1|non-newsmaker, S)\ \forall\ S \in \{0;1\}$

4. In any PBE in which scandal-free attention-seekers never engage in tale-telling, non-attention-seekers never engage in tale-telling.
   Formally: $\big(Pr({T_i}^* = 1|non-newsmaker - B\mathbf{1}\{T_m = 1\}, S \notin \mathcal{S}_{d1}) = 0\big) \wedge \big(Pr({T_i}^* = 1|non-newsmaker - B\mathbf{1}\{T_m = 1\}, S \in \mathcal{S}_{d1}) > 0\big) \Rightarrow Pr({T_i}^* = 1|non-newsmaker, S) = 0\ \forall\ S \in \{0;1\}$

,

Proof:

Part 3.b)

Denote $r = Pr(V^* = 1|\mathcal{S}_v = \{T\})$ the probability with which the voter re-elects the incumbent upon seeing only a tale.

Given Lemma 1.1, scandal-free attention-seekers will strictly prefer engaging in tale-telling iff: $1 - q^T + q^T(B + r) - \epsilon > 1 \Leftrightarrow q^T(B + r - 1) > \epsilon$.

Since $S \in \mathcal{S}_v \Rightarrow V^* = 0$, scandal-plagued attention-seekers will strictly prefer engaging in tale-telling iff: $q^T(B + r) - \epsilon > 0 \Leftrightarrow q^T(B + r) > \epsilon$.

Since $q^T(B + r) > q^T(B + r - 1)$, it follows that, in any PBE, attention-seekers must engage in tale-telling weakly more often when hit by a scandal. ■

Part 3.c):

Conditional on whether he is hit by a scandal, an attention-seeker's expected payoff from engaging in tale-telling is equal to a non-attention-seeker's payoff from engaging in tale-telling plus $q^T B > 0$ ($\mathbf{E}(U_i(T_i = 1|non - newsmaker - B\mathbf{1}\{T_m = 1\}, S)) = \mathbf{E}(U_i(T_i = 1|non - newsmaker, S)) + q^T B$), while their expected payoffs from remaining silent are identical ($\mathbf{E}(U_i(T_i = 0|non - newsmaker - B\mathbf{1}\{T_m = 1\}, S)) = \mathbf{E}(U_i(T_i = 0|non - newsmaker, S))$). It follows that, in any PBE, attention-seekers engage in tale-telling weakly more often than non-attention-seekers conditional on S. ■

Lemma 1-ter is accordingly used to rule out unfeasible PBEs (see Appendix Table 10) before characterizing the remaining equilibria using the steps detailed in Section 4 and ordering the resulting regime of equilibria along different values of q^T.

Equilibrium Characterization:

In the following proofs, r denotes the probability with which the voter re-elects the incumbent upon seeing only a tale, i.e. $r = Pr(V^* = 1|\mathcal{S}_v = \{T\})$. The proofs further make use of the facts that: $Pr(V^* = 1|\mathcal{S}_v = \{G\}) = 1$ (Lemma 1.1) and $Pr(V^* = 1|S \in \mathcal{S}_v) = 0$.

PBE 1A: The incumbent never engages in tale-telling, the voter re-elects him iff she sees the generic story.

Necessary conditions: $q^T \leq \frac{\epsilon}{B}$

This is a PBE iff $q^T \leq \frac{\epsilon}{B}$. It can be supported by an off-path belief that the incumbent is bad if the voter sees only a tale. Given this belief, $r = 0$.

Indeed, scandal-plagued attention-seekers prefer remaining silent rather than engaging in tale-telling iff $rq^T H + (1 - q^T + q^T(1-H))Pr(V^* = 1|S \in \mathcal{S}_v) + q^T B - \epsilon \leq Pr(V^* = 1|S \in \mathcal{S}_v) \Leftrightarrow q^T \leq \frac{\epsilon}{B}$.
Given Lemmas 1.2b and 1.4, if scandal-plagued attention-seekers prefer remaining silent, the incumbent will always prefer remaining silent. ■

PBE 2A: The incumbent engages in tale-telling iff he is an attention-seeker. The voter re-elects him unless she sees a scandal.

Necessary conditions: $q^T \in [\frac{\epsilon}{B}; \frac{\epsilon}{H}]$

The voter's problem is unaffected by the specification change, hence, $r = 1$. Since the voter's strategy is unchanged, non-attention-seekers' problem is similarly unaffected by the specification change, hence $q^T \leq \frac{\epsilon}{H}$ is necessary.

Scandal-free attention-seekers prefer engaging in tale-telling iff $q^T r + (1 - q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) + q^T B - \epsilon \geq Pr(V^* = 1|\mathcal{S}_v = \{G\}) \Leftrightarrow q^T \geq \frac{\epsilon}{B}$ (given Lemma 1-ter.1). From Lemma 1-ter.3b, it follows that, if scandal-free attention-seekers prefer engaging in tale-telling, so do scandal-plagued attention-seekers. ■

PBE 3A: The incumbent engages in tale-telling iff he is a scandal-plagued attention-seeker. The voter only re-elects him when she sees the generic story.

Necessary conditions: $(q^T \geq \frac{\epsilon}{B}) \wedge \big((B \leq 1) \vee (q^T \leq \frac{\epsilon}{B-1})\big)$

The voter and non-attention-seeker's problems are unaffected by the specification change. Hence, $r = 0$ and, given the voter's strategy, non-attention-seekers strictly prefer remaining silent.

Scandal-free attention-seekers prefer remaining silent iff $(1 - q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) + q^T r + q^T B - \epsilon \leq Pr(V^* = 1|\mathcal{S}_v = \{G\}) \Leftrightarrow q^T(B-1) \leq \epsilon$. This will be satisfied iff $B \leq 1$ or $q^T \leq \frac{\epsilon}{B-1}$. Scandal-plagued attention-seekers prefer engaging in tale-telling iff $q^T B - \epsilon \geq 0 \Leftrightarrow q^T \geq \frac{\epsilon}{B}$. ■

PBE 4A: The incumbent mixes (engages in tale-telling with probability $s \in [0;1]$) if he is a scandal-plagued attention-seeker, remains silent otherwise. The voter re-elects him iff she sees the generic story.

Necessary conditions: $q^T = \frac{\epsilon}{B}$

Given the incumbent's strategy, upon seeing only a tale, the voter learns that the incumbent is bad, hence $r = 0$.

Given the voter's strategy, a scandal-plagued attention-seeker is indifferent between engaging in tale-telling or remaining silent iff $rq^T H + (1 - q^T + q^T(1-H))Pr(V^* = 1|S \in \mathcal{S}_v) + q^T B - \epsilon = Pr(V^* = 1|S \in \mathcal{S}_v) \Leftrightarrow q^T = \frac{\epsilon}{B}$. From Lemma 1-ter.3b, scandal-free attention-seekers therefore strictly prefer remaining silent. From Lemma 1-ter.4, scandal-plagued non-attention-seekers strictly prefer remaining silent.

This PBE is mentioned for completeness. However, it only exists for a singleton parameter and

is therefore omitted in Table 11. ■

PBEs 5A, 7A, 9A: Scandal-free attention-seekers mix, scandal-plagued engage in tale-telling ; what non-attention-seekers do depends on the parameters. The voter mixes (re-electing the incumbent with probability $r = 1 + \frac{\epsilon}{q^T} - B$) upon seeing only a tale.

Necessary conditions:

- $(q^T \geq \frac{\epsilon}{B}) \wedge \Big(\big((B \geq 1) \wedge (q^T \leq \frac{\epsilon}{B-1})\big) \vee \big((B \leq 1) \wedge (q^T \leq \epsilon\frac{1-H}{H(1-B)})\big)\Big)$ *(with scandal-plagued non-attention-seekers remaining silent)*
- $(\mu \geq H) \wedge (B < 1) \wedge (q^T \geq max\Big\{\frac{\epsilon}{B}; \epsilon\frac{1-H}{H(1-B)}\Big\})$ *(with scandal-plagued non-attention-seekers engaging in tale-telling)*
- $(B < 1) \wedge (q^T \geq \frac{\epsilon}{B}) \wedge (q^T = \epsilon\frac{1-H}{H(1-B)})$ *(with scandal-plagued non-attention-seekers mixing)*

The voter's problem is unaffected by the specification change, hence, $t = H\frac{\mu+(1-\mu)s}{\mu}$ (where t denotes the tale-telling probability of scandal-free attention-seekers, while s denotes the tale-telling probability of scandal-plagued non-attention-seekers engage in tale-telling) ensures that the voter is indifferent between re-electing or voting the incumbent out upon seeing only a tale.

A scandal-free attention-seeker is indifferent between engaging in tale-telling or remaining silent iff: $(1 - q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) + q^T(B - r) - \epsilon = Pr(V^* = 1|\mathcal{S}_v = \{G\}) \Leftrightarrow r = 1 + \frac{\epsilon}{q^T} - B$. $r < 1 \Rightarrow q^T > \frac{\epsilon}{B}$ and $r > 0 \Leftrightarrow$ either $B < 1$ or $q^T < \frac{\epsilon}{B-1}$. From Lemma 1-ter.3b, if $r = 1 + \frac{\epsilon}{q^T} - B$, attention-seekers, being indifferent when free from scandals, strictly prefer engaging in tale-telling when hit by a scandal.

Scandal-plagued non-attention-seekers strictly prefer remaining silent iff: $rq^T H + (1 - q^T + q^T(1 - H))Pr(V^* = 1|S \in \mathcal{S}_v) - \epsilon < Pr(V^* = 1|S \in \mathcal{S}_v) \Leftrightarrow q^T H(1 - B) < \epsilon(1 - H)$. This is satisfied iff either $B > 1$ or $q^T < \epsilon\frac{1-H}{H(1-B)}$.

Hence, iff $q^T \geq \frac{\epsilon}{B}$ and, either $B \geq 1$ and $q^T \leq \frac{\epsilon}{B-1}$, or $B \leq 1$ and $q^T \leq \epsilon\frac{1-H}{H(1-B)}$, there is a PBE (PBE 5A) where scandal-free attention-seekers mix with probability $t = H$, scandal-plagued attention-seekers always engage in tale-telling while non-attention-seekers remain silent and the voter always re-elects the incumbent if she sees the generic story, re-elect him with probability $r = 1 + \frac{\epsilon}{q^T} - B$ upon seeing only a tale, votes him out otherwise.

Iff $\mu \geq H$, $B < 1$, and $q^T \geq max\Big\{\frac{\epsilon}{B}; \epsilon\frac{1-H}{H(1-B)}\Big\}$, there is a PBE (PBE 7A) where scandal-plagued incumbents always engage in tale-telling, scandal-free attention-seekers mix with probability $t = \frac{H}{\mu}$, while scandal-free non-attention-seekers remain silent and the voter always re-elects the incumbent if she sees the generic story, re-elect him with probability $r = 1 + \frac{\epsilon}{q^T} - B$ upon seeing only a tale, votes him out otherwise.

Iff $B < 1$, $q^T \geq \frac{\epsilon}{B}$, and $q^T = \epsilon\frac{1-H}{H(1-B)}$, there is a PBE (PBE 9A) where scandal-plagued non-attention-seekers engage in tale-telling with probability $s \in [0; \frac{\mu(1-H)}{(1-\mu)H}]$, scandal-free non-attention-seekers remain silent, scandal-plagued attention-seekers always engage in tale-telling, while scandal-free attention-seekers mix with probability $t = H\frac{\mu+(1-\mu)s}{\mu}$ and the voter always re-elects the incumbent if she sees the generic story, re-elects him with probability $r = 1 + \frac{\epsilon}{q^T} - B$ upon seeing only a tale, votes him out otherwise. This PBE is only possible for singleton parameters and is therefore omitted in Table 11. ■

PBE 6A: The incumbent engages in tale-telling if he is an attention-seeker, or if he is a scandal-plagued non-attention-seeker, but remains silent otherwise. The voter re-elects him unless she sees a scandal.

Necessary conditions: $(q^T \geq max\{\frac{\epsilon}{H}; \frac{\epsilon}{B}\}) \wedge (\mu \geq H)$.

The voter's problem is unaffected by the specification change, hence, $r = 1$ is optimal iff $\mu \geq H$. Non-attention-seekers' problem is similarly unaffected by the specification change, hence $q^T \geq \frac{\epsilon}{H}$ is necessary.

Scandal-free attention-seekers prefer engaging in tale-telling iff $q^T r + (1 - q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) + q^T B - \epsilon \geq Pr(V^* = 1|\mathcal{S}_v = \{G\}) \Leftrightarrow q^T \geq \frac{\epsilon}{B}$. Lemma 1-ter.3b completes the proof. ■

PBE 8A: The incumbent engages in tale-telling if he is an attention-seeker, mixes (engages in tale-telling with probability $s = \frac{\mu(1-H)}{(1-\mu)H}$) if he is a scandal-plagued non-attention-seeker, remains silent otherwise. The voter always re-elects him if she sees the generic story, with probability $r = \frac{\epsilon}{q^T H}$ if she sees only a tale, votes him out otherwise.

Necessary conditions: $(\mu \leq H) \wedge (q^T \geq \frac{\epsilon}{H}) \wedge (B > 1) \wedge (q^T \geq \epsilon \frac{1-H}{H(1-B)})$

The voter's problem is unaffected by the specification change, hence, $s = \frac{\mu(1-H)}{(1-\mu)H}$ ensures that she is indifferent between re-electing the incumbent or voting him out upon seeing only a tale if $\mu \leq H$. Non-attention-seekers' problem is similarly unaffected by the specification change, hence $r = \frac{\epsilon}{q^T H}$ ensures that, when hit by a scandal, they are indifferent between engaging in tale-telling or remaining silent. $r \leq 1 \Rightarrow q^T \geq \frac{\epsilon}{H}$.

Given the voter's strategy, scandal-free attention-seekers prefer engaging in tale-telling iff: $(1-q^T)Pr(V^* = 1|\mathcal{S}_v = \{G\}) + q^T(r + B) - \epsilon \geq Pr(V^* = 1|\mathcal{S}_v = \{G\}) \Leftrightarrow q^T(B - 1) \geq \frac{\epsilon(H-1)}{H}$. This is satisfied iff $B > 1$ and $q^T \geq \epsilon \frac{1-H}{H(1-B)}$. Lemma 1-ter.3b completes the proof. ■

Proposition 3-bis shows that the overall U-shaped effect of media attention q^T on screening when newsmakers are a minority and B moderate is preserved if "newsmakers" are replaced by "attention-seekers" who only earn B when their tale is detected by the media.

Proposition 3-bis: (Effect of media attention to tales on red herring and screening in the attention-seeker specification)

When the fraction of newsmakers is small ($\mu < H$) and their tale-telling payoff intermediate ($B \in (H; 1)$): Increasing the media attention to tales (q^T) initially increases red herring (worsening screening) but eventually decreases it (improving screening): when the media attention to tales is high ($q^T > \frac{\epsilon}{B}\frac{1-H}{1-B}$), the unique PBE of the game is a no herring PBE which achieves first-best screening.

Proof: See the equilibrium path in Appendix Table 11. ■

8.6 Dynamic Game with Media Pluralism

In the following, the effect of media pluralism on the results of the dynamic game is explored. For clarity, R subscripts are omitted.

Assumptions:

The media is assumed to consist of $M \geq 1$ outlets, each with identical resources κ and technologies a_S and a_T. An outlet only reaps benefits from covering a story - scandal or tale - if it is the first outlet to break this story.[42]

The probabilities that an outlet is the first to break a story are a modified version of the Tullock contest win function, to account for the possibility that an outlet be the first to detect a story by chance (with an arbitrarily small probability $\frac{\delta}{M}$) and allow for the possibility that a story is never detected by any outlet. Denoting x_j the resources allocated by outlet j to detecting tales, the probability that outlet j is the first outlet to, respectively, break a tale or break a scandal are:

$$q_j^T(x_j) = \frac{\delta}{M} + (1-\delta)\frac{x_j}{a_T + \sum_{k=1}^{M} x_k} \tag{16}$$

$$q_j^S(\kappa - x_j) = \frac{\delta}{M} + (1-\delta)\frac{\kappa - x_j}{a_S + \sum_{k=1}^{M}(\kappa - x_k)} \tag{17}$$

The probability that a scandal is ultimately detected by some outlet is therefore:

$$q^S(\mathbf{x}) = \delta + (1-\delta)\frac{\sum_{k=1}^{M}(\kappa - x_k)}{a_S + \sum_{k=1}^{M}(\kappa - x_k)} \tag{18}$$

Outlet j's expected profit is therefore:

$$\lambda Pr(T_i = 1 | x_j, x_{-j})\left(\frac{\delta}{M} + (1-\delta)\frac{x_j}{a_T) + \sum_{k=1}^{M} x_k} + \pi\left(\frac{\delta}{M} + (1-\delta)\frac{\kappa - x_j}{a_S + \sum_{k=1}^{M}(\kappa - x_k)}\right)\right. \tag{19}$$

Note that, if $M = 1$, it reduces to the representative media's expected profit and previous results hold.

Results:

Lemma 2: *In each PBE, the equilibrium amount x_j of journalistic resources allocated to detecting tales by the M media outlets is identical across outlets and unique.*

Proof:

First, note that the equilibrium tale frequencies are:

- In PBE 2: μ
- In PBE 3: $\mu\pi q^S$

[42] This simplifying assumption is meant to reflect the fact that original news producers receive greater profit, as evidenced in Cagé, Hervé and Viaud (2020).

- In PBE 4: $\mu H + \mu\pi(1-H)q^S$
- In PBE 5: $\mu + (1-\mu)\pi q^S$
- In PBE 6: $H + \pi(1-H)q^S$
- In PBE 7: $\mu + \mu\pi\frac{1-H}{H}q^S$

where $q^S = \delta + (1-\delta)\frac{\sum_{k=1}^{M}(\kappa - x_k)}{a_S + \sum_{k=1}^{M}(\kappa - x_k)}$. Thus, $\frac{\partial Pr_R(T_i^\star = 1|\mathbf{x}_R)}{\partial x_{pk}} = -\xi\frac{a_S}{(a_S + \sum_{k=1}^{M}(\kappa - x_{pk}))^2}\forall j$ for some weakly positive constant ξ. It is identical across outlets.

Consider outlet j's FOC:

$$\lambda(Pr_R(T_i^* = 1|\mathbf{x}_R)\frac{a_T + \sum_{k\neq j} x_{pk}}{(a_T + \sum_{k=1}^{M} x_{pk})^2} + \frac{\partial Pr_R(T_i^* = 1|\mathbf{x}_R)}{\partial x_{pj}}(\frac{x_{pj}}{a_T + \sum_{k=1}^{M} x_{pk}} + \frac{\delta}{M(1-\delta)})) = \pi\frac{a_S + \sum_{k\neq j}(\kappa - x_{pk})}{(a_S + \sum_{k=1}^{M}(\kappa - x_{pk}))^2} \quad (20)$$

Denoting $Pr_R(T_i^* = 1|\mathbf{x}_R)$ $c + \xi\frac{\sum_{k=1}^{M}(\kappa - x_k)}{a_S + \sum_{k=1}^{M}(\kappa - x_k)}$, it can be rewritten as:

$$\lambda((c+\xi\frac{\sum_{k=1}^{M}(\kappa - x_k)}{a_S + \sum_{k=1}^{M}(\kappa - x_k)})\frac{a_{T+\sum_{k\neq j} x_{pk}}}{(a_T + \sum_{k=1}^{M} x_{pk})^2} - \xi\frac{a_S}{(a_S + \sum_{k=1}^{M}(\kappa - x_{pk}))^2}(\frac{x_{pj}}{a_T + \sum_{k=1}^{M} x_{pk}} + \frac{\delta}{M(1-\delta)})) = \pi\frac{a_S + \sum_{k\neq j}(\kappa - x_{pk})}{(a_S + \sum_{k=1}^{M}(\kappa - x_{pk}))^2} \quad (21)$$

Symmetry:

Assume that the equilibrium share of journalistic resources allocated to detecting tales is not identical across all outlets. This implies that there exists a pair of outlets $j \neq k$ such that $x_j > x_k$ while the FOC holds for j and k. $x_j > x_k$ implies that the right-hand side of the FOC (marginal return to increasing x_j) for outlet j is lower than the right-hand side for outlet k while the left-hand side of the FOC for outlet j (marginal cost of increasing x_j) is higher than the left-hand side of the FOC for outlet k. This is a contradiction.

Uniqueness:

Using the symmetry result, outlets' FOC can be rewritten as:

$$\lambda((c+\xi\frac{M(\kappa - x)}{a_S + M(\kappa - x)})\frac{a_T + (M-1)x}{(a_T + Mx)^2} - \xi\frac{a_S}{(a_S + M(\kappa - x))^2}(\frac{x}{a_T + Mx} + \frac{\delta}{M(1-\delta)})) = \pi\frac{a_S + (M-1)(\kappa - x)}{(a_S + M(\kappa - x))^2} \quad (22)$$

Provided that $M \geq 1$, the right-hand side is strictly decreasing in x while the left-hand side is strictly increasing in x ($M \geq 1$ ensures that $\frac{a_T+(M-1)x}{(a_T+Mx)^2}$ is strictly decreasing in x and $\frac{a_S+(M-1)(\kappa-x)}{(a_S+M(\kappa-x))^2}$ strictly increasing in x). Thus, the FOC has a unique solution. ■

Exploratory: As the number of outlets increases, free-riding may increase attention to tales:

Observe outlets' FOC:

$$\lambda((c+\xi\frac{M(\kappa-x)}{a_S+M(\kappa-x)})\frac{a_T+(M-1)x}{(a_T+Mx)^2}-\xi\frac{a_S}{(a_S+M(\kappa-x))^2}(\frac{x}{a_T+Mx}+\frac{\delta}{M(1-\delta)}))=\pi\frac{a_S+(M-1)(\kappa-x)}{(a_S+M(\kappa-x))^2} \quad (23)$$

Increasing the resources allocated to tale detection has two opportunity costs for an outlet.

First, it decreases the probability that this outlet will *be the first* to detect a scandal, thereby decreasing the expected profit from covering scandals (right-hand side).

Second, by decreasing the probability that a scandal is detected by *some* outlet, it decreases the tale frequency as incumbents make less frequent red herring attempts. It thereby decreases the marginal return to investing in tale detection.

Ceteris paribus, the marginal effect that an individual outlet's choice has on the probability that no outlet detects a scandal ($\xi\frac{a_S}{(a_S+M(\kappa-x))^2}$) however decreases in the number of outlets: as the number of outlets increases, it becomes increasingly likely that *some* outlet will detect a scandal if the incumbent is bad. By contrast, the effect of this outlet's choice on the probability that it will be the first to detect a story only decreases slowly with the number of outlets.

This suggests that, as the number M of outlets increases, outlets may increasingly free-ride on scandal detection by other outlets, thereby increasing the resources they individually allocate to tale detection as they are primarily engaged in a race to detect stories before other outlets.

8.7 Transcripts

2019, Boris Johnson, speech when running for the Conservatives' leadership:

"I want you to consider, this..." ***(theatrical pause, bends down and brandishes fish)*** "kipper, which has been presented to me just now by the editor of a national newspaper who received it from a kipper smoker in the Isle of Man who is utterly furious because after decades of sending kippers like this through the post, he has had his costs massively increased by Brussels bureaucrats who have insisted that each kipper be accompanied by... this" *(bends down, brandishes an ice pillow)* "a plastic ice pillow. Pointless, damaging, environmentally damaging health and safety."[43]

2018, Boris Johnson, asked to comment islamophobia accusations made against him:

Journalist: "Do you..." *Boris Johnson:* "Would you like a cup of tea? Have a cup of tea." *Other journalist:* "Thank you very much" *(takes cup of tea). First journalist:* "Do you have any comment, sir?" *Boris Johnson:* "I want you to have a cup of tea." *First journalist:* "If I take your cup of tea, will you answer my question?" *Boris Johnson:* "No, I'm here solely on a humanitarian mission, because you've been here all day."[44]

2021, Boris Johnson, at an industry conference:

(Shuffling through his notes, appears to have lost some of his notes) "Soooo... With safer streets, err, with great local schools, err, with fantaa-stic, err, broadband, err, mmm" *(speaks to himself)* "Arrrr. Forgive me. Mmm. Forgive me. Mmm. Forgive me. Yesterday, I went, as we all must" *(theatrical pause)* "to Peppa Pig World! And if you've ever been to Peppa Pig World. Who's been to Pep... Hands up if you've ever been to Peppa Pig World." *(theatrical pause)* "Not enough! I was a bit hazy at what I would find at Peppa Pig World, but I loved it, and Peppa Pig World is very much my kind of place. But the real lesson for me, going to Peppa Pig World... I'm surprised you haven't been there. Was about the power of UK creativity."[45]

2016, Donald Trump, asked to comment accusations of racism made against him by a soldier's father:

"He doesn't know that, he doesn't know that." *(Quick transition)* "I saw him, you know. He was... very emotional and probably looked like, errr... a nice guy to me. His wife, err... If you look at his wife, she was standing there, she had nothing to say, she probably... maybe she wasn't allowed to have anything to say, you tell me, but plenty of people have written that, err, she, she was extremely quiet and it looked like she had nothing to say, a lot of people have said that..."[46]

2016, Donald Trump, asked to comment accusations of misogyny made against him:

"This was locker room talk. Err, I'm not proud of it. I apologized to my family, I apologized to the American people. Certainly, I'm not proud of it, but this is locker room talk, you know, when we have a world where you have ISIS chopping off heads, where you have, and frankly, drowning people in steel cages, when you have wars and horrible, horrible sights all over, where you have so many bad things happening, this is like medieval times, we haven't seen anything like this, the carnage all over the world. And they look, and they see, can you imagine the people that are, frankly, doing so well against us, with ISIS, and they look at our country and they see what's going on... Yes, I'm very embarrassed by it. I hate it. But it's locker room talk and it's one of those things. I will knock the hell out of ISIS, we're going to defeat ISIS. ISIS happened a number of years ago in a vacuum that was left because of bad judgment and I will tell you I will take care of ISIS."[47]

[43] **Media Mole**. 2021. "The truth about Boris Johnson's kipper". *The New Statesman*. Jun 07. https://www.newstatesman.com/politics/2012/06/truth-about-boris-johnson-s-kipper.

[44] "Johnson gives journalists tea while avoiding burka questions". 2018. *BBC News*. Aug 12. https://www.bbc.co.uk/news/av/uk-45164768.

[45] "Boris Johnson says Peppa Pig World 'very much my kind of place'". 2021. *BBC News*. Nov 22. https://www.bbc.co.uk/news/av/uk-politics-59376386.

[46] **Cliff, Jim**. 2019. "Red herring". *Fallacious Trump*. Sep 09. https://fallacioustrump.com/ft33/.

[47] **Cliff, Jim**. 2019. "Red herring". *Fallacious Trump*. Sep 09. https://fallacioustrump.com/ft33/.

References

Andreottola, Giovanni, and Antoni-Italo De Moragas. 2020. *Scandals, Media Competition and Political Accountability.* CSEF, Centre for Studies in Economics and Finance, Department of Economics.

Angelucci, Charles, and Julia Cagé. 2019. "Newspapers in times of low advertising revenues." *American Economic Journal: Microeconomics*, 11(3): 319–64.

Balbuzanov, Ivan. 2019. "Lies and consequences: The effect of lie detection on communication outcomes." *International Journal of Game Theory*, 48: 1203–1240.

Bernhardt, Dan, Stefan Krasa, and Mattias Polborn. 2008. "Political polarization and the electoral effects of media bias." *Journal of Public Economics*, 92(5): 1092–1104.

Besley, Timothy, and Andrea Prat. 2006. "Handcuffs for the grabbing hand? Media capture and government accountability." *American economic review*, 96(3): 720–736.

Bordalo, Pedro, Nicola Gennaioli, and Andrei Shleifer. 2022. "Salience." *Annual Review of Economics*, 14: 521–544.

Brown, Brendan. 2009-2021. "The Trump Twitter Archive." https://www.thetrumparchive.com/ (Accessed May 27, 2022).

Bursztyn, Leonardo, Alessandra L González, and David Yanagizawa-Drott. 2020. "Misperceived social norms: Women working outside the home in Saudi Arabia." *American economic review*, 110(10): 2997–3029.

Bursztyn, Leonardo, Georgy Egorov, and Stefano Fiorin. 2020. "From extreme to mainstream: The erosion of social norms." *American economic review*, 110(11): 3522–3548.

Cagé, Julia, Nicolas Hervé, and Marie-Luce Viaud. 2020. "The production of information in an online world: Is copy right?" *Review of Economic Studies*, 87(5): 2126–2164.

DellaVigna, Stefano, and Ethan Kaplan. 2007. "The Fox News Effect: Media Bias and Voting." *Quarterly Journal of Economics*, 122(3): 1187–1234.

Durante, Ruben, and Ekaterina Zhuravskaya. 2018. "Attack when the world is not watching? US news and the Israeli-Palestinian conflict." *Journal of Political Economy*, 126(3): 1085–1133.

Durante, Ruben, Paolo Pinotti, and Andrea Tesei. 2019. "The political legacy of entertainment TV." *American Economic Review*, 109(7): 2497–2530.

Dziuda, Wioletta, and Christian Salas. 2018. "Communication with detectable deceit." *Available at SSRN 3234695.*

Ederer, Florian, and Weicheng Min. 2022. "Bayesian Persuasion with Lie Detection." National Bureau of Economic Research Working Paper No. w30065.

Eisensee, Thomas, and David Strömberg. 2007. "News droughts, news floods, and US disaster relief." *The Quarterly Journal of Economics*, 122(2): 693–728.

Falkinger, Josef. 2008. "Limited attention as a scarce resource in information-rich economies." *The Economic Journal*, 118(532): 1596–1620.

Gentzkow, Matthew, and Jesse M Shapiro. 2006. "Media bias and reputation." *Journal of political Economy*, 114(2): 280–316.

Hermalin, Benjamin E. 2017. "At the Helm, Kirk or Spock? Why Even Wholly Rational Actors May Favor and Respond to Charismatic Leaders." Working paper, UC Berkeley.

Levkun, Aleksandr. 2021. "Communication with Strategic Fact-checking." UCSD Working paper.

Martinez-Bravo, Monica, and Andreas Stegmann. 2022. "In vaccines we trust? The effects of the CIA's vaccine ruse on immunization in Pakistan." *Journal of the European Economic Association*, 20(1): 150–186.

Martin, Gregory J, and Ali Yurukoglu. 2017. "Bias in cable news: Persuasion and polarization." *American Economic Review*, 107(9): 2565–2599.

Matějka, Filip, and Guido Tabellini. 2021. "Electoral competition with rationally inattentive voters." *Journal of the European Economic Association*, 19(3): 1899–1935.

Mukand, Sharun, and Dani Rodrik. 2018. "The political economy of ideas: on ideas versus interests in policymaking." National Bureau of Economic Research Working Paper No. 2446.

Nunnari, Salvatore, and Jan Zápal. 2017. "A model of focusing in political choice." CEPR Discussion Paper No. DP12407.