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Archishman Chakraborty

Email: archishman@yu.edu
Syms School of Business
Yeshiva University

Parikshit Ghosh

Email: pghosh@econdse.org
Department of Economics
Delhi School of Economics

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Centre for Development Economics
Department of Economics, Delhi School of Economics

Character Endorsements and Electoral Competition*

Archishman Chakraborty[†]

Parikshit Ghosh[‡]

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Abstract

We present a model in which the media endorses the character of office-seeking candidates as a means to promote its own ideological agenda. In equilibrium, political parties completely pander to the elite-controlled media under moderate ideological conflict between voters and the elite. Larger ideological conflict leads to stochastic polarization—parties either adopt the role of media darlings or run highly populist campaigns. The analysis yields three critical welfare results: (a) delegation of message strategy by the media owner to a more moderate editor leads to a Pareto improvement (b) the median voter is never better off delegating choice of candidates to the informed elite, i.e., democracy has instrumental value even when voters are uninformed (c) even with optimal editorial delegation, the media may be a net harm to a majority of voters, i.e., they may be better off if the informed elite did not exist.

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[†]Syms School of Business, Yeshiva University, archishman@yu.edu.

[‡]Delhi School of Economics, University of Delhi, pghosh@econdse.org

1 Introduction

There is widespread belief in most democracies that the media wields a powerful influence on electoral outcomes and policy making. Moreover, it is often seen as biased towards a particular ideology, party, class or cultural group. Critics argue that by manipulating public opinion, the media can generate support for policies that serve the interests of an elite minority rather than a majority of voters. Our aim in this paper is to critically examine this claim.

In the United States, charges of media bias are frequently heard from both ends of the political spectrum.¹ A 2009 survey by the Pew Research Center shows that 74% of the voting public believe the media's coverage is biased and one-sided, while only 18% believe it to be fair and balanced. Suspicion of the media is so deep that several media watchdog groups spend considerable resources scanning news stories for bias virtually round the clock.²

The presumed bias *and* influence of the media pose an analytical challenge to its critics that is often ignored. If the bias is widely known, why is media influence not neutralized by rational voter skepticism? Can the media consistently persuade a majority of voters to vote against their own interests? Since selective information or biased opinion can always be ignored, it seems difficult to argue, on the face of it, that a biased media can *reduce* the welfare of a majority of citizens.

Thomas Frank has suggested in *What Is The Matter with Kansas?* (Frank (2005)) that a large section of American voters seemingly vote against their economic interests because they have been persuaded—through political propaganda and slanted media coverage—that cultural issues are of greater importance.³ Such explanations based on preference manipulation do not lend themselves easily to a *welfarist* critique of American democracy. We provide here an alternative to Frank's cultural hypothesis. Since our theory is based on information rather than preference manipulation,

¹Conservatives and Republicans have accused the mainstream media of liberal bias in polemical best-sellers (Coulter (2002)), insider tell-all books (Goldberg (2002)) and survey based studies (Lichter, Rothman and Lichter (1986), Groseclose and Milyo (2005)). Liberal and progressive writers, on the other hand, often portray the mass media as relentless promoters of corporate interests (Herman and Chomsky (1988), Franken (2003)).

²Media watchdog websites include self-proclaimed bipartisan sites (e.g., FactCheck.org), as well as the unabashedly partisan (e.g., the conservative Media Research Center or the liberal Fairness and Accountability in Reporting).

³In *What is the Matter with What is the Matter with Kansas*, Bartels (2006) argues that the culture wars notwithstanding, Democrats (whose policies are arguably more redistributive) still receive greater support from lower income groups. Nevertheless, the fact remains that a large enough fraction of the bottom income deciles vote for relatively laissez faire policies and against income redistribution.

its welfare implications are unambiguous.

In the context of India, Dreze and Sen (2013) have blamed the Indian media for the country’s “uncertain glory”—high growth rates for over a decade coexisting with persistent poverty, malnutrition, disease and illiteracy. In their view, the unequal growth of the Indian economy owes much to a neglect of the needs of poor and rural populations in public spending. This in turn can be attributed to the media’s intense focus on issues that matter primarily to urban, educated and relatively affluent citizens. The media, in this view, “fortifies the inequality of lives by an inequality of articulation and attention.”⁴ This argument, however, suffers from an important missing link—in a functional democracy like India where the vast majority of voters are rural and poor, why wouldn’t politicians gain more mileage from ignoring media coverage and allocating considerable resources to fighting poverty? Our analysis attempts to provide a solution to the puzzle: how can a vocal minority distort public policy against majority interests in spite of electoral pressures?

Evidence suggests voters are sophisticated enough to discount biased news or opinion but are still impressionable to some degree. Using a natural experiment, Della Vigna and Kaplan (2007) find that in those towns where Fox News was introduced into cable programming, Republicans gained 0.4 to 0.7 percentage point vote share in the Presidential election of 2000. Chiang and Knight (2008) find that local newspaper endorsements significantly increase candidates’ vote shares but the effect is dampened (though not eliminated) when a left-leaning newspaper endorses a Democrat or a right-leaning outlet endorses a Republican.

We study the implications of media bias in a Downsian framework with rational voters. Two office motivated parties nominate their respective candidates in a winner-take-all election. Parties also announce policy platforms on a one-dimensional Hotelling line. Voters have additively separable preferences over the *policy* outcome as well as the *character* of the elected candidate. Preferences over policy are single-peaked, with voter bliss points distributed on the real line. There is common interest on the character dimension—*ceteris paribus*, all voters prefer the candidate with superior character. These two dimensional preferences create a potential trade-off for voters—since policy

⁴As reported in Dreze and Sen (2013), only 2% of the stories in major Indian newspapers addressed rural issues, a skewed coverage matching the lop-sided allocation of public funds. A recent food security bill aimed at the poor and estimated to cost the exchequer 270 billion rupees has been strongly criticized in the press as financially irresponsible, while a proposed import duty on gold and diamonds that would have generated 570 billion rupees in revenue was abandoned without any significant criticism in the media after opposition from the jewelers’ lobby.

and character are bundled, they may have to choose between a preferred policy and better character.

Candidates' character scores are random draws from some distribution. They are observed by the media but not the voters or the parties who nominate them. This informational advantage is the source of the media's power and influence in our model.⁵ The media has its own preference over policy and shares the voters' concern for character. Once parties announce their candidates and platforms the media publicly endorses one party and then voters vote. The media is biased in the sense that its policy preference differs from that of the median voter and this is common knowledge.⁶

What we call "character" encapsulates many traits that may be relevant for effective governance. Voters typically care about a candidate's intelligence, industry, leadership qualities, grasp of issues and general integrity. These qualities are especially needed while tackling problems on which voters' interests are more or less aligned such as leading the country in war, maintaining law and order, and running a corruption free administration. Many crises that may arise during a politician's term in office are also unforeseen contingencies which campaign promises cannot adequately address. A party's election manifesto is at best an incomplete contract with voters that only covers well trodden ground, leading the latter to care about what kind of person they are electing to high office. The importance of character in elections is illustrated by Edwin Edwards' well known remark during the 1983 Louisiana gubernatorial campaign: "The only way I can lose this election is if I am caught in bed with a dead girl or a live boy."⁷

⁵Since candidates nominated for office come under intense media scrutiny, parties have strong incentives to research their nominee's personal history and screen them carefully (in American politics, intra-party maneuvers and primaries serve this screening function). Some information about character will also be in the public record. However such information is also often incomplete and more news typically comes out in the long course of an election campaign, as captured in the popular term "October surprise".

⁶We assume that the media's ideological position is common knowledge. This is a conservative assumption given that our purpose is to show the media can exert considerable influence on policy. Vallone, Ross and Lepper's (1985) "hostile media effect" suggests bias perceptions may be influenced by the viewers' own biases and Alterman (2003) makes the point that accusations of bias can have strategic use. Models in which the media's bias is uncertain is a useful topic for further research.

⁷What we call character has considerable overlap with what a strand of the literature in political science calls "valence". Valence is some private value (Banks and Duggan (2005)) or common value (Aragones and Palfrey (2002)) payoff a voter derives from electing a candidate that is independent of the latter's policy platform. Most of this literature treats valence or character as a magnitude known to the voter. Kartik and McAfee (2007), like us, introduce *unobservable* candidate character into voter preferences to obtain platform divergence and mixed equilibria.

In our model, the media’s *ideological* bias (i.e., its ranking of alternative policies) is exogenous, but its *partisan* bias (i.e., its ranking of alternative parties or candidates) is endogenous, dependent on platform choices and relative character strengths. Parties face a tension between opposing temptations of pandering to the voter and courting the media. Adopting slightly more elitist policies than the rival induces a slightly higher probability of endorsement and electoral victory—a phenomenon we call *elitism creep*. On the other hand, adopting vastly more populist policies can discontinuously increase a party’s electoral victory if the large policy gap encourages most voters to ignore the endorsement and vote for the populist party. We call this campaign strategy a *flight to populism*. The combination of elitism creep and potential flight to populism implies the game of platform choice may not have a Condorcet winner.⁸

Our main results are as follows. The median voter theorem always breaks down due to elitism creep. When the ideological distance between the median voter and the media is small (alternatively, character is much more important than policy), platforms converge to the media’s bliss point. When the ideological distance is large, no pure strategy equilibrium exists. We characterize the mixed equilibrium. For intermediate ideological gaps, its support includes a set of policies close to the median voter’s bliss point, and another set of policies close to the media’s bliss point, *but nothing in between*. We interpret this as *polarization* (albeit in a stochastic sense)—electoral incentives preclude any substantial degree of ideological compromise between the average voter and the media elite. This result is in sharp contrast to some other papers in the literature (Grossman and Helpman (1999), Andina-Diaz (2006)).

We present three critical welfare results. First, when the media-owning elite is ideologically very distant from the median voter, a Pareto improvement occurs if the elite can delegate message control to an editor whose most preferred policy is somewhere in between. The optimally chosen editor is such that the parties’ platforms will converge to the editor’s bliss point. Since policy differences are eliminated, the candidate with better character will always be endorsed and elected. Furthermore optimal editorial delegation does not shift the *expected* policy outcome, merely reduces its variance.

However, in their model, candidates’ platform choices themselves act as signals of character rather than endorsements announced by an informed media.

⁸We use the term “Condorcet winner” in a probabilistic sense since random draws of character strength make outcomes probabilistic. Any policy platform which is more likely than not of beating any other policy platform in a pairwise contest is a Condorcet winner. If a Condorcet winner exists in our model, both parties will choose that policy as their platform.

Therefore, delegation leaves the voters' as well as elite's payoffs unaffected on the policy dimension but improves them on the character dimension by enabling better information transmission and greater efficiency.

What if, conversely, uninformed voters could delegate candidate choice to the informed media elite? Put differently, can the median voter be better off if the elite exercised *de jure* power (i.e., suspended voting rights and dictated policies directly) rather than *de facto* power (i.e., influenced policies indirectly through the mass media)? Information asymmetry creates a trade-off—direct elite rule means policies will be distorted further towards elite interests but more capable leaders will be chosen on average. In two person sender-receiver games, Dessein (2002) and Holmstrom (1984) show that this tension between information and authority is often best resolved in favor of information—the receiver is better off delegating decision making. In contrast, we find that delegation is never optimal for the median voter. Democracy has *instrumental* value to voters even when they lack the necessary information to select the most capable leader.

Our final welfare result answers the question—if democracy (whose value is limited by lack of information) is indispensable to the voter, can the same thing be said about the media (whose value is limited by its ideological bias)? Could the voter be better off if the media did not exist in the first place? Surprisingly the answer to this question can go either way. When the ideological conflict between the media and the average voter is strong enough, existence of the media imposes a net harm on the latter. The media's presence creates a potential source of character information (the information effect) but also causes campaign platforms to move away from what the median voter prefers (the policy distortion effect). Under some parameter values the policy distortion effect will dominate. In such cases the media supplies a majority of the electorate with *immiserizing information*.

To put our welfare results in perspective, start from a first best world where democratically empowered citizens have all relevant information pertaining to candidate character and the median voter theorem prevails. If character information is now held only by an elite-controlled media, voter welfare will monotonically decrease as we move down the following list of alternative institutional arrangements: (a) the elite communicate with voters through the media and a strategically chosen moderate editor (b) the elite communicate with voters through a media that always reflects elite opinion (c) the elite directly dictates policies. A fourth scenario—one where democracy is retained but the media is silenced—cannot be unambiguously ranked but we show that in some situations

it can be second best, i.e., produce higher payoff for the median voter even compared to (a).

Three points about our analysis are worth emphasizing. First, our conclusions are based on fairly conventional assumptions about rationality—voters are aware of the media’s bias, draw proper Bayesian inferences from its endorsements, and fully understand the effect of various policies on their own well being. In other words, they are not systematically fooled due to an excess of credulity.⁹

Second, since our model leaves out many important details of reality such as the media’s watchdog role in preventing corruption or abuse of power (Brunetti and Weder (2003)), the analytical result on immiserizing information should not be taken as an argument for suppressing press freedom. Nevertheless, it is interesting that we obtain a stark welfare result under mild assumptions. Note that in our model a biased media diminishes voter welfare not relative to the first best (i.e., a world with a well informed but unbiased media) but compared to a world with no media at all. The first comparison is trivial and utopian. The second yields a much stronger indictment of the potentially manipulative effects of media ideology in a democracy.

Third, our analysis can be applied not just to the mass media but any opinion maker who, voters believe, has information relating to the capabilities of candidates or elected officials and who has the means to address a large section of the electorate. It could include pundits, experts, celebrities, veteran politicians, activists or mass movements. Richard Nixon’s famous “silent majority” speech illustrates some of our themes. Nixon’s strategy was to try and isolate the anti-war movement by portraying it as the creation of a vocal but elite minority who do not share most voters’ values.¹⁰ Nixon’s formulation of an influential elite could correspond to the ideologically biased media of our model, while his strategy of trying to alienate the elite from voters by driving an ideological wedge between them captures the spirit of a “flight to populism.”

⁹In a decision theoretic framework, Blackwell’s theorem establishes the value of information cannot be negative for a rational decision maker. Crawford and Sobel (1982) extend this result to a strategic context. When an uninformed receiver can base his decision on cheap talk messages from an informed but biased sender, every informative equilibrium gives a higher payoff to the receiver compared to the babbling equilibrium (where all messages are ignored).

¹⁰In this speech Nixon says: “If a vocal minority, however fervent its cause, prevails over reason and the will of the majority, this Nation has no future as a free society... And so tonight—to you, the great silent majority of my fellow Americans—I ask for your support.” Who comprises the powerful elite is spelt out for Henry Kissinger’s benefit in a taped Oval Office conversation: “Never forget, the press is the enemy, the establishment is the enemy, the professors are the enemy” (USA Today (2008)).

The rest of the paper is organized as follows. In Section 2 we set up our baseline model. In Section 3.1 we characterize the effect of media endorsements on voting behavior. In Section 3.2 we use this characterization to identify the outcomes of electoral competition among two office-seeking political parties. Section 4 contains results on welfare and delegation. Section 5 provides a number of variations of our baseline model including voter persuasion through news rather than opinion, ideological and informational diversity within the media as well as ideologically constrained political parties. Section 6 places the paper in the context of related literature. Section 7 concludes while the Appendix contains all proofs.

2 Model

A unit mass of voters face a choice between two candidates/parties, $i = 1, 2$, in an election. Party i chooses a policy platform $x_i \in \mathbb{R}$ and a candidate who will implement the platform if the party wins. Party i 's candidate has an exogenous attribute $y_i \in \mathbb{R}$, which we call ‘‘character’’. Voters have diverse preferences over policies but identical preferences over candidates’ characters. The utility to a voter $x \in [-1, 1]$ when candidate i with policy platform x_i and character score y_i is elected, is given by

$$u(y_i, x_i; x) = y_i - \frac{1}{3\Delta^*} d(x_i, x) \quad (1)$$

where x is the voter’s ideal policy, $d(., .)$ is a function capturing the distance between the voter’s ideal policy x and the elected policy x_i , and $\Delta^* > 0$ is a parameter capturing the importance of character relative to policy distance. Let $G(x)$ denote the (atomless) distribution of voters when they are ordered by their ideal policies and suppose $x_v = 0$ is the median of this distribution.

Each party is purely office-seeking and acts to maximize the probability of electoral victory. The platform choices x_1, x_2 are commonly observed by voters. Neither voters nor the parties who nominate them know the candidates’ character scores y_1, y_2 , except that y_i is an independent random draw from some distribution F_i . This distribution essentially captures all public knowledge about party i ’s candidate at the time of nomination. If the party can choose from among several available candidates, each characterized by some distribution, and if these candidates are well ordered in terms of character (say in the sense of first-order stochastic dominance), the party’s choice is trivial. We simplify matters by assuming each party has an exogenously determined ‘‘best

candidate” and focus on the strategic interaction in platform choice.¹¹

After policy platforms and candidates are chosen but before voters vote, the media privately learns the realization of y_1, y_2 . The media then sends a public (cheap talk) message m to the electorate. Subsequently, voters vote for their preferred candidate after taking into account the policy platforms x_1 and x_2 as well any information contained in the media’s message m . The party that has the larger share of votes wins the election and ties are resolved uniformly.

We assume that the media has preferences that are like any other voter, i.e., it cares about both policy and character as captured in the utility function (1). In particular, the media has commonly known ideal policy $x_m > 0$. The media’s ideal policy differs, perhaps substantially, from that of the average voter because it may be controlled by a financial or cultural elite, whose interests or values are very different.¹² For most of the paper, we consider the case where the media is monopolistic. This need not be taken literally. As long as media organizations are homogeneous and seek to further their common ideological interests, the results are the same even if we allow for multiple newspapers and TV channels.¹³

This simple model extends the classical Hotelling/Downs framework in two ways. First, we add a second dimension of interest to voters—character. Unlike on the policy dimension, there is complete common interest on the character dimension but voters are hamstrung by a lack of information. Second, we introduce an *electorally insignificant but informed* voter, who we call the media (or more generally, an opinion maker). The fundamental question that arises is to what extent information

¹¹Unlike in the standard Hotelling-Downs model where party and candidate are interchangeable, the distinction is pertinent in our framework and helps explain some critical assumptions we make. While it seems natural that candidates will be well informed about their own character, it is plausible that parties who nominate them have much less information. This allows us to shut down platform choices (made by the uninformed parties) as potential signals of character in addition to media endorsements. Second, if one imagines that candidates have their own commonly known policy preferences which they will implement if elected to office, nominating a candidate of the right ideological taste provides an instrument to political parties for credibly committing to a policy platform that enhances their electoral prospects. Based on Senate voting records, Poole and Rosenthal (1991) present evidence that individual senators display a fair degree of ideological inflexibility over their careers.

¹²We take the presence of such a politically motivated, elite-controlled media as a primitive of the model and focus exclusively on its effect on electoral competition. Questions of how an elite gets to control the media, possible trade-offs between the commercial and political motivations for media owners have been addressed elsewhere in the literature (see the discussion Section 6) and are not considered in this paper.

¹³In Section 5, we discuss a number of variations of our baseline model including ideological political parties and multiple ideologically and informationally distinct media outlets.

is a substitute for a large block of votes. As we will show, the media's informational monopoly and voice exerts a strong influence on the political process making platforms drift closer to its preferred choice. Unlike models where voters are uninformed about the consequences of various policies (Grossman and Helpman (1999), Gul and Pesendorfer (2011)), our model is characterized by *open pandering* to the media's policy preferences, i.e., whenever parties choose platforms that compromise the median voter's interests, they are unable to hide this fact.

Many interpretations are possible about what constitutes character (intelligence, diligence, temperament, honesty, etc.) and why some information about character is available only to specialists, and not voters or political parties who nominate the candidates. The straightforward interpretation is that relevant traits surface only under prolonged and intense scrutiny, involving interviews, round-the-clock campaign coverage, or investigations into the candidate's past record or personal life. An incident of adultery or tax evasion may indicate a candidate is not trustworthy, a history of serious illnesses may cast doubt on the ability to handle the pressures of office, temper tantrums or incidents of drunken behavior could indicate recklessness or poor judgment, incoherent answers in response to interview questions could be taken as intellectual inadequacy and off-the-record racist or sexist remarks speak for themselves. Many voting decisions could well be reversed in response to information of this sort. However, gathering such information involves enormous resources as well as professional expertise, which only well funded media organizations have at their disposal. Once such information has been gathered, it is a strategic decision of journalists and editors what should be revealed to the public, or what opinion or endorsement should be communicated. Even the parties who are nominating candidates often have a short window of time to make their decision, and may not be able to dig out every piece of damaging news. Candidates themselves are likely to be well informed about their limitations. But they are unlikely to volunteer such information and to the extent they put personal ambition above party interest, their judgment could very well be clouded by self serving biases.¹⁴

¹⁴There is abundant anecdotal account of press revelations (or suppressions) that seriously affected some American presidential candidates' electoral prospects. The gamut of information includes alleged illnesses (Roosevelt, Kennedy), extramarital affairs (Kennedy, Bill Clinton), driving incidents (George W. Bush, Edward Kennedy), military record (John Kerry) and even grammatical accidents (Dan Quayle, Sarah Palin). In the 1972 presidential campaign, George McGovern's initial choice as running mate, Thomas Eagleton, was forced to withdraw after his history of mental illness and depression came to light. Eagleton did not disclose his medical records during the vetting process, nor did the McGovern campaign manage to discover them before the nomination.

A second possible interpretation of what we call character is that candidate traits are well known to the public but voters are unsure whether these traits will be a help or hindrance in the current environment. For example, an inflexible or resolute character may be an advantage in periods of war but is likely to be a drawback during periods when diplomacy and compromise are desirable, or economic policy assumes greater importance over foreign policy.¹⁵ Similarly, voters may want to see a fiscal conservative in office when inflationary pressures are strong but may consider such a temperament unsuitable for periods of recession. Under this interpretation, the media potentially informs voters not about the candidates' character per se, but the ramifications of their character in the environment that is likely to prevail during their term in office. Our analysis is unaffected by which interpretation is chosen.¹⁶

3 Equilibrium

The commonality of interest among voters about candidate character y_i and the conflict of interest among them about policies x_i creates interesting avenues for media endorsements to affect electoral outcomes. Endorsement, voting and platform strategies interact and influence each other.¹⁷ We begin our analysis by focusing on the endorsement subgame that arises when parties have already committed to their policy platforms x_1 and x_2 . In this subgame the media strategically endorses one or the other candidate following which voters vote. The outcome of this subgame will determine the choice of platforms in the first stage.

¹⁵Arguably the most dramatic illustration of a voter outlook that emphasizes “horses for courses” is the loss of Winston Churchill’s Conservative Party in the 1945 British general elections. Churchill was a hero in the eyes of the British public for his leadership during World War II, as reflected in an approval rating of 83% at the end of the war. Yet, British voters presumably saw merit in Clement Attlee’s argument during the campaign that Churchill made a “great wartime leader but an ordinary peacetime politician”, resulting in Labour’s surprising landslide victory.

¹⁶For most of the paper we focus on the case where the media’s information is unverifiable and its messages are cheap talk (opinion). In Section 5 we show that our results extend to the case where the media’s information is instead verifiable (news) and the media can strategically provide or suppress verifiable news as opposed to unverifiable opinion.

¹⁷While we focus on the electoral competition, this kind of set-up has other applications as well. For instance, if consumers decide whether or not to watch a film based on the recommendations of a well-known critic, the critic’s tastes may be an important consideration for film producers. Or if the job prospects of candidates depend on the recommendations of a search committee, the committee’s preferences may affect how the candidates position themselves.

3.1 The Endorsement Subgame

Suppose that the two candidates have made policy choices $x_1, x_2 \in [-1, 1]$ and, after learning the realization of y_1, y_2 , the media has sent a (cheap talk) message m following which all voters hold estimates $E[y_i|m]$ of candidates' characters.

Lemma 1 *Fix x_1, x_2 and m . In any equilibrium, if the median voter $x_v = 0$ strictly prefers candidate i to his rival, then candidate i is elected with probability 1.*

Lemma 1 says that if the median voter prefers one candidate to the other, so does a majority of the electorate. In effect, the median voter can be thought of as a single-decision maker. Since all voters have access to the same information, they share a common estimate of the lagging candidates' "character deficit". Given additively separable preferences over policy and character, the median voter's salient position follows from standard single peaked preferences on the policy dimension. Henceforth, we will treat the electorate as a single entity—the median voter, or simply, the voter.

We turn now to the media's endorsement strategy. In any cheap talk game such as our endorsement subgame, there is always a babbling equilibrium where the decision maker (median voter) refuses to ascribe any meaning to the sender's message and accordingly the sender (media) can do no better than to be uninformative. The more interesting case is one where the sender is informative and influences the behavior of the voter. An equilibrium is influential if the voter votes for the different candidates with probabilities that depend on the media's message. Since the decision problem faced by our voter is a binary choice, the set of decisions rules that are generated by an influential equilibrium is particularly simple, as shown by our second result.

Lemma 2 *Fix x_1, x_2 . In any influential equilibrium, the media endorses candidate i if and only if the media prefers candidate i , i.e., if and only if*

$$y_i - y_j > \frac{1}{3\Delta^*} [d(x_i, x_m) - d(x_j, x_m)] \quad (2)$$

ignoring zero probability ties. An influential equilibrium exists if and only if

$$E[y_i - y_j | i \text{ endorsed}] \geq \frac{1}{3\Delta^*} [d(x_i, 0) - d(x_j, 0)] \geq E[y_i - y_j | j \text{ endorsed}] \quad (3)$$

If the median voter (and by lemma 1, a majority) behaves differently for different messages sent by the media, the media will always send the message that makes the voter elect the media's own

preferred candidate with the highest probability. The first part of the result follows from this observation. Given policy platforms x_1, x_2 , in any influential equilibrium, the media’s communication strategy can only reveal the candidate that the media prefers, given its private information y_1, y_2 . The inequality (3) provides the conditions under which the voter finds it in her own interest to follow the media’s advice.

The key feature which determines whether or not an influential equilibrium exists is the conflict of interest between the media and the voter. This is given by the relative magnitudes of $d(x_i, x_m) - d(x_j, x_m)$ and $d(x_i, 0) - d(x_j, 0)$, reflecting how close or how far apart the platforms are. In this sense, the partisan bias of the media (i.e., bias in the sense of a conflict of interest in cheap talk games) is endogenous in our model. For instance, if the candidates choose identical policies $x_1 = x_2$, then $d(x_i, x_m) - d(x_j, x_m) = 0$ and $d(x_i, 0) - d(x_j, 0) = 0$. In such a case, there is no partisan conflict—the voter and the media are not predisposed towards different parties. Since all players have common preferences over candidate character, an influential equilibrium always exists in such cases.

Does an influential equilibrium exist when candidates choose different policies, $x_1 \neq x_2$? In general, the answer to this question depends on the distance between the policies x_1 and x_2 , as well as properties of the distance function d and priors F_i . To isolate the key forces at work, we impose the following assumptions for the rest of this paper:

A1 Linear distance: $d(x, y) = |x - y|$.

A2 Uniform distribution: $y_2 \equiv 0$ while $y_1 \equiv y$ is uniformly distributed in $[-1, 1]$.

Assumption A2 states that voters hold uninformative priors about the relative character strengths of the two candidates and the candidates are ex-ante symmetric in this respect. Assumption A1 implies any possible conflict between the media and the voter is a function only of the policy *differences* between the candidates and not where they are located individually. Consider, for instance, the case where $x_1, x_2 \in [0, x_m]$ with $x_1 - x_2 = \Delta \geq 0$. Using (2), the media will endorse candidate 1 whenever $y > -\frac{\Delta}{3\Delta^*}$. Using (3), the voter will find it in her interest to follow the media’s endorsement (resulting in an electoral victory for the endorsed candidate) only as long as $\Delta \leq \Delta^*$.

The parameter Δ^* therefore also measures the influence of the media on the voter, i.e., the maximum “policy gap” the voter is willing to tolerate in order to vote according to the media’s

endorsement. When the candidates choose policy positions that differ by more than Δ^* , the resulting partisan conflict between the media and the voter leads the latter to ignore the media's endorsement. In such cases, media endorsements do not sway the voter and the candidate whose platform is closer to the voter's ideal policy wins the election.

The qualitative properties of equilibrium in our model are unaffected by the assumption of linear distance and uniform priors. It simplifies the analysis and enables us to give closed form solutions. Our key welfare result is strengthened if we introduce curvature into utility functions. As we show later, if there is enough ideological distance between the media and the voter, equilibrium platform choices must be random. Linear preferences eliminate risk aversion as a possible source of welfare loss and help us focus on the purely informational aspects.

The effect of policy platforms on the credibility and persuasiveness of the media is a key determinant of the strategic considerations facing the candidates at the initial stage. Given the possible multiplicity of equilibria in the endorsement subgame however this effect depends on the equilibrium selection rule that we employ. We assume in what follows that whenever an influential (i.e., non-babbling) equilibrium exists in the endorsement subgame such an equilibrium is played. This guarantees that the ex-ante Pareto dominant equilibrium for a majority of voters (including the median voter and the media) is played in the endorsement subgame. More precisely, we assume that even in cases where (3) holds with equality and the median voter is indifferent between following the media's endorsement or not, she votes for the endorsed candidate. In effect, such a tie-breaking rule implies that whenever an influential equilibrium exists, the candidate that the media prefers is elected making ties in vote shares zero probability events.¹⁸

3.2 Platform Choices

Having characterized the behavior of the media and the voters in each endorsement subgame, we turn now to characterizing the equilibrium of the overall game, i.e., the choice of platforms x_1 and x_2 by the parties.

¹⁸Without selecting the influential equilibrium one can create a large multiplicity of equilibria in the overall game by arbitrarily selecting one or the other equilibrium in particular subgames in an ad hoc manner. We find this unreasonable and in the rest of the paper follow the literature in selecting the efficient informative equilibrium in the endorsement subgame (whenever it exists). The particular tie-breaking rule that we employ is in the spirit of selecting the efficient equilibrium but it does not have a bearing on our results as we discuss in the next section.

Given that the media’s endorsement may sway a majority of the electorate, each party has an incentive to propose a policy closer to the media’s ideal policy relative to the opponent in order to increase the probability of being endorsed. In particular, given a platform $x \in [0, x_m]$ chosen by party 2, suppose party 1’s chooses a platform $x + \Delta \in (x, x_m]$ with $\Delta \leq \Delta^*$.¹⁹ Using Lemma 2, the candidate of party 1 will be endorsed whenever $y > -\frac{\Delta}{3\Delta^*}$. Furthermore, since $\Delta \leq \Delta^*$, an influential equilibrium exists in the endorsement subgame, i.e., the endorsed candidate will win the election. From the ex-ante perspective of party 1, the probability of obtaining an endorsement (and hence winning the election) is given by

$$\Pr \left[y > -\frac{\Delta}{3\Delta^*} \right] = \frac{1}{2} + \frac{1}{6} \frac{\Delta}{\Delta^*} > \frac{1}{2}.$$

which is increasing in Δ . Thus, increasing Δ is helpful, but only as long as the voter is swayed by the endorsement, i.e., as long as the platform gap does not exceed Δ^* . This tendency to appease the elite media a little more than the rival is what we call *elitism creep* and it leads to a break-down of the well-known median voter theorem in our model.

Proposition 1 *For any $\Delta^* > 0$, $x_1 = x_2 = 0$ is not an equilibrium.*

To gain insight into what actually occurs in equilibrium, it is useful to study a party’s best response platform choice $b(x)$ given a platform choice x of the other party. These best responses are depicted in Figure 1. Figure 1(a) depicts the case $x_m \leq \Delta^*$ where the media’s ideological bias x_m is moderate relative to the importance of its information Δ^* . Since equilibrium platform choices always lie in between the ideal policies of the voter and the media, the media will always be influential and its endorsed candidate will always win the election. The best response for the parties, then, is to pander completely to the media, i.e., choose the platform x_m regardless of where the opponent is located. Proposition 2 provides the equilibrium outcome for this case.

Proposition 2 (*moderate media*). *Suppose $x_m \leq \Delta^*$. In the unique pure strategy equilibrium there is total media pandering: $x_1 = x_2 = x_m$.*

With a moderately biased media, even if the policy gap is maximum (one candidate chooses the voter’s ideal policy $x_v = 0$ and the other chooses the media’s ideal policy x_m), media endorsements

¹⁹In the Appendix we show that in all cases equilibrium policy choices will lie in the interval $[0, x_m]$. This allows us to focus on platform choices in between the voter’s and the media’s ideal policies in the main text.

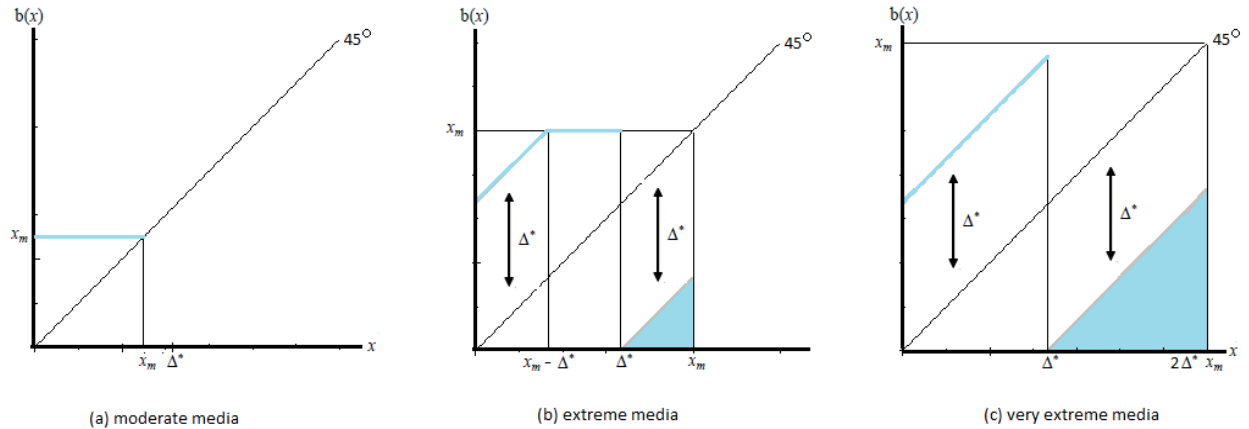


Figure 1: Best responses

still influence the voter. Locating at the media’s ideal policy x_m is then an ‘unbeatable’ strategy for a candidate since it guarantees a probability of winning the election that is at least $1/2$ regardless of the policy choice of the other candidate. Consequently, both candidates locating at the x_m is the unique equilibrium. Since the equilibrium displays complete policy convergence there is no conflict of interest between the media and any voter. As a result full disclosure of all private information is credible for the media and the media’s private information is fully aggregated by the voters before voting.

What is the equilibrium outcome when $x_m > \Delta^*$ and the media has more extreme ideology? Figure 1(b) depicts the best responses when $\Delta^* < x_m < 2\Delta^*$ and the media has extreme ideological bias whereas Figure 1(c) depicts the remaining case where $x_m \geq 2\Delta^*$ and the media has even greater ideological bias. In both figures, if the rival’s platform is within Δ^* of the voter’s ideal point, the best response is to locate at a platform Δ^* to the right of the rival or at x_m , whichever is lower. Such a choice maximizes the probability of an endorsement without making it non-influential.

Crucially however, if the rival’s platform panders excessively to the media and is more than Δ^* away from the voter’s ideal, the best response is to choose any platform that is strictly more than Δ^* to the left of the opponent. The resulting policy distance will lead a majority of voters to ignore the media’s endorsements, guaranteeing an outright victory. We call this latter strategy a flight to populism. Of course, flight to populism is the best response for a party only when its rival, in its bid to win the endorsement, has chosen a platform that is too far away from the voter’s ideal point.

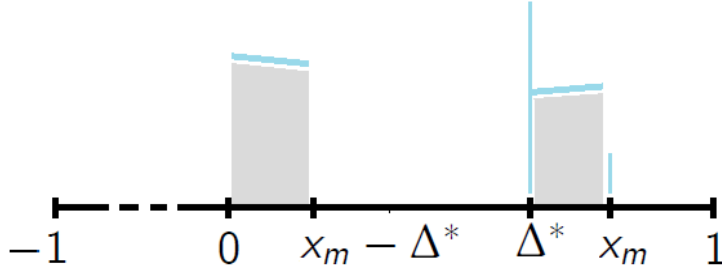


Figure 2: Equilibrium with extreme media

Notice that in Figure 1(b) and in 1(c) the best response function does not intersect the diagonal and there does not exist a pure strategy equilibrium in platform choices in either case. Our next result characterizes the mixed strategy equilibrium for the case of Figure 1(b) where $\Delta^* < x_m < 2\Delta^*$.

Proposition 3 (*extreme media*). *Suppose $\Delta^* < x_m < 2\Delta^*$. There is a (symmetric) mixed strategy equilibrium where each candidate chooses a policy $x \in [0, x_m - \Delta^*) \cup [\Delta^*, x_m]$ according to the cdf H given by*

$$H(x) = \begin{cases} 1 - \exp\left[-\frac{x}{4\Delta^*}\right] & \text{if } 0 \leq x < x_m - \Delta^* \\ (1 - \alpha_m) \exp\left[-\frac{x_m - x}{4\Delta^*}\right] & \text{if } \Delta^* \leq x < x_m \end{cases} \quad (4)$$

where H has an atom of size $\alpha_{\Delta^*} = (2 - \alpha_m) \exp\left[-\frac{x_m - \Delta^*}{4\Delta^*}\right] - 1$ at $x = \Delta^*$ and another atom of size $\alpha_m = \frac{1}{2} - \frac{1}{4} \frac{x_m}{\Delta^*}$ at $x = x_m$. In equilibrium, the expected policy choice of each candidate, as well as that of the elected candidate, is equal to Δ^* .

In the symmetric mixed strategy equilibrium characterized by Proposition 3, the candidates choose among two kinds of policies, elitist or populist. Elitist policies are at least Δ^* away from the voter's ideal policy $x_v = 0$ and located in the interval $[\Delta^*, x_m]$. Populist policies are more than Δ^* away from the media's ideal policy x_m and located in the interval $[0, x_m - \Delta^*)$. As Figure 1(b) depicts, the best response to a populist choice by one's opponent is an elitist policy that is exactly Δ^* to the right whereas the best response to an elitist choice by one's opponent is any populist policy that is more than Δ^* to the left. The interplay between these conflicting tugs of media pandering and populism determines the mixed strategy equilibrium of Proposition 3. Figure 2 illustrates the probability weight (density) placed on particular policies in each of the two disjoint

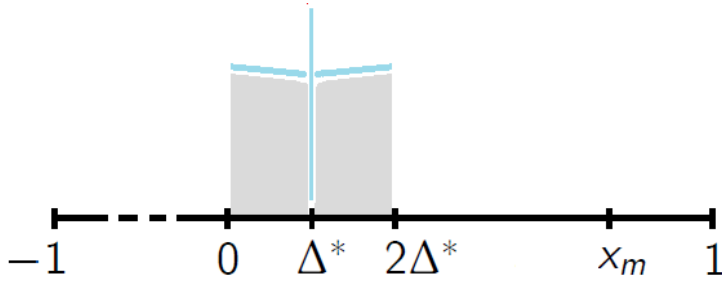


Figure 3: Equilibrium with very extreme media

intervals $[0, x_m - \Delta^*)$ and $[\Delta^*, x_m]$ that are in the support of H . In equilibrium, each policy in the support of H has the same (50%) expected probability of securing the election given the opponent also plays according to H .

Notice from Figure 2 that the mixed strategy H described in Proposition 3 puts no weight on intermediate policies in the range $[x_m - \Delta^*, \Delta^*)$. Such policies are neither sufficiently populist nor sufficiently elitist. Each such policy is strictly dominated by the policy Δ^* when playing against any policy used by the opponent. When the media has a relatively extreme ideological conflict with the median voter, candidate policy choices may not only diverge ex-post but may actually be quite polarized.

Our final result of this section characterizes a similar mixed strategy equilibrium for the remaining case depicted in Figure 1 (c) where $2\Delta^* \leq x_m$ and the media's ideological bias x_m is very extreme relative to Δ^* .

Proposition 4 (*very extreme media*) *Suppose $2\Delta^* \leq x_m$. There is a (symmetric) mixed strategy equilibrium where each candidate chooses a policy $x \in [0, 2\Delta^*]$ according to the cdf H given by*

$$H(x) = \begin{cases} 1 - \exp[-\frac{x}{4\Delta^*}] & \text{if } 0 \leq x < \Delta^* \\ \exp[-\frac{2\Delta^* - x}{4\Delta^*}] & \text{if } \Delta^* \leq x \leq 2\Delta^* \end{cases} \quad (5)$$

where H has an atom of size $\alpha_{\Delta^*} = 2 \exp[-\frac{1}{4}] - 1$ at $x = \Delta^*$. In equilibrium, the expected policy choice of each candidate, as well as that of the elected candidate, is equal to Δ^* .

Similar to the previous result, in the mixed strategy equilibrium of Proposition 4 the candidates do not choose policies that lie outside the interval $[0, x_m]$. A choice in the interval $[0, \Delta^*)$ that is relatively close to the median voter's ideal policy is a populist policy that is vulnerable to the

other candidate pandering to the media and choosing an elitist policy that is exactly Δ^* to the right and in the interval $[\Delta^*, 2\Delta^*)$. On the other hand, an elitist policy in the interval $(\Delta^*, 2\Delta^*]$ is vulnerable to the other candidate engaging in a flight to populism by choosing any policy that is more than Δ^* to the left and in the interval $[0, \Delta^*)$. Such a choice eliminates the influence of the media and the populist candidate wins for sure. Neither candidate has an incentive to deviate from the median voter's ideal policy by an amount more than $2\Delta^*$ since such policies are dominated by the policy choice at the voter's ideal when evaluated against H . Figure 3 illustrates the mixed strategy equilibrium of Proposition 4. In contrast to Proposition 3 there is no hole in the middle of the support of H . Rather, the entire probability mass of H is contained in the convex interval $[0, 2\Delta^*]$ with no weight on the interval $(2\Delta^*, x_m]$ (i.e., there is a hole in the 'side').²⁰

For both Propositions 3 and 4, the atoms in the mixed strategy H imply that ex-post policy convergence is also an equilibrium outcome with positive probability. But convergence never occurs at the median voter's ideal point. These atoms arise because of the discontinuity in the expected probability of electoral victory as the policy difference between the parties crosses Δ^* . Because of this discontinuity, candidate best responses are also discontinuous as depicted in Figures 1 (b) and (c).²¹ Nevertheless an equilibrium exists as we show above.

Is the equilibrium unique? Given our selection rule in the endorsement subgame, the resulting reduced game of electoral competition between the two candidates is a two person zero-sum game. Since the equilibrium we construct in each case above is quasi-strict, using the exchangeability property of the Nash equilibrium set in such games one can show that the equilibrium is unique, subject to the 'regularity' condition that the mixed strategy H be differentiable at all points of continuity in its support.²² We can dispense with the regularity condition if we approximate our continuous policy space with a discrete grid of policies. In the resulting finite game we can

²⁰Notice that the equilibrium strategies characterized for different subsets of the parameter space by Propositions 2 through 4 converge to each other at the borders of these subsets.

²¹Any downward deviation that is strictly more than Δ^* closer to the voter gives rise to certain victory so the best response is a correspondence that is not upper hemicontinuous.

²²An equilibrium is quasi-strict if equilibrium payoffs are strictly higher than any policy not used in equilibrium (Harsanyi, 1973). The exchangeability property of Nash equilibria for two person zero sum games states that if the strategy profiles (a_1, a_2) and (b_1, b_2) are both Nash equilibria, then so are the profiles (a_1, b_2) and (b_1, a_2) (Raghavan, 1994). Quasi-strictness plus exchangeability imply that any other equilibrium must have a support that is a subset of the support of H , a possibility ruled out in our proofs.

characterize the unique equilibrium and show that it converges to the equilibrium of our game with a continuous policy space as the grid becomes fine. Since for a generic grid expression (3) cannot hold with equality, this finite approximation approach also shows that our tie-breaking in favor of the media’s endorsements does not eliminate any interesting equilibria.²³

4 Welfare

The presence of the media has two possible effects on voter welfare. To the extent the media is influential in equilibrium, the information held by the media will be at least imperfectly incorporated in voting outcomes. This occurs when the realized platform divergence is at most Δ^* in which case the better candidate (at least in expectation) from the perspective of the voter is elected. On the other hand, if the candidate policy choices differ by more than Δ^* , the media will not be influential and the information held by the media will not be aggregated in the behavior of voters. In such cases, the electoral outcome may be Pareto inefficient—if the media’s private information is somehow made public then all voters may agree that the elected candidate is worse than the other. This is the *information aggregation* effect of the presence of an ideologically biased but informed media in our model.

A second distinct effect arises from the fact that the presence of the media also leads the candidates to pander to the media via their policy choices, at least on average. We call this the *policy drift* or *agenda distortion* effect. Holding fixed information aggregation, policy drift reduces the welfare of the median voter. We consider each of these two effects in succession in order to evaluate the overall effect on the welfare of the median voter.

Consider information aggregation first. When the media is ideologically close to the median voter, $x_m \leq \Delta^*$, Proposition 2 states that both candidates will locate at x_m . Because of this policy convergence there is no partisan conflict between the media and the voters when evaluating candidate character. Consequently, information aggregation is perfect and the candidate with a lower character score y_i is never elected. In contrast, when $x_m > \Delta^*$ and the media is ideologically more biased, candidates employ the mixed strategies characterized by Propositions 3 and 4. In such

²³Reny (2010) provides a similar justification for using discrete approximations to explore the ‘empirical relevance’ of equilibria in games with continuous strategy spaces and discontinuous payoff functions. A special case of the finite version of our zero-sum game can be found in Mendelsohn (1946).

a mixed strategy equilibrium the policy choices of the candidates may differ by more than Δ^* with positive probability. Whenever this occurs the media's partisan bias is too extreme and the media's information cannot be credibly communicated to the voters. The resulting information loss means that a more able candidate who is in fact preferable for all or a majority of voters may nevertheless lose the election to a less able but more populist candidate. This information loss hurts all voters including the media. As we show below, all voters would benefit in ex-ante expected terms in such cases if the media could commit to be more moderate in its endorsements.

One possibility for moderation takes the form of delegation by the media to an agent who is ideologically closer to the median voter. To model such delegation in the simplest possible manner, we suppose that at an ex-ante stage (i.e., before policy choices by the candidates), a media owner may commit to give access to its information to an editor and allow only the editor to send messages to the voters. The editor has similar preferences to any other voter but with ideology x_e that is chosen by the media owner with ideology x_m in order to maximize his own expected welfare. The next result summarizes the effect of such delegation by media owners.

Proposition 5 *Suppose at the ex-ante stage the media owner with ideology x_m can commit to delegate to an editor with ideology x_e who obtains the information y and communicates with the electorate. Then all media owners with ideology $x_m > \Delta^*$ will prefer to delegate to an editor with $x_e = \Delta^*$, whereas media owners with ideology $x_m \leq \Delta^*$ will prefer not to delegate. When delegation is feasible, there is policy convergence and perfect information aggregation. Delegation by the media improves the ex-ante expected welfare of all voters relative to no delegation.*

When $x_m > \Delta^*$, Propositions 3 and 4 tell us that the expected policy choice of the elected candidate is equal to Δ^* . In such cases, if the media owner commits to delegate to an editor with ideology $x_e = \Delta^*$, by Proposition 2 it follows that both candidates will completely pander to the editor and locate at $x_e = \Delta^*$. As a result, the media owner with ideology x_m will obtain an expected policy of Δ^* that is identical to the case without delegation. But since delegation to an editor with ideology $x_e = \Delta^*$ results in complete policy convergence at Δ^* , there will be no partisan conflict of interest between the editor and the voters. As a result, the editor will always be able to credibly disclose all its information and the less able candidate will never be elected. Delegation avoids inefficient information loss without altering in any way the expected policy choice of the elected candidate. Consequently, delegation by a media owner with extreme ideology $x_m > \Delta^*$ to

an editor with ideology $x_e = \Delta^*$ will be ex-ante Pareto improving. Delegating to an editor with ideology $x_e < \Delta^*$ is not optimal for a media owner with ideology $x_m > \Delta^*$, since this only increases the distance between the media owner's ideal policy and the policy chosen by elected candidate without any offsetting gain in information aggregation. For the same reason, media owners with moderate ideology $x_m \leq \Delta^*$ will choose not to delegate.²⁴

While Proposition 5 characterizes delegation by the media (sender), our next results concerns the mirror image problem of delegation by the voter (receiver). We ask the following question: what if the informed elite who controls the media had *de jure* rather than *de facto* power, i.e., could choose a candidate outright instead of trying to merely influence voters' choices through endorsements? In other words, what is the instrumental value of democracy? Is political power useful to voters even when they are informationally handicapped and subject to the media's agenda distorting influence? To do this we compare the payoff to the voter in the equilibrium of our model to a benchmark case where the media can directly choose the winner. It is easy to see that under the benchmark both candidates will locate at the media's ideal point x_m and the media will necessarily choose the candidate with the better character.

Proposition 6 *If $x_m \leq \Delta^*$ letting the media directly elect the winner does not alter outcomes. If $x_m > \Delta^*$, the voter is strictly worse off from letting the media directly elect the winner, relative to the case where the voter retains such rights.*

The first part of the result follows from Proposition 2 which says that when $x_m \leq \Delta^*$, the equilibrium outcome is as if the media could directly elect the winner. Things are more interesting when $x_m > \Delta^*$. Since the expected elected policy under democracy equals Δ^* and that under elite rule equals $x_m > \Delta^*$, democracy yields greater payoff to the voter on the policy dimension. Because the candidates sometimes engage in a flight to populism, democracy results in lower agenda distortion relative to elite rule. But this is exactly what gives rise to inefficiencies in information aggregation in a democracy. Whenever realized platform choices are polarized and differ by more than Δ^* , information is not aggregated. This information loss can be avoided if the elite directly chose a candidate. The second part of Proposition 6 says that this tradeoff resolves *strictly* in favor

²⁴Notice that delegation reduces the variance of candidate policy choices but not the mean. Because of our linear distance assumption, the resulting Pareto improvement arises out of avoiding information loss and not out of any risk aversion effect.

of democracy. Delegating the choice of candidates to the media elite is harmful for the voter when $x_m > \Delta^*$ and it does not yield any strict benefits even when $x_m \leq \Delta^*$.²⁵

Our final result of this section summarizes the effect of the presence of an elite-controlled media on the welfare of voters. It compares the welfare of the median voter across two cases. In the first case, there is no media (or there is a ban on media endorsements). Both candidates then locate at the median voter's ideal point in accordance with the median voter theorem of the classical Hotelling/Downs model. Because of the absence of the media, there is no information aggregation either so that the better candidate gets elected as often as not. We compare this case to one with an informed media. In doing so we suppose that the media can optimally delegate along the lines of Proposition 5 so that candidates locate at either x_m or Δ^* whichever is smaller. Since candidates choose the same policies there is no conflict of interest between the media (editor) and the voters. As a result, there is full information aggregation and the better candidate is always elected. Even with the possibility of information destruction eliminated, the next result shows that the presence of the media may make a majority of voters worse off. The cost of policy migration away from the median voter's ideal is not worth the information voters obtain from the media.

Proposition 7 *The presence of the media makes a majority of voters worse off ex-ante iff $x_m > \frac{3}{4}\Delta^*$, even under optimal editorial moderation by the media, relative to the case with no media.*

In the presence of the media each candidate seeks to at least slightly outdo the other candidate in pandering to the media via its platform choices. But in doing so they do not take into consideration the overall effect of such policy drift on voter welfare. The migration of policy choices away from the median voter's ideal may be excessive and enough to swamp any expected benefits of obtaining information from the media. As long as $x_m > \frac{3}{4}\Delta^*$, the policy drift effect may be enough by itself to reduce the median voter's (and so a majority's) welfare below the case where information aggregation is entirely shut down. In contrast, when $x_m \leq \frac{3}{4}\Delta^*$ and the media is ideologically quite close to the median voter, the median voter derives a net benefit from the presence of a free and informed media.

²⁵ Although the underlying environment is quite different (in particular because the office-seeking candidates choose the agenda over which voting occurs in our setting), this result provides an interesting contrast with the results of Dessein (2002) on the value of delegation by the receiver in cheap talk games.

5 Extensions

In this section we consider several extensions of our simple model in order to investigate the robustness of our main conclusions. We consider the following scenarios: (a) the media can present information to voters in the form of verifiable evidence on character rather than cheap talk (unverifiable) messages (b) there are multiple media outlets with different policy preferences (c) voters have other sources of information apart from an ideological media (d) parties have policy preferences of their own in addition to the desire to capture office. We show that our qualitative results are robust to these alternative specifications. In particular, the median voter theorem still breaks down, media pandering arises in equilibrium and under suitable parametric conditions, the media has a negative net effect on the welfare of the average voter. With multiple media outlets, there are equilibria under which the median voter theorem is restored but only under the extreme assumption that all outlets have identical information. Under the more plausible assumption that there is some independence in the information possessed by different outlets, our main conclusions reappear. For ease of exposition we limit ourselves to an informal report of our results although formal results are available upon request.

5.1 News vs Opinion

The strategic information transmission literature has two strands: cheap talk (Crawford and Sobel (1982)) and disclosure games (Milgrom (1981)). In the former, the informed sender has soft information and his claims are not verifiable, i.e., he can lie. In the latter, the sender has evidence or hard information which he may choose to suppress, i.e., he can be vague or silent but cannot lie. Put differently, cheap talk is appropriate for modeling opinion while disclosure games are apt for analyzing news. In the benchmark model, we have modeled the communication between the media and voters in the cheap talk framework. In reality, we believe the information the media uses to try and influence voters is a combination of news and opinion. In many situations the information gathered by the media is so voluminous and complex that readers or viewers rely on the media itself to draw proper conclusions, i.e., news becomes opinion in effect.²⁶ Nevertheless, it is interesting to

²⁶The Pentagon papers ran into thousands of pages, the Swiftboat controversy involved testimony from several veterans as well as military records, and any candidate's track record as senator or governor will involve hundreds of votes or executive decisions to parse. For a vast majority of voters, it is impossible to sift through and digest all this

consider a variant of our model where media influence operates through news rather than opinion.

Consider our benchmark model with the following modification at the communication stage. After platforms have been chosen but before character is privately observed, the media can choose a policy to publicly reveal the exact value of y or to remain silent. The media commits to its disclosure policy.²⁷ One way of achieving such commitment is to delegate information transmission to an editor as discussed in Section 4. For appropriately chosen editorial preferences the disclosure policy will be ex post optimal for the editor and hence credible.

Consider platform choices (x_1, x_2) (with $x_1 > x_2$) such that $\Delta = x_1 - x_2 \leq \Delta^*$. It is easy to see that in this situation the media's optimal disclosure policy is as follows: reveal y if and only if the media prefers party 2's candidate (the populist). This is identical to the influential cheap talk strategy characterized above. In this case, whenever the media prefers the populist candidate, so does the voter. On the other hand silence will convey only that party 1's candidate (the media darling) is the media's preferred alternative after taking character into account. That in turn implies candidate 1 is also the better choice for the voter in expected terms as long as $\Delta \leq \Delta^*$. The disclosure policy just described ensures that the media's preferred candidate is elected for all realizations of y and is hence an optimal disclosure policy. Therefore, for all platform choices that are less than Δ^* distance apart, the cheap talk and disclosure game formulations produce the same electoral outcomes.

One immediate implication of this observation is that Proposition 1 continues to hold in the variant where cheap talk is replaced by a disclosure game, i.e., the median voter theorem fails. If both parties choose a platform at $x_v = 0$, either party can gain by moving its platform slightly closer to the media's preferred policy for exactly the same reason as before. Proposition 2 also carries over, i.e., there is complete media pandering in equilibrium for $x_m \leq \Delta^*$. Furthermore, recall from Proposition 7 that if $x_m \in (\frac{3}{4}\Delta^*, \Delta^*]$ and communication is in the form of cheap talk, a majority of voters are made worse off by the media's presence. Since the variant with news instead of opinion is outcome equivalent for this range of parameters, the immiserizing information result also applies to the case of news.

information.

²⁷Formally speaking, at the communication stage, we have replaced the cheap talk game of our benchmark model by Gentzkow and Kamenica's (2011) game of Bayesian persuasion. Gentzkow and Kamenica consider more general disclosure policies than our formulation. However, allowing more general strategies yields identical results in our context.

If platforms differ by more than Δ^* we have seen that the media loses all influence under cheap talk in the endorsement subgame since a majority of voters vote for the populist candidate regardless of the endorsement. This need not be the case in a disclosure game. By raising the threshold of disclosure (the highest value of y that is disclosed to voters) above its point of indifference (the value of y for which the media is indifferent between the two candidates) the media can ensure that its silence is a stronger signal of candidate 1's character than a cheap talk endorsement for the same candidate. This means the media can sometimes persuade most voters to vote for the media darling in a disclosure game framework even if platforms are more than Δ^* distance apart. Consequently, complete media pandering may arise even when $x_m > \Delta^*$. Overall, the forces that lead to media pandering are strengthened as we move from opinion to news but we skip the details due to space limitations.

5.2 Ideological Diversity

We now turn to a question that has preoccupied much of the literature: can media diversity restore some or all of the centralizing forces captured in the classical median voter result? In the case of pure *ideological diversity* all media outlets possess the same information but have different ideal policies. For instance, we may have two outlets with (possibly distinct) ideal policies x_m and $x_{m'}$ each of whom privately observes the same random variable y . We maintain all other assumptions of the baseline model. In particular, candidates first choose policy platforms following which both media outlets simultaneously send cheap talk messages following which voters vote. As before, the median voter will be decisive and we select the most attractive equilibrium of the endorsement stage from the perspective of the median voter.

With pure ideological diversity, one can exploit the fact that the two outlets obtain identical signals y to construct equilibria where the outlets perfectly reveal the state. For instance, when $x_m \geq x_{m'} > 0$, given arbitrary platforms x_1, x_2 with $x_1 > x_2 \geq 0$, it is an equilibrium for the outlets to reveal the state y perfectly, using voter beliefs that the true state y is the minimum of the messages sent by the two outlets.²⁸ Because the voter perfectly learns the state regardless of platform choices, the candidates in turn must choose the common platform $x_1 = x_2 = 0$. Even though both outlets are ideologically biased in the same direction relative to the median voter we

²⁸A message is interpreted as a real number corresponding to the realized value of y . See Krishna and Morgan (2001) for the original construction.

obtain the median voter theorem with full information revelation.

The median voter theorem with full information revelation is also the outcome when the two outlets are ideologically biased in opposite directions relative to the median voter ($x_m > 0 > x_{m'}$). In such cases at least one outlet has identical preferences with the median voter and is willing to reveal the state to the voter whenever one candidate chooses a platform distinct from the other's choice at the voter's ideal point.

With three or more outlets, one can easily construct equilibria where every outlet fully reveals the state and platforms converge to the voter's ideal point. If any outlet deviates from the common message sent by the other outlets, voters simply ignore the dissenting voice and believe the majority's message.

As noted originally by Krishna and Morgan (2001), the construction of these full revelation equilibria may not be robust to the specification of the timing of moves by the different outlets. Furthermore, the assumption of complete non-exclusivity of information is also unrealistic in the case of soft and unverifiable private information that we focus on. A more plausible scenario is to allow ideological *and* informational diversity within the media. For instance, different outlets may have different areas of expertise about the candidates and voters may have to aggregate the different pieces of information embedded in possibly conflicting endorsements. To understand the effect of media diversity in both senses (ideological and informational), we analyze a simple case of pure informational diversity in the next subsection. Specifically, we assume there is a single media outlet which has some but not all relevant information on candidate character. Voters receive additional information about character from another exogenous (non-strategic) source. The information possessed by the media and the exogenous source are assumed to be independent.

5.3 Informational Diversity

To model independent sources of information in the simplest possible way, we go back to our baseline model but suppose that a candidate is characterized by its policy platform x_i and two (exogenous and vertical) attributes y_i and z_i . The value to a voter with ideology x from electing a candidate with platform x_i and attributes y_i, z_i is given by

$$u(y_i, z_i, x_i; x) = y_i - z_i - \frac{1}{3\Delta^*}d(x_i, x). \quad (6)$$

We suppose that the strategic media outlet with ideology $x_m > 0$ privately learns the realization of $y_1 \equiv y$, distributed uniformly in $[-1, 1]$ (and $y_2 \equiv 0$), as in the baseline model. In contrast to the baseline model, we suppose that voters also directly learn a second piece of information z_i about the candidates before they vote (perhaps from the internet). We let $z_1 \equiv z$, normalize $z_2 \equiv 0$ and suppose that z is uniformly distributed in $[-\lambda, \lambda]$ and statistically independent of y .

This formulation allows the media to have some degree of informational exclusivity but also allows the voter to be swayed by other sources of information not obtained through the media. The parameter $\lambda > 0$ measures the relative importance of the two pieces of information y and z held by different sources. By varying λ we can compare in a continuous way the effect of introducing informational diversity, starting from the baseline case of $\lambda = 0$ where a single media outlet has the only relevant piece of information about the candidates.²⁹

Since the strategic media outlet with ideology $x_m > 0$ and information y also directly cares (like any other voter) about the second piece of information z , the media has an incentive to convey detailed information about y to the voter. This is in contrast to the baseline model where the media only conveyed a coarse binary endorsement of one candidate or the other. Conveying detailed information is in the media's interest because it allows the voter to make a better overall assessment of the candidates' relative strengths. Because of some residual conflict of interest, however, the media will not in general reveal all its information but rather disclose an endogenously determined interval within which y lies.³⁰ The crucial difference from the baseline model is that here the media may be *influential* without being *decisive*, i.e., voting decisions may depend both on the media's message and the information received from the exogenous source.

From the perspective of the candidates and their incentives, it turns out that what matters is the magnitude of λ . When $\lambda < 1$, the media's information y is more important than other information z (the variance of y is larger than the variance of z). This case is similar to our baseline model in that it unleashes the same forces that lead to media pandering. If one party locates at the median

²⁹Given candidate platform choices x_1 and x_2 , the formulation above gives rise to an endorsement subgame that is a cheap talk game with two-sided private information and binary decisions. Such a game has been analyzed by Chakraborty and Yilmaz (2011) and we utilize their characterization in this subsection.

³⁰The number and location of these intervals is determined by the (partisan) conflict of interest between the voter and the media. All equilibria are interval partitional and somewhat similar to the equilibria in the canonical model of Crawford-Sobel (1982) (cf. Chakraborty and Yilmaz, 2011), but the conflict of interest between the voter and the media is determined endogenously by the candidate platform choices.

voter’s ideal point, the other can raise the probability of electoral victory above $1/2$ by choosing a platform slightly closer to the media’s ideal point x_m . Intuitively, since the media’s information y carries more weight, the information received from the other source must be sufficiently strong (and hence unlikely) to reverse the impact of a media endorsement. This creates an incentive for political parties to pander to the media in their platform choices.

On the other hand, when $\lambda \geq 1$, the voter’s information z is more important. Even if platforms were differentiated, voting decisions would be much more contingent on the realization of z than the media’s endorsement. This leads political parties to pander to the average voter, i.e., the median voter theorem is restored. Since platforms are not differentiated on the equilibrium path, no partisan conflict arises between voters and the media and hence the media has the incentive to reveal all its information. The media will have an effect on the electability of a candidate because its information is fully incorporated in voting decisions. However candidates will not distort their platforms in favor of the media’s ideological interests.

The arguments outlined above show that the media pandering result from our baseline model does not depend on the media having informational monopoly. Rather we merely need the pandered media to have more valuable information (in terms of ex-ante variance) compared to other sources. As long as this is true, the results of our baseline model extend in a continuous manner. This also suggests that the presence of independent *strategic* sources of information (i.e., ideological as well as informational heterogeneity within the media) may not be enough to make platforms converge back to the median voter’s ideal point. If one media outlet is informationally superior to the others in the above sense, parties will want to shift their platforms towards its ideological interests. A full analysis of ideologically and informationally heterogenous media issuing multiple endorsements is beyond the scope of the current paper. We merely observe that the pandering results of the monopoly case are not knife-edge.

5.4 Party ideology

The baseline model in Section 2 makes the extreme assumption that parties are entirely office motivated. How is equilibrium characterization altered if we attribute some (possibly small) ideological considerations to political parties? This robustness question is the focus of our analysis in this subsection.

The simplest way to introduce party ideology in our model is to assume that each party $i = 1, 2$

has an ideal policy \bar{x}_i and it pays a cost $c_i |x_i - \bar{x}_i|$ from proposing a policy platform x_i that is distinct from its ideal policy \bar{x}_i , where $c_i > 0$ is a cost parameter. The value of winning office is identical across parties and equal to $V > 0$. Each party chooses its platform x_i in order to maximize its probability of winning times V less the ideological cost $c_i |x_i - \bar{x}_i|$ of its platform choice.

The ideological cost is paid as long as a party *proposes* a platform different from its ideal policy regardless of electoral outcomes. We may think of this as a *procedural* cost of making ideological compromises during a campaign, arising perhaps from internal dissent from the party faithful.³¹ For our robustness exercise we suppose that these costs c_i are small relative to the value V of winning office.³² To keep matters as simple as possible, we assume also that the parties have extreme ideologies with $\bar{x}_1 = -1$ (the left party) and $\bar{x}_2 = 1$ (the right party).

When the ideological costs c_i are small relative to V , the median voter theorem does not apply since at least one party has an incentive to move its platform slightly closer to the media's ideal policy. For such a deviation to be profitable, the marginal expected benefit from the deviation must be greater than the marginal ideological cost of doing so. The marginal benefit is proportional to V whereas the marginal cost is proportional to c_i (in fact negative for the right party). In such cases Proposition 1 obtains. Furthermore, when $x_m \leq \Delta^*$ both parties must still locate at x_m . This is because the pure strategy equilibrium underlying Proposition 2 is also a strict equilibrium and so it remains an equilibrium when ideological costs c_i are positive but small relative to the value V of winning office. When $x_m > \Delta^*$, a mixed strategy equilibrium similar to that in the baseline model can be constructed and it converges to the equilibrium of the baseline model as c_1 and c_2 converge to 0.

Robustness issues apart, the introduction of small ideological costs have some interesting and counter-intuitive effects. In particular, in the mixed strategy equilibrium, an ideologically more costly policy must have a higher probability of winning in order to compensate for the higher cost. This implies that *conditional on winning the election*, the expected policy drift away from party ideology is higher for the winner, relative to the case with purely office-seeking parties. In

³¹See Kartik and McAfee (2007) for a reputational model of candidate character where costs of ideology are similarly procedural. Situations where parties pay ideological costs based on the distance between its own ideal policy and the elected policy (which may turn out to be the other party's policy) give rise to similar forces as the ones we discuss here but the resulting analysis is more cumbersome without being more insightful.

³²When ideological costs are large relative to the value of winning office, parties are motivated mainly by their ideology and the media has little power to distort the electoral agenda via the threat/promise of its endorsements.

this sense, party ideology is self-defeating for the party faithful.

6 Related Literature

Our paper is related to a growing literature on media bias and its effect on political outcomes. One strand of the literature asks the question why biased reporting persists in the face of commercial pressures—a newspaper or TV channel should be able to earn more profits if it provided better quality information. Explanations include confirmation bias in consumer preferences (Mullainathan and Shleifer (2005), Bernhardt, Krasa and Polborn (2008), Burke (2008)), cost savings arising from hiring ideologically motivated editors who are willing to work for lower pay (Baron (2006)), and reporters’ career concerns (Gentzkow and Shapiro (2006)). None of these papers explicitly model political competition and examine its interaction with reporting bias. In contrast, we assume an ideological (as opposed to profit maximizing) media and study the interaction between political parties’ campaign strategies and the media’s endorsement.

Some papers discuss theories of media bias where the media communicates with voters not through cheap talk messages as in our model but by presenting (or suppressing) verifiable evidence about candidate traits. The existence of concrete evidence is uncertain, which breaks the unraveling result (Milgrom (1981)) and makes media manipulation possible. The media engages in manipulation to receive favors from the incumbent (Besley and Prat (2006)) or to serve its own ideological interests (Anderson and McLaren (2012)). None of these papers endogenize political competition and therefore do not address the issue of how media bias affects policy.

Papers that jointly determine campaign strategies, media behavior and voters’ choices include Grossman and Helpman (1999), Stromberg (2004), Andina-Diaz (2004), Chan and Suen (2008), Carrilo and Castanheira (2008) and Gul and Pesendorfer (2011). In Stromberg (2004), parties choose platforms that appeal to the median consumer of the media, rather than that of the voting population. Chan and Suen (2008) assume coarse messages, and show that voters will listen to ideologically similar news outlets and platforms may diverge as a result. In Andina-Diaz (2004), biased media outlets punish candidates whose platforms are far away from their policy ideal by creating bad publicity or negative “valence” for such candidates. Unlike that paper, we assume Bayesian voters who are aware of the media’s motives, thereby giving a rational foundation for negative propaganda. Carrilo and Castanheira (2008) generate platform divergence under the assumption

that parties make costly, unobservable investments in quality (similar to character). However, the media in their framework has no policy interest and provides information randomly rather than strategically. Gul and Pesendorfer (2011) present a model where greater media competition leads to platform divergence. In their model, unlike ours, the candidates are policy motivated (as opposed to office motivated), the media is commercially motivated (as opposed to ideologically motivated) and voters are uncertain about how different policies will affect their payoffs. In Grossman and Helpman (1999) candidates may depart from the median voter’s ideal policy in order to win the endorsement of an informed leader of some sizeable interest group whose members are unsure about how various policies affect their payoffs. Unlike in Grossman and Helpman (1999), our voters are perfectly informed about the payoff implications of policy choices, the endorsement comes from a biased party and is heard by the entire electorate rather than a voting bloc with similar interests as the speaker. Our results differ significantly due to these modeling differences.

Our paper connects two familiar literatures—the Hotelling-Downs model of spatial voting (Hotelling (1929), Downs (1954)), and the literature on cheap talk pioneered by Crawford and Sobel (1982). The benchmark result in the voting literature is the median voter theorem, whose empirical validity is questioned by many authors. Policy divergence in the Downsian framework has been obtained by Wittman (1983) and Calvert (1985) with ideologically motivated parties and uncertainty regarding the median voter’s bliss point. We derive policy divergence with office motivated candidates and deterministic positioning of the median voter. With office seeking candidates, Groseclose (2001) and Aragonés and Palfrey (2002) obtain policy divergence and mixed equilibria when one candidate has a valence advantage. In our model, the valence advantage is not known to voters and must be inferred from the media’s strategic message. With respect to the literature on cheap talk, the main novelty in this paper is that the sender’s bias is endogenously generated through political competition and platform choices of the parties. An additional point of departure is our immiserizing information result, which appear in very few papers (see Chakraborty and Harbaugh (2010) for an exception). We use results from Chakraborty and Yilmaz (2011) to investigate the effect of informational and ideological heterogeneity within the media. The information enhancing effect of media competition also echoes the results of Krishna and Morgan (2001) and Battaglini (2002).

7 Conclusion

We have analyzed a simple model of electoral competition where voters care about which policies are chosen as well as the character of elected officials. While policy platforms are public knowledge, voters rely on an ideologically biased but informed media for information on candidates' characters. The media's endorsements provide such information to Bayesian voters albeit coarsely. This encourages parties' platforms to drift towards the media's preferred policies but the tendency is counteracted by potential gains from a sharp turn towards populist platforms. For small ideological distance between the media and the median voter, complete media pandering arises in equilibrium. For larger ideological distance, there may be stochastic divergence and polarization in platform choices. The most striking result is that the platform drift may swamp any information benefits voters derive from the media—there are parameter values for which an ideological media has a net negative effect on the welfare of a majority of voters, notwithstanding the sophisticated inferences drawn by the latter. However the instrumental value of democracy is always positive—the median voter is never better off delegating policy choices to the media elite. Our results are robust to a number of perturbations of the baseline model, including ideological costs faced by the parties, informational and ideological heterogeneity within the media, and voters being influenced through news rather than opinion.

8 Appendix

Proof of Lemma 1.

Fix policy positions $x_1, x_2 \in [-1, 1]$ and the estimates $E[y_i|m]$ of candidate types given a media message m . A voter x strictly prefers candidate i iff

$$E[y_i - y_j|m] > d(x, x_i) - d(x, x_j)$$

Suppose the median voter $x_v = 0$ strictly prefers candidate i . If $x_i = x_j$ then all voters must prefer candidate i , so suppose that $x_i < x_j$. If $x_j \leq 0$ (resp., $x_i \geq 0$) then all voters $x > 0$ (resp., $x < 0$) also strictly prefer candidate i , since $d(x, x_i) - d(x, x_j) = d(x_i, x_j)$ does not depend on x in this case. On the other hand if $x_i \leq 0 \leq x_j$ (with one strict inequality), then all voters $x < 0$ are closer to x_i than x_j and so also strictly prefer to vote for that candidate. ■

Proof of Lemma 2.

Follows from the discussion in the text. ■

Proof of Proposition 1.

Follows from the discussion in the text. ■

Proof of Proposition 2.

We show first that any pure strategy equilibrium must exhibit policy convergence. Suppose to the contrary that in an equilibrium the two candidates locate at x_1, x_2 with $x_1 \neq x_2$. If the media is not influential, then the two candidates cannot be equidistant from the median voter since in that case the median voter is indifferent between the two candidates and will find it in her interest to follow the media's endorsement. Thus, if the media is not influential one candidate wins the election with zero probability and this candidate can do better by matching the policy of the other candidate. On the other hand, if the media is influential, the both candidates must be equidistant from the media; for otherwise one candidate is endorsed and wins the election with probability less than $\frac{1}{2}$ and can do better by matching the platform of the other candidate. But then one candidate can do strictly better by moving slightly closer to both the media and the voter and raising its probability of endorsement that ensures the election.

Suppose next that in an equilibrium the two candidates locate at x_1, x_2 with $x_1 = x_2 \neq x_m$. Then the media will be influential and unbiased and each candidate will win with probability $\frac{1}{2}$. If one candidate moves slightly closer to the media by an amount less than Δ^* then the media will still be influential and the deviating candidate will win the election with probability greater than $\frac{1}{2}$. We conclude that the only candidate for a pure strategy equilibrium is $x_1 = x_2 = x_m$.

We check now that this is indeed an equilibrium. Suppose candidate 2 is located at $x_2 = x_m$. If candidate 1 also locates at $x_1 = x_m$, then the media will be unbiased and influential and each candidate will win with probability $\frac{1}{2}$. If candidate 1 deviates to any $x_1 > x_m$, then the media will remain influential and the deviating candidate will be endorsed with probability less than $\frac{1}{2}$ and will win the election if and only if he is endorsed, so such a deviation is not profitable. If candidate 1 deviates to any $x_1 \in [0, x_m]$, then the media will remain influential since $x_m < \Delta^*$ and the deviating candidate will be endorsed and win the election with probability less than $\frac{1}{2}$, so such a deviation is not profitable either. A deviation to $x_1 < 0$ will lead to a media endorsement iff $y > \frac{1}{3\Delta^*}(x_m - x_1) > 0$ and such an endorsement will be influential at least as long as $x_1 \geq -x_m$. So candidate 1 will win the election with probability less than $\frac{1}{2}$. On the other hand, if x_1 is such that the media is not influential, then $x_1 < -x_m$ and so candidate 1 will win the election with

probability zero and such a deviation is not profitable either. ■

Proof of Proposition 3.

We construct a symmetric equilibrium where each candidate uses a mixed strategy given by a right-continuous cdf H with support on $[0, x_m - \Delta^*) \cup [\Delta^*, x_m]$, possibly with atoms α_0 at $x = 0$, α_{Δ^*} at $x = \Delta^*$ and α_m at $x = x_m$, and derivative h except at atoms.

Let $V(x)$ the payoff from any policy choice x when playing against H with the typical realized policy of the other candidate denoted by x' . For $x \in (0, x_m - \Delta^*)$, we have

$$\begin{aligned} V(x) = & \alpha_0 \frac{1 + x/3\Delta^*}{2} + \int_0^{x_m - \Delta^*} \frac{1 + (x - x')/3\Delta^*}{2} h(x') dx' \\ & + \alpha_{\Delta^*} \frac{1 + (x - \Delta^*)/3\Delta^*}{2} + \int_{\Delta^*}^{x + \Delta^*} \frac{1 + (x - x')/3\Delta^*}{2} h(x') dx' + \int_{x + \Delta^*}^{x_m} h(x') dx' + \alpha_m \end{aligned}$$

Setting the first-derivative w.r.t. x equal to zero and simplifying we obtain

$$\frac{1}{6\Delta^*} H(x + \Delta^*) - \frac{2}{3} h(x + \Delta^*) = 0$$

or equivalently, in terms of $z = x + \Delta^*$,

$$\frac{h(z)}{H(z)} = \frac{1}{4\Delta^*} \text{ for all } z \in (\Delta^*, x_m)$$

Integrating the last expression we obtain

$$H(z) = \exp\left[\frac{z}{4\Delta^*} + K_1\right]; z \in (\Delta^*, x_m)$$

where K_1 is an arbitrary constant of integration. Since $\lim_{z \nearrow x_m} H(z) = 1 - \alpha_m$, we must have $K_1 = \ln(1 - \alpha_m) - \frac{x_m}{4\Delta^*}$ yielding in turn

$$H(z) = (1 - \alpha_m) \exp\left[-\frac{x_m - z}{4\Delta^*}\right]; z \in (\Delta^*, x_m) \quad (7)$$

Similarly, for $x \in (\Delta^*, x_m)$,

$$\begin{aligned} V(x) = & \int_{x - \Delta^*}^{x_m - \Delta^*} \frac{1 + (x - x')/3\Delta^*}{2} h(x') dx' + \alpha_{\Delta^*} \frac{1 + (x - \Delta^*)/3\Delta^*}{2} \\ & + \int_{\Delta^*}^{x_m} \frac{1 + (x - x')/3\Delta^*}{2} h(x') dx' + \alpha_m \frac{1 + (x - x_m)/3\Delta^*}{2} \end{aligned}$$

Setting the first-derivative w.r.t. x equal to zero and simplifying we obtain

$$\frac{1}{6\Delta^*}(1 - H(x - \Delta^*)) - \frac{2}{3}h(x - \Delta^*) = 0$$

or equivalently, in terms of $z = x - \Delta^*$,

$$\frac{h(z)}{1 - H(z)} = \frac{1}{4\Delta^*} \text{ for all } z \in (0, x_m - \Delta^*)$$

Integrating we obtain

$$H(z) = 1 - \exp[-(\frac{1}{4\Delta^*}z + K_2)]; z \in (0, x_m - \Delta^*)$$

where K_2 is an arbitrary constant of integration. Since $\lim_{z \searrow 0} H(z) = \alpha_0$, we must have $K_2 = -\ln(1 - \alpha_0)$ yielding in turn

$$H(z) = 1 - (1 - \alpha_0) \exp[-\frac{z}{4\Delta^*}]; z \in (0, x_m - \Delta^*) \quad (8)$$

Next consider the payoffs of policies $x = 0$ and $x = \Delta^*$:

$$V(0) = \alpha_0 \frac{1}{2} + \int_0^{x_m - \Delta^*} \frac{1 + (0 - x')/3\Delta^*}{2} h(x') dx' + \alpha_{\Delta^*} \frac{1 + (0 - \Delta^*)/3\Delta^*}{2} + \int_{\Delta^*}^{x_m} h(x') dx' + \alpha_m$$

while

$$\begin{aligned} V(\Delta^*) &= \alpha_0 \frac{1 + \Delta^*/3\Delta^*}{2} + \int_0^{x_m - \Delta^*} \frac{1 + (\Delta^* - x')/3\Delta^*}{2} h(x') dx' \\ &\quad + \alpha_{\Delta^*} \frac{1}{2} + \int_{\Delta^*}^{x_m} \frac{1 + (\Delta^* - x')/3\Delta^*}{2} h(x') dx' + \frac{1 + (\Delta^* - x_m)/3\Delta^*}{2} \alpha_m \end{aligned}$$

Setting $V(\Delta^*) = V(0)$ and simplifying we obtain

$$\frac{1}{3} = \int_{\Delta^*}^{x_m} (1 + \frac{x'}{3\Delta^*}) h(x') dx' + (1 + \frac{x_m}{3\Delta^*}) \alpha_m$$

Using (7), integrating by parts and simplifying, we obtain

$$\alpha_m = \frac{1}{2} - \frac{1}{4} \frac{x_m}{\Delta^*}$$

Notice $\alpha_m \in (0, 1)$ since $x_m < 2\Delta^*$.

Next consider the expected payoff from $x = x_m$

$$V(x_m) = \alpha_{\Delta^*} \frac{1 + (x_m - \Delta^*)/3\Delta^*}{2} + \int_{\Delta^*}^{x_m} \frac{1 + (x_m - x')/3\Delta^*}{2} h(x') dx' + \alpha_m \frac{1}{2}$$

and compare with that from $x = \Delta^*$, $V(\Delta^*)$ provided above. Setting $V(\Delta^*) = V(x_m)$ and simplifying we obtain

$$\frac{(x_m - \Delta^*)/3\Delta^*}{2} = \frac{1 + \frac{x_m}{3\Delta^*}\alpha_0}{2} + \int_0^{x_m - \Delta^*} \frac{1 + (x_m - x')/3\Delta^*}{2} h(x') dx'$$

Using (8), integrating by parts and simplifying, we obtain

$$\alpha_0 = 0$$

Finally, we must have

$$\begin{aligned} \alpha_{\Delta^*} &= \lim_{z \searrow \Delta^*} H(z) - \lim_{z \nearrow x_m - \Delta^*} H(z) \\ &= (2 - \alpha_m) \exp\left[-\frac{x_m - \Delta^*}{4\Delta^*}\right] - 1 \end{aligned}$$

Using the expression for α_m obtained above, it is easy to verify $\alpha_{\Delta^*} \in (0, 1)$ using $\Delta^* < x_m < 2\Delta^*$.

It is now easy to verify that all policies in the support must yield the same expected payoff since

$$\lim_{x \searrow 0} V(x) = V(0) = V(\Delta^*) = V(x_m) = \lim_{x \nearrow x_m} V(x)$$

We now check that any policy $x_1 \in [x_m - \Delta^*, \Delta^*)$ does strictly worse than the policy $x_1 = \Delta^*$ when playing against any policy of the opponent $x_2 \in [0, x_m - \Delta^*) \cup [\Delta^*, x_m]$. To see this, note that if $x_2 \in [0, x_m - \Delta^*)$, the policy $x_1 = \Delta^*$ yields a strictly higher probability of winning than any policy $x_1 \in [x_m - \Delta^*, \Delta^*)$ since the media is influential in either case and favors candidate 1 more when that candidate is closer to x_m , using Lemma 2. The same argument applies against an opponent policy $x_2 \in [\Delta^*, x_m]$. Similarly, any policy $x_1 < 0$ does weakly worse than the policy $x_1 = 0$, while any policy $x_1 > x_m$ does strictly worse than the policy $x_1 = x_m$ when evaluated against any policy of the opponent $x_2 \in [0, x_m - \Delta^*) \cup [\Delta^*, x_m]$; and for an open set of x_2 , it does strictly worse. This shows that the mixed strategy H yields expected payoffs strictly higher than the payoff from any strategy not in the support of H when playing against H .

It is straightforward to verify that the expected policy according to the strategy H equals Δ^* . Furthermore, since each policy in the support of H has the same probability of winning, the expected policy conditional on winning for any candidate i is equal to the unconditional expected policy of i , equal to Δ^* . But then the expected elected policy is also Δ^* regardless of which candidate wins. ■

Proof of Proposition 4.

We construct a symmetric equilibrium where each candidate uses a mixed strategy given by a right-continuous cdf H with support on $[0, 2\Delta^*]$, with atom of size α_{Δ^*} at $x = \Delta^*$ and derivative h except at atoms. Let $V(x)$ the payoff from any policy choice x against the strategy H with the typical realized policy of the other candidate denoted by x' . The expected payoff from $x \in (0, \Delta^*)$ is

$$V(x) = \int_0^{\Delta^*} \frac{1 + (x - x')/3\Delta^*}{2} h(x') dx' + \alpha_{\Delta^*} \frac{1 + (x - \Delta^*)/3\Delta^*}{2} \\ + \int_{\Delta^*}^{x+\Delta^*} \frac{1 + (x - x')/3\Delta^*}{2} h(x') dx' + \int_{x+\Delta^*}^{2\Delta^*} h(x') dx'$$

Setting the first-derivative w.r.t. x equal to zero and simplifying we obtain

$$\frac{h(z)}{H(z)} = \frac{1}{4\Delta^*}; z \in (\Delta^*, 2\Delta^*)$$

Integrating

$$H(z) = \exp\left[\frac{1}{4\Delta^*}z + K_1\right]; z \in (\Delta^*, 2\Delta^*)$$

where K_1 is the arbitrary constant of integration. Since $H(2\Delta^*) = 1$, we have $K_1 = -\frac{1}{2}$ so that

$$H(z) = \exp\left[-\frac{2\Delta^* - z}{4\Delta^*}\right], z \in (\Delta^*, 2\Delta^*] \quad (9)$$

Similarly, the expected payoff from $x \in (\Delta^*, 2\Delta^*)$

$$V(x) = \int_{x-\Delta^*}^{\Delta^*} \frac{1 + (x - x')/3\Delta^*}{2} h(x') dx' + \alpha_{\Delta^*} \frac{1 + (x - \Delta^*)/3\Delta^*}{2} \\ + \int_{\Delta^*}^{2\Delta^*} \frac{1 + (x - x')/3\Delta^*}{2} h(x') dx'$$

Setting the first-derivative w.r.t. x equal to zero and simplifying we obtain

$$\frac{h(z)}{1 - H(z)} = \frac{1}{4\Delta^*}; z \in (0, \Delta^*)$$

Integrating

$$H(z) = 1 - \exp\left[-\left(\frac{1}{4\Delta^*}z + K_2\right)\right]; z \in (0, \Delta^*)$$

where K_2 is the arbitrary constant of integration. Since $H(0) = 0$, we obtain $K_2 = 0$ so that

$$H(z) = 1 - \exp\left[-\frac{z}{4\Delta^*}\right]; z \in [0, \Delta^*) \quad (10)$$

Finally,

$$\begin{aligned} \alpha_{\Delta^*} &= \lim_{z \searrow \Delta^*} H(z) - \lim_{z \nearrow \Delta^*} H(z) \\ &= 2 \exp\left[-\frac{1}{4}\right] - 1 \end{aligned}$$

It is easy to verify that all policies in the support must yield the same expected payoff since

$$\begin{aligned} \lim_{x \searrow 0} V(x) &= V(0), \quad \lim_{x \nearrow x_m} V(x) = V(x_m) \\ \lim_{x \nearrow \Delta^*} V(x) &= V(\Delta^*) = \lim_{x \searrow \Delta^*} V(x) \end{aligned}$$

Using Lemma 2 it is now straightforward to check that any policy $x_1 < 0$ or $x_1 > 2\Delta^*$ does at least weakly worse than the policy $x_1 = 0$ when evaluated against an opponent policy $x_2 \in [0, 2\Delta^*]$; and it does strictly worse for some choices of x_2 in this interval. This shows that the mixed strategy H does strictly better than any policy not in its support when playing against H .

It is straightforward to verify that the expected policy according to the strategy H equals Δ^* . Furthermore, since each policy in the support of H has the same probability of winning, the expected policy conditional on winning for any candidate i is equal to the unconditional expected policy of i , equal to Δ^* . But then the expected elected policy is also Δ^* regardless of which candidate wins. ■

Proof of Proposition 5.

Follows from the discussion in the text. ■

Proof of Proposition 6.

When $x_m \leq \Delta^*$, Proposition 2 shows that the equilibrium outcome is the same as what would obtain if the media could directly elect the winner. Accordingly, we focus on the case $x_m > \Delta^*$ in what follows.

Let x_e be the platform of the winner and y_e the winner's character score in equilibrium. From Propositions 3 and 4 we know that $E[x_e] = \Delta^*$. Using this, the ex-ante expected equilibrium payoff of the (median) voter is $E[y_e] - \frac{1}{3\Delta^*}E[x_e] = E[y_e] - \frac{1}{3}$. If instead, the media could directly elect the winner then both candidates will locate at x_m and the candidate with the better character will win

for sure. In this case the expected character of the winner is $E[\max\{y, 0\}] = \frac{1}{4}$ and so the expected payoff to the voter equals $\frac{1}{4} - \frac{1}{3\Delta^*}x_m$. We wish to show that for $x_m > \Delta^*$,

$$E[y_e] - \frac{1}{3} > \frac{1}{4} - \frac{1}{3\Delta^*}x_m \quad (11)$$

Next, notice that the expected character *conditional* on any realized pair of policy choices must be non-negative, either because the media is not influential and the elected candidate has the ex-ante expected character score of zero, or because the media endorsement secures the election either for candidate 1 (with character score $y_1 = 0$) or for candidate 2 who has expected character score $E[y|y > -\frac{1}{3\Delta^*}(x_2 - x_1)] \geq 0$ given that he is endorsed and elected. As a result, $E[y_e] \geq 0$ which implies that (11) obtains when $x_m > \frac{7}{4}\Delta^*$.

Since Proposition 3 applies in the remaining case $\Delta^* < x_m \leq \frac{7}{4}\Delta^*$, we can write

$$\begin{aligned} E[y_e] &\geq \alpha_{\Delta^*}^2 \frac{1}{4} + 2\alpha_{\Delta^*}\alpha_m \frac{1}{4} \left[1 - \left(\frac{x_m - \Delta^*}{3\Delta^*} \right)^2 \right] + \alpha_m^2 \frac{1}{4} \\ &\geq \frac{1}{4}(\alpha_{\Delta^*} + \alpha_m)^2 \left[1 - \left(\frac{x_m - \Delta^*}{3\Delta^*} \right)^2 \right] \geq \frac{1}{4} \left[2 \exp\left(-\frac{x_m - \Delta^*}{4\Delta^*} \right) - 1 \right]^2 \left[1 - \left(\frac{x_m - \Delta^*}{3\Delta^*} \right)^2 \right] \end{aligned}$$

where α_{Δ^*} is the atom of H at Δ^* and α_m the atom at x_m . The expression on the right-side of the first inequality above is a lower bound for $E[y_e]$ obtained by using Lemma 2 to compute the expected value of y_e conditional on policies equal to either Δ^* or x_m for each candidate; and setting the expected value of y_e conditional on all other pair of policy choices equal to its lower bound of zero. The two remaining inequalities above follow from the fact that $x_m \geq \Delta^*$ and by using the expressions for α_{Δ^*} and α_m in Proposition 3. Writing $q \equiv \frac{x_m}{\Delta^*}$, substituting the last lower bound for $E[y_e]$ into (11) and rearranging, it now suffices to show that

$$\frac{1}{4} \left[2 \exp\left(-\frac{q-1}{4} \right) - 1 \right]^2 \left[1 - \left(\frac{q-1}{3} \right)^2 \right] + \frac{q}{3} > \frac{7}{12}$$

It can be verified that the left side of the last expression is strictly increasing in $q \geq 1$, and it equals the right side at $q = 1$, completing the argument. ■

Proof of Proposition 7.

When media is absent, both candidates choose policies $x_1 = x_2 = 0$ and the median voter learns no information about types y . The expected payoff to the median voter in this case equals 0. In contrast, in the presence of the media and assuming optimal delegation, both candidates locate at

$x_1 = x_2 = \min[\Delta^*, x_m]$. The median voter's expected payoff is then seen to be, using A2,

$$\frac{1}{2}E[y|y > 0] - \frac{1}{3\Delta^*} \min[\Delta^*, x_m] = \frac{1}{4} - \frac{1}{3\Delta^*} \min[\Delta^*, x_m] < 0$$

iff either $x_m \geq \Delta^*$ or $\Delta^* > x_m > \frac{3}{4}\Delta^*$. ■

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