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Politicians With a Big Mouth: How Fighting the Media Comes From Uncertainty.

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While the benefits of media making the life of politicians hard is widely discussed in economic literature, politicians picking a fight with the media is barely discussed. In this paper, I set up a theoretical model to analyze the reasoning behind politicians picking a fight with the media. In the model, the newspaper market is separated as a result of profit maximizing behavior. I find that a politician only fights with the media at the opposite side of the political spectrum if the alternative politician is unpopular. Another driving force is uncertainty. The more uncertain a politician is about the opinion of the media on his quality, the more likely the politician is to fight with the media.

1. Introduction

There is a large literature on how the media makes the lives of politicians hard by reporting on them. The media check politicians and communicate about the progress they book, but also about their shortcomings. Watergate is one of many examples where the media played a crucial role in the monitoring of politicians. Nowadays politicians also make the lives of journalists hard. Although the term 'Fake News' exists for a longer time, it is widely associated with the 2016 presidential elections in the United States. Donald Trump used this term a lot during and after the elections, to bring the journalists in discredit. Since he took office, Trump tweeted the term 'fake news' 943 times.[1] As I will discuss at the end of the introduction, Donald Trump is not alone in his attacks against the media.

In this thesis, I offer an explanation for politicians who openly pick a fight with the media. The media is the main way for politicians to communicate their policy plans and accomplishments to the voters. When a politician picks a fight with a media outlet, the coverage about the politician from this media outlet generally gets more critical, which seems to be a disadvantage for the politician. I set up a theoretical model that shows a scenario where a politician is able to gather more votes by fighting with the media, which even can change the outcome of the elections. The model describes a situation where voters want to be informed about a politician's quality. This information is provided by two newspapers, which both have perfect information about the politician. The problem is that both newspapers have their own political view that can differ from the political view of the voters, making their messages imperfect. The voters must decide which newspaper they buy and whether or not they vote for the politician. The politician can start a fight with a journalist of the newspapers, making them undesirable for the journalist. When the politician fights, the journalist's reporting is no longer influenced by the political color and quality of the politician. Now, the journalist always reports negative because of the fight. This creates more uncertainty by the voters about the quality of the politician, since quality no longer influences the reporting. I find that fighting can only be beneficial for the politician when there is a weak opponent. If there would be a good incumbent, a new politician would have to prove he is even better instead of creating uncertainty about his quality. I also find that a politician is more likely to fight with the media if he is unable to anticipate the tone of the reporting about his quality. The politician is unable

[1] http://www.trumptwitterarchive.com/archive/fake%20news%20%7C%7C%20fakenews%20%7C%7C%20fake%20media/ttff/1-19-2017 . Until November 22 2020

to anticipate this because of uncertainty from his side, either about his own quality or about the opinion of the media about his quality. This uncertainty can exist because the politician is new to the political stage. Both voters and the media have little knowledge about the politician, making it difficult to predict the tone of reporting. When the uncertainty is large, a politician with low quality can benefit from the high uncertainty by altering his behavior and copying an uncertain politician.

When a politician fights with the media, it can go much further than only calling 'fake news'. Because of this, one can sometimes see a harder response from the media. On the November 27th 2017, Donald Trump published the following tweet:

"*We should have a contest as to which of the Networks, plus CNN and not including Fox is the most dishonest, corrupt and/or distorted in its political coverage of your favorite President (me). They are all bad. Winner to receive the FAKE NEWS TROPHY!*"[2]

The Washington Post (winner of one award) and *The New York Times* (winner of two awards) where quick with a negative response towards the awards. The Washington Post opened with: "*Trump's Fake News Awards' were a huge flop"*.[3] Even though journalist Callum Borchers stated his disagreement with the winner Paul Krugman, the article mainly focused on the event being a flop because of technical failures and there being a lack of an event. Matt Flegenheimer and Michael Grynbaum did go through a big chunk of the winners and mostly defended the journalist who 'won' the awards.[4] Their opinions about the awards and the critical views towards Trump are best described in the following quote:

"*The content of the 11-point list was perhaps less notable than its premise: a sitting president using his bully pulpit for a semi-formalized attack on the free press.*"

Rasmussen Reports issued a poll at the same time of the rewards.[5] Opposite to the awards of Trump, Rasmussen Reports did include *Fox News* in their polls. Even though Fox News won the awards, a more striking result of their survey was that "*Nearly half of the voters think the media is actively trying to block Trump's agenda.*"

[2] https://twitter.com/realDonaldTrump/status/935147410472480769

[3] https://www.washingtonpost.com/news/the-fix/wp/2018/01/17/trumps-fake-news-awards-are-shaping-up-to-be-a-total-flop/

[4] https://www.nytimes.com/2018/01/17/business/media/fake-news-awards.html

[5]https://www.rasmussenreports.com/public_content/politics/general_politics/november_2017/the_winner_of_the_1st_annual_fake_news_trophy_is

Meeks (2020) found that Trump selectively attacks the media since he mainly attacks the nonconservative and general media while he praises the conservative media via his twitter. Trump is not the only one who attacks the media. Nixon had already called the press "*The enemy*" long before Trump went into politics (Meeks, 2020).[6] Outside of the United States politicians also clash with the media. Jair Bolsonaro (Brazil) has been calling several media outlets fake news.[7] Just as Marine le Pen, who attacked the media since they "*already had chosen their candidate"* during the 2017 presidential elections in France,[8] and Thierry Baudet (Netherlands), who even called for a remediation of the public broadcasters.[9] [10] Even though I focus on the conflict between politicians and the media in this paper, public figures other than politicians also have fought with the media. Louis van Gaal, trainer and coach of football club Ajax at the time, asked a reporter a question that roughly translates to: "*Am I the one that is really smart, or are you dumb?*"[11]

In section 2, I discuss related literature. Section 3 presents the model. Section 4 describes the analysis. Section 5 concludes.

2. Related Literature

There is a large literature on how the media make politicians' life difficult by reporting what politicians do. For a good survey of the monitoring function of media see Prat and Strömberg (2011). To the best of my knowledge my thesis is the first paper that explains why politicians make the lives of journalists difficult. However, while the monitoring role of the media is essential for the proper working of democracies, politicians fighting media only distorts the working of democracies. When politicians attack the media, they often accuse them of having a bias. The media would have an ideologically bias, which results in news slant. Prat and Strömberg (2013) showed by looking at the share of stories on each candidate, the use of words and by looking at the kind of issues being covered that, especially during the elections, the media is biased. But, when readers are the consumers and the news is the product, why

[6] See also: https://longreads.com/2018/11/08/when-richard-nixon-declared-war-on-the-media/
[7] https://www.theguardian.com/commentisfree/2020/jun/22/jair-bolsonaro-fake-news-accusation-marielle-franco
[8] https://www.thelocal.fr/20170227/marine-le-pen-takes-aim-at-media-as-macron-surges-in-polls
[9] https://www.fvd.nl/sanering_npo
[10] https://www.dagelijksestandaard.nl/2019/10/thierry-baudet-pakt-nos-aan-voor-verspreiden-van-fake-news-zucht/
[11] https://nos.nl/video/2332088-van-gaal-valt-uit-tegen-van-leeuwen-ben-ik-nou-zo-slim-of-jij-zo-dom.html
Quote translated from: "Ben ik nou degene die zo slim is, of ben jou zo dom?"

would it be beneficial for the media to present slanted news? There even exists a code for journalists. In this code, the desired behavior for journalists regarding the use of sources, fairness, the clear distinction between opinions and facts, and the striving to objectivity is stated. Even though this code is not as binding as the Hippocratic Oath, it is stated to be *of most importance for the democratic society*.[12] [13]

Results of the magnitude of the effect of news slant on voter behavior is mixed. Chiang & Knight (2011) found that normally the effects of news slant are little. Readers are often able to anticipate on the bias of the journalist working at the media outlet. When a liberal (conservative) politician is endorsed by a media outlet that has generally a liberal (conservative) view on the political spectrum, the bias is anticipated by the readers and the influence of the endorsement is little. When the endorsement is surprising (the more liberal media outlet endorses a conservative politician, for example), the influence of the endorsement is much greater. However, this is also less likely to happen.[14] In contrast, Hopmann, Vliegenhart, De Vreese, and Albæk (2010) found that the amount of coverage of a party and the tone of this coverage in the media did influence voters' behavior. Undecided voters are directly affected by the coverage, while decided voters' can indirectly change. Exposure and tone sometimes leads to a process where a voter considers whether they agree or disagree with a certain topic. According to Gerben, Karlan & Bergan (2009), it is not the news slant that influences the opinion of the voters, but more the exposure to news. In a field experiment, they found that there was no effect on the stated opinions and political knowledge when people received a free subscription to *The Washington Post* (seen as more liberal)*, The Washington Times* (seen as more conservative)*,* or no subscription at all. However, receiving either newspaper led to an increase in the probability of voting for the democratic option and increased voter turnout. Surprisingly, the changes in behavior of readers were similar for both newspapers. Contrary, the expansion of the availability of Fox News (conservative) from 1996 to 2000 did have a significant effect on voting behavior (DellaVigna & Kaplan, 2007). Towns where Fox News was available due to this expansion in availability had a significant higher Republican voter share. The introduction of Fox news even had an effect on the vote share of Senate elections, a topic that Fox News did not cover.

[12] https://www.nvj.nl/ethiek/ethiek/code-journalistiek-nederlands-genootschap-hoofdredacteuren-2008
[13] https://www.spj.org/ethicscode.asp
[14] For the seminar recent advances in Economics of Markets and Organisations, I wrote a short paper on news slant. The previous paragraphs are rewritten, but similar to a part of this paper.

By comparing use of words, Gentzkow & Shapiro (2010) measured the level of slant of articles. Compare the words 'war on terror' and 'death tax', used in more conservative articles, to 'war on Iraq' and 'estate tax', used in more liberal articles. They found that even though biases could possibly have effect on the voting behavior, it does not seem to be the main reason for its existence. Mainly, it is profit. Readers prefer to read news that is similar to their own beliefs. By presenting slanted news that is close to the reader's beliefs, newspapers are able to divide the market and set a higher price (Mullainathan & Shleifer, 2005). Consumers also find media outlets that confirm their prior beliefs more trustworthy (Gentzkow & Shapiro, 2006). Competition also has an effect on the amount of investment in scoops and so, on quality (Gentzkow & Shapiro, 2008, & Kreps & Wilson, 1982). Competition gives firms more incentives to invest in research to be the first to find a story. Competition is also of importance when looking at interferences from politicians with the media, the main topic of this thesis. Most research has been done on how politicians can make themselves look good in the news. Even though it is much harder to bribe journalists than it is to bribe politicians and judges (McMillan & Zoido, 2004, and Prat & Strömberg, 2011), it happens. A problem with bribing the media, is the bargaining power. When you bribe the media, you must be sure to bribe them all. If you do bribe all but one, the truth is still able to come out to the people. Hence, competition in the media makes it harder for politician to influence or even bribe the media (Besley & Prat, 2006).

Reinikka and Svensson (2005) showed the importance of the media against corruption by looking at the effect of a newspaper campaign on the funding of schools. More specifically, they looked at the effect of the availability of information to the public via a newspaper campaign on school-enrollment and performance of students. In 1995, before the start of the campaign, the median share of funds a school received was 0. In 2001, after the newspaper campaign and the information provision was much better, this median share already rose to 82.3.

In most of the research done on interferences of politicians with the media, politicians try to make themselves look good in the media. People are not aware of the failures of the government because the government either bribes the media or there is a lack of media outlets. This differs from the context described in my model. In this thesis, a politician does not interfere with the media so they write positive about him, but he brings the media in discredit with allegations. The media still reports negatively about the politician, but this is

also expected by the people, because of the fight between the media and the politician. As stated in Chiang & Knight (2011), readers can anticipate on the (created with allegations by the politician) assumed bias of the journalist, resulting in little effect of endorsements.

The allegations from politicians seem to have an effect on the perceived bias of the media from the readers. In 1988, 12% of the adults in the United States believed the media had a liberal bias in news coverage. In 1996, this was already 43%. However, this rise in perceived bias was not the result of a stronger bias in news coverage, but was the result of an increase in the coverage of allegations of a liberal bias in news coverage (Watts, Domke, Shah, & Fan, 1999). The allegations of republican politicians around the elections of 1988, 1992, and 1996 were, although not always successful, at least partly strategic (Domke, Watts, Shah, & Fan, 1999). There has been done little research on the reasons for the politician to pick a fight with media, even though it happens. In the rest of this thesis, I present a rationale for a politician to pick a fight with media, and study when it is rational to pick a fight with media.

3. The model

The model describes a political system in which several players act: a passive incumbent, a new politician, two editors of two newspapers, appointed journalists for the two newspapers, a unit mass of voters, where the focus is on the median voter.

After the election, if the politician wins the elections, he implements his most preferred policy, $Y = Y_P^D$, where $Y \in [0,1]$. I refer to Y_P^D as the politician's political color. There is no commitment (Alesina, 1988). The politician has quality, μ_P, where $\mu_P \sim U[0,1]$. All citizens benefit from a high quality politician. With probability π, the politician does not know his own quality, μ_P, and with probability $1-\pi$, he does know his own quality. The value of π is common knowledge, but the journalists and the voters do not know whether or not the politician knows the value of μ_p.[15] I want to emphasize that if the politician does not know his quality, he is aware that he does not know his quality. The preference of the politician is represented by:

$$U_P = -|Y - Y_P^D| + \lambda_1 I_E + \lambda_2 V I_E$$

[15] I could model the information the politician has about his quality by signals, but this would make notation more complicated without winning clarity.

Where I_E is a dummy taking the value 1 if the politician wins the elections, and 0 if the politician loses the elections. Since there is no commitment, after possibly winning the elections, the politician will always implement a policy of his desired color; $Y = Y_P^D$. V equals the share of votes received by the politician. Parameter λ_1, where $\lambda_1 \geq 0$, denotes the benefits received by the politician when he gains office, such as the prestige it gives him. Parameter λ_2, where $\lambda_2 \geq 0$, denotes the benefits received by the politician of receiving extra votes. Note that the politician only enjoys the benefits of votes if he is elected. So, his preferences are lexicographically ordered; He first cares about being elected, next he tries to gather more votes.

The incumbent is the alternative for the voters and journalists. The incumbent is a passive player, he does not make a decision and so always acts the same. The incumbent is the status quo. If the incumbent wins the elections, $Y = Y_I^D$ with μ_I. Both values are common knowledge.

There are two newspapers $n \in \{l, r\}$. The editors of the newspapers only care about profits. The preference of an editor is represented by:

$$U_{e,n} = xc$$

Where x is the number of readers, and c is the price of newspaper $n \in \{l, r\}$. Each editor hires a journalist with a certain political view, $Y_{j_n}^D$. When choosing a journalist, each editor maximizes expected revenue.

Journalist j of newspaper n cares about the political color and the quality of the elected president. The preferences of the journalists are represented by:

$$U_{j_n} = I_E\left(-\left|Y - Y_{j_n}^D\right| + \mu_P - I_{F_n} f\right) + (1 - I_E)\left(-\left|Y - Y_{j_n}^D\right| + \mu_I\right)$$

Where $Y_{j_n}^D$ is the desired political color for the journalist of newspaper n. I_{F_n} Is a dummy variable. If $I_{F_n} = 1$, the politician fights with the journalist working at newspaper n, if $I_{F_n} = 0$, the politician does not fight with the journalist working at newspaper n. Parameter f denotes the disutility received by the journalist when the politician fights with the journalist and the politician still gets elected. When a journalist receives a positive pay-off from the politician, he endorses the politician in the newspaper.[16] I introduce two decision variables, one for each journalist, which indicate the endorsements of the journalists. If the journalist of newspaper $n, n \in \{l, r\}$, supports the politician, then $I_{s_n} = 1$. If the journalist of newspaper n does not

[16] An endorsement by a journalist is seen as an action of showing approval of the one being endorsed.

support the politician, then $I_{s_n} = 0$. Except for section 4.3, I assume that f is large enough that if the politician fight with the journalist of newspaper n, journalist j_n never endorses the politician.[17]

Voters care about the political color of the elected president and the quality of the elected president. A voter also decides if he reads a newspaper, and if so which newspaper. The preferences of the voters are represented by:

$$U_i = I_E\left(-\left|Y - Y_i^D\right| + \mu_P\right) + (1 - I_E)\left(-\left|Y - Y_i^D\right| + \mu_I\right) + I_{K_r}\left(b - \left|Y_{j_r}^D - Y_i^D\right| - c\right) + I_{K_l}(b - \left|Y_{j_l}^D - Y_i^D\right| - c)$$

Where Y_i^D is the desired political color of the policy for voter i. I_{K_n} is a dummy variable, where $n \in \{l, r\}$. If $I_{K_n} = 1$, the voter decides to read newspaper n. If $I_{K_n} = 0$, the voter decides to not read newspaper n. A voter can read at max 1 newspaper, so $I_{K_l} + I_{K_r}$ equals either $0\ or\ 1$. Parameter b equals the consumption value of reading a newspaper, c denotes the costs of a newspaper. It is initially assumed that $b > c$.

The timing of the model is as follows:

1. **Hiring:** Editors of the newspapers hire a journalist with beliefs $Y_{j_n}^D$. All players observe $Y_{j_n}^D$.
2. **Newspaper selection:** The voters make a decision regarding whether and which newspaper they buy.
3. **Selecting politician:** Nature selects a politician with Y_P^D and μ_P and has selected the characteristics of the incumbent, Y_I^D and μ_I. Y_P^D, μ_P, Y_I^D and μ_I are observed by all players.
4. **Quality learning:** The politician learns his own quality μ_P with probability $1 - \pi$. Journalists always know the value of μ_P. Voters do not.
5. **Fighting:** The politician decides whether or not to fight with a journalist ($I_F = 1$ or $I_F = 0$). This is observed by every player.
6. **Endorsements:** Both journalists publish whether or not they support the politician in the newspaper. These endorsements are observed by all the voters. If the politician fights with the journalist of newspaper n, j_n never endorses the politician.

[17] If $f \geq 2$, this assumption always holds.

7. **Voting:** The voters update their beliefs about the politician's quality after receiving the possible endorsements of both newspapers and casts their vote in line with their beliefs.
8. **Policy implementation:** The elected president implements policy.

The model and its information structure are common knowledge. Since the model describes a sequential game with incomplete information, I use a Perfect Bayesian Equilibrium (PBE) concept. For a PBE to hold, each player follows the strategy that results in the highest expected payoff, given other players strategy and given his beliefs (sequential rationality). Moreover, each player updates his beliefs according to Bayes-rule, for every possible path of the game (Consistency).

4. Analysis

4.1 Equilibrium Requirements

The model is solved by backwards induction. The following criteria must be met for the PBE to hold:

- 8, Policy Implementation: Since the model is a 1-shot game without commitment, when elected, in equilibrium, the politician always implements policy $Y = Y_P^D$
- 7, Voting: Anticipating this, voters only vote for the politician if the expected pay-off of the politician winning the elections is higher than the pay-off of the incumbent winning the elections. Hence, in equilibrium, it is the first best response for voter i to vote for the politician if and only if:

  $$-\left|Y_P^D - Y_i^D\right| + E\left(\mu_P \middle| I_{s_l}, I_{s_r}, I_f\right) > -\left|Y_I^D - Y_i^D\right| + \mu_I$$

  Where $E\left(\mu_P \middle| I_{s_l}, I_{s_r}, I_f\right)$ denotes the expected value of μ_P conditional on I_{s_l}, I_{s_r}, and I_f.
- 6, Endorsements: Anticipating the voting behavior, journalists only endorse the politician if the expected pay-off from this politician winning the election is higher than the pay-off from the incumbent winning the elections. Unless in equilibrium a journalist is guaranteed (not) to endorse, his endorsement is a strictly positive signal about a politician's ability. In that case, the endorsement increases the politician's

probability of being elected. Therefore, a journalist endorses the politician if and only if: $-\left|Y_P^D - Y_{j_n}^D\right| + \mu_P - I_{F_n} f > -\left|Y_I^D - Y_{j_n}^D\right| + \mu_I$

- 5, Fighting: The politician anticipates the publications by the journalists and whether or not he will be elected after the voters read the publications by the newspapers. Since his first priority is winning the elections, the politician fights with a journalist only if:

$$\Pr(I_E = 1 | I_F = 1) \geq \Pr(I_E = 1 | I_F = 0)$$

- 2, Newspaper selection: In equilibrium, voter i buys newspaper n if and only if:

$$\left(b - \left|Y_{j_n}^D - Y_i^D\right| - c\right) > 0, \&$$

$$max: \{b - \left|Y_{j_l}^D - Y_i^D\right| - c, b - \left|Y_{j_r}^D - Y_i^D\right| - c\}$$

The second equation determines which newspaper i reads, if any. The first equation determines if i reads a newspaper.

- 1, Hiring: I assume that the price of a paper, c, is constant and equal for both newspapers. The editors of the newspapers maximize their profits by maximizing their sales, x. The editors of the newspapers anticipate on the consumption behavior of the voters. In equilibrium, the editor of newspaper r hires journalist j_r who maximizes $cx(Y_{j_r}^D, Y_{j_l}^{D^*})$ and the editor of newspaper l hires journalist j_l who maximizes $cx(Y_{j_l}^D, Y_{j_r}^{D^*})$. Where $Y_{j_n}^{D^*}$ is the equilibrium political color of journalist j working for newspaper n.

I focus on interesting cases. So, I ignore the case where the politician wins if he fights with both journalists. In that case, the politician would always fight and, without further information about the politician's type, the median voter would vote for the politician and the media would not play a role.

4.2. Newspapers

In this subsection, I analyze how an editor bases his decision of the hiring of a journalist on the value of $(b - c)$. Whether or not the newspapers are neutral or biased, depends on the value of $(b - c)$. There are 2 thresholds of interest; $b - c = \frac{1}{2}$ and $b - c = \frac{1}{4}$.

Lemma 1: *If $b - c \geq \frac{1}{2}$, there exists a unique equilibrium where the editors of both newspaper hire a journalist with $Y_{j_n}^D = \frac{1}{2}, n \in \{l, r\}$. If $(b - c) \in [\frac{1}{4}, \frac{1}{2})$, there exists a unique equilibrium where the editor of one newspaper hires a journalist with $Y_{j_n}^D = (b - c)$ and the other hires a journalist with $Y_{j_n}^D = 1 - (b - c)$. If $b - c < \frac{1}{4}$, there exist multiple equilibria where the hired journalist always have different political preferences.*

Proof.

If $b - c \geq \frac{1}{2}$, both editors choose to hire a journalist that is situated at the exact middle with $Y_{j_n}^D = \frac{1}{2}$. This is similar to the Hotelling model. All voters buy one of the newspapers, and the newspapers share the market equally. If one editor decides to deviate by hiring a journalist with $Y_{j_n}^D \neq \frac{1}{2}$, he will sell less newspapers. When deviating, a newspaper is never able to sell to half of the market. If newspaper n decides to hire a journalist with $Y_{j_r}^D = \frac{1}{2} - q$, with $q > 0$, newspaper n sells to readers with $Y_i^D \in [0, \frac{1}{2} - \frac{1}{2}q]$. This market share is smaller than the market share that was attained by hiring a journalist with $Y_{j_n}^D = \frac{1}{2}$. The same logic applies for $q < 0$.

The market is never in equilibrium if (at least) one of the editors decides to hire a journalist with $Y_{j_n}^D \neq \frac{1}{2}$. Without loss of generality, let the editor of newspaper r hire a journalist with $Y_{j_r}^D > \frac{1}{2}$. The best response of the editor of newspaper l is to hire a journalist with $Y_{j_l}^D = Y_{j_r}^D - \varepsilon$, where ε is very small, but significant. Now, voters with $Y_i^D < Y_{j_l}^D$ buy newspaper l, and voters with $Y_i^D > Y_{j_r}^D$ buy newspaper r. In this situation, the editor of newspaper r would like to deviate. He would sell more newspapers by hiring a journalist with $Y_{j_r}^D = \frac{1}{2}$. Hence, this is not an equilibrium. The same logic applies when an editor of one of the newspapers decides to hire a journalist with $Y_{j_n}^D < \frac{1}{2}$.

If $b - c \in [\frac{1}{4}, \frac{1}{2})$, the editor of one newspaper (without loss of generality, let's assume newspaper l) hires a journalist with $Y_{j_l}^D = (b - c)$ and newspaper r hires a journalist with $Y_{j_r}^D = 1 - (b - c)$. All voters buy one newspaper, voters with $Y_i^D < \frac{1}{2}$ buy newspaper l, and voters with $Y_i^D > \frac{1}{2}$ buy newspaper r. Both editors have no incentive to deviate. If the editor

of newspaper l decides to hire a journalist with $Y_{j_l}^D = b - c + q$, where $q > 0$, the newspaper will lose the readers with $Y_i^D \in [0, q)$ while only gaining the readers with $Y_i^D \in [\frac{1}{2}, \frac{1}{2} + \frac{1}{2}q)$. If the editor of newspaper l decides to hire a journalist with $Y_{j_l}^D = b - c - q$, where $q > 0$ the newspapers will lose readers with $m \in [\frac{1}{2} - \frac{1}{2}q, \frac{1}{2})$, while gaining none. The same logic applies for the editor of newspaper r.

The market is never in equilibrium if (at least) one editor hires a journalist with a preferred political color that is not equal to $(b - c)$ or $(1 - (b - c))$. Without loss of generality, let the editor of newspaper r hire a journalist with $Y_{j_r}^D \neq 1 - (b - c)$ and $Y_{j_r}^D \neq (b - c)$. If $Y_{j_r}^D \geq \frac{1}{2}$, the best response of the editor of newspaper l is to hire a journalist with $Y_{j_l}^D = (b - c)$. In this situation, the editor of newspaper r has an incentive to deviate. He would sell more newspapers by hiring a journalist with $Y_{j_r}^D = 1 - (b - c)$. Hence, this is not an equilibrium. If $Y_{j_r}^D \leq \frac{1}{2}$ and $Y_{j_r}^D \neq (b - c)$, the best response of the editor of newspaper l is to hire a journalist with $Y_{j_l}^D = 1 - (b - c)$. Again, in this situation, the editor of newspaper r has an incentive to deviate. He would sell more newspapers by hiring a journalist with $Y_{j_r}^D = (b - c)$. Hence, this is also not an equilibrium.

If $b - c < \frac{1}{4}$, there exist multiple equilibria where the editor of newspaper l hires a journalist with $Y_{j_l}^D \in [b - c,\ Y_{j_r}^D - 2(b - c)]$ and the editor of newspaper r hires a journalist with $Y_{j_r}^D \in [Y_{j_l}^D + 2(b - c), 1 - (b - c)]$. Not all voters will buy a newspaper anymore. Which voters depends on what kind of journalists are being hired. Both editors have no incentive to deviate, since it is not possible for an editor to sell more newspapers by hiring a journalist with another $Y_{j_n}^D$. If the editor of newspaper l decides to hire a journalist with other political preferences than $Y_{j_l}^D$, but still within $[b - c,\ Y_{j_r}^D - 2(b - c)]$, he sells the same amount of newspapers. If he decides to hire a journalist with $Y_{j_l}^D < (b - c)$ or $Y_{j_l}^D > Y_{j_r}^D - 2(b - c)$, it will sell less newspaper. This is because of the same logic that explained the equilibrium for $b - c \in [\frac{1}{4}, \frac{1}{2})$. Similar logic applies for newspaper r. There also does not exist any other equilibrium. This is because of the same logic applied for the cases where $b - c \geq \frac{1}{4}$. (QED)

If $b - c \geq \frac{1}{2}$, all voters are willing to buy a newspaper, since the consumption value is high relative to the price of a newspaper. Voters are even willing to buy a newspaper that does not

reflect their political preferences very well. Because of this, an editor has no incentive to hire a journalist with political preferences different than the preferences of the median voter. If they would hire a journalist with other preferences, they will lose more readers than they gain readers. Every voter buys a newspaper and the result is similar to the Hotelling model.

If $b - c < \frac{1}{2}$, the editors of the newspapers hire journalists that are not situated at the middle of the political spectrum, since readers only want to read a newspaper that is close to their own political preferences. By hiring a journalist that is either more liberal or conservative, each newspaper sells newspapers to their own kind of voters; either more liberal or conservative readers. If the editors decide to hire journalists with the same political preferences as the median voter, as is the case if $b - c \geq \frac{1}{2}$, not all voters would buy a newspaper. The voters with more extreme political color, (Y_i^D either close to 0 or 1) would not buy a newspaper. Their consumption value is not big enough to compensate for the big difference in political view with the journalists of both newspapers. The editors are able to gain more readers by hiring a journalist with a different political color than the median voter. By doing this, he gains readers with a more extreme political color (either 0 or 1), and loses only half this amount of readers at the middle of the political spectrum.

In the rest of the analysis, I assume that there is a liberal newspaper, with $Y_{j_n}^D \leq \frac{1}{2}$, and a conservative newspaper, with $Y_{j_n}^D \geq \frac{1}{2}$. Without loss of generality, I assume that $Y_{j_r}^D > Y_{j_l}^D$.[18] So, if $b - c < \frac{1}{4}$, then $Y_{j_l}^D \in [b - c, \frac{1}{2}]$ and $Y_{j_r}^D \in [\frac{1}{2}, 1 - (b - c)]$.

4.3. Basic Model without fighting

Suppose that $f = 0$ and $\pi = 0$. Meaning, the politician knows his own quality and there is no possibility for the politician to influence the endorsements of the newspapers, since the opinion of the journalists is never influenced by a fight with the politician.

I assume that $Y_P^D > \frac{1}{2} > Y_I^D$. Meaning, the politician is more on the right side of the political spectrum (conservative) while the incumbent is more on the left side of the political spectrum (liberal).

[18] If $(b - c) \in [\frac{1}{6}, \frac{1}{4})$, there would always be a liberal and a conservative newspaper. If $(b - c) < \frac{1}{6}$, the assumption is necessary.

Now consider voter behavior. Each voter votes for the politician if $U_i(P) = -\left|Y_P^D - Y_i^D\right| + E(\mu_P|I_{s_l}, I_{s_r})$ is greater than $U_i(I)$. I start with a standard result.

Lemma 2. *If the median voter, with $Y_m^D = \frac{1}{2}$, votes for the politician (incumbent), the politician (incumbent) always wins the elections.*

Proof. Every voter has the same information regarding Y_P^D, Y_I^D, μ_I and has the same expectations about $E(\mu_P|I_{s_l}, I_{s_r})$. The policy preferences of the voter are single peaked. The further away the implemented policy is from the bliss point of voter i, Y_i^D, the lower his utility is. This result is easily observed in the first part of the utility function of voter i; $U_i = I_E\left(-\left|Y - Y_i^D\right| + \mu_P\right) + (1 - I_E)(-\left|Y - Y_i^D\right| + \mu_I)$. The bigger the difference between $Y - Y_i^D$, the lower U_i. If all voters have single-peaked policy preferences in a two party system, the median voter always has the deciding vote. See Proposition 1 on page 22 in *Political Economics, Explaining Economic Policy* by Persson and Tabellini (2000).
The median voter votes for the politicians if:

$$U_m(P) > U_m(I) \;\leftrightarrow\; -|Y_P^D - Y_m^D| + E\left(\mu_P\middle|I_{s_l}, I_{s_r}\right) > -|Y_I^D - Y_m^D| + \mu_I$$

Hence, when $E\left(\mu_P\middle|I_{s_l}, I_{s_r}\right) > -|Y_I^D - Y_m^D| + \mu_I + |Y_P^D - Y_m^D|$, the politician wins the elections. (QED)

The last equation in the proof is a very intuitive expression. If the ability of the incumbent is high, a voter is less likely to vote for the politician; there is a good alternative. A voter is more likely to vote for the politician when his political color is similar to the political color of the politician, and less likely to vote for the politician when his political color is similar to the political color of the incumbent.

I now investigate how the endorsements of the journalists influence the election outcome. As discussed in section 4.2, two cases have to be distinguished.

First, I look at the situation where $b - c \geq \frac{1}{2}$. If $b - c \geq \frac{1}{2}$, both newspapers hire a journalist with $Y_{j_n}^D = \frac{1}{2}$, as shown in lemma 1. Without the possibility of fighting, both journalists have the same preferences as the median voter regarding the politician. This results

in an equilibrium where the politician wins the election if he gets endorsed by both newspapers, and the politician loses the elections if he does not get endorsed by any newspaper since the median voter follows the journalist's endorsements. This behavior is described in lemma 3:

Lemma 3: *If* $f = 0$, $\pi = 0$, *and* $b - c \geq \frac{1}{2}$, *the median voter always votes according to the endorsements of the journalists.*

Proof: If $b - c \geq \frac{1}{2}$, the median voter has the same preferences as the journalists. Since the journalists have perfect knowledge about the politician, the median voter votes according to the endorsements of the journalist. (QED)

The situation changes if $b - c < \frac{1}{2}$. Now, the journalists of the newspapers have different preferences than the median voter.

Let R_m denote the required, expected value of μ_P to vote in favor of the politician for the median voter. If there is a very weak incumbent, the median voter is more likely to vote for the politician and R_m is relatively low. If the incumbent is of high quality, R_m is relatively high. Let, R_{j_n} be the required minimum value of μ_p be to endorse the politician for the journalist working for newspaper n, where $n \in \{l, r\}$, respectively.[19] The required levels of μ_P, without fighting, are visually represented in figure 1.

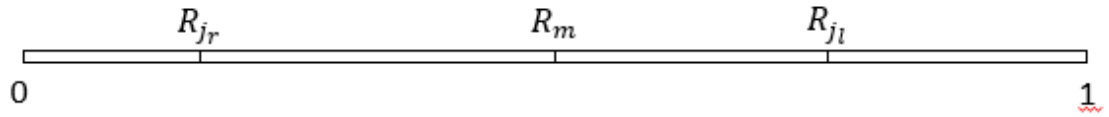

Figure 1:Visual representation for required value of μ_P *for favoring the politician.*

If $I_{s_r} = 0$, the median voter does not vote for the politician, since the required value of μ_P for the journalist of the right newspaper is not met and $R_{j_r} < R_m$. The politician never wins the elections if he does not get endorsed by j_r. If $I_{s_l} = 1$, the median voter votes for the

[19] The required value of μ_P to vote for the politician instead of the incumbent for each player involved equals:
- Median voter: $-|Y_I^D - Y_m^D| + \mu_I + |Y_P^D - Y_m^D|$
- The left journalist: $-\left|Y_I^D - Y_{j_l}^D\right| + \mu_I + \left|Y_P^D - Y_{j_l}^D\right| + I_{F_n} f$
- The right journalist: $-\left|Y_I^D - Y_{j_r}^D\right| + \mu_I + \left|Y_P^D - Y_{j_r}^D\right| + I_{F_n} f$

Since f is sufficiently large, when $I_{f_n} = 1$, $R_{j_n} > 1$.

politician, since the required value of μ_p for the journalist of the left newspaper is met and $R_{j_l} > R_m$. The politician always wins the elections if he gets endorsed by j_l

If $I_{s_r} = 1$ and $I_{s_l} = 0$, whether or not the politician wins the elections depends on which inequality holds; $E(\mu_P|1,0) \gtrless -|Y_I^D - Y_m^D| + \mu_I + |Y_P^D - Y_m^D|$, both can be true. If $E(\mu_P|1,0) > -|Y_I^D - Y_m^D| + \mu_I + |Y_P^D - Y_m^D|$, the median voter votes for the politician and the politician wins the elections. If $E(\mu_P|1,0) < -|Y_I^D - Y_m^D| + \mu_I + |Y_P^D - Y_m^D|$, the median voter does not vote for the politician and the incumbent wins the elections. All four situations can be supported in equilibrium where no player involved has an incentive to deviate and all equilibrium conditions are met.

Lemma 4: *If $f = 0$, $\pi = 0$, and $b - c < \frac{1}{2}$, if $I_{s_r} = 0$, the politician always loses the elections. If $I_{s_l} = 1$, the politician always wins the elections. If $I_{s_r} = 1$ and $I_{s_l} = 0$, whether or not the politician wins the elections depends on the value of $E(\mu_P|1,0)$.*

Proof: See discussion above. (QED)

In a world without fighting, voters receive information from both newspapers about the quality of the politician. The endorsements of the journalists depend on the value of μ_P. By reading the endorsements of the journalists, voters update their beliefs about $E(\mu_P|I_{s_l}, I_{s_r})$ and cast their vote.

4.4. Model with fighting, without uncertainty

Let me now look at the situation where the politician is able to influence the endorsements of the journalists by fighting. For simplicity, I assume that f is large enough that if the politician fights with the journalist of newspaper n, journalist j_n never endorses the politician. I only look at the situation where the politician possibly fights with the left journalist.[20] I come back to this assumption in the conclusion.

[20] This comes from the fact that I focus on interesting cases. When a politician fights with j_r, the politician never fights with j_l and j_l could either endorse the politician or not. If j_l endorses the politician, voters know that j_r would have endorsed the politician, since $Y_{j_r}^D > Y_{j_l}^D$. If j_l does not endorse the politician, the median voter only receives information that lowers the expected value of μ_p. Since I ignore the case where the politician wins with no further information about the politician's type, I also ignore the case where the median voter only receives information that decreases the expected value of μ_p.

In this section, I first show that fighting has no use when a politician cares about the share of votes and he knows his own quality with absolute certainty ($\pi = 0$). If $\pi = 0$, voters anticipate on the fact that a politician only fights with the left journalist to hide his lack of quality for an endorsement from the left journalist (revelation principle). Next, in section 4.5.1, I look at the situation where a politician never knows his own quality ($\pi = 1$). I show that if $\pi = 1$, the politician is unable to anticipate the possible endorsements of the journalists, since he does not know his own quality. In section 4.5.2, I show that a politician can benefit from fighting. The higher the uncertainty of the politician about his own quality, the more cases there are where the politician benefits from fighting.

By fighting, the politician creates uncertainty about his ability. When the politician fights with the left journalist, voters do not receive any direct information about the politician's ability from the left newspaper, since the left journalist never endorses the politician if $I_f = 1$. Voters receive only direct information from newspaper r if the politician fights. In section 4.3, voters always receive direct information from both newspapers. Now, voters also infer information about the politician from the strategy of the politician. Whether or not a politician fights with the left journalist can give the voters information about the politician's ability.

There does not change much compared to the model without fighting if $b - c \geq \frac{1}{2}$. If a politician chooses to fight with a journalist, there always remains a journalist with the exact same preferences as the median voter. Hence, the median voter still follows the endorsement of this journalist.

There are some important changes in behavior if $b - c < \frac{1}{2}$. Because fighting as an action done by the politician is introduced, beliefs from the voters about the behavior of politicians are important for the equilibria. Certain beliefs from voters about a fighting politician can be eliminated in any equilibrium. Lemma 5 shows it is impossible that voters believe fighting is a strictly possitive signal about the quality of the politician. If it were the case that fighting indeed would signal very high quality, all politicians would fight (also those with very low quality).

Lemma 5. *If $\lambda_2 > 0$, in equilibrium, voters cannot have the belief that fighting with j_l signals* $\mu_P > \max\{R_m, \pi\frac{1}{2}\left(1 + R_{j_r}\right) + (1 - \pi)\frac{1}{2}(R_{j_l} + R_{j_r})\}$.

Proof. To prove lemma 5, I first show that politicians with $\mu_P > R_{j_l}$ do not fight with the left journalist if $\lambda_2 > 0$. Suppose $\lambda_2 > 0$ and voters believe that a politician fights if and only if $\mu_P > \frac{1}{2}(1 + R_{j_l})$. Every politican fights, since not fighting always signals a lower quality than $\frac{1}{2}(1 + R_{j_l})$. This behavior is not reflected in the beliefs of the voters. Hence, in equilibrium, voters cannot believe that fighting signals a quality of $\mu_P > \frac{1}{2}(1 + R_{j_l})$. As a result, an informed politician with $\mu_P > R_{j_l}$ never fights, since not fighting signals higher quality ($\frac{1}{2}(1 + R_{j_l})$) than fighting. Let voters believe that a politician that fights has $\mu_P > \max\{R_m, \pi\frac{1}{2}(1 + R_{j_r}) + (1 - \pi)\frac{1}{2}(R_{j_l} + R_{j_r})\}$. If an informed politician with quality $\mu_P < R_{j_l}$ does not fight, voters believe his quality is $\frac{1}{2}(R_{j_l} + R_{j_r})$, which is lower than $\max\{R_m, \pi\frac{1}{2}(1 + R_{j_r}) + (1 - \pi)\frac{1}{2}(R_{j_l} + R_{j_r})\}$. Hence, an informed politician with $\mu_P < R_{j_l}$ always fights with j_l. This makes him always win the elections, since voters believe that his quality $\mu_P > R_m$ and it gives the politician more votes. This behavior is not reflected in the beliefs of the voters, since these beliefs can never be true when informed politicians with quality $\mu_P < R_{j_l}$ fight and informed politicians with quality $\mu_P > R_{j_l}$ do not fight. Hence, in equilibrium, voters cannot have the belief that fighting signals $\mu_P > \max\{R_m, \pi\frac{1}{2}(1 + R_{j_r}) + (1 - \pi)\frac{1}{2}(R_{j_l} + R_{j_r})\}$. (QED)

Recall that $E(\mu_P | I_{s_l}, I_{s_r}, I_f)$ denotes the expected value of μ_P conditional on I_{s_l}, I_{s_r}, and I_f and given the equilibrium strategies.

4.4.1. The specific case, $\lambda_2 = 0$

Lemma 6. *If $\lambda_2 = 0$, then for all $E(\mu_P|0,1,1) > R_m$, $\pi = 0$, there exists a pooling equilibrium where the politician fights, regardless of his μ_P. This equilibrium is not unique* (see also proposition 1).

Proof. The politician wants to deviate from fighting with j_l if the probability of him winning the elections when he fights is smaller than probability of him winning the elections when he does not fight. In this equilibrium, if the politician has quality $\mu_P > R_{j_r}$, he wins the elections

when he fights with probability 1, since $E(\mu_P|0,1,1) > R_m$. He cannot raise this probability by altering his behavior, regardless of the beliefs of the voters about a politician that does not fight. If the politician has quality $\mu_P < R_{j_r}$, he wins the elections with probability 0, since $R_{j_r} < R_m$. He cannot raise this probability by altering his behavior. When fighting, no player has an incentive to deviate. (QED)

This equilibrium only exists if R_m is relatively small. There are two reasons for R_m to be small; one is the political color of both the incumbent and the politician. If the politician has a more moderate political color and the incumbent a more extreme political color, the preferences of the median voter are closer to the preferences of the politician. The other reason is the quality of the incumbent. If the incumbent has a low quality, R_m is relatively small. Fighting with the media results in uncertainty for the voters, since they receive less information from the newspapers. It seems logical that uncertainty regarding the politician only benefits the politician when the incumbent is bad. When the politician goes up against a popular incumbent, he really needs to prove that he is even better than the incumbent. When the incumbent is unpopular because of a low ability and an extreme political color, uncertainty about the quality of a politician could be better than the alternative.

4.4.2. The general case, $\lambda_2 \geq 0$

If $\lambda_2 = 0$, the politician does not care about the number of votes he receives. He only cares about winning the election and receiving λ_1. $\lambda_2 > 0$ means that a politician receives a higher utility when he wins more votes, conditional on that he wins the elections. As a result, politicians with a high quality want to signal this high quality to the voters. If the politician fights with j_l, the median voter only receives useful information regarding μ_P from the endorsement of j_r, since j_l does not endorse the politician, regardless of μ_P.

Proposition 1. *For all $\lambda_2 \geq 0$, $\pi = 0$, in equilibrium, if $\mu_p > R_{j_l}$, the politician does not fight. If $\mu_p < R_{j_l}$, the politician is indifferent between fighting and not fighting. Hence, there exists a partial separating equilibrium where a politician fights if $\mu_p < R_{j_l}$ and does not fight if $\mu_p > R_{j_l}$. There also exists a pooling equilibrium where a politician never fights.*

Proof. I prove this by construction. Note that the politician only fights with j_l if the probability of him winning the elections when he fights is at least the probability of him winning the elections when he does not fight.

Consider first the case that $\mu_P > R_{j_l}$, the politician wins the election with probability 1 if he does not fight, since $I_{s_l} = 1$ and $R_{j_l} > R_m$. The politician is unable to increase this probability or to gain more votes, since $E(\mu_P|1,1,0) > E(\mu_P|0,1,1)$, see lemma 5.

If the politician has quality $\mu_P < R_{j_r}$, the politician loses the elections, regardless of his behavior, since j_r does not endorse the politician and $R_{j_r} < R_m$.

If the politician has quality $R_{j_l} > \mu_P > R_{j_r}$, the probability of the politician winning the elections depend on the value of $E(\mu_P|0,1,0)$. If $E(\mu_P|0,1,0) > R_m$, the politician wins the elections with probability 1, regardless of his behavior. Both fighting and not fighting results in the same number of votes. Voters know that a politician who gets endorsed by j_r but does not get endorsed by j_l, has quality $R_{j_l} > \mu_P > R_{j_r}$. If the politician would have had $\mu_p > R_{j_l}$, his equilibrium behavior would be to not fight with j_l, as explained above and shown in lemma 5. So, if $I_f = 1$, then $\mu_p < R_{j_l}$. The same logic applies for the case where $E(\mu_P|0,1,0) < R_m$. Here, the politician wins the elections with probability 0, regardless of his behavior. In both cases, a partial separating and a pooling equilibrium exist. In the partially separating equilibrium, where a politician with $\mu_P < R_{j_l}$ fights and a politician with $\mu_P > R_{j_r}$ does not fight, no player has an incentive to deviate. In the pooling equilibrium, where a politician never fights, no player has an incentive to deviate. (QED)

In proposition 1, a politician never benefits from fighting. This is due to revelation principle. Voters anticipate that a politician who fights with the politician only fights because he would not get endorsed by the left journalist if he would not fight. Politicians with $\mu_P > R_{j_l}$, want to show their high quality to the voters and do not fight. Only politicians with $\mu_P < R_{j_l}$ are left, and fighting does not change their expected quality. Hence, to explain why a plotician can benefit from fighting, we need the politician to be uncertain about his quality.

4.5. Uncertainty

In the previous models, the politician was aware of his own quality and he could perfectly anticipate on the fact whether or not the journalists would endorse him. When adding

uncertainty, the politician is unable to anticipate the behavior of the journalists. There could be multiple reasons for the existance of uncertainty. A politician could be unaware of his own quality. However, it is more likely that the politician is unaware about the opinion of the media on his policy. Both types of uncertainty result in the same outcome regarding the behavior of the politician. The politician does not directly care about his quality. He only wants to be of higher quality to make it more likely to win the elections.

4.5.1. Politicians never know their quality, $\pi = 1$.

As a first baseline, I look at the situation where a politician cannot know his own quality. So, $\pi = 1$. As already mentioned in section 2, I again want to emphasize that if the politician does not know his quality, he is aware that he does not know his quality. Since the politician only knows the distribution of his quality, he does not know if the newspapers will support him. The decision from the politician whether or not to fight with the media does not influence the expectations of the voters anymore, since a politician aways has the same expectations about his own quality. However, it does change how voter can interpret the possible endorsement of the left journalist. We need to make a distinction between the situations where $E(\mu|0,1,1) > R_m$ and where $E(\mu|0,1,1) < R_m$. I first identify under which conditions, when a politician does not know his own quality ($\pi = 1$), the politician does not benefit from fighting. If there is a popular incumbent and the politician has to prove his high quality by getting endorsed by the left journalist, fighting is never in the best interest of the politician. If there is a very weak incumbent, an endorsement of the right journalist is enough to win the vote of the median voter and the behaviour of the politician never changes the outcome. Next, I identify the condition where the politician always fights and may benefit from fighting. In this case, the politician is able to win the vote of the median voter by creating uncertainty about his quality by fighting with the left journalist. If the incumbent is relatively weak but not too weak (Lemma 8), the median voter prefers the politician he is uncertain about over the relatively weak incumbent.

Lemma 7. *For $\pi = 1$, $E(\mu_P|0,1,1) < R_m$, there exists a unique equilibrium where the politician does not fight with j_l.*

Proof. If the politician fights with j_l he wins the elections with probability 0, since $E(\mu_P|0,1,1) < R_m$. If he does not fight with j_l, he wins the elections with probability $(1 - R_{j_l})$. Not fighting with j_l always gives him a higher expected utility. Hence, this is equilibrium behavior. (QED)

Lemma 8. *For $\pi = 1$, and $E(\mu|0,1,0) > R_m$, the politician is indifferent between fighting and not fighting with j_l.*

Proof. The politician wins the elections with probability 1 if $\mu_p > R_{j_l}$, and loses the elections with probability 1 if $\mu_p < R_{j_l}$, regardless of his behavior. So, the politician maximizes the number of votes for the case that $\mu_p > R_{j_l}$. When the politician fights with j_l, his expected number of votes when he wins the elections equals:

$$(1 - R_{j_r})\frac{1}{2}(1 + R_{j_r})$$

When the politician does not fight with j_l, his expected number of votes when he wins the elections equals:

$$(R_{j_l} - R_{j_r})\frac{1}{2}(R_{j_r} + R_{j_l}) + (1 - R_{j_l})\frac{1}{2}(1 + R_{j_l})$$

These number of votes are equal to eachother.[21] So, the politician is indifferent.[22] (QED)

Let me now look at the situation where $E(\mu_P|0,1,1) > R_m$, $E(\mu|0,1,0) < R_m$ and $\pi = 1$, so the politician cannot know his own quality. A politician who does not fight and gets endorsed by the right journalist but does not get endorsed by the left journalist loses the elections. If the politician fights and he gets endorsed by the right journalist, he wins the elections. In this situation, a politician with quality $R_{j_r} < \mu_p < R_{j_l}$ benefits from fighting with the left journalist.

Proposition 2. *For $\pi = 1$, and $E(\mu|0,1,0) < R_m < E(\mu_P|0,1,1)$, there exists a unique equilibrium where the politician chooses to fight with j_l.*

[21] Both conditions can be simplified to $\frac{1}{2} - \frac{1}{2}R_{j_r}^2$

[22] This is similar to a Martingale betting system.

Proof. The probability that the politician wins the elections is larger when the politician fights with j_l than when he does not fight. If $\mu_p < R_{j_r}$, j_r does not endorse the politician regardless of his behavior and he does not win the elections, since $R_{j_r} < R_{\mathrm{m}}$. If $\mu_p > R_{j_l}$, the politician wins the elections regardless of his behavior, since $E(\mu|1,1,0) > E(\mu|0,1,1) > R_m$. If $R_{j_l} > \mu_p > R_{j_r}$, the politician wins the elections when he fights, since $E(\mu|0,1,1) > R_m$, but loses when he does not fight, since $E(\mu|0,1,0) < R_m$. $\Pr(\mu_p \in [R_{j_r}, R_{j_l}) > 0$. So, the probability that the politician wins the elections when he fights is larger than when he does not fight. (QED)

Since the voters know that the politician is unaware of the value of μ_p, they do not longer anticipate that if the politician fights with j_l, he would not have been endorsed by j_l without fighting. A Politician with quality $R_{j_r} < \mu_p < R_{j_l}$ benefits from fighting. If he would not fight, his expected quality would be lower than the required quality of the median voter ($E(\mu|0,1,0) < R_m$). Such a politician also benefits from the lack of knowledge regarding his own quality. If a politician would have known his quality, he would have lost the elections (see proposition 1).

4.5.2. Politicians do not always know their quality, $0 < \pi < 1$.

In the previous sections, the voters were always aware about the information the politician had about the value of μ_P. The voters either knew that the politician did not have a clue about the quality of the policy, or that he knew the exact value of μ_P. Because of this, voters formed certain expectations about what kind of politician would fight with the left journalist. In this section, I describe a situation where the voters are not aware about the knowledge of the politician. This makes it harder for voters to form beliefs about the quality of the politician.

Proposition 3. *For $E(\mu_P|0,1,0) < R_m$, and $E(\mu_P|0,1,1) > R_m$, there exists a cutoff point, $\bar{\pi}$, such that if $\pi > \bar{\pi}$, an uninformed politician decides to fight with j_l, and if $\pi < \bar{\pi}$, an uninformed politician decides not to fight with j_l.*

Proof. Suppose π approaches 0.[23] When a voter reads the possible endorsements of the journalists, the voter assumes that the politician was informed about his μ_P, since $\pi \approx 0$. The politician only wins the elections by getting endorsed by j_l. Even though $E(\mu_P|0,1,1) > R_m$, voters anticipate that politicians with $\mu_P \in [R_{j_r}, R_{j_l}]$ fight with the j_l. So, an uninformed politician in a situation where almost all politicians are informed can only win the elections by not fighting.

Suppose π approaches 1. When a voter reads the possible endorsements of the journalists, the voter assumes that the politician was not informed about his μ_P, since $\pi \approx 1$. This is the same situation as described in proposition 2, where the politician decides to fight with j_l.

If $\pi \approx 1$, an uninformed politician fights and if $\pi \approx 0$, an uninformed politician does not fight. This implies that at least at one $\bar{\pi}$, an uninformed politician is indifferent between fighting and not fighting with j_l.

If $\pi > \bar{\pi}$, voters anticipate that a politician that fights with j_l is uninformed. This is beneficial for the politician that is informed. When the politician knows that $\mu_P \in [R_{j_r}, R_{j_l}]$, he chooses to fight with j_l and he gets the vote of the median voter, since the median voter 'assumes' that the politician was unaware of his own quality. This would not be the case if $\pi < \bar{\pi}$.

I use Bayes-rule to calculate the value of $\bar{\pi}$. $\pi = \bar{\pi}$ when the expected value of μ_P from a politician who fights and gets approved by j_r is equal to R_m. The following needs to hold for an uninformed politician to be indifferent between fighting and not fighting:

$$R_m = \frac{\bar{\pi}\left(1 - R_{j_r}\right)}{\bar{\pi}\left(1 - R_{j_r}\right) + (1 - \bar{\pi})\left(R_{j_l} - R_{j_r}\right)} \frac{1}{2}\left(R_{j_r} + 1\right) + \frac{(1 - \bar{\pi})\left(R_{j_l} - R_{j_r}\right)}{\bar{\pi}\left(1 - R_{j_r}\right) + (1 - \bar{\pi})\left(R_{j_l} - R_{j_r}\right)} \frac{1}{2}\left(R_{j_l} - R_{j_r}\right)$$

Hence,

$$\bar{\pi} = \frac{(R_{j_l} - R_{j_r})(R_{j_l} - 2R_m + R_{j_r})}{(R_{j_l} - 1)(R_{j_l} - 2R_m + 1)}$$

[23] See also proposition 1.

Note that $\bar{\pi} \geq 0$, must hold. Since $(R_{j_l} - 1) < 0$, $(R_{j_l} - 2R_m + 1) > 0$, and $(R_{j_l} - R_{j_r}) > 0$, it must be that $(R_{j_l} - 2R_m + R_{j_r}) < 0$. This only holds when $2R_m > R_{j_l} + R_{j_r}$. This must hold since $E(\mu_P|0,1,0) < R_m$. [24] (QED)

If $\pi > \bar{\pi}$, an informed politician with $\mu_P \in [R_{j_r}, R_{j_l}]$ benefits from the relatively large π by mimicking an uninformed politician. The politician fights with the left journalist. When $\pi = 0$, he does not gain votes by fighting, because voters know that only a politician with $\mu_P < R_{j_l}$ fights with the left journalist. Now, an uninformed politician also fights with the left journalist, which raises his $E(\mu_P)$.

Notice that fighting still only works if the incumbent is a relative bad candidate. By fighting, the politician still creates uncertainty among the voters about his quality by reducing the provision of information. Only the report of the right journalist depends on the quality of the politician, the left journalist always reports the same because of the fight. If the incumbent would be a very good candidate for the median voter, the politician would have to signal a high quality by getting endorsed by the left journalist. Fighting with the left journalist and an endorsement from the right journalist is only enough when the incumbent is of low quality and/or has an extreme political color.

5. Conclusion

The main contribution of this thesis has been to provide a rationale for a fight between politicians and the media. There exists little research about the reasoning of a politician picking a fight with the media, but when politicians discredit the media (Domke, Watts, Shah, & Fan, 1999), it is at least partly strategic. In this thesis I present a model where picking a fight is purely a strategic action by the politician, and find the conditions in which this strategy is successful.

I have pointed out that the strategy of picking a fight with the media can only be successful when the incumbent (opponent) is not a good candidate. Fighting with the media results in negative reporting, regardless of the quality and political color of the politician.

[24] In the other situations the equilibria are less interesting. If $E(\mu_P|0,1,0) > R_m$, an uninformed politician is indifferent between fighting and not fighting with j_l, see also lemma 8. If $E(\mu_P|0,1,1) < R_m$, the politician always chooses to not fight with j_l, see also lemma 7.

Voters receive less information about the quality of the politician via the media as a result of this fighting. Only when an opponent is relatively weak, uncertainty can be better.

I have also showed that uncertainty plays a big role in the reasoning of picking a fight. A high level of uncertainty is beneficial for lower quality politicians. If a politician is unaware about the tone of the reporting by the media, he is more likely to pick a fight with the media while being elected. Politicians of high quality that know that they will be endorsed by all the media do not benefit from fighting with the media, but want to show their high quality to the voters. Without uncertainty, voters realize that politicians who fight with the media are politicians that would otherwise not get endorsed. With more uncertainty, there are also high quality politicians that do not know about the tone of reporting and pick a fight if the opponent is relatively weak. As a result, politicians with lower quality benefit from the high quality fighting politicians, since voters are not able to distinguish them. If all politicians know their own quality and the tone of the reporting, voters would be able to distinguish lower quality politicians from high quality politicians and lower quality politicians do not win the elections.

I assumed that the media always knows the exact quality of the politician, even when the politician does not know his own quality. This is a strong assumption, but the crucial part of this assumption is the fact that the media is more informed about the politician than the voters, which seems fair. If the media does not know the exact quality of the politician, or the media knows the quality of the politician with a certain probability, voters still infer information about the politician from the reporting of the media that change their expectations. Since politicians still want voters to not receive information about their quality in certain situations, politicians will sometimes fight with the media to make some media outlets useless for the voters. The exact required values and the value of the cutoff point of the level of uncertainty change when the media does not always exactly know the quality of the politician. However, as long as the media is better informed than the voters about the politician, the fundamentals of the model do not change.

I also assumed that a politician only fights with the media that has opposite political views (conservative politician with a liberal journalist). Even though this is a strong assumption, it seems to hold in everyday life. If conservative politicians attack the media, they generally attack more liberal media, while the opposite is true for liberal politicians. Politicians mostly attack media that would likely write negatively about the politician, regardless of the attacks. When a politician fights with a newspaper, voters no longer infer information from

reading this newspaper, since they always report negative. The useless reporting from certain media outlets after fighting does not necessarily have to come from negative utility of a journalist, as is assumed in this thesis. Trump once kept out certain media outlets from his briefings.[25] So, fighting can also result in an inability of media outlets to get informed about a politician. The possible endorsement of a newspaper that is unable to get informed about a politician is as useful to the voters as a newspaper that always report negative about a politician. In both cases, voters do not receive useful information about the quality of the politician from these media outlets. Meanwhile, when a politician fights, he can still communicate about their progress in the media via journalists that are closer to their own beliefs.

For future research, one could look at possible side-effects for the media when a politician fights with the media. In this thesis, a newspaper did not lose or gain any readers if the politician fought with the journalist. It could be possible that fighting affects the number if readers. When the politician fights with the journalist, the newspaper always publishes news about the politician in a negative way. The added value regarding information about politics gets lost for readers. If this is an important segment about a newspaper, this results in lower sales after a fight. Editors anticipating on this loss of readers if a politician fights with the journalist results in a force that makes editors want to hire journalists with moderate political views to lower the probability of a politician fighting with the journalist.

It could also be interesting to link this paper to populism. Earlier research has shown that people vote more for populistic politicians when there is low trust in the government (Crutzen, Sisak, & Swank, 2020). It seems logical that low trust is a result of an unpopular incumbent. An unpopular incumbent is also necessary for the fighting with the media as described in this thesis. Research can be done on a possible link between fighting with the media and populism, or even the role of the media in the popularity of an incumbent.

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