

Edited democracy? Evidence from the 1989 Brazilian Presidential Election

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Abstract

In this paper we investigate if biased media coverage of electoral campaigns can affect electoral choices by looking at a famous and publicly acknowledged case of biased news coverage – the coverage of Rede Globo, the main television broadcaster in Brazil, of the second-round of the 1989 Brazilian presidential election. In 1989, the first democratic presidential election in Brazil was decided in a run-off between Lula da Silva, a programmatic left-wing candidate, and Fernando Collor, a young political outsider. Two days before the election, when the opinion polls indicated a technical tie, Rede Globo, the most popular television channel in Brazil, aired a montage of the final debate that was harmful to Lula during its prime time newscast. Books and documentaries long speculated that the broadcast of this montage of the final debate played a crucial role in deciding the election. The aim of this paper is to bring this hypothesis to the data and to test if access to Globo’s news coverage during the second-round of the 1989 presidential election affected 1989 presidential election’s outcomes. Our main finding is that the availability of Globo’s coverage had a statistically significant negative effect on Lula’s vote-share in the second-round of 1989 election. In our favorite specification, the availability of Globo’s signal decreased Lula’s vote-share by 2.23 percent points, which is equivalent to 1.47 million votes. This effect was not enough to decide the election but considerably decreased its competitiveness: the winning margin of Collor would be 73.6 percent smaller in the absence of the Globo’s coverage.

“Ronald [Carvalho], Globo’s editor of politics, entered the editing island and said: You have to make a montage with the best of Collor and the worst Lula.”
(Octavio Tostes, text-editor of the debate’s highlights aired in Globo’s main newscast two days before the 1989 election)

1 Introduction

Can biased media coverage of electoral campaigns affect electoral choices? Is this effect large enough to decide a presidential election? Is this effect explained by changes in turnout or valid votes rates or by a shift of votes toward the candidate favored by the media bias? The goal of this paper is to explore a famous and publicly acknowledged case of biased news coverage – the coverage of Rede Globo, the main television broadcaster in Brazil, of the second-round of the 1989 presidential election – to answer these questions¹.

In 1989, Brazil held its first democratic presidential election in almost three decades. The election was decided in a run-off between Lula da Silva, a programmatic left-wing candidate, and Fernando Collor, a young political outsider. Two days before the election, when the opinion polls indicated a technical tie, Rede Globo, the most popular television channel in Brazil, aired a montage of the final debate that was harmful to Lula during its prime time newscast. Books and documentaries long speculated that the broadcast of this montage of the final debate played a crucial role in deciding the election². The aim of this paper is to bring this hypothesis to the data and to test if access to Globo’s news coverage during the second-round of the 1989 presidential election affected 1989 presidential election’s outcomes.

To test this hypothesis in a causal framework, we exploit the fact that the *spatial variation* in the availability of Globo’s signal is plausibly exogenous to the *variation across rounds* of vote-shares of the 1989 election. We believe on the plausibility of this assumption since the availability of Globo’s signal depends on technical and economic variables (e.g., availability of antennas, attractiveness of municipalities to advertising) that are plausibly fixed in a time-window of 33 days (the number of days between the first and second-round). Under this assumption, the treatment variable in our regressions – availability of Globo’s signal – measures the causal effect of being exposed to Globo’s

¹Years later, Rede Globo publicly recognized that the edition of highlights of the last presidential debate in the main newscast, Jornal Nacional, was biased in favor of Collor. See <http://memoriaglobo.globo.com/erros/debate-collor-x-lula.htm>

²See, for example, the best-seller book *Notícias do Planalto*, and the documentary *Beyond Citizen Kane* (see <https://www.youtube.com/watch?v=s-8scOe31D0>).

coverage on the *variation across rounds* of vote-shares of the 1989 election.

Our main finding is that the availability of Globo’s coverage had a statistically significant negative effect on Lula’s vote-share in the second-round of 1989 election. In our favorite specification, the availability of Globo’s signal decreased Lula’s vote-share by 2.23 percent points, which is equivalent to 1.47 million votes. This effect was not enough to decide the election but considerably decreased its competitiveness: the winning margin of Collor would be 73.6 percent smaller in the absence of the Globo’s coverage.

We decompose this effect into two components: the part that is generated by the change in valid-votes and the part that is generated by shifts in voters preferences towards Collor, the candidate who was favored by Globo’s biased coverage. Our results show that the decrease in Lula’s vote-share is mostly due to a shift of votes toward Collor.

The non-negligible effect of exposure to Globo’s coverage on Lula’s vote-share shed light in the importance of establishing rules to assure a fair media coverage of elections and ex-post monitoring the published content to quickly enforce the right of a reply in the event of news manipulation. This type of regulation is specially relevant in countries with high media market concentration and low political diversity in media outlets. Our results are also relevant for the current debate of regulation of political content in the internet (e.g., spread of fake-news close to the elections).

This paper is related to three strands of literature. First, it is related to the empirical literature that investigates the effects of mass media on political choices³. Most of this literature comes from developed countries and established democracies⁴. We add to this literature by estimating the effects of the electoral coverage of a large TV media outlet on electoral choices in a recently democratized developing country.

Within this literature, our paper is related to work investigating the effect of availability of TV media outlets on political choices, including DellaVigna and Kaplan (2007), who studies the effect of exposure to Fox News on Republican’s vote-share in USA, Enikolopov et al. (2011), who investigates the effect of exposure to a government-independent media channel on Putin’s party vote-share in Russia, and Pinotti and Tesei (2017) who analyses the effect of exposure to Berlusconi’s commercial TV network in the early 80’s on the vote-shares of his party in the 90’s. We contrast from these papers by studying the effect of exposure to the electoral coverage of a large TV media outlets on

³A (non-exhaustive) list of relevant contributions include: DellaVigna and Kaplan (2007), Gentzkow (2006), Enikolopov et al. (2011), DellaVigna et al. (2014), Adena et al. (2015), Garcia-Arenas (2015), Pinotti and Tesei (2017), Chong et al. (2017).

⁴Some recent papers provide evidence for developing and-or young democracies. Enikolopov et al. (2011) and Garcia-Arenas (2015) provide evidence from Russia and Chong et al. (2017) for Brazil.

the *variation* of vote-shares in a period of 33 days of intense news coverage.

Second, it speaks with the empirical and theoretical literature on media bias⁵. We add to this literature by providing evidence that exposure to a biased coverage of electoral news in a short-period of time persuades voters to change their choices. Finally, it is related to the literature that studies the role of television in the election and popularity of neo-populist presidents in Latin America (Boas (2005), McMillan and Zoido (2004)).

Our most related paper is Boas (2005), who investigates the role of television in the electoral success of Collor in Brazil and Fujimori in Peru. He correlates voting intention from opinion polls prior to the first-round of 1989 election with self-declared measures of intensity of television audience. This methodology is subject to endogeneity problems because electoral choices and media consumption are plausibly simultaneously determined and/or correlated with omitted factor which affect both variables (e.g., availability of free time to follow the television coverage, agreement or disagreement with the media coverage, etc.). Our approach is superior from a methodological perspective since it allows us to estimate the causal effect of Globo's coverage under more reliable assumptions. We confirm his conclusion that media bias was the more reliable predictor of television's impact on Latin American presidential elections by showing that availability of Globo's sign increase the vote-share of Collor in the second-round of the 1989 election.

The remaining of this article is organized as follows. Section 2 provides background information on Brazilian television market and on the functioning of Brazilian democracy in the late 1980s. Section 3 discusses different theories on how media bias affects political choices. Section 4 describe the data. Section 5 describes the identification issues and empirical strategy. Section 6 presents the results. Section 7 concludes.

2 Institutional Background

2.1 The Brazilian television market in 1989

By the end of the 1980 decade, television was the main media in Brazil. At the time of the election, 72 percent of Brazilian households had televisions sets and an estimated 94 percent of the

⁵A (non-exhaustive) list of relevant contributions includes Puglisi (2011) and Groseclose and Milyo (2005) for the evidence; Herman and Chomsky (1988) and Hamilton (2004) for important books on the topic; and Mullainathan and Shleifer (2005) and Gentzkow and Shapiro (2006) for the theory.

population watch television regularly. Not surprisingly, television was the main source of political information in Brazil⁶. Ratings surveys estimate that the nightly hour of free political advertising from mid-September until the first-round 1989 election day had a daily audience of 35 million people. Moreover, television also enjoys a much higher level of credibility than political institutions of the country Porto (1985). In contrast, newspapers were a much less relevant source of political information⁷.

Brazil had four main television stations in 1989: Globo, Bandeirantes, Manchete, and Sistema Brasileiro de Televisão. Globo was by far the largest television network in Brazil and the leader of audience in 1989. Its national audience was consistently above 59 percent during the 1989 campaign and could reach up to 84 percent during prime time de Lima (1990). Jornal Nacional, Globo's prime time newscast, was by far the newscast of highest audience in country.

2.2 The 1989 election

In 1989, Brazil held its first democratic presidential election since 1960, after a long period of military dictatorship. The election was a first-time experience for the majority of voters. The young population voted for president for the first-time in life. Twenty million of illiterate citizens were enfranchised by the 1988 Constitution. Moreover, the election had 22 candidates, most of them outsiders running from recently created parties.

In this context, voters plausibly have limited information about candidates and parties and, consequently, large uncertainty about politicians' abilities and preferences. Most theories predict persuasion effects of the media to be stronger under these conditions. The large persuasion effects estimated by Enikolopov et al. (2011) and Garcia-Arenas (2015) in the first Russian democratic elections after the end of communism are consistent with these predictions. Given the plausibility of the conditions and the similarity with the Russian context, we should expect *a priori* effects of media bias to be large in the 1989 Brazilian presidential election.

The three main candidates were Fernando Collor, a young political outsider, running for PRN, National Reconstruction Party, Luis Inácio Lula da Silva, a programmatic left-wing candidate, running for PT, the Worker's Party, and Leonel Brizola, governor of the state of Rio de Janeiro, one of the biggest and most developed states of the country, running for PDT, the Democratic

⁶86 to 89 percent of the population considered television their most important source of political information Porto (1985) de Lima (1990)

⁷Brazil has one of the lowest rates of newspaper penetration in the planet: 42 newspaper copies per 1000 inhabitants Porto (1985)

Worker's Party.

The first-round poll was held on November 15th and was won by Collor with 28.5 percent of the valid votes. Lula won the second-placed candidate with 17.2 percent against 16.5 percent of Brizola, a difference of around 500 thousand votes. The election was then decided in a run-off between Lula and Collor to be held on December 17th.

In the days following the last debate between the two candidates and the run-off, there was a clear positive trend in Lula's voting intentions. Between December 7th to 17th, according to the Datafolha Institute, Collor's voting intentions went from 50% to 47%, while Lula's went from 41% to 44%, a technical tie.

2.3 The coverage of the 1989 election

Anecdotal evidence supports the claim that Globo worked in favor of the election of Collor. In August of 1989, Roberto Marinho, Globo's owner, was overheard asking Collor which Globo stations were not supporting his candidacy so he could personally address the situation de Lima (1990). Later on, in 1992, he acknowledged that Globo worked in favor of Collor's election:

“Yes, we promoted the election of Collor and I had the best reasons for great enthusiasm and a great hope that he would make an extraordinary government.”

In 2011, José Bonifácio de Oliveira Sobrinho, Globo's chief executive in 1989, admitted in an interview that oriented Collor's staff to change his figurine and to expose yellow folders with fake denunciations against Lula.

Quantitative research indicates that Globo's coverage favored Collor during the first-round of the election⁸

Six debates inviting all the candidates were held during the first-round campaign. Collor did not participate in none of them. Rede Globo did not organize any debate in the first-round campaign but produced a program with individual interviews with the main candidates. Two debates between Collor and Lula were held during the second-round campaign. The first was held on December 3rd at TV Manchete studios, in Rio de Janeiro, and the second on December 14th at the studios of

⁸The proportion news time dedicated to each candidate was the following: in July, Collor, 63 percent; Brizola, 6 percent; Lula, 31 percent, and, in September-October, Collor, 49 percent; Brizola, 31 percent; Lula, 20 percent. de Lima (1990), Rubim (1989) . Many argue that Globo coverage not only favored Collor but also harmed some of his main competitors. Several academics and journalists interviewed in the summer of 1989 concluded that Globo news coverage was clearly slanted against Brizola, Lula and Maluf, as evidenced by taking remarks out of context, editing, and looking for damaging remarks Shidlo (1990).

TV Bandeirantes, in São Paulo. Both debates were transmitted simultaneously by the main four television stations of the country. The joint transmission of the debates generates a key element for our analysis: all the municipalities with television had access to the debates but the municipalities with television but without Globo signal's did not have access to the (potentially) biased Globo's coverage.

On December 15th, when the opinion polls indicated a technical tie and an increasing trend for Lula, Globo aired a montage of the final debate that favored Collor and harmed Lula in the *Jornal Nacional*. The original intention was to replicate the balanced edition of the debate's highlights aired in the *Jornal Hoje* – the afternoon newscast. According to Globo's official page of the event, during that afternoon, Ronald Carvalho, Globo's editor of politics, ordered Octavio Tostes, *Jornal Nacional*'s text editor, to produce an edition with “the best of Collor and the worse of Lula”⁹.

The edition aired by Globo during in the *Jornal Nacional* showed Collor for 1 minute and 12 seconds more: 3:34 versus 2:22 of Lula Conti (1999) Porto (1985). It also highlighted Lula's gaffes, as the misinterpreted statement that Northeastern Brazilians are a sub-race. The montage of the debate had a slightly smaller audience than the previous day's joint transmission of the debate¹⁰. Rede Globo publicly recognizes the edition of debate's highlights aired in the *Jornal Nacional* as a mistake.

To estimate the effect of the *Jornal Nacional* montage of December 15th on Lula's vote-share we need to control for Lula's voting intentions in December 14th. Since we do not observe representative opinion polls at the municipality level for most municipalities, we cannot identify this effect. We can only estimate the effect of the *whole* second-round Globo's coverage on Lula's voting intentions by controlling for Lula's first-round voting-intentions. However, given Lula's pre-debate increasing trend in the opinion polls and the recovery of Collor in the last days of the campaign, we believe the largest part of the effect of the *whole* second-round Globo's coverage is explained by the the effect of the *Jornal Nacional* montage aired on December 15th.

3 Theory

There two main types of theories that are capable to explain persuasive effects of media on voting behavior: *rational learning* and *non-rational persuasion*. In *rational learning* models, voters at-

⁹See See <http://memoriaglobo.globo.com/erros/debate-collor-x-lula.htm>

¹⁰According to Globo's official page of the event, the *Jornal Nacional* had an audience of 61 points against 66 points of the joint transmission of the debate. This scale of audience is linear.

tribute the positive (negative) coverage of the favorite (non-favorite) candidate(s) both to media's ideological bias but also to higher (lower) quality of the favorite (non-favorite) candidate(s). A prediction of this model is that persuasion effects will be temporary: biased outlets will persuade voters until they learn enough about the distribution of the bias.

In *non-rational persuasion* models, voters do not discount media bias strongly enough and, consequently, are subject to non-rational persuasion if exposed to biased media. A prediction of this model is that voters will be permanently affected by the exposure to biased media.

4 Data

Data on electoral outcomes from both rounds of the 1989 election was obtained at the IpeaData website. We also use data from the 1982 mayoral election, also obtained from the IpeaData website.

Data with information on the location, year of installation, and radial reach in kilometers of each broadcasting and retransmitting station was partially provided by Rede Globo and partially obtained from Anatel's website (Agência Nacional de Telecomunicações). This information allows us to construct a variable Globo coverage equal to 1 if municipality i is within the signal radius of a Globo broadcasting or retransmitting station in 1989, and 0 otherwise.

Socioeconomic variables are computed from the samples of the 1980 and 1991 censuses. It is important to mention that between 1980 and 1991 Brazil experience a huge split in municipalities. The number of municipalities went from 3,990 in the 1980 Census to 4,340 in the 1991. Therefore, for those municipalities created between 1980 and 1991, we have information on the availability of TV signal, on electoral outcomes, but, if we simply decide to use the information available from the 1980 Census, data on socioeconomic characteristics would be missing. On the other hand, if we use information from the 1991 Census, this information is potentially endogenous to the treatment. To overcome this issue we re-weight the 1980 Census variables for those municipalities that were split in a way that we are able to recover all the 4,340 1991 municipalities in the 1980 Census.

5 Identification

In our empirical exercise we compare, among the subset of municipalities exposed to at least one television broadcast station, those that were exposed to Rede Globo's signal and those that were exposed to other broadcast companies' signal, namely, *Rede Bandeirantes* and *Sistema Brasileiro de Televisão*. By doing so, we are able to clean the effect of TV itself and we are left only with

the effect of Globo biased coverage during the second round of the presidential campaign. More specifically, by doing so we compare a group of municipalities where voters were able to watch the presidential debate, aired on December 13th 1989, since it was aired by four TV channels with a group of municipalities where voters could watch the debate *and* the edited version of the debate that was aired on the following day at *Jornal Nacional*.

Ideally, we would like to compare the municipalities exposed to Rede Globo's signal also with those exposed to Rede Manchete, since it also broadcast the 1989 presidential debate. Unfortunately we were not able to recover data on Rede Manchete coverage. In this sense, our control group, the group of municipalities where voters were not exposed to the edited version of the debate, is potentially smaller than it was in fact.

In order to plausibly identify the effect of exposure to Rede Globo's coverage compared to the exposure to other companies' coverage we would need the allocation of antennas to be random across municipalities or at least to be non-correlated with a set of relevant characteristics at the municipal level. The first statement obviously does not hold true, the allocation of the antennas followed commercial and possibly political criteria (Chong and Ferrara (2009)). The second statement, however, is somewhat testable. We can compare pre-determined characteristics of municipalities covered by Globo and by other TV outlets using data from the 1980 Census and from the 1982 mayoral election.

Table 1 presents the difference in a set of pre-determined variables between control and treatment municipalities. In columns (7) we simply report the p-value of a regression of each variable on the treatment, or put in a more simply way, the p-value of a t-test for the mean difference between these two groups. As it can be seen all the variables are different among these groups. Treated municipalities, that is those covered by Rede Globo, tend to be, among other things, more urbanized, more populated, tend to present lower support to ARENA in the 1982 elections – the ruling party during the dictatorship – and tend to have higher political participation (higher turnout rates).

In column (8) we report the results of a similar exercise. We regress the treatment in each one of the variables but now we control for state fixed effects and for PT vote-share in the first round¹¹. It is possible to see now that the difference in a series of variables have disappeared, conditional on controlling for these variables. Most importantly, the difference in the political variables is not significant anymore. It is still however true to state that treated municipalities are more urbanized

¹¹For this part on, the terms PT vote-share and Lula's vote-share are going to be used interchangeably.

and populated than the ones in the control group.

Therefore, in order to estimate the effect of exposure to Globo’s coverage in the second round, we estimate the equation (1), controlling for state fixed-effects, to ensure we are comparing municipalities within the same state, controlling for PT vote-share in the first round and for a set of pre-determined socioeconomic characteristics, the vector \mathbf{X} in equation (1).

$$\text{electoral outcome } 2^{nd} \text{ round}_i = \beta_0 + \beta_1 \text{Debate}_i + \delta \text{PT } 1^{st} \text{ round}_i + \gamma \mathbf{X} + \varepsilon_i \quad (1)$$

Our main identification assumption is that the treatment is explained only by (a subset of) these observable characteristics, state fixed-effects and political outcomes that are well proxied for the first round 1989 electoral outcome. Put in different way, our key assumption is that there is nothing that changed between the first and the second round that explains the assignment of the treatment.

One possible threat for our empirical strategy is if changes in political preferences across rounds are correlated with (trends in) non-observables that are, in turn, correlated with the treatment. For example, if local politicians who supported neither Collor nor Lula in the first round in treated municipalities decide to support more Lula in the second round because of some characteristic correlated with Globo presence then our strategy might fail to identify the effect of Globo in the second round.

6 Results

We begin by presenting, in Table 2, our main results, the effect of being exposed to Globo’s coverage on the second round of the presidential elections on Lula’s vote-share. In column (1) we simply regress our variable of interesting in the treatment variable, controlling for state fixed-effects. Even though the point estimate is negative, the coefficient is not significant. In column (2) we gain more precision by controlling for Lula’s vote-share in the first round. The point estimate increases and the coefficient becomes significant. In column (3) we have our preferred specification, where we control for state fixed-effects, PT vote-share in the first round and also for a set of socioeconomic characteristics, some of which have showed to be unbalanced among treated and control groups. We find the effect of being exposed to Globo’s coverage on Lula’s vote-share to be negative and significant. Comparing municipalities that were exposed to Globo’s signal with municipalities that were exposed to municipalities exposed to other TV outlets’ signal we find that in the first group

of municipalities Lula’s vote-share is, on average, 2.2% lower in the second round of the presidential election.

It is important to note that even though we are controlling for the first-round electoral outcome and we are interested in estimating the effect of Globo bias in the second round, it is possible that Globo coverage was already biased in the first round compared to other TV outlets. If this is the case, then our effect can be read as lower bound estimates of the effect of the Globos’s second-round coverage, since our measure of electoral outcome, namely, PT vote-share in the first round, is already contaminated with the effect of Globo in the first round.

Considering the average turnout in the treated municipalities, the estimated effect corresponds to an average of 350 votes per municipalities. This figure might not be seem much representative but when considering the total of 3,054 treated municipalities, the total of votes that amount to be lost by PT due to this bias overcomes one million. Considering that the difference of votes between Fernando Collor and Luís Inácio was around 4 million, the effect is not negligible, specially considering we might be estimating a lower-bound, spill-over effects from one voter to another, etc.

In Table 3 we present the results of our preferred specification for other electoral outcomes. We find a positive and highly significant effect of the presence of Globo on Color’s (PRN) vote-share. It is important to note that the point estimate, in absolute values, is higher than the one estimated on Lula’s vote-share. Columns (2) and (3), where we report the effects on the share of blank and null votes, suggests that this surplus is coming exactly from the share of blank and null votes. Put differently, our results suggests that not only the biased coverage of Globo was able to change voters from Lula to Collor but was able to change the mind of voters that had voted null or blank in the first round to vote for Collor.

6.1 Heterogeneous effects

After presenting our main set of results, we proceed to presenting some heterogeneous effects exercises. The first exercise one should be expected to do in such kind of analysis is to test the effect at the intensive margin. If it is true that the effect we are estimating comes from the presence of a specific TV outlet, then the effect should be stronger in municipalities with higher share of households with television sets. We test this hypothesis by estimating Equation (1) for each of our variable of interesting but now interacting our treatment variable with the share of households with television sets in the municipality. The effects are reported in Table 4. We can see, as it was showed in Table 1, that the presence of more households with TV is associated with higher/lower

PRN/PT vote-share. The signal associated with the interactions, however, goes in the opposite direction. According to this specification, the effect is lower in municipalities with higher share of households with TVs.

This result, however, can be due to omitted variable bias. As we showed in Table 1, there are some unbalancing between treated and non-treated municipalities in some important dimensions. To overcome this issue we estimate Equation (1) for each of our variable of interesting interacting our treatment variable with the share of households with TVs and with possible confounding variables. More specifically, we also interact the treatment variable with average income and share of population living in rural areas. The results are reported in Table 5. Even though the coefficients are not significant, they point estimates have now the expected signal. The lack of significance can be attributed to low power since we have very few control municipalities and we are in this specification interacting the treatment with a series of observables.

In Tables 6 and 7 we test for heterogeneous effects by political preferences. We use as proxies for political preferences the outcomes of the 1982 mayoral election, the last election held during the military dictatorship. It is important to note that during this period not all municipalities vote for mayor.¹² Therefore, in our estimates we are restricted to a subsample of the municipalities that vote for mayor.

In Table 6 we report the results interacting with the turnout in the 1982 mayoral election. The results are not much informative. One of the possible reasons is that voting is mandatory in Brazil and turnout rates do not exhibit much variation.

In Table 7 we present the results interacting with ARENA vote-share in the 1982 mayoral election. ARENA was the right wing party that ruled Brazil during the dictatorship therefore its vote-share will proxy political preferences for right-wing policies. The results, reported in Table 7 show that PT vote-share in the second round is lower in municipalities that presented higher ARENA vote-share in 1982, a result that could already be expected give that the Workers Party was created as an opposition to ARENA. The results of our estimates, however, do not show that the response to biased coverage differs among municipalities according to their previous political preferences. Finally, in the previous tables we showed that the increase on Collor's vote-share could be explained both by a decrease on Lula's vote-share and by a decrease on the share of people that voted blank and null. In column (8) of Table 7 it is possible to see that the response to biased

¹²State capitals, municipalities located in areas considered national security areas and a few other municipalities had their mayors appointed.

coverage is slightly (but significant) higher in municipalities that presented higher rates of ARENA vote-share.

7 Conclusion

In this paper we investigated if biased media coverage of electoral campaigns can affect electoral choices by looking at a particular episode, namely, the coverage of the second-round of the 1989 Brazilian presidential election by Rede Globo, the main television broadcaster in Brazil.

Our main results is that the availability of Globo's coverage had a statistically significant effect on the second-round outcomes. On one hand, the availability of Globo's signal decreased the vote-share of Lula, candidate of the Worker's Party, by 2.23 percent points, which is equivalent to 1.47 million votes. On the other hand, it increased the other candidate – Collor – vote-share by 2.8 percent points. It also had an effect in decreasing the share of blank and null votes. If this effects was not large enough to decide the election, it was considerably to decrease its competitiveness: the wining margin of Collor would be 73.6 percent smaller in the absence of the Globo's coverage.

We believe the non-negligible effect of exposure to this biased coverage shed a light in the importance of establishing rules to assure a fair media coverage of elections and ex-post monitoring the published content to quickly enforce the right of a reply in the event of news manipulation. This type of regulation is specially relevant in countries with high media market concentration and low political diversity in media outlets.

Tables

Table 1: Difference in pre-determined variables between treatment and control municipalities

Variable	Treatment Municipalities			Control Municipalities			p-value	
	(1) Obs	(2) Mean	(3) Std. Dev.	(4) Obs	(5) Mean	(6) Std. Dev.	(7)	(8)
Average income	2,960	0.78	0.49	125	0.36	0.29	0.00	0.00
log(area)	2,960	617.18	126.33	125	670.91	145.05	0.00	0.15
Share of households with piped water	2,960	32.90	24.42	125	18.43	19.51	0.00	0.05
Share of households with electricity	2,960	49.05	27.49	125	26.88	20.47	0.00	0.05
Share of households with heating gas	2,960	33.87	26.69	125	21.04	20.14	0.00	0.34
Share of households with radio	2,960	73.20	14.06	125	61.97	14.78	0.00	0.01
Share of households with fridge	2,960	31.35	23.09	125	15.47	13.54	0.00	0.13
Share of women in the population	2,960	50.84	1.40	125	50.92	2.05	0.54	0.08
Share of literate	2,960	64.83	18.34	125	52.87	16.31	0.00	0.52
Share of population living in rural areas	2,960	55.44	22.96	125	67.27	20.20	0.00	0.05
Share of workforce in agriculture	2,960	20.98	9.09	125	23.87	7.61	0.00	0.97
Share of workforce in manufacturing	2,960	6.02	5.63	125	4.17	4.03	0.00	0.815
Log(population)	2,960	9.30	1.01	125	9.11	0.95	0.03	0.00
Share of households with TV sets	2,960	34.74	25.04	125	15.81	17.06	0.00	0.12
ARENA Vote-Share 1982	2,732	54.83	20.73	115	62.71	22.15	0.00	0.73
Turnout 1982	2,734	82.22	9.23	115	77.20	9.10	0.00	0.71

Columns (7) present the p-value of a regression of each variable on the treatment (t-test for the mean difference). In column (8) we repeat report the result for the same regression but now controlling for state fixed-effects and for PT vote-share in the first round.

Table 2: Debate Effect: 1989 Presidential Elections, 2nd round
 Dependent variable: PT vote share

	(1)	(2)	(3)
Debate	-1.240 [1.200]	-1.728 [1.008]*	-2.237 [0.983]**
PT vote share in the 1 st round		0.856 [0.021]***	0.762 [0.021]***
Average income			1.504 [0.634]**
log(area)			-0.016 [0.002]***
Log(population)			2.247 [0.272]***
Share of households with electricity			-0.014 [0.023]
Share of households with radio			0.073 [0.025]***
Share of literate			-0.022 [0.022]
Share of population living in rural areas			-0.006 [0.016]
Share of households with piped water			0.011 [0.013]
Share of households with heating gas			-0.060 [0.019]***
Share of households with fridge			0.216 [0.029]***
Share of women in the population			0.180 [0.168]
Share of workforce in agriculture			-0.144 [0.032]***
Share of workforce in manufacturing			-0.067 [0.044]
Share of households with TV sets			-0.145 [0.032]***
Observations	3085	3085	3085
R-squared	0.48	0.66	0.70

All specifications include state fixed-effects. Standard errors clustered at the municipality level in parentheses:

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Debate Effect: 1989 Presidential Elections, 2nd round

	(1)	(2)	(3)
	% PRN	% Blank votes	% Null votes
Debate	2.799	-0.167	-0.396
	[1.056]***	[0.082]**	[0.136]***
PT vote share in the 1 st round	-0.764	-0.002	0.004
	[0.023]***	[0.002]	[0.003]
Average income	-1.550	-0.075	0.121
	[0.652]**	[0.039]*	[0.078]
log(area)	0.019	-0.001	-0.002
	[0.002]***	[0.000]***	[0.000]***
Log(population)	-2.586	0.003	0.336
	[0.285]***	[0.020]	[0.039]***
Share of households with electricity	0.025	-0.002	-0.009
	[0.024]	[0.002]	[0.004]***
Share of households with radio	-0.102	0.003	0.026
	[0.026]***	[0.002]	[0.004]***
Share of literate	0.050	-0.022	-0.006
	[0.023]**	[0.002]***	[0.004]*
Share of population living in rural areas	0.001	0.002	0.003
	[0.017]	[0.001]	[0.002]
Share of households with piped water	-0.010	-0.001	0.000
	[0.013]	[0.001]	[0.002]
Share of households with heating gas	0.067	-0.001	-0.006
	[0.019]***	[0.001]	[0.002]**
Share of households with fridge	-0.208	0.001	-0.008
	[0.030]***	[0.002]	[0.004]**
Share of women in the population	-0.089	-0.062	-0.030
	[0.176]	[0.015]***	[0.028]
Share of workforce in agriculture	0.162	0.001	-0.020
	[0.033]***	[0.003]	[0.005]***
Share of workforce in manufacturing	0.042	0.009	0.015
	[0.045]	[0.003]***	[0.006]**
Share of households with TV sets	0.125	-0.003	0.023
	[0.033]***	[0.002]	[0.004]***
Observations	3085	3085	3085
R-squared	0.69	0.44	0.31

All specifications include state fixed-effects. Standard errors clustered at the municipality level in parentheses:

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Heterogeneous Effect by share of households with TV sets

	(1)	(2)	(3)	(4)
	% PT	% PRN	% Blank votes	% Null votes
Debate	-0.881	1.180	-0.091	-0.207
	[1.113]	[1.147]	[0.093]	[0.149]
Debate * Share of households with TV sets	0.082	-0.098	0.005	0.011
	[0.043]*	[0.045]**	[0.004]	[0.007]*
Share of households with TV sets	-0.225	0.221	-0.007	0.011
	[0.051]***	[0.053]***	[0.005]	[0.008]
Observations	3085	3085	3085	3085
R-squared	0.70	0.69	0.44	0.31

All specifications include state fixed-effects. Standard errors clustered at the municipality level in parentheses:

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Heterogeneous Effect by share of households with TV sets (controlling for confounding interactions)

	(1)	(2)	(3)	(4)
	% PT	% PRN	% Blank votes	% Null votes
Debate	-0.638	1.005	0.012	-0.379
	[1.181]	[1.223]	[0.078]	[0.150]**
Debate * Share of households with TV sets	-0.062	0.068	0.005	-0.011
	[0.082]	[0.087]	[0.005]	[0.008]
Share of households with TV sets	-0.085	0.059	-0.007	0.034
	[0.086]	[0.092]	[0.005]	[0.009]***
Observations	3085	3085	3085	3085
R-squared	0.70	0.69	0.44	0.31

All specifications include state fixed-effects. Standard errors clustered at the municipality level in parentheses:

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Heterogeneous Effect by Turnout in 1982 Mayoral Election

	% PT		% PRN		% Blank votes		% Null votes	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Debate	-1.831	-1.982	2.360	2.473	-0.152	-0.064	-0.377	-0.426
	[1.021]*	[1.110]*	[1.096]**	[1.185]**	[0.087]*	[0.087]	[0.145]***	[0.160]***
Debate * Turnout 1982		-0.030		0.022		0.018		-0.010
		[0.086]		[0.092]		[0.007]**		[0.013]
Turnout 1982		0.093		-0.085		-0.019		0.010
		[0.085]		[0.091]		[0.007]***		[0.013]
Observations	2847	2847	2847	2847	2847	2847	2847	2847
R-squared	0.69	0.69	0.68	0.69	0.43	0.43	0.29	0.29

All specifications include state fixed-effects. Standard errors clustered at the municipality level in parentheses:

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Heterogeneous Effect by ARENA Vote-Share in 1982 Mayoral Election

	% PT		% PRN		% Blank votes		% Null votes	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Debate	-1.831	-1.792	2.360	2.206	-0.152	-0.126	-0.377	-0.288
	[1.021]*	[1.096]	[1.096]**	[1.167]*	[0.087]*	[0.085]	[0.145]***	[0.140]**
Debate * ARENA Vote-Share 1982		0.008		0.007		-0.004		-0.012
		[0.043]		[0.047]		[0.004]		[0.007]*
ARENA Vote-Share 1982		-0.071		0.069		0.000		0.001
		[0.042]*		[0.047]		[0.004]		[0.007]
Observations	2847	2847	2847	2847	2847	2847	2847	2847
R-squared	0.69	0.70	0.68	0.69	0.43	0.43	0.29	0.30

All specifications include state fixed-effects. Standard errors clustered at the municipality level in parentheses:

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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