

# Media Barons on the Ballot: Politically-Controlled Broadcasting in Brazil\*

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## Abstract

Does the rise of commercial mass media threaten or enhance the power of traditional political bosses in developing democracies? While access to outside information might increase political competition or prompt voters to reject corrupt politicians, bosses who can dominate local broadcasters may see an electoral benefit. I test this hypothesis by exploiting geographical variation in the coverage of radio and television stations with ties to Brazilian candidates for state and federal deputy. Using a spatial difference-in-differences estimator combined with matching, I compare the electoral boost that media-controlling candidates receive within range of their stations to any boost or deficit for similar candidates without media control. Ties to broadcast media bring substantial benefits—around 13 percentage points of the vote—within municipalities where signals can be received. The effect is driven almost entirely by FM radio stations, which are easier than television for individual politicians to dominate.

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# 1 Introduction

In developing countries such as Brazil, traditional boss politics thrived in an environment of limited information about the outside world. In exchange for preferential access to state services for their community, landlords would ensure that peasants who lived on their property voted for powerful incumbents running for reelection (Leal, 1977). Thanks to peasants' rural isolation, the system continued even after the introduction of the secret ballot in 1932. With few alternative sources of political information, they were unlikely to have independent preferences or exposure to an electoral campaign and would readily vote for whomever they were instructed.

How does the rise of commercial mass media affect the electoral fortunes of political bosses in a developing democracy? One body of research suggests that contemporary officeholders (or their parties) in countries such as Brazil, India, and Ghana are actually *disadvantaged* in their bids for reelection (Brambor and Ceneviva, 2011; Linden, 2004; Miguel and Zaidi, 2003; Moreira, 2012; Titiunik, 2009; Uppal, 2009). Though numerous mechanisms could explain this finding, a strong contender is that voters punish incumbent politicians when they learn about corruption in office—and that instances of corruption and exposure of official wrongdoing are both common enough to outweigh any of the more general advantages that derive from being in power. Mass media play a key role in this relationship. Ferraz and Finan (2008), for instance, found that the effect of municipal corruption audits on the electoral fortunes of incumbent mayors in Brazil is greater where there are local radio stations that could spread the news.

A second possibility is that many traditional political bosses are able to maintain their positions of influence—and any advantage they might have when running for office—by gaining control over local mass media and directly shaping voters' information environment. "Political boss," after all, is a more restricted category than "incumbent," implying not only influence within local government but also an ability to maneuver within political networks and exchange benefits for favors. A boss who can ensure support for his own candidacy by manipulating constituents' access to local government services is also well positioned to extract benefits from higher levels of government—including broadcasting concessions—by delivering votes for the officials who can

grant them. Even if incumbents are generally disadvantaged, those who can gain control over the airwaves may experience a boost in their electoral fortunes, as Boas and Hidalgo (2011) found for the case of municipal politicians and community radio in Brazil.

In this paper, I exploit geographical variation in the reception of radio and television broadcasts to estimate the causal effect of media control on electoral performance in Brazil. Based on data on the shareholders and directors of all commercial broadcasters in Brazil, I identify those candidates for state and federal deputy that had media concessions prior to the 2010 election. I then use the geographical location and broadcast range of each station's transmitters to determine which municipalities in each state are within the range of politically-controlled broadcasts and which lie beyond it. Using a spatial difference-in-differences estimator combined with matching, I compare the electoral boost that media-controlling candidates receive within range of their stations to any boost or deficit for similar candidates without media control. The analysis shows that media control brings huge electoral benefits: an additional 12.8 percent of the vote in those municipalities where signals can be received. The effect derives almost entirely from control of FM radio stations rather than television. Radio stations are subject to less oversight, and they have many fewer directors or owners, so politicians who control them can more readily manipulate their coverage.

## **2 Background and Theory**

As commercial broadcasting expanded in Brazil, under both military and democratic rule, traditional political bosses moved to establish dominant positions within local and regional media markets. Prior to 1988, broadcasting concessions were the exclusive privilege of the executive branch, which often used them as a valuable currency for buying the support of local power brokers. In the waning days of the 1964–1985 military regime, President João Figueiredo awarded a number of licenses to political allies, even altering the planned allocation of broadcast frequencies so that space on the radio spectrum would be available where it was politically expedient (Lima, 1987). During the first three years of the new democracy, President José Sarney and Communi-

cations Minister Antônio Carlos Magalhães—both powerful political bosses with media holdings themselves—authorized broadcasting concessions for 91 representatives to Brazil’s Constituent Assembly. Evidence suggests substantial back-room dealmaking: many concessions were granted during the most intense months of deliberation on the new constitution, and legislators who received licenses voted overwhelmingly in favor of several key amendments supported by Sarney (Motter, 1994).

As a result of this history, politicians are well established among the ranks of media moguls in Brazil. In 2008, 270 Brazilian politicians were identified as partners or directors of commercial broadcast media (Stevanim and dos Santos, 2011). Among them are Fernando Collor, a senator and former president, and Roseana Sarney, a governor, former senator, and daughter of former president Jos Sarney. The Collor and Sarney family conglomerates dominate broadcasting in their home states of Alagoas and Maranhão, respectively, controlling radio stations and the local affiliates of Brazil’s major television network, TV Globo. In recognition of the media presence of these and other major politicians, “electronic boss politics,” or *coronelismo eletrônico*, has become a popular concept among Brazilian communication scholars and journalists (Bayma, 2001; Capparelli and Santos, 2002; Costa and Brener, 1997; Góes, 2012; Lima and Lopes, 2007; Motter, 1994; Pieranti, 2008; Santos and Capparelli, 2005; Santos, 2006; Stadnik, 1991; Stevanim and dos Santos, 2011; Vasconcelos, 2010).

Existing research and data sources on *coronelismo eletrônico* in Brazil are more oriented toward demonstrating politicians’ control of the media than the electoral benefits they might extract from it. Scholars have focused on successful incumbent (or retired) politicians with ties to broadcast media; we know little about any challengers with media ties that might have lost elections or performed poorly. Using existing datasets to analyze the effect of media control on electoral results would invariably mean selecting on the dependent variable. Studies of the phenomenon have generally eschewed causal claims about electoral effects—noting, for example, that most politicians with media ties took office before gaining their concessions (Stevanim and dos Santos, 2011).

Yet the hypothesis that media control confers electoral benefits is certainly plausible, in part

because politicians routinely use their broadcasting concessions to manipulate political coverage in their favor. In 2001, TV Globo's main journalism office had to intervene in the newsrooms of regional affiliates in Alagoas, Sergipe, and Ceará—controlled, respectively, by ex-president Fernando Collor, governor Albano Franco, and federal deputy Edson Queiroz—because they were blatantly promoting the career of their political sponsor or attacking his major adversary (Bruno, 2001). In 2009, Brazilian police recorded a conversation between José Sarney and his son in which they discussed using their television network to attack one of Roseana Sarney's political opponents (Souza and Seligman, 2009). Brazilian politicians themselves are often quite open about the electoral benefits of media control. In an interview with Mainwaring (1999, 150) in the 1980s, then-Senator Fernando Henrique Cardoso remarked that “a TV channel is worth more than a party” in furthering a political career. Or as Antônio Carlos Magalhães—arguably Brazil's most famous political and media boss—put it in 1975: “He who has television, radio, and newspapers will always be in power.”

Judging from the limited existing research on the effects of politically-controlled broadcasting in Brazil, the potential electoral benefits of commercial radio and television concessions are vast. In a study focused on lower-power community radio stations and candidates for city council, Boas and Hidalgo (2011) found that the existence of a station with ties to a candidate increased his or her vote share by 17% and probability of winning by 28%. This finding is all the more striking when one considers the inherent limitations of these broadcasters, which are restricted to a single transmitter and a signal radius of one kilometer. By contrast, commercial FM radio stations have guaranteed non-interference ranges of up to 78 kilometers from each transmitter, and they routinely broadcast from multiple locations. The regulations governing broadcast television are similar. By controlling one or more commercial broadcasters, politicians have the ability to alter the information environment for thousands or even millions of voters within their states.

Geographical variation in the reach of politically controlled broadcasting offers a strategy for quantifying its effects on electoral performance. Few politicians have sufficiently extensive media holdings to affect the information environment of *all* of their constituents. Brazil covers a vast

territory, and most of its 5568 municipalities (the equivalent of U.S. counties) are rural rather than urban. Even in geographically small states, there are gaps in the coverage of major radio and television stations. As a result, one can almost always identify certain municipalities that are beyond the reach of a political boss's media control, and exploit this variation to examine its electoral effects. This spatial approach is similar to that of Kern (2011), who uses geographical variation in the reception of West German television signals within East Germany to test the hypothesis that access to foreign media facilitates protest diffusion. However, since the outcome examined here—electoral performance—varies across politicians as well as localities, I am able to employ a research design that allows for stronger causal inference.

### **3 Research Design**

To estimate the effect of media control on electoral performance in Brazil, I use a spatial difference-in-differences estimator combined with matching to ensure equivalence between treatment and control groups. Difference-in-differences is a technique for dealing with unobserved fixed effects that might otherwise serve as confounders (Angrist and Pischke, 2008, 227–233). The traditional difference-in-difference analysis exploits temporal variation in treatment status: the outcome of interest for a treatment and control group is observed both before and after the treatment is received. In the present analysis, this approach would be viable if broadcasting concession were granted to some politicians, but not others, in between two elections for which we have outcome data. Comparing the electoral performance of the treatment and control groups only after the treatment has been applied risks bias because they might differ from one another in unobservable ways. Likewise, a simple pre-post comparison of the treatment group is problematic because the two elections might differ in unobservable ways that could affect vote share. Difference-in-differences offers a solution, provided that group fixed effects are time-invariant (e.g., any inherent electoral advantages of the treatment group were the same in both elections) and time fixed effects are group invariant (e.g., if some event lowered vote share for the treatment group at time 0, it had the same

effect on the control group).

A spatial approach to difference-in-difference analysis, while less common, has a parallel interpretation. Electoral results for politicians in the “media control” treatment group can be observed both in municipalities that are beyond the broadcast range of their stations (the analog to the pre-treatment election) and in those that are within that range (akin to the post-treatment election). Results for politicians in the control group can be observed in the same sets of municipalities. Spatial fixed effects are likely to influence a media mogul’s electoral performance in each location. In particular, municipalities outside the broadcast range of a given politician’s media holdings should tend to be more isolated and less developed, which should have independent effects on vote share. For the difference-in-differences design to provide an unbiased causal estimate, these spatial fixed effects must be group invariant—that is, they must affect politicians with media control and those without in the same way. Likewise, politicians with media control may differ, on average, from those without—they may be better campaigners, more physically attractive, and so on. The difference-in-differences design requires that these features of each group have the same effect on electoral performance within the range of politically controlled broadcast signals and outside of it.

To state the approach somewhat more formally, the estimand of interest is:

$$\mathbb{E}[(\text{Vote share of media-controlling candidate } i \text{ where } i\text{'s signals } \textit{can} \text{ be received} - \text{Vote share of media-controlling candidate } i \text{ where } i\text{'s signals } \textit{cannot} \text{ be received}) - (\text{Vote share of non-controlling candidate(s) where } i\text{'s signals } \textit{can} \text{ be received} - \text{Vote share of non-controlling candidate(s) where } i\text{'s signals } \textit{cannot} \text{ be received})]$$

In principle, one could compare the spatial difference in candidate  $i$ ’s vote share to that of every non-media controlling candidate in the state. However, the necessary assumptions about the invariance of fixed effects are more plausible when each media-controlling candidate is paired with one or a few candidates who are most similar on observed covariates.

To identify plausible counterfactuals for each candidate in the treatment group, I use matching. As discussed in greater detail below, I first employ coarsened exact matching (Iacus, King and Porro, 2012) to prune the treatment and control groups to those candidates who are identical in

terms of state, office, incumbency status, and party or coalition, and are within the same strata of campaign spending and prior electoral performance. I then use genetic matching (Sekhon, 2011) to further trim the control group so that it is, on average, similar to the treatment group in terms of other covariates like candidate age, gender, and occupation as a businessman. As a result, I can compare each politician with media control to a similar politician with no broadcasting concessions. Unobserved differences between groups should be smaller for such politicians, so the assumption that group fixed effects do not differ across municipalities is not as severe. Likewise, spatial fixed effects are more likely to be group-invariant when these groups are similar to one another.

### **3.1 Data**

Given unsuitability of existing data sources for examining the effects of media control on electoral performance, I constructed an original dataset based on information from Brazil's Ministry of Communications, the national communication regulatory agency (Anatel), and the Superior Electoral Court (TSE). I began with a list of all directors and partners of commercial radio and television stations in Brazil, which was published on the Ministry of Communications website on May 30, 2011.<sup>1</sup> Given the likelihood of a lag time in updating records, I assume this list is a fairly accurate reflection of who was in control of these stations during the campaign for the October 3, 2010 elections. Prior to the publication of this list, similar data were only available as of 2003.

Using the TSE's data on candidates in the 2010 election, I then matched the names of these directors and partners to a list of politicians running for state or federal deputy in the same state as the station. Out of 17,489 candidates for state or federal deputy in 2010, there were 197 who matched one of the 18,205 unique names in the broadcasting database. These include 144 exact matches, as well as 53 non-exact matches that differed because of spelling errors, prepositions such

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<sup>1</sup>The list, which has since been updated, is available at [http://www.mc.gov.br/images/dados-sobre-outorgas/Relao\\_de\\_Scios\\_e\\_Diretores\\_por\\_Entidade.pdf](http://www.mc.gov.br/images/dados-sobre-outorgas/Relao_de_Scios_e_Diretores_por_Entidade.pdf). The version used in this paper is currently archived at [http://media.folha.uol.com.br/poder/2011/05/28/relacao\\_de\\_socios\\_diretores\\_entidades.pdf](http://media.folha.uol.com.br/poder/2011/05/28/relacao_de_socios_diretores_entidades.pdf).

as “de,” suffixes such as “Junior,” and the omission of a second middle name or surname (e.g., Francisco de Assis Carvalho versus Francisco de Assis Carvalho Gonçalves). The decision rule for suffixes means that, in some cases, I probably matched fathers and sons rather than the same individual. However, given that media empires are routinely used to perpetuate political dynasties, these “mistakes” are not necessarily problematic. While existing databases of politicians with media control have gone further in their search for ties, investigating concessions given to spouses, family members with different names, and business associates, I refrained from doing additional research of this sort. Data on the losers of elections is harder to come by than data on winners, so going beyond name matching would likely draw more successful candidates into the dataset than unsuccessful ones—in effect, selecting on the dependent variable.

To identify each politically controlled station’s broadcast range, I merged in data from Anatel on the type of station (FM radio, AM radio, or television) and the class, frequency, channel, power, latitude, and longitude of each of the station’s transmitters. For FM and television signals (UHF and VHF), which travel via line-of-sight, the Brazilian regulatory authority assigns a guaranteed non-interference range (*contorno protegido*, or service contour in the terminology of the U.S. Federal Communications Commission) based on the station’s class.<sup>2</sup> For each transmitter and candidate, I then calculated the great circle distance to the downtown area of each municipality in the state.<sup>3</sup> I aggregated these data, by candidate, into a list of municipalities that are safely beyond the broadcast range of all of the candidate’s transmitters in that state and another list of those that are within the range of at least one transmitter.<sup>4</sup>

I define the treatment group as all candidates with ties to an FM radio and/or television station. AM radio signals are less geographically bounded than FM signals, and they travel further at night, so it is more difficult to determine which municipalities are or are not exposed. I thus exclude from

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<sup>2</sup>These data were obtained from <http://www.teleco.com.br/radio.asp> and <http://www.teleco.com.br/tv.asp>. In some cases, class was missing from the database but I was able to determine it based on transmitter power and, for television, channel number. Whenever there was uncertainty, I assigned the maximum possible broadcast range based on the information available.

<sup>3</sup>Latitude and longitude of municipalities were obtained from Google Maps; thanks to Cesar Zucco for providing these data.

<sup>4</sup>I define “safely beyond the broadcast range” as 1.5 times the maximum distance to the service contour, since signals may travel beyond it, subject to interference.

both the treatment and control groups any candidate who only has ties to an AM station. I also exclude five candidates for whom the outcome is undefined because none of their transmitters reach the downtown area of any municipality. The final, pre-matching treatment group contains 117 candidates.

Candidates with media control may have acquired it at any point in the past. Unfortunately, lists of shareholders and directors of Brazilian commercial media are released only infrequently, and each is a snapshot, so it is difficult to know when present-day media moguls acquired their concessions. Of the 197 candidates with media ties, 42 did not appear in a similar list published in November 2003, so their media control was acquired fairly recently. At the other extreme, a handful of candidates appear in a list of media owners published in December 1980 (*Jornal do Brasil*, 1980).

Given this heterogeneity in the treatment group, it is difficult to interpret the effect of media control on electoral outcomes as either temporally proximate or temporally distant. Media moguls may fare better in the 2010 election because they manipulated coverage during the campaign, but they might also be reaping the accumulated benefits of decades of positive coverage. To get at the question of more proximate causal effects, several of the specifications below condition on prior electoral performance within range of the candidate's stations.

### **3.2 Matching**

As a first step for pairing candidates with media control to similar candidates without, I used exact matching on indicator variables and coarsened exact matching on continuous variables (Iacus, King and Porro, 2012). In contrast to other approaches such as genetic matching, which only achieve balance between treatment and control groups as a whole, exact matching ensures that each treatment observation is matched to one or more very similar control observations. This step is necessary because the value of the outcome variable for each candidate in the control group depends on the treated candidate to which they are matched—specifically, which municipalities are within versus beyond the range of that candidate's politically controlled broadcasts. I match exactly

on state, office (federal versus state deputy), incumbency status, and municipal-level electoral coalition—or, for candidates of the three most common parties within the treatment group (PMDB, DEM, and PSDB), the party itself. I also match on strata of reported campaign spending in the 2010 election and, for those having run previously for the same office, statewide vote for that candidate in the 2006 election. Given the skew of both variables for candidates in the treatment group, I use progressively smaller strata: bottom 40%, next 30%, next 20%, top 10%. Forty observations are dropped from the treatment group because exact matches could not be found on all these covariates; there are 580 exact matches for the 77 that remain.

Balance between treatment and control groups on key covariates is much improved after (coarsened) exact matching, as summarized in Figure 1. On office sought, incumbency status, and most of the major states and party affiliations in the dataset, candidates with media control look very different from those without. After exact matching, of course, the treatment and control groups are identical on these variables. Coarsened exact matching on spending and prior vote share also improves balance on the underlying continuous variables (I check balance on the log of prior vote share and on a normalized version of campaign spending: the log of spending as a percent of total spending per seat for that office in that state). However, some differences remain for spending, as indicated by the KS test. Finally, I check balance on several additional covariates that were not used in matching: gender, year of birth, and indicators for low education (high school or less) and a business occupation. Balance improves on these covariates as well, though in most cases, treatment and control groups continue to differ substantially after exact matching.

Given the large number of control observations retained after coarsened exact matching, there is an opportunity to further improve balance by conducting additional matching within strata (Iacus, King and Porro, 2012, 14). I thus use genetic matching (Sekhon, 2011) to choose the subset of the 580 exactly-matched control observations that maximize balance on gender, year of birth, low education, business occupation, and normalized campaign spending. After genetic matching, balance improves, so that no p-value from a KS or t-test for these covariates is below 0.1. This step reduces the control group to the same size as the treatment group. At the end of the matching

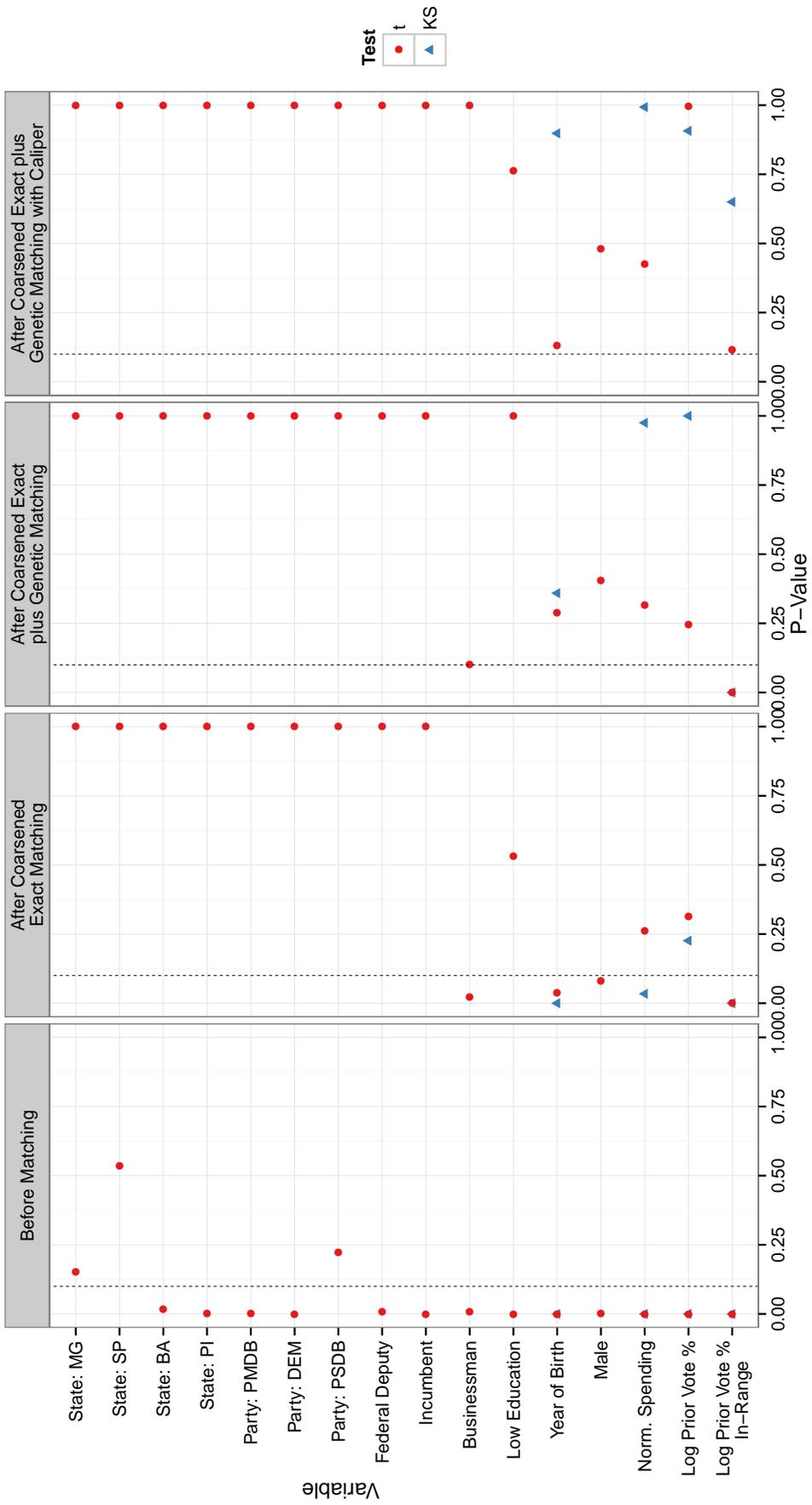


Figure 1: Balance Statistics

process, therefore, each treated candidate is paired with a single control candidate of the same state, office, party or coalition, incumbency status, and strata of campaign spending and prior votes. On average, these groups are also similar in terms of other key covariates.

One key covariate remains highly unbalanced even after additional genetic matching: prior vote share in municipalities where the treated candidates' politically-controlled broadcasts could be received. As discussed above, most candidates with media control acquired their concessions before 2006, so one would not expect a zero treatment effect on prior electoral results within range of their stations, even if treatment and control groups are balanced with respect to statewide vote share in 2006. Yet imbalance on this covariate could also reflect the presence of unobserved confounders. A local politician with media control is also likely to enjoy other advantages within his stronghold: he may have the most effective political machine, his family name may be attached to streets and monuments throughout the city, and so on. Differences in prior electoral performance could be due to any number of these additional perks.

To zero in on the more temporally proximate effects of media control and reduce the influence of unobserved confounders, I employ an alternate matching strategy, using genetic matching with a caliper to drop treatment observations with extremely strong performance within range of their stations in 2006. This step eliminates 29 treated observations from the data set and leaves 48. After matching with a caliper, prior in-range vote share is well balanced, as are all other covariates (Figure 1). For analysis using this more restricted sample, treatment effects are more likely attributable to something that changed in between the two elections, such as acquiring a concession in the first place or using it more effectively for political gain. Unobserved correlates of media control, such as the strength of one's local political machine, seem less likely to change significantly over the course of a single electoral cycle.

## 4 Results

The results of the difference-in-differences analysis suggests that there are massive electoral returns to media control. The top line of Table 1 summarizes these results. Given Brazil’s open-list proportional representation system with numerous candidates for legislative office, vote share tend to be low: the average statewide vote share for all federal and state deputy candidates in 2010 was 0.3%. For the three outcomes in which the treatment was absent—voting for media-controlling candidates beyond the range of their broadcasts, and voting for similar non-controlling candidates in either location—vote shares are fairly close to this figure (albeit somewhat higher, presumably because the treatment group and matched control group should contain better-than-average politicians). Within the range of their stations’ broadcasts, however, candidates with media control receive a massive 13.0% of the valid vote. The difference-in-differences estimate of the effect of media control is 12.8 percentage points, which is highly statistically significant.

**Table 1:** The Effect of Broadcast Media Control on Vote Share

Similar In-Range Prior Vote Share?	Control, In-Range	Control, Beyond	No Control, In-Range	No Control, Beyond	DiD	SE	<i>N</i>
<b>No</b>							
All	13.0	0.8	0.6	1.2	12.8	1.9	162
1st Time	7.7	0.4	0.2	0.5	7.6	2.3	86
FM only	16.2	0.7	0.6	0.9	15.7	2.4	122
TV only	0.5	0.8	0.4	1.2	0.5	0.5	18
<b>Yes</b>							
All	4.3	0.7	0.7	1.2	4.0	1.2	96
Rerunners	3.7	1.6	2.6	3.5	2.9	2.4	22

NOTE: Entries (except for *N*) are percentages of valid vote.

When focusing on the more temporally proximate effects of media control by conditioning on prior vote share within range of treated candidates’ stations, estimates are smaller but still highly significant. As shown in the top line of the bottom panel, the difference-in-differences estimate is 4 percentage points, which is still highly significant.

The sample that is balanced with respect to prior within-range vote share contains a relatively

large number of candidates who first ran for office in 2010 (and thus have missing prior vote shares) alongside a smaller number that did run in the previous election.<sup>5</sup> Each group presents a different concern with respect to potential unobserved confounders, so it makes sense to examine them separately. First-time candidates are less likely to have developed a strong local political machine. However, since they did not run for the same office in 2006, we cannot know how they *might* have done thanks to unobserved advantages like family name recognition. Correspondingly, the second line of each panel in Table 1 examines these groups separately. For the 96 first-time candidates in 2010, the difference-in-differences estimate of the effect of media control is a highly significant 7.6 percentage points. For 22 returners, the estimated effect is 2.9 percentage points. The latter falls short of statistical significance, however, which is not surprising given the extremely small sample size.

How do different forms of media control vary in terms of their effect on electoral results? The full-sample treatment group contains candidates with ties to television stations, FM radio stations, or both. The final two lines of the top panel of Table 1 present estimates for candidates who only have control over one type of media or the other. These results show that the effect of media control on vote share is essentially driven by FM radio, with an estimated effect of 15.7 percentage points. By contrast, having ties only to television stations has no significant effect on a candidate's electoral results.

There are several possible explanations for the massive returns to politically-controlled radio and the negligible benefit to politically-controlled television. First, radio stations tend to be independent operations that can freely engage in blatant politicking, whereas television stations tend to be affiliated with national networks that provide some oversight. As noted above, TV Globo's main journalism office intervened in the newsroom of several regional affiliates when their coverage became too favorable toward the local political boss. Such intervention is highly unlikely for radio stations. Second, television stations are often run by large corporations with many directors and shareholders, diluting the influence of any politicians among them. Of the nine candidates with ties

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<sup>5</sup>We cannot be absolutely certain that all of these candidates are first-timers, since they may have run in elections prior to 2006. Moreover, some federal deputy candidates in 2010 may have run for state deputy in 2006.

only to television stations, six of them share ownership with more than 900 partners. By contrast, FM radio stations tend to have much more concentrated ownership and management. Among those candidates with ties only to FM radio stations, none has to share directorship or ownership with more than 8 other individuals.

## 5 Conclusion

The results of this analysis demonstrate that control of commercial broadcast media brings substantial electoral returns in Brazil. If they were limited to traditional means of maintaining electoral support, political bosses might see their dominance decline as subject populations gained greater access to information about the outside world. Indeed, several cases of peasants betraying their landlords at the polls in the 1940s are attributed to the influence of radio advertising, which was beginning to make inroads into electoral campaigns (Leal, 1977, 12). However, as commercial broadcast media spread throughout Brazil in the ensuing decades, many political bosses were able to extend their control over land to control over the airwaves. While unlikely to enjoy complete information monopolies—there will always be competing radio and television stations—political bosses with media control can exert substantial influence over large shares of the electorate. In doing so, they may be able to counteract a more general tendency in Brazil and other developing democracies, whereby incumbents are disadvantaged in subsequent elections because of popular rejection of corruption and rent seeking. Voters aiming to “throw the bums out” are presumably motivated by having gleaned information on malfeasance from the media—something that is much less likely when the malefactor in question is also a media mogul.

Yet even the most dominant of Brazil’s media mogul politicians cannot blanket their entire state with favorable coverage. The prevalence of far-flung, rural municipalities and the inherent technical and regulatory limits to the range of FM radio and television broadcasts means that voters in some locations will lie beyond their reach. For candidates for state and federal deputy, geographically limited media control is not a problem. Under open-list proportional representation,

candidates can win office with relatively low vote shares, so they need not convince a majority of voters.

While not a major concern for candidates, spatial variation in the reception of politically-controlled broadcasts does provide an opportunity for scholars. By matching politicians with media control to similar politicians without, and comparing the electoral “boost” they get within range of their broadcasts to any boost or deficit experienced by their non-controlling counterparts, I am able to estimate the causal effect of media control on vote share. These massive treatment effects should be kept in perspective, as they apply only to specific localities. Media-controlling candidates may have experienced an average boost of 12.8 percentage points within range of their stations, but statewide they won only an average 1.6% of the vote. Yet the average winning vote share for state and federal deputy in 2010 was only 2.0% of the vote. For some of these candidates, controlling local media may have been enough to keep them in office or win a seat for the first time.

Future versions of this paper will seek to gain further leverage over the effect of temporally proximate media control and to reduce the potential for unobserved confounders. Politicians who gained media control in recent years seem less likely to enjoy other unobserved advantages in their strongholds, such as a well-functioning political machine, than those who have dominated the airwaves since the 1980s. Of the 42 candidates not listed in the 2003 database of media owners, 11 also ran in the 2002 election. This small group would allow for the cleanest possible analysis because their electoral performance (as well as other variables, such as campaign spending, party, and coalition) was observed prior to acquiring media control. Hence, they could be matched to other candidates based on variables that are definitively pre-treatment. If treatment effects are detectable for this small group, despite the low power of an  $N = 22$  analysis, the results should lend great confidence to the conclusion that media control brings substantial electoral benefits in Brazil.

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