Persuading Voters to Punish Corrupt Vote-Buying Candidates: Experimental Evidence from a Large-Scale Radio Campaign in India[*]

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Abstract

During the 2014 Indian general elections, we carried out a large-scale experiment randomizing a radio campaign highlighting the disadvantages of voting for corrupt vote-buying candidates. Official electoral data shows that the radio campaign significantly decreased the vote share of parties that engaged in the most vote buying (as reported by journalists). Voter survey data shows that the campaign increased the salience of corruption as an election issue and decreased voting for parties that offered gifts. From a policy perspective, we show that radio campaigns are a cost-effective method to influence voter behavior. From a measurement perspective, we show that journalist interviews can impartially identify vote-buying parties.

Keywords: vote buying, elections, corruption, radio, mass media, India.
JEL Classification: D72, D83, K42, O12.

1 Introduction

Throughout the developing world, corrupt candidates engage in vote buying and win elections.[1] Vote buying undermines the political representation of voter interests (Stokes et al., 2013) and diminishes the supply of pro-poor public services (Khemani, 2015). Unfortunately, civil-society organizations, multilateral agencies, and governments have had limited success in their search for cost-effective strategies to diminish the influence of vote buying.

We examine the electoral effects of randomly exposing millions of voters to an anti-vote-buying radio campaign. During the 2014 Indian general elections, we broadcast a campaign dramatizing the message that electing corrupt vote-buying politicians has significant social cost. The radio campaign persuaded a large number of voters to switch their vote away from those parties identified by journalists as buying the most votes. A national voter survey additionally gives evidence that the campaign changed voter attitudes towards corruption and vote buying.

This study contributes to the literature examining the effect of anti-corruption information campaigns on voter behavior. Other campaigns exposing voters to non-partisan information about the costs of voting for corrupt vote-buying candidates have used village meetings (Banerjee et al., 2010; Blattman et al., 2020) and door-to-door leaflet distribution (Cruz, Keefer and Labonne, 2021; Vicente, 2014). These campaigns are generally effective, but also rather expensive and labor intensive.

This study also contributes to the broader literature examining the persuasion effects of political communication (DellaVigna and Gentzkow, 2010; Strömberg, 2016), as well as the the electoral effects of mass media, such as newspaper (Besley and Burgess, 2002; Gentzkow, Shapiro and Sinkinson, 2011; Snyder and Strömberg, 2010), television (DellaVigna and Kaplan, 2007; Gentzkow, 2006), and radio (DellaVigna et al., 2014; Ferraz and Finan, 2008;

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[1]According to the sixth wave (2010-2014) of the World Values Survey, the proportion responding to the question "How often in the country's elections are voters bribed?" with "very often" or "fairly often" in Brazil was 75.8%, in Mexico was 72.7%, in Argentina was 65.4%, in Germany was 12%, and in the Netherlands was 4.3%. Respondents in the United States and India were not asked this question.

Larreguy, Marshall and Snyder Jr, 2020; Strömberg, 2004).

What kinds of messages are most likely to persuade voters to reject vote-buying politicians? Schaffer (2007) argues that moralistic appeals, such as urging voters to vote their conscience rather than sell their vote, may be ineffective. He hypothesizes that telling voters that voting for vote buyers is neither in their own nor their community's economic interest would be more effective. Accordingly, we design a radio campaign that emphasizes the trade-offs candidates face in supplying public versus private goods.[2]

The radio campaign persuaded voters to reject parties engaged in vote buying, reducing their vote share by 6 to 10 percentage points (pp.). The campaign had no effect on the voter turnout rate. Although our messages were strictly non-partisan, they do negatively portray the class of parties that engages in vote buying. Negative campaigns have been associated with both demobilization (Ansolabehere and Iyengar, 1995; Chong et al., 2015; de Figueiredo, Hidalgo and Kasahara, 2021) and mobilization (Goldstein and Freedman, 2002). A national voter survey measuring voter attitudes shows that the campaign increased the salience of corruption as an election issue and decreased support for parties that offered gifts.

The effect on vote share and the null effect on turnout rate imply that the radio campaign drew close to 3 million votes away from vote-buying parties. Furthermore, with 130 voters persuaded per dollar spent, the campaign is a cost-effective alternative to more expensive on-the-ground efforts. The persuasion rate of the campaign, i.e., the proportion of the audience persuaded to switch to non-vote-buying parties, is 18%, which is comparable to that of other voter information campaigns (DellaVigna and Gentzkow, 2010).

To measure effects on the vote share of the vote-buying party, a researcher has to know which party is doing the vote buying. Direct observation is usually impossible since it is illegal behavior and is hidden. Researchers instead often use their knowledge of the local situation to make assumptions about which party is the main vote buyer. Blattman et al. (2020)

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[2]This trade-off has been discussed theoretically (Anderson, François and Kotwal, 2015; Keefer and Vlaicu, 2008), and shown empirically (Diaz-Cayeros, Estévez and Magaloni, 2016; Jöst and Lust, 2022; Khemani, 2015; Leight et al., 2020).

find that an anti-vote-buying campaign in Uganda decreased the incumbent's vote share while Vicente (2014) finds that an anti-vote-buying campaign in in São Tomé and Príncipe increased the incumbent's vote share. They argue that in the first case the incumbent is the main vote buyer and in the second case the challenger is the main vote buyer.[3]

We show that journalist interviews are a relatively simple, safe, reliable, and low-cost way of identifying vote-buying parties. Our anti-vote-buying campaign decreased the vote share of precisely those parties identified in journalist interviews as engaging in the most vote buying. The journalist reports appear to be unbiased – neither the language or media the journalist works in nor their gender or religion predicts which party they identify as buying votes.

2 The Experiment

2.1 Setting

We ran our experiment during the 2014 Indian general elections in which candidates ran for seats in the national parliament. Each seat represents a geographic electoral district known as a parliamentary constituency (PC), but results are reported at the smaller geographic level called the assembly constituency (AC).[4] Although independent candidates contest elections, only candidates affiliated with political parties have any meaningful chance of winning a significant number of votes. There were two main alliances in the 2014 election: the incumbent national government, United Progressive Alliance (UPA) led by the Indian National Congress (INC), and the National Democratic Alliance (NDA) led by the Bharatiya Janata Party (BJP). Only one candidate from each party can run for the same seat, and each alliance usually only runs one candidate. The incumbent UPA government was mired in

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[3]There are also multiple ways to define incumbency: the party of the president, the governor, or the mayor.

[4]Each PC represents a seat in the national parliament, while each AC represents a seat in the state legislature.

several high-profile corruption scandals, inciting a national anti-corruption movement which culminated in the formation of the Aam Aadmi Party (AAP).

The ten states represented in this study saw 5,619 candidates contest elections in 338 parliamentary constituencies (with the whole country consisting of 543 parliamentary constituencies). There was a UPA and an NDA candidate in 321 of the constituencies; the AAP contested elections in 301 of the constituencies; and 1,873 of the candidates were independents (none of whom won). Campaigning, including vote buying, is a joint effort of the party and the candidate. Factors such as popularity of the party or party leaders, and name recognition of the candidate determine in whose "name" much of the campaigning takes place.

The Election Commission of India (ECI) conducted the election in staggered phases, with polling held on nine different dates between April 10 and May 12 of 2014. Starting two days before polling, the ECI enforced a three-day ban on electioneering and liquor sales. Election results for all phases were released simultaneously on May 16. We registered our pre-analysis plan (AEARCTR-0000377) on May 15, 2014, before the election results were released.

Approximately 120,000 federal police were deployed to prevent the procurement and transportation of resources for vote buying, and to enforce the ban on liquor sales (Ford, 2014). Working in collaboration with the ECI, the police seized approximately $50 million in cash and 30 million liters of liquor, and arrested more than two million people in connection with election-related violations (Election Commission of India, 2014a). Despite these efforts, allegations of widespread vote buying were leveled by many media observers (Choudhury, 2014; Ford, 2014; Mandhana and Agarwal, 2014). Cash vote-buying payments reportedly ranged from Rupees 1000 ($17) to 2,500 ($43) (Chilkoti, 2014). The opposition NDA won a decisive victory over the long-dominant UPA. Although rising prices topped voter concerns, corruption scandals were important as well and were cited by one in seven voters (DNA, 2014).

2.2 Intervention: The Radio Campaign and Randomization

We conducted our campaign using radio which reaches a wider audience than television, and can be scaled up quickly and cheaply. Importantly, radio campaigns are less susceptible to interference by vested interests than on-the-ground campaigns (e.g., those that distribute leaflets or posters) and are therefore safer to implement in regions where violence and intimidation are a concern.

All India Radio (AIR) is the national public radio broadcaster covering 95% of the country's area and 99% of its population (Prasar Bharati, 2007). As of 2014, it operated 194 stations. Compared to other mass media, AIR has the highest audience reach in rural areas, where it has a statutory monopoly on radio broadcasting. In those areas, television viewership is constrained by unreliable electricity, and newspaper readership is low because of high rates of illiteracy. According to AIR's audience research studies, regular listenership of AIR comprises 55% of all households in rural areas and 50% in urban areas (Prasar Bharati, 2007).[5]

We conducted our experiment with 60 of the 194 AIR stations. The radio stations are located in ten states which contain 67% of the country's population, and 62% of the parliamentary constituencies. Stations were dropped for three reasons including i) having a high-power transmitter overlapping with neighboring radio stations (57), ii) having a high price of purchasing advertising time (30), and iii) not broadcasting in one of the five main languages – Hindi, Kannada, Marathi, Odiya, and Telugu (47) .

We produced three 60-second ads, each consisting of a dramatized vignette involving a voter who is excited to have received a "gift" from a candidate. Another voter explains that candidates who participate in vote buying are likely to steal public money after being elected to recoup their expenditure instead of providing public services like schools and electricity. The first voter then decides not to honor his or her promise to vote for the vote-buying

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[5]The household-level radio listenership calculated from the India Human Development Survey-II (IHDS-II) 2011-2012 (Desai and Vanneman, 2018) for the areas in our experiment is 36%.

candidate. Each ad ends with the appeal: "Teach vote-buying leaders a lesson – use your secret ballot to vote for an honest candidate." The ads do not name any particular candidate or party, and were not endorsed by any named individual or entity. Appendix A presents English translations of the scripts.

The campaign is based on the idea that corrupt politicians in general, and vote-buying politicians in specific, supply fewer public goods. This is in line with empirical evidence of the negative impact of corruption on public good provision (Beekman, Bulte and Nillesen, 2014; Olken, 2006; Reinikka and Svensson, 2004). Further, the negative relationship between vote buying and public goods posited by Kitschelt (2000) and Vicente and Wantchekon (2009) has been shown to hold theoretically (Anderson, François and Kotwal, 2015; Bardhan and Mookherjee, 2012; Keefer and Vlaicu, 2008), in experiments (Leight et al., 2020), and empirically (Diaz-Cayeros, Estévez and Magaloni, 2016; Fujiwara, 2015; Jöst and Lust, 2022; Khemani, 2015; Stokes et al., 2013). The campaign conducted in Blattman et al. (2020) presents a similar trade-off between vote buying and public goods, including a pamphlet showing a citizen asking a politician for a health center and the politician responding "No! I already bought you!"

Our ads were broadcast during the three day pre-election window when electioneering is prohibited.[6] This balanced the desire to broadcast ads close enough to election day to limit the parties' ability to respond, with the desire to have a sufficiently long campaign period to ensure high voter exposure to the ads. While we cannot fully rule out an endogenous response by parties, vote buying starts several weeks before election day, and by the time our ads aired, much of the vote buying would have already taken place (Hiddleston, 2011).

We created a tentative schedule for broadcasting the ads 48 times to each of the 60 radio stations. This was divided into 24 prime-time airings and 24 non-prime-time airings; 18 on the first day, 18 on the second day, and 12 on the third day. The third day coincides with the election date for the town where the radio station is based. We divided the 60 radio

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[6]All India Radio found our ads to be exempt from this prohibition because they are strictly non-partisan.

stations into four groups corresponding to their town's election date: April 10 ($N = 8$), April 17 ($N = 30$), April 24 ($N = 12$), and pooling April 30 ($N = 5$) and May 7 ($N = 5$). Exactly half of the radio stations in each group were randomly selected to broadcast the radio campaign according to the pre-assigned schedule. We hired an advertising agency (Super Ads Pvt. Ltd., New Delhi) to develop and translate the scripts, produce the ads, and purchase the air time. The total cost of the radio campaign, including producing and airing the ads on the 30 stations, was $23,000, or $750 per radio station.

3   Data and Estimation Sample

The ECI disseminates the parliamentary constituency (PC) election results disaggregated by assembly constituencies (AC). Each PC consists of five to ten ACs, each containing 150,000 to 250,000 registered voters. The main outcome variables are the vote shares of candidates from different parties or with different characteristics at the AC level. The electoral data were obtained from the Election Commission of India (2014b). We look at vote share for candidates from the incumbent party (at the national, state, and PC levels), and the anti-corruption party, AAP. We also look at vote share for candidates with criminal backgrounds and with the highest assets as listed in their election disclosures.[7] Most importantly, we look at vote share for candidates identified by journalists as being vote buyers in surveys described below. We also look at effects on the voter turnout rate. The 2011 Census gives us the control variables the percentage of the population that is literate, that lives in a rural area, and that belongs to a Scheduled Caste (SC) or Scheduled Tribe (ST). We assign each AC the value of the census block which contains the AC centroid.

We consider an AC to be covered by a radio station if its centroid lies within the radio's radial reach.[8] While FM radio stations typically broadcast high-frequency waves following

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[7]Data digitized by the Association for Democratic Reforms, available at www.myneta.info, accessed May 6, 2017.

[8]The correspondence between transmitter powers and radii reaches are – 1 kW: 25 km, 3 kW: 50 km, 5 kW: 65 km, 6 kW: 75 km, 10 kW: 100 km, and 20 kW: 125 km. http://www.allindiaradio.gov.in,

line-of-sight, the AM radio stations in our study broadcast medium frequency waves following ground-wave propagation along the earth's surface and over obstacles. The study regions covered lie in the flat Indo-Gangetic plain and Deccan plateau. For these reasons, we measure exposure based purely on distance and do not take topography into account. The 60 AM radio stations in our sample reach 751 ACs. ACs are typically small enough to be entirely covered by radio stations.

We define treatment as receiving our radio campaign during the three-day pre-election window. The timing of the ad campaign for each radio station is based on the election timing of the AC where the radio station is housed. Because ACs tend to be small compared to the reach of radio stations, radio stations reach multiple ACs and some of these ACs may be in different election phases and consequently have elections on different dates. We define an AC as being "eligible" for treatment if there exists some randomization under which it could receive the treatment during the three-day pre-election window. The estimation sample consists only of those ACs that are eligible to receive the campaign during their respective pre-election windows, and not before or after.

We exclude 39 ACs that are only eligible to receive the campaign before the three-day window, 11 ACs that are eligible to receive the campaign both before and during the three-day window, and 86 ACs that are only eligible to receive the campaign after the election.[9] Our estimation sample therefore comprises 615 ACs covered by 57 radio stations, 29 of which were assigned to the treatment.

3.1 Journalist Survey: Identifying Vote-Buying Parties

We would like to identify which parties and candidates engage in the most vote buying. But because vote buying is illegal, there is no direct method for documenting who engaged in vote buying in which ACs. We therefore rely on the impressions of journalists. We conducted

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accessed 4 April, 2017.

[9]Although we started with 60 stations, we made a mistake with the location of three stations and recorded the wrong election dates. The late radio campaign timing of those three stations means they could treat no ACs. Thirty-two of the 86 ACs with late campaigns belong to those three radio stations.

phone interviews with journalists drawn primarily from the directory of registered reporters in each state. We also asked respondents to suggest other journalists. Our sample consists mainly of local language newspaper reporters, along with a smaller number of TV correspondents and freelancers. Since the electoral contests were at the parliamentary constituency (PC) level, we asked questions pertaining to each PC covered by the journalist.

We surveyed 405 journalists about the 144 PCs to which our experiment sample of 615 ACs belong. We obtained at least one journalist response for 141 PCs, with an average of 3.3 responses per PC. The questionnaire, presented in Appendix B, made no mention of our radio campaign. We asked journalists about specific PCs, "Which party/parties seem to be spending the most money secretly (such as on distribution of liquor, cash or other gifts)?"[10] While it may be the case that all parties engage in some amount of vote buying, the question asks which parties engage in it the most. In 3 of the 141 PCs no main vote-buying party was reported. The 138 PCs for which we have at least one main vote-buying party reported contain 592 ACs. Interestingly, even the anti-corruption party, AAP, was reported as a main vote-buying party by one journalist in one constituency.

Specificity and consensus among respondents is high. Conditional on identifying at least one main vote-buying party, most respondents (83%) reported only one party. In 84% of the PCs with two respondents, both agreed on at least one party and the degree of agreement in PCs with more respondents is similar. Appendix Table C-1 depicts the share of parties identified as being a major vote buyer by more than one respondent in the same PC.

We designate as a main vote buyer any party identified by at least one journalist as being one of the main vote buyers in that PC. We believe journalists are more likely to omit vote-buying parties (for example, due to a sense that the question is only asking for the one party that spends the most or due to incomplete information), than they are to spuriously misreport non-vote buyers as vote buyers. By considering the union of all candidates in a PC identified as vote buyers, we minimize Type I errors in categorization. We also asked

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[10]Our survey was open to accepting independent candidates as responses but they were never reported as the main vote buyers.

the journalists which candidate held the most public events, which had the most election workers and volunteers, which spent the most money on campaigning, and which candidate the journalist expected to win. Appendix Table C-2 shows the distribution of main vote-buying parties across ACs. There is considerable variation with respect to whether UPA only, NDA only, both, or neither are coded as main vote-buying parties.

The journalists are not incentivized to answer truthfully, and one might worry that their answers reflect their own biases or the political leanings of their employer. To explore this concern, Appendix Table C-3 presents the determinants of whether a journalist reports a candidate from the UPA (columns (1)-(3)) or a candidate from the NDA (columns (4)-(6)) to be the most engaged in vote buying. We look at whether the journalist's gender and religion,[11] medium (television, newspaper, or something else), and the language in which the journalist works can predict the vote-buying reports but find only two coefficients (on the Odiya language in one specification and on the Kannada specification in another) significant at the 10% level out of 60 estimated coefficients. These results support the interpretation that the responses represent prevalent local perceptions of vote buying by parties rather than opinions biased by the respondents' political preferences. Given that interviewing journalists is relatively low cost and safe compared to other forms of data collection, this suggests that journalist interviews are a promising method to identify vote buyers.

3.2   Balance Check

Summary statistics and differences between treatment and control ACs are presented in Appendix Table C-4. The number of vote-buying parties ranges from one to four with a mean below two. It is not statistically different in the treatment and control groups. ACs have on average 15 candidates, of which nine belong to parties. Comparing our sample to the Census of India (2011), our sample is less literate (61 vs 73%), more rural (76 vs 69%), and has more population belonging to Scheduled Castes (SC) and Scheduled Tribes (ST) (30 vs 25%).

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[11]We code journalists as male or female, and as Hindu or non-Hindu, based on their names.

The treatment and control groups are balanced along all observed electoral characteristics. The only demographic variable that differs significantly between the treatment and control is percentage population rural. The null joint hypothesis that the characteristics do not differ across treatment and control cannot be rejected.

3.3 Voter Survey

A national survey of registered voters was conducted by the Centre for the Study of Developing Societies (CSDS) after voting was completed but before the results were announced. The sample covers 347 ACs, of which 39 were part of our experiment. These 39 ACs contain 2,533 respondents reached by 30 of the 60 radio stations.

Respondents were asked, "What was the single most important issue for you while voting in this election?" Inflation was mentioned by 16% of respondents, corruption by 12% of respondents, and at least 5% of respondents mentioned "unemployment and jobs" and "lack of development." Another set of questions asked voters which party: "is better for administration," "takes better care of religious sentiments," "is better for national security," "has good leadership," and "offers lots of free gifts." Survey respondents were also asked which candidate they voted for.

4 Empirical Strategy

4.1 Electoral Outcomes

We estimate the average treatment effect (ATE) of exposure to the radio campaign on election outcomes. Outcomes of interest include the vote share of main vote-buying parties, the vote shares of different types of candidates/parties, and the voter turnout rate. If each AC were reached by one and only one radio station, we could obtain a consistent estimate

of the ATE by estimating the following OLS regression.[12]

$$y_a^{2014} = \alpha_1 + \beta_1 T_a \; [+\gamma_1 y_a^{2009} + \delta'_1 phase_a] + \epsilon_a \qquad (1)$$

where y_a^{2014} is the outcome of interest for AC a and T_a is the binary variable indicating treatment status.

A second pre-registered version adds the lagged outcome variable (y_a^{2009})[13] and a vector of dummies for the different election phases $(phase_a)$. Since we use random assignment, there is no need for any control variables. The sole purpose of including the lagged outcome and the election phase dummies as covariates is to increase the precision of the estimated average treatment effect, β_1 (Bruhn and McKenzie, 2009).

Overlap in radio coverage areas means that different ACs have different probabilities of treatment; an AC's probability of being treated depends on the number of radio stations from which it is eligible to receive the ads during the pre-election window. Figure 1 provides a map of the election phases and the radio station reach. Panel A shows the treatment probabilities for each AC in the experimental sample. Most ACs (570 out of 615) are only reached by a single experimental radio station and so their probability of receiving treatment is 50%. There are another 44 ACs which are reached by two radio stations and so have a 75% probability of being treated, and one AC reached by three radio stations, whose probability of being treated is 87.5%. The map also shows the excluded ACs. Panel B depicts which radio stations were and were not randomly selected to broadcast our ads, and the resulting

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[12]This was the specification envisaged in our pre-analysis plan (PAP). The two primary outcomes in our PAP were the vote share of parties identified by the journalists as buying votes, and the voter turnout rate. The PAP mentions exploratory analysis using 11 other outcomes. (The list included 12 items, but one measure was written twice.) Of the 11 exploratory outcomes, we show results for the nine we were able to get data on. We have since added the vote share of the anti-corruption party, AAP, as an outcome of interest. The PAP also hypothesized that the treatment would have the largest effect on the turnout rate in ACs with the most vote buying which we test in the following section. The PAP does not discuss the voter survey data.

[13]When the the outcome is the vote share of some class of parties, such as those engaging in vote buying in 2014, the lagged outcome is the vote share of the same parties in 2009 irrespective of their vote-buying status in that election. If a given party did not run in the same AC in 2009, we replace the lagged outcome with zero. In our estimation sample, 16% of ACs had at least one party identified as a main vote buyer in 2014 that did not run in the same AC in 2009.

312 treatment and 303 control ACs.

To account for the different probabilities of treatment, we estimate Equation (1) using weighted least squares (WLS) with inverse-probability weights (IPW). For each treated AC the weight is the inverse of the probability of it being treated, and for each untreated AC the weight is the inverse of the probability of it being untreated. This approach provides consistent estimates of the ATE (Horvitz and Thompson, 1952). We also report OLS estimates controlling for fixed effects for the different treatment probability levels in Appendix Table C-5 and the results are similar.

Randomization at the radio station level means that ACs are assigned to treatment in geographic clusters. We estimate standard errors robust to multi-way clustering (Barrios et al., 2012; Cameron, Gelbach and Miller, 2011) accounting for the overlap across radio stations by setting the covariance terms to zero in the residual variance-covariance matrix for ACs that do not belong to the same radio station. To address concerns stemming from the small number of radio stations, we additionally provide more conservative randomization inference p-values (Young, 2019). Although our pre-analysis plan specified a one-tailed test, we calculate two-tailed p-values to be conservative.

4.2 Voter Surveys

We use the voter survey to assess changes in attitudes that may have contributed to changes in behavior. We estimate linear probability models of the form:

$$y_{ai} = \alpha_2 + \beta_2 T_a + \gamma_2 X_{ai} + \delta_2' phase_a + \eta_2 stations_a + \epsilon_{ai} \tag{2}$$

where y_{ai} is outcome for respondent i in AC a, T_a indicates whether the AC is covered by a treated radio station, X_{ai} contains individual covariates (age, sex, education, caste, religion, rural, asset index, monthly income, and others present at interview), $phase_a$ is a vector of dummies indicating the election phases, and $stations_a$ indicates whether the AC is

covered by two stations (none of the ACs in the voter survey data are covered by more than that). We present p-values both assuming multi-way clustering by radio station and using randomization inference.

5 Results

5.1 Vote Share

We measure the effect of receiving the radio campaign during the three-day pre-election window on the vote share of the putative main vote-buying parties. Electoral support for these main vote-buying parties is high – the mean for ACs in the control group is 67%. Column (1) of Table 1 suggests that the radio campaign decreased the vote share of vote-buying parties by 8.6 pp. without any controls and by 10.5 pp. when we control for election phase fixed effects, respectively. When we control for the lagged vote share and election phase fixed effects in column (3), the effect goes down to 8.2 pp. While columns (1) and (3) present the specifications registered in our pre-analysis plan, columns (4) through (6) test the robustness of this estimated effect to inclusion of different covariates – demographic characteristics, whether there was a simultaneous state election, and the number of journalist respondents in that AC. The estimate is robust to inclusion of these controls. Appendix Table C-5 shows similar results using OLS estimation controlling for different treatment probability levels using dummy variables. Taken together, these results suggest that the radio campaign decreased the vote share of the main vote-buying parties by 6 to 10 percentage points.

Next we look in Table 2 at the effects on the vote share of candidates affiliated with the prime minister's party, the state chief minister's party, the party of the incumbent member of parliament (MP), the anti-corruption party (AAP), candidates accused of crimes, and the wealthiest candidates. We also explore the ad campaign's effect on vote share of candidates/parties identified in the journalist survey as holding the most public events, with the most election workers and volunteers, spending the most money on campaigning, and

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expected to win. These are all the exploratory measures mentioned in the pre-analysis plan that we could get access to, plus the AAP candidate measure that was not pre-registered.

The radio campaign significantly lowered the vote share of the prime minister's party alliance (UPA) by approximately 5 pp. It is interesting to note that this is close in magnitude to the overall effect on the vote share of the main vote-buying parties reported in Table 1. The campaign increased the vote share of the anti-corruption party, AAP, by almost 1 pp. This effect is not quite significant at conventional levels, though this may be partly due to the fact that the overall vote share of the anti-corruption party is so small to begin with. The campaign did not have significant effects on any of the other vote share outcomes measured. This suggests that the radio campaign changed voter attitudes towards corrupt and vote-buying parties, but not necessarily to otherwise more active parties or to the party of local incumbents.

We consider the magnitude of the effects in three ways. First, we compare the effect size to that of other anti-corruption and anti-vote buying campaigns. Next, we measure the persuasion rate of our intervention. Finally, we explore the cost effectiveness of the intervention.

The magnitude of the estimated effect – a 6 to 10 pp. reduction in the vote share of the main vote-buying parties – is similar to the effect from other anti-corruption and anti-vote-buying campaigns. Voter campaigns using a combination of village meetings, theatrical productions, posters, and door-to-door dissemination of fliers include Banerjee et al. (2010) which decreased the proportion of voters voting along caste lines by 10 pp. and increased the voter turnout rate by 8 pp., and Blattman et al. (2020) (reaching half a million voters) which reduced the vote share of incumbents by 4 pp. and increased the voter turnout rate by 1 pp. in fully treated villages.[14] Hicken et al. (2018) show video clips to survey respondents which reduced vote selling by 11 pp. Vicente (2014) evaluates a door-to-door anti-vote-buying campaign which increased the vote share of the incumbent party by 4 pp., and decreased

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[14]Blattman et al. (2020) gives results in terms of standard deviations, which we convert using the table of summary statistics.

the voter turnout rate by 3 to 6 pp.

The above-mentioned interventions were much more intensive than the simple radio campaign studied here, suggesting that radio campaigns can be a cost-effective strategy. While having similar absolute magnitudes, some of the above-mentioned campaigns increase the vote share of the incumbent while others decrease it, and similarly some increase while others decrease the voter turnout rate. This difference may be due to variation in the identity of the vote-buying party across contexts. Blattman et al. (2020) conjecture that in Uganda incumbents are *more* likely to buy votes, while Vicente (2014) conjectures that in São Tomé and Príncipe incumbents are *less* likely to buy votes. While our measure of vote-buying parties based on journalist interviews is not without its problems, our results confirm that what matters is not incumbency, but whether the candidate and her party are seen as buying votes and being corrupt.

We calculate the implied persuasion rate of mass communication using the framework put forth by DellaVigna and Kaplan (2007). We assume that half of the treatment group was exposed to our campaign (the average regular listenership of AIR),[15] that without the campaign 67% of them would have voted for vote-buying parties (the control mean), and an average treatment effect of 6 pp. This implies a persuasion rate of 18% ($6/(67 * 0.5)$), comparable to the persuasion rate of televised campaign advertisements in the U.S. (Gerber et al., 2011).

The cost-effectiveness of this campaign is quite favorable compared to more expensive and potentially dangerous on-the-ground campaigns. Assuming that 160,000 voters cast ballots in each of the 312 treatment ACs and no effect on turnout (see below),[16] a 6 pp. reduction in vote share implies that that the radio messages drew close to 3 million votes away from the putative vote-buying parties. The cost of the campaign, $23,000 ($750/station), implies that 130 voters were persuaded per dollar spent.

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[15]Even with the more conservative radio listenership estimate of 36% from IHDS-II, a 50% exposure rate to the message is not unreasonable given significant inter-household spillovers within treated neighborhoods/villages.

[16]Mean turnout in treatment ACs is 164,528.

5.2 Turnout

Table 3 presents the estimates of the treatment effect on the voter turnout rate. The result in column (1) suggests a statistically insignificant decrease in the voter turnout rate of 2 pp. from a mean of 68 percent in the control group. The effect size decreases dramatically after controlling for covariates. The magnitude of the effect on the voter turnout rate is negligible compared to the shift in vote share, suggesting that voters responded to the ads by shifting their votes rather than abstaining altogether.

Our pre-analysis plan proposed that the turnout rate would be most affected in ACs with the most vote buying. We estimate regressions with interactions of the treatment with the lagged vote share of putative vote-buying parties and the percent of the population that is literate, that is SC/ST, and that is rural. Appendix Table C-6 provides suggestive evidence that the campaign does not have heterogeneous effects on the turnout rate. There is suggestive evidence that it discouraged turnout less among SC/ST populations, who are identified by the journalists as common targets for vote buying.

5.3 Voter Surveys

In this section, we assess the changes in attitudes that may have contributed to changes in behavior using the voter survey data.[17] Columns (1) through (4) of Table 4 look at the treatment effect on the salience of different election issues. The campaign increased the salience of government corruption as the most important election issue by 8 pp. relative to a control mean of 8 percent. The effects of the treatment on the perceived importance of other issues are small and not statistically significant. These results suggest that voters may have been influenced by the campaign message linking vote buying to corruption.

We estimate the impact of the treatment on the kind of parties that respondents vote for

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[17]We weight observation by the inverse of the number of observations in each AC so that the estimates are comparable to those obtained from regressions using AC-level data. The results from unweighted regressions, are almost identical.

in columns (5) through (9) of Table 4. The survey asks respondents who they voted for, and also asks them questions such as which party is best for national security and which party gives the most free gifts. We look at whether the respondents' answers across those two questions match, i.e., whether they voted for the party they thought was best for national security. We find no effect of the campaign on voting for a party because they were better for administration, religious harmony, national security, or good leadership. There is an 8 pp. decrease in the probability of voting for the party they think offered the most free gifts, relative to a control mean of 81 percent. Column (10) uses the voter survey to replicate the results we saw using the electoral data - the ad campaign decreased stated votes for putative vote-buying parties.[18] Increased salience of government corruption as an election issue and decreased preference for parties that gave gifts suggest that the radio campaign had direct attitudinal effects.

6   Conclusion

In many parts of the world, vote buying takes place on such a grand scale that it is difficult to contain solely through law enforcement. This study represents the first systematic attempt to evaluate the effects of a large-scale mass media voter education campaign against vote buying. Radio messages discouraging voters from voting for corrupt and vote-buying candidates can be a low-cost, safe, and effective means to deflect electoral support away from parties that engage in vote buying.

A pertinent question for the future is whether and how parties respond to media campaigns. Given the timing of our radio campaign, parties had little time to react. With more time, these campaigns might lead parties to re-allocate resources to developing and

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[18]To more easily compare the results using the electoral data and the voter survey data, we run two additional regressions - one on the voter survey data and one on the electoral data. First, we aggregate the voter survey responses by AC and run an AC-level regression corresponding to the specification in column (2) of Table 1. Second, we limit the sample for the electoral data to the 39 ACs (covered by 30 radio stations) included in the voter survey. Thus both regressions are at the AC level and include the same 39 ACs. The treatment effects estimated in the two regressions are almost identical at -14.70 (s.e. = 8.17) and -15.72 (s.e. = 6.47), respectively.

publicizing their policy platform. Alternatively, parties might increase voter intimidation and monitoring of voter compliance.

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Table 1: Impact of the Radio Campaign on Electoral Performance of Main Vote-Buying Parties

	(1)	(2)	(3)	(4)	(5)	(6)
	Vote Share of Main Vote-Buying Parties (%)					
Treatment	-8.56	-10.49	-8.19	-7.98	-6.08	-5.92
	(4.59)	(3.96)	(4.04)	(3.98)	(2.94)	(2.93)
p-value						
Clustered	0.06	0.01	0.04	0.05	0.04	0.04
Rand. Inf.	0.09	0.02	0.09	0.11	0.15	0.16
R^2	0.05	0.14	0.50	0.50	0.55	0.55
Mean (Control)	67.38	67.38	67.38	67.38	67.38	67.38
N	592	592	592	592	592	592
Covariates						
Election Phase FE		X	X	X	X	X
Lagged Outcome			X	X	X	X
Demographics				X	X	X
State Election					X	X
Number Respondents						X

Notes: The dependent variable pertains to all parties identified as engaging in the most vote buying in the 2014 election according to local journalists. Weighted least squares with inverse probability weighting. The control mean of 67.38 is the vote share of the union of all parties identified and uses inverse probability weights. This corresponds with a minimum, average, and maximum vote share of individual vote-buying parties in control ACs of 31.53, 40.21, and 48.82, respectively. Lagged outcome is the corresponding outcome in the 2009 elections. Demographic controls include percent population rural, SC/ST, and literate. State election is an indicator for a state election at the same time as the parliamentary election. Number respondents is the number of journalists interviewed in that AC. Observations belong to 57 overlapping clusters (radio station coverage areas). Standard errors robust to heteroskedasticity and multi-way clustering in parentheses. Randomization inference p-values use 1000 iterations.

Table 2: Impact of the Radio Campaign on Electoral Performance of Different Candidates

	Vote Share (%) of						Vote Share (%) of Parties with Most			
	UPA	State CM Party	Incumbent MP Party	AAP	Accused of Crimes	Richest	Public Events	Election Workers	Campaign Spending	Expectation of Winning
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treatment	-5.02	0.35	-2.37	0.69	0.68	-2.58	-2.77	-3.95	-3.15	-3.33
	(2.11)	(2.49)	(2.19)	(0.47)	(3.55)	(2.51)	(2.59)	(3.44)	(3.23)	(2.23)
p-value										
Clustered	0.01	0.72	0.29	0.14	0.83	0.30	0.29	0.25	0.33	0.14
Rand. Inf.	0.04	0.62	0.38	0.16	0.83	0.33	0.43	0.44	0.51	0.27
R^2	0.61	0.56	0.42	0.15	0.69	0.33	0.56	0.45	0.48	0.60
Mean (Control)	31.55	37.91	39.53	0.74	44.77	36.21	71.76	68.85	67.13	68.30
N	597	613	596	533	488	615	597	603	597	594
Covariates										
Election Phase FE	X	X	X	X	X	X	X	X	X	X
Lagged Outcome	X	X	X		X	X	X	X	X	X
Demographics	X	X	X	X	X	X	X	X	X	X
State Election	X	X	X	X	X	X	X	X	X	X

Notes: The dependent variables are the percent vote share received by different party candidates in the 2014 election. Column (1): candidate is same party alliance as prime minister (UPA), column (2): candidate is same party as state's chief minister, column (3): candidate is sitting representative or belongs to same party as sitting representative, column (4): candidate is from anti-corruption party, AAP, column (5): candidates accused of crimes, column (6): candidate has declared the highest assets, and columns (7)-(10): percent vote share received in the 2014 election by the parties holding the most public events, with the most election workers and volunteers, spending the most on campaigning, and expected to win, all according to local journalists. Weighted least squares with inverse probability weighting. The control mean uses inverse probability weights. Lagged outcome is the vote share of the party/alliance of interest in the 2009 elections, e.g., UPA, incumbent MP's party, or the party of the candidate with the most assets in 2014; if the party did not run in 2009 its vote share is coded as 0. Demographic controls include percent population rural, SC/ST, and literate. State election is an indicator for a state election at the same time as the parliamentary election. Number respondents is the number of journalists interviewed in that AC. Observations belong to 57 overlapping clusters (radio station coverage areas). Standard errors robust to heteroskedasticity and multi-way clustering in parentheses. Randomization inference *p*-values use 1000 iterations.

Table 3: Impact of the Radio Campaign on Voter Turnout Rate

	(1)	(2)	(3)	(4)	(5)
	Voter Turnout Rate (%)				
Treatment	-2.09	-1.44	-0.16	-0.37	-0.19
	(2.43)	(2.22)	(0.87)	(0.70)	(0.69)
p-value					
Clustered	0.39	0.52	0.86	0.59	0.79
Rand. Inf.	0.40	0.53	0.88	0.62	0.81
R^2	0.11	0.22	0.79	0.81	0.82
Mean (Control)	68.20	68.20	68.20	68.20	68.20
N	615	615	615	615	615
Covariates					
Election Phase FE		X	X	X	X
Lagged Outcome			X	X	X
Demographics				X	X
State Election					X

Notes: Lagged outcome is the corresponding outcome in the 2009 elections. Demographic controls include percent population rural, SC/ST, and literate. State election is an indicator for a state election at the same time as the parliamentary election. Observations belong to 57 overlapping clusters (radio station coverage areas). Standard errors robust to heteroskedasticity and multi-way clustering in parentheses. Randomization inference p-values use 1000 iterations.

Table 4: Impact of the Radio Campaign on Voter Attitudes and Choices

	Considers as main election issue:				Voted for party better for:					Voted
	Infla-tion (1)	Develop-ment (2)	Corrup-tion (3)	Unemploy-ment (4)	Adminis-tration (5)	Religious Harmony (6)	National Security (7)	Leader-ship (8)	Free Gifts (9)	Main Vote Buyer (10)
Treatment	-0.01	0.02	0.08	0.02	0.00	-0.02	-0.01	0.01	-0.08	-0.18
	(0.07)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.08)
p-value										
Clustered	0.88	0.66	0.07	0.52	0.93	0.61	0.83	0.84	0.10	0.03
Rand. Inf.	0.90	0.69	0.13	0.71	0.93	0.70	0.83	0.85	0.20	0.09
R^2	0.05	0.06	0.08	0.05	0.09	0.12	0.10	0.09	0.11	0.15
Mean (Control)	0.14	0.09	0.08	0.08	0.85	0.85	0.85	0.84	0.81	0.77
N	2519	2519	2519	2519	2135	1998	1998	2047	1783	2227
Covariates										
Treat. Prob. FE	X	X	X	X	X	X	X	X	X	X
Election Phase FE	X	X	X	X	X	X	X	X	X	X
Demographics	X	X	X	X	X	X	X	X	X	X

Notes: The dependent variable is from the voter survey and indicates whether each issue – inflation, development, government corruption, and unemployment – was listed as the most important election issue, and whether the party the voter claimed to have voted for was the same as the party she had stated was better for: administration, religious harmony, national security, good leadership, and offering free gifts. WLS regression with weights equal to the inverse of the number of survey respondents in each AC. Demographic controls include age, gender, education, caste, religion, rural, monthly income, asset index, and presence of non-respondents during the interview. Observations belong to 30 overlapping clusters (radio station coverage areas). Standard errors robust to heteroskedasticity and multi-way clustering in parentheses. Randomization inference p-values use 1000 iterations.

Figure 1: Experiment Design and Randomization

Panel A: Radio Coverage and Campaign Eligibility   **Panel B**: Radio Station Random Assignment

Panel A legend:
- △ Any Early Ads (N = 50)
- ▲ Only Post-Election Ads (N = 86)
- Only "Pre-Election Window" Ads
  - ▲ Prob. = 0.5 (N = 570)
  - ▲ Prob. = 0.75 (N = 44)
  - ▲ Prob. = 0.875 (N = 1)
- ◯ Radio coverage area
- State boundary

Panel B legend:
- ▲ Control (N = 303)
- ▲ Treatment (N = 312)
- ⬭ No Ads (N = 30)
- ◯ Ads (N = 30)
- State boundary

Election Phase
- 4/7/2014
- 4/9/2014
- 4/10/2014
- 4/12/2014
- 4/17/2014
- 4/24/2014
- 4/30/2014
- 5/7/2014
- 5/12/2014

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For Online Publication

Appendix A.   Radio Campaign Advertisements

A.1   Script 1

It is a village setting. We hear birds chirping, the distant rumble of a motorbike and the faint noise of distant conversations. Kamala (grandmother, around 70 years old) comes to Ramesh's (male, around 50 years old) shop to make a purchase.

Kamala: Namaste, Ramesh Bhaiyya!

Ramesh: Namaste! How are you Amma?

Kamala: I am really happy today. Give me three of your best school bags. I am buying them as gifts for my grandchildren.

Ramesh: School bags (puzzled)? But our area doesn't even have a school!

Kamala: Then we'll get one soon (laughing). I was just at an election rally where the candidate promised to build a school if he wins.

Ramesh: Oh, really?

Kamala: Yes, and he was handing out cash as well. And all we have to do in return is to vote for him. That's it!

Ramesh: That's it (rhetorical)? Don't you get it? He is trying to buy your vote with money.

Kamala: I don't quite follow.

Ramesh: Amma, if he wins, then in order to recoup his election expenditure, he could siphon off government funds.

Kamala: Really (surprised)?

Ramesh: Yes Amma! And the school – it will remain only in the books.

Kamala: Oh! I hadn't thought of that. In that case, there is no way I am voting for him.

End scene.

Announcer: Teach vote-buying leaders a lesson – use your secret ballot to vote for an honest candidate.

A.2 Script 2

It is a village setting. We hear birds chirping, the distant rumble of a motorbike and the faint noise of distant conversations. Ram (male, around 40 years old) is a customer with a happy-go-lucky personality and Ramesh (male, around 50 years old) is the shopkeeper. Ram comes to Ramesh's shop to make a purchase.

Ram: Ramesh Bhai, show me the best pair of clothes you have on sale.

Ramesh: Of course. Looks like you had a good harvest.

Ram: My harvest was good. But that's not why I am buying new clothes?

Ramesh: What's the reason then?

Ram: Actually, an acquaintance of mine is contesting in the upcoming elections. He has fattened my wallet so I vote for him.

Ramesh: I see. And if he wins do you think he will fulfill his responsibilities?

Ram: Why won't he?

Ramesh: Well, why would anyone who trades notes for votes do anything for free?

Ram: Oh, I hadn't thought of that. In that case, there is no way I am voting for him.

End scene.

Announcer: Teach vote-buying leaders a lesson – use your secret ballot to vote for an honest candidate.

A.3 Script 3

It is a village setting. We hear birds chirping, the distant rumble of a motorbike and the faint noise of distant conversations. Mohan (male, around 40 years old) is a passerby and Ramesh (male, around 50 years old) is a shopkeeper. Mohan happens to walk past Ramesh's shop holding an electric fan.

Ramesh: Mohan Babu, where did you buy this electric fan?

Mohan: I didn't buy it! A candidate is handing them out for free at the election rally.

Ramesh: But our village doesn't even get power.

Mohan: The candidate has promised to bring power to our village if he wins.

Ramesh: If this corrupt candidate wins then in order to recoup his election expenditure he could siphon off government funds.

Mohan: What (shocked)!

Ramesh: Yes and the promise will remain just that – a promise.

Mohan: Oh, I hadn't thought of that. In that case, there is no way I am voting for him then.

End scene.

Announcer: Teach vote-buying leaders a lesson – use your secret ballot to vote for an honest candidate.

Appendix B.   Journalist Interview Questions

1. Which *Lok Sabha* constituencies you are covering?
   Interviewer Note: Ask the remaining questions for each constituency mentioned.

2. Which three parties have the biggest presence and what is the name of the candidate contesting from each party?

3. How are parties spending money to gain publicity and increase their vote share?
   Interviewer Note: Examples used to prompt can be rallies, parades, and posters.

4. Which party/parties seem to be spending the most on campaigning?

5. Which party/parties have held the most public events (such as rallies, speeches, parades, etc.)?

6. Which party/parties have had the most visits by party leaders or "star campaigners" (such as celebrities or other well-known individuals lending support to the candidate)?

7. Which party/parties have the most volunteers or workers (largest party cadre)?

8. Which party/parties seem to be spending the most money secretly (such as on distribution of liquor, cash or other gifts)?

9. What are they spending this money on?

10. What class of voters are they trying to win by distributing gifts?

11. Which party do you think will get the largest vote share?

Appendix C.   Appendix Tables

Table C-1: Pattern of Identification of Main Vote-Buying Parties by Journalists

Number of PCs	Number of Respondents	Share of Parties Identified as Main Vote-Buying Party, By Number of Respondents							Average Number of Parties Running	Average Number of Main Vote-Buying Parties
		0	1	2	3	4	5	≥ 6		
14	1	82%	18%						8.2	1.4
70	2	81%	7%	11%					8.4	1.5
31	3	77%	9%	6%	8%				8.7	1.8
14	4	82%	2%	3%	7%	6%			9.0	1.5
5	5	81%	0%	4%	9%	0%	6%		10.6	1.8
4	≥ 6	75%	4%	2%	2%	3%	5%	9%	12.5	3.0

Notes: The distribution of parties based on how many journalists mentioned them as being a main vote buyer in that PC. For example, the second row shows 70 PCs in which two journalists were interviewed. Most of the parties were not identified by either journalist as being a main vote buyer; 7% of the parties were identified by one journalist but not the other; and 11% of the parties were identified by both journalists.

Table C-2: Distribution of Composition of Main Vote-Buying Parties

UPA Vote Buyer	NDA Vote Buyer	Other Vote Buyer	Share of ACs
No	No	Yes	8%
No	Yes	No	22%
No	Yes	Yes	12%
Yes	No	No	19%
Yes	No	Yes	6%
Yes	Yes	No	24%
Yes	Yes	Yes	8%

Notes: The total number of ACs in the estimation sample is 592.

Table C-3: Impact of Journalist Characteristics on Journalist Reports

	UPA Reported Vote Buyer			NDA Reported Vote Buyer		
	(1)	(2)	(3)	(4)	(5)	(6)
Male	-0.14	-0.14	0.17	0.01	0.02	-0.10
	(0.16)	(0.16)	(0.16)	(0.23)	(0.19)	(0.19)
	[0.38]	[0.38]	[0.31]	[0.96]	[0.93]	[0.61]
Hindu	-0.01	-0.02	-0.03	-0.15	-0.08	-0.06
	(0.09)	(0.09)	(0.09)	(0.10)	(0.09)	(0.10)
	[0.92]	[0.85]	[0.70]	[0.13]	[0.37]	[0.56]
Newspaper	0.02	0.02	0.08	0.00	0.00	-0.01
	(0.11)	(0.11)	(0.13)	(0.12)	(0.12)	(0.16)
	[0.88]	[0.86]	[0.51]	[0.99]	[0.97]	[0.95]
TV	-0.07	-0.06	0.16	-0.13	-0.18	-0.14
	(0.13)	(0.13)	(0.15)	(0.14)	(0.14)	(0.19)
	[0.60]	[0.66]	[0.30]	[0.34]	[0.20]	[0.46]
English	-0.12	-0.06	-0.07	0.12	0.03	-0.06
	(0.18)	(0.20)	(0.17)	(0.22)	(0.21)	(0.22)
	[0.51]	[0.76]	[0.67]	[0.59]	[0.88]	[0.77]
Hindi	0.03	0.06	-0.16	0.08	0.00	-0.11
	(0.17)	(0.19)	(0.14)	(0.19)	(0.18)	(0.20)
	[0.84]	[0.73]	[0.25]	[0.68]	[1.00]	[0.58]
Kannada	0.32	0.29	-0.28	-0.07	-0.09	-0.26
	(0.19)	(0.21)	(0.26)	(0.21)	(0.20)	(0.29)
	[0.09]	[0.17]	[0.28]	[0.75]	[0.66]	[0.37]
Marathi	0.18	0.21	0.13	-0.03	-0.12	0.04
	(0.18)	(0.19)	(0.19)	(0.20)	(0.19)	(0.22)
	[0.32]	[0.29]	[0.50]	[0.87]	[0.53]	[0.85]
Odiya	-0.23	-0.20	-0.26	-0.25	-0.28	-0.25
	(0.17)	(0.19)	(0.16)	(0.20)	(0.20)	(0.26)
	[0.19]	[0.30]	[0.10]	[0.21]	[0.16]	[0.34]
Telugu	0.04	0.04	-0.19	-0.07	-0.01	-0.05
	(0.18)	(0.20)	(0.22)	(0.20)	(0.20)	(0.22)
	[0.82]	[0.83]	[0.39]	[0.74]	[0.98]	[0.84]
R^2	0.07	0.10	0.53	0.05	0.11	0.50
N	447	447	447	447	447	447
Election Phase FE		X			X	
PC FE			X			X

Notes: Each observation is a journalist-PC pair. There are 405 journalists. The dependent variables are whether the journalist reports a UPA candidate or an NDA candidate as a vote buyer in a given PC. The media categories are newspaper, TV, and other (omitted), and language categories are English, Hindi, Kannada, Marathi, Odiya, Telugu, and other (omitted). Standard errors clustered by journalist reported in parentheses, *p*-values reported in brackets.

Table C-4: Summary Statistics and Balance Check

	Control Mean	Treatment Coefficient	p-value (Coefficient = 0)	
			Clustered	Rand. Inf.
	(SD)	(SE)		
	(1)	(2)	(3)	(4)
Panel A: Journalist Survey				
# Respondents	2.86	-0.28	0.55	0.69
	(2.38)	(0.47)		
# Vote-Buying Parties	1.68	-0.13	0.38	0.39
	(0.70)	(0.15)		
Panel B: ECI Reports				
Lagged Turnout (%)	59.21	-2.74	0.35	0.32
	(12.13)	(2.96)		
Lagged Vote Share	54.74	-4.73	0.39	0.33
of Vote-Buying Parties (%)	(28.34)	(5.53)		
# Registered Voters	222738	25681	0.10	0.15
	(38644)	(15716)		
# All Candidates	14.80	-0.74	0.53	0.52
	(5.87)	(1.18)		
# Party Candidates	8.74	0.07	0.90	0.89
	(2.46)	(0.58)		
Election Date				
April 10	0.12	0.04	0.69	0.40
		(0.10)		
April 17	0.43	0.02	0.90	0.82
		(0.15)		
April 24	0.21	-0.02	0.87	0.77
		(0.12)		
April 30	0.14	-0.09	0.32	0.35
		(0.09)		
May 7	0.10	0.05	0.66	0.64
		(0.12)		
State Election	0.31	-0.12	0.34	0.27
		(0.13)		
Panel C: Census 2011				
Pop. Literate (%)	60.69	-2.37	0.24	0.27
	(9.06)	(2.01)		
Pop. Rural (%)	76.03	6.30	0.02	0.04
	(25.56)	(2.72)		
Pop. SC/ST (%)	29.83	3.92	0.33	0.34
	(15.29)	(4.04)		
F-test			0.96	0.43

Notes: Means, standard deviations, and differences use inverse probability weighting (IPW). All variables have 615 observations except # respondents, # vote-buying parties, and lagged vote share with 592 observations. Multi-way clustering in column (3) and randomization inference with 1000 iterations in column (4). The last row shows the p-values for a joint test ($N = 592$) of all the preceding rows.

Table C-5: Impact of the Radio Campaign on Electoral Performance of Vote-Buying Parties (Fixed Effects for Treatment Probability Levels)

	Vote Share of Main Vote-Buying Parties (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-7.97	-9.88	-7.82	-7.63	-5.75	-5.58
	(4.56)	(3.97)	(3.96)	(3.89)	(2.87)	(2.87)
p-value						
Clustered	0.08	0.01	0.05	0.05	0.04	0.05
Rand. Inf.	0.10	0.03	0.10	0.12	0.16	0.17
R^2	0.03	0.12	0.49	0.49	0.54	0.54
Mean (Control)	67.28	67.28	67.28	67.28	67.28	67.28
N	592	592	592	592	592	592
Covariates						
Treatment Probability FE	X	X	X	X	X	X
Election Phase FE		X	X	X	X	X
Lagged Outcome			X	X	X	X
Demographics				X	X	X
State Election					X	X
Number Respondents						X

Notes: The dependent variable pertains to all parties identified as engaging in the most vote buying in the 2014 election according to local journalists. OLS controlling for treatment probability level fixed effects. Lagged outcome is the corresponding outcome in the 2009 elections. Demographic controls include percent population rural, SC/ST, and literate. State election is an indicator for a state election at the same time as the parliamentary election. Number respondents is the number of journalists interviewed in that AC. Observations belong to 57 overlapping clusters (radio station coverage areas). Standard errors robust to heteroskedasticity and multi-way clustering in parentheses. Randomization inference p-values use 1000 iterations.

Table C-6: Heterogeneous Effects of the Radio Campaign on the Voter Turnout Rate

	Voter Turnout Rate (%)			
	(1)	(2)	(3)	(4)
Treatment	-1.52	-1.65	-2.98	-0.37
	(1.72)	(4.54)	(1.34)	(2.21)
	[0.38]	[0.72]	[0.03]	[0.87]
Lagged Vote Share	0.01			
of Vote-Buying Parties (%)	(0.02)			
	[0.63]			
Treatment*Lagged Vote Share	0.03			
of Vote-Buying Parties	(0.02)			
	[0.24]			
% Pop. Literate		0.00		
		(0.03)		
		[0.94]		
Treatment*% Pop. Literate		0.03		
		(0.07)		
		[0.71]		
% Pop. SC/ST			0.02	
			(0.02)	
			[0.31]	
Treatment*% Pop. SC/ST			0.08	
			(0.04)	
			[0.06]	
% Pop. Rural				-0.01
				(0.02)
				[0.44]
Treatment*% Pop. Rural				0.00
				(0.03)
				[0.90]
R^2	0.76	0.77	0.79	0.77
N	592	615	615	615
Covariates				
Election Phase FE	X	X	X	X
Lagged Outcome	X	X	X	X

Notes: Lagged vote share is the vote share of the vote-buying parties in 2009. Weighted least squares with inverse probability weighting. Standard errors robust to heteroskedasticity and multi-way clustering given in parentheses, and corresponding p-values reported in brackets. Observations belong to 57 overlapping clusters (radio station coverage areas).