

Does Advertising Drive Contributions?*

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Abstract

This paper examines the relationship between presidential campaign advertising and donations to presidential candidates and national political parties. Using Federal Election Commission donation data aggregated to the zip code level, combined with Wisconsin Advertising Project data tracking the number of televised presidential campaign advertisements, we utilize a natural experimental setup to examine whether increased ads lead to increased donations. We ultimately conclude, however, that in recent years exposure to more campaign advertisements has decreased the amount of donations within a particular zip code.

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1 Motivation

In 2000, George W. Bush spent \$5.5 million on campaign advertisements in California - a state Bush ultimately lost by twelve points, and a state that has not been won by a Republican presidential candidate since 1988, when George Bush, Sr. carried it over Michael Dukakis. The question of why Bush, Jr. spent precious advertising money in California, when that money could possibly have been put to better use in more competitive states like Ohio, Pennsylvania, Wisconsin, and of course, Florida puzzles many scholars.

One theory is that Bush spent money in California in order to appease donors and to try to raise additional money in California. Throughout the course of the campaign, however, Bush benefited from the generosity of California Republicans. According to the Center for Responsible Politics, Bush raised over \$114 million in California, second only to the District of Columbia in total revenue raised (Rasky 2000). According to a top Bush advisor, the expenditures were intended to fulfill the campaign's promise to be a force in California. "There was a commitment that we made to California early on, and that commitment was time and money," (Marks 2000).

Others speculate that perhaps Bush spent money in order to assure Californians that he would look out for their interests after a particularly favorable eight years of Clinton. At the time, California Republicans argued that the Bush campaign's "allocation of precious time and relatively serious amounts of advertising money to California at the end of the campaign is proof that President Bush would devote Clintonesque attention to the state's needs," (Rasky 2000).

Implicitly, both of these arguments claim that Bush advertised in California to satisfy and appease the Republican base. He wanted to make sure they knew he supported them, and one way to do so was to commit advertising money to the state. While Bush's spending spree in the Golden State did not cost him the election, had he not won Florida, pundits and scholars alike would have likely questioned his strategy for years. Did the money Bush spent in California allow him to raise more funds to offset the expenditures? Or, was the money in California wasted and did it divert precious resources from states that could have benefited from some additional last-minute advertising efforts?

In this paper, we aim to understand and explain the relationship between individual contributions and campaign advertising. Previous work has examined the role of demographic characteristics on campaign contributions as well as the influence of geography. However, to our

knowledge, little work has examined the connection between campaign advertising and individual's campaign contributions.

2 Background

Campaign fundraising is significant because of the role money plays in modern presidential elections. Since 2000, over \$1.13 billion has been raised through individual donations and reported to the Federal Election Commission for Presidential general elections; 2008 marked the first year that a presidential candidate rejected matching funds and elected to continue to raise money throughout the general election campaign. In doing so, Barack Obama raised nearly \$3.35 million in individual contributions¹ from June through November.

Previous political science literature has shown that campaign contributions are affected by individual demographic characteristics (Brady, Verba and Schlozman 1995; Verba, Schlozman and Brady 1995). While contributing to a campaign is a costly (both literally and figuratively) form of participation, and thus associated with individual levels of income and socioeconomic status, many people who can afford to contribute do not do so while others with much lower incomes contribute significant sums. In *Voice and Equality*, Verba, Schlozman, and Brady find that some individuals have a greater voice in politics than others, and that the inequality reflects unequal access to such vital resources as money and education. In "Beyond SES: A Resource Model of Political Participation," the same authors confirm these findings, arguing that people's likelihood of contributing to political campaigns is largely driven by their income and not by any other socio-demographic factors. In other words, individuals who have money are able to contribute to political parties and campaigns, while individuals who lack money do not have that resource available and find other ways to participate.

In addition to being influenced by demographic factors, contributions to campaigns can also be influenced by coverage of whether the candidate is winning or losing the race. Mutz (1995) argues that horse-race spin coverage of presidential nominating contests influences the amount of money contributed to candidates in those races. She claims that the decision to contribute to a political candidate often involves a number of strategic considerations, including the likelihood

¹This figure only includes contributions documented in the FEC database, meaning it is between \$200 and \$2,300.

that the candidate has of winning the contest. Specifically, she claims that, “evidence to date suggests that both positive and negative horse-race spin may motivate contributors under different conditions,” (Mutz 1995, 1039). In other words, Mutz finds that in 1988, when horse-race coverage of Dukakis showed him to be winning the race for the nomination (or gaining ground in the race), subsequently his campaign donations increased. This study is of particular interest to us, given that we aim to examine the effects of campaign activities on donations to candidates and parties. However, rather than being interested in media coverage of the horse-race aspect of politics, we are interested in whether large number of campaign advertisements leads to increased donations..

In reality, whether or not an individual contributes to a political campaign is likely a combination of personal demographic characteristics as well as mobilization efforts. As Brady, Schlozman and Verba (1999) point out, party activists, or recruiters, seek out people with characteristics that are already over-represented among participants. They find that the net result of the recruitment process for political activity in general - and for financial contributions, in particular - is to exacerbate participatory stratification Brady, Schlozman and Verba (1999, 153). Thus, while most of the contributions literature has focused on demographic and socio-economic predictors, some work has also examined characteristics of media coverage that may lead to increased donations. In this paper, we aim to consider the effects of campaign advertising on individual contributions.

Campaign advertising has been shown to have a significant impact on many political outcome variables, most notably voter turnout and vote choice. Much less work, however, has focused on the impact of advertising on dependent variables like campaign contributions. Experimental work has shown that campaign advertising, specifically negative ads, to have a negative effect on individuals’ propensity to vote. This effect has been estimated to be as large as five percentage points (Ansolabehere and Iyengar 1997). Observational work has found less detrimental effects of negative campaign advertising (Geer 2006; Freedman, Franz and Goldstein 2004) as authors argue that negative advertisements actually educate the electorate and make them more knowledgeable about campaign issues and therefore more likely to participate in electoral contests. In terms of vote choice, Franz and Ridout (2010) argue that while there are important differences in advertising across years, significant and strong advertising and persuasion effects were present

in the 2008 presidential election.

This paper will extend both the contributions and advertising effects literatures, by asking what factors affect contributions and examining whether experiencing a large volume of television advertisements increases contributions to presidential candidates and parties.

3 Data

For contributions data, we relied on the Federal Election Commission's (FEC) individual contributions file. This file includes all contributions greater than \$200 that were raised during the entire two-year election cycle (for example 2007-2008 for the 2008 presidential election).² From this data, we selected the national party committee contributions and the contributions assigned to each of the two major party candidates in the 2000, 2004, and 2008 presidential election years.³ We included any contributions reported from June 1 - Election Day of the year of the election and extended that time period to March 1 - November 2 of 2004 (Election Day) because the primary campaign wrapped up so early on both the Democratic and Republican sides during that year.

Arguably these data will bias us against finding significant effects of advertising on campaign contributions. According to Zaller (1992, 1996), those individuals who are likely to be influenced by campaign advertisements are those who will be least partisan. Individuals who are most likely to "receive" a campaign message are the same individuals who will be least likely to be influenced by it. Those who are less likely to "receive" advertising messages would be more likely to be influenced by them. Zaller (1992) demonstrates the powerful nature of the relationship between receptivity and acceptance when he explains why we are so unlikely to see opinion change among individuals. We argue that the same logic applies to campaign contributions. Giving \$200 to a campaign is a significant contribution. Individuals who are likely to be influenced to donate to a political campaign by a television advertisement are likely not the individuals who would be likely to contribute \$200 or more. In other words, those people who are influenced to give to

²The maximum "hard money" contribution is now indexed to inflation. In 2000, there were virtually no limits on soft money, but the maximum amount an individual could contribute to a candidate was \$1,000. In 2004, after the passage of the Bipartisan Campaign Reform Act (BCRA), the contribution limit to candidates was raised to \$2,000. In 2008, the amount increased again, to \$2,300. Also, in 2004, individuals were permitted to contribute \$25,000 to the national party committees and in 2008, that amount increased to \$28,500 (FEC 2004, 2007).

³This is the same approach Mutz (1995) took in her study of the influence of horse-race media coverage on presidential contributions.

a campaign by a television advertisement are likely to give much less than the \$200 minimum required to be reported to the FEC. Thus, when performing our analysis, we look only at a specific set of “givers” in determining if advertisements have an effect on contributions.

For campaign activities, we utilized the Wisconsin Advertising Project’s (WiscAds) tracking of televised campaign advertisements. WiscAds has tracked all airings of candidate, party, and group advertisements during presidential campaign elections since 2000. We limited our timeframe to the same time period covered by the FEC data, meaning we are focusing specifically on the relationship between contributions and advertising during the general election cycle during the past three presidential elections. Each year has a different number of media markets: there were 75 included in 2000, 100 in 2004, and 210 in 2008. This creates great variation, so we keep the years separate in our analysis. In addition, we aggregate the number of advertisements to the media market, starting in June for 2000 and 2008, and starting in March for 2004, as the primary “ended” earlier that year.

Again, the selection of this time period should bias us against finding any results because the time period includes the beginning of the general election campaign, when all “regular” donors would be expected to max out their contribution to the candidate and the party. We would not expect these donations to be influenced by campaign activities (including television advertisements). However, if the “regular” donors do give more due to advertisements, this could influence the results.⁴

The benefit of including the longer time frame is that we are able to speak about the relationship between campaign contributions and advertising over the course of the entire general election. The downside of such a broad time period is the potential muting of effects as we are not able to isolate our findings to the specific subset of individuals we believe would be most influenced to contribute via campaign advertisements.

We aggregate the FEC data to the zip code level, as individual level information does not allow us to control for important covariates such as income and ethnicity. Instead, we are able to obtain these demographic variables at the zip code level from the 2000 Census, in order to provide more robust tests.

⁴While it may be possible to examine the patterns of individual giving to find out if some “regular” donors give some money at the start of the general election campaign and then give more money later (either to the party or the candidate), doing so is beyond the scope of this particular project.

4 Results

4.1 Comparing Competitive States with Non-competitive States

In order to ask what the effects of advertisements are, we need to first acknowledge that Presidential candidates advertise differently in states that are less competitive than they do in battleground states. In particular, competitive states see a significantly larger amount of television advertisements, as is shown in Figure 1.

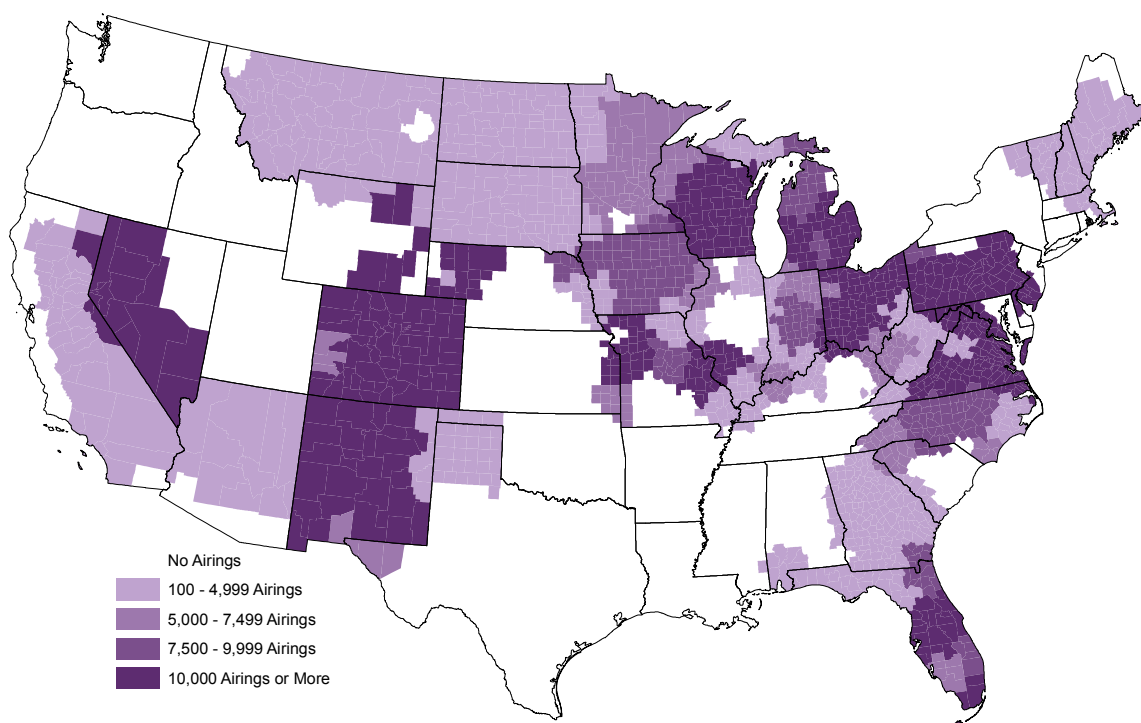


Figure 1: Presidential Campaign Airings - 2008

Since we know there is an inherent difference in advertising in competitive and non-competitive states, so we first ask if campaign contributions also differ based on competitiveness. In all models used in this paper, zip codes will be the unit of analysis.

We test this with a least squares regression framework, shown in Equation 1, where $NonComp_s$ is a dummy variable that equals one if zip code z is located in a non-competitive state, using

three different metrics to decide if a state is competitive. The first metric considers all states that had margins of victory greater than 10 percent as non-competitive. The second calls the 35 states with the highest margins of victory non-competitive. The final measure looks at the least competitive 25 states, which are the half of the U.S. that had the highest margins of victory. TC_z is total contributions in zip code z , Inc_z and Pop_z are median household income and total population measured in thousands and are also indexed by zip code. The variables $65Plus_z$ and $White_z$ measure the concentration of seniors and whites respectively by zip code. $Rural_z$ is a dummy measuring whether or not the zip code is comprised of more than half rural areas (i.e. rural concentration > .5).

$$TC_z = \alpha_0 + \alpha_1 Inc_z + \alpha_2 Pop_z + \alpha_3 65Plus_z + \alpha_4 White_z + \alpha_5 Rural_z + \alpha_6 NonComp_s + \epsilon \quad (1)$$

As displayed in the results of Table 1, we can see that competitive and non-competitive states do not appear to differ in terms of contributions. In 2000, individuals in more competitive states contributed more. In 2004 and 2008, though, being located in a non-competitive state caused people to give more, conditional on demographic factors. In none of the three presidential election cycles, however, were the competitiveness coefficients significantly different from zero. Other results presented in these models confirm the demographic findings of previous studies, showing that contributions are substantially higher in zip codes where the median income is higher and there is a higher concentration of whites and individuals over 65 years of age.

In the following specifications, we examine the effect of advertisements on giving in non-competitive states. The following sections attempt to determine if advertisements could be used more in non-competitive states as a tool to increase contributions, or if they actually deter contributions.

4.2 General Analysis of Ads

First, we would like to estimate the overall effect of advertisements on contributions, using the number of advertisements as a continuous variable. In doing so, we utilize the natural experiment that occurs because of the mismatch between state and media market boundaries (Huber and Arceneaux 2007; Krasno and Green 2008). This natural experiment occurs when

Table 1: Contributions in Competitive vs. Noncompetitive States

	2000			2004			2008		
	(1) Cont	(2) Cont	(3) Cont	(1) Cont	(2) Cont	(3) Cont	(1) Cont	(2) Cont	(3) Cont
Pop	0.336 (0.168)	0.335 (0.168)	0.328 (0.165)	1.230* (0.510)	1.233* (0.511)	1.243* (0.511)	0.990*** (0.162)	0.990*** (0.162)	0.980*** (0.164)
Inc	0.662*** (0.0666)	0.659*** (0.0671)	0.655*** (0.0659)	1.796*** (0.201)	1.804*** (0.201)	1.794*** (0.200)	2.412*** (0.331)	2.410*** (0.330)	2.392*** (0.320)
Percent Over 65	90.07*** (17.69)	89.51*** (17.68)	90.06*** (17.61)	201.5*** (33.88)	201.8*** (33.89)	202.8*** (33.87)	224.2*** (44.99)	224.1*** (44.90)	223.1*** (44.36)
Percent White	-13.53*** (3.832)	-13.22** (3.948)	-12.54** (4.309)	-24.09 (15.55)	-24.50 (15.23)	-23.12 (15.72)	-49.03*** (8.814)	-48.86*** (8.629)	-47.51*** (8.072)
Rural	-0.644 (2.154)	-0.663 (2.150)	-0.760 (2.092)	-2.809 (5.863)	-2.986 (5.783)	-3.098 (5.830)	-9.988** (3.050)	-10.00** (3.059)	-10.29** (3.083)
Negative	4.799 (3.639)	5.134 (3.422)	5.015 (4.072)	-7.278 (9.763)	-7.181 (9.814)	-7.633 (9.367)	-0.0868 (7.961)	0.639 (7.920)	-0.833 (6.774)
Non Comp (1)	-2.052 (2.103)			6.981 (5.183)			3.444 (3.518)		
Non Comp (2)		-1.746 (1.954)			7.458 (5.157)			4.606 (3.612)	
Non Comp (3)			-1.788 (2.477)			10.07 (5.448)			6.880 (3.768)
_cons	-31.45*** (8.453)	-31.63*** (8.389)	-32.24*** (8.823)	-79.67** (27.75)	-80.40** (28.00)	-80.85** (27.53)	-74.13*** (14.87)	-75.05*** (15.01)	-74.03*** (14.56)
<i>N</i>	7432	7432	7432	12728	12728	12728	17189	17189	17189
<i>R</i> ²	0.105	0.104	0.104	0.113	0.113	0.114	0.156	0.156	0.156

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Non Comp (1) is a dummy that equals 1 if the zip code is located in a state that had a margin of victory less than ten percentage points

Non Comp (2) is a dummy that equals 1 if the zip code is located in a state that had one of the 35 lowest margins of victory

Non Comp (3) is a dummy that equals 1 if the zip code is located in a state that had one of the 25 lowest margins of victory

Pop, Inc, Ads, and Contributions are all measured in thousands.

Standard errors are clustered at the media market.

media markets cross state boundaries, and in particular, when a media market crosses the border of a competitive and non-competitive state. While candidates do not outwardly advertise in non-competitive states in general, some areas of states can receive a high level of advertisements. For instance, though New Jersey was not competitive in 2000, southern New Jersey is part of the Philadelphia media market. Since Pennsylvania was competitive and many ads were aired in the Philadelphia media market, southern New Jersey was still exposed to the same level of advertisements as competitive states. Northern New Jersey, on the other hand is part of the New York media market and residents there were not exposed to advertisements because neither New York nor New Jersey was competitive in the 2000 presidential election.

We will use the following regression framework shown in Equation 2, where TC_z is total contributions in zip code z , Inc_z and Pop_z are median household income and total population measured in thousands and are also indexed by zip code. As before, the variables $65Plus_z$ and $White_z$ measure the concentration of seniors and whites respectively by zip code, and Ads_m , Neg_m , and Pol_m are measured at the media market level such that zip code z falls in media market m . Ads_m measures the total number of advertisements aired in the media market while Neg_m and Pol_m measure the concentration of negative advertisements and advertisements focused on policy issues respectively.

We run separate regressions for each election year (2000, 2004, 2008), since we argue that the elections are inherently different. To aggregate the results would mask differences that might be inherent to each particular election. Since our data are at the zip code level, we also include state-level fixed effects to absorb all state-level variation.

$$TC_z = \alpha_0 + \alpha_1 Inc_z + \alpha_2 Pop_z + \alpha_3 65Plus_z + \alpha_4 White_z + \alpha_5 Rural + \alpha_6 Ads_m + \alpha_7 Neg_m + \alpha_8 Pol_m + \epsilon \quad (2)$$

Table 2 shows the results of the regression in Equation 2. Again, we include only non-competitive states, using all three definitions of competitiveness (margin of victory less than 10 percent, 35 least competitive states, 25 least competitive states). We find that the effects of advertisements are small and insignificant in 2000 and 2004, but in 2008, they are significantly negative meaning that controlling for the demographic characteristics of the zip codes, areas that

Table 2: Advertisements and Total Contributions

	2000			2004			2008		
	(1) Cont	(2) Cont	(3) Cont	(1) Cont	(2) Cont	(3) Cont	(1) Cont	(2) Cont	(3) Cont
Pop	0.259* (0.106)	0.234* (0.0943)	0.514* (0.219)	1.995* (0.873)	1.872* (0.832)	2.491* (1.019)	1.148*** (0.282)	1.166*** (0.288)	1.297** (0.429)
Inc	0.773*** (0.0991)	0.735*** (0.0987)	0.636*** (0.130)	1.954*** (0.292)	1.874*** (0.286)	2.023*** (0.353)	2.614*** (0.372)	2.646*** (0.376)	3.186*** (0.461)
Percent Over 65	119.7*** (31.51)	116.7*** (28.80)	96.65*** (23.19)	218.5*** (51.69)	211.1*** (48.23)	252.6*** (59.88)	274.3*** (66.99)	271.4*** (67.83)	304.7** (89.26)
Percent White	-6.935 (10.39)	-6.795 (9.404)	-1.069 (21.23)	-3.179 (27.32)	-6.423 (24.50)	1.740 (34.78)	-17.02 (15.49)	-15.34 (15.73)	-13.74 (24.35)
Rural	-3.507 (1.764)	-4.238** (1.531)	-0.860 (1.800)	4.273 (9.190)	3.512 (8.668)	8.407 (10.46)	-10.85* (5.275)	-10.85 (5.493)	-10.02 (8.471)
Ads	0.548 (0.871)	0.165 (0.661)	1.334 (0.718)	0.0972 (0.419)	-0.0519 (0.378)	-0.242 (0.331)	-1.397*** (0.398)	-1.416*** (0.411)	-1.023* (0.498)
Negative	9.489 (7.116)	12.37 (6.259)	9.078 (7.270)	8.255 (5.826)	9.261 (6.059)	11.09* (5.494)	3.190 (10.77)	3.560 (11.86)	6.383 (15.00)
Personal	71.91 (40.81)	71.76 (39.52)	110.5** (36.94)	2.106 (8.298)	2.819 (8.390)	3.487 (8.906)	21.55 (13.69)	20.89 (14.49)	20.20 (19.26)
_cons	-52.96*** (13.70)	-50.31*** (12.83)	-58.32* (28.05)	-126.1** (46.44)	-117.4** (42.89)	-145.6* (56.04)	-117.6*** (30.48)	-119.2*** (30.72)	-153.6*** (42.34)
N	2978	3469	1627	5400	6047	4299	10162	9739	5675
R^2	0.200	0.195	0.204	0.110	0.109	0.110	0.209	0.209	0.226

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Models (1)-(3) each use a different definition for whether or not the zip code is located in a non-competitive state.

Pop, Inc, Ads, and Contributions are all measured in thousands.

Standard errors are clustered at the media market.

receive more advertisements contributed less to the presidential parties and candidates. The quantity of advertisements in 2008 may have actually turned off some contributors to giving as much. One could postulate that this is because non-competitive states saw more advertisements as a signal that the candidates were not stretched for money. Also, it is important to point out that our results are consistent with (Brady, Verba and Schlozman 1995) in that contributions are increasing in population, median household income, and the percent of senior citizens living in an area.

Next, we will repeat this regression (in Equation 2) in terms of party-specific contributions, but with a few modifications. First, in Equation 3, we look at total Republican contributions as a function of demographics and advertisements. We expect that Republican contributions will increase as the number of Republican ads increases, but in disaggregating Republican from Democratic ads and contributions we can see whether this is the case. *A priori* we would expect that if a Republican “giver” watched a Kerry ad in 2004, he/she would not think about giving money, or would be less likely to give money at all. Thus we expect β_6 (and hence γ_6) to be negative or zero.

$$TRC_z = \beta_0 + \beta_1 Inc_z + \beta_2 Pop_z + \beta_3 65Plus_z + \beta_4 White_z + \beta_5 RAds_m + \beta_6 DAds + \epsilon \quad (3)$$

$$TDC_z = \gamma_0 + \gamma_1 Inc_z + \gamma_2 Pop_z + \gamma_3 65Plus_z + \gamma_4 White_z + \gamma_5 DAds_m + \gamma_6 RAds + \epsilon \quad (4)$$

Table 3 shows the results of these models for both Democratic and Republican contributions. Here, we include only the first definition for non-competitive states (margins of victory less than 10 percent.)⁵ In 2000, we see that Republican contributions are actually decreasing in Republican advertisements and are increasing in Democratic advertisements. While this is unexpected, it could be the case that in 2000, seeing a Gore advertisement may have alarmed Bush supporters in non-competitive states; it could have served as a signal to Republicans that Bush needed more money in order to compete. However, this was not the case for Democrats in 2000, as Democratic contributions are increasing in Democratic advertisements and decreasing in Republican advertisements, as we would expect. In both 2004 and 2008, we find the signs

⁵The results do not change when we use either of the other definitions, however.

Table 3: Contributions by Party

	2000		2004		2008	
	(1)	(2)	(1)	(2)	(1)	(2)
	RCont	DCont	RCont	DCont	RCont	DCont
Pop	0.108** (0.0319)	0.149* (0.0653)	0.466** (0.140)	1.378* (0.671)	0.417*** (0.0650)	0.731** (0.235)
Inc	0.339*** (0.0332)	0.402*** (0.0629)	0.766*** (0.105)	1.131*** (0.253)	1.062*** (0.141)	1.561*** (0.291)
PercentOver65	50.29*** (11.15)	65.54*** (18.34)	82.17*** (15.15)	135.9** (39.69)	102.8*** (22.13)	168.1*** (46.83)
PercentWhite	-2.647 (3.349)	-5.662 (5.701)	0.435 (5.787)	-7.090 (18.96)	-0.0449 (3.962)	-17.38 (12.55)
Rural	-2.473*** (0.619)	-1.619 (1.192)	-5.439* (2.203)	7.580 (7.111)	-7.092*** (1.738)	-3.635 (3.765)
RAds	-1.371*** (0.291)	-1.469* (0.663)	1.195 (0.658)	-0.358 (2.011)	0.336 (0.587)	-2.005* (0.821)
DAds	1.318*** (0.310)	1.108* (0.496)	-0.979* (0.487)	0.606 (1.393)	-0.974 (0.570)	0.544 (0.722)
_cons	-17.67*** (4.357)	-21.03* (8.862)	-38.83*** (6.963)	-71.14 (39.64)	-47.69*** (8.821)	-61.91** (23.17)
<i>N</i>	3426	3426	6268	6268	10339	10339
<i>R</i> ²	0.177	0.153	0.123	0.087	0.176	0.185

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

This model uses zip codes in non-competitive state, those with less than a ten percent margin of victory.

Pop, Inc, RAds, DAds, and Contributions are all measured in thousands.

Standard errors are clustered at the media market.

that we expect for both Democratic and Republican advertisements: increasing in same party advertisements and decreasing in opposite-party advertisements.

Again, it is important to remember that this study focuses only on “givers,” as this is the information available in the FEC dataset. We expect the advertisements to be a reminder to givers to contribute, and perhaps contribute more than they were already planning to do. We also find that in addition to the demographic effects we found with our total contributions results, we also see that Republican contributions are decreasing in rural areas, which means that conditional on being a giver, zip codes located in rural areas give less than those in non-rural areas.

4.3 Binary Treatment Effects

Next, to exploit variation in advertisements in non-competitive states, we perform a difference-in-differences procedure and estimate the difference in mean contributions between the areas that received and did not receive the levels of ads of a competitive state. The treatment zip codes are those that received the level of advertisements of a competitive state, but were located in a non battleground state in the given election year. The control are the zip codes that received the level of advertisements of a non competitive states (meaning approximately zero) and are located in a non battleground state in the given election year. Controlling for demographics as before, we will compare these means, using the following diff-in-diff regression framework, which will also include state fixed effects. In equation 4, we keep a similar framework to those above, but we use a dummy, *Treat* for whether or not the zip code received the treatment, instead of the level of advertisements.

We use three different levels as treatments and present results for each. The first treatment condition is the least restrictive. A zip code is considered to have been treated if over 1,000 advertisements were aired over the course of the general election. If ads were spread out evenly across the five month time period in 2000 and 2008 and across the seven month time period in 2004, this amounts to only 7 and 5 ads per day respectively.⁶ The second treatment condition is whether or not residents in the zip code were exposed to more than 5,000 advertisements, and the third is for over 10,000 advertisements.

⁶Advertisements are not spread evenly throughout the period. They instead peak closer to election day, but this serves only as an illustration.

$$C_z = \delta_0 + \delta_1 Inc_z + \delta_2 Pop_z + \delta_3 65Plus_z + \delta_4 White + \delta_5 Treat + \epsilon \quad (5)$$

Table 4 shows the results for total contributions. Here, we see that in 2000, viewing over 10,000 ads appears to cause givers in non-competitive states to increase contributions. Coefficients in subsequent election years do not reach levels of statistical significance, but contributions are decreasing in advertisements in both 2004 and 2008.

We also regress this separately for parties.⁷ Currently, this allows us to determine whether the treatment conditions defined in the previous section of the paper affect Republican and Democratic contributions differently.

Table 5 illustrates the results for just Republican contributions while Table 6 shows results of the treatments on Democratic contributions. Interestingly, in 2000, increased advertising seems to increase Republican contributions.⁸ However, in subsequent years, more advertising causes Republicans to contribute less. This could be in part attributed to sheer volume of advertisement increase from 2000 to 2004 and 2008. Since advertisements are more geared toward competitive states, these non-competitive states may actually be less likely to contribute now due to an increase in advertising. In Table 6, the signs for the Democratic results are the same as for the Republican treatment, but are smaller in magnitude and less significant. These findings are particularly interesting, since Table 1 showed that individuals in non-competitive states in 2004 and 2008 may actually contribute more than those in competitive states.

5 Discussion

Ultimately, we find that presidential campaign advertising has a generally insignificant effect on donations to presidential candidates or the national political parties. In cases where advertising does have an effect, that effect is negative, meaning that in areas where people see more campaign advertisements, they are less likely to donate to political campaigns. We posit that this could be because of voter fatigue in these states; individuals living in non-competitive

⁷Ultimately we will include a control variable for the partisanship of the geographic area; since this is not likely to be available at the zip code level, we will probably include at the county or media-zone level. Including this variable will allow us to ask if Republicans in Democratic states give more than Democrats in Democratic states, as it may give them the sense that they have more of an impact on the election.

⁸When we use party-specific treatment levels, our results do not change.

Table 4: Total Contributions Treatment

	2000			2004			2008		
	(1) Cont	(2) Cont	(3) Cont	(1) Cont	(2) Cont	(3) Cont	(1) Cont	(2) Cont	(3) Cont
Pop	0.253* (0.0944)	0.254* (0.0951)	0.253* (0.0947)	1.787* (0.785)	1.790* (0.784)	1.795* (0.783)	1.799** (0.587)	1.802** (0.588)	1.804** (0.588)
Inc	0.741*** (0.0931)	0.748*** (0.0920)	0.745*** (0.0920)	1.776*** (0.270)	1.793*** (0.271)	1.795*** (0.271)	2.469*** (0.308)	2.475*** (0.307)	2.481*** (0.307)
Percent Over 65	115.6*** (28.19)	116.1*** (28.03)	115.8*** (27.99)	201.6*** (48.11)	199.7*** (47.73)	200.7*** (47.59)	264.0*** (57.83)	264.0*** (57.73)	263.8*** (57.71)
Percent White	-8.515 (8.823)	-8.905 (8.891)	-8.698 (8.881)	-5.662 (22.04)	-5.989 (22.06)	-6.264 (22.03)	-10.99 (15.41)	-11.18 (15.34)	-11.50 (15.39)
Rural	-4.190* (1.634)	-4.108* (1.646)	-4.198* (1.642)	2.214 (8.648)	2.221 (8.626)	2.253 (8.609)	-3.720 (7.052)	-3.896 (7.051)	-4.026 (7.062)
Over 1,000 Ads	-1.082 (1.676)			-10.79 (5.627)			1.189 (3.957)		
Over 5,000 Ads		2.617 (2.112)			-8.696 (6.558)			-3.905 (5.250)	
Over 10,000 Ads			4.564*** (1.115)			-8.863 (7.564)			-6.229 (5.051)
_cons	-39.51** (13.05)	-40.43** (12.66)	-40.18** (12.63)	-98.78* (42.94)	-101.1* (42.66)	-102.0* (42.53)	-126.9*** (29.76)	-124.7*** (30.19)	-124.1*** (29.90)
N	3438	3438	3438	6707	6707	6707	11920	11920	11920
R ²	0.193	0.193	0.193	0.105	0.104	0.104	0.163	0.163	0.163

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

All models use the first definition of a non-competitive state (margin of victory less than 10 percentage points)

Pop, Inc, and Contributions are all measured in thousands.

Standard errors are clustered at the media market.

Table 5: Republican Treatment

	2000			2004			2008		
	(1) RCont	(2) RCont	(3) RCont	(4) RCont	(5) RCont	(6) RCont	(7) RCont	(8) RCont	(9) RCont
Pop	0.127*** (0.0325)	0.128*** (0.0328)	0.127*** (0.0327)	0.527*** (0.111)	0.529*** (0.112)	0.531*** (0.111)	0.617*** (0.0961)	0.616*** (0.0964)	0.617*** (0.0963)
Inc	0.348*** (0.0342)	0.352*** (0.0342)	0.349*** (0.0344)	0.757*** (0.101)	0.763*** (0.104)	0.764*** (0.104)	0.975*** (0.129)	0.973*** (0.128)	0.976*** (0.128)
Percent Over 65	50.52*** (11.45)	50.88*** (11.45)	50.62*** (11.41)	77.83*** (14.05)	76.99*** (13.84)	77.32*** (13.86)	97.70*** (19.59)	97.44*** (19.55)	97.36*** (19.55)
Percent White	-3.701 (3.289)	-3.981 (3.318)	-3.795 (3.300)	-1.304 (6.065)	-1.462 (6.043)	-1.539 (6.054)	0.818 (4.467)	0.937 (4.427)	0.783 (4.449)
Over 1,000 Ads	-0.509 (0.813)			-4.134*** (1.059)			-2.230* (1.085)		
Over 5,000 Ads		2.632** (0.805)			-2.646* (1.120)			-2.727** (0.905)	
Over 10,000 Ads			2.931*** (0.336)			-2.774* (1.133)			-3.066** (1.036)
_cons	-18.71*** (4.380)	-19.27*** (4.304)	-19.04*** (4.295)	-38.57*** (6.588)	-39.60*** (6.605)	-39.84*** (6.542)	-51.96*** (7.667)	-52.01*** (7.759)	-52.08*** (7.743)
<i>N</i>	3438	3438	3438	6707	6707	6707	11920	11920	11920
<i>R</i> ²	0.174	0.175	0.174	0.121	0.121	0.121	0.156	0.156	0.156

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

All models use the first definition of a non-competitive state (margin of victory less than 10 percentage points)

Pop, Inc, and Republican Contributions are all measured in thousands.

Standard errors are clustered at the media market.

Table 6: Democratic Treatment

	2000			2004			2008		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	DCont	DCont	DCont	DCont	DCont	DCont	DCont	DCont	DCont
Pop	0.162* (0.0642)	0.161* (0.0645)	0.161* (0.0644)	1.228* (0.569)	1.229* (0.568)	1.232* (0.568)	1.235** (0.408)	1.242** (0.408)	1.244** (0.408)
Inc	0.409*** (0.0671)	0.411*** (0.0659)	0.411*** (0.0654)	1.006*** (0.224)	1.017*** (0.224)	1.019*** (0.224)	1.515*** (0.242)	1.523*** (0.240)	1.527*** (0.240)
PercentOver65	65.66** (18.80)	65.82** (18.61)	65.78** (18.58)	123.4** (38.07)	122.3** (37.94)	123.0** (37.89)	167.3*** (41.16)	167.7*** (41.09)	167.6*** (41.08)
PercentWhite	-6.483 (5.564)	-6.576 (5.597)	-6.561 (5.603)	-3.287 (19.97)	-3.454 (20.01)	-3.637 (19.96)	-13.67 (12.89)	-14.09 (12.86)	-14.30 (12.89)
Over 1,000 Ads	-0.509 (1.171)			-6.670 (5.187)			3.712 (3.317)		
Over 5,000 Ads		0.280 (1.403)			-6.075 (6.157)			-0.932 (4.751)	
Over 10,000 Ads			0.924 (0.777)			-6.102 (7.184)			-2.843 (4.466)
_cons	-22.10* (9.180)	-22.43* (8.814)	-22.41* (8.783)	-59.07 (33.88)	-60.38 (33.63)	-60.97 (33.60)	-76.93** (23.30)	-74.66** (23.75)	-74.08** (23.46)
N	3438	3438	3438	6707	6707	6707	11920	11920	11920
R^2	0.152	0.152	0.152	0.082	0.082	0.082	0.139	0.139	0.139

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

All models use the first definition of a non-competitive state (margin of victory less than 10 percentage points)

Pop, Inc, and Democratic Contributions are all measured in thousands.

Standard errors are clustered at the media market.

states who see a lot of campaign commercials may be reminded of the election, but they do not increase their giving because of their increased awareness. In fact, in some years, they donate less than their counterparts in zip codes where no advertisements are aired.

In terms of party-specific effects, results indicate inconsistent patterns between advertising and contributions. When the number of ads is modeled continuously, in 2004 and 2008, the variables behave as we expect - a large number of Democratic ads corresponds to an increase in Democratic contributions and a large number of Republican ads corresponds to a larger number of Republican contributions - but the variables do not reach conventional levels of statistical significance. In 2000 however, Democratic contributions are increasing in Democratic advertisements, but so are Republican contributions; Republican contributions are decreasing in both.

When considering advertisements as a dummy variable - either treated or untreated - advertisements are only statistically significant in 2000 and only when over 10,000 spots are aired. In this circumstance, advertising has a positive effect on total contributions, controlling for demographic factors. In terms of party-specific results, we again see inconsistent results. Republican contributions appear to be more sensitive to advertisements aired in non-competitive states; when higher dosages of ads are aired, Republican contributions are lower. Democratic contributions, on the other hand do not generally appear to be affected by ads. Circling back to our original question as to whether George W. Bush's advertising in California led to more donations to his campaign, we find the hypothesis difficult to support. While this paper does not examine the timing of advertising to the timing of donations, over the course of the general election campaign, advertising does not appear to have a positive effect on campaign donations. Further research may attempt to address some of the time-series questions.

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