

# Does Campaign Advertising Get Out the Vote? Evidence from the 2008 Presidential Election<sup>1</sup>

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<sup>1</sup> This paper was prepared for the American Politics Workshop at the University of Wisconsin-Madison, May 4, 2009. We would like to thank Ken Goldstein and Jacob Neiheisel for their comments on earlier versions of this paper. We also thank Donald Green for granting access to his replication archives.

## Introduction

Televised advertising plays a central role in modern presidential campaigns. During campaign 2008, candidates, parties, and interest groups invested nearly \$325 million to bombard the airwaves with over half a million spots during the general election campaign alone. As one political commentator put it, “Money’s always been a big part of politics, but it has become the overriding factor now. Raise the money and you have a chance to get elected; without it, forget it.”<sup>2</sup>

What remains unclear, however, is whether all the ads aired and money spent had any effect on the final outcome of the election. Did the flood of campaign advertising mobilize potential voters, or did all the sound and fury ultimately signify nothing? The scholarly literature remains divided on the relationship between campaign advertising and voter turnout. Some argue that exposure to campaign ads, especially negative ones, suppresses turnout (Anoslabehere and Iyengar 1997), others contend that campaign ads can actually have a positive effect on turnout (Franz et al. 2007; Hillygus 2005), and still others hold that ads have no effect at all (Lau et al. 1998). In this paper, we offer new evidence from the 2008 election on the mobilizing effect of campaign advertising and hope to shed further light on this unresolved empirical debate in the literature.

Recently, Jonathan Krasno and Donald Green (2008a) took advantage of the leverage that arises from the incongruence between media markets and states to examine the impact of campaign advertising on voter turnout in the 2000 presidential election. This natural experiment allowed them to estimate the mobilizing effect of campaign advertising independent of other

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<sup>2</sup> Bob Schieffer on “Face the Nation.” July 20, 2008.

state specific factors. Their analysis found, contrary to several previous studies, no statistically significant relationship between the volume of campaign advertising and voter turnout once state-level differences are accounted for. “Even taking into account the huge expenditures on TV,” they conclude, “presidential ads account for only a fraction of the turnout differential in battleground and non-battleground states” (2008a, 258). These findings caused a bit of controversy (see Franz et al. 2008; Krasno and Green 2008b), because they challenge other scholars who claim that campaign advertising has a small but statistically significant effect on voter turnout (e.g., Freedman, Franz, and Goldstein 2004; Hillygus 2005).

The aim of this paper is to reassess the dispute between Krasno and Green and their critics using new data from the 2008 presidential election. Both sides present compelling arguments, making further empirical evidence invaluable. Furthermore, data from the 2008 provide us with several advantages compared to the data available in 2000. This paper proceeds in four parts. First, we review the argument and findings of Krasno and Green and discuss some of the critiques made of their study. Second, we describe the data and methods used in our analysis, highlighting the similarities and differences between our approach and that of Krasno and Green. Third, we present the results of our statistical models. Finally, we offer some concluding discussion of our findings and what they tell us about the relationship between campaign advertising and voter turnout.

## **Campaign Advertising and Voter Turnout**

Within the scholarly literature on campaign advertising, a debate persists regarding the effect of campaign advertising on voter turnout. To a large extent, this debate stems from the

divergent findings of experimental versus observational studies. Laboratory experiments, like the ones conducted by Ansolbehere, Iyengar, and their colleagues (1994; 1997), find that exposure to negative advertising decreases the probability that people will turnout to vote. Negative campaigning, they argue, turns people off from politics and angers citizens about the tone of politics. This demobilizing effect translates into as much as five percentage point drop in voter turnout, disenfranchising approximately six million potential voters. Ansolbehere and Iyengar (1997) conclude, “In election after election, citizens have registered their disgust with the negativity of contemporary political campaigns by tuning out and staying home (99).”

Contrary to these findings, subsequent observational studies show no evidence that political advertising—even negative advertising—depresses voter turnout. Numerous studies posit that campaign advertising actually stimulates voter turnout, although these effects are sometimes conditional. For example, Freedman, Franz, and Goldstein (2004) find that exposure to advertising can raise the probability of turning out by as much as 10 percentage points (732). Hillygus (2005) finds that all campaign effects (including television advertising) raises an individual’s probability of voting by at least 10 percent (63). However, despite these findings, the jury is still out on the question of whether campaign advertising affects voter turnout at all. Many studies find that campaigning advertising has no effect on voter turnout (Brooks 2006; Lau 1998; Lau et al. 1999; Lau 2007). While it is safe to say that campaign advertising is probably not causing millions of people to stay home on Election Day, it remains debatable whether or not campaign ads actually mobilizes citizens to head to the polls.

In response to these inconsistent empirical findings, Krasno and Green (2008a) attempt to address the fundamental question of whether campaign advertising, regardless of tone, influences

voter turnout in presidential elections. They point out that one of the major problems in studying the effects of campaign advertising in presidential elections is that campaigns tend to target their advertising to competitive states. However, campaign advertising is not the only thing that is skewed towards competitive areas – nearly all aspects of the campaign are more intense in competitive states – making it difficult to isolate the effect of advertising from the effects of other kinds of campaign activity.

To overcome this problem, Krasno and Green propose a natural experiment that takes advantage of the fact that the boundaries of media markets do not coincide with state boundaries. Because campaign advertising is a media market level phenomenon, this means that there are many cases where residents in one part of the state receive a dramatically different amount of campaign advertising than those in another part of the state. For example, some New Jersey residents (those living in the Philadelphia media market) received tremendous amounts of advertising during the 2000 presidential campaign, while others (those living in the New York City media market) received hardly any. Presidential election campaigns, on the other hand, are state-based affairs, because the winner is determined by the Electoral College vote rather than the popular vote (Shaw 2006). This natural experiment allows Krasno and Green to estimate the effects of campaign advertising independent of other state specific factors, such as the competitiveness of the state or any election law variation between states.

In their analysis, they estimate a series of models at the media zone level with the dependent variable being the voting age population turnout in each zone.<sup>3</sup> Their key independent variable is the volume of presidential campaign advertising aired in the media zone (measured in

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<sup>3</sup> Media zones are media markets intersected with states. For example then, the Philadelphia media market is segmented into two parts, one in Pennsylvania and one in New Jersey.

GRPs).<sup>4</sup> Across their various models, they use several control variables, but two deserve special mention. First, they include state-level fixed effects in most of their models. The fixed-effects allow them to capitalize on a regression discontinuity approach to compare voters in high and low exposure media zones. Second, they include advertising by other candidates (in GRPs) as a separate control variable in the analysis. They find that once state-level fixed effects are included, the volume of presidential campaign advertising has no statistically significant impact on voter turnout. According to them, these findings discredit previous studies that find that campaign advertising has a net positive effect on voter turnout.

## **Responding to Krasno and Green**

In response to this argument, Franz, Freedman, Goldstein, and Ridout (2008) offer a series of critiques of the Krasno and Green study. Their two most prominent criticisms focus on the use of fixed-effects and separating non-presidential and presidential ads. First, they argue that the inclusion of fixed-effects is overly stringent and leads to an excessive loss of degrees of freedom. Krasno and Green use data on advertising during the 2000 election from the University of Wisconsin Advertising Project (WiscAds), but the problem is that the 2000 WiscAds data only contain the 75 largest media markets, drastically limiting the sample size to only 128 media zones. The sparseness of the data leaves only three observations for each parameter of their model and may greatly enervate their statistical power. Franz et al. suggest looking at turnout on the county level (rather than the media zone level) because that would provide more observations.

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<sup>4</sup> While Krasno and Green use GRPs, they claim their results remain consistent when the number of airings is used instead (2008a, 252).

Second, they argue that there is “no clear theoretical rationale for separating advertising into presidential and nonpresidential ads” (263). Most voters, they contend, are unlikely to distinguish between presidential ads and non-presidential ads, so it seems unreasonable to separate out their effects. Ultimately, Franz et al. argue, the question is how *all political advertising* affects turnout, not just presidential ads. Some states may not be competitive in the presidential election but do have competitive in senate or gubernatorial elections. In 2008, that was largely the case in Washington and Oregon. Furthermore, as Franz et al. demonstrate, campaign advertising has a statistically significant relationship with turnout under more model specifications when total advertising is used rather than just presidential (2008, 264, Table 1).

In response to the response, Krasno and Green (2008b) argue that the loss of degrees of freedom due to the inclusion of fixed effects is more than offset by the decrease in variability they provide. They note that the inclusion of fixed effects ultimately shrinks the size of the standard errors and produce more precise point estimates of advertising effects (270). They argue that the use of fixed effects is substantively necessary because they control for within state similarities. Krasno and Green also resist the suggestion of using county level data because of the potential problem of clustering. On the issue of just using presidential ads, they argue that including non-presidential ads along with presidential ads will upwardly bias the estimate of the effect. By including non-presidential ads with presidential ads, Franz and his colleagues “run the risk of contaminating the experiment by combining exogenous presidential ads with potentially endogenous non-presidential ads” (270). Furthermore, ads for races in other states may not stimulate turnout as much as ads for races in the same state. Presidential ads, they argue, are the only ads where the effect should be the same across states, because it is a national race.

Our analysis engages this debate between Krasno and Green and Franz and his colleagues by examining the effect of campaign advertising on voter turnout in the 2008 election. The 2008 election affords two key advantages not available in previous years. First, more data on campaign advertising exists in 2008 than in previous election cycles. In 2008, WiscAds collected data on campaign advertising in all media markets, while Krasno and Green only had access to data from the largest 75 markets in 2000. What this means is that not only do we have a more complete picture of campaign advertising in 2008 compared to 2000, but it also means that we have 345 rather than 128 media zones for our analysis.

The second advantage is that the 2008 election provides us with a better measure of the intensity of the campaign ground game. In their analysis, Krasno and Green estimate the amount of voter contact using self-reports from the 2000 National Annenberg Election Study's (NAES) rolling cross-section. However, this exposes them to the problem that these self-reports are based on individuals' memories, not actual campaign activity. On the one hand, people residing in competitive localities may be more likely to remember being contacted because the election was more salient to them. On the other hand, people living in non-competitive places may be better at recalling a contact because it was such a rare event. Regardless, we measure voter contact with a count of the number of campaign offices in each county or media zone.<sup>5</sup> This provides us a more objective measure of campaign activity.

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<sup>5</sup> Over the weekend leading up to the election, we went to each of the two major party candidate's websites and obtained a list of their existing campaign offices. We then used the addresses to assign each office to its appropriate county and arrived at a total number of campaign offices per county across the U.S.

## Data and Methods

For our analysis, we draw upon data from a wide variety of sources. Our dependent variable is the percentage of the voting age population that voted in the 2008 presidential election.<sup>6</sup> We calculated voter turnout at both the county and media zone level.<sup>7</sup> For our key independent variable, we use tracking data on campaign advertising from the 2008 election provided by the University of Wisconsin Advertising Project (WiscAds). These data provide us with the number of campaign advertisements aired in each media market.<sup>8</sup> We limit our analyses to the number of advertisements aired during the last two weeks of the general election (October 21 – November 5, 2008). The number of airings during these last two weeks represents 29 percent of the total airings during the general election campaign. Estimating the models using all the general election airings as opposed to the last two weeks does not affect any of our substantive findings.<sup>9</sup>

To measure competitiveness, we created a dummy variable indicating whether the county or media zone was competitive at the presidential, senatorial, gubernatorial, or congressional level using data from the Cook Political Report.<sup>10</sup> Intuitively, we do not think that competitiveness has an additive effect on turnout, so we use a binary rather than an ordinal measure. For media zones, we dropped competitiveness at the house level because media zones

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<sup>6</sup> Vote totals at the county level are from Dave Leip's Atlas of U.S. Presidential Elections (<http://www.uselectionatlas.org/>)

<sup>7</sup> Denominators for turnout figures are from the U.S. Census Bureau's Population Projections in 2004 and 2007 (2008 is not yet available). Though this figure may underestimate actual turnout, (see McDonald and Popkin 2001) we know of no estimates of the voting eligible population by county.

<sup>8</sup> We would like to thank Ken Goldstein for allowing us to use these data.

<sup>9</sup> We re-estimated our models limiting our analysis to the number of advertisements starting on June 4, 2008 and September 1, 2008. Our results remain consistent across these models, although the coefficient on advertising is smaller. While early campaign advertising may have an effect on vote choice or voter knowledge, we think it is unlikely to impact voter turnout (Ansolabehere and Iyengar 1997).

<sup>10</sup> We considered the Cook Political Report categories of toss-up, lean Democratic or lean Republican to be competitive and used the most recent pre-election report for these figures.

frequently contain more than one congressional district. Our final control variables were two measures of the campaign ground game. First, we compiled the number of candidate visits made by both presidential candidates during the general election campaign, obtained from the *New York Times*. Second, as mentioned above, we utilized the presidential candidates' websites to obtain a list of campaign offices.<sup>11</sup> These two measures gauge the degree to which the presidential campaigns were actively attempting to engage and mobilize potential voters.

In our analysis, we begin by conducting a replication of Krasno and Green's regression models using the 2008 data.<sup>12</sup> Like in Krasno and Green (2008a), the unit of analysis for this dataset is the media zone, but we replace their measure of voter contact with our measures of candidate visits and campaign offices. Part of the rationale behind replicating the Krasno and Green study is to address their findings on as similar terms as possible. We do this analysis using first just presidential advertising and then, following the suggestion of Franz et al., total advertising as the key independent variable.

In the second analysis, we use county-level data from 3,111 counties.<sup>13</sup> Each county was assigned to its corresponding media market.<sup>14</sup> Krasno and Green (2008b) worry that "subdividing markets into smaller units increase N but may not decrease the standard errors because the subunits are assigned as clusters to varying levels of presidential advertising" (270).

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<sup>11</sup> These websites were taken down in the days following the general election, but were linked to the candidate's homepages ([www.johnmccain.com](http://www.johnmccain.com)) and ([www.barackobama.com](http://www.barackobama.com)) usually under the heading of "Volunteer," or "Find the Campaign Office Near You".

<sup>12</sup> We were able to replicate Krasno and Green's analysis using the replication archives available on Donald Green's website: <http://research.yale.edu/vote/replication.html>. We thank him for making these publicly and readily available.

<sup>13</sup> We dropped all of Alaska because it does not report vote totals by county.

<sup>14</sup> While the vast majority of counties lie within one media market for those counties that receive broadcasts from two media markets, the number of ad airings was averaged for the county.

To mitigate this concern, we estimate our models with clustered standard errors at the media zone.

## Results

Table 1 reports the results of eight different OLS regressions estimated at the media zone level based on a series of alternative model specifications. Under six of the eight specifications, presidential campaign advertising has a positive and statistically significant effect on voter turnout, running counter to Krasno and Green's findings that campaign advertising has no effect on turnout once cross-state differences are taken into account. As demonstrated in model 5, even after controlling for past presidential turnout, non-presidential advertising, and state fixed effects, we find that the volume of campaign advertising still has a positive effect on media zone turnout.

That said, the size of these effects is fairly modest. As we introduce more parameters into the model, we see the size of the coefficient on presidential advertising decrease. In the first two models in Table 1, an increase of 1,000 presidential ad airings corresponds with about a 1 percentage point increase in voter turnout, but once past presidential turnout is controlled for, the coefficient on advertising shrinks substantially. For example, in model 5, a media zone receiving 1,000 additional airings sees only around a quarter of a percentage point increase in turnout, given previous turnout. This means that as presidential campaign advertising moves across its range (0 to 4,801), voter turnout in a media zone would increase by roughly 1.25 percentage points. Effects of this size tend to comport with the notion that while presidential campaign advertising may increase voter turnout, it does so only at the margins.

**Table 1: OLS Estimates of the Effect of Presidential Advertisements on Turnout**

Percentage-point gains	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
In Turnout per 1,000 <i>Presidential</i> Airings	1.23*	0.92*	0.31*	0.67*	0.26*	0.08	0.36*	0.22
Standard Errors	0.35	0.33	0.13	0.15	0.13	0.1	0.17	0.2
Robust standard errors	0.33	0.32	0.14	0.15	0.14	0.1	0.17	0.2
Control for Midterm Election? (most recent Senate election)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for Fixed Effects? (dummy variable for each state)		Yes	Yes	No	Yes	Yes	No	No
Control for Past Presidential Turnout? (turnout in 2004)			Yes	Yes	Yes	Yes	Yes	Yes
Control for Other Types of Ads					Yes	Yes	Yes	Yes
Control for Campaign Offices Visits						Yes	Yes	Yes
Control for Competitiveness								Yes
Adjusted R-squared	0.20	0.59	0.94	0.85	0.94	0.94	0.86	0.87

N=345

\* -  $p < 0.05$

Models 6 and 8 are the only two specifications where we do not find a statistically significant effect for advertising. Both of these models include additional controls for the number of campaign offices and candidate visits in each media zone, and once these variables are include in the model, the effects of campaign advertising are no longer statistically significant. This suggests to us that campaign advertising may only appear to have an effect on voter turnout to the extent that it is a proxy for other campaign effects. As Krasno and Green point out, while campaign advertising may signal to voters the importance of an election, it may do less to directly engage voters and motivate them to the polls.

In model 8, we explore the difference between including fixed effects versus controlling for the competitiveness of the media zone. Here, we find that in both model 6 (which includes the fixed effects) and model 8 (which includes competitiveness as opposed to fixed effects) finds that presidential advertising does not have a statistically significant effect on turnout once

candidate visits and campaign offices are controlled for.<sup>15</sup> But while both estimates are indistinguishable from zero, the point estimates are considerably different. While the use of state fixed effects does not appear to make much of a difference in this case (because neither coefficient is statistically significant), using competitiveness rather than fixed effects could make a major difference in other instances.

**Table 2: OLS Estimates of the Effect of Total Advertisements on Turnout**

**Percentage-point gains**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
In Turnout per 1,000 <i>Total</i> Airings	0.82*	0.55*	0.12*	0.36*	NA	0.06	0.29*	0.28*
Standard Errors	0.14	0.12	0.05	0.06		0.05	0.07	0.06
Robust standard errors	0.14	0.12	0.05	0.07		0.05	0.07	0.07
Control for Midterm Election? (most recent Senate election)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for Fixed Effects? (dummy variable for each state)		Yes	Yes	No	Yes	Yes	No	No
Control for Past Presidential Turnout? (turnout in 2004)			Yes	Yes	Yes	Yes	Yes	Yes
Control for Other Types of Ads					Yes	Yes	Yes	Yes
Control for Campaign Offices and Visits						Yes	Yes	Yes
Control for Competitiveness								Yes
Adjusted R-squared	0.24	0.61	0.94	0.85	--	0.94	0.86	0.87

N=345

\* -  $p < 0.05$

Franz, Freedman, Goldstein, and Ridout (2008), however, make a compelling case that presidential advertising alone is not a theoretically sound predictor of overall turnout and that we need to consider campaign advertising as a whole. As a result, we re-estimate the models from Table 1 using the total number of general campaign advertisements as the key independent

<sup>15</sup> If candidate visits and campaign offices were removed from the models, the coefficients on presidential advertising would be significant in both.

variable instead of just presidential ads.<sup>16</sup> In Table 2, we report that all but one of the model specifications produce a significant effect of campaign advertisements on media zone turnout. Even more of these models produce a significant effect than the models presented by Franz et al. (2008, 264). The only model that is not significant in this replication is the model in the sixth column of the table, which includes both fixed effects and controls for campaign offices and candidate visits.

Krasno and Green (2008b) note that including non-presidential ads with presidential ads could create “an upward bias in the estimated effect of presidential ads” (270). In actuality, however, pooling presidential and non-presidential advertising leads to a *downward* bias in the estimated effect of advertising in all but one specification. In other words, although total campaign advertising is related to voter turnout, its effect is generally weaker than the effect of just presidential advertising. It makes sense that presidential advertising should do a better job at mobilizing people to vote in a presidential election, but this finding raises doubts about the practice of pooling presidential and non-presidential advertising. At least in the 2008 election, our analysis finds that presidential advertising has a stronger relationship with turnout than total advertising. Still, just as we saw in Table 1, once interstate differences, campaign offices, and candidate visits are controlled for, the effect of advertising becomes indistinguishable from zero.

We now turn to the second part of our analysis and estimate the same sets of models in Table 1 and 2 using county level data. Table 3 reports the results of the models where presidential and non-presidential advertising are kept separate. Across all specifications, we find a positive and statistically significant relationship between presidential advertising and voter

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<sup>16</sup> This is a similar replication to that done by Franz, Freedman, Goldstein, and Ridout in their response (2008, 264) but uses 2008 advertising and turnout data instead of 2004 data.

turnout. While Krasno and Green are correct in their concern that the clustering of observations does lead to larger standard errors, we believe the gains in observations far outweigh the cost in precision. Even taking into account the clustered nature of the data, we still find statistically significant effects for campaign advertising, despite the inflated standard errors.

**Table 3: OLS Estimates of the Effect of Presidential Advertising on County Turnout**

<b>Percentage-point gains</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
In Turnout per 1,000 <i>Presidential Airings</i>	1.42*	0.87*	0.43*	0.93*	0.39*	0.32*	0.73*	0.62*
Standard Errors	0.14	0.2	0.08	0.06	0.08	0.08	0.07	0.07
Robust standard errors)	0.3	0.25	0.12	0.19	0.12	0.12	0.2	0.19
Control for Midterm Election? (most recent Senate election)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for Fixed Effects? (dummy variable for each state)		Yes	Yes	No	Yes	Yes	No	No
Control for Past Presidential Turnout? (turnout in 2004)			Yes	Yes	Yes	Yes	Yes	Yes
Control for Other Types of Ads					Yes	Yes	Yes	Yes
Control for Campaign Offices and Visits						Yes	Yes	Yes
Control for Competitiveness								Yes
Adjusted R-squared	0.08	0.37	0.89	0.80	0.89	0.89	0.81	0.81

N=3,111  
\* -  $p < 0.05$

Interestingly, our results show that advertising has an effect on county level turnout even after controlling for candidate visits and campaign offices. The reason for this remains unclear, but it may relate to the ability of the campaign to target resources. Presidential campaigns may be driven by practical constraints when determining where to locate campaign offices or hold rallies. While we believe campaigns are able to get their candidate visits and campaign offices in the media zones they want, they may not be able to do so at the county level. In other words, knowing which media zones have more offices or received more visits may tell us something about turnout in that media zone, but knowing which counties have offices or received more visits may not tell us as much about turnout in that county.

**Table 4: OLS Estimates of the Effect of Total Advertising on County Turnout**

Percentage-point gains	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
In Turnout per 1,000 <i>Total Airings</i>	0.69*	0.35*	0.13*	0.35*	NA	0.11*	0.32*	0.28*
Standard Errors	0.05	0.06	0.03	0.03		0.03	0.03	0.03
Robust standard errors)	0.12	0.07	0.07	0.1		0.04	0.09	0.09
Control for Midterm Election? (most recent Senate election)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for Fixed Effects? (dummy variable for each state)		Yes	Yes	No	Yes	Yes	No	No
Control for Past Presidential Turnout? (turnout in 2004)			Yes	Yes	Yes	Yes	Yes	Yes
Control for Other Types of Ads					Yes	Yes	Yes	Yes
Control for Campaign Offices Visits						Yes	Yes	Yes
Control for Competitiveness								Yes
Adjusted R-squared	0.10	0.36	0.88	0.80	--	0.89	0.80	0.81

N=3,111

\* - p < 0.05

Finally, we estimate our final set of models in which we use all advertisements aired during the general election campaign as our key independent variable. In Table 4, we present the results of these models. Here, all of our specifications produce a significant effect of campaign advertising on voter turnout at the county level. We again find that campaign advertising has a positive effect on voter turnout across all specifications, even after controlling for candidate visits and campaign offices. Like we saw in Table 2, the estimated effect of total advertising appears to be lower than that for just presidential advertising. Even so, we again find that campaign advertising remains statistically significant after candidate visits and campaign offices are controlled for.

## Discussion

The results reported above challenge the assertion of Krasno and Green that campaign advertising in presidential elections has no effect on voter turnout. We have demonstrated across a variety of model specifications and largely on their own terms that campaign advertising can have a statistically significant impact on voter turnout both at the media zone and county levels. More than anything else, we feel that the Krasno and Green study fall prey to the problem of micronumerosity. Because of the low number of observations and high number of parameters in their study, we believe they were left with too little information to be able to detect the effects of campaign advertising, but that in and of itself is telling. While we find that campaign advertising does impact voter turnout, we must emphasize that these effects are relatively small. According to our models, even places that receive a tremendous amount of advertising would see only a modest increase in their voter turnout, *ceteris paribus*.

Our findings, however, do not completely support the claims of Franz et al. either. While total advertising may be the proper measure for some dependent variables, we find that in 2008 presidential advertising by itself has a stronger effect on turnout in presidential elections than all advertising. We also find that state fixed effects do make a substantial difference in estimating the effect of campaign advertising. Even with controls for candidate visits, campaign offices, and competitiveness, the models without fixed effects still produced considerably larger coefficient estimates than those with fixed effects. Larger coefficients do not necessarily mean incorrect coefficients, but we did not find evidence to support the notion that one could replace fixed effects with some other set of controls and still produce the same result.

We must also stress that these results are limited to the case of the 2008 election. We cannot say with any certainty that Krasno and Green were wrong in saying that campaign advertising had no effect on turnout in the 2000 election. Rather, we only claim that such a finding should not be over generalized, and we find that campaign advertising did have a positive effect in the 2008 presidential election. Like all presidential elections, the 2008 election was unique, and therefore it is possible that our results are heavily dependent on the context in which they were created. The lack of consistent findings does not mean there is an inherent flaw with either our analysis or that of Krasno and Green, but what we can take away from this is that campaign advertising does have a positive effect on turnout in at least some contexts.

In closing, there are several other avenues along which we might explore. The data structure of counties nested within media zones nested within states suggests a multi-level modeling approach could be fruitful as opposed to the fixed effects approach used here. We are also not thoroughly convinced that the effects of campaign advertising are strictly linear. Going forward, scholars might consider using semiparametric approaches to allow for a non-linear relationship between advertising volume and voter turnout.

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## Appendix

**Table A1: Descriptive Statistics**

<b>Media Zone</b>	<b>Variable</b>	<b>Mean</b>	<b>Std. Dev</b>	<b>Min</b>	<b>Max</b>
	Turnout 08 (%)	58.37	7.84	29.02	81.46
	Turnout 04 (%)	57.15	8.11	27.76	83.21
	Midterm Turnout (%)	40.47	8.44	15.68	76.93
	Pres. Ads (per 1000)	0.83	1.09	0	4.8
	Other Ads (per 1000)	2.25	2.11	0	13.13
	Campaign Offices	3.83	7.67	0	49
	Candidate Visits	1.08	2.88	0	22

<b>County</b>	<b>Variable</b>	<b>Mean</b>	<b>Std. Dev</b>	<b>Min</b>	<b>Max</b>
	Turnout 08	59.22	9.19	25.09	100
	Turnout 04	58.61	9.48	19.96	100
	Midterm Turnout	42.55	11.28	2.84	100
	Pres. Ads (per 1000)	0.89	1.14	0	4.8
	Other Ads (per 1000)	2.64	2.51	0	13.13
	Campaign Offices	0.42	1.22	0	24
	Candidate Visits	0.12	0.75	0	22