

Studying Statewide Political Campaigns

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THERE IS LITTLE IN THE ACADEMIC literature about the dynamics of campaign advertising strategies and their effects on candidate electoral success. While there have been theoretical and empirical studies of campaign strategy (Ferejohn and Noll 1978; Skarpedas and Grofman 1995; Glazer 1990) and scattered treatments of candidate advertising strategies (Roddy and Garramone 1988; Merritt 1984), our lack of understanding of the dynamics of advertising strategies has led some to wonder how much "campaigns matter" (Finkel 1993).

The difficulty in examining campaign dynamics stems from the lack of consistent data on candidate advertisements (West 1993). What little is known about campaign advertisements comes from selective sampling of television advertisements from presidential campaigns (West 1993) or from experimental studies (Ansolabehere et al. 1994; Ansolabehere and Iyengar 1995; Garramone 1985; Garramone et al. 1990). Presidential campaigns, however, have several characteristics that make them ill-suited for studying the effects of advertising strategies. As Lau and Pomper note, presidential campaigns feature the most prominent political figures, who are less likely to be "redefined" by an opponent's attack advertisement. Further, presidential candidates enjoy much more media exposure than do Senate or gubernatorial candidates (Lau and Pomper 2002). Most important, there is little variation in advertising strategies and the intensity of advertising across presidential campaigns. Finally, there is a very limited sample of presidential elections.

In this essay, we concentrate our analysis on two statewide races held in California. There recently has been some interest in studying statewide

campaigns, largely because they do provide an important new resource for studying political campaigns (Lau and Pomper 2002; Dalager 1996; Freedman and Goldstein 1999; Sellers 1998; West 1993). In campaigns for offices such as state governor, U.S. Senate, and other statewide seats, there exists a great variety of campaigns and advertising strategies. The intensity of statewide races varies enormously, both within states and over time. By studying the advertising strategies of statewide campaigns, the quasi-experimental setting produces a natural experiment in which we may, in effect, study both dosage and treatment effects of campaign advertising.

In this essay we analyze data collected during the final eight weeks of two statewide campaigns in California during 1994: the races for governor and Senate. The campaigns were hard fought in that year and provide an interesting laboratory in which to study intense campaigns over time and to compare the advertising strategies between races. We first begin by presenting data from the television advertisements from these two races. This database of television advertisements from the last eight weeks of these races provides a unique opportunity to examine the strategies used in each campaign as candidates tried to get their messages through to the same voters. Next, we turn to the politically relevant questions: Did these advertisements matter? Did the messages the candidates sent through their television advertisements influence the electorate? To answer these questions, we use two sets of polling data from this election to see whether these television advertisements effectively communicated the messages of each candidate to the intended audience. We conclude with ways to improve the analysis of political campaigns by concentrating on suggestions for studying voter response to multiple campaign stimuli in one election year.

Data and Methods

We draw upon two sources of data in this essay. Both are taken from an intensive analysis of campaign television advertising. The first set contains advertisements from the 1994 California Senate race and the second, from the 1994 California governor's race. During the final eight weeks of the 1994 general election campaign, we videotaped prime-time television (6:00 p.m.–midnight) from the two most highly rated television channels in Los Angeles—KABC and KNBC. From these tapes, we obtained a day-by-day time-series of all television advertisements aired during this period by the four major party candidates for these offices: Pete Wilson and Kath-

leen Brown in the governor's race and Dianne Feinstein and Michael Huffington in the Senate race.¹

In total, there were 682 advertisements aired during these weeks on these two stations, 340 from KABC and 342 from KNBC. This database is organized by individual advertisements, as we know both the day and the evening program during which each advertisement was aired. In total, 177 advertisements were aired by Wilson, 77 by Brown, 212 by Huffington, and 216 by Feinstein.

Importantly, candidate advertising is a method whereby a candidate tries to convey his or her message to an audience. Because a contested political campaign necessarily involves two or more candidates, an advertisement always focuses on one of the following: the candidate sponsoring the advertisement, the sponsoring candidate's opponent, or both the sponsoring candidate and the opponent in a comparative advertisement. As we shall show, the nature of the advertisement's focus often determines the tone: positive, negative, or a contrast of the candidates.² Thus, each advertisement in this database was analyzed by content to determine the sponsoring candidate, the tone (positive, attack, or contrast), the focus (whether it was primarily focused on the sponsoring candidate, the opponent, or a comparative advertisement), and the general theme of the advertisement (policy issues, personality and background, or policy record).³

This coding scheme provides an excellent analytical tool with which to understand the motivations of the candidates during their campaigns. In particular, by studying the tone and focus of television advertisements, we can better understand the strategies candidates use at different points in their campaigns. Positive statements about oneself are used by a candidate to sell his or her candidacy to an uncertain or skeptical electorate. Attack advertisements focus on the mistakes of one's opponent and can induce uncertainty or reduce the electorate's affect for the opponent. Comparative advertisements, designed to draw contrasts between the candidate and the opponent, are used to accomplish the goals of both positive and attack advertisements simultaneously.

Furthermore, as we shall see subsequently, there are repeatedly observed dynamics involved in candidate advertising. Candidates generally start the campaign using positive strategies, especially when they are introducing themselves to an uncertain or skeptical electorate. Positive advertisements help develop positive effect and rapport between the electorate and the candidate, help the candidate in building his or her electorate base,

and, finally, help attract swing voters. Negative advertisements, on the other hand, tend to be used later in the campaign. These advertisements can have unpredictable consequences, as candidates who are perceived to have crossed some threshold of negativity in the attack may suffer a backlash. Therefore, negative advertisements are used when the potential of backlash can be minimized, generally late in the race and quite often only when a candidate is falling behind in the polls. Comparative advertisements, which combine aspects of positive and attack strategies, are used throughout the race.

To match the campaign strategies determined using this database with voter responses, we use polling data from this election to probe the two ways in which television advertisements might influence voters. First, they may influence the weights that voters place on various issues. We use an exit poll conducted by the *Los Angeles Times* to examine how voters weighted issues in their voting behavior in this election. While this exit poll covered the entire state on Election Day, it contained a large oversampling of voters in the Los Angeles area. One important note of caution, however, in interpreting our results is the absence of any data on the viewing habits of respondents. As noted in a study by Freedman and Goldstein, exposure to any particular campaign advertisement is a function of both the frequency with which the advertisement was aired and the amount of television watched by the respondent (Freedman and Goldstein 1999). Ideally, we would have access to the latter and be able to incorporate it into our analysis. However, as this data was not available at that time, we instead estimate our results using only the frequency with which an advertisement was aired. We believe this is partially justified, as, regardless of who actually viewed the advertisement, candidates employed specific campaign strategies, acting *as if* voters were watching them.

Further, in their study, Freedman and Goldstein used the Polaris Ad Detector, a tracking system that monitors political activity throughout the year. They found that, during the 1997 Virginia gubernatorial election, candidates were most likely to air advertisements during the daytime and early evening hours, concentrating most heavily on the half hour leading up to prime-time television (Freedman and Goldstein 1999). Therefore, we feel our analysis is likely to accurately capture the campaign tactics employed by candidates, because, as noted earlier, we analyzed advertisements aired between 6:00 p.m. and midnight.

Second, advertisements may influence voter evaluations of candi-

dates over the course of the campaign season. We use three Field Polls from the general election campaign in 1994. These are telephone polls conducted statewide in July, September, and October 1994. As they are statewide samples, they provide an opportunity to examine the ways in which voters evaluated the candidates throughout the 1994 general election in California. Further, we may use these polls to determine whether changes in candidate evaluations correspond to changes in the media strategies of the candidates.

The Advertising Strategies in the 1994 Campaign

Cumulative Results

We begin by examining the general tone of candidate television advertisements in this election—whether the advertisements were primarily positive or negative or contrasted the candidates. We define a positive advertisement as one in which a candidate mentions factual information in a nonderogatory manner. Positive television advertisements, then, are primarily by one candidate about his or her own issue position, record, or personal background. We used the Surlin and Gordon (1977) operationalization of negative advertisements: a negative advertisement attacks the opponent's personality, policy platform, or party. To define contrast advertisements, we used Merritt's (1984) operationalization. Here, comparative advertisements highlight differences between candidates in order to highlight the superior qualities of the sponsor; these differ from negative advertisements that highlight the inferiority of the opponent.

Table 1 summarizes the relative frequencies of advertisement focus for each candidate (the gubernatorial candidates are in the left panels; the Senate candidates are in the right panels). These results provide mixed support for the common wisdom about the strategic interaction between incumbents and challengers. Jacobson (1992) summarizes the common types of advertising strategies for challengers as attempts "to convince people of their own virtues—at a minimum, that they are qualified for the office—but they are not likely to get far without directly undermining support for the incumbent" (87). Incumbents, however, are commonly believed to ignore opponents when they feel safe but may strike preemptively at the challenger if feeling vulnerable (96).

It is apparent that the focus strategies within each race are quite similar. In contrast, the focus strategies across races are quite distinct. It is

possible that the vast difference observed in patterns is candidate driven or context specific. Feinstein went negative early in the race, Huffington then tried to protect himself by retaliating in kind. This tit-for-tat advertising strategy grew quite ugly, and by the end of the campaign, both candidates were primarily airing attack advertisement after attack advertisement.

In contrast, the gubernatorial campaign followed a more typical pattern. Wilson, the incumbent, aired more advertisements than did Brown (Wilson aired 177 advertisements during this period while Brown aired 77); however, both Brown and Wilson aired more positive than negative advertisements, thus conducting mainly positive campaigns (61 percent of Wilson's 177 advertisements and 68 percent of Brown's 77 advertisements were coded as positive in tone). For Brown, this might have been a suboptimal strategy, as the literature repeatedly finds that positive advertisements are less effective than negative advertisements. According to Guskind and Hangstrom (1988), it takes between five and ten viewings of a positive advertisement before the information sinks in. In contrast, it only takes one to two viewings of a negative advertisement for the message to have an impact on viewers.

Again, the Senate race differed greatly from the gubernatorial race.

TABLE I. Candidates, Advertisement Type, and Content

	Wilson	Brown	Feinstein	Huffington
Advertisement type				
Positive	108 (61)	52 (68)	6 (3)	24 (11)
Attack	63 (36)	23 (30)	158 (73)	108 (51)
Contrast	6 (3)	2 (2)	52 (24)	80 (38)
Advertisement content				
Issue	128 (72)	52 (68)	0 (0)	28 (13)
Personal	7 (4)	0 (0)	206 (95)	28 (13)
Record	42 (24)	25 (32)	10 (5)	156 (74)
Issues				
Taxes	13 (7)	0 (0)	0 (0)	15 (10)
Education	0 (0)	14 (18)	0 (0)	0 (0)
Crime	56 (32)	0 (0)	6 (3)	28 (19)
Immigration	66 (37)	0 (0)	0 (0)	19 (13)
Ethics	0 (0)	0 (0)	39 (18)	89 (59)
Morality	0 (0)	0 (0)	171 (79)	0 (0)
Budget	0 (0)	23 (30)	0 (0)	0 (0)
Economy	42 (24)	40 (52)	0 (0)	0 (0)

Note: Entries are the number of advertisements in each category, followed by the percentage of each type for the specific candidate.

Michael Huffington, the Republican challenger, aired attack advertisements about his opponent and comparative advertisements with almost equal frequency. He aired relatively few positive advertisements about himself. Dianne Feinstein, the Democratic incumbent, focused her advertisements almost exclusively on attacking Huffington.

In contrast to Jacobson's findings, Wilson and Brown aired advertisement types in roughly equal proportions. Wilson, in airing mainly positive advertisements, followed the strategy normally associated with strong, secure incumbents. What makes this strategy an odd choice is that Wilson should have been anything but secure about his reelection prospects—sixteen months before the general election, he was losing by at least 20 percent in many polls! As late as July 1994, Wilson was in a statistical dead heat with Brown (38.5 percent for Wilson, 42.7 percent for Brown, in the July 1994 Field Poll). That the race was this close in the middle of the summer, moreover, should have led Brown to attempt to undermine support for Wilson through negative advertising. However, Brown seems to have tried to win the race through primarily positive advertising, in the face of conventional wisdom.

Feinstein, the other incumbent, should have felt more secure, as she had a slight lead over Huffington before the general election heated up (44.4 percent for Feinstein, 39.0 percent for Huffington). But in an environment characterized by uncertainty, Feinstein seems to have taken the risk averse strategy, mainly airing attack advertisements about her opponent. Furthermore, the challengers in both races seem to have followed the common wisdom outlined by Jacobson (1992); Wilson predominately attacked Brown, while Huffington used both attack and comparative advertisements in roughly equal proportions.

However, it is critical that we understand the content of these advertisements to better examine candidate advertising strategies. Table 1 also presents the breakdown of advertisement content into three general categories—whether the advertisement was primarily issue based, personality based, or record based—for each candidate. Both Wilson and Brown (left panels of table 1) focused heavily on issues in this race. Brown, however, sought to focus attention on both Wilson's record as governor and her own record as state treasurer. However, while the data in table 1 indicate that issues were a primary focus of advertising by these two candidates, it is not clear how informative these issue advertisements were.

During the Senate race, Huffington targeted Feinstein's record as

incumbent senator, focusing mainly on her actions in office. There was a small amount of advertising by Huffington, however, focusing on both issues and personalities. But Feinstein's advertising strategy stands in clear contrast to Huffington's—she poured almost all of her advertising into attacks about Huffington's personal background.

Next, we examined the specific issues raised by the candidates in their advertising. We categorized all advertisements as having up to four specific themes. We then coded eight individual issues—taxes, education, crime, immigration, personal ethics, personal morality, state budget, and state economy. We present the frequencies of issue mention across the four campaigns at the bottom of table 1.

The governor's race focused on salient statewide issues. Wilson campaigned on the issues of illegal immigration, the state economy, crime, and taxes, while Brown focused most of her issue discussion on the state budget and economy. Wilson employed what the literature calls a "resonance strategy" (Johnson-Cartee and Copeland 1991; Combs 1979). This involves a series of persuasive messages that are "harmonious" with the experiences of the audience. In other words, political consultants search for hot buttons that they can exploit in the campaign (Combs 1979). In 1994, the major hot buttons were illegal immigration and crime, evidenced by the overwhelming passage of the controversial initiative Proposition 187.

The Senate race, however, was much more personal in nature than the governor's race. Huffington spent most of his television advertisement time discussing Feinstein's personal ethics. To a much lesser degree, he brought forward the more substantive issues of crime, illegal immigration, and taxes. Feinstein's strategy was quite clear: She devoted an overwhelming proportion of her advertising time on Huffington's personal morality and ethics. The more substantive issues received little attention in Feinstein's television advertisements.

These tables produce a revealing portrait of the candidate strategies in the 1994 California elections. A composite sketch of the cumulative evidence for each campaign's strategy shows the following:

Wilson aired mostly positive television advertisements, focusing on his own positions on issues. The issues he discussed most generally were illegal immigration, the state economy, crime, and the state budget. When Wilson went negative, it was strategically successful. Brown ran attack advertisements, which did not focus on salient issues. She also ran advertisements personally attacking Wilson,

which, according to the literature, does win the favor of the electorate. She focused on the state economy and budget in her advertisements.

Feinstein relied almost exclusively on attack advertisements aimed at Huffington's personal morality and ethics.

Huffington ran mainly attack advertisements against Feinstein; however, he also aired some comparative advertisements. In general, Huffington focused mainly on Feinstein's personal ethics, but he also discussed crime, illegal immigration, and taxes.

By examining the cumulative evidence on the content and type of television advertisements used by each candidate in this race, a composite sketch of each candidate's advertisement strategy can easily be drawn.

In conclusion, the dramatic differences we observe in candidate strategies by these four different statewide campaigns lead to an important point: Despite the fact that each of these candidates was campaigning within exactly the same constituency, it is clear that each candidate believed different issues needed to be emphasized. This is true even when we look at the issue focused within each race, especially Wilson's and Brown's. While there might be many explanations for these dramatic differences in campaign issue focus, it is important to note that the candidates were issuing different appeals to the same electorate.

The key question, then, is, Did the voters receive these messages? That is, did the candidates' issue strategies connect with the electorate in ways the candidates intended? Did voters realize that the candidates emphasized different issues from each other? We return to these points later.

Dynamic Results

The analysis thus far has ignored the dynamic nature of our database of candidate television advertisements, which allows for an examination of the changing composition of each candidate's television advertisement strategy over the last eight weeks of the 1994 general election. In table 2 we give the weekly frequency of advertisements by the four campaigns. For the two gubernatorial candidates, Wilson maintained a consistent level of advertising throughout the last two months of the election. While Brown employed a similar strategy, surprisingly for a challenger, she aired few advertisements in the final, critical days of the election.

The Senate race stands in sharp contrast. There, Huffington was on

the air consistently throughout the general election race, with an increase in advertising frequency in the last weeks of the election. Feinstein was not on the air in Los Angeles for the first week of the sample but advertised heavily in the last week of the race.

In addition to examining the frequency of advertisements, we may also observe *when* the candidates "went negative" and at what points in the campaign they were airing advertisements that were issue or personality based. In tables 3 and 4 we examine the weekly proportions of advertisements in each campaign by type (attack or positive in table 3) and by content (issue, personality, or record in table 4).

In table 3 we uncover more details about the advertising strategies of the candidates in this election year. In the first three weeks of this critical period of the election year, Wilson's advertisements were overwhelm-

TABLE 2. Candidate Advertising Share

Candidate	Campaign Week							
	1	2	3	4	5	6	7	8
Wilson	12	11	9	11	11	8	13	24
Brown	13	13	5	16	18	12	18	5
Huffington	6	8	8	8	17	13	16	24
Feinstein	0	1	14	16	13	13	15	28

Note: Entries are the percentage of advertisements aired by each candidate, in the respective week, of all advertisements aired by the candidate.

TABLE 3. Candidate Advertising Type

Candidate	Campaign Week							
	1	2	3	4	5	6	7	8
Wilson								
Positive	100	75	63	5	60	67	57	60
Attack	0	25	37	95	40	33	43	26
Brown								
Positive	100	70	0	0	93	100	93	0
Attack	0	30	100	100	7	0	0	75
Huffington								
Positive	0	6	100	33	0	0	0	0
Attack	0	0	0	67	64	57	58	74
Feinstein								
Positive	0	0	0	0	0	0	6	7
Attack	0	100	100	100	100	96	36	40

Note: Entries are the percentage of positive or attack advertisements aired each week by the candidate. Numbers do not sum to 100 due to the omission from this table of contrast advertisements.

ingly positive. But in the fourth week Wilson “went negative.” Wilson’s strategy shifts again in the next week, when his advertisements again become positive heading into Election Day.

Brown’s strategy was quite different from Wilson’s. In the first two weeks Brown aired positive advertisements more frequently than negative ones. In the third and fourth weeks Brown’s strategy turned totally negative. This strategy dramatically shifts in the fifth week of the general election campaign, when Brown aired mainly positive advertisements for the next three weeks. Only in the last week did she return to negative advertisements.

The Senate race shows the use of different strategies in the types of messages communicated by the candidates in their television advertisement strategies. Huffington aired, almost exclusively, comparative advertisements in the first two weeks and then turned to positive advertisements in the third week. In the fourth week, Huffington “went negative,” and his drumbeat of negative messages continued throughout the end of the race.

Feinstein “went negative” earlier than did Huffington. Recall from table 2 that Feinstein aired few television advertisements in the first two weeks of this race—the few she aired in the second week were negative. All of her advertisements contained negative attack messages in the third

TABLE 4. Candidate Advertising Content

Candidate	Campaign Week							
	1	2	3	4	5	6	7	8
Wilson								
Issue	5	45	69	100	100	100	83	79
Person	0	0	0	0	0	0	17	7
Record	95	55	31	0	0	0	0	14
Brown								
Issue	100	70	0	0	92	100	93	0
Person	0	0	0	0	0	0	0	0
Record	0	30	100	100	7	0	7	100
Huffington								
Issue	46	56	0	0	0	0	0	26
Person	0	6	35	17	0	0	0	36
Record	54	38	65	83	100	100	100	38
Feinstein								
Issue	0	0	0	0	0	0	0	0
Person	0	100	100	100	100	100	94	87
Record	0	0	0	0	0	0	6	13

Note: Entries are the percentage of issue, person, or record advertisements aired by each candidate during the respective weeks.

through fifth weeks of this time period. In the seventh and eighth weeks, however, Feinstein reduced the frequency of her negative advertisements and used a slightly higher frequency of comparative advertisements.

What seems to be happening in these races? The amount of heterogeneity across candidates, races, and time makes this a complicated set of campaigns to examine. However, some general patterns stand out. In the governor's race, Wilson began with positive advertisements, as we might expect from an incumbent who is ignoring his opponent. But when Brown "went negative" in the third and fourth weeks, Wilson responded with his own series of negative advertisements. While Brown returned to negative attacks at the end of the campaign, Wilson resumed his positive messages at the end—and easily won the election.

Table 4 breaks down the content of the candidate advertisements by week of the campaign. Again, Wilson's advertisements were primarily focused on his issue positions and his record, so there were few advertisements attacking Brown's record and personal background. Early in this campaign period, Wilson talked about Brown's record; but for most of this time Wilson stressed issues. Brown also discussed mainly issues and Wilson's record. Early in the race (the first two weeks) Brown talked mainly about issues in her television advertisements. She then moved mainly to a discussion of Wilson's record. Then she shifted back to issues, and, finally, in the last week of the race she aired record-oriented advertisements.

In the Senate race, Huffington focused his early comparison-based advertising strategy on emphasizing the distinction between his and Feinstein's records in office and issue emphases. Then, Huffington began to attack, and these attacks were predominately aimed at Feinstein's record as an incumbent. In the last week, though, Huffington mixed his message considerably by airing advertisements about issues, personalities, and the record, all in roughly equal proportions. Feinstein's message content was clear—she attacked Huffington's personal background almost exclusively. In the final weeks, her use of contrast advertisements contained some mention of their respective records but was primarily focused on personal backgrounds.

Strategy, Advertisements, and Voter Response

The primary question still remains to be answered: Did the various advertising strategies used by the candidates during these campaigns influence the electorate? In other words, were these advertising strategies effective?

For television advertisements about a particular issue to “matter” in an election campaign, a number of initial conditions must be satisfied. First, there must be voters in the electorate who feel that this issue is important or salient. Second, one or both of the candidates must have taken a position on the issue that is perceived with some degree of clarity by the electorate. Third, voters must receive the message about the issue.

Once these conditions are met, there are two distinct ways in which advertisements about an issue might influence voter decision making. The first is that these advertisements might influence the criteria upon which voters evaluate the candidates. For example, the fact that Brown attacked Wilson’s record as incumbent governor might have influenced the way in which voters evaluated Wilson—voters might have focused on Wilson’s record in office as an important factor in determining whether to vote for him rather than on the issues that Wilson raised in his advertisements. The second is that the advertisement strategies might influence the evaluations of the candidates directly, and, hence, the advertisements might persuade voters to change their preferences from one candidate to another. For example, Feinstein’s predominately negative attack advertisements against Huffington might have led voters to evaluate Huffington more negatively and to then vote against him on Election Day.

Advertisements and Voter Decisions

Recall from the previous section that candidates tailored their messages to the electorate quite differently. Wilson and Brown stuck largely to issues, while Huffington and Feinstein focused on personal factors. This leads us to expect, first, that *issues of crime, illegal immigration, taxes, and the state economy ought to be more important to voters in their evaluations of the gubernatorial candidates, while personal ethics and morality ought to play a greater role in voter evaluations of the Senate candidates*. This expectation is a direct consequence of the patterns observed in table 1. There we showed that Wilson and Brown discussed crime, illegal immigration, taxes, and the state economy in their television advertisements, while Feinstein and Huffington discussed almost solely personal issues. Second, we expect that voters who are *more exposed to television advertisements ought to be more likely to use the information stressed in the advertisements of the candidates in their decisions*. Third, we predict that *since issues were discussed to a much greater extent in the gubernatorial race than in the Senate race, we should find that issues “matter more” in governor voting than in Senate voting*.

In table 5 we give the percentages of Los Angeles–area voters for each candidate who mentioned one of eight possible issues as important in their voting decisions: taxes, education, crime, immigration, ethics, morality, the state budget, or the economy and jobs.⁴ In table 5 the percentages are given first, followed by the number of voters in the sample mentioning the issue as important.⁵

Immigration was an overwhelmingly important issue for Los Angeles–area voters in 1994. From 30 to 45 percent of the supporters of each candidate mentioned immigration as an important issue in their decision making. The variance that exists in these percentages is largely partisan, with 30 to 35 percent of Brown and Feinstein supporters interested primarily in immigration. In contrast, roughly 45 percent of Wilson and Huffington supporters were concerned with immigration.

Closer examination of the other issues shows that the supporters of different candidates in each race did not appear to benefit much from differential issue appeals. In the governor's race, supporters of Brown and Wilson both placed immigration and crime as the top two issues in their voting decisions. Brown's supporters saw education as the third most important

TABLE 5. Important Issues among Southern California Voters

	Voters Supporting			
	Brown	Wilson	Feinstein	Huffington
Taxes	2.6 (30)	4.2 (72)	2.3 (30)	4.4 (62)
Education	14.1 (161)	7.1 (123)	12.1 (159)	7.6 (107)
Crime	17.5 (201)	16.9 (292)	18.4 (241)	15.6 (219)
Immigration	32.4 (371)	44.7 (771)	35.4 (465)	44.6 (625)
Ethics	12.7 (145)	7.6 (131)	11.7 (154)	7.2 (101)
Morality	5.6 (64)	9.0 (155)	5.1 (67)	10.4 (146)
State budget	3.3 (38)	2.8 (49)	3.3 (43)	2.6 (37)
Economy, jobs	11.9 (136)	7.7 (133)	11.7 (154)	7.4 (103)
Total sample	1,146	1,726	1,313	1,400

Note: Data from the 1994 *Los Angeles Times* Exit Poll, Southern California voters. Entries give the percentage of voters for each candidate who said the particular issue was of importance to them, followed by the number of respondents in parentheses.

issue, closely followed by personal ethics and the economy. Wilson's supporters, though, saw four issues in a rough tie for third place in importance: education, ethics, morality, and the economy. Notice also that more Brown supporters saw crime as an important issue than Wilson supporters, and Wilson tapped the crime hot button, whereas Brown did not.

A similar pattern holds in the Senate race. Again, immigration and crime are the two most important issues for both Feinstein and Huffington supporters. Feinstein's supporters show the same issue ordering as Brown's (education followed by ethics and the economy). Huffington's supporters have the same issue rankings as Wilson: morality, education, the economy, and ethics in a four-way tie).

While interesting, the simple results in table 5 give only the bivariate relationships between issue preferences and candidate support. To examine the multivariate impact of issue preferences on candidate choice, we estimated three bivariate probit models. In each set of bivariate probit models, one dependent variable is coded 1 for a Republican vote and 0 for a Democratic vote in the gubernatorial race. The second dependent variable is coded likewise for the Senate race. We use bivariate probit in this case, as there is strong reason to believe that a voter's choice in one race might impact his or her choice in the other race and that this mutual dependence of voter choice might be motivated by the information he or she receives from the candidate's advertisement strategies. The bivariate probit model controls for this type of mutual dependence by estimating the correlation between the error term of each vote choice model, and it will allow us to examine the joint impact of issue importance on voting in each race simultaneously.

We include seven dummy variables for issue preferences in each bivariate probit model, with each being coded 1 if the voter said that a particular issue was important to them and 0 otherwise (the economy and jobs is the excluded category, so all the coefficients we estimate for issue preferences in our probit models are interpreted as the effect of mentioning the particular issue *relative* to mentioning the economy and jobs as an important issue). As control variables, we include dummy variables for gender (1 for women, 0 for men) and minority status (1 for ethnic minorities, 0 for non-ethnic minorities). There also are controls for pocketbook voting, party identification, and ideology (personal finances is coded with the high category representing voters who felt they were better off, the middle category the same, and the lower category worse off; partisanship with Democratic

identification is coded with the low category, independence the middle, and Republican identification the high category; ideology is coded as liberals with the low category and conservatives the high category, with moderates in the middle category).

To examine how the different issues impacted voter decision making, we estimate three different bivariate probit models. All of the estimation results are presented in table 6. The first two columns of table 6 give the bivariate probit results for the full sample of Southern California voters, with one column presenting estimation results for gubernatorial voting and the other, Senate voting. The next four columns of table 6 provide two

TABLE 6. Probit Estimates

Independent Variables	All SC Voters		High Education		Low Education	
	Governor	Senate	Governor	Senate	Governor	Senate
Constant	-2.8*	-2.9*	-2.8*	-3.1*	-2.8*	-2.6*
	.16	.16	.21	.21	.26	.24
Taxes	.38*	.36*	.36*	.44*	.39*	.23*
	.08	.08	.11	.11	.13	.12
Education	-.32*	-.05	-.44*	-.06	-.11	-.04
	.09	.09	.11	.12	.14	.14
Crime	.28*	.02	.34*	.06	.19*	-.09
	.07	.07	.10	.09	.11	.10
Immigration	.42*	.35*	.36*	.44*	.52*	.20*
	.07	.07	.10	.10	.12	.11
Ethics	.06	.06	.13	.23*	-.02	-.14
	.11	.11	.14	.14	.18	.18
Morality	.39*	.51*	.56*	.65*	.23	.35*
	.14	.14	.19	.18	.23	.22
State budget	.06	.08	-.17	-.18	.39*	.43*
	.18	.18	.24	.24	.28	.28
Gender	.08	-.08	.05	-.09	.10	-.11
	.07	.06	.09	.09	.10	.01
Minority	-.58*	-.26*	-.28*	-.31*	-.93*	-.34*
	.09	.09	.13	.15	.13	.13
Personal Finances	-.05	-.14*	-.10*	-.12*	.05	-.14*
	.04	.04	.06	.05	.07	.07
Party ID	.89*	.89*	.94*	.88*	.86*	.91*
	.04	.04	.06	.06	.06	.06
Ideology	.51*	.50*	.51*	.53*	.51*	.49*
	.05	.05	.07	.07	.08	.08
ρ		.68*		.71*		.64*
		.03		.04		.05
Sample		2,581		1,437		1,123
Log-likelihood ratio		-1,803.6		-971.0		-787.5

Note: Entries are bivariate probit estimates from the 1994 *Los Angeles Times* Exit Poll.

*Statistically significant at the $p = .05$ level, one-tailed tests

reestimations of this full bivariate probit model, first for high education voters and then for low education voters. These latter two sets of bivariate probit results examine how media awareness influences the impact of candidate issue advertisements on voter decision making.⁶

In the full sample of Southern California voters, the coefficient estimates of primary interest are those for the issue preference variables. It is important to note that a number of these variables have statistically significant estimates. In the governor's race, taxes, education, crime, immigration, and morality all have statistically significant effects. The positive signs on these four parameters indicate that voters who thought that taxes, crime, immigration, or morality were important issues were significantly more likely to vote for Wilson, while voters who prioritized education were more likely to vote for Brown. Next, in the third column of table 6 are the results for Senate voting. Here, only three issue priorities have statistically significant effects on voting: taxes, immigration, and morality.

Do the results in table 3 demonstrate that candidate television advertisements had an impact on candidate choice? Perhaps. Recall table 1, where we gave the relative frequencies of candidate television advertisements on these same issues. We found that in the governor's race the candidates advertised mainly on crime, immigration, education, and the economy. In table 6 we present results that indicate that all of these issues were important to voters in this race. Furthermore, by stressing immigration, crime, and the economy, Wilson increased his support. Brown, on the other hand, obtained support for her emphasis on education.

In contrast, the candidates in the Senate race advertised much more frequently on issues of personal ethics and morality; they also advertised, but to a much lesser extent, about crime and immigration. Again, the Senate results in table 6 show that immigration appears to have been an important determinant of Senate voting. Also, morality was a strong influence on Senate voting.

The next issue we addressed was that of media awareness and its impact on voters' decisions. Ideally, we would use responses to questions directly measuring the voters' media exposure or campaign interest.⁷ However, as the *Los Angeles Times* Exit Poll did not include questions of this sort, we instead used information gathered on the education level of the voters as a proxy for media exposure (Alvarez 1997). Thus, we stratified the sample into low and high education groups, with the basic criterion of classification being whether the voter had completed a college education. We

estimated the bivariate probit models separately for each of the two groups, and the results are presented in the last four columns of table 6.

In table 6 four issues—taxes, crime, immigration, and the state budget—are statistically significant in gubernatorial voting for low education respondents. Of these, immigration seems to have the strongest influence on the likelihood of voting for Wilson, with taxes and crime well behind in estimated impact. But the high education voters, who we assume are more exposed to campaign advertisements, used more issue information in their voting: taxes, education, crime, immigration, and morality all are statistically significant predictors of their gubernatorial votes. For the high education voters, morality and education seem to have the strongest effects, with crime, taxes, and immigration slightly behind. The main difference between high and low education voters, then, lies in the emphasis that high education voters placed on education and morality and that low education voters placed on immigration. Since one of these issues (education) was emphasized in Brown's television advertisements, we conclude that exposure to television advertisements appears to enhance the importance of the issues stressed in the campaign in voter decisions.

The same analysis is repeated for Senate voting in table 6. Taxes, immigration, morality, and the state budget were again the important issues to low education Senate voters. But for high education Senate voters, who we argue are more exposed to candidate television advertisements, taxes, immigration, ethics, and morality are statistically significant. Thus, as in the gubernatorial race, candidate television advertisements reached more exposed individuals. Notice that there are two differences between high and low education Senate voters: for high education voters both ethics and morality were important components of their decisions and the state budget was not. Given the intense focus in the Senate race on both ethics and morality, and the understandable lack of focus on the state budgetary outlook, we conclude that more exposed voters may have been affected by the advertisements in the Senate race.

Another way to examine the impact of these different issues on voter choice and to see the degree of influence by candidate advertising focus is to use the bivariate probit results to make specific predictions about voter decisions under different "counterfactual" conditions. Using the bivariate probit results in table 6, we produce predicted probabilities that a hypothetical modal voter would cast ballots for Wilson and Huffington (a straight Republican ticket), for Brown and Huffington (a divided ticket), for Wilson

and Feinstein (another divided ticket), or for Brown and Feinstein (a straight Democratic ticket) (these are called the "baseline" probabilities).⁸ We then produce another set of predicted probabilities under the condition that only one of the issues was important for the hypothetical voter (these are called the "counterfactual" probabilities). Last, we subtract the "counterfactual" from the "baseline" probabilities and present these values in table 7. There, the top panel gives these counterfactual probability predictions for the full sample of Southern California voters; the middle panel, the high education subsample; and the bottom panel, the low education subsample. An entry in this table, then, gives the change in probability of casting a particular pair of votes, if the hypothetical voter thought the issues were important.

In terms of issues leading this hypothetical voter to cast a straight-ticket Republican vote, it is clear that taxes, immigration, and morality

TABLE 7. Issue Effects

	Change in Probability of Voting			
	Wilson-Huffington	Brown-Huffington	Wilson-Feinstein	Brown-Feinstein
Southern California voter				
Taxes	14	0	1	-15
Education	-5	4	-7	8
Crime	4	-2	7	-8
Immigration	14	0	2	-16
Ethics	2	1	0	3
Morality	18	2	-3	-17
State budget	3	1	0	-3
High education Southern California voter				
Taxes	13	-4	3	-12
Education	-3	1	-1	3
Crime	2	-5	7	-3
Immigration	14	-6	6	-14
Ethics	-3	-3	3	3
Morality	12	1	-3	-11
State budget	17	-1	-2	-15
Low education Southern California voter				
Taxes	15	1	-1	-16
Education	-7	5	-10	12
Crime	4	-2	9	-11
Immigration	15	1	-1	-16
Ethics	7	2	-2	-7
Morality	24	1	-2	-23
State budget	-6	0	-1	7

Note: Entries are the difference in the "counterfactual" and "baseline" probabilities computed from the bivariate probit estimates.

were winning issues for Wilson and Huffington. As shown in the first column of table 7, the salience of these issues for this hypothetical Los Angeles voter would lead her to be fourteen (taxes), fourteen (immigration), or eighteen (morality) points more likely to vote for Wilson and Huffington on the basis of each issue alone. Returning to table 1, taxes and immigration were issues that were presented exclusively by Wilson and Huffington in their television advertising.

As for issues leading to a straight-ticket Democratic vote, it is clear by table 7 that only one issue worked for the Democrats—education. In the full sample results, if the hypothetical voter thought education was an important issue, she would be eight points more likely to vote for Brown and Feinstein. However, only Brown focused advertising on this issue.

For the Democrats, especially Dianne Feinstein, the issue of personal morality was clearly a loser. In the full sample results in the top panel of table 7, we see that, if the hypothetical voter thought this was an important issue, she would be seventeen points less likely to vote for Brown and Feinstein. This was the issue, though, that formed much of the basis for Feinstein's attack advertising against Huffington, and from our results, it does not appear that Feinstein was successful in gaining voter support through her attacks on Huffington's morality. Finally, there is one issue that seemed to lead this hypothetical voter to split her ticket: the issue of crime. In the full sample results, a voter who felt crime was an important issue was eight points less likely to cast a straight Democratic ticket but was seven points more likely to cast a vote for Pete Wilson and Dianne Feinstein. In table 1 we showed that crime formed much of the basis of Wilson's advertising, and it was one of the issues that both Huffington and Feinstein used in their advertising. The results in table 6 show that crime was an issue on which Pete Wilson and Dianne Feinstein were viewed as successful.

Our third expectation was that issues, in general, ought to have a greater impact in voting for governor than for Senator, since the governor's race generally was more issue focused than the Senate race (which was much more character oriented). We used the bivariate probit results from table 6 to test this hypothesis. We reestimated the same probit models, after excluding the issue variables in one of the vote choice equations. This produced a statistical test for the joint significance of issues in these voting models.⁹ The relevant χ^2 statistics for testing the joint effects of issues in each model are presented in table 8.

In table 8 there is clear support for this expectation. First, notice

that the χ^2 statistic for issue voting in the governor's race is much greater than the same χ^2 for issue voting in the Senate race. Further, the χ^2 statistics for issue voting in the governor's race in both the high and low education subsamples are much greater than in the Senate models. Both of these results provide strong support for the claim that with more issue discussion in the governor's race issues became more important to voters' decisions in that race. We also see in table 8 another important result: issues had the largest effect for highly educated voters in the governor's race. This verifies both our second and third expectations, since the voters most exposed to the media were the most reliant on issue voting in the race dominated by discussion of issues.¹⁰

Advertisements and Candidate Evaluations

In this section we explore the hypothesis that candidate television advertisements change the general opinions voters have about the candidates or persuade people to vote for one candidate over the other. To test this, we use survey data from a different source: the Field Polls conducted during the general election among California voters. We use the July 12–17, September 13–18, and October 21–30 Field Polls.¹¹

These three Field Polls are useful since each poll asked registered voters two important types of questions. The first were the general "positive-negative" evaluations of each candidate. The second were trial heats in each race, in which voters were asked to state which candidate they would vote for were the election to be held on the day of the interview.

In table 9 we give the "positive-negative" evaluations of each candidate in these three Field Polls. We present the percentages giving each evaluative response, and we calculate the net change over the general election period in the last column. Recall that Wilson ran mostly positive advertisements about himself; the negative attack advertisements he ran were mainly about Brown's stand on issues, three to four weeks before the election.

TABLE 8. Tests for Issue Voting

Race	Full Sample	Low Education	High Education
Governor	92.1*	33.4*	62.1*
Senate	48.7*	12.8	45.1*

Note: Entries are χ^2 statistics testing for the importance of issue voting in the probit results. Each test has seven degrees of freedom, and statistically significant entries are denoted by *.

Brown, on the other hand, ran attack advertisements in the middle of the race, mainly using positive advertisements at the end of the campaign. Therefore, if voters are being influenced by negative advertisements, their evaluations of either candidate could change; Brown's support could decrease if voters penalized her for running negative advertisements. On the other hand, Wilson's support could decrease if voters took Brown's attacks seriously.

The Senate race was primarily focused on negative attack advertisements. Huffington relied upon an advertising strategy that attacked Feinstein increasingly as the race progressed. Feinstein, on the other hand, al-

TABLE 9. Changes in Candidate Positive-Negative Evaluation

	July	Sept.	Oct.	Net Change
Brown				
Positive	53.5 (167)	46.0 (264)	40.2 (411)	-13.3
Negative	23.4 (73)	37.1 (213)	44.2 (452)	+20.8
No opinion	23.1 (72)	16.9 (97)	15.6 (160)	-7.5
Wilson				
Positive	41.6 (123)	50.3 (289)	49.0 (501)	+7.4
Negative	51.7 (153)	44.1 (253)	45.8 (469)	-5.9
No opinion	6.8 (20)	5.6 (32)	5.2 (53)	-1.6
Huffington				
Positive	29.5 (92)	31.9 (183)	26.4 (270)	-3.1
Negative	21.5 (67)	28.7 (165)	45.1 (461)	+23.6
No opinion	49.0 (153)	39.4 (226)	28.5 (292)	-20.5
Feinstein				
Positive	47.0 (139)	47.0 (270)	39.5 (404)	-7.5
Negative	42.6 (126)	44.8 (257)	50.4 (516)	+7.8
No opinion	10.5 (31)	8.2 (47)	10.1 (103)	-.4

Note: Entries are percentages, followed by sample sizes. These figures are from the July, September, and October Field Polls.

most exclusively relied upon attack advertisements. Therefore, one should expect either of two possible dynamics in candidate evaluations: if negative advertisements against the opponent are successful, negative evaluations should rise and positive evaluations should fall during the campaigns; the other possible effect is that negative advertisements “backfire” and negatively influence the evaluations of their sponsor. Given that both candidates used mainly negative advertisements, it will be difficult to discern between these two explanations.

In table 9 it appears that Wilson might have won the battle of the airwaves. During the general election, his positive evaluations increased by 7 percent, his negative evaluations decreased by 6 percent, and the number of people who have no opinion about his evaluation decreased slightly. By running mainly positive television advertisements about his own positions and a few advertisements against Brown’s character at the end of the campaign, Wilson seems to have led California voters toward more positive (and less negative) evaluations of himself. Kathleen Brown, on the other hand, seems to have been the loser of the television advertising battle. Her positive evaluations fell considerably (13 percent), while her negative evaluations rose greatly (by 21 percent). The fact that Brown’s positive evaluations fell and her negative evaluations rose indicates that her mainly positive message did not resonate with the electorate—or that it did not get through to most voters.

To some extent, the same dynamic was observed in the Senate race. There, Huffington’s positive evaluations fell slightly during the general election (3 percent), while his negative evaluations skyrocketed upward (24 percent). Notice for Huffington, though, that the percentages of voters who said they had no opinion about Huffington fell considerably, from 49 percent in July to 29 percent in October. This indicates that Huffington was doing what challengers need to do—inform voters about their candidacy. The unfortunate problem for Huffington, though, was that, as the campaign wore on, the drop in the percentage of voters who had no opinion about Huffington was matched by the rise in the percentage of voters who had a negative evaluation of Huffington.

Feinstein’s positive evaluations fell during the general election by 7 percent, and her negative evaluations rose by 8 percent. Feinstein began the general election with relatively high positive and negative evaluations (47 percent and 43 percent, respectively). The campaign produced a slight drop in her positive evaluations and a slight rise in her negative evaluations. The

evidence from the Senate race, then, indicates that attack advertising influenced the electorate in this election: As the intensity of attack advertisements increased, so did the negative evaluations of both candidates. Attacks were focused on the opponent's character, similar to Brown's attack advertisements. Huffington, who aired considerably fewer attack advertisements in the final weeks of the campaign than did Feinstein, seems to have been the loser in terms of voter evaluations.

The next pressing question concerns whether these changes in candidate evaluations, which seem to track the television advertising strategies of the candidates, influenced the basic preferences of voters in each race. In table 10 we present the changes in the percentages of voters who supported the candidates in each race, in the same three Field Polls.

In the top panel of table 10 we present the results for the governor's race. For Wilson, the changes appear dramatic. In July, about 39 percent of California voters supported Wilson, which put him slightly behind Brown in the polls. But by October, almost 51 percent of voters said they preferred Wilson, which gave him a lead in the polls of almost 10 percent, with only days to go before the election. This is a 12 percent increase in Wilson support, coming mainly from the ranks of undecided voters. This indicates that Wilson's positive advertisements—and the rise in his positive evaluations—led to a large change in support for Wilson among California's most important voters: those who were undecided in the early months of the general election.

TABLE 10. Changes in Candidate Projected Votes

	July	Sept.	Oct.	Net Change
Brown	42.7 (265)	41.0 (233)	41.5 (388)	-1.2
Wilson	38.5 (241)	48.8 (277)	50.5 (473)	+12.0
Undecided	16.3 (102)	10.2 (58)	8.0 (75)	-8.3
Huffington	39.0 (237)	44.5 (252)	41.0 (366)	+2.0
Feinstein	44.4 (270)	40.6 (230)	46.5 (415)	+2.1
Undecided	16.6 (101)	14.8 (84)	12.5 (112)	-4.1

Note: Entries are percentages, followed by sample sizes. These figures are from the July, September, and October Field Polls.

In the lower panel of table 10 we give the same figures for the Senate race. The dynamics of candidate preference in this race are remarkable. In July, Feinstein had a 5.5 percent lead over Huffington. Though Feinstein fell behind Huffington in September, she regained her 5.5 percent lead over her opponent by October. The slight increase in support for both candidates (roughly 2 percent over the general election) was obtained from the ranks of the undecided voters, who split evenly for the two candidates by October. This shows that, while the attack strategies used by both candidates led to increased negative evaluations for the two candidates, the attack advertisements allowed Feinstein to keep Huffington's advances in the polls to a minimum.

Conclusions

In this essay we have undertaken a careful case study of the television advertisement strategies used by four separate campaigns in two statewide races in California during the 1994 election. We have shown that in this particular set of campaigns there was dramatic heterogeneity in candidate television advertisements, which we argue was due to different strategies employed by each candidate.

We also showed that the advertising strategies used by the candidates did influence the target audience. We presented data from both exit polls taken on Election Day and from telephone polls taken throughout the general election period, which demonstrated the effect of campaigns on which issues mattered in candidate choices on Election Day and also showed the correlation of attack advertisement strategies and changes in general candidate evaluations. Finally, we presented evidence that advertisements did shape changes in candidate preferences over the course of the general election.

Obviously we examined only four individual campaigns, in a particular election year, occurring in a state in which candidates for statewide office are forced to rely heavily on television advertising. The fact that this is a case study does limit the generalizability of the results here regarding candidate television strategies and voter responses to those strategies. But we feel that this study does show that more work of this sort is desperately needed.

Political campaigns in general, and television advertisement campaigns in particular, are not well understood in the academic political science literature. In fact, there is still some debate as to whether campaigns

"matter"—whether they influence the electorate in substantial ways (e.g., Finkel 1993). Unfortunately, there have been few systematic studies of campaigns, and those that have been undertaken have been primarily concerned with presidential election campaigns. While presidential elections are important to study, presidential elections have characteristics that make them poor cases for our exclusive analytical focus. First, there is little variation in the media coverage and intensity of presidential campaigns, at least in recent years (Alvarez 1997; Graber 1983; Patterson 1980). Without much variation across campaigns in coverage or intensity, it is difficult to imagine how presidential elections can shed much light on these important campaign variables. Second, the sample of presidential elections is quite limited. Obviously presidential elections occur every four years, so in the time for which we have reliable survey data, we only have a handful or so of cases of presidential elections.

In this essay we have focused on subnational races—in particular, statewide races for office. Moving our analytic focus from the national level to the state level should serve to enhance our ability to understand how campaigns operate and what effects they have on the electorate. In each four-year presidential election cycle, there are roughly one thousand races in congressional and gubernatorial elections, with dramatic variation in campaign intensity, resource utilization, television advertising, media coverage, and the number of candidate debates and appearances. It is clear that this is a laboratory well suited to the study of political campaigns in America that is underutilized.

Therefore, by studying how four different candidates in two different races in the same election year tried to target voters in the same geographic area, we can get a clear sense of how voters respond to campaign messages. Thus, when one campaign focuses on a particular issue but the other campaigns do not, and we find that voters become concerned about that particular issue over the election cycle, we may provide clear evidence of the effect of a campaign message. To this effect, it is clear that statewide campaigns provide a much better laboratory for studying campaigns than do presidential campaigns.

NOTES

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1. In the governor's race, Pete Wilson was the Republican incumbent and Kathleen Brown was his Democratic challenger. In the U.S. Senate race, Dianne Feinstein was the Democratic incumbent and Michael Huffington was her Republican challenger.

2. See Bartels and Vavreck 2000; and Jamieson, Waldman, and Sher 1998 for further explanation of these three categories.

3. Advertising focus and tone are often closely interrelated. Most advertisements targeting the opposing candidate are attacking or contrasting, while most advertisements about the candidate himself or herself are positive or contrasting. In the analysis that follows we concentrate on the tone of advertising in these campaigns.

4. The focus on only Los Angeles or Southern California voters in the survey data is to match up as closely as possible the survey data with the television advertisement data. It is obviously possible that the candidates ran different types or different mixes of advertisements in different parts of the state; this would only complicate and obfuscate the analysis of the television and survey data.

5. The question posed by the survey was, "Which issues—if any—were most important to you in deciding how to vote today? (Check up to two boxes)." The issues, in the order they appeared on the survey form, were taxes, education, crime, immigration, ethics, morality, business, environment, health care, state budget, economy, and none. The issues of business, environment, and health care were not used in this analysis since less than 1 percent of voters thought they were important and since they were not issues that the candidates discussed in their advertisements.

6. The interested reader will note that all of the estimates for each of the three bivariate probit models are statistically significant, indicating that indeed there is a substantial amount of unmeasured and correlated factors driving voters to make joint decisions in these two races.

7. Druckman (2002), for instance, designed an exit poll that asked respondents to which local newspapers they subscribed and how often they read the front page of their subscriptions. This, of course, is a superior way to measure exposure to news coverage of campaign messages, but it does not measure exposure and/or attention to actual campaign advertisements themselves.

8. The baseline probabilities for the full sample are .27 (Wilson-Huffington), .07 (Brown-Huffington), .20 (Wilson-Feinstein), and .46 (Brown-Feinstein); for the high education sample, .25 (Wilson-Huffington), .05 (Brown-Huffington), .22 (Wilson-Brown), and .48 (Brown-Feinstein); and for the low education sample, .37 (Wilson-Huffington), .14 (Brown-Huffington), .14 (Wilson-Feinstein), and .35 (Brown-Feinstein).

9. This is the standard test for joint significance in discrete choice models, where twice the difference between the log-likelihoods of the restricted and unrestricted models has a χ^2 distribution, with the degrees of freedom being equal to the number of restrictions being tested.

10. Recall that higher education was used as a proxy for media awareness.

11. The Field Institute conducts the California Poll at various times throughout each year. They are telephone surveys of the adult population of California.

REFERENCES

- Allsop, D., and H. F. Weisberg. 1988. "Measuring Change in Party Identification in Election Campaigns." *American Journal of Political Science* 32:996–1017.
- Alvarez, R. M. 1997. *Information and Elections*. Ann Arbor: University of Michigan Press.
- Ansolabehere, S., and S. Iyengar. 1995. *Going Negative*. New York: Free Press.
- Ansolabehere, S., S. Iyengar, A. Simon, and N. Valentino. 1994. "Does Attack Advertising Demobilize the Electorate?" *American Political Science Review* 88:829–38.
- Bartels, L. M., and L. Vavreck. 2000. *Campaign Reform: Insights and Evidence*. Ann Arbor: University of Michigan Press.
- Basil, M., C. Schooler, and B. Reeves. 1991. "Positive and Negative Advertising: Effectiveness of Ads and Perceptions of Candidates." In *Television and Political Advertising—Volume I: Psychological Processes, Communication and Society*, ed. F. Biocca. Hillsdale, NJ: Lawrence Erlbaum.
- Berelson, B., P. F. Lazarsfeld, and W. McPhee. 1954. *Voting: A Study of Opinion Formation in a Presidential Campaign*. Chicago: University of Chicago Press.
- Brians, C. L., and M. P. Wattenberg. 1996. "Campaign Issue Knowledge and Salience: Comparing Reception from TV Commercials, TV News and Newspapers." *American Journal of Political Science* 40:145–71.
- Campbell, A., P. E. Converse, W. E. Miller, and D. E. Stokes. 1960. *The American Voter*. New York: Wiley.
- Combs, J. E. 1979. "Political Advertising as a Popular Myth-Making Form." *Journal of American Culture* 2:331–40.
- Dalager, Jon K. 1996. "Voters, Issues, and Elections: Are the Candidates' Messages Getting Through?" *Journal of Politics* 58:486–515.
- Druckman, J. 2002. "Priming the Vote: Campaign Effects in a U.S. Senate Election." Working Paper, University of Minnesota, Minneapolis.
- Faber, R. J., and M. C. Storey. 1984. "Recall of Information from Political Advertisements." *Journal of Advertising* 13:39–44.
- Ferejohn, J. A., and R. G. Noll. 1978. "Uncertainty and the Formal Theory of Political Campaigns." *American Political Science Review* 72:492–505.
- Finkel, S. E. 1993. "Reexamining the 'Minimal Effects' Model in Recent Presidential Campaigns." *Journal of Politics* 55:1–21.
- Fiorina, M. P. 1981. *Retrospective Voting in American National Elections*. New Haven: Yale University Press.
- Freedman, P., and K. Goldstein. 1999. "Measuring Media Exposure and the Effects of Negative Campaign Ads." *American Journal of Political Science* 43:1189–208.
- Fridkin Kahn, K., and P. J. Kenney. 2002. "The Slant of the News: How Editorial Endorsements Influence Campaign Coverage and Citizens' Views of Candidates." *American Political Science Review* 96:381–94.
- Garramone, G. M. 1984. "Voter Responses to Negative Political Ads." *Journalism Quarterly* 61:250–59.
- . 1985. "Effects of Negative Political Advertising: The Roles of Sponsor and Rebuttal." *Journal of Broadcasting and Electronic Media* 29:147–59.
- Garramone, G. M., C. K. Atkin, B. E. Pinkleton, and R. T. Cole. 1990. "Effects of Negative Advertising on the Political Process." *Journal of Broadcasting and Electronic Media* 34:299–311.

- Glazer, A. 1990. "Voting and Campaigning under Incomplete Information." *European Journal of Political Economy* 6:89–98.
- Graber, Doris A. 1983. "Hoopla and Horse-Race in 1980 Campaign Coverage: A Closer Look." In *Mass Media and Elections: International Research Perspectives*, ed. W. Schulz and K. Schoenbach. Munich, Germany: Oelschlaeger.
- Guskind, R., and J. Hagstrom. 1988. "In the Gutter." *National Journal* 20:2782–90.
- Jacobson, G. C. 1992. *The Politics of Congressional Elections*. New York: Harper Collins.
- Jamieson, K. H., P. Waldman, and S. Sher. 1998. "Eliminate the Negative? Defining and Refining Categories of Analysis for Political Advertisements." Paper presented at the Conference on Political Advertising in Election Campaigns, Washington, DC.
- Johnson-Cartee, Karen S., and Gary A. Copeland. 1991. *Negative Political Advertising: Coming of Age*. Hillsdale, NJ: Erlbaum.
- Just, M., A. Crigler, and L. Wallach. 1990. "Thirty Seconds or Thirty Minutes: What Viewers Learn from Spot Advertisements and Candidate Debates." *Journal of Communication* 40:120–33.
- Kern, M. 1989. *30-Second Politics: Political Advertising in the Eighties*. New York: Praeger.
- Lau R., and G. Pomper. 2002. "Effectiveness of Negative Campaigning in U.S. Senate Elections." *American Journal of Political Science* 46:47–66.
- Lazarsfeld, P., B. Berelson, and H. Gaudet. 1944. *The People's Choice*. New York: Columbia University Press.
- MacKuen, M. B., R. S. Erikson, and J. Stimson. 1992. "Peasants or Bankers? The American Electorate and the U.S. Economy." *American Political Science Review* 86:597–611.
- Merritt, S. 1984. "Political Advertising: Some Empirical Findings." *Journal of Advertising* 13:27–38.
- Patterson, T. C. 1980. *The Mass Media Election*. New York: Praeger.
- Patterson, T. C., and R. D. McClure. 1976. *The Unseeing Eye*. New York: Putnam.
- Roddy, B. L., and G. M. Garramone. 1988. "Appeals and Strategies of Negative Political Advertising." *Journal of Broadcasting and Electronic Media* 32:415–27.
- Sellers, Patrick J. 1998. "Strategy and Background in Congressional Campaigns." *American Political Science Review* 92:159–71.
- Skarpedas, S., and B. Grofman. 1995. "Modeling Negative Campaigning." *American Political Science Review* 89:49–60.
- Surlin, S. H., and T. F. Gordon. 1977. "How Values Affect Attitudes toward Direct Reference Political Advertising." *Journalism Quarterly* 54:89–98.
- Wattenberg, M. P. 1991. *The Rise of Candidate-Centered Politics*. Cambridge, MA: Harvard University Press.
- West, D. M. 1993. *Air Wars*. Washington, DC: Congressional Quarterly.