ARTICLE

THE EFFECTIVENESS OF MONEY IN BALLOT MEASURE CAMPAIGNS

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I.   INTRODUCTION

When it comes to money in politics, academic research has a difficult time establishing that the resources spent by special interest groups influence the formation of legislation, the passage and defeat of ballot measures, and the identity of the winner in candidate elections. For example, the academic literature on ballot initiatives suggests that campaign expenditures raised to pass initiatives have little effect on passage rates; if money has had any influence at all, then it may be in opposing initiatives.[1] Elisabeth Gerber finds the evidence so weak that she concludes, "the empirical evidence provides further basis for rejecting the allegation that economic interest groups buy policy outcomes through the direct legislation process."[2] Other scholars have found that when special interests want initiatives passed, "money spent by proponents in this arena is largely wasted." [3] Also some works in the academic literature on

1. ELISABETH R. GERBER, THE POPULIST PARADOX: INTEREST GROUP INFLUENCE AND THE PROMISE OF DIRECT LEGISLATION 138–39 (1999).

2. *Id*. at 138.

3. Todd Donovan, Shaun Bowler, David McCuan & Ken Fernandez, *Contending Players and Strategies: Opposition Advantages in Initiative Campaigns*, in CITIZENS AS LEGISLATORS: DIRECT DEMOCRACY IN THE UNITED STATES 80, 92 (Shaun Bowler et al. eds., 1998).

campaign spending and campaign contributions find that their effects on political outcomes are small.[4]

In contrast to much of the academic work, politicians appear to believe that money is important in politics. This is also suggested by the 1962 claim made by Jesse Unruh, Speaker of the California Assembly, that "'money . . . is the mother's milk of politics.'"[5] Moreover, the popular press is full of claims that money has an important and overly heavy influence on politics.

One reason that academic research has difficulty in identifying a causal effect of a special interest group's financial activities on political outcomes is that interest groups act strategically when they attempt to influence the defeat or passage of ballot measures, the election of legislators, or the identity of the winning candidate in popular elections. As an example, interest groups may not give much financial support to uncontested incumbents and these incumbents may not spend much in election campaigns. This fact makes it seem that candidates with few campaign expenditures win easily. Interest groups may, however, contribute a lot in contested elections. This makes it seem that a high level of campaign spending makes the race closer.

Similarly, in ballot measures, special interest groups favoring passage may spend significant funds on advocacy advertisements in geographic areas where they believe that they have to overcome a lot of negative sentiment, while they spend little in places where they know that voters will support the measure regardless of how much groups advertise. If the negative sentiment leads to low margins of support in areas where there was a lot of opposition to begin with, and if the positive sentiment leads to large margins of support in the other areas, it will appear as if advocacy spending leads to a decrease in the number of voters supporting the measure. This pattern in the data does not allow, however, for the conclusion that advocacy advertising causes lower margins of support.

Academic research has had a difficult time establishing the counterfactual, that is, the vote margin favoring passage in the absence of any advocacy advertising. Thus this literature has difficulties in

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4.   *See, e.g.*, Steven D. Levitt, *Using Repeat Challengers to Estimate the Effect of Campaign Spending on Election Outcomes in the U.S. House*, 102 J. POL. ECON. 777, 791 (1994). A survey on the effects of campaign contributions on legislative voting behavior can be found in Stephen Ansolabehere, John M. de Figueiredo & James M. Snyder Jr., *Why Is There so Little Money in U.S. Politics?*, 17 J. ECON. PERSP. 105, 112–17 (2003).

5.   *Now Is the Time for All Good Men . . .* , TIME, Jan. 5, 1968, at 44 (quoting Jesse Unruh).

establishing a benchmark against which to evaluate the effectiveness of campaigning.

These considerations suggest that it is important to distinguish correlation from causation. Correlations may suggest that campaign contributions or campaign expenditures are not effective, while an analysis that tries to disentangle the causal effect may find that interest group pressures can change political outcomes.

In analyzing the influence of money, I will discuss studies that examine the effect of campaign contributions and expenditures on whether a ballot measure is passed or defeated. Next I will present evidence with respect to the effectiveness of campaign spending to pass or defeat these measures. This evidence comes from a research design that attempts to disentangle the causal relation from a mere correlation. I will also point to insights from the literature on campaign expenditures in candidate elections and the literature on the influence of campaign contributions on legislators' vote decisions that may be usefully transferred to the ballot measure literature.

II. CAMPAIGN SPENDING AND ADVERTISING ON BALLOT MEASURES

A. SUMMARY OF VIEWS

The effect of initiatives on policy has found renewed interest in recent years. Academic work has shown that to change policy, a ballot measure does not have to pass on election day. Several studies have shown that the mere existence of the ballot initiative process leads to policies that are closer to the preferences of the median voter, and that the mere threat of collecting signatures for a ballot proposition gives legislators incentives to enact legislation preferred by the petition gatherer.[6]

On one side of the debate on money in ballot measure campaigns are those who are concerned that interest groups have too much influence in the process.[7] This side of the debate is concerned about the influence of

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6.   JOHN G. MATSUSAKA, FOR THE MANY OR THE FEW: THE INITIATIVE, PUBLIC POLICY, AND AMERICAN DEMOCRACY (2004); Elisabeth R. Gerber, *Legislative Response to the Threat of Popular Initiatives*, 40 AM. J. POL. SCI. 99 (1996); John G. Matsusaka, *Economics of Direct Legislation*, 107 Q. J. ECON. 541 (1992); John G. Matsusaka, *Fiscal Effects of the Voter Initiative: Evidence from the Last 30 Years*, 103 J. POL. ECON. 587, 588–90 (1995).

7.   Richard Briffault, *Ballot Propositions and Campaign Finance Reform*, 1 N.Y.U. J. LEGIS. & PUB. POL'Y 41, 43–44 (1997); John S. Shockley, *Direct Democracy, Campaign Finance, and the*

money on outcomes. Spending by wealthy or well-funded interests may give those interests an advantage with respect to the passage or defeat of ballot measures over those who do not the financial means to present their views though an advertising campaign. Some claim that if those who spend are more likely to win, than those without the financial means to compete are limited in their political participation. David Broder for example, suggests that the initiative process "has become the favored tool of millionaires and interest groups that use their wealth to achieve their own policy goals."[8] Broder continues to argue that "initiative campaigns have become a money game, where average citizens are subjected to advertising blitzes of distortions and half-truths and are left to figure out for themselves which interest groups pose the greatest threats to their self-interest."[9]

As mentioned in the Introduction, the academic literature has found little evidence that interest groups can purchase their preferred policies through the initiative process. The literature has found that money has only a small influence on whether initiatives pass. Campaigning to maintain the status quo is more successful than campaigning to change it and successful campaigning in part depends on the type of interest groups involved. Moreover, even if there was evidence that the side that spends more money is also more likely to win, this does not necessarily imply an inequality in access to political participation. The reason that the winning side spends more simply reflects that this side represents the views of many voters and thus was able to attract many funds.

B. TOTAL SPENDING IN BALLOT MEASURE CAMPAIGNS

Real campaign spending on ballot measures has been steadily rising and it reached new heights in the 1990s.[10] In 1992, $117 million was spent in twenty-one states on supporting and opposing measures on ballots[11] while in 1998 interest groups spent close to $400 million in forty-four

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Courts: Can Corruption, Undue Influence, and Declining Voter Confidence Be Found?, 39 U. MIAMI L. REV. 377, 392–96 (1985).

    8.   DAVID S. BRODER, DEMOCRACY DERAILED: INITIATIVE CAMPAIGNS AND THE POWER OF MONEY 1 (2000).

    9.   *Id.* at 18.

    10.   Daniel Smith, *Campaign Financing of Ballot Initiatives in the American States*, *in* DANGEROUS DEMOCRACY?: THE BATTLE OVER BALLOT INITIATIVES IN AMERICA 71, 76 (Larry J. Sabato et al. eds., 2001).

    11.   David B. Magleby, *Let the Voters Decide? An Assessment of the Initiative and Referendum Process*, 66 U. COLO. L. REV. 13, 30 (1995).

states. [12] Of all states, the most money on passing or defeating ballot measures was spent in California. In California, $522 million was spent by interest groups on all ballot measures between 1992 and 1998, and $256 million in 1998 alone. [13] As for more recent years, I have previously documented that in California between the 2000 primary and the 2004 primary, $494 million was spent by interest groups on passing or defeating ballot measures (in March 2004 real dollars). Of this total amount, the supporting side spent $344 million and the opposing side spent $149 million. [14]

In California, for the 1992 to 1998 period, the average advocacy spending recorded per ballot measured $5.0 million and the average opposing spending recorded measured $6.6 million. [15] This brings the total average spending per measure to $11.6 million. I have documented that the average amount of advocacy spending per ballot measure was $9.8 million, and the average amount of opposing spending was $4.3 million, bringing the total average spending per ballot measure to $14.1 million (in March 2004 real dollars). [16] Taking inflation into account, a comparison of my numbers with Elizabeth Garrett and Gerber's numbers suggest that the average spending per initiative was roughly constant between 1992 and 2004, but that the composition of spending changed. [17] While in the 1990s opposing interests outspent advocacy interests, these numbers are reversed for more recent years. Since the average expense to gather petitions for all ballot measures (initiative and referenda) was less than $250,000, this reversal holds even when subtracting these expenditures for the expenses of the supporting side.

C. AVERAGE SPENDING AND AVERAGE SUCCESS RATES

The older literature on the effects of campaign spending in initiatives calculates whether the side that has spent more is also more likely to obtain

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12.   Elizabeth Garrett & Elisabeth R. Gerber, *Money in the Initiative and Referendum Process: Evidence of Its Effects and Prospects for Reform*, *in* THE BATTLE OVER CITIZEN LAWMAKING 73, 73 (M. Dane Waters ed., 2001).

13.   *Id.* at 73, 83.

14.   Thomas Stratmann, Is Interest Group Pressure to Preserve the Status Quo More Effective than to Change It? Evidence from Ballot Measures 29 tbl.1A (Jan. 2005) (unpublished manuscript, on file with author).

15.   Garrett & Gerber, *supra* note 12, at 84.

16.   Stratmann, *supra* note 14. My numbers do not include spending on the California recall election in October of 2003.

17.   Garrett & Gerber, *supra* note 12, at 84; Stratmann, *supra* note 14.

a majority vote for its cause.[18] Daniel Lowenstein, for example, examines ballots in which "spending on either the affirmative or the negative side . . . exceeds $250,000 and . . . is at least twice as high as the spending on the opposite side."[19] Using this selection criterion, he finds that advocacy spending was successful in passing measures in 46% of the cases, and opposing committees were successful in defeating measures in 90% of the cases.[20] Charles Price also provides evidence that the side that spends the most does not necessarily win.[21] Price examined twenty-nine ballot initiatives and found that the side that spent the most won in sixteen cases or 55% of the initiatives examined.[22] Findings similar to those in Lowenstein and Price[23] have been reported by John Shockley, Steven Lydenberg, David Magleby, John Owens and Larry Wade, Betty Zisk, and Shaun Bowler and Todd Donovan.[24]

More recent evidence from the 1990s comes from Garrett and Gerber.[25] They report that in California between 1992 and 1998, the opposing side spent $285 million and the supporting side spent $238 million.[26] During this time period, one-sided advocacy spending was successful in passing the initiative in 75% of the cases and one-sided opposition spending saw initiatives passed in 31% of the cases.[27] The success rates for advocacy spending are somewhat higher, and the success rates for opposing spending are somewhat lower than what was reported in studies prior to Garrett and Gerber.

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18.   JOHN S. SHOCKLEY, THE INITIATIVE PROCESS IN COLORADO POLITICS: AN ASSESSMENT (1980); BETTY H. ZISK, MONEY, MEDIA, AND THE GRASS ROOTS: STATE BALLOT ISSUES AND THE ELECTORAL PROCESS 98–103 (1987); Eugene C. Lee, *California*, *in* REFERENDUMS: A COMPARATIVE STUDY OF PRACTICE AND THEORY 87, 104–05 (David Butler & Austin Ranney eds., 1978); Daniel H. Lowenstein, *Campaign Spending and Ballot Propositions: Recent Experience, Public Choice Theory and the First Amendment*, 29 UCLA L. REV. 505 (1982).

19.   Lowenstein, *supra* note 18, at 511.

20.   *Id.* at 518.

21.   Charles M. Price, *Initiative Campaigns: Afloat on a Sea of Cash*, 19 CAL. J. 481, 486 (1988).

22.   *Id*. at 485.

23.   Lowenstein, *supra* note 18; Price, *supra* note 21.

24.   SHAUN BOWLER & TODD DONOVAN, DEMANDING CHOICES: OPINION, VOTING, AND DIRECT DEMOCRACY (1998); DAVID B. MAGLEBY, DIRECT LEGISLATION: VOTING ON BALLOT PROPOSITIONS IN THE UNITED STATES (1984); SHOCKLEY, *supra* note 18; ZISK, *supra* note 18; Steven Lydenberg, *Business Big Spenders Hit the Referenda Votes*, 47 BUS. & SOC'Y REV. 54, 54–55 (1983); John R. Owens & Larry L. Wade, *Campaign Spending on California Ballot Propositions, 1924–1984: Trends and Voting Effects*, 39 W. POL. Q. 675 (1986).

25.   Garrett & Gerber, *supra* note 12.

26.   *Id*. at 84.

27.   *Id.* at 85.

I have analyzed one-sided spending using the same criteria as Lowenstein's 1982 study and have adjusted for inflation his criterion that significant one-sided spending must exceed the other side by $250,000.[28] Between the California 2000 primary and the 2004 primary, one side's spending exceeded the spending of the other side by $575,000 in twenty-four ballot measures. For twenty of these ballot measures, the supporting side significantly outspent the opposing side and the measure passed in fifteen cases, bringing the success rate to 75%. In four cases, the opposing side outspent the supporting side and these initiatives failed, generating a success rate of 100%.

TABLE 1. Expenditures and ballot proposition outcomes in California, 2000 primary to 2004 primary

	One-sided Advocacy Spending	One-sided Opposition Spending
Proposition Passes	15	0
Proposition Fails	5	4

The findings in Table 1 provide some support for the hypothesis advanced in much of the literature, namely that when the opposing side outspends the supporting side, it is most likely to defeat the ballot initiative. These numbers, however, are only suggestive and do not imply that more money has bought the outcome in 79% of the measures (nineteen out of twenty-four). As discussed later, the supporting or opposing side may have outspent the other side because the measure was inherently popular or unpopular and thus was able to generate more funds.

An alternative way to evaluate the most recent evidence from California, the data from the period between the 2000 primary and the 2004 primary, is to analyze whether the outcome is correlated with one side spending more than the other, regardless of the amount. In this time period, thirty-six ballot measures have recorded spending. On twenty-nine ballot measures, the supporting side outspent the opposing side. Eighteen of these twenty-nine measures passed, generating a success rate of 62%. On seven ballot measures, the opposing side outspent the supporting side and five of these seven measures were defeated, producing a 64% success rate for the opposition side.

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28.   Lowenstein, *supra* note 18, at 511. Lowenstein's data include the year 1980. Two hundred and fifty thousand dollars in 1980 is approximately $575,000 in 2004.

The pattern of spending and outcomes in Table 1 for the most recent California ballot measures is consistent with the commonly held view that negative advertising is more effective than positive advertising. The picture is not as clear, however, when including initiatives that do not fall in the category of one-sided spending, as in Table 2.

Several explanations have been advanced to account for the pattern in Table 1. One explanation is that voters are risk averse, and they prefer the certainty of the status quo to the uncertainty associated with passing ballot measures. Another explanation for the lower effectiveness of one-sided advocacy spending relative to one-sided opposition spending is that advocacy spending reveals to voters the identity of a disfavored group.[29]

Another explanation for the failure of advocacy advertising relative to opposition advertising may be that the simple comparison of success rates underestimates the influence of advocacy spending. The issue is defining the counterfactual. For example, what would have been the majority vote if the supporting side would not have spent any resources on passing the measure? It may be that if nothing was spent in support of measures that ended up passing, then those measures would have failed. Similarly, if advocacy interests spent no resources on campaigning for measures that ended up failing, perhaps all of these measures would have failed anyway because voters are hostile to the change proposed by the measure. These considerations suggest that it is difficult to attribute causality to the cross-tabulations in Tables 1 and 2. I have proposed a method to examine this causality issue.[30] The technique accounts for the fact that groups act strategically and that interest groups determine how much they spend based on the underlying voter sentiment.

D. REGRESSION ANALYSIS

Bowler and Donovan have focused on the effects of overall campaign spending on voter opinion.[31] They suggest that campaign spending increases voter awareness of ballot measures.[32] For three California initiatives, Bowler and Donovan examined whether television advertising

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29.   BOWLER & DONOVAN, *supra* note 24, at 149.
30.   Stratmann, *supra* note 14, at 3–5.
31.   BOWLER & DONOVAN, *supra* note 24.
32.   Arthur Lupia shows that less informed voters use informational shortcuts when making voting decisions on ballot measures, so that they make choices similar to those of informed voters. Arthur Lupia, *Shortcuts Versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections*, 88 AM. POL. SCI. REV. 63 (1994).

increased or decreased the likelihood of passage.[33] They correlated net spending in California on local television advertising with the absolute margin of support in the geographic areas covered by the local television advertising. They performed this analysis separately for three initiatives and found a positive correlation for the first, no relationship for the second, and a negative correlation for the third. They also examined the effects of media advertising on voter opinion and their findings led them to conclude, "Our analysis provides very little support for the idea that variation in media market expenditure had a direct impact on opinions."[34]

Gerber classifies groups by their membership characteristics.[35] She defines economic interest groups as those who have primarily organizational representatives as members. She defines citizen groups as those who have autonomous individuals as members. Put differently, citizen groups are groups that receive their support from personal and monetary resources, and economic groups are groups who rely on monetary resources only. Businesses and corporations are considered economic interest groups and trade unions and citizen interest groups are included in the citizen group category. She defines professional interest groups, such as the California Trial Lawyers Association, as a hybrid group.

In her regression analysis, Gerber found that contributions from economic groups lower the likelihood of passage while contributions from citizen groups have no impact on passage rates.[36] The finding that citizen groups are more effective than economic interest groups is consistent with her model, which claims that citizen interest groups have an advantage over economic interest groups because the latter group lacks personal resources. Nonetheless, the negative and zero marginal product of spending are a bit surprising. Taking these findings literally, economic interest groups could improve the likelihood of passage by not spending anything. This would improve the chances of having their preferred legislation passed. Citizen groups would also be better off not spending any funds in campaigns, as their spending is not effective in improving the likelihood of passage.

Examining referenda and initiatives in California from November 1992 to November 1998, Garrett and Gerber studied the effect of campaign contributions on a measure's vote share, and include both the opposing and the advocacy contributions in the same regression equation.[37] They found

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33.　BOWLER & DONOVAN, *supra* note 24, at 154–59.
34.　*Id*. at 159.
35.　GERBER, *supra* note 1, at 65–71.
36.　*Id*. at 110.
37.　Garrett & Gerber, *supra* note 12, at 84–87.

that total advocacy contributions have a positive, but statistically insignificant, effect on vote shares and that total opposing contributions have a negative and statistically insignificant effect on vote shares. They also calculated the share of large and small contributions. The criterion for whether a contribution fell into one group versus another was whether a contribution exceeds $10,000. They found that the share of large opposing contributions had a negative and statistically significant effect on the vote share, and that the share of large advocacy contributions also had a negative, but not statistically significant, effect. Garrett and Gerber suggest that these findings imply that voters take cues about the desirability of a measure from the perceived interests of its major supporters.[38]

E.   CORRELATION VERSUS CAUSATION

Arthur Lupia and John Matsusaka recently reviewed the academic literature that examines the role of money in initiatives.[39] Based on their summary of that work, there is a consensus in the initiative and referenda literature that spending against ballot measures is effective while spending in favor is not. Some of the previous work has hypothesized that the effectiveness of opposing money is due to voters favoring the status quo when they are uncertain about the effects of initiatives.[40] Nonetheless the ineffectiveness of advocacy money is puzzling. Why would the supporting side spend money when it is ineffective and sometimes even reduces voter support?[41] This consideration raises the issue of whether previous studies have accounted for all of the relevant factors that determine ballot measure spending and election outcomes.

The studies described in the previous section have tried to establish a correlation between spending and initiative outcomes. It is not, however, clear that the scholars' research designs allow them to claim that they have isolated the causal effect of campaign spending on ballot measure outcomes.

In social sciences, when using field data, correlations often do not allow for a causal interpretation of the effects of expenditures on initiative outcomes when interest groups advertise strategically. If an interest group that opposes a ballot measure knows that voters are also opposed to the

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38.   *Id*. at 87–90.

39.   Arthur Lupia & John G. Matsusaka, *Direct Democracy: New Approaches to Old Questions*, 7 ANN. REV. POL. SCI. 463 (2004).

40.   S*ee, e.g.*, BOWLER & DONOVAN, *supra* note 24, at 43–44; GERBER, *supra* note 1.

41.   *See* John G. Matsusaka, *Review of The Populist Paradox: Interest Group Influence and the Promise of Direct Legislation, by Elisabeth R. Gerber*, 104 PUB. CHOICE 394–97 (2000).

passage of the measure, it may spend only few resources campaigning against the measure. This is because the group knows that the measure will be defeated even if it advertises little against it. For example, groups opposing gun control measures may decide to advertise little in opposition to a gun control initiative when voters are opposed to gun control and prefer the status quo. In this situation it will seem that negative advertising is very effective; even small amounts of advertising lead to large margins against the measure. This finding, however, is not due to the effectiveness of negative advertising but to the underlying voter sentiment against the initiative. Thus, it is really the voter sentiment that is in large part responsible for the defeat of the measure. In this example a regression model estimates that negative advertising is much more effective than it really is. Therefore, studies that do not account fully for the underlying vote sentiment find that negative advertising is very effective. One way of addressing this issue is to explicitly account for voter preferences in the regression equations.

Next, consider positive advertising. Suppose as in the previously discussed example, voters prefer the status quo, as they do in many initiatives where they feel uncertain about the outcome.[42] In this case the supporting side will have to spend heavily to provide enough information that voters prefer a change over the status quo. Suppose the more opposition to the measure, the more supporting groups advertise to overcome this sentiment. Stronger preferences to maintain the status quo will lead to lower votes favoring passage but to more spending in favor. This will make it seem that advocacy spending is not very effective.

For example, groups supporting a gun control measure will advertise heavily in those areas where voters are undecided or are leaning against the gun control measure. On the other hand, they may not advertise much when they know that voters support the measure. A simple correlation between voter support and advertising will show that more support spending is associated with fewer voters supporting the initiative. This makes it seem that advertising will be ineffective in changing the minds of voters. In fact, it would seem that spending less would help pass such initiatives.

To address these issues studies have to control fully for the type of initiative—that is, whether an initiative enjoys some baseline level popular support or not—and for voter preferences—that is, whether voters in particular geographic regions lean toward favoring or opposing the

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    42.   BOWLER & DONOVAN, *supra* note 24, at 43–44.

initiative.[43] Otherwise, the parameter estimates on campaign expenditures will be biased.[44]

The test of campaign spending on ballot measure outcomes can be further sharpened when one does not examine all spending on initiatives, but only spending that is used for advertising. This is because the supporting group especially has to spend money that is not directed at influencing voting decisions. The group has to pay to have the initiative drafted and for legal advice. One would probably not be too surprised to learn that these expenditures are not productive in garnering votes for initiatives. Another issue is that the same expenditures for media advertising are more effective in some markets than in others. Clearly, this is related to how many voters can be reached by advertising, but this factor alone does not fully explain the price variation across television markets. Prices per household reached differ across "designated market areas" ("DMA"). For example, it costs \$0.32 to reach one household in the Los Angeles market and \$0.19 in the Fresno-Visalia market.[45]

I have addressed the causality issue in other work and have substituted television advertising for total campaign spending by estimating a regression that has as a unit of observation the vote share for a ballot measure between the 2000 primary and the 2004 primary in California.[46] The regression is specified as follows:

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43. Alternatively, one can employ a statistical technique called "instrumental variables." This method allows only for a causal interpretation of advertising on vote shares when instruments are selected that are correlated with advertising, but convey no information about the likelihood that voters favor or oppose the ballot measure, for example.

44. The direction of the bias, however, is theoretically ambiguous. If supporting interest groups advertise heavily in areas where the potential opposition is strongest and advertise least in areas where they expect strong voter support, then the estimate on the advocacy campaign expenditure variable is biased downward. Alternatively, if supporting groups campaign in areas where they expect support because they believe campaigning and existing support are complements in garnering extra votes, the coefficient on advocacy advertising is biased upwards. Similar stories can be told for opposition advertising.

45. For a thirty second spot during prime time in the third quarter of 2000, the cost per point (the cost to reach 1% of the audience) is \$97 in the Fresno-Visalia television market with 500 households, and \$1676 in the Los Angeles market with 5200 households.

46. Stratmann, *supra* note 14, at 8–16.

Ballot measure vote share for ballot measure j in county i =

β_1 Advocacy advertising for ballot measure j in county i

$+ \beta_2$ Opposition advertising for ballot measure j in county i

$+$ Indicator variables for each county i

$+$ Indicator variables for each ballot measure j

$+ \varepsilon_{ij}$ (1)

where β_1 is the coefficient on advocacy advertising, β_2 the coefficient on opposition advertising, and ε_{ij} the identically and independently distributed error term.

The indicator variables for each county capture county-specific characteristics that are constant over the time period analyzed and thus capture observed and unobserved variables in the county that are constant over time. For example, the indicators absorb the underlying voter sentiment that is specific to the county.

Even if a researcher wanted, he or she could not include other county characteristics that are constant over time, in addition to the county indicators variable. This is because population, income, education, and other socioeconomic variables from the 2000 census are perfectly collinear with the county indicator.

Similarly, each ballot measure indicator captures state-wide observed and unobserved voter sentiment with respect to the particular measure. Indicators for each ballot measure can be included in this research design because the unit of observation is a county—and each county votes on several ballot measures. If the unit of observation were not a vote for a ballot measure in a particular county, but as in previous studies the state-wide vote, proposition indicators could not be included in the regression because the number of ballot measure indicator variables would equal the sample size, and the analysis would run out of degrees of freedom.

Indicators for each ballot measure control for state-wide voter preferences to either pass or defeat each ballot measure. These indicators allow for voter preferences (to maintain either the status quo or to change it) to differ across ballot measures. Indicators for each county measure the county's characteristics that are constant for the time period analyzed in the study. These characteristics capture socioeconomic and other characteristics, both observed and unobserved.

The estimates from the above equation will capture the causal effect of advertising on vote shares, assuming that each county's inclination to change or stick with the status quo does not change across initiatives. The estimates assume that a county has an equal likelihood of passing or opposing all initiatives. At the same time, ballot measure indicators allow for differences in state-wide voting behavior from one initiative to the next. I will assess the stringency of the assumption regarding the county indicators by examining a subset of initiatives where one has a priori reasons to believe that all of the selected initiatives are similarly favored or opposed by voters in a county.

TABLE 2. Expenditures and ballot proposition outcomes

	Supporting Side Spends More than Opposing Side	Opposing Side Spends More than Supporting Side	Total
Proposition Passes	18	2	20
Proposition Fails	11	5	16
Total	29	7	36

Table 2 shows a total of thirty-six initiatives with recorded spending. Analyzing all initiatives for which television advertisements were aired reduces the number of initiatives to twenty-four. As in Gerber, I drop six propositions for which advertising was aired and directed at passing or defeating multiple propositions.[47] These six propositions are dropped from the analysis because the effect of advertising cannot be uniquely attributed to a single initiative. These selection criteria result in a sample of eighteen initiatives.

As mentioned, I have used the county as the unit of analysis.[48] Vote shares on the ballot measure differ from county to county, but if some counties are in the same DMA, they will have the same advertising. The number of observations in this study is 648 (18 initiatives in 36 counties). The mean for the number of advocacy advertisements in this sample is 428 (or, 458 per DMA) with a standard deviation of 401, and the mean for the number of opposing advertisements is 190 (198 per DMA), with a standard deviation of 359.[49] In this data, the average vote percentage favoring

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47.   GERBER, *supra* note 1; Stratmann, *supra* note 14, at 8–16.
48.   *Id.* at 8.
49.   *Id*. at 29–30 tbl.1A, B.

passage was 45.3% with a standard deviation of 13.2. The average spending in support of these initiatives was $14.7 million, and in opposition $4.5 million (in March 2004 real dollars).

These results sharply contrast with the findings of previous studies.[50] I have found that advocacy spending is at least as productive as opposition spending—in some cases, advocacy spending is significantly more productive than spending by the other side. For example, in examining the effect of advertising on the percentage of votes favoring passage, 100 extra advocacy television advertisements increase the ballot's vote percentage by 1.2 percentage points, and the same number of opposition advertisements decreases this percentage by 0.6 percentage points. In this example, advertising by the supporting side is significantly more productive than the opposition side. These estimates imply that a one standard deviation increase in advocacy advertising leads to a 0.4 standard deviation increase in the vote percentage. A one standard deviation increase in opposition advertising leads to a 0.23 standard deviation decrease in the vote percentage.

In another set of estimates, I have examined the effect of advertising on the probability that an initiative is passed.[51] I found that 100 extra advocacy advertisements increase the probability of passage by 1.2 percentage points and 100 extra opposition advertisements decreases this probability by 1.8 percentage points. The difference between these two sets of estimates is not statistically significant.

My estimates also lend support to the hypothesis that advertising is subject to diminishing returns.[52] The first few advertisements are the most productive in terms of changing voting decisions, and the marginal effect of further advertisements is declining. This is the case for advocacy as well as opposition advertising.

While some of these previous results suggest that opposing spending has the upper hand over advocacy spending and that advocacy spending has no effect on outcomes, the results are more comforting with respect to whether interest groups have a disproportionate influence on the initiative and referendum.[53] The results show that the effect of interest groups on outcomes is somewhat offsetting. Although spending taken by itself has an influence on whether a ballot proposition is passed or defeated, the results

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50. *Id*. at 16–25.
51. *Id*.
52. *Id*.
53. *Id*.

suggest that the other side can adopt a countercampaign and thereby partially—and sometimes completely—offset the influence of the other group. The offset, however, is *not* complete. One set of estimates calculated that higher productivity of advocacy contributions led to the passage of three ballot measures.[54]

As noted previously, one potential criticism of my study is that my method assumes that a county is equally likely to favor or oppose an initiative, regardless of the type of initiative.[55] This assumption may not be valid if some initiatives further conservative causes and others further liberal causes. I therefore reexamined some of this data, focusing only on initiatives where the *Los Angeles Times* endorsed the opposing side.

Although the *Los Angeles Times* is an independent newspaper, some evidence suggests that it tends to favor a liberal view on issues. For example, Tim Groseclose and Jeff Milyo ranked it as one of the most liberal major U.S. newspapers.[56] This suggests that issues opposed by the *Los Angeles Times* tend to be conservative initiatives. The estimated coefficients from this estimation technique will be unbiased if each county has the same tendency to support or oppose this subset of initiatives.

I focus on measures where the *Los Angeles Times* favors the status quo because here it may be most difficult to detect an equal marginal effect of opposing and advocacy advertising. The reason is that the *Los Angeles Times* is a liberal newspaper and California is a liberal-leaning state, based on California voters' decisions in presidential elections and its Democratically controlled legislature. Thus, if California voters are in favor of the status quo when the *Los Angeles Times* opposes the measure, this may make negative advertising on these measures seem very productive.

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54.   *Id*.

55.   *Id*.

56.   *See* Tim Groseclose & Jeff Milyo, A Measure of Media Bias 39–40 tbls.3, 4 (Dec. 2004) (unpublished manuscript, on file with author), *available at* http://www.polisci.ucla.edu/faculty/groseclose/MediaBias.pdf.

TABLE 3. Effect of initiative advertising[57]

Panel A: Linear advertising

Dependent Variable	Percent Votes Supporting	Votes Supporting – Votes Opposing	Passed =1, 0 Otherwise
Support	1.426 (0.260)	1.176 (0.449)	0.038 (0.010)
Oppose	-0.555 (0.222)	-1.966 (1.004)	-0.012 (0.008)
p-value for Equal Marginal Effect	0.004	0.533	0.027
Adj. R-square	0.87	0.32	0.82

Panel B: Square root advertising

Dependent Variable	Percent Votes Supporting	Votes Supporting – Votes Opposing	Passed =1, 0 Otherwise
Support	7.803 (1.136)	6.416 (1.776)	0.218 (0.043)
Oppose	-2.633 (1.451)	-8.484 (4.700)	-0.064 (0.055)
p-value for Equal Marginal Effect	0.004	0.701	0.024
Adj. R-square	0.88	0.32	0.68

57.   Notes to Table 3: N=451. Standard errors are in parentheses below point estimates. Regressions are based on eleven propositions where the *Los Angeles Times* endorsed the opposition side. In the first two columns, the dependent variable is the percentage of votes in support, and the difference is the number of opposing votes in a county subtracted from the supporting votes. The means and standard deviations (in parentheses) are for the difference in the number of votes -1.86 (11.42), where the difference is measured in ten thousands, the supporting vote percentage is 46.08 (14.76), whether the measure passed is 0.38 (0.49), the number of advertisements in support measured in hundreds is 3.59 (3.96), and the number of advertisements in opposition is 2.57 (4.37). The regressions in column 1 and column 3 are weighted by population. The regressions in column 2 are estimated with robust standard errors.

Regression results are reported in Table 3. Table 3, Panel A reports estimates using linear advertising, and the specification in Panel B allows for a diminishing effect of advertising. The estimates imply that a 28% increase in advocacy campaign advertising, relative to the mean advocacy advertising, leads to a 1.4 percentage point increase in voter support for the measure. A 39% increase in opposing advertising, again measured based on the mean opposing advertising, leads to an 0.6 percentage point reduction in voter support. These estimates suggest that the effect of advertising, relative to the average amount of advertising, is not very large.

The estimates in Table 3, Panel B allow for the diminishing marginal effect of advertising. These estimates imply a somewhat larger marginal effect for advocacy advertising than those reported in Panel A. While column 1 in Panel A implies that a one standard deviation increase in advocacy advertising leads to an 0.45 standard deviation increase in the vote percentage, the square root specification leads to an 0.68 standard deviation increase. Using the logarithm of advertising (not reported in the tables) instead of the square root of advertising implies an 0.66 standard deviation increase for a one standard deviation increase in advocacy advertising.[58]

While the results in my prior work showed a roughly equal marginal effect of opposition and advocacy advertising, in four of the six specifications in Table 3 advocacy advertising is significantly more productive than opposition advertising. The point estimates reported in Table 3 are roughly similar to the estimates for the full sample. One informal way of analyzing whether the measures examined in Table 3 are comparable is to examine whether the R-square is higher using the subsample instead of the full sample. If county voter preferences on the measures in the subsample are similar with respect to passage, then the R-square should be higher. This is, in fact, the case for all specifications. For example, in Table 3, Panel A subsample, column 1 is 0.87, while it is 0.80 for the overall sample.

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58.   For opposition advertising, the estimates in Panel A imply that a one standard increase in advertising implies an 0.22 standard deviation increase, for the square root specification an 0.26 standard deviation increase, and for the log specification an 0.21 standard deviation increase.

T~ABLE~ 4. Effect of initiative advertising on the percent of votes favoring passage[59]

Dependent Variable	Percentage of Votes Supporting	Percentage of Votes Supporting
Support	1.438 (0.245)	7.847 (1.069)
Support—County with Limited Advertising	-0.590 (0.208)	-1.514 (0.668)
Oppose	-0.576 (0.207)	-2.763 (1.356)
Oppose—County with Limited Advertising	0.553 (0.168)	0.922 (0.594)
p-value for Equal Marginal Effect	0.003	0.003
R-square	0.88	0.88

59.   Only a part of each county researched receives the television advertisements.

Notes to Table 4: N=451. Standard errors are in parentheses below point estimates. In the first column, advertising enters the regression in a linear form. In the second column, advertising enters the regression as a square root of advertising. Means and standard deviations for the dependent variables and advocacy and opposition advertising are the same as in Table 3.

The estimates in Table 3 are based on counties that lie wholly within one television market. There are, however, counties that lie partially in a television market. For example, approximately one-third of the Kern and Riverside Counties lie within the Los Angeles DMA. If some individuals in these counties cannot watch these advertisements because they are not part of the Lost Angeles DMA, it follows that in these counties the marginal impact of advertising should be zero or smaller than the marginal impact in those counties that lie completely within the DMA boundaries. This implies that counties that lie only partially in a DMA have a lower responsiveness to advertisements than those located fully within a DMA. Support for this hypothesis enhances the validity of the previous results.

Table 4 shows the results from this test and supports the hypothesis that the marginal effect of advertising is smaller in counties that lie only partially in a DMA. The first column of Table 4 shows the results from a linear specification of advertising and the second column shows the results from the square root specification of advertising. The point estimates imply that 100 extra advertisements increase the percent of county voters favoring the initiative by 1.4 percentage points when all voters in the county can be reached through television campaign advertisements. When only a fraction of the voters in the county are exposed to the television advertisement, the increase in voter support is smaller, namely 0.85 percentage points. The fact that the results support this additional implication strengthens the confidence in the findings reported in Table 3.

III. LESSONS FROM RESEARCH ON CANDIDATE SPENDING AND CAMPAIGN CONTRIBUTIONS

The literature on the effect of campaign spending on candidate elections and the effect of campaign contributions on legislative behavior provides important lessons for the literature discussing the effect of money in ballot measures.

Campaign advertising serves the important role of informing voters about their choices. While this is clearly important for ballot measures about which voters may be initially unknowledgeable, informing voters is also important in candidate elections. In candidate elections, however, voters can rely on cues for their voting decisions such as party affiliation, incumbency status, and the voting record of the incumbent. These considerations suggest that campaign advertising may not have as important an effect in candidate elections as in ballot measure votes. Furthermore, candidates are constrained in their spending by the amount of contributions they receive, and contributors in turn are constrained in giving by campaign finance laws. This further constraint may be another factor that can make it more difficult to detect the effect of campaign expenditures in candidate elections.

While incumbents and their challengers spend much time on fundraising and appear to believe that money is an important ingredient for winning elections, academic researchers for the most part have trouble establishing a causal connection between spending and vote shares.

Similar to the early literature on ballot measures, the early literature on campaign spending found that spending by one side is effective while spending by the other side is not. This literature documents that challenger spending is effective in increasing vote shares but incumbent spending is not.[60] One of the reasons for this finding may be that incumbents in tight races spend a lot, while incumbents who face no challenger or only a weak one spend only little. Thus, in a regression framework it appears as if more spending leads to tighter races. Some of the work that attempts to address

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60.   *See* GARY C. JACOBSON, MONEY IN CONGRESSIONAL ELECTIONS (1980); Gary C. Jacobson, *The Effects of Campaign Spending in Congressional Elections*, 72 AM. POL. SCI. REV. 469, 482–85 (1978); Gary C. Jacobson, *The Effects of Campaign Spending in House Elections: New Evidence for Old Arguments*, 34 AM. J. POL. SCI. 334 (1990); Gary C. Jacobson, *Money and Votes Reconsidered: Congressional Elections, 1972–1982*, 47 PUB. CHOICE 7, 13–28 (1985); Gary C. Jacobson, *Strategic Politicians and the Dynamics of House Elections, 1946–1986*, 83 AM. POL. SCI. REV. 773 (1989).

this issue finds that spending by both candidates is effective,[61] and Steven Levitt suggests that the effect of money on vote shares is small for both candidates.[62]

If the effect of money is small, one is left to wonder why candidates appear to spend so much effort on raising funds. Perhaps there is so much fundraising because the cost of raising funds relative to the gain from winning office is low, or because candidates confuse correlation with causation.[63] Some hope that scholars develop a different research design to uncover the effect of campaign spending in candidate elections.

I have argued elsewhere that examining total spending is not an accurate measure of how much candidates are effectively campaigning.[64] Instead of looking at the effects of total campaign expenditures on vote share, I employed a measure of television advertising.[65]

I found that campaign advertising has a qualitatively and quantitatively important effect for both challengers and incumbents.[66] In one of the specifications, a 1000 unit increase[67] in advertising increased the incumbent's vote shares by 3.1 percentage points and increased the challenger's vote shares by over 6 percentage points.[68] In this example, challenger advertising was significantly more productive than incumbent advertising. When controlling, however, for the possibility that advertising is subject to diminishing returns, the productivity of advertising was equal for both candidates.

Issues of causality also prevail in the literature that examines the effect of campaign contributions on voting behavior. The central question in this literature is whether those incumbents who receive money from special interest groups vote in the groups' favor because they received campaign contributions, or if the incumbents receive contributions because they are already committed to the interest group. In the latter case, groups contribute

    61.   *See* Alan Gerber, *Estimating the Effect of Campaign Spending on Senate Election Outcomes Using Instrumental Variables*, 92 AM. POL. SCI. REV. 401, 409–10 (1998); Donald P. Green & Jonathan S. Krasno, *Rebuttal to Jacobson's 'New Evidence for Old Arguments'*, 34 AM. J. POL. SCI. 363 (1990); Donald P. Green & Jonathan S. Krasno, *Salvation for the Spendthrift Incumbent: Reestimating the Effects of Campaign Spending in House Elections*, 32 AM. J. POL. SCI. 884, 898–900 (1988).
    62.   Levitt, *supra* note 4, at 795.
    63.   *Id*. at 796.
    64.   Thomas Stratmann, How Prices Matter in Politics: The Returns to Campaign Advertising 2 (2004) (unpublished manuscript, on file with author).
    65.   *Id*. at 3–4.
    66.   *Id*. at 17.
    67.   The mean number of advertisements for incumbents is 1500 and for challengers it is 600.
    68.   *Id.* at 21.

SOUTHERN CALIFORNIA LAW REVIEW   [Vol. 78:1041

to ensure that their preferred candidate is reelected and to show their appreciation for the incumbent's positions.

The ballot measure literature that examines the effect of money on initiative outcomes may be able to use a research design that has been successfully used in this literature. One way of analyzing contribution and vote data is to examine votes that occur repeatedly in Congress and to analyze whether changing contributions are associated with changing legislative voting behavior. Assume that underlying constituency characteristics do not change (that is, if voter preferences do not change); if contributions from a special interest increase between a first and second vote, and legislators change their voting behavior between the first and second votes in favor of a special interest, then one could argue this is evidence that the interest group influenced legislation with campaign contributions.

I have previously conducted such an analysis by examining two pieces of financial services legislation at different points in time.[69] In 1991, representatives of the U.S. House took a vote on a bill to repeal the Glass-Steagall Act. This bill was defeated in 1991 and another vote on the same subject was voted on in 1998. The latter bill passed in the U.S. House.[70] Banking interests favored the passage of the Act, while insurance and securities interests opposed it. I regressed the change in a representative's vote from 1998 to 1991 using the contribution changes from banking, insurance, and securities interests.[71] I found that these contribution changes had a statistically significant effect on a representative's voting decision. For example, an extra $10,000 in banking contributions increased the likelihood of voting in favor of banking interests by approximately 8 percentage points.[72] In addition, the influence of campaign contributions on the voting decisions of junior representatives is larger than the influence of contributions on the voting decisions of senior representatives.

The analog for the ballot measure literature is to examine two virtually identical ballot measures at two different points in time. Suppose that the two measures were placed on the ballot only a short time apart, so that the preferences of the constituency could have not changed from the first time the measure was on the ballot to the second time it was on the ballot. If the amount of campaigning for and against are the only or primary factors that

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69. Thomas Stratmann, *Can Special Interests Buy Congressional Votes? Evidence from Financial Services Legislation*, 45 J.L. & ECON. 345, 348–49 (2002).

70. *Id.*

71. *Id.* at 354–56.

72. *Id.* at 361.

differ between these two initiatives, then this research design has promise for uncovering the causal effect of advertising on initiative outcomes.

An alternative way of examining the effect of campaign advertising on ballot measures is to examine the effect of the timing of advertisements on vote intentions. As in the previous example, the ballot literature may be able to draw on work in the related area of campaign contributions.

For example, I have previously pointed out that the timing of interest group contributions can give some clues as to whether one goal of the group is to influence a legislator's voting behavior.[73] I examined when roll call votes on agricultural subsidies were taken on the U.S. House floor and when important decisions were made by the House Agriculture Committee to determine whether these events coincided with an influx of contributions from agricultural interest groups.[74] I found that the number of agricultural contributions spiked around these events and that few contributions were made when the House was in recess. One interpretation of these results is that contributions and votes are exchanged on a spot market.[75] In addition to spikes around important events in Congress, I also documented an increase in contributions in the two months prior to the general election.[76]

Future work on ballot measures may want to examine the timing of ballot measure advertising. This may help in understanding the strategic interactions between opposition and advocacy advertising, the strategies that competing interest groups follow, and the responsiveness of advertising to vote intentions.

73.   Thomas Stratmann, *The Market for Congressional Votes: Is Timing of Contributions Everything?*, 41 J.L. & ECON. 85, 109–10 (1998).

74.   *Id*. at 103–09.

75.   A benign interpretation of this result is that interest groups either immediately reward a legislator after having cast a vote, or if a legislator announces a position prior to a vote, the interest group may express its gratitude immediately by contributing to the legislator's campaign. Even with this benign explanation, however, the patterns of giving suggest at least the appearance of corruption to some observers. Also, one implication of the benign hypothesis is that political action committees are most likely to learn new information about policy positions of junior legislators as opposed to senior legislators. Senior legislators have a track record and, thus, their voting positions are more predictable than those of junior legislators. If the benign hypothesis is correct, then one would expect that most of the money around important legislative events in Congress is flowing to junior legislators. I have reexamined my data and found no support for the hypothesis that junior legislators receive significantly more contributions around important events in Congress.

76.   Stratmann, *supra* note 73, at 90.

V. CONCLUSION

This Article has examined the effect of money on ballot measures and has pointed to research that attempts to disentangle the causal effect of money on ballot measure outcomes. This research shows that opposition and advocacy spending in initiative campaigns have statistically significant and quantitatively important effects in ballot campaigns. This recent work shows that opposition advertising has no advantage over advocacy advertising, and that in some cases the advertising of the supporting side is more effective.

In this Article I have also reexamined a subset of initiatives, which were opposed by the *Los Angeles Times*, from my previous work. I have examined initiatives that are more homogenous than those previously used, and the results from this exercise show that the previously reported results are robust.

The examination of comparable initiatives to some extent parallels the examination of similar congressional races and similar roll call votes in other parts of the campaign finance literature. Future research may want to examine whether some of the methods used in studies that link campaign finance issues to candidate elections and legislative voting behavior can be usefully transferred to studies of ballot measures.