Going Negative: The Persuasive Effect of Tone and Information on Campaign Fundraising and Voter Turnout

Jared Barton, Marco Castillo, and Ragan Petrie

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Interdisciplinary Center for Economic Science
4400 University Drive, MSN 1B2, Fairfax, VA 22030
Tel: +1-703-993-4719 Fax: +1-703-993-4851
ICES Website: http://ices.gmu.edu
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Going Negative:
The Persuasive Effect of Tone and Information on Campaign Fundraising and Voter Turnout

Jared Barton [a]
Marco Castillo [b]
Ragan Petrie [b]

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Abstract: Negative campaigning is a recurring feature of political competition, though its persistence is puzzling in light of research showing that the public dislikes it. Why do candidates risk alienating voters by going negative? One answer may lie in the large empirical literature on persuasion indicating that negative messages are more effective than positive messages in getting individuals to do many things, including voting and purchasing goods. Negative messages may work better because they contain more information, and individuals use this to update beliefs when making decisions. Or, the tone of the message may change preferences, without providing additional information. Which element, information or tone, underlies the effectiveness of such messages has not been clearly identified. We attempt to do so by using a field experiment in two elections for local office. We test the effect of a negative letter, a positive letter, or no letter sent to partisans on two measurable activities: campaign donations and voter turnout. We find no effect of message tone on campaign donations. However, we do find that tone is important in driving voter turnout and this effect is separate from the effect of information. In our environment, going negative never hurts the candidates.

[a] Department of Economics, California State University-Channel Islands, Camarillo, CA. Barton: jared_p_barton@yahoo.com
[b] Interdisciplinary Center for Economic Science and Department of Economics, George Mason University, Fairfax, VA. Petrie: rpetrie1@gmu.edu, Castillo: mcastil8@gmu.edu

1. Introduction

Negative campaigning in American politics is as old as the republic (Felknor 1966), even though large majorities of the current U.S. voting public think that negative campaigning is unethical (86%) and hurts democracy (81%) (Green n.d.). Similar to the goals of advertising to sell a product or raising money for a charity, the aim of political campaigns is to persuade individuals to go to the polls and vote for their candidate. Research suggests that negative messages can be more effective than positive messages in selling products and political candidates. This could hold because negative messages provide more information than positive messages, and voters can use this to update beliefs and make more informed decisions. Alternatively, the tone of negative messages may be persuasive, in the sense that it changes preferences but contains no additional information. While much previous scholarship has demonstrated the relative effectiveness of negative messages, which underlying mechanism is at work remains unclear. In this paper, we examine how negative and positive messages affect campaign donations and voter turnout among candidates' partisan supporters and whether the mechanism operates through additional information provided in the message, pure persuasion or some combination of the two.

Specifically, we send campaign letters in two separate political campaigns during an actual general election for local office. One race favored the Democratic candidate and the other the Republican candidate. We worked with the Democratic candidate in each race. Our research design controls whether information is provided at all and the tone of the message. The campaign letter is sent by the candidate to partisans in his district, and the tone of the message in the letter is either positive or negative. We use a letter, rather than

personal contact, because it provides uniform delivery of the message tone, be it positive or negative, and eliminates any potential confounds from personal interaction. The advantage of targeting partisans is that it allows us to, cautiously, interpret voter turnout as a proxy for voter support as partisans who turn out to vote are generally unlikely to support the opposition (see, e.g., Abramowitz et al. 1981). We verify turnout with official voter records.

In addition to the treatment groups, we exclude a group of supporters from getting any letter. This allows us to examine the effect of receiving any information at all separate from tone. Each letter asks for the voter's support, with the positive letter consisting of a message praising the qualifications of the candidate and a negative letter consisting of a message alerting the voter to undesirable aspects of the opponent, and includes a campaign donation card. The letters are similar in length and style, and prior to being sent, the tone and information content of each letter are externally validated by like-minded partisans from another state. This last procedure is important and has been left out in previous research on negative messages. It gives us confidence that our positive or negative-toned message is received as such by our targeted voters.

To our knowledge, our study is the first to examine the effectiveness of and the mechanism behind positive and negative political messages sent by a candidate on actual campaign outcomes. Indeed, we find that messages and message tone are consequential in fundraising and voter turnout in ways that may help us gain a deeper understanding of the persistence of negative campaigning.

Identifying the effect of information from message tone is not straightforward. While receiving a letter is a necessary condition to examine the effects of information from tone, negative messages may be more effective than positive messages, not because tone

matters but because the negative message contains more information and the information increases the likelihood of behavior benefiting the campaign. Being able to tease this apart requires a control group that does not receive the letter as well as certain consistent patterns in the ordering of outcomes across the positive and negative message treatments and the control group. Put differently, if the effect on voter turnout of getting a campaign letter is solely due to having more information about the candidate, then whether information is presented in a positive or negative light should have the same ordered effects on outcomes relative to the control group in both districts. Our experimental design, the inclusion of two districts in our study, and our identification strategy allow us to examine this more closely. Both are outlined in detail in subsequent sections.

Our results are intriguing. While we find no effect of tone on campaign donations, we do find that tone affects voter turnout, separate from information. Negative message recipients are 4.7 percentage points more likely to vote than positive message recipients (one-sided p-value=0.008). These results are remarkably consistent across districts. Importantly, this is not because getting a letter, any letter, from the candidate increases turnout. In one district, getting a positive message reduces turnout relative to not receiving a letter at all and has no effect in the other district, whereas a negative message has a significant effect in one district but not the other. In other words, in our environment, getting a positive letter can reduce turnout, but a negative letter never significantly hurts turnout.

The literature examining the effect of negative campaigning on voting behavior is large (summarized in Lau et al. 1999, and Lau, Siegelman, and Rovner, 2007). Previous research suggests that negative messages are found by voters to be more informative than

positive ones, and researchers have suggested this difference as a possible reason for a mobilizing effect of negative campaigns (Brians and Wattenberg 1996, Joslyn 1986). There are, however, few randomized experiments in naturally occurring settings testing the effects. Outside of some notable exceptions (Arceneaux and Nickerson 2010, Gottfried et al. 2009, Niven 2006), most studies rely on indirect evidence and require strong identification assumptions to reach their conclusions. Our paper, by design, can examine how negative campaigning by a candidate works in a natural setting.

The effect of negative messages in campaigns also speaks to the broader literature on advertising and persuasion. Individuals can be persuaded to do many things, including voting, buying a product or giving to charity, through a change in beliefs or preferences (DellaVigna and Gentzkow, 2010). Advertising is thought to work by providing information and through persuasion (see Bagwell's, 2007, review). Comparative advertising is generally more effective than non-comparative advertising (Barry 1993, Grewal et al. 1997), and a negative or attack message against another brand (or candidate) can be interpreted as a comparative message (Pinkleton 1997, Shiv et al. 1997). Consistent with results from the marketing literature, we find the negative (implicitly comparative) message to yield greater voter turnout than the positive message. Unlike much of this literature, however, we find that the positive (non-comparative) message can reduce voter turnout relative to no message, contradicting the hypothesis that negative message are more effective because they are more informative or memorable.

Our results also relate to the large literature on contributing to public goods (see Vesterlund 2006, for a review). Partisans voting for and making campaign contributions to their side can be thought of as contributing to a public good, with the accompanying

incentive to free ride on the contributions of others.[1] The power of asking for a donation has been found to be important (Andreoni and Rao 2011), and our results confirm this. Those who are not asked do not contribute money. Additionally, we find that supporters are more likely to contribute their vote when asked using a negative message than when using a positive one. This finding is consistent with Augenblick and Cuhna's (2011) result that campaign contributions are higher when the request is framed competitively, in their case referencing the average giving behavior of out-partisans, and in our case emphasizing the consequences of an own-partisan loss.

The paper proceeds as follows. Section 2 provides background information on negative campaigning and motivates our design. Section 3 describes our identification strategy, and Section 4 describes our experimental design. Section 5 presents results from our pre-experimental survey, and Section 6 the results from the field experiment. We offer concluding comments in Section 7.

2. Why Negative Campaigning Might Work

Negative campaigning involves any attack against a candidate's opponent, rather than an argument for the candidate. It is a form of comparative advertising, as highlighting the undesirable traits of one's opponent is an implicit claim to be better (Pinkleton 1997).[2] In the marketing literature, comparative messages have been found to receive greater consumer attention, yield greater brand and message awareness, message processing, and favorable attitudes toward the sponsored brand than noncomparative ads (Grewal et al.

[1] Augenblick and Cuhna (2011) also perform a public goods experiment in the field using political fundraising, and make a similar argument regarding the public good nature of policy.
[2] Pinkleton (1997) applies the definitions from the marketing literature to political campaigns to clarify how negative campaigning fits in marketers' taxonomy. In our experiment, we use what Pinkelton would call an "implied comparative, negative" message (see Pinkleton 1997, pp. 20).

1997). It is possible that, in political contexts, negative comparisons serve a similar role. While some authors argue that negative campaigning reduces participation by voters of all persuasions (Ansolebehere et al. 1994, Ansolebehere and Iyengar 1995), the balance of the current evidence suggests there is a mild *mobilizing* effect of negative campaigning on voter turnout. Lau et al. (1999, 2009) find that, across multiple studies, negative campaigning has a positive impact on actual voter turnout.[3]

Few of these studies, however, identify the effect of negative political messages on behavior cleanly. Over half of the studies Lau et al. collect use observational data, which requires strong assumptions necessary to infer causal relationships (e.g., Fridkin and Kenney 2011, Hall and Bonneau 2009, Krasno and Green 2008). Of the experimental studies included and conducted since Lau et al.'s analysis, few measure intended or actual voter turnout, and many use fictitious candidates, advertisements, or both (e.g., Carraro et al. 2010, Fridkin and Kenney 2008, Wu and Dahmen 2010).[4] Only two of the studies Lau et al. review are field experiments conducted within an actual election (Arceneaux and Nickerson 2010, Niven 2006), and few authors since have tried to measure the effect of negative campaigning in an election (Gottfried et al. 2009).

Of the field experiments on negative advertising, Arceneaux and Nickerson (2010) worked with an independent organization in the 2004 election and varied whether voters received a campaign phone call with a negative or positively framed message regarding various policy outcomes. They find no turnout effects and insignificant candidate

[3] They also report that negative campaigning has a negative impact on intended turnout. Voting intentions, however, are a less reliable dependent variable than actual voting (Traugott 2008).
[4] Additionally, of the 49 laboratory experiments, only 31 use actual advertisements or candidates.

preference effects.[5] Niven (2006) also uses messages from an independent organization (in a mayoral contest) to test the effect of negative campaigning. He finds voters who receive the negative messages have higher turnout rates. Gottfried et al. (2009) find that positive messages for judges up for reelection lead to higher voter turnout relative to arguments against reelection and negative campaigns from past judicial elections in other states.

Different from the research cited above, because we send messages from the candidate himself, we can examine the effect of positive arguments for a candidate compared to negative arguments against an opponent. Our design is more akin to comparative advertising. Also, it reduces potential confounds because our messages are sent within an actual campaign, and we directly compare the effects of positive to negative messages sent by the same candidate within the same election.

Previous research suggests that a possible reason that negative campaigning works is because it stimulates a more immediate emotional response from voters (Finkel and Geer 1998). If invoking an emotional response is the primary mechanism behind negative campaign messages, we would expect differences between messages to be stronger in fundraising but not in voter turnout, as previous research has found the impact of emotional states on behavior to diminish over time (Adler, Rosen, and Silverstein 1998; Grimm and Mengel 2011). We do find a difference in messages in voter turnout, but not fundraising, leading us to believe that the effect of emotional responses on outcomes is of smaller importance.

[5] They also report a second experiment from a statewide ballot proposition in Los Angeles. Again working with an independent organization, they randomize whether voters receive an appeal indicating the negative effects of not supporting the proposition, or the positive effects of supporting the proposition. The results of this experiment also find no meaningful effect on turnout of either frame.

It is also suggested that negative campaigns stimulate voter participation because of differences in the quantity of information conveyed. Negative political advertising in other contexts has been found to contain more information than positive advertising (Brians and Wattenberg 1996, Joslyn 1986). For this mechanism to work, however, two auxiliary requirements need to hold. First, a negative message would need to contain more information than a positive one. Second, having more information would need to lead to higher turnout. There is no reason, a priori, for either requirement to hold. Indeed, we will see that we find no evidence from our study to support the first requirement, and for the second, while additional information allows individuals to have more precise posterior beliefs, the *direction* in which those beliefs change is unspecified (Greene 2008).

Even if negative campaign messages are not more informative, they may receive more weight in voters' minds. A negative message may simply "stand out" against a general backdrop of positive information and life experience (Lau 1985). Or, they may draw attention to possible costs or losses to avoid, which may receive more attention if voters are loss averse (Kahneman and Tversky 1979, Miller and Krosnick 2004).[6] Our results contradict the hypothesis that negative messages are more memorable than positive ones. In one district, the largest effect on turnout corresponds to the positive rather than the negative message. Finally, negative messages, by drawing implicit or explicit comparisons, evoke a competition, which has been shown to matter for the provision of public goods in the lab (Bornstein and Ben-Yossef 1994, Bornstein et al. 2002) and the field (Augenblick and Cunha 2011, Erev et al. 1993).

[6] Miller and Krosnick (2004) conducted a field experiment with an abortion-rights organization in Ohio. They varied whether an upcoming policy debate was framed in terms of an "opportunity" to advance abortion rights or a "threat" to those rights. The authors found that the threat generated greater rates and levels of giving to the organization relative to both the opportunity and control letters, which they attribute to loss aversion.

Given this backdrop, we now turn to outlining our identification strategy for understanding why negative campaigning works and the underlying mechanism.

3. Identification Strategy

In this section we discuss under what circumstances it is possible to identify whether the tone of a message has an effect separate from the information it conveys. This is a necessary step towards detecting the potential mechanism behind negative campaigning. Identification of a separate effect of tone from information is not straightforward because of two potential confounds. First, more information may not always be helpful, i.e. more information may reduce rather than increase the desired behavior. Second, what may seem to be due to tone could be due to a correlation between tone and information. Our design contains elements that help us tease these apart.

Typically, information (i.e., being informed) is believed to have a positive effect on voting.[7] However, information need not necessarily positively affect turnout. Particularly for partisan voters, additional information could increase turnout or decrease turnout, depending on how the information is viewed. For example, a letter from the candidate might stimulate partisans' turnout, but it might also assure them that the campaign is well organized and they need not give nor vote to achieve victory.

Tone and information could also be correlated. A negative message could contain more information than a positive message, so if people turn out to vote more when they receive a negative message, it could be due to either attribute. To identify if information alone makes a difference, or if tone also plays a role, we require a control group that

[7] For example, in Feddersen and Pesendorfer's (1996) game-theoretic model of non-partisan voters, voters with information vote while those who are uninformed maximize their payoff (generally) by abstaining. Lassen (2005) finds that more informed voters are more likely to vote in a citywide referendum.

receives no messages. Comparing these individuals to the treatment group tells us if information matters (irrespective of the direction of the effect). However, if we would like to know how tone interacts with information or if information is good or bad, we need to derive additional identifying conditions that we can test with our experimental data.

Suppose that only information matters and messages can be sorted similarly across districts according to their information content. Then, we should expect that the ordering of the effect of messages is consistent across districts. Even if the effect of information is positive in one district or negative in another, if information is the only variable at work, we should observe that the ordering of messages according to their impact is the same across districts. If such patterns do not hold in the data, this implies that it is not just information that matters, but tone also has a separate effect.

This identification argument can be illustrated with an example. Suppose the observed ordering of voter turnout, t, is $t_{negative} > t_{positive} > t_{control}$. One could interpret this result as the tone of the negative message raising supporters' turnout more than the positive one and also more than not communicating with voters. However, it is also consistent with information driving turnout and negative messages having more information than positive messages. Indeed, any ordering where receiving either one of the messages is significantly different from the control (either by increasing or decreasing turnout), and both messages have the same directional effect, does not allow us to distinguish tone from information.

However, if the tone of each message produces opposite results relative to the control (e.g., $t_{negative} > t_{control} > t_{positive}$), then we can conclude that it is not just information that matters to turnout. This example ordering has two interpretations. Either the positive

message has more information and information hurts turnout, plus negative tone helps, or the negative message has more information and information helps turnout, plus positive tone hurts turnout.

To make the case for the existence of the second pattern in the data, we now add the condition that information can have a positive or negative effect on turnout. Suppose that the positive message has more information than the negative message, and only information matters. If we observe $t_{control} > t_{negative} > t_{positive}$ in one district, we should observe either $t_{control} > t_{negative} > t_{positive}$ or $t_{positive} > t_{negative} > t_{control}$ in the other district, depending on whether information increases or decreases turnout. In the first district, information increases turnout. In the second district, information needs not have the same directional impact, but for information alone to be important, only these two orderings are possible. Alternative patterns could be derived if the negative message has more information, but the same logic applies.

In all orderings, the message treatment that contains the most information should have the most extreme effect, either increasing or decreasing turnout, relative to the control. The effect of the less informative treatment should lie between the control and the more informative treatment. Now, if information is helpful in one district but hurtful in the other, the ordering of the magnitude always holds (the most informative has the largest effect, then the least informative, then the control), just in opposite directions (helpful information increases turnout, and hurtful information lowers it). In all cases, these orderings are consistent with information mattering to turnout, but tone not necessarily being relevant.

Finally, to help with identification of the mechanism behind the effectiveness of negative campaigning, we can use information from our pre-experiment survey with like-minded partisans from a different state to help us narrow down which interpretation is most reasonable.

In sum, our identification strategy looks at two regularities in the data that would be consistent with information being important, but not distinguishable from tone, and examines whether these hold or not. If these do not hold, then tone has an effect separate from information. The empirical data patterns we test are (1) whether there is a significant difference between the positive and negative messages, (2) if either message is different from the control, and (3) if the ordering of effects across the positive, negative and control are consistent across districts. We also supplement the interpretation of the results with our pre-experiment survey results to narrow down which interpretation is most plausible.

We turn next to a description of the experimental design.

4. Experimental Design

We conducted the experiment in two local elections for county legislature during the 2010 general election. The legislature is comprised of several three-member districts, and we conducted the experiment with two Democratic candidates in two different districts. In the first district ("District A"), only a single seat is up for election, while in the other district ("District B") two seats are up for election. District A is predominantly Republican; the average Democratic share of the two-party vote for the county legislature from 2004 to 2008 is roughly 40%. The Democrats fielded no candidates in the district in 2002. District B is predominantly Democrats, with the average Democratic share of the two-party vote from 2002 through 2006 about 60%. The Republicans fielded no candidates

in the district in 2008. Both candidates had run for the office previously: the District A candidate lost in the general election in 2008, while the District B candidate lost in the 2008 Democratic primary. In the 2010 general election, the District A candidate lost again, while the District B candidate won.

Our experiment focuses on the candidates' attempt to mobilize funds and votes from partisan supporters in their respective districts. According to voter registration records, District A was comprised of about 15,200 registered voters (8,400 households), and District B had roughly 11,800 registered voters (7,150 households). We used voters' participation in party primaries to construct a sample of likely supporters. As this state does not register voters by party, primary election activity is the best indicator of partisanship available. First, we kept only those voters who had participated in at least one of the last three Democratic Party primary elections (and no Republican Party primary elections) from 2004 through 2008. This leaves 2,152 voters (1,611 households) in District A, and 2,784 voters (2,089 households). Next, we removed all likely Democrats where any member of their household had participated in at least one of the three Republican Party primary elections from 2004 through 2008, reducing the target population to 1,886 voters in District A (1,367 households) and 2,619 voters (1,944 households) in District B. Finally, the campaigns employed a private address verification system to determine whether voters continued to live in their respective districts; we removed all voters that moved outside of their current city, leaving 1,798 individuals (1,296 households) in District A, and 2,415 individuals (1,789 households).

Households in the candidates' districts with at least one likely partisan supporter by the above criteria were randomly assigned to receive a negative letter, a positive letter or

no letter. The District A candidate sent letters to partisans in 1,037 targeted households; the District B candidate sent letters to partisans in 1,432 targeted households. As some households with Democratic partisans contain more than one partisan, we randomly selected the recipient to whom we addressed the letter from among the Democrats in the household. This also allows us to examine the spillover effects of our treatments on other voters in the household that did not receive the letter. Table 1 presents summary statistics on the targeted individuals in the sample. Table 2 presents tests of our randomization procedure using individual characteristics and average characteristics of the household. In general, our randomization worked well across most variables. However, because there are some weak correlations with observable characteristics and assigned treatment, we report all results with and without controlling for observable covariates.

The authors produced the candidates' mailings using the candidates' resources and shipped the mail to the candidates to send. We developed the candidates' letters in consultation with their campaigns, and pre-tested the interpretation of the messages among 24 like-minded partisans outside of the candidates' districts. Letters for each candidate have the same opening and concluding paragraphs; the two middle paragraphs contain the content that differs between treatments. The two letters are very similar in length for both candidates and both treatments: the District A candidate's positive (negative) letter contains 270 (263) words, and the District B candidate's positive (negative) letter contains 281 (262) words. The appendix contains the text of all messages, as well as a figure depicting one complete letter to a potential partisan supporter.[8]

[8] We also varied the quality of the delivery mechanism (the mail pieces) There were no discernable effects across the two quality treatments, so we pool the data and only examine differences by message tone.

The two treatments involve the candidates' making an argument for their attributes and positions or against those of their opponents. This is in contrast to previous field research using messages that cast events in a positive or negative light or an argument from a third party. Each candidate's positive message is something positive about the candidate sending the message. Their negative messages are something undesirable about their opponent and the opponent's party, not merely negative information about the circumstances of the electorate. The mail pieces use the candidates' names and not generic party labels (though they refer to their opponents in the third person), and the letter is sent by the candidate himself (with the candidate's return address). These differences make the messages both more relevant and more directly linked to the campaign. Also, they more precisely test the effect of campaign tone by the primary actor in the electoral contest—the candidate—on voter behavior.

After we validate our treatments with a survey (discussed in detail below), we conducted the experiment by having the candidates send all letters in the first two weeks of June 2010. [9] Candidates collected contributions over the next six weeks, and received no contributions from those solicited following the six week recording period. Following the election, we acquired voter turnout records for each district from the county board of elections.

5. Validation Survey of Message Content

An important first step in our research is to verify that the negative and positive messages we intend to send to voters are, in fact, perceived as such. To do so, we conduct a

[9] Some households were dropped due to undeliverable mail or contact with the campaign: 2 in District A and 17 in District B. We exclude these recipients (and their households) from the analysis, although their inclusion makes no difference to the main results.

survey of message content with voters outside of the state in which we conduct the experiment but whom fit the demographic profile of our targeted voters. Below, we present the results of the individual survey interviews, and in the following section, we consider the fundraising and voter turnout results.

In late April 2010, we recruited 24 registered voters from among the faculty and staff of a university in northern Virginia who frequently participate in Democratic Party primary elections. We scheduled individual survey sessions within a week of the initial email in the offices of those who responded. Subjects were randomly assigned to inspect the mail of one of the two candidates, not both.[10] During the interview, subjects in the interviews read both messages from one candidate, with the order of which message they saw first randomized for each subject. We asked the subjects to rate the tone of the messages, their informational content, and their affect toward the sender of the messages. Subject responses were recorded by the interviewer. We paid subjects $15 for their time. Surveys lasted an average of 20 minutes.

The surveys serve two purposes. First, they validate our interpretation of the experimental manipulation. Second, the responses help us examine explanations for differences between positive and negative messages and the underlying mechanism. In particular, we can examine whether the subjects found the negative messages more informative, as has been found in previous research. Indeed, Finkel and Geer (1998) suggest that more information in negative messages might be a potential mechanism for the mobilizing effect of negative advertising.

[10] The survey script is included in the Appendix.

The quantitative results of these interviews are reported in Table 3, and provide strong evidence validating our interpretation of the treatments. Survey participants view the positive letter as "very positive" (it is the median and modal response) and the negative message as between "somewhat" and "very negative." This difference is strongly statistically significant (Wilcoxon signed-rank z=-4.42, p>|z|=0.000), and is also reflected in subjects' open-ended responses.

Some examples of open-ended responses are listed below. Note that participants frequently responded to the framing effect without prompting. They described the positive letters as "positive", but also indicated that it "emphasizes qualifications" of the candidates. As one participant stated, the positive letter was "selling himself." The participants described the negative letter as "negative" and an "attack" and clearly had mixed views of the negative letter. One said it focused him on "what they'll do if we let them win." Another said it highlighted "threats from the other party", while another said it was "clearly designed to get blood boiling." Another indicated he found the negative message distasteful, but offered that it "forces you to do something." And one participant who liked the attack summarized it this way: "do you *know* what the *Republicans* are *up* to?"[11] These unprompted responses, combined with the quantitative evidence, provide additional support that readers of the two letters perceive the tonal difference. There is also some qualitative evidence from the responses to suggest an emotional or loss-avoiding reaction to the negative letter.

[11] These quotations are excerpts of statements made by survey participants to the survey taker before the survey taker asked about the tone of either of the messages. The use of "positive" and "negative" is unprompted by the question. Please see the supporting information for the survey script and the raw data of the surveys. Copies of notes from the surveys are available upon request.

Participants also indicated a difference in informational content between the two letters. On average, subjects found the positive letter to be between "very informative" and "somewhat informative," but the negative letter to be between "somewhat" and "not very informative." This difference is also statistically significant (Wilcoxon signed-rank z=-3.83, p>|z|=0.000). This finding is important, as it contradicts the explanation that greater voter participation from negative advertising is due to its higher informational content. While it is possible that the ultimate recipients in our experiment derive more information out of the negative than the positive letter, our proxy (survey) participants do not. Indeed, based on these survey results, we cannot conclude that more information from negative messages is a plausible explanation for any differences we see in fundraising and voter turnout.

Furthermore, differences in tone are not merely due to differences in information. Participants found the tone difference between the two letters to be larger than the informational difference (Wilcoxon signed-rank z -3.97, p>|z|=0.000). Tone is perceived to be distinct from information, and the two letters are less likely to be viewed similarly in terms of tone than information provided.

We also examined candidate affect. Because we do not observe candidate choice for the voters in the field, we wanted to assess the degree to which negative feelings might possibly influence candidate support. Consistent with the results of previous laboratory experiments, the positive letter makes the candidates between "much more" and "a little bit more" likeable to survey participants, while the negative letter makes them between "a little less" and "much less" likeable. This difference is also statistically significant (Wilcoxon signed-rank z -3.32, p>|z|=0.001).

Interestingly, while participants felt less favorably toward the candidate from the negative message, several volunteered that they would still likely vote for the candidate following the negative message. One put it thus: I "vote for [the Democrat] unless he's a real doofus." Another, who was disinclined to support candidates who go negative, said "I might vote for him, because he is a Democrat. But I would hold my nose." These responses suggest that even if a candidate's partisan supporters find him less likeable after negative campaigning, that does not imply they would switch sides. We turn now to the results from the field experiment.

6. Results

We consider the treatment effects on campaign contributions and voter turnout below and use the derived conditions from our identification strategy to examine the underlying mechanism.

6.1. Campaign Contributions

Table 4 presents the contribution rates, revenue per solicitation (RPS), and total contributions received by each district and pooled across districts. About 0.8 percent of letter recipients contributed to the candidates' campaigns overall, though District A's candidate received significantly more contributions (1.3 percent) that District B's candidate (0.5 percent) (p-value=0.053, two-sided t-test with unequal variances, pooled over treatments). In both districts, we find no evidence that message tone matters. Neither the positive nor negative letter stimulates greater rates of giving than the other. In District A, 1.4 percent of the positive message recipients donated to the candidate, while 1.2 percent of the negative message recipients did so (p-value=0.775, two-sided t-test with unequal variances). Only 0.6 percent of District B's positive message recipients donated,

while 0.4 percent of the negative message recipients gave to the candidate (p-value=0.701, two-sided t-test with unequal variances). We also find no significant differences in revenue per solicitation between the two treatments in either District.

We check the robustness of our results in Table 5. This table presents linear probability model regressions of the decision to contribute and also regressions of the contribution amount for both districts individually as well as pooled. We test for treatment effects first, by controlling for whether the household received a positive or negative letter, and then in subsequent regressions include covariates gleaned from the voter file. These include the recipient's age, sex, and a measure of his or her partisanship (based on participation in partisan primaries), the number of other registered voters in the household, the percentage of these voters who are also Democrats (based again on primary participation), and the voter's *ex ante* predicted likelihood to vote.[12] We also received a list of past Democratic donors from the local Democratic Party, and control for this as well. These variables together serve as proxies of interest in politics in general and in supporting the recipients' party in particular.

As we found in the unconditional means, all regressions show no statistically significant difference between the negative and positive letter for contribution rates or levels of giving. However, letter recipients are significantly more likely to donate that those households that did not receive a letter. A positive letter recipient is 0.9 percentage points

[12] The predicted likelihood to vote comes from a probabilistic model of voting in the 2006 midterm election using voters' demographics and voting behavior leading up to the election (age and age squared in 2006, sex, whether the individual voted in the three previous elections, and whether they voted in a party primary in 2006). We applied the coefficients of this model to the voters' 2010 demographic characteristics and voting histories to estimate each voter's likelihood to vote in the 2010 midterm election. We verified this approach using the same estimation techniques on the 2002 data to predict voter turnout in 2006; our predicted likelihood was highly correlated with voters' behavior (ρ=0.68). See Brox and Hoppe (2005) for a discussion of such models and their accuracy in predicting voter turnout.

more likely to donate, and a negative recipient is 0.7 percentage points more likely. Other determinants of giving to the candidates are the prospective donors' age (serving possibly as a proxy for wealth or income), partisanship, and predicted participation in the election.[13] Because there is no difference in the probability to donate or donation levels across the two letters, we conclude that information matters, but not tone, for contribution decisions in our environment.

In sum, for campaign contributions, while both positive and negative letters served to stimulate giving among Democrats—neither candidate received donations from outside the population that received the mailing, including the control group, during or after the period of the study—the effects of the letter are indistinguishable across message tone. The tone of the solicitation message is not important. It is being asked to donate that matters.

6.2. Voter Turnout

We now turn to the effect of messages on voter turnout. While we just showed that receiving a letter is effective in getting partisans to give, but positive and negative messages have the same effect, we will see that for voter turnout tone does make a difference.

The main treatment effects can be seen in Figure 1. This shows the rate of voter turnout by treatments and control across districts. In both districts, a negative message yields significantly larger voter turnout relative to a positive message. However, this is not because both messages mobilize voters (relative to the control) and the negative does relatively better. In District A, the negative letter yields higher turnout than the control, while the positive letter yields slightly lower turnout (though not significantly). In District

[13] Residing in a household with a previous Democratic donor is not a statistically significant predictor of giving to the candidates. This variable—provided by the county party—is a measure of giving to a Democratic candidate at the local, state, or federal level, and thus may not serve as a good guide to potential donors for local candidates.

B, both letters lead to lower levels of voter turnout than the control; the negative letter just has a smaller (and statistically insignificant) negative impact on turnout.

We examine the robustness of these results in Table 6. The table shows linear probability model regressions of whether or not the voter turned out to vote on dummies for the two message treatments and the additional covariates we used in the regressions on contribution behavior.[14] Confirming the results from Figure 1, we see that voter turnout is significantly higher for those individuals that received a negative message compared to those that received a positive message. This holds in each district separately, as well as in the pooled data, and with and without covariates. For example, in District A, a negative message yields a 5.7 percentage point increase in voter turnout relative to a positive message (one-side p-value=0.031). In District B, this difference is 4.0 percentage points (one-sided p-value=0.058), and in the pooled data, this is 4.7 percentage points (one-sided p-value=0.008). Negative messages consistently have a stronger mobilizing effect than positive messages. However, from this result alone, we cannot determine if this is due to tone or information. We need to examine how turnout in the treatment conditions compare to the control.

As we saw in Figure 1, the effect of each message relative to no message is not consistent across districts. In District B, both messages reduce turnout relative to the control, and the positive message has the largest and most significant effect, with and without covariates. In District A, however, the negative message significantly increases

[14] As with households that receive the letter, in control households with more than one partisan, we randomly selected an individual voter as the "recipient". Our results do not change if we include all partisans in a control household, or re-select them at random.

turnout relative to the control (without controlling for covariates) but the positive message decreases turnout (although not significantly).

There is a clear ordering of outcomes in District B, with $t^B_{control} => t^B_{negative} > t^B_{positive}$. In District A, the ordering is $t^A_{negative} > t^A_{control} => t^A_{positive}$. The results from District B are consistent with information mattering and positive messages having more information than negative messages. If this is the case, then following the conditions we derived from our identification strategy, in District A, we should expect a similarly consistent ordering of turnout across treatments and control. The positive message should have the largest effect relative to the control and the effect of the negative message should lie somewhere in between. We do not see this in the data. In District A, the positive message is no different than the control, and it is the negative message that has a significant mobilizing effect on turnout relative to the control.

We examine this further using a Cuzick (1985) nonparametric trend test. The null hypothesis of the test is that there is no order in voter turnout across the control, negative message, and positive message groups against the alternative hypothesis that there is a significant ordering of the data with the positive message having the largest effect and the control the smallest. The resulting p-values of the test are shown in the middle panel in Table 6. The null hypothesis is rejected in District B (p-value=0.014) but not in District A (p-value=0.599). This says that, in District B, voter turnout can be ordered as highest in the control, then in the negative message treatment, then in the positive message treatment. There is no such order in the data from District A.

We also test whether the alternative ordering, where the negative message has the largest effect relative to the control, and the positive message has an intermediate effect, is

significant. This ordering is rejected in District B (p-value=0.563) but cannot be rejected in District A (p-value=0.090). Taking the results from both tests together, we can conclude that there is statistical evidence for the positive message having the largest effect relative to the control in District B and the negative message having the largest effect in District A. These results are not consistent with only information mattering. Tone is also important.

Indeed, the persistence of a differential effect between positive and negative messages in all our regressions, in the absence of a consistent significant effect of either the positive or negative message with respect to the control, is difficult to reconcile with information (or tone) being the only factor affecting voter turnout. In the absence of a countervailing force to information, we should expect that the significant difference between the positive and negative treatments leads to a significant difference between one of them and the control. Also, it is not the case that, by including covariates, we fail to reject the hypothesis that no treatment has an effect on voter turnout. Instead, we find consistent differences between positive and negative treatments without either treatment being significantly different from the control as any one-factor model would predict.

In addition to showing that *both* tone and information affect voter turnout, our results are consistent with positive, not negative, messages having more information. This is corroborated in our pre-experiment survey where it was found that the positive letter was significantly more informative. Information reduces turnout among the candidate's partisans in District B, and he would have been better off to not communicate with supporters at all. In District A, the more informative letter does not have an impact relative to the control, while the negative message has a mobilizing effect on turnout. Across both

districts, going negative never hurts, and sometimes helps, the candidate in getting voters to the polls.

It may be somewhat surprising that differences in a fundraising letter sent five months prior to the election could spur such differences in voter turnout, and a concern may be that our results are driven instead by some differences in observables or unobservables. These differences would need to exist despite the fact that the effect is remarkably consistent across different districts. We have already controlled for differences in several observables, including the *ex ante* likelihood to vote in Table 6, and our main results still hold. Nonetheless, we do another check to test the robustness of our results.

In Table 7, we run a placebo test to see if our results are spurious. In this test, we regress turnout of the past six elections on our treatments and individual covariates. If the significant effect of our treatments on voter turnout is due to some anomaly in voting behavior, we should be able to also see a significant effect in previous elections as well. We present these results with and without controlling for covariates. We run the regressions both with all voters eligible to vote in 2010, and also with only those voters who would have been able to vote in the respective years (i.e., including only those aged 20 or older in 2010 for the 2008 turnout decision, those aged 22 or older in 2010 for the 2006 turnout decision, and so on). As all results show, there is no relationship between our treatments and past behavior (as we would expect if our treatments do indeed have a significant effect), indicating that what we find in our experimental results is not spurious.

So far, we have examined the effect of our mailings on the voting behavior of the letter recipient. It is possible that the letter recipient communicated the contents of the letter to others within the household, or others read the letter. Therefore, we also examine

the difference in turnout behavior of other members of the household between the two letter treatments and the control.[15] Nickerson (2008) demonstrated that affecting the voter turnout decision of one household member can influence the decision of others to vote.[16] In Table 8, we present results of regressing non-recipient individuals' voter turnout in the 2010 general election on the treatments assigned to those households. There is no significant effect of the letter on turnout of non-recipients, nor is there a significant difference between the negative and positive messages. While spillovers within the household have been observed in previous studies, we find no evidence for such effects in our environment.

7. Conclusions

We use a field experiment to explore the effect of "going negative" in an actual general election political campaign for local office in two separate political races. Our study has the advantage that, within the same election across two districts, we can examine the effect of negative and positive messages relative to a control group that does not receive a message on two important outcomes in political campaigns: fundraising and voter turnout. Our design allows us to distinguish whether the effects are due to information the messages provide the voter or the tone. Previous research showing that negative messages are more informative, and also research showing it to be more effective at changing behavior, has not been able to fully examine the underlying mechanism. Our research does.

[15] There is no spillover behavior to analyze in the fundraising treatments. In one case in District B, we sent the fundraising letter to one household member, and another household member sent a check. The responding household member had, several months prior, indicated to the candidate that she wanted to donate to the campaign.

[16] In Nickerson's experiment, canvassers deliver the treatments to a particular voter in a two-voter household and then measure the turnout of the other member of the household. In our case, while we know to whom we address the letter, we cannot say with certainty which household members read it. Thus, whether differences in non-recipient behavior are a "contagious" reaction to the recipient's behavior, or the direct effect of the treatment on the non-recipients is not determinable in this context.

The results suggest that tone has an effect separate from information, and going negative never hurts a candidate. This lends additional support for the continued prevalence of negative campaigning, despite the common perception that negative campaigning is bad for the political process.

In our study, the candidate sends a campaign letter to supporters, either phrased as a positive description of the candidate's qualities or a negative description of his opponent. The tone of each letter is externally validated prior to being sent, and this assures us that recipients viewed the letter tone as intended. A group of supporters are left out of receiving a letter, and the behavior of this group serves as a comparison for the effectiveness of receiving any information from the candidate on outcomes. In addition to testing the effect of information alone, comparisons across the control and negative and positive message groups allow us to separate the effect of tone from information. Our identification strategy builds on regularities we should observe in the data if the messages only contain information, and tone itself does not necessarily matter. Our data contradict these regularities in a manner suggestive of a significant independent effect of tone.

We have two main findings from our field environment. First, in terms of political campaign donations, we find no significant effect of message tone. Very few supporters made donations to the campaign, and only those who were asked (received a letter) contributed. There is no significant difference between those that received a positive-tone letter and those that received a negative-tone letter. For donations, it appears that being asked to donate is what matters, not necessarily tone. Since donations occur soon after solicitation, the lack of significance of tone on fundraising, in our environment, suggests that the effect of tone is not due to an immediate emotional response.

Second, in terms of voter turnout, message tone has an effect separate from information. A robust result across district races is that negative messages have a significantly larger effect on getting supporters to turn out to vote relative to positive messages. However, this is not because both messages increase turnout relative to no message. It varies by district race. In one district, the positive message depresses turnout relative to no message, and the negative message just depresses turnout less. In the other district, it is the negative message that increases turnout, and the positive message has no significant effect.

These patterns are not consistent with data regularities that should emerge if the letter solely provides voters with information, and the delivery tone is unimportant. Indeed, the data patterns are consistent with positive, not negative, messages having more information content (and this is confirmed in our pre-experiment validation), information being hurtful to turnout in one district race and negative messages having a mobilizing effect. Our results confirm previous research showing that negative, or comparative, messages or advertising to be effective in persuading changes in behavior. However, our results suggest that the effectiveness of the negative message is not due to a larger content or salience of information, rather information appears to be important, but negative tone has a separate, important effect. Finally, the absence of a separate effect of negative messages on campaign contributions suggests that donations of time and money are different.

In our field environment, "going negative" never hurts our candidates, and might help. While we do not conclude that this would hold across all political races and environments, our study does provide an important piece of field evidence that, in an

actual election for local office, this result holds. Our results also provide some additional insight into why negative campaigning, despite its bad reputation, is so persistent in politics.

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Figure 1. Voter Turnout by Treatment

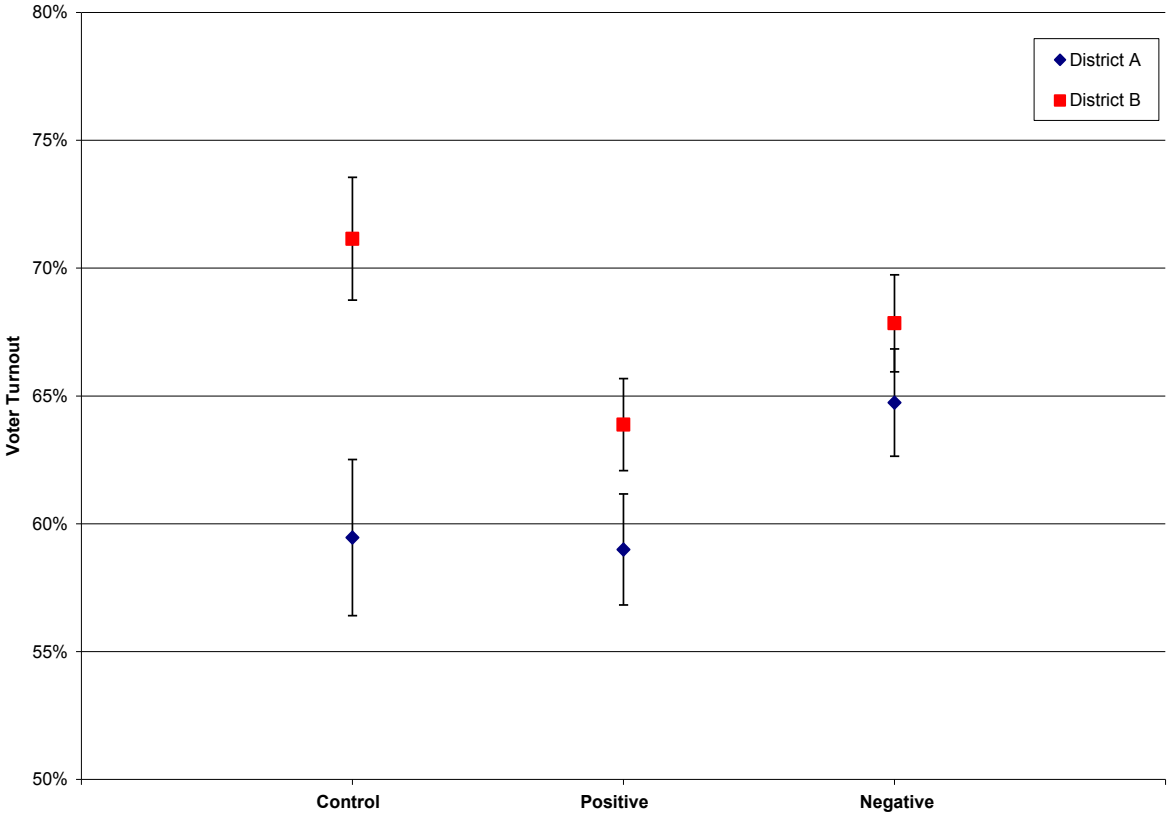


Table 1. Sample Descriptive Statistics

District A					
	Obs	**Mean**	**Std. Dev.**	**Min**	**Max**
Male	1296	0.414	0.493	0	1
Age	1281	52.552	15.789	20	97
Strong Democrat	1296	0.297	0.457	0	1
Weak Democrat	1296	0.703	0.457	0	1
Percent Democrats in Household	1296	0.783	0.263	0.14286	1
Voters in Household	1296	1.964	0.892	1	7
Previous Democratic Donor Household	1296	0.125	0.331	0	1
Predicted Likelihood to Vote	1281	0.682	0.249	0.05331	0.97444
District B					
	Obs	**Mean**	**Std. Dev.**	**Min**	**Max**
Male	1789	0.382	0.486	0	1
Age	1774	50.543	16.253	20	98
Strong Democrat	1789	0.364	0.481	0	1
Weak Democrat	1789	0.636	0.481	0	1
Percent Democrats in Household	1789	0.826	0.252	0.11111	1
Voters in Household	1789	1.836	0.947	1	9
Previous Democratic Donor Household	1789	0.187	0.390	0	1
Predicted Likelihood to Vote	1751	0.680	0.248	0.06011	0.97162
Both Districts					
	Obs	**Mean**	**Std. Dev.**	**Min**	**Max**
Male	3085	0.395	0.489	0	1
Age	3055	51.386	16.088	20	98
Strong Democrat	3085	0.336	0.472	0	1
Weak Democrat	3085	0.664	0.472	0	1
Percent Democrats in Household	3085	0.808	0.257	0.11111	1
Voters in Household	3085	1.890	0.926	1	9
Previous Democratic Donor Household	3085	0.161	0.368	0	1
Predicted Likelihood to Vote	3032	0.681	0.249	0.05331	0.97444

Strong Democrats voted in at least two of the last Democratic primaries and no other party primary. Weak Democrats voted in one of the last three Democratic primaries, or two of the last three and one non-Republican primary. Some voters have their birthday recorded as "01/01/1900" in the voter registration records. According to Board of Election officials, this is the default value for those who provided no age on their registration materials. We treat these values as missing both here and in subsequent regression analyses.

Table 2. Randomization Check

	District A				District B			
	(1)		(2)		(3)		(4)	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Male	0.180	0.148	0.190	0.179	0.208	-0.001	0.178	-0.005
	(0.160)	(0.160)	(0.157)	(0.157)	(0.136)	(0.136)	(0.134)	(0.135)
Age	0.000	-0.007			-0.000	-0.002		
	(0.005)	(0.006)			(0.005)	(0.005)		
Strong Democrat	0.131	0.148	0.144	0.178	0.037	-0.066	-0.006	-0.053
	(0.190)	(0.190)	(0.179)	(0.179)	(0.158)	(0.157)	(0.144)	(0.144)
Pct. Democrats	-0.214	-0.660*	-0.214	-0.657*	-0.580	-0.400	-0.545	-0.315
n Household	(0.393)	(0.389)	(0.390)	(0.386)	(0.361)	(0.359)	(0.357)	(0.355)
Voters in Household	-0.043	-0.044	-0.045	-0.019	-0.122	-0.046	-0.119	-0.032
	(0.114)	(0.113)	(0.113)	(0.112)	(0.094)	(0.093)	(0.094)	(0.092)
Previous Democratic	0.276	0.132	0.329	0.202	-0.003	0.087	-0.015	0.087
Donor Household	(0.260)	(0.265)	(0.255)	(0.259)	(0.188)	(0.186)	(0.179)	(0.177)
Predicted Likelihood	0.231	0.590*			-0.184	0.166		
To Vote	(0.355)	(0.358)			(0.313)	(0.313)		
Constant	0.634	1.143**	0.792	1.103**	1.429***	1.092**	1.303***	1.022**
	(0.554)	(0.550)	(0.483)	(0.477)	(0.491)	(0.489)	(0.430)	(0.427)
Observations	1281	1281	1296	1296	1751	1751	1789	1789

Multinomial logistic regression of treatment assignment as a function of individual characteristics. Base group is control (no letter). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 3. Subject Evaluation of Letter Tone, Information, and Candidate Likeability

Tone of Letter

[1=Very Positive; 4=Very Negative]

	Positive		Negative		
	Mean	**SD**	**Mean**	**SD**	**p>|z|**
District A	1.1	0.3	3.3	0.6	0.002
District B	1.1	0.4	3.2	0.6	0.002
Both districts	1.1	0.4	3.2	0.6	0.000

Information in Letter

[1=Very; 4=Not at all]

	Positive		Negative		
	Mean	**SD**	**Mean**	**SD**	**p>|z|**
District A	1.5	0.5	2.9	0.7	0.002
District B	1.7	0.9	2.2	0.9	0.034
Both districts	1.6	0.7	2.5	0.9	0.000

Likeability of Candidate

[1=Much more; 4=Much less]

	Positive		Negative		
	Mean	**SD**	**Mean**	**SD**	**p>|z|**
District A	1.5	0.6	3.1	0.7	0.002
District B	1.9	0.7	2.8	0.9	0.082
Both districts	1.7	0.7	2.9	0.8	0.001

Last column (p>|z|) reports the statistical significance of Wilcoxon signed-rank test between the positive and the negative letters.

Table 4. Contribution Rate, Revenue per Solicitation, and Total Contributions by District

Contribution Rate

	Positive			Negative			
	Obs	**Mean**	**SD**	**Obs**	**Mean**	**SD**	***Difference***
District A	516	0.014	0.116	519	0.012	0.107	0.77
District B	706	0.006	0.075	709	0.004	0.065	0.70
Both Districts	1222	0.009	0.094	1228	0.007	0.085	0.65
Difference		0.18			0.17		

Revenue per Solicitation

	Positive			Negative			
	Obs	**Mean**	**SD**	**Obs**	**Mean**	**SD**	***Difference***
District A	516	0.562	5.183	519	0.578	5.989	0.96
District B	706	0.283	4.407	709	0.106	1.624	0.32
Both Districts	1222	0.401	4.750	1228	0.305	4.089	0.59
Difference		0.32			0.08		

Total Contributions

	Positive	**Negative**
District A	$290	$300
District B	$200	$75
Both Districts	$490	$375

The *Difference* column reports the statistical significance of a two-sided t-test (unequal variances) between the positive and the negative letters, while the *Difference* row reports the statistical significance of a two-sided t-test (unequal variances) between districts.

Table 5. Treatment Effects on Contributing to Campaigns

	Contribution Rate			Contribution Level		
	(1)	(2)	(3)	(4)	(5)	(6)
	District A	District B	Both	District A	District B	Both
Positive letter	0.012**	0.007**	0.009***	0.489**	0.330*	0.415***
	(0.005)	(0.003)	(0.003)	(0.211)	(0.191)	(0.142)
Negative letter	0.010**	0.005*	0.007***	0.514**	0.131*	0.308***
	(0.005)	(0.003)	(0.002)	(0.241)	(0.070)	(0.115)
Positive=Negative? (P-value, F-test)	*0.796*	*0.608*	*0.610*	*0.940*	*0.279*	*0.544*
Male	-0.001	-0.002	-0.001	-0.079	0.004	-0.007
	(0.006)	(0.003)	(0.003)	(0.310)	(0.141)	(0.151)
Age/10	0.004**	0.001**	0.003***	0.159**	0.060*	0.111***
	(0.002)	(0.001)	(0.001)	(0.078)	(0.034)	(0.039)
Strong Democrat	0.010	0.006**	0.007*	0.577	0.296*	0.373*
	(0.009)	(0.002)	(0.004)	(0.425)	(0.173)	(0.202)
Pct Democrats in Household	0.006	0.019	0.012	0.350	1.507	0.936
	(0.014)	(0.013)	(0.010)	(0.533)	(1.267)	(0.731)
Voters in Household	0.007	0.005	0.006	0.431	0.522	0.477
	(0.005)	(0.005)	(0.004)	(0.303)	(0.511)	(0.317)
Previous Democratic Donor Household	0.003	0.008	0.004	0.239	-0.089	-0.061
	(0.014)	(0.007)	(0.007)	(0.728)	(0.347)	(0.334)
Predicted Likelihood to Vote	0.024***	0.004	0.014***	1.111**	0.041	0.548**
	(0.009)	(0.003)	(0.004)	(0.474)	(0.168)	(0.234)
Constant	-0.058**	-0.036	-0.045***	-2.824**	-2.653	-2.715**
	(0.026)	(0.023)	(0.017)	(1.204)	(2.114)	(1.284)
Observations	1279	1735	3014	1279	1735	3014
R-squared	0.022	0.017	0.017	0.021	0.022	0.017

All regressions estimated with OLS, as strong democrat=0 perfectly predicts not contributing in District B. *Positive=Negative?* reports the p-value of an F-test of the equality of coefficients between the positive and negative letters. Robust standard errors in parentheses. *** 1 percent, ** 5 percent, * 10 percent.

Table 6. Voter Turnout of Letter Recipients

	(1) District A	(2) District A	(3) District B	(4) District B	(5) Both	(6) Both
Positive letter	-0.004	-0.030	-0.073**	-0.070**	-0.044*	-0.052**
	(0.037)	(0.034)	(0.030)	(0.028)	(0.024)	(0.021)
Negative letter	0.053	0.019	-0.033	-0.038	0.003	-0.014
	(0.037)	(0.033)	(0.030)	(0.027)	(0.023)	(0.021)
Positive=Negative? (P-value, F-test)	*0.062**	*0.064**	*0.116*	*0.155*	*0.016***	*0.024***
Trend test - Control, Neg, Pos (p-value)	*0.599*		*0.014***		*0.028***	
Trend test – Control, Pos, Neg (p-value)	*0.090*		*0.563*		*0.494*	
Male		-0.040		0.007		-0.012
		(0.024)		(0.020)		(0.016)
Age		-0.001		-0.000		-0.001
		(0.001)		(0.001)		(0.001)
Strong Democrat		-0.005		0.035		0.017
		(0.028)		(0.023)		(0.018)
Pct Democrats in Household		0.007		0.058		0.033
		(0.060)		(0.054)		(0.040)
Voters in Household		0.025		0.017		0.019*
		(0.017)		(0.014)		(0.011)
Previous Democratic Donor Household		0.077**		0.035		0.049**
		(0.033)		(0.024)		(0.019)
Predicted Likelihood to Vote		0.954***		0.849***		0.897***
		(0.048)		(0.043)		(0.032)
District B Binary						0.059***
						(0.016)
Constant	0.595***	-0.048	0.711***	0.062	0.662***	-0.015
	(0.031)	(0.086)	(0.024)	(0.076)	(0.019)	(0.058)
Observations	1294	1279	1772	1735	3066	3014
R-squared	0.003	0.242	0.003	0.230	0.002	0.236

Positive=Negative? reports the p-value of an F-test of the equality of coefficients between the positive and negative letters. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 7. Robustness Check: Treatment Differences in Prior Elections

Panel A: Without Covariates						
	2008	2006	2004	2002	2000	1998
Positive letter	-0.008	0.016	-0.005	0.004	-0.015	0.002
	(0.013)	(0.023)	(0.019)	(0.024)	(0.024)	(0.025)
Negative letter	-0.013	0.035	0.010	0.009	0.008	0.025
	(0.013)	(0.022)	(0.019)	(0.024)	(0.024)	(0.025)
Observations	3066	3066	3066	3066	3066	3066
R-squared	0.000	0.001	0.000	0.000	0.000	0.001
Panel B: Without Covariates, Restricted to Age-Eligible Voters						
	2008	2006	2004	2002	2000	1998
Positive letter	-0.008	0.016	0.002	0.011	-0.006	0.018
	(0.013)	(0.023)	(0.019)	(0.025)	(0.024)	(0.026)
Negative letter	-0.013	0.036	0.016	0.013	0.016	0.045*
	(0.013)	(0.022)	(0.019)	(0.024)	(0.024)	(0.026)
Observations	3066	3044	3018	2977	2890	2784
R-squared	0.000	0.001	0.000	0.000	0.000	0.001
Panel C: With Covariates						
	2008	2006	2004	2002	2000	1998
Positive letter	-0.011	0.007	-0.008	-0.005	-0.022	-0.004
	(0.010)	(0.014)	(0.017)	(0.021)	(0.021)	(0.020)
Negative letter	-0.023**	0.010	0.003	-0.001	0.003	0.020
	(0.011)	(0.014)	(0.017)	(0.020)	(0.021)	(0.020)
Observations	3014	3014	3014	3014	3014	3014
R-squared	0.326	0.573	0.219	0.310	0.293	0.338
Panel D: With Covariates, Restricted to Age-Eligible Voters						
	2008	2006	2004	2002	2000	1998
Positive letter	-0.011	0.008	-0.004	-0.003	-0.021	-0.006
	(0.010)	(0.014)	(0.017)	(0.021)	(0.022)	(0.022)
Negative letter	-0.023**	0.011	0.007	-0.000	0.006	0.022
	(0.011)	(0.014)	(0.017)	(0.021)	(0.021)	(0.022)
Observations	3014	2992	2968	2928	2842	2737
R-squared	0.326	0.566	0.188	0.285	0.233	0.285

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8. Voter Turnout of Non-Recipients

	(1) District A	(2) District A	(3) District B	(4) District B	(5) Both	(6) Both
Positive letter	0.043	0.012	-0.029	-0.021	0.003	-0.006
	(0.041)	(0.031)	(0.038)	(0.030)	(0.028)	(0.022)
Negative letter	0.050	0.053*	0.002	-0.012	0.024	0.019
	(0.040)	(0.030)	(0.037)	(0.030)	(0.027)	(0.021)
Positive=Negative? (P-value, F-test)	*0.825*	*0.108*	*0.304*	*0.686*	*0.355*	*0.146*
Male		0.005		-0.005		0.001
		(0.021)		(0.020)		(0.014)
Age		-0.002**		0.001		-0.000
		(0.001)		(0.001)		(0.001)
Strong Democrat		0.089		0.166***		0.132***
		(0.054)		(0.050)		(0.036)
Weak Democrat		0.015		0.091**		0.054*
		(0.046)		(0.044)		(0.032)
Pct Democrats in Household		0.020		0.005		0.006
		(0.087)		(0.078)		(0.058)
Voters in Household		-0.018		-0.004		-0.010
		(0.015)		(0.014)		(0.010)
Previous Democratic Donor Household		0.024		0.014		0.017
		(0.031)		(0.024)		(0.019)
Predicted Likelihood to Vote		0.992***		0.884***		0.936***
		(0.043)		(0.046)		(0.031)
District B Binary						0.010
						(0.015)
Constant	0.429***	0.020	0.466***	-0.034	0.450***	-0.014
	(0.033)	(0.088)	(0.031)	(0.079)	(0.023)	(0.059)
Observations	1247	1232	1477	1438	2724	2670
R-squared	0.001	0.425	0.001	0.464	0.000	0.443

Positive=Negative? reports the p-value of an F-test of the equality of coefficients between the positive and negative letters. Robust household-clustered standard errors clustered in parentheses. *** p<0.01, ** p<0.05, * p<0.1

APPENDIX

District A Positive Letter

On November 2, 2010, the residents of [COUNTY] will elect their next County Board. I am running for the County Board here in District A because I am ready—now—to get to work, and I am writing to ask you to support my election.

I am a father of three, husband, research engineer, and an organic farmer producing local food here in [CITY]. I currently serve on the [COUNTY] Zoning Board of Appeals, where I chaired the hearings to bring wind power and tax revenue to the county. I've worked to simplify county land use policy to promote responsible, smart growth and alternative power while preserving our environment and our county's prime farmland.

As one of the founders of the [LOCALITY] Alliance, an organization that supports progressive policies and candidates here in the county, I've helped rebuild and reshape the Democratic Party in [CITY] and the surrounding townships. I understand that we all have a stake in our community, and on the County Board I'll continue fighting for fiscal responsibility and environmental sustainability. Take a look at my website, [URL]. You can see what I've done, and what I'll stand for on the County Board.

[COUNTY] is your home and mine, and we all want the best in our homes. I hope you'll support me so that we can work together to make [COUNTY] the best that it can be. Please feel free to call me at (XXX) XXX-XXXX, or send me an email at [EMAIL] if you have any issues or questions that you'd like to discuss personally. Thank you for your consideration.

District A Negative Letter

On November 2, 2010, the residents of [COUNTY] will elect their next County Board. I am running for the County Board here in District A because I am ready—now—to get to work, and I am writing to ask you to support my election.

This year the Republicans are at it again. They're trying to take over the County Board just in time to gerrymander the districts in their favor, so they can let loose endless, unsustainable development and undo the progress we've achieved in the county. They'll end our work on alternative energy sources such as wind power if we let them.

My Republican opponent is a good person, but she's unprepared to represent us on the County Board. Her only "experience" with government at all is as the chair of the realtor's Political Action Committee! We don't need the chair of some PAC speaking for our district. What we do need is experienced representation with a history of getting things done, and that's what I'm offering. Take a look at my website, [URL]. You can see what I've done, and what I'll stand for on the County Board.

[COUNTY] is your home and mine, and we all want the best in our homes. I hope you'll support me so that we can work together to make [COUNTY] the best that it can be. Please feel free to call me at (XXX) XXX-XXXX, or send me an email at [EMAIL] if you have any issues or questions that you'd like to discuss personally. Thank you for your consideration.

District B Positive Letter

On November 2, 2010, the residents of [COUNTY] will elect their next County Board. I am running for the County Board here in District B so that our community has an open, accessible advocate for the needs of all our citizens, and I need your help.

I've lived with you here in [COUNTY]—in the same neighborhood, on the same street, in the same house—for the past forty years. During that time, [COUNTY] has seen a lot of growth and a lot of changes. But our need to manage that growth in an open, honest manner hasn't changed. That's why I pledge to hold monthly "town hall" meetings with you in the community, so that you can all participate in the decisions that affect your lives.

And when you send me to the County Board, I'll put my decades of experience in urban planning here in [COUNTY] to use right away. I'll work to put sustainability—environmental, social, and economic—at the heart of county government. This means supporting development projects like alternative energy, and also low-cost, high-impact activities like urban gardening. Take a look at my website, [URL]. You can see the work I've done in the community, and what I'll stand for on the County Board.

[COUNTY] is your home and mine, and we all want the best in our homes. I hope you'll support me so that we can work together to make [COUNTY] the best that it can be. Please feel free to call me at (XXX) XXX-XXXX, or send me an email at [EMAIL] if you have any issues or questions that you'd like to discuss personally. Thank you for your consideration.

District B Negative Letter

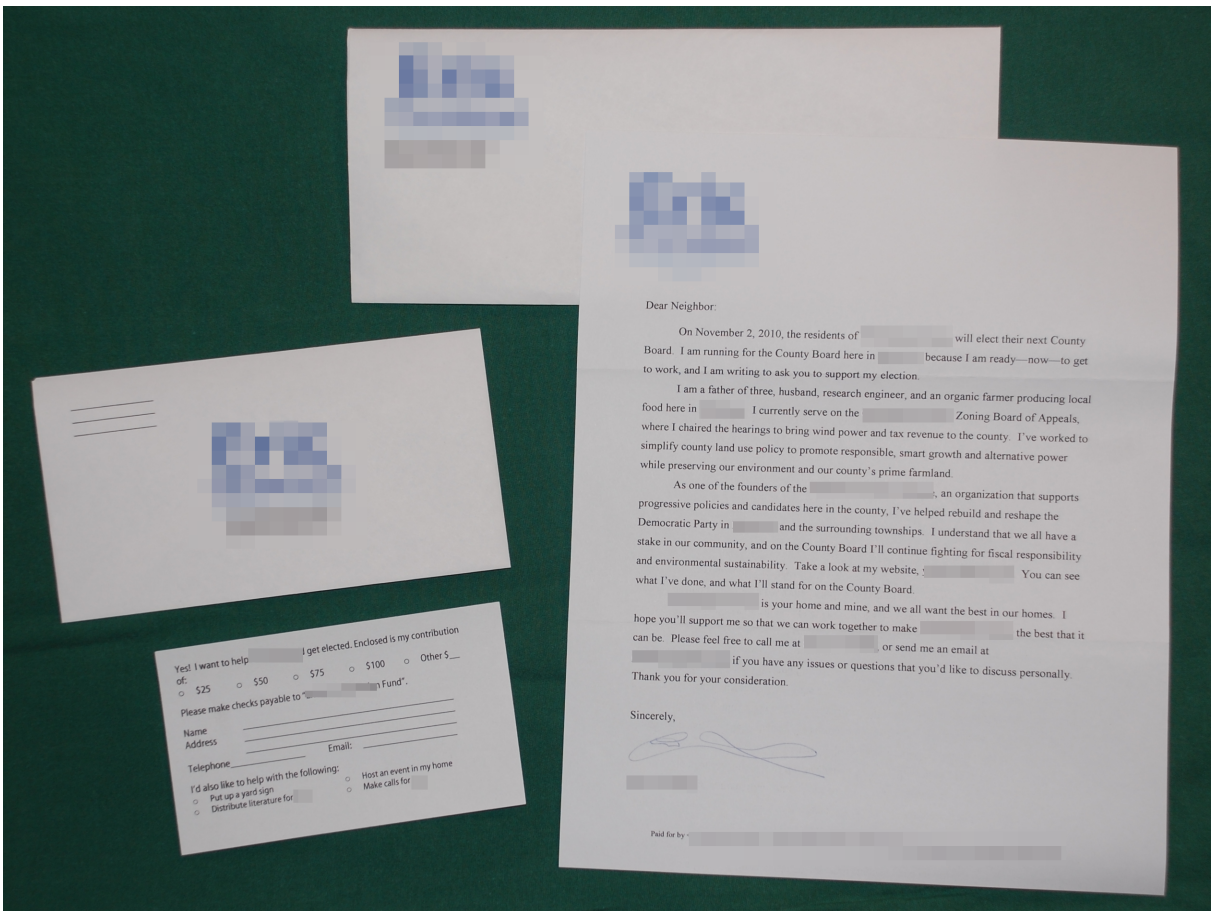
On November 2, 2010, the residents of [COUNTY] will elect their next County Board. I am running for the County Board here in District B so that our community has an open, accessible advocate for the needs of all our citizens, and I need your help.

This year the Republicans are at it again. They're trying to take over the County Board just in time to gerrymander the districts in their favor, so they can let loose endless, unsustainable development and undo the progress we've achieved in the county. They'll end our work on alternative energy sources such as wind power if we let them.

My Republican opponent is a good person, but he's unprepared to represent us on the County Board. He's a property manager and the vice president of an apartment owners' association that opposes common-sense rules that protect tenants' rights. We don't need the County Board representing corporate interests. We need representation of our community's interests, and that's what I'm offering. Take a look at my website, [URL]. You can see the work I've done in the community, and what I'll stand for on the County Board.

[COUNTY] is your home and mine, and we all want the best in our homes. I hope you'll support me so that we can work together to make [COUNTY] the best that it can be. Please feel free to call me at (XXX) XXX-XXXX, or send me an email at [EMAIL] if you have any issues or questions that you'd like to discuss personally. Thank you for your consideration.

Example Letter



Dear Neighbor:

On November 2, 2010, the residents of [redacted] will elect their next County Board. I am running for the County Board here in [redacted] because I am ready—now—to get to work, and I am writing to ask you to support my election.

I am a father of three, husband, research engineer, and an organic farmer producing local food here in [redacted] I currently serve on the [redacted] Zoning Board of Appeals, where I chaired the hearings to bring wind power and tax revenue to the county. I've worked to simplify county land use policy to promote responsible, smart growth and alternative power while preserving our environment and our county's prime farmland.

As one of the founders of the [redacted], an organization that supports progressive policies and candidates here in the county, I've helped rebuild and reshape the Democratic Party in [redacted] and the surrounding townships. I understand that we all have a stake in our community, and on the County Board I'll continue fighting for fiscal responsibility and environmental sustainability. Take a look at my website, [redacted] You can see what I've done, and what I'll stand for on the County Board.

[redacted] is your home and mine, and we all want the best in our homes. I hope you'll support me so that we can work together to make [redacted] the best that it can be. Please feel free to call me at [redacted], or send me an email at [redacted] if you have any issues or questions that you'd like to discuss personally.

Thank you for your consideration.

Sincerely,

[redacted]

Paid for by [redacted]

Yes! I want to help [redacted] get elected. Enclosed is my contribution of:
○ $25 ○ $50 ○ $75 ○ $100 ○ Other $___

Please make checks payable to "[redacted] Fund".

Name
Address
Telephone Email:

I'd also like to help with the following:
○ Put up a yard sign
○ Distribute literature for [redacted]
○ Host an event in my home
○ Make calls for [redacted]

Individual Survey Script

During this study, we will present you with a number of different pieces of "direct mail" from a candidate in a race for local office in another state. We will also ask you a number of questions about each piece of mail. Please read and examine each item carefully before responding. Please read each of these items carefully, and tell me when you are done. Then I'll ask you some questions about each piece.

1. What is your impression of Item 1?
2. What is your impression of Item 2?
3. How informative is Item 1? Is it very informative, somewhat informative, not very informative, or not at all informative?
4. How informative is Item 2? Is it very informative, somewhat informative, not very informative, or not at all informative?
5. What is the tone of Item 1? Is it positive or negative? Would you say that it's very [positive/negative] or only somewhat [positive/negative]?
6. What is the tone of Item 2? Is it positive or negative? Would you say that it's very [positive/negative] or only somewhat [positive/negative]?
7. How does Item 1 make you feel about the candidate who sent it to you? Does it make [him/her] more likeable or less likeable to you? Would you say that it's much [more/less] likeable or just a little bit [more/less] likeable?
8. How does Item 2 make you feel about the candidate who sent it to you? Does it make [him/her] more likeable or less likeable to you? Would you say that it's much [more/less] likeable or just a little bit [more/less] likeable?
9. How does Item 1 make you feel about donating to the candidate who sent it to you?
10. How does Item 2 make you feel about donating to the candidate who sent it to you?

Thank you. Now we're going to look at some complete mail pieces.
Before you open the envelopes, please take a moment to examine them.

11. What is your impression of Item A?
12. What is your impression of Item B?
13. How nice or professional do you consider Item A? Is it very nice, somewhat nice, a little bit nice, or not nice at all?
14. How nice or professional do you consider Item B? Is it very nice, somewhat nice, a little bit nice, or not nice at all?

Please open each envelope and read the letters carefully.

15. What is your impression of the total package of Item A?
16. What is your impression of the total package of Item B?
17. Ignoring the message itself, how nice or professional do you consider the total package of Item A? Is it very nice, somewhat nice, a little bit nice, or not nice at all?
18. Ignoring the message itself, how nice or professional do you consider the total package of Item B? Is it very nice, somewhat nice, a little bit nice, or not nice at all?
19. Ignoring the message itself, how does the total package of Item A make you feel about the candidate who sent it to you? Does it make [him/her] more likeable or less likeable to you? Would you say that it's much [more/less] likeable or just a little bit [more/less] likeable?
20. Ignoring the message itself, how does the total package of Item A make you feel about the candidate who sent it to you? Does it make [him/her] more likeable or less

likeable to you? Would you say that it's much [more/less] likeable or just a little bit [more/less] likeable?

21. Ignoring the message itself, how does the total package of Item A make you feel about donating to the candidate who sent it to you?
22. Ignoring the message itself, how does the total package of Item B make you feel about donating to the candidate who sent it to you?

Well, that's it. Thank you for your assistance with our research, and here is $15 for your assistance. Have a great day!