

Do charitable solicitations matter?

A comparative analysis of fundraising methods

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Abstract

The existing literature either treats fundraising as an aggregate variable by ignoring the existence of several different fundraising methods through which charitable contributions are generated or focuses on the effectiveness of a particular fundraising method without making any comparison with alternative methods. Using biennial household surveys of charitable giving in the United States conducted from 1988 to 1999, which contain detailed questions on several fundraising methods, I first document that returns to fundraising are considerably different across alternative fundraising methods. Next, I investigate the factors associated with donors' responsiveness to various fundraising techniques. The results show that several observable characteristics of charitable donors can explain why some people are more responsive to particular fundraising techniques than others.

Keywords: charitable giving, fundraising methods

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1 Introduction

Billions of dollars are donated to a wide range of charitable organizations each year. Estimates are that in 2008 over \$300 billion were donated to charitable causes in the United States alone.¹ Given the amount of monetary contributions and the size of the charity market, fundraising has also evolved into a highly professional industry over time, resulting in thousands of charitable organizations hiring professional fundraising staff and spending considerable amount of money in fundraising activities.² These facts raise an important policy question: What effect, if any, does fundraising have on charitable giving? Although professional fundraisers believe that charitable solicitations facilitate giving, economists have only recently begun to investigate the causal effect of fundraising on charitable behavior.

Several studies use data from the tax returns of charitable organizations in order to investigate the effect fundraising spending on the amount charitable contributions received. For example, Khanna et al. (1995) and Okten and Weisbrod (2000) use panel data from tax returns of charities in order to estimate the effect of fundraising expenditures on charitable giving. Although data from tax returns have an advantage of being free of measurement error, as long as people do not cheat on their taxes, they have a disadvantage of containing little information on the personal characteristics of charitable donors that would be helpful in explaining giving, such as educational attainment, race, and religious affiliation.³ Moreover, due to the nature of data, studies using data from tax returns treat fundraising as an aggregate variable by ignoring the existence of several different fundraising methods through which charitable contributions are generated.

Other sources of data about fundraising are household surveys and field experiments. Recent studies which use household surveys or field experiments to investigate the effect of different fundraising methods on charitable giving include Brown and Minty (2008), Yörük (2009), Landry et al. (2006), and List and Lucking-Reiley (2002). Brown and Minty (2008) investigate the effect of the media coverage of the 2004 tsunami on charitable donations to relief agencies. Using household level survey

¹Source: The annual report of Giving USA Foundation, 2009.

²The most recent IRS data on charitable organizations show that charities spend roughly 18% percent of charitable contributions for fundraising activities.

³Andreoni (2006) further discusses the pros and cons of using data from tax return of charitable organizations.

data, Yörük (2009) documents the positive effect of personal solicitations on facilitating charitable giving. Using field experiments, Landry et al. (2006) and List and Lucking-Reiley (2002) investigate the effects of using lotteries and seed money in an actual charitable giving campaign. However, all of these studies focus on the effectiveness of a particular fundraising method without making any comparison with other fundraising techniques.⁴ Hence, one cannot determine whether the behavior of donors or the amount of their contributions would change had they been received a charitable solicitation via some alternative fundraising method.⁵

These shortcomings in the literature are partly attributable to the lack of appropriate data on fundraising practices. This paper uses biennial household surveys of charitable giving in the United States conducted from 1988 to 1999 by the Gallup Organization, which contain detailed information on the responsiveness of donors to various fundraising methods to estimate the effect of charitable solicitations on giving behavior. In general, the contribution of this paper to the existing literature is twofold. First, it provides a comparative analysis of the effect of several fundraising methods on the amount of charitable donations. The results show that the effect of fundraising on charitable giving is heterogeneous across different fundraising methods. In particular, compared to impersonal fundraising techniques such as direct mail or telephone solicitations and media ads, charitable donors are not only more likely to donate but also donate more as a response to personal requests. However, fundraising does not outweigh the power of self decision making. Those who decide to give by themselves without the influence of any fundraising practice donate more than those who give as a response to a charitable solicitation. These results raise an important policy question: Which observable characteristics of charitable donors explain their responsiveness to alternative fundraising methods? As a second contribution to the existing literature, this paper investigates the factors associated with donors' responsiveness to various fundraising methods. The results from ordered

⁴Similarly, several theoretical studies focus on the effectiveness of a certain fundraising method. These studies include publicizing donor names and contribution amounts (Harbaugh, 1998; Romano and Yildirim, 2001), raffles (Duncan, 2002), and using seed money and refunds (Andreoni, 1998).

⁵For instance, several studies using field experiments collect data via door-to-door solicitations of a random sample of individuals. However, whether the same individuals would behave differently had they received the same information via some other charitable solicitation method such as letter, phone, print ad, or TV is unknown.

probit models show that several observable characteristics of individuals such as gender, race, income, educational attainment, and religious activity can explain why some people are more responsive to certain fundraising methods than others.

The remainder of this paper is organized as follows: The next section describes the data and presents summary statistics. Section three provides a comparative analysis of several fundraising methods. Section four investigates the factors associated with donors' responsiveness to alternative fundraising methods. Section five provides a discussion of policy implications and concludes.

2 Data

I use six independent cross-sectional household surveys commissioned by Independent Sector and conducted from 1988 to 1999 by the Gallup Organization. These surveys were conducted in person with one adult member of the household and obtain detailed information on household giving and personal volunteering habits, household social characteristics, and selected demographic descriptors. Given its scale, these survey series provide one of the most comprehensive assessments of charitable activity in the United States. Pooling the biennial data from 1988 to 1999 and eliminating the observations with missing information on key variables yields a nationally representative sample of 8,232 households for the empirical analysis.⁶

The Gallup surveys record information on giving and volunteering for 12 different functional categories of charitable activity.⁷ For each household, I calculate the amount of charitable contributions as the sum of money that the household has reported giving to each of these categories expressed in 1996 dollars. Over the 1988–1999 period, the average giving rate was 73 percent. On average, people

⁶The maximum sample size is 14,654 households. Each wave contains data for the prior year. The IS also collected data for 2001. However, the 2001 edition does not obtain sufficient information on fundraising methods.

⁷These categories are health, education, religious, human services, environment, public benefit, recreation, art, youth development, private community, international, and other unnamed organizations. Compared with the other editions, the wording of the questions on giving and volunteering to different areas of charitable activity is slightly different in the 1988 edition. For this particular survey year, I estimate total giving as the sum of money that the respondent has reported contributing to each of the specific charity groups that she was asked about, excluding her donations to political organizations. I also exclude informal and work-related contributions, and contributions to friends, neighbors, relatives, and strangers.

donate 717 in 1996 dollars or alternatively 1.8 percent of their income to charitable organizations.⁸

In the United States, households are allowed to itemize charitable deductions on their personal income taxes. Hence, each dollar given away costs less than a dollar if the household itemizes charitable deductions. Following the standard practice in the literature, I compute the price of giving as $1 - t$ for those who itemize deductions and 1 for those who do not, where t is the marginal tax rate that the donor faces. Since the surveys do not contain information on marginal tax rates, following Duncan (1999) and Yörtük (2010), I calculate this variable for each household using information on itemization status, number of household members, gross income, probable filing status, and the tax schedules for the relevant year.

Two unique questions from different editions of the Gallup surveys are central to the empirical analysis. The 1988 and 1990 editions of the Gallup surveys contain a question revealing how donors decided to contribute money to various charitable areas.⁹ Table 1 presents the simple tabulations of responses to this question for both years. Most donors reported that they make their own decision to give without the influence of charitable solicitations. As documented by the recent literature, being asked by someone is the most effective catalyst for charitable giving. Almost 13 percent of donors reported giving as a response to being personally asked by someone. Among those listed in Table 1, the least effective fundraising method appears to be media ads. On average, only 1.4 percent of the donors reported donating as a response to an advertisement in the media. Table 1 also shows that donors who make their own decision to give (self-decidors) donate considerably more than those who contribute to charity by responding a charitable solicitation. Surprisingly, although the response rate for telephone solicitations is low, this type of charitable solicitations generate the highest donation amount compared with other fundraising methods. Those who reported giving as a response to

⁸Table A1 presents the summary statistics and definitions of key variables used in the empirical analysis.

⁹Donors were asked the following question: "How was it you came to give to [name of the charitable category]? Would you say that you decided to give on your own, responded to being asked by someone, to a letter, (to a phone call), to an advertisement in the media, or to some other fundraising method?" Donors were given the option to reply "responded to a phone call" only in the 1990 edition. In both 1988 and 1990 editions, some respondents picked multiple choices and some others either did not answer to this question or said that they did not remember the catalyst for their donation. Since it is impossible to make comparisons across donors who reported donating as a response to multiple fundraising methods, I only consider those donors who reported giving as a response to a single fundraising method.

telephone solicitation donated on average 519 dollars.¹⁰ On the other hand, media ads generate the lowest average contribution amount with the average of 104 dollars.

Another question from the 1992, 1994, 1996, and 1999 editions of the Gallup surveys provides further insight into the responsiveness of individuals to alternative fundraising methods. This question obtains information on the importance of several reasons to respondents for contributing money to charitable organizations.¹¹ Table 2 summarizes the responses to this question. As in Table 1, compared with the other fundraising methods, being asked by someone well-known seems to be the most important reason for why people give. More than 77 percent of the respondents reported that being asked by someone that they know well is somewhat important or very important to them for contributing money to a charitable organization. Being asked by a clergy and having volunteered at the soliciting organization before are also important reasons for being a charitable donor. On the other hand, people are not responsive to television commercials, newspaper or magazine ads, and celebrities asking them to give. More than 80 percent of the respondents said that charitable campaigns advertised via television commercials, newspaper or magazine ads, or by a celebrity are not at all or not too important to them for making a charitable contribution. Solicitations made over the internet, via phone or letter seem to be ineffective fundraising techniques as well. Hence, raw numbers suggest that people are more likely to respond personal requests and less likely to be influenced by impersonal fundraising methods.¹²

¹⁰This estimate may be misleading due to the low sample size of those who reported giving solely as a response to a telephone solicitation.

¹¹The wording of this question is as follows: "How important is each of the following reasons to you for contributing to a charitable organization? Receiving a letter asking you to give, receiving a phone call asking you to give, someone coming to the door asking you to give, being asked at work to give, being asked by someone you know well, seeing a television commercial asking you to give, reading a newspaper or magazine ad advertisement asking you to give, reading or hearing a news story, being asked to give in a telethon or radiothon, being asked by clergy to give, being asked by a celebrity to give either on television, radio, or through the mail, reading about an opportunity or were solicited over the internet, volunteered at the organization before." This question was not asked in the 1990 edition of the survey. The 1988 edition includes a similar question. However, the wording of the question and the coding of the responses are considerably different compared with the other editions. Hence, I exclude the responses from this year.

¹²Although professional fundraisers are well-aware of this result, most charities keep using direct-mail and telephone solicitations, TV ads, and newspaper or magazine ads (Hopkins, 2009).

3 A comparative analysis of fundraising methods

Raw numbers reveal that those who decide to give by themselves donate more than those who respond to a charitable solicitation and that the effect of fundraising on charitable giving considerably differs across alternative fundraising methods. Are these differences statistically significant? For each pair of catalysts for charitable giving, I calculate a simple chi-squared test statistic for the null hypothesis that the mean contribution amount of those who donate as a response to a particular catalyst is the same as the mean contribution amount of those who give as a response to another catalyst. The results reported in Table 3 imply that the mean contribution amount of self-decidors is significantly different than those who report that being asked by someone, receiving a letter, or seeing a media ad is the main catalyst for their charitable contribution. Similarly, the mean contribution amount of those who give as a response to a media campaign is significantly different than those who contribute money as a response to a personal solicitation or a fundraising letter.

3.1 Regression-adjusted differences across fundraising methods

Are the differences in mean donation amounts as a response to alternative catalysts for charitable giving persistent once demographic factors and personal characteristics of charitable donors are controlled for? In order to answer this question, I estimate the following OLS model

$$Cont_{i,t} = \sum_{j=1}^{j=5} \alpha_j fund_{ij,t} + X'_{i,t} \beta + year_t + \varepsilon_{i,t} \quad (1)$$

where $Cont_{i,t}$ is the natural logarithm of the monetary contributions of donor i in year t , $fund_{ij,t}$ is a dummy variable which is equal to unity if donor i donated money as a response to fundraising method j in year t , X is a vector of donor characteristics, $year_t$ is the year fixed effect, and $\varepsilon_{i,t}$ is a well behaved error term. In order to compare the donors who responded to a charitable solicitation with those who decided to give by themselves, I first estimate the above model using self-decidors as the base group. Consistent with the earlier literature, the results presented in the appendix Table A2 show that well-educated, older, and married people with higher household incomes tend to give more, whereas tax price of giving has a negative impact on the amount of charitable gifts. Furthermore, the

effect of religious activity on the amount of charitable contributions is positive. The first column in Table 4 reports that people who are asked to give on average give 42 percent less than self-deciders. Similarly, those who give as a response to mail solicitations, media ads, and some other fundraising method donate on average 60, 106, and 35 percent less than self-deciders, respectively. Furthermore, these differences are statistically significant.

In order to compare donors' behavior as a response to alternative fundraising methods, I re-estimate equation (1) using each fundraising method as the base group. Table 4 shows that those who donate money as a response to a media ad give 63 percent less than those who are asked by someone to give and 70 percent less than those who are solicited via some other fundraising method. Since data for telephone solicitations are not available for 1988, the comparisons between those who respond to a telephone solicitation and self-deciders or those who donate as a response to some other fundraising method use data only from the 1990 survey year. The third and fourth rows in Table 4 report that those who donate money because they are solicited via telephone contribute on average 80 percent more than those who are asked to give, 147 percent more than those who respond to a media ad, and 67 percent more than those respond to other fundraising methods.

Since different states may have different tax treatments for charitable giving, I also test the sensitivity of my results to the inclusion of state effects. The results reported in the last two columns of Table A2 show that the significant differences between self-deciders and those who respond to personal solicitations, media ads, or other fundraising methods are robust to the inclusion of state effects. However, the difference between the contribution amounts of self-deciders and those who respond to a direct-mail solicitation becomes insignificant once the state effects are controlled for.¹³

3.2 Matching-adjusted differences across fundraising methods

The above analysis assumes that the probability of responding to certain catalyst for giving is randomly determined. However, people may considerably differ in their tendency for charity and some individuals may be more responsive to certain fundraising methods. In order to control for this pos-

¹³I also repeat the the same exercise using each fundraising method as the base group. Although not reported, the results are comparable to those reported in Table 4.

sible selection problem, I use several propensity score matching estimators. Let $Cont_{i,t}^1$ and $Cont_{i,t}^0$ be the natural logarithm of the monetary contributions of donor i in year t in two counterfactual situations of treatment ($fund_{ij,t} = 1$) and non-treatment ($fund_{ij,t} = 0$) where the treatment is whether the individual donated money as a response to fundraising method j . Hence, the outcome observed for individual i is

$$Cont_{i,t} = (1 - fund_{ij,t})Cont_{i,t}^0 + fund_{ij,t}Cont_{i,t}^1. \quad (2)$$

The parameter of policy interest is the average treatment effect (ATT) which is the effect of a certain fundraising method on the amount of charitable donations relative non-treatment or the control group. The ATT for fundraising method j is defined as

$$ATT_j = E(Cont_{i,t}^1 - Cont_{i,t}^0 | fund_{ij,t} = 1). \quad (3)$$

The main identifying assumption of matching estimators is that if one can observe enough information on strictly exogenous variables that determine the probability of responding to a certain catalyst for giving, then charitable contributions are mean independent of the treatment conditional on observable covariates. In this case, the effect of treatment on the outcome variables can be consistently estimated. Traditional matching estimators match each treatment unit to a fixed number of control units. The application of these methods is impractical to implement when the set of controls gets large and includes continuous variables. Following Rosenbaum and Rubin (1983), I use a propensity score matching estimator to deal with the dimensionality problem. Let $P_j(X_{i,t})$ be the propensity score for fundraising method j , defined as $P_j(X_{i,t}) = \Pr(fund_{ij,t} = 1 | X_{i,t})$. Then, the ATT is redefined as

$$ATT_j = E\{E[Cont_{i,t}^1 | fund_{ij,t} = 1, P_j(X_{i,t})] - E[Cont_{i,t}^0 | fund_{ij,t} = 0, P_j(X_{i,t})] | fund_{ij,t} = 1\}. \quad (4)$$

In order to derive equation (4), balancing and unconfoundedness properties should be satisfied.¹⁴ The balancing property states that for a given propensity score, treatment is randomly assigned, hence treated and control units should be on average identical in terms of observable characteristics of

¹⁴I also assume that matching assumption is satisfied such that $\Pr(fund_{ij,t} = 1 | P(X_{i,t})) \in (0, 1)$. This assumption ensures that for each value of the propensity score, there are both treated and untreated individuals.

donors. The unconfoundedness property guarantees that the treatment is random conditional on the set of observable characteristics, which allows for selection on observables. Since the propensity score is a continuous variable, one cannot observe two units with exactly the same value of the propensity score. Therefore, an estimate of $P_j(X_{i,t})$ is not sufficient to estimate equation (4). Following Dehejia and Wahba (2002), I use several propensity score matching methods in order to address this problem, namely nearest neighborhood matching (NM) with and without replacement, radius matching (RM), and kernel matching (KM). Rosenbaum (1995) argues that in NM without replacement, the results can be sensitive to the order in which treatment units and control units are matched. I consider ‘low-to-high’ matching, in which the treatment units are ranked according to their propensity score in an ascending order. In this method, the highest ranked treatment unit is first matched to a control unit then that particular unit is removed from the matching algorithm.¹⁵ In NM with replacement however, the matching algorithm minimizes the propensity score distance between the matched control units and reduces bias since each treatment unit can be matched to the nearest control unit even if a control unit is used several times. RM sets a neighborhood in terms of a radius around the propensity score of the treated observation and excludes matches that lie outside this predefined neighborhood.¹⁶ In KM, all treated units are matched with a weighted average of all controls with weights that are inversely proportional to the distance between propensity scores of treatment and control groups. In conducting the KM, I use an Epanechnikov kernel with a bandwidth of 0.01.¹⁷ All of these methods are estimated non-parametrically and share the advantage that they avoid functional form assumptions to estimate equation (4). However, they are reliable to the extent that unobservables correlated with responding to certain fundraising method do not directly affect the contribution amount.

In order to compare self-deciders with those who contribute money by responding to a fundraising

¹⁵Similarly, in high-to-low matching, the treatment units are ranked according to their propensity score in a descending order. This method yields similar results compared with the low-to-high matching under different specifications. The results are available from the author upon request.

¹⁶I report the results from the RM with caliper of 0.005. However, in order to test the robustness of results to the selection of neighborhood, I implement the same estimator using several calipers between 0.001 and 0.005. The results are comparable to the reported estimates and available upon request.

¹⁷Black and Smith (2004) find that the Epanechnikov kernel estimator performs better than Gaussian kernel independent of the bandwidth selected and the performance of the Kernel estimator is relatively independent of the selection of bandwidth until one gets to very small bandwidths. I also try several bandwidths between 0.001 and 0.1. The results are comparable to my original estimate and available upon request.

method, I treat the self-deciders as the control group, i.e., $fund_{ij,t} = 0$. For each fundraising method j , in order to estimate the propensity score, I estimate $\Pr(fund_{ij,t} = 1|X_{i,t}) = \Phi(f(X_{i,t}))$ using standard probit regression where $\Phi(\cdot)$ is the evaluation of the cumulative normal distribution and $f(\cdot)$ is the starting specification which incorporates all the observable covariates linearly.¹⁸ Table 5 reports the ATT of each fundraising method on the contribution amount relative to self-deciders. The results are similar to regression-adjusted comparisons reported in Table 4. Compared to self-deciders, those who responded to a personal solicitation give 29 to 41 percent less. Similarly, the difference between the average contributions of self-deciders and those who donate as a response to a direct mail solicitation or some other fundraising method remains significant. Self-deciders give on average 57 to 85 percent more than who reported giving as a response to a fundraising letter and 27 to 45 percent more than tho who give as a response to some other fundraising method. However, the difference between the contribution amounts of self-deciders and those responded to a media ad becomes insignificant once the selection problem is controlled for. In order to make comparisons across alternative fundraising methods, I also repeat this exercise using each fundraising method as the control group. Although not reported here, the results were in line with those reported in Table 4.

4 What makes people more responsive to a particular fundraising method?

Significant differences in contribution amounts of donors in response to different fundraising methods raise an important policy question: Which observable characteristics of charitable donors make them more likely to respond to a particular fundraising method? I further investigate the relationship between donor behavior and various fundraising methods using data from 1992, 1994, 1996, and 1999

¹⁸The following variables are used as controls as described in Table A1: Income90, Tax price of giving, Black, Hispanic, Female, Age, Family size, Married, Employed, Homeowner, Churchgoer, education, community, and year dummies. For each fundraising method, I ensure that the propensity score satisfies balancing property and conduct the standard t-tests for equality of means in the treatment and control groups, both before and after matching. These tests and the first stage probit estimation results are available upon request.

editions of the Gallup surveys which compared to previous editions, provide detailed information on several more fundraising methods. Let $E_{i,t}^*$ denote a continuous measure of effectiveness of a certain fundraising technique in generating charitable contributions from individual i in year t , which is given as

$$E_{i,t}^* = Z'_{i,t}\lambda + year_t + u_{i,t} \geq 0 \quad (5)$$

where $Z_{i,t}$ denote the vector of observable characteristics of individual i in year t , and u_i is a normally distributed error term with $E[u_{i,t}] = 0$ and $var[u_{i,t}] = 1$. This measure is not observed, but one observes a discrete variable $E_{i,t}$, which is coded as

$$E_{i,t} = \{1 \text{ if } E_{i,t}^* \leq \alpha_1, 2 \text{ if } \alpha_1 < E_{i,t}^* \leq \alpha_2, 3 \text{ if } \alpha_2 < E_{i,t}^* \leq \alpha_3, 4 \text{ if } E_{i,t}^* > \alpha_3\}. \quad (6)$$

Here, an increasing value of $E_{i,t}$ implies that the individual gets more likely to give as a response to a particular fundraising method and α_k for $k = \{1, 2, 3\}$ represent threshold values to be estimated. The marginal effect of each observable characteristic $z \in Z$ on the discrete measure of responsiveness to a particular fundraising technique is simply $\partial P(E = r|Z)/\partial z$ where given the evaluation of the cumulative normal distribution $\Phi(\cdot)$, the probabilities associated with each coded response r of this model can be expressed as follows:

$$P(E = r|Z) = \begin{cases} \Phi(\alpha_1 - Z'_{i,t}\lambda - year_t) \text{ if } r = 1 \\ \Phi(\alpha_2 - Z'_{i,t}\lambda - year_t) - \Phi(\alpha_1 - Z'_{i,t}\lambda - year_t) \text{ if } r = 2 \\ \Phi(\alpha_3 - Z'_{i,t}\lambda - year_t) - \Phi(\alpha_2 - Z'_{i,t}\lambda - year_t) \text{ if } r = 3 \\ 1 - \Phi(\alpha_3 - Z'_{i,t}\lambda - year_t) \text{ if } r = 4. \end{cases} \quad (7)$$

For each fundraising technique, I estimate equation (5) and associated marginal effects as an ordered probit using the maximum likelihood methodology.¹⁹ Table A3 presents the coefficient estimates of the ordered probit models for each fundraising method. Higher household income is associated with a higher probability of response to media ads, news stories, direct-mail and telephone solicitations, and being asked at work or by a close associate. High income households are also more likely to

¹⁹ Although there is no reason to believe that the effectiveness of alternative fundraising methods differ by states, I also include state fixed effects to equation (2) and re-estimate ordered probit models for each fundraising method. The results are similar to the original models and available from the author upon request.

donate to organizations that they previously volunteered for. Except for charitable causes promoted by clergies or celebrities, all fundraising methods are less effective on older people. In general, females, blacks, and Hispanics are more likely to respond to charitable solicitations. As expected, employed people are more likely to give when they are asked to give at work but they find other fundraising methods mostly ineffective. Similarly, compared with receiving a charitable request via some other fundraising method, people who regularly go to church are more responsive to being asked by a clergy. Well-educated people such as those who attended or graduated from college are mostly unresponsive to fundraising.

Table 6 reports the marginal effects of selected demographic characteristics of respondents on the discrete measure of responsiveness to a particular fundraising method. For a randomly chosen respondent, a 10% increase in household income is associated with 0.15 points increase in her probability of reporting being asked by a close associate is a very important reason for her to give. Similarly, the same magnitude of increase in her income increases her probability of finding charitable solicitations by an organization that she previously volunteered for a very important reason to give by 0.31 points. The effect of age on the probability of responding to alternative fundraising methods is mostly statistically significant but its magnitude is not economically considerable. Compared to other fundraising methods, news stories, being asked by a clergy, and receiving a charitable request from an organization they previously volunteered for are more important reasons for females to give. Although blacks positively respond to almost all fundraising methods, they report that compared to other fundraising methods, charitable solicitations at work, via TV, and by a clergy are more effective in making them to contribute money. In general, college graduates are unresponsive to fundraising. The exceptions are direct-mail campaigns, charitable solicitations by a close associate or an organization that they volunteered for before, and charitable causes promoted via a news story. Compared with those who do not have a high school degree, college graduates' probability of reporting being asked by a close associate is a very important reason for them to give is 0.07 points higher. Similarly, college graduates are 11 percentage points more likely to find a charitable request from an organization that they volunteered for a very important reason for their donation compared with those who do not have a

high school degree.

5 Conclusion

Several recent studies document the positive effect of fundraising in facilitating charitable behavior. However, the existing literature either treats fundraising as an aggregate variable by ignoring the existence of several different fundraising techniques that are widely used by charitable organizations or focuses on the effectiveness of a certain fundraising method without making any comparison with alternative fundraising techniques. Using biennial household surveys of charitable giving in the United States conducted from 1988 to 1999, which contain detailed questions on several fundraising methods, this paper provides a comparative analysis of various fundraising techniques and documents that several observable personal and demographic characteristics of charitable donors explain why some individuals are more likely to be influenced by certain fundraising methods.

I first document that those who decide give by themselves donate more than those who decide to give as a respond to a charitable solicitation. Furthermore, not only the response rates for alternative fundraising methods but also the mean amount of charitable contributions generated by them are considerably different. In general, impersonal fundraising methods such as direct mail solicitations and media ads are associated with low response rates and charitable donations, whereas personal charitable solicitations are more appealing to donors. Next, using ordered probit models, I investigate the factors associated with donors' responsiveness to various fundraising methods. I find that higher household income is associated with a higher probability of response to media ads, news stories, direct-mail, telephone, and personal solicitations. High income households are also more likely to contribute to organizations that they previously volunteered for. In general, females, blacks, and Hispanics are more likely to respond to charitable solicitations. Employed people are more likely to give when they are asked to give at work but they are unresponsive to other fundraising methods. Similarly, people who regularly attend to church report that being asked by a clergy is the most important reason for them to give. More education makes people less responsive to fundraising. Well-educated people such as those who attended or graduated from college are unresponsive to almost all of the fundraising

methods.

The findings of this paper have several policy implications. Although the results highlight the importance of fundraising, they imply that the effectiveness of fundraising considerably differ across alternative fundraising methods and that several observable characteristics of individuals can be used to identify their responsiveness to certain fundraising method. These finding should be of particular interest to non-profit organizations, professional fundraisers, and policy makers in designing effective fundraising campaigns, targeting potential donors more efficiently according to the nature of the campaign, and evaluating the economic impact of their existing fundraising practices.

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Tables

Table 1. Catalyst for giving: Average response rates and contributions

Catalyst for giving	Response rate	Contribution amount
Own decision	35.84 (47.96)	679.30 (1585.51)
Asked by someone	12.92 (33.55)	434.96 (1170.63)
Direct mail solicitation	2.64 (16.05)	302.47 (466.55)
Media ad	1.39 (11.73)	104.16 (227.69)
Telephone solicitation	1.77 (13.18)	518.94 (547.85)
Other	45.81 (49.84)	539.90 (1295.74)

Notes: Sample weighted means are reported. Standard deviations are in parentheses. The first column reports the percent of donors who decided to give by themselves or donate as a response to a certain fundraising method. The second column reports the mean amount of monetary contributions in 1990 dollars as a response to listed catalysts for charitable giving. The response rate for telephone solicitations is calculated using 986 observations since donors were given the option to reply "responded to a phone call" only in the 1990 edition of the Gallup surveys. The response rates for other fundraising methods are calculated using 2049 observations.

Table 2. The degree of importance of alternative fundraising methods to respondents for contributing money to charitable organizations

	Number of Obs.	Not at all important=1	Not too important=2	Somewhat important=3	Very important=4
Letter	9015	31.95 (46.63)	37.83 (48.50)	24.80 (43.19)	5.43 (22.66)
Phone call	9003	40.02 (49.00)	35.15 (47.75)	21.48 (41.07)	3.35 (17.98)
Asked by someone coming to the door	9004	28.92 (45.34)	32.27 (46.75)	32.74 (46.93)	6.06 (23.86)
Asked at work	8131	26.64 (44.21)	28.81 (45.29)	37.60 (48.44)	6.95 (25.44)
Asked by a close associate	9017	8.96 (28.56)	13.58 (34.26)	49.77 (50.00)	27.69 (44.75)
TV commercial	8999	41.46 (49.27)	38.56 (48.68)	16.95 (37.52)	3.03 (17.15)
Newspaper or magazine ad	9006	39.65 (48.92)	40.27 (49.05)	17.88 (38.32)	2.20 (14.67)
Heard a news story	8993	22.56 (41.80)	29.01 (45.38)	40.80 (49.15)	7.62 (26.54)
Telethon or radiothon	8981	33.56 (47.22)	35.37 (47.82)	25.03 (43.32)	6.03 (23.81)
Asked by clergy	8989	18.71 (39.00)	20.99 (40.73)	41.07 (49.20)	19.22 (39.41)
Asked by a celebrity ^a	1478	53.80 (49.87)	33.14 (47.09)	11.55 (31.97)	1.52 (12.22)
Solicited over the internet ^b	2054	75.78 (42.85)	16.81 (37.41)	6.67 (24.96)	0.74 (8.55)
Previously volunteered at the organization ^b	2175	21.34 (40.98)	13.27 (33.93)	38.87 (48.76)	26.52 (44.15)

Notes: Sample weighted means are reported. Standard deviations are in parentheses. (a) This option was only included in the 1994 edition of the Gallup survey. (b) This option was only included in the 1999 edition of the Gallup survey.

Table 3. Tests of equality of the effect of alternative fundraising methods on giving

	Own decision	Asked by someone	Direct mail solicitation	Media ad	Telephone solicitation
Asked by someone	8.12 (0.004)	-	-	-	-
Direct mail solicitation	19.45 (0.000)	1.82 (0.177)	-	-	-
Media ad	82.81 (0.000)	17.26 (0.000)	6.25 (0.012)	-	-
Telephone solicitation	0.19 (0.664)	0.05 (0.822)	0.34 (0.561)	1.27 (0.259)	-
Other	1.30 (0.254)	0.64 (0.425)	3.27 (0.071)	13.63 (0.000)	0.00 (0.956)

Notes: Two sided chi-squared test statistics with one degree of freedom is reported. P-values are in parentheses. The null hypothesis is that the mean contribution amount of those who reported donating as a response to a particular fundraising method is the same as the mean contribution amount of those who reported donating as a response to another fundraising method.

Table 4. Regression-adjusted differences across alternative fundraising methods

	Base group				
	Own decision	Asked by someone	Direct mail solicitation	Media ad	Telephone solicitation
Asked by someone	-0.421 (0.136)***	-	-	-	-
Direct mail solicitation	-0.602 (0.283)**	-0.181 (0.298)	-	-	-
Media ad	-1.055 (0.351)***	-0.634 (0.362)*	-0.453 (0.438)	-	-
Telephone solicitation	0.308 (0.377)	0.801 (0.402)**	0.775 (0.533)	1.466 (0.581)**	-
Other	-0.353 (0.096)***	0.068 (0.136)	0.248 (0.282)	0.701 (0.348)**	-0.673 (0.370)*

Notes: Coefficient estimates are reported. Robust standard errors are in parentheses. Sample weights are used in all regressions. The signs ***, **, and * represent significance at 1%, 5%, and 10% respectively. Comparisons between telephone solicitations and other fundraising methods use coefficients from regressions estimated using the 1990 edition of the Gallup surveys (n=759). Other comparisons use coefficients from regressions estimated using 1988 and 1990 editions of the Gallup surveys (n=1302).

Table 5. Matching-adjusted differences between self-decidors and those who respond to a fundraising method

Treatment	NM with replacement	NM without replacement	RM	KM
Asked by someone	-0.331 (0.189)*	-0.286 (0.159)*	-0.387 (0.138)***	-0.411 (0.140)***
Direct mail solicitation	-0.507 (0.410)	-0.571 (0.335)*	-0.819 (0.324)**	-0.846 (0.287)*
Media ad	0.195 (0.555)	0.195 (0.480)	0.173 (0.350)	-0.199 (0.457)
Telephone solicitation	-0.643 (0.586)	-0.719 (0.587)	-0.784 (0.947)	-0.522 (0.744)
Other	-0.453 (0.172)***	-0.277 (0.111)**	-0.361 (0.139)***	-0.401 (0.142)***

Notes: The ATT of each fundraising method on the contribution amount relative to self-decidors is reported. Standard errors are obtained via 500 bootstrap replications and reported in parentheses. The signs ***, **, and * represent significance at 1%, 5%, and 10% respectively.

Table 6. Marginal effects of selected demographic characteristics on the discrete measure of responsiveness to a particular fundraising method

	Letter	Phone	Door	Work	Close associate	TV	Ad	News story	Telethon / radiothon	Clergy	Celebrity	Internet	Previously volunteered
<i>ln(income96)</i>													
Not at all important=1	-0.016 (0.009)*	-0.020 (0.010)**	0.005 (0.009)	-0.015 (0.009)*	-0.008 (0.004)*	-0.004 (0.010)	-0.017 (0.010)*	-0.015 (0.007)**	0.007 (0.009)	0.005 (0.006)	-0.006 (0.025)	-0.029 (0.018)	-0.026 (0.013)**
Not too important=2	0.001 (0.001)*	0.005 (0.002)**	0.000 (0.000)	-0.002 (0.001)*	-0.005 (0.003)*	0.001 (0.003)	0.006 (0.003)*	-0.004 (0.002)**	-0.001 (0.001)	0.002 (0.003)	0.003 (0.012)	0.017 (0.011)	-0.009 (0.004)**
Somewhat important=3	0.010 (0.006)*	0.011 (0.006)**	-0.004 (0.006)	0.010 (0.006)*	-0.002 (0.001)*	0.002 (0.005)	0.009 (0.005)*	0.012 (0.006)**	-0.005 (0.006)	-0.001 (0.002)	0.002 (0.011)	0.010 (0.007)	0.004 (0.002)*
Very important=4	0.005 (0.003)*	0.004 (0.002)**	-0.002 (0.003)	0.007 (0.004)*	0.015 (0.008)*	0.001 (0.001)	0.002 (0.001)*	0.007 (0.003)**	-0.002 (0.003)	-0.006 (0.007)	0.000 (0.002)	0.001 (0.001)	0.031 (0.015)**
<i>Age</i>													
Not at all important=1	0.001 (0.000)***	0.003 (0.000)***	0.002 (0.000)***	0.004 (0.000)***	0.001 (0.000)***	0.003 (0.000)***	0.003 (0.000)***	0.002 (0.000)***	0.003 (0.000)***	-0.000 (0.000)	0.001 (0.001)	0.005 (0.001)***	0.003 (0.001)***
Not too important=2	-0.000 (0.000)**	-0.001 (0.000)***	0.000 (0.000)**	0.001 (0.000)***	0.001 (0.000)***	-0.001 (0.000)***	-0.001 (0.000)***	0.001 (0.000)***	-0.000 (0.000)***	-0.000 (0.000)	-0.000 (0.000)	-0.003 (0.001)***	0.001 (0.000)***
Somewhat important=3	-0.001 (0.000)***	-0.001 (0.000)***	-0.001 (0.000)***	-0.003 (0.000)***	0.000 (0.000)***	-0.002 (0.000)***	-0.002 (0.000)***	-0.002 (0.000)***	-0.002 (0.000)***	0.000 (0.000)	-0.000 (0.000)	-0.002 (0.000)***	-0.000 (0.000)***
Very important=4	-0.000 (0.000)***	-0.000 (0.000)***	-0.001 (0.000)***	-0.002 (0.000)***	-0.003 (0.000)***	-0.000 (0.000)***	-0.000 (0.000)***	-0.001 (0.000)***	-0.001 (0.000)***	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)***	-0.004 (0.001)
<i>Female</i>													
Not at all important=1	-0.031 (0.010)***	-0.025 (0.011)**	-0.024 (0.010)**	-0.025 (0.010)***	-0.014 (0.005)***	-0.032 (0.011)***	-0.024 (0.011)**	-0.052 (0.009)***	-0.045 (0.010)***	-0.022 (0.007)***	0.004 (0.027)	0.027 (0.020)	-0.050 (0.014)***
Not too important=2	0.002 (0.001)***	0.006 (0.003)**	-0.001 (0.000)*	-0.004 (0.002)***	-0.010 (0.003)***	0.011 (0.004)***	0.008 (0.004)**	-0.013 (0.002)***	0.004 (0.001)***	-0.011 (0.003)***	-0.002 (0.013)	-0.016 (0.012)	-0.016 (0.005)***
Somewhat important=3	0.019 (0.006)***	0.014 (0.006)**	0.017 (0.009)**	0.018 (0.007)***	-0.004 (0.001)***	0.016 (0.006)***	0.012 (0.006)**	0.041 (0.007)***	0.028 (0.007)***	0.006 (0.002)***	-0.002 (0.012)	-0.010 (0.007)	0.008 (0.003)***
Very important=4	0.009 (0.003)***	0.005 (0.002)**	0.008 (0.003)**	0.012 (0.004)***	0.028 (0.009)***	0.005 (0.002)***	0.003 (0.002)**	0.024 (0.004)***	0.013 (0.003)***	0.027 (0.008)***	-0.000 (0.002)	-0.001 (0.001)	0.059 (0.017)***
<i>Black</i>													
Not at all important=1	-0.050 (0.015)***	-0.083 (0.016)***	-0.039 (0.014)***	-0.053 (0.013)***	0.001 (0.008)	-0.134 (0.016)***	-0.089 (0.016)***	-0.011 (0.013)	-0.053 (0.015)***	-0.028 (0.009)***	-0.106 (0.046)**	-0.183 (0.032)***	-0.030 (0.019)
Not too important=2	0.002 (0.001)***	0.016 (0.002)***	-0.002 (0.001)*	-0.011 (0.004)***	0.000 (0.005)	0.035 (0.003)***	0.025 (0.004)***	-0.003 (0.004)	0.002 (0.001)***	-0.015 (0.005)***	0.045 (0.017)***	0.096 (0.015)***	-0.011 (0.007)
Somewhat important=3	0.032 (0.010)***	0.049 (0.010)***	0.027 (0.010)***	0.037 (0.009)***	0.000 (0.002)	0.072 (0.009)***	0.050 (0.009)***	0.009 (0.010)	0.034 (0.010)***	0.006 (0.002)***	0.050 (0.024)**	0.075 (0.015)***	0.003 (0.001)**
Very important=4	0.016 (0.005)***	0.018 (0.004)***	0.014 (0.006)**	0.027 (0.008)***	-0.001 (0.015)	0.027 (0.004)***	0.015 (0.003)***	0.005 (0.006)	0.017 (0.005)***	0.036 (0.013)***	0.011 (0.007)*	0.013 (0.004)	0.038 (0.024)

Table 6 (continued)

<i>College Graduate</i>													
Not at all important=1	-0.047 (0.018)***	-0.023 (0.020)	0.020 (0.018)	-0.018 (0.018)	-0.032 (0.008)***	-0.006 (0.021)	-0.025 (0.020)	-0.052 (0.015)***	0.017 (0.019)	0.007 (0.012)	0.030 (0.050)	0.008 (0.038)	-0.083 (0.022)***
Not too important=2	0.002 (0.001)***	0.005 (0.005)	0.000 (0.000)	-0.003 (0.003)	-0.023 (0.006)***	0.002 (0.007)	0.008 (0.006)	-0.015 (0.005)***	-0.002 (0.002)	0.003 (0.006)	-0.015 (0.025)	-0.004 (0.022)	-0.031 (0.009)***
Somewhat important=3	0.030 (0.012)**	0.013 (0.012)	-0.014 (0.013)	0.013 (0.013)	-0.013 (0.004)***	0.003 (0.010)	0.014 (0.011)	0.041 (0.012)***	-0.010 (0.012)	-0.002 (0.004)	-0.013 (0.021)	-0.003 (0.013)	0.005 (0.003)
Very important=4	0.015 (0.006)**	0.004 (0.004)	-0.007 (0.006)	0.008 (0.009)	0.068 (0.018)***	0.001 (0.003)	0.004 (0.003)	0.026 (0.008)***	-0.005 (0.005)	-0.008 (0.015)	-0.002 (0.004)	-0.000 (0.002)	0.109 (0.032)***
Number of obs.	6929	6923	6928	6284	6930	6922	6923	6914	6902	6915	1213	1789	1901

Notes: Robust standard errors are in parentheses. The signs ***, **, and * represent significance at 1%, 5%, and 10% respectively.

Appendix Tables

Table A1. Description of key variables and summary statistics

Variable	Definition	Number of Obs.	Mean	Standard Deviation
Total donations ^a	Household's total charitable contributions in 1990 dollars.	5502	627.55	2099.85
Tax price of giving ^a	=1 minus marginal tax rate for itemizers and 1 for non-itemizers. Tax rates are calculated from information on probable filing status, household income in 1990 prices, itemization status, and other key variables.	5502	0.907	0.117
Black	=1 if the respondent is black.	14400	0.108	0.310
Hispanic	=1 if the respondent is Hispanic.	14544	0.073	0.260
Female	=1 if the respondent is female.	14624	0.519	0.500
Income90 ^a	Total household income in 1990 dollars. Respondents reported income in one of 15 before-tax income ranges. I use the midpoint of the each range as the actual income measure.	5165	36397.45	25098.52
Income96 ^b	Total household income in 1996 dollars. Respondents reported income in one of 15 before-tax income ranges. I use the midpoint of the each range as the actual income measure.	8513	41425.84	29760.45
Age	Age of the respondent.	14512	44.72	17.59
Family size	Number of people in the household including the respondent.	14568	3.026	1.523
Married	=1 if the respondent is married.	14569	0.642	0.480
Employed	=1 if the respondent is employed.	14499	0.606	0.489
High school graduate	=1 if the highest level of education obtained by the respondent is a high school degree.	14519	0.319	0.466
Attended college	=1 if the respondent attended college but did not receive a four-year degree.	14519	0.176	0.381
College graduate	=1 if the respondent obtained a four-year college or higher degree.	14519	0.177	0.381
Homeowner	=1 if the respondent owns her current residence.	14571	0.679	0.467
Churchgoer	=1 if the respondent reported attending religious services for every week or nearly every week.	12359	0.438	0.496
Years lived in current community: 2 to 4	=1 if the respondent reported living in her current community 2 to 4 years.	14654	0.134	0.341
Years lived in current community: 5 to 9	=1 if the respondent reported living in her current community 5 to 9 years.	14654	0.147	0.354
Years lived in current community: 10+	=1 if the respondent reported living in her current community more than 10 years.	14654	0.560	0.496

Notes: Sample weighted means are reported. (a) Data from the 1988 and 1990 editions of the Gallup surveys are used. (b) Data from the 1992, 1994, 1996, and 1999 editions of the Gallup surveys are used.

Table A2. Regression-adjusted differences across alternative fundraising methods

	(1)	(2)	(3)	(4)
ln(income90)	0.459 (0.068)***	0.453 (0.090)***	0.528 (0.070)***	0.555 (0.092)***
ln(price)	-1.562 (0.362)***	-1.567 (0.475)***	-1.563 (0.360)***	-1.503 (0.478)***
Age	0.010 (0.003)***	0.007 (0.004)*	0.013 (0.003)***	0.010 (0.004)**
Family size	0.004 (0.031)	-0.009 (0.041)	0.018 (0.031)	0.012 (0.041)
Female	-0.268 (0.082)***	-0.286 (0.108)***	-0.197 (0.083)**	-0.205 (0.109)*
Black	0.037 (0.127)	0.037 (0.169)	0.160 (0.131)	0.190 (0.176)
Hispanic	-0.225 (0.151)	-0.198 (0.204)	-0.016 (0.156)	0.008 (0.209)
Married	0.275 (0.093)***	0.265 (0.123)**	0.207 (0.094)**	0.175 (0.124)
Employed	-0.033 (0.096)	-0.031 (0.125)	-0.098 (0.094)	-0.129 (0.123)
High school graduate	0.072 (0.090)	0.009 (0.117)	0.132 (0.090)	0.077 (0.118)
Attended college	0.553 (0.195)***	1.059 (0.399)***	0.593 (0.197)***	1.128 (0.422)***
College graduate	0.265 (0.146)*	0.097 (0.195)	0.268 (0.145)*	0.056 (0.193)
Homeowner	0.136 (0.099)	0.097 (0.130)	0.025 (0.102)	-0.025 (0.136)
Churchgoer	1.096 (0.083)***	1.165 (0.111)***	1.045 (0.084)***	1.095 (0.113)***
Asked by someone	-0.421 (0.136)***	-0.493 (0.199)**	-0.454 (0.137)***	-0.468 (0.200)**
Direct mail solicitation	-0.602 (0.283)**	-0.467 (0.402)	-0.392 (0.282)	-0.133 (0.406)
Media ad	-1.055 (0.351)***	-1.148 (0.463)**	-0.979 (0.350)***	-1.012 (0.467)**
Telephone solicitation	-	0.308 (0.377)	-	0.270 (0.379)
Other fundraising method	-0.353 (0.096)***	-0.366 (0.121)***	-0.369 (0.097)***	-0.388 (0.124)***
Community dummies	Yes	Yes	Yes	Yes
Year effect	Yes	No	Yes	No
State effects	No	No	Yes	Yes
R ²	0.296	0.294	0.368	0.387
Number of obs.	1302	759	1302	759

Notes: Coefficient estimates are reported. Robust standard errors are in parentheses. Sample weights are used in all regressions. The signs ***, **, and * represent significance at 1%, 5%, and 10% respectively.

Table A3. Coefficient estimates of the ordered probit models for alternative fundraising methods

	Letter	Phone	Door	Work	Close associate	TV	Ad	News story	Telethon / radiothon	Clergy	Celebrity	Internet	Previously volunteered
ln(income96)	0.043 (0.024)*	0.051 (0.024)**	-0.015 (0.024)	0.043 (0.025)*	0.044 (0.024)*	0.010 (0.024)	0.043 (0.024)*	0.047 (0.023)**	-0.020 (0.023)	-0.021 (0.023)	0.014 (0.062)	0.092 (0.058)	0.095 (0.047)**
Age	-0.003 (0.001)***	-0.006 (0.001)***	-0.006 (0.001)***	-0.011 (0.001)***	-0.008 (0.001)***	-0.008 (0.001)***	-0.008 (0.001)***	-0.007 (0.001)***	-0.008 (0.001)***	0.001 (0.001)	-0.002 (0.003)	-0.016 (0.003)***	-0.012 (0.002)***
Family size	0.022 (0.010)**	0.050 (0.010)***	0.020 (0.010)**	0.018 (0.010)*	0.026 (0.010)**	0.014 (0.011)	0.019 (0.010)*	0.012 (0.010)	0.017 (0.010)*	0.038 (0.010)***	0.037 (0.027)	-0.014 (0.025)	0.032 (0.020)
Female	0.082 (0.027)***	0.064 (0.028)**	0.066 (0.027)**	0.075 (0.028)***	0.080 (0.027)***	0.080 (0.028)***	0.059 (0.028)**	0.163 (0.027)***	0.119 (0.027)***	0.090 (0.027)***	-0.011 (0.069)	-0.088 (0.066)	0.184 (0.052)***
Black	0.136 (0.041)***	0.212 (0.041)***	0.110 (0.041)***	0.160 (0.042)***	-0.003 (0.043)	0.345 (0.041)***	0.229 (0.041)***	0.036 (0.042)	0.143 (0.041)***	0.119 (0.042)***	0.266 (0.117)**	0.535 (0.087)***	0.115 (0.072)
Hispanic	0.181 (0.045)***	0.236 (0.045)***	0.147 (0.046)***	0.231 (0.048)***	-0.039 (0.046)	0.372 (0.046)***	0.306 (0.046)***	0.169 (0.046)***	0.171 (0.046)***	0.150 (0.046)***	0.178 (0.135)	0.429 (0.127)***	-0.274 (0.111)**
Married	0.035 (0.033)	0.006 (0.033)	0.077 (0.033)**	0.108 (0.035)***	0.063 (0.033)*	0.035 (0.034)	0.005 (0.033)	0.049 (0.033)	0.068 (0.033)**	0.133 (0.033)***	-0.121 (0.084)	0.173 (0.082)**	0.059 (0.066)
Employed	-0.067 (0.033)**	-0.029 (0.034)	-0.017 (0.033)	0.301 (0.036)***	-0.022 (0.032)	-0.040 (0.033)	-0.039 (0.033)	0.027 (0.033)	0.021 (0.033)	-0.029 (0.033)	-0.051 (0.083)	0.054 (0.083)	0.089 (0.067)
High school graduate	0.001 (0.044)	0.015 (0.044)	0.004 (0.044)	0.041 (0.048)	0.034 (0.044)	0.041 (0.045)	0.062 (0.044)	0.084 (0.044)*	0.053 (0.044)	0.007 (0.045)	0.010 (0.110)	-0.021 (0.113)	0.043 (0.083)
Attended college	-0.002 (0.046)	-0.038 (0.047)	-0.045 (0.047)	0.016 (0.051)	0.074 (0.048)	0.089 (0.048)*	0.119 (0.048)**	0.203 (0.047)***	0.075 (0.048)	0.023 (0.047)	-0.051 (0.118)	-0.016 (0.113)	0.184 (0.086)**
College graduate	0.128 (0.050)**	0.059 (0.051)	-0.054 (0.050)	0.053 (0.054)	0.193 (0.050)***	0.016 (0.052)	0.064 (0.051)	0.168 (0.050)***	-0.044 (0.051)	-0.028 (0.050)	-0.076 (0.126)	-0.024 (0.122)	0.325 (0.093)***
Homeowner	-0.041 (0.035)	-0.047 (0.036)	-0.006 (0.035)	0.054 (0.036)	0.016 (0.036)	-0.103 (0.036)***	-0.054 (0.036)	-0.080 (0.036)**	-0.070 (0.035)**	0.038 (0.036)	-0.103 (0.087)	-0.270 (0.081)***	0.054 (0.069)
Churchgoer	0.065 (0.027)**	0.086 (0.028)***	0.065 (0.027)**	0.004 (0.029)	0.132 (0.028)***	-0.019 (0.028)	-0.009 (0.028)	0.031 (0.027)	0.057 (0.028)**	0.567 (0.028)***	-0.020 (0.072)	0.004 (0.069)	0.359 (0.055)***

Table A3 (continued)

α_1	0.007 (0.242)	0.249 (0.246)	-0.782 (0.237)	-0.047 (0.251)	-0.836 (0.241)	-0.409 (0.246)	-0.135 (0.241)	-0.314 (0.236)	-0.844 (0.238)	-0.610 (0.233)	0.137 (0.615)	0.918 (0.562)	0.418 (0.458)
α_2	0.902 (0.242)	1.135 (0.246)	0.023 (0.237)	0.624 (0.251)	-0.332 (0.241)	0.597 (0.246)	0.897 (0.241)	0.442 (0.236)	0.018 (0.238)	-0.045 (0.233)	1.173 (0.617)	1.724 (0.564)	0.853 (0.459)
α_3	1.977 (0.243)	2.217 (0.248)	1.120 (0.238)	1.889 (0.252)	0.982 (0.241)	1.595 (0.247)	1.980 (0.242)	1.775 (0.237)	1.098 (0.239)	1.158 (0.233)	2.244 (0.624)	2.766 (0.571)	1.946 (0.461)
Community dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Pseudo R ²	0.010	0.021	0.010	0.034	0.019	0.029	0.024	0.016	0.018	0.036	0.013	0.059	0.054
Log likelihood	-8505.32	-7881.72	-8674.08	-7860.65	-8205.22	-7544.87	-7538.62	-8689.74	-8412.24	-8714.56	-1202.77	-1276.18	-2371.58
Number of obs.	6929	6923	6928	6284	6930	6922	6923	6914	6902	6915	1213	1789	1901

Notes: Robust standard errors are in parentheses. The signs ***, **, and * represent significance at 1%, 5%, and 10% respectively.