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ARTICLE



Using quality signaling to enhance survey response rates

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ABSTRACT

A growing body of research has found that linking products to charitable causes enhances sellers' reputations. This paper tests with a field experiment whether the use of the option of giving to charity to signal genuine intentions in mail surveys can enhance the effectiveness of small financial incentives. We find that they do significantly increase individuals' responsiveness to the differences in the amount of the incentives. Cash incentives lead to an approximated constant response rate. Adding the option to donate the incentive to a specific charity significantly increases the effect of the financial incentive on the likelihood of responding.

KEYWORDS

Response rate; quality signaling; charitable donations

JEL CLASSIFICATION

C81; C93; D10

1. Introduction

This paper asks if the option to donate a survey incentive to a charity is a *quality signal*, implying genuine intentions, and enhancing the effectiveness of small financial incentives¹. We use a field experiment to test this hypothesis as part of interview requests with mail surveys. We find that they do significantly increase individuals' responsiveness to the differences in the amount of the incentives and yield a numerically greater likelihood of responding to surveys at the highest level (\$40) of the incentives we considered. Cash incentives lead to an approximately constant response rate (at about 39%). Our design allows separate assessment of each of three charities' effects on response rates.

Strategies to enhance response rates are especially important due to the widespread declines in the ability to reach respondents for important surveys². Meyer, Mok, and Sullivan (2015) have argued that nationally representative household surveys are '... the most important innovations in social science research of the last century.' (p. 199). Consequently, new

approaches to enhance response rates are especially important.

We conducted a field experiment as part of recruiting respondents to the 2017 Phoenix Area Social Survey (PASS). The sampling plan called for 1,400 survey requests randomly assigned across the twelve targeted primary sampling units (PSU). These PSUs correspond to neighborhoods with ecological monitoring equipment. This design allowed the information on ecological conditions to be linked to social attitude data collected by the survey.

Our experiment varied the financial incentive and the charity identified with the interview request. Each of the 1,400 survey requests was randomly assigned to one of fifteen different treatments defined by financial incentive (\$5, \$25, \$40) and charity (St Mary's Food Bank (also known as First Food Bank Alliance), Phoenix Children's Hospital, and Desert Foothills Land Trust). Our design also included an option allowing respondents to choose one of the three charities and a pure cash treatment. The results provide strong

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¹A growing body of research has found that linking products to charitable causes enhances sellers' reputations. For example, Elfenbein and McManus (2010) found that consumers are willing to pay about 6% more when a portion (or all) of their expenditures goes to a charitable cause selected by the seller. In follow-up research, Elfenbein, Fisman, and Brian (2012) considered a wider set of products analyzing both sale probabilities and prices and found that charity serves as a signal of seller quality.

²See Heffetz and Reeves (2016) analysis of three official government surveys – the Current Population Survey (CPS), the Behavioral Risk Factor Surveillance Survey (BRFSS), and the Consumer Expenditure Survey (CEX) – documents important reasons for research on strategies for increasing response rates. They observe, in summarizing the importance of their findings that: '... our analysis reveals a consistent picture: in our data, difficulty-of reaching is strongly correlated with important outcomes of interest, even after controlling for the main observables that typical weighting schemes are based on. ... the assumption that nonrespondents look like the in sample average is simply hard to defend when said average is a moving target, changing systematically as increasingly difficult respondents are added to the sample.' (pp 3–5).

support for the quality signaling role of the option to donate to a specific charity. Random assignment of the treatments at the PSU level allows the cases using each charity option to be separately compared to those with the pure cash offers. Without the charity option, financial incentives from \$5 to \$40 had no effect on response rates. However, when a specific charity was identified, the responses did increase significantly with the amount of the incentive.

Section 2 summarizes our experimental design and our findings. The third section discusses their implications for efforts to enhance response rates.

II. Experimental design and results

Our experiment was conducted as part of a four wave, mail data collection plan for the 2017 Phoenix Area Social Survey. The questionnaire was available in English and Spanish. Each of 1,400 questionnaires was randomly assigned to one of the 15 treatments. These treatments were defined by pairing each of the three financial incentives with one of five attributes. Three of these attributes corresponded to giving each person who completed the survey an option to keep or to donate the incentive to a specific charity – the St Mary's Food Bank, Phoenix Children's Hospital, and the Desert Foothills Land Trust³. The fourth attribute allowed a respondent to choose to keep the incentive or, if it was to be donated, to select one of the three charities. The last treatment was a pure cash incentive for completing the survey. Each mailing with the charity option included a short description of the charity.

The University of Wisconsin Survey Center conducted the survey. Sampling began 31 May 2017 and

ended 15 September 2017. 496 surveys were returned for an overall response rate of 39.4%. Twenty-eight respondents completed the survey but did not request or donate the financial incentive⁴. Fifteen of the respondents who did not designate what to do with the incentive received the treatment associated with the pure cash incentive option. Three others received the incentive with the option to contribute to the First Food Bank Alliance, six received the Desert Foothills Land Trust, and four received the Phoenix Children's Hospital⁵.

Table 1 summarizes our basic results. The columns in the table identify the pure cash incentive treatment, the name of the three charities offered, and the option of choosing a charity. In each column we report the percentage of surveys that responded to our request by the end of the four waves of mailings. As the table suggests, offering a pure cash incentive or the choice of a charity yielded response rates that were not significantly affected by the magnitude of the financial incentive. All of the treatments that allowed the option to donate the incentive displayed statistically significant differences in the response rates (at p-values of 0.10 or smaller) with increases in the financial incentive.

Table 2 reports the results from comparing treatments offering cash or a donation option to a specific charity with the pure cash cases. Each column reports OLS estimates of a simple model that pairs the cases for the pure cash treatment with survey requests receiving each charity option as separate models. Equation (1) below defines the model. r_i designates the interview decision for individual i ($r_i = 1$ for completed interview, 0 otherwise); d_i is the amount of the cash incentive assigned to i ; c_{ji} is a dummy variable indicating if the individual received charity

Table 1. Impact of financial incentives and quality signals on response rates (percentages).

Financial Incentive	Cash	St. Mary's Food Bank	Phoenix Children's Hospital	Desert Foothills Land Trust	Choice of Charity
5	38.71	31.18	20.21	26.60	27.96
25	40.43	37.63	32.26	34.41	36.56
40	37.63	47.31	39.36	43.01	38.30
Chi square	0.16	5.17	8.29	5.57	2.53
p-value	0.92	0.08	0.02	0.06	0.28
Number of Observations	280	279	281	280	280

³The supplementary material provides the text of the descriptions used. Two of our three charities are well known in the Phoenix Metropolitan Area. The First Food Bank Alliance is also known as St. Mary's Food Bank and was one of the first food banks in the US.

⁴These responses are included in our analysis of the decisions to keep or donate the incentive. Our results are not changed when these observations are omitted.

⁵These responses were treated as no donation to any charity. Analysis of the results excluding them from the sample did not alter our conclusions.

Table 2. Tests of the quality signaling role of the option to donate.

Independent Variables	St Mary's Food Bank	Phoenix Children's Hospital	Desert Foothills Land Trust	Choice of Charity
Cash incentive	-.0002 (-0.12)	-.0002 (-0.12)	-.0002 (-.012)	-.0002 (-0.12)
Charity(= 1)	-.1137 (-1.44)	-.2172 (-2.85)	-.1567 (-2.02)	-.1229 (-1.58)
Charity*Cash Incentive	.0048	.0057	.0049	.0033
Intercept	(1.66) .3950 (7.10)	(2.06) .3950 (7.31)	(1.72) .3950 (7.18)	(1.15) .3950 (7.17)
Number of observations	559	561	560	560
R ²	.009	.021	.091	.006
F-Test	4.97	7.85	5.38	2.27
	p-value = 0.03	p-value = 0.005	p-value = 0.02	p-value = 0.13

j (= 1) and 0 for the pure cash incentive; and ε_i is a conventional random error.

$$r_i = \alpha + \beta d_i + \gamma c_{ji} + \theta c_{ji} d_i + \varepsilon_i \quad (1)$$

By testing the null hypothesis $\gamma + \theta = 0$ we can evaluate whether the option to donate to a charity enhances the perceived quality of the interview request and hence the salience of the financial incentive. The last row of Table 2 reports the F-statistics and p-values for these test results and the rows above provide the estimates and t statistics for each of the parameters.

Offers involving a single charity, regardless of the specific charity, have a clear quality signaling role analogous to Elfenbein and McManus (2010). By contrast, offering the incentive with the option of selecting one of the three charities does not.

Fifty-three percent of those completing the survey kept the incentive. None of the treatments specifying a charity led to significant differences in the likelihood respondents would donate with the size of the financial incentive⁶.

III. Implications

Our results are also related to what has been learned from experiments with charity-linked products and the literature on matching grants (Karlan, List, and Shafir 2011), but there are some important differences. In the case of charity-linked goods, the bidder may receive utility from these auctions even though she makes no payment. The auction revenue is known to go to a public cause. In our case the survey respondents who received the charity-linked requests

know there is the possibility other money may go to the charity, but it also may not.

Experiments involving matches to charitable donations have found that announcing a match program increases donations; and the presence of a match increases whether a person gives. Our results also suggest that the magnitude of the incentive does not significantly increase response rates. The treatments that offer an incentive along with the option to donate to a *specific* charity do increase responses. The likelihood of responding is significantly related to the size of the financial incentives when these requests are paired with the option to give the incentive to charity. While results from a single experiment should be interpreted cautiously, they do offer the first low cost strategy for increasing survey response rates.

Disclosure statement

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⁶A table summarizing these results is available in the online materials.

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