The Efficacy of Gifts on Charitable Giving

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I. Executive Summary

This study examines the effectiveness of gift exchange in eliciting costly effort. Subjects were divided randomly into three different groups and asked about their willingness to donate a certain amount to the red cross. One group promised to receive a gift upon donation (conditional incentive), while the other group received the gift in advance (unconditional incentive). No incentives were offered to the third group. As expected, the probability to donate and the amount donated on average were significantly larger when a gift was offered. In addition, the donated amount on average was higher for the group that received the gift after the donation.

II. Introduction

"People should meet smiles with smiles and lies with treachery"
(Fehr & Gächter, 2000)

A. Background

Traditional economic theory assumes that people are self-interested and seek only the maximization of their own benefits. However, experimental studies have shown that this assumption is not completely valid, i.e. people do care about others and society. In fact, sometimes people perform costly actions to help or support someone else (Charness and Haruvy, 2002; Sobel, 2005). Moreover, the concept of reciprocity plays a substantial role in individuals' decisions (Charness and Haruvy, 2002). Reciprocity means that people often respond to others' actions in the same way that is initiated by others. In other words, individuals cooperate with kind actions and respond in an even more kind way; In contrast, hostile actions are often met with nasty or even brutal response (Fehr and Gächter, 2000).

Falk (2007) showed that reciprocity could explain the increase in the amount of the charitable donation. In collaboration with a charitable organization, potential donors were approached by mail with a donation request. Some of the letters contained small gifts; others had a large gift and the third group received only the letter without any gifts. The frequency of donations increased for both groups that received a gift compared to the group who did not receive any gifts.

It is well established that gift exchange plays a significant role in the various fields of economics (Falk, 2007; Camerer and Thaler, 1995; Fehr and Gächter, 2000). Gneezy and Rey-Biel (2014) suggested that there is a fraction of the population that is driven by reciprocity. Small gifts are required to activate this fraction. The paper illustrates the difference between contingent incentive (a promise to pay a certain amount of money after filling a survey) and non-contingent incentive (where participants receive the money before completing the survey). Moreover, the results showed that with a contingent approach, larger rewards are required to increase the number of responses.

B. Research Question

Due to COVID-19, household finances have worsened. The Dutch Red Cross is looking for ways to increase donations as to provide aid to vulnerable communities. This policy brief will evaluate whether gifts in general generate more and better donations, and giving a potential donor a conditional or an unconditional gift will improve the odds of receiving a donation and how the probability to donate and the conditional amount differ for conditional and unconditional gifts.

III. Methodological Approach

A. Creating the Survey

Data was gathered by means of an online survey. The survey is composed of two sections. The first section consists of eight demographic questions, which will later be used to check for group balance across treatment and control groups. The second section was used to generate data on the probability of donating and the value of donations. All participants received the demographics questions, followed by an introductory message in the second section:

> *"The Red Cross is an international humanitarian organization focused on helping those in need. Red Cross volunteers and staff work to deliver vital services – from providing relief and support to those in crisis, to helping civilians be prepared to respond in emergency situations. However, they need donors in order to provide these services."*

The respondents were then randomly assigned into one of three groups. The first group is the control group, which received no gift and was then asked to donate. The second group would be offered a gift, and then would be asked to donate. The third group would be offered a gift conditional on donating, and then would be asked to donate. Table III shows the question that each group received. If they answered yes, they would get a follow-up question asking how much they would be willing to donate. These donations were hypothetical. Thus, respondents were not obliged to donate the amount they stated afterwards.

B. Econometric Methodology

Our dataset contains 53 independent observations, rendering the sample small, and thus more likely to violate distributional assumptions required for parametric econometric methods. The data contains a continuous variable in the donation amount, and discrete variables such the participant control/treatment group status and participants demographics.

First, we consider our primary data nominal in nature, focusing on the probability of donation, and test if more respondents choose to donate if they are offered a gift using Fisher's Exact Test using the following hypotheses:

H_0 : Respondents offered gifts donate as often as respondents not offered gifts

H_1 : Respondents offered gifts donate more often than respondents not offered gifts

We repeat the above hypotheses for the probability of donation differences between the Control and Treatment 1 groups, the Control and Treatment 2 groups, and Treatment 1 and Treatment 2 groups (see Table III for group specification and Table IV for the individual hypotheses for each Fischer's Exact Test.

In addition, a χ^2-Test is performed for our three independent groups to see if the proportion of participants donating is the same across those who are not offered gifts, those offered unconditional gifts, and those offered conditional gifts using the following hypotheses:

H_0 : The proportion of participants who donate is equal across control and treatment groups

H_1 : The proportion of participants who donate is different across control and treatment groups

Following up this analysis of participant donation proportions, we shift focus to the difference in donation amounts among our control and treatment groups. The donation amount can be considered ordinal data, particularly focusing on whether certain groups donate more. As before, the focus is if being offered a gift (conditional or unconditional) statistically increases the amount donated. The Mann-Whitney U Test is used for this purpose using the following hypotheses:

H_0 : Respondents offered gifts donate the same as respondents who were not offered gifts

H_1 : Respondents offered gifts donate more than respondents who were not offered gifts

And again, we repeat the above hypotheses for difference in donation amounts between the Control and Treatment 1 groups, the Control and Treatment 2 groups, and Treatment 1 and Treatment 2 groups (see Table IV for the individual hypotheses for each Mann-Whitney U Test).

IV. Results

We first completed a balance check across the control and treatment groups to assure there was no selection bias.[1] Since the sample is small, and the data is split in three different groups (one control and two treatment), relatively large differences in proportions even with small changes in counts are expected. Despite this, the groups are relatively well balanced and proportions sufficiently consistent from the control group to both treatment groups. There exist noticeable proportion differences in respondent education and annual income. For the highest level of education, across groups, the proportion of respondents who had completed high school and a Master's degree vary significantly, and there is more disproportion across groups. This lack of balance can be explained by a few respondents reporting MBO or HBO degrees and the small sample size. With respect to income, it is mostly well balanced, but the control group has disproportionately low number of respondents with incomes of €15,000-€19,999, but this is again due to a small sample. See Appendix B for the full breakdown of the balance checks.

The results of the completed hypothesis tests are outlined in Table IV. The Fisher's Exact Test demonstrates that, at the 10% significance level, we can reject the null hypothesis that no gift and offered gifts result in the same probability of donation; respondents who were offered gifts donated more often than those who did not. Similarly, at the 10% significance level, we can reject the null hypothesis that conditional gifts and no gifts result in the same probability of donation; respondents who were offered conditional gifts donated more often than respondents who were not offered any gifts. We fail to reject any other null hypotheses, as delineated in Table IV, and thus we cannot say that being offered an unconditional gift over no gift, or that being offered a conditional gift over an unconditional gift, will increase the probability of donation.

[1]Note that cross-tabulation tables which allow us to check group balance have been omitted due to space limitations.

Following up the Fischer's Exact Test is the χ^2-Test of Independence; similarly, we fail to reject the null hypothesis that the probability of donation (the proportion of respondents who donated) is equal across all three groups.

Then, we completed Mann-Whitney U Tests. Those results were consistent with those from the Fischer's Exact Test. As before, at the 10% significance level, we can reject the null hypothesis that no gift and offered gifts result in the same donation amount; respondents who were offered gifts donated more than those who did not. Similarly, at the 10% significance level, we can reject the null hypothesis that conditional gifts and no gifts result in the same donation amounts; respondents who were offered conditional gifts donated more than respondents who were not offered any gifts. We fail to reject any other null hypotheses (see Table IV), and thus we cannot say that being offered an unconditional gift over no gift, or that being offered a conditional gift over an unconditional gift, will increase the donation amounts.

The tests which demonstrate statistically significant and theoretically reasonable results are the same across both Fischer's Exact Test and χ^2-Test, thus lending to the internal consistency of our results.

V. Conclusion

Given the results, one can conclude that receiving a gift will increase both the likelihood of donating, as well as the amount donated. On top of that, the results and the summary statistics show that giving conditional gifts would increase the likelihood of donating more relative to giving unconditional gifts. However, the amount donated is on average higher for the unconditional gift relative to the group with the conditional gift scenario. Even though the conclusion is based on a small sample size (53 observations), findings are still compatible with previous literature in the field and confirm the economic importance of gift exchange. As stated in Falk (2007) The probability to donate increased when a gift was provided. Moreover, the response rate increased when a non-contingent incentive was offered and rise even more in the contingent case similar to Gneenzy & Rey-Biel (2014). However, these results are based on a relatively small amount of observations, which were predominantly male and students, and with a particular gift (the tote bag including a water bottle, pen and small notepad). Therefore, the results might change depending on the value of the gift and the target group.

VI. Policy Recommendation

Considering the case of the Dutch Red Cross, we would recommend to give a conditional gift. Given that a gift should not be too expensive as this would offset the increase in donations, and given that a conditional gift would only be given to those who donated, it seems this would, in the end, increase total donations more for the Dutch Red Cross compared to the case of unconditional gifts. Note that due to most respondents being students, this particular example of a conditional gift would be likely to be the most effective when targeting students.

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APPENDIX A
TABLES

Table I
DONATION PROBABILITIES BY CONTROL AND TREATMENT GROUPS.

	No Gift (Control Group)	Unconditional Gift (Treatment Group 1)	Conditional Gift (Treatment Group 2)
Donation Probability	25%	41%	58%

Table II
AVERAGE DONATION AMOUNTS BY CONTROL AND TREATMENT GROUPS, IN EUROS (€).

	No Gift (Control Group)	Unconditional Gift (Treatment Group 1)	Conditional Gift (Treatment Group 2)
Average Donation	9.38	12.50	9.36

Table III
QUESTIONNAIRE BASED ON PARTICIPANT ASSIGNMENT INTO CONTROL AND TREATMENT GROUPS.

Control or Treatment Group	Question
No Gift (Control Group)	*Imagine now the following scenario:* *Through a campaign, the Red Cross has asked you whether you would be willing to make a monetary donation to further relief efforts.* *Would you be willing to make a monetary donation?*
Unconditional Gift (Treatment Group 1)	*Imagine now the following scenario:* *Through a campaign, you receive a Red Cross tote/canvas bag including a water bottle, a pen, and a small notepad. On top of that, the Red Cross has asked you whether you would be willing to make a monetary donation to further relief efforts.* *Would you be willing to make a monetary donation?*
Conditional Gift (Treatment Group 2)	*Imagine now the following scenario:* *Through a campaign, you receive a Red Cross tote/canvas bag including a water bottle, a pen, and a small notepad. If you make a donation, you will receive a Red Cross tote/canvas bag including a water bottle, a pen, and a small notepad.* *Would you be willing to make a monetary donation?*

Table IV
RESULTS OF OUR HYPOTHESES TESTS FOR NOMINAL DATA (FISHER'S EXACT AND χ^2-TEST) AND FOR CARDINAL DATA (MANN-WHITNEY U TEST).

Test	Tested Hypotheses	P-value
Fisher's Exact Test	H_0: Treatment 1 + Treatment 2 participants donated as often as Control participants. H_1: Treatment 1 + Treatment 2 participants donated more often than Control participants.	0.0824
	H_0: Treatment 1 participants donated as often as Control participants. H_1: Treatment 1 participants donated more often than Control participants.	0.9129
	H_0: Treatment 2 participants donated as often as Control participants. H_1: Treatment 2 participants donated more often than Control participants.	0.0521
	H_0: Treatment 2 participants donated as often as Treatment 1 participants. H_1: Treatment 2 participants donated more often than Treatment 1 participants.	0.2525
χ^2-Test of Independence	H_0: The proportion of participants who donate is equal across control and treatment groups. H_1: The proportion of participants who donate is different across control and treatment groups.	0.1449
Mann-Whitney U Test	H_0: Donation amount is equal for Treatment 1 + Treatment 2, and Control groups. H_1: Donation amount is greater for Treatment 1 + Treatment 2 than for Control groups.	0.0444
	H_0: Donation amount is equal for Treatment 1 and Control groups. H_1: Donation amount is greater for Treatment 1 than for the Control group.	0.1320
	H_0: Donation amount is equal for Treatment 2 and Control groups. H_1: Donation amount is greater for Treatment 2 than for the Control group..	0.0314
	H_0: Donation amount is equal for Treatment 2 and Treatment 1 groups. H_1: Donation amount is greater for Treatment 2 than for the Treatment 2 group.	0.3051

APPENDIX B
BALANCE CHECKS

Before our hypothesis testing, we complete a balance check across the control and treatment groups to assure that there was no inherent selection bias.Since we have little data, and our data is split into three separate groups (one control and two treatment), we can expect relatively large margins of error in proportions of demographics across the groups.

The breakdown of our age groups are similar in proportion across the groups, where proportions are similar with an 8% margin of error. In all groups, there are (significantly) more respondents (76-84% who are the 18-24 years old. However, the groups are well balanced in this preference for 18-24 years old. For gender, only one respondent in the survey, assigned to Control, declined to report their gender on the questionnaire. Despite that However, the groups are similarly well balanced across the number of male and female respondents, with a significant proportion of respondents (73-88%) being male. Respondent nationality is highly balanced across the board, where for all groups Dutch student account for approximately 63-68% of all respondents.

The majority of respondents (36-52%) reported a highest level of education at the Bachelor's level. Across all treatment groups, the proportion of respondents who had completed a high school degree and a Master's degree vary significantly (in percentage, not in number difference). In all, this lack of balance can be explained by the wide variety of choices available to respondents, only a few respondents reporting MBO or HBO (vocational or technical) degrees, and the small

sample sizes. Relationship status is relatively well balanced across control and treatment groups, with 64-75% of respondents reporting that they are single. All respondents as well reported that they had no children.

Lastly, we consider the balance of groups with respect to employment status and income. Despite the large number of available choices for respondents with regards to employment status, with a large majority reporting as students (41-57%), and with proportions of full-time employment, part-time employment, or student & part-time employment similar across the groups. Income is well balanced across the groups, where an annual income of less than €10,000 is the most reported at 52-62%. The control group has disproportionately low number of respondents with incomes of €15,000-€19,999, but again this difference is more stark in the face of a relatively low number of observations.

As is clear, the lack of balance in some of the demographic variables is due, almost entirely, to a low number of observations. Since the sampling process into the three groups was fully randomized, we can continue to use this data for non-parametric hypothesis testing.