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**Making an impact? The relevance of information on aid effectiveness for charitable giving. A laboratory experiment.**

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# Making an impact? The relevance of information on aid effectiveness for charitable giving. A laboratory experiment.

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**Abstract**

A considerable and increasing share of foreign aid stems from private donations. Hence, individual donors can increase social welfare in developing countries by directing their funds to the most effective NGOs. Surprisingly few studies have analyzed whether private donors care about aid effectiveness when they donate to an international charity. In a laboratory experiment, we investigate if private donors seek information about the exact impact of their donation to an international NGO before they donate. Furthermore, we investigate how relevant private donors find information about aid impact compared to information about administrative costs, and the recipient type who benefits from a donation. First, we find that a relatively small share of individuals makes a well-informed donation decision. Second, the demand for information about aid impact is lowest, and it is highest for information about the recipient type. Third, exact information about aid impact did not lead to a significant change in average donation levels, while information about the exact recipient type and administrative costs led to a significant change in donation levels. In the recipient type group, informed participants donated significantly more than uninformed participants because they "rewarded" the preferred recipient with higher-than-average transfers. In the administration costs group, informed participants donated significantly less than uninformed participants because they used the information to "punish" NGOs with high administration costs.

**JEL Code**: D64,L31,O12

**Key Words**: Charitable giving, aid impact, aid effectiveness, fairness, social preferences

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# 1 Aid Effectiveness and Private Charitable Giving

A large body of literature in experimental economics is dedicated to better understanding private charitable giving. One main strand of this literature studies why people gain utility from donating to charity. Andreoni (1990) developed one of the most applied and tested models of charitable giving, and coined the term "warm-glow" giving. A person who experiences pure "warm glow" derives utility from the act of giving, not from contributing to the provision of a public good. In contrast, a person who is motivated by pure "altruism" strives to maximize the supply of a public good. The model also defines the continuum of "impure altruism" along which individuals are motivated by both warm glow and altruism. Another main strand of this literature investigates which factors induce people to give (more). List (List and Lucking-Reiley 2002, Karlan and List 2007, Rondeau and List 2008) for example, has conducted a number of experiments to test which fundraising methods lead to an increase in donations and/or an expansion in the donor base, and hence to an increase in the supply of the public good. All of these studies implicitly assume that an increase in donations to a charitable good leads to an increase in the beneficiary's welfare. However, this is not necessarily the case: public goods providers like international charities differ in how effectively they improve social welfare Banerjee and Duflo (2011). We argue that whether private donors take into account (differences in) aid effectiveness when making a donation decision has important welfare implications. Surprisingly, this question has received little attention in the experimental economics literature.

On the other hand, research in development microeconomics, mostly based on randomized controlled trials (RCTs), has over the last decade considerably extended our knowledge about the effectiveness of aid interventions in increasing social welfare.[1] Surprisingly, the question if private donors (want to) use this knowledge to support more effective aid projects and organizations has received little attention in this discipline. However, this topic is important because private individuals provide a considerable and increasing share of foreign aid. According to OECD statistics, the share of private aid grants (private agencies and NGOs) in the official foreign aid (ODA) coming from DAC member countries rose by 28.6% between 2005 and 2013.[2] In Switzerland, private charitable giving to the international aid sector stood at 443.1 million US Dollars in 2013, which amounts to 15.5% of Swiss official development aid.[3] Thus, individual donors have quite some leverage in increasing the welfare of poor population groups in foreign countries by directing their funds to more effective organizations.

A recent field experiment by Karlan and Wood (2014) is the only study we are aware of that analyzed the impact of information about aid effectiveness on the donation behavior of private donors. Karlan and Wood (2014) tested if individuals increase their donations to an international NGO when being informed that its activities effectively increase the welfare of its beneficiaries. They sent out three different fundraising letters to previous donors of an NGO that provides microcrediting services in low income countries. Participants in the control group received a donation appeal that described the story of a poor woman whose income the NGO had helped to increase. The first treatment group received a similar appeal, supplemented with the information that the NGO's positive development impact has been scientifically proven. The second treatment group received the same appeal as the first treatment group with the additional information that Yale researchers, who had used a rigorous impact evaluation method, namely a randomized controlled trial, provided the scientific proof for the effectiveness of the NGO's work. The results of their study suggest that donation behavior is, on

[1] The examples are numerous since every aid intervention is evaluated separately. For an overview of randomized controlled trials see *The Abdul Latif Jameel Poverty Action Lab*: http://povertyactionlab.org

[2] See the *OECD* data base: https://data.oecd.org/drf/grants-by-private-agencies-and-ngos.htm#indicator-chart

[3] See the *Swiss Federal Department of Foreign Affairs*: https://www.eda.admin.ch/deza/de/home/aktivitaeten_projekte/zahlen_und_statistiken/schweiz-apd/historische-entwicklung.html

average, not affected by providing information about aid effectiveness.

Similar to Karlan and Wood (2014), we seek to study whether private donors care about aid effectiveness[4] when making a donation decision. However, we take a different methodological approach and conduct a laboratory experiment to answer three specific research questions:

First, we investigate if individuals actively seek information (by paying a small fee) about aid effectiveness when making a donation. By providing information at a cost, we consider the possibility that some donors may not be interested in making a well-informed decision. Andreoni's (1990) theory for example predicts that pure warm glowers should not be interested in information about aid effectiveness, since they do not strive to maximize the beneficiaries' welfare. Altruists, in contrast, should be interested in information. Moreover, in reality, acquiring information about the aid impact of international charities involves considerable search costs as well as cognitive effort, which may keep donors from making well-informed decisions. The two experiments that investigate whether individuals prefer to make informed donation decisions (none is on aid effectiveness) show that only a minority of donors is willing to acquire non-costless information about the precise use of their gift (see Null (2011) for the case of matching grants, and Fong and Oberholzer-Gee (2011) for the case of recipient types).

Second, we investigate if and how the possibility to make a well-informed decision with regard to aid effectiveness influences donation behavior. Based on Andreoni's theory (1990), and our experimental design, we would expect that well-informed donors have altruistic preferences and donate significantly more to the higher impact project. On the other hand, existing empirical evidence suggests this might not necessarily be the case. Studies by Fong (2007) and Fong and Oberholzer-Gee (2011) suggest that, depending on the decision environment, altruistic donors may not behave altruistically; Karlan and Wood (2014) show that information about aid impact does not alter donation behavior.

Third, we analyze whether donors value information about aid impact more or less than other donation-relevant information, in particular information about the recipient type or administrative costs. Previous studies have shown that (cost-free) information about administration costs and recipient type have a significant influence on private donation decisions (Gregory and Howard 2009, Borgloh et al. 2013, Bachke et al. 2014, Caviola et al. 2014). Based on survey data[5], Gregory and Howard (2009) find that donors have downward skewed beliefs about how much overhead spending is necessary to guarantee an organization's proper functioning. Moreover, the surveyed NGOs stated that they are under pressure to keep overheads low, which, in a number of cases, led to lower-than-necessary overhead spending and to underreporting administration costs. Gregory and Howard (2009) furthermore report that the survey participants ranked "overhead ratio and financial transparency to be more important [...] in determining their willingness to give [...] than the success of the organization's programs". In a laboratory experiment conducted by Caviola et al. (2014) participants started donating more to less cost-effective charities, when the administration costs of more cost-effective charities started to increase. Last, in a lab-in-field experiment conducted in Mannheim, Germany, Borgloh et al. (2013) found that participants donated more to financially smaller NGOs, because they believed these NGOs had smaller administration costs, and hence provided more money directly to the charitable cause.

With regard to recipient type, a laboratory choice experiment by Bachke et al. (2014) showed that if participants were confronted with projects targeting different sectors (such as health, agriculture, or education), recipient types (such as children, girls or men) and geographical regions (Asia, Sub-

[4]The terms aid impact and aid effectiveness will be used interchangeably throughout the text.

[5]The survey was conducted by the *Better Business Bureau's Wise Giving Alliance*: http://www.give.org/?id=230639

Saharan Africa, Eastern Europe), the recipient type had the biggest impact on donation amounts. Children received most donations, followed by girls, women and boys. Nunnenkamp and Öhler (2012) analyzed a cross-sectional data set on giving to international NGOs based in the US[6]. According to their results, donors seem to be more interested in earmarking their donation for a specific purpose than considering information about administration costs. However, they conjecture that a tick-box option that many NGOs offer on their websites to designate donations for a specific purpose could have biased individuals towards earmarking their funds. Ticking a box requires very little search effort, compared to reviewing other information that is available from NGOs, such as administration costs.

To answer our three research questions, we conducted a laboratory experiment based on the methodology proposed by Fong and Oberholzer-Gee (2011). In a first step, we randomly assigned each of our participants to one, and only one, of three information type groups: Aid Impact, Recipient Type and Administration Costs. Independent of the group, all participants knew they could donate to a real Swiss NGO that aims to improve education in low-income countries. Participants in the Aid Impact group obtained information about two projects whose effectiveness they could directly compare based on the number of additional school days the respective project activities achieved. Participants in the Recipient Type group obtained information about the target groups of two education projects, namely schoolchildren and young artists. Participants in the Administration Costs group obtained information about the level of an NGO's administration costs. Moreover, about 60% of the participants in each of these information type groups (we will refer to them as treatment groups) were given the possibility to buy additional information about the project or NGO they would support with their donation: (i) the lower or higher impact NGO; (ii) the NGO targeting schoolchildren or young artists; (iii) an NGO with low or high administration costs. The participants in the control groups could not buy this extra information; hence, they did not know exactly which NGO they would support.

Our main results are the following: only 28% of the participants in the treatment group bought information about the exact use of their donation and made a well-informed decision. However, the demand for information varied considerably across information type groups: it was highest in the Recipient Type, and lowest in the Aid Impact group. Furthermore, we find that detailed information about aid effectiveness did, overall, not significantly affect the participants' donation behavior. However, we did find that additional information significantly affected donation behavior in the other two experimental groups. Participants in the Administration Costs group who obtained detailed information used it to significantly reduce the transfer to the NGO with higher administration costs. This "punishing" behavior led to an overall decline in average donations among well-informed individuals. In contrast, participants in the Recipient Type group who bought the information used it to significantly increase the transfer to the education project for schoolchildren. This "rewarding" behavior led to an overall increase in average donations among well-informed individuals.

The remainder of the paper is structured as follows. In Section 2, we describe the design of our experiment. In Section 3, we present and discuss our results. In Section 4, we summarize the results and discuss their policy relevance.

[6]According to Nunnenkamp and Öhler (2012) the data is provided by the United States Agency for International Development (USAID). The authors complemented the USAID data with information from the NGOs' websites.

# 2 Experimental Design

## 2.1 Donation Decision

The design of the donation decision is based on the experimental design proposed and used by Fong and Oberholzer-Gee (2011). We used a between-subject design, i.e. each subject was randomly assigned to one experimental group only, and was not aware of the other experimental groups, in order to avoid carry-over effects. To increase the external validity of our results, we transferred any donations made by the participants to the Swiss NGOs we had picked for the study. The participants could check the bank transfer receipt on the laboratory's website a few weeks later. The names of the charities were only disclosed after the experiment had ended, to avoid that preferences for or the reputation of certain NGOs would influence individuals' donation decisions. Likewise, we did not specify a country or geographic region to avoid that geographic preferences influence donation decisions. In the general instructions, participants were told that they would donate to a Swiss NGO that is implementing education projects for children (and young adults) in low income countries. We opted for education projects for children (and young adults), because the results of Bachke et al. (2014) suggest that it is a popular cause to donate to.

In the Aid Impact group participants were informed that their donation would support one of the following two NGOs. NGO 1 finances additional primary school teachers, which results in one additional week of schooling per Swiss Franc donated. NGO 2 finances meals in primary schools, which results in 1.5 additional weeks of schooling per Swiss Franc donated. We explicitly mentioned the activities undertaken by the NGO (additional teachers, school meals), to ensure we are talking about aid impact and not about cost-effectiveness.[7] Moreover, we added a sentence stating that, with 100 Swiss Francs invested in NGO 2 vs. NGO 1, the NGO can send a child to school for an additional 3 years vs. 2 years and that NGO 2 hence had a 50% higher impact than NGO 1. We scaled up the numbers to counteract the potential problem that the participants perceived the impact in both projects as low, because it was expressed in small units (weeks).

In the Recipient Type group participants were informed that their donation would either support an NGO financing the education of school children in low-income countries or an NGO financing an education center for young artists to improve their professional skills.

Last, in the Administration Costs group participants were told that their donation would support an NGO with administration costs anywhere between 10% and 40%. To give the participants a reference point, we informed them that the average administration costs for Swiss NGOs in the sector lie at 23%. In addition, we paraphrased the statement saying that, with administration costs at 10 vs. 40%, every Swiss Franc donated resulted in the beneficiary receiving 90 vs. 60% of the donated total. We wanted to state clearly that an increase in administration costs from 10 to 40% results in a 50% reduction in net transfers to the recipient, to make Administration Costs group as comparable as possible with the Aid Impact group.

Figure 1 summarizes the specific information given to the participants in each group. One should note that during the experiments we did not show participants (parts of) these tables, but described the respective scenarios. As an example, we show the instructions for the Administration Costs group in Appendix A.

In each of the above three groups, about 60% of participants were offered the option of buying additional information about the exact use of their donation that would either (i) finance school meals or additional teachers (aid impact), (ii) finance schoolchildren or young artists (recipient type), or

[7] For a definition of cost-effectiveness, see: http://isites.harvard.edu/fs/docs/icb.topic1163647.files/Handouts/H5.pdf

Aid Impact

| NGO I | NGO II |
|---|---|
| 1 CHF = 1 week of schooling<br>100 CHF = 2 years of schooling<br>(additional teachers) | 1 CHF = 1.5 week of schooling<br>100 CHF = 3 years of schooling<br>(school meals) |

Recipient Type

| NGO I | NGO II |
|---|---|
| School children<br>(additional teachers) | Young artists<br>(educational center) |

Administration Costs

| NGO I | NGO II |
|---|---|
| 10% administration costs<br>(90% for beneficiary) | 40% administration costs<br>(60% for beneficiary) |

Figure 1: Information Types

(iii) support an NGO with low or high administration costs (administration costs). Participants were randomly assigned to the treatment group that had the option to buy information. The only difference between the treatment and control groups was that participants in the treatment groups could learn which NGO their donation would support, while participants in the control group only knew that they would suppport one of the two NGOs, with no option to obtain more detailed information. The price of the additional information in the treatment group was 30 Swiss Rappen, which is less than 1% of participants' average earnings from the experiment. Participants in the treatment groups first decided if they wanted to buy information about the exact use of their donation and then made their donation decision based on this information. Those who bought additional information were randomly assigned to one of the two possible outcomes in each group. That means, participants could not choose which NGO to support, but could control the allocation of their donation through the amount they donated. Participants in the treatment group who did not buy information were in the same situation as participants in the control group: they did not know the exact use of their donation, and made a decision under uncertainty. The sequence of the donation decision is shown in Figure 2. The number of observations per experimental group is shown in Appendix B.

<table>
<tr><td colspan="3">Participant reads info. corresponding to info. type: Aid Impact, Recipient Type, or Admin. Costs</td></tr>
<tr><td>Control group: No Offer To Buy</td><td colspan="2">Treatment group: Offer To Buy</td></tr>
<tr><td rowspan="2"></td><td colspan="2">Do you want to buy the information for 0.3 CHF?</td></tr>
<tr><td>No (non-buyers)</td><td>Yes (buyers)</td></tr>
<tr><td>unaware about exact donation use</td><td>uninformed about exact donation use</td><td>informed about exact donation use</td></tr>
<tr><td colspan="3">Do you want to donate?</td></tr>
<tr><td colspan="3">No / Yes, x Swiss Francs.</td></tr>
</table>

Figure 2: Decision Sequence

By offering participants the possibility to buy extra information about the precise use of their donation, we followed the experimental design used by Fong and Oberholzer-Gee (2011) who investigated if individuals are willing to pay for information that enables them to achieve an income distribution that is in line with their preferences. In their study, participants could buy information about the recipient type who would benefit from a donation: a drug-abuser or a disabled person, both living in a public housing project in a large city in the US. Charging participants a small fee for extra information about their donation serves a number of specific purposes. Firstly, it provides us with a means to test which type of information (aid impact, recipient type, administration costs) is most important to potential donors. It furthermore allows us to compare the donation behavior of those who want to make an informed decision with the behavior of those who prefer stay uninformed, and the behavior of the participants in the control group who could not buy information. Last, we can simulate that, in reality, acquiring information about the exact use of one's donation is costly: it involves search costs and cognitive effort. It is not easy for private individuals to know the impact of their donation, because the required information is more often than not difficult to find on the websites of NGOs. Whether a participant in an experiment who is not willing to sacrifice a small amount to obtain ready-made information that would allow her to act more in line with her preferences, or increase the welfare impact of her donation, would also not engage in information searching in real life, is, however not totally clear.

In addition to the main treatment (*Offer To Buy*), half of the participants were randomly assigned to one further treatment. In the general instructions of the donation decisions, participants were informed that the NGO they can donate to has the "ZEWO" seal of approval. ZEWO is a Swiss foundation that certifies Swiss charities for "[. . . ] offering transparent information and true and fair financial reporting."[8] The objective of the ZEWO treatment was first of all to test if informing about the seal of approval has a positive effect on individuals' donations, because it evokes trust in the charity. Our second hypothesis was that informing participants about the ZEWO certification would decrease the probability that participants buy additional information, because, from the donor's point of view, it might reduce the necessity to verify that donations are effectively used. It should be noted however, that we only mentioned that the NGO has the ZEWO certificate without explaining in detail what the certificate implies. Detailed information probably would have influenced the information buying and donation decision especially in the Administration Costs group, since the ZEWO criteria cover the financial reporting of NGOs. Hence, whether we observe the hypothesized results depends to some extent on the participants' knowledge about the ZEWO label.

## 2.2 General Set-Up

Between March and June 2014, we held a total of twelve experimental sessions at the Decision Science Laboratory (DeSciL) of the Swiss Federal Institute of Technology (ETH)[9] in Zurich. Each session lasted approximately one hour, and was conducted by an author of this study and a research assistant. A total of 265 participants took part in the experiment. They were randomly recruited from a common subject pool of ETH Zurich and the University of Zurich. Each session lasted approximately one hour and was supervised by an author of this paper and a research assistant. Participants completed the entire experiment on lab computers, using an online survey software called Unipark.[10] The participants were randomly assigned to the computer cubicles by drawing a number between 1 and 24. There was no verbal, written or computer-based interaction between

[8] See also: http://www.zewo.ch/

[9] The experiment was approved by the ETH Ethics Commission: http://www.vpf.ethz.ch/about/commissions/EK

[10] http://www.unipark.com/64-1-about-unipark.htm

participants during the experiment; hence, all decisions were taken autonomously and independently. Moreover, the participants' identities and decisions remained strictly anonymous, which was repeated and emphasized to the participants several times during the experiment. Participation in the study was voluntary and participants had the right to drop out of a session at any time. The dropout rate was zero.

Figure 3 shows the five experimental tasks in the order in which they were completed by the participants. In part 4 we generated our main dependent variables (Section 2.1): the decision to buy information on the exact donation use, and the donated amount. The participants started with part 1 and ended with part 5, the exit survey. Except for the exit survey, all tasks were incentive based. Participants received a show-up payment of 10 Swiss Francs. They could earn an additional variable amount between 0 and 65 Swiss Francs by completing the experiment. Including the show-up payment, average earnings were at 36.65 Swiss Francs (per hour), which is somewhat above the hourly pay of a student assistant at ETH (28 CHF). Participants were paid at the end of their session (after completing parts 1-5). Together with their earnings, participants received a hand-out with information about the NGO they had been matched with, according to their specific treatment.

| Part 1 | Part 2 | Part 3 | Part 4 | Part 5 |
|---|---|---|---|---|
| Social Preferences | Real Effort Tasks | Risk Preferences | Donation Decision | Exit Survey |

Figure 3: Experimental Parts

In part 1, we elicited the participants' social preferences with the Social Value Orientation (SVO) measure developed by Murphy et al. (2011). This method was developed to generate a continuous indicator of an individual's social preferences, i.e. her concern for others. A brief description of the method is given in Appendix C. For further details we refer the reader to Murphy et al. (2011). We use the social preferences index as a proxy variable for an individual's altruistic attitude. We are aware that the social preference index can at best approximate altruistic attitudes. However, we think the index is less noisy than measures which elicit social preferences based on survey questions, or which use donation levels to approximate a donor's altruism. The results of a laboratory experiment by Fong (2007) suggest that individuals who score high on the Humanitarian-Egalitarianism scale designed by Katz and Hass (1988) donate very little when they believe the recipient is little "worthy" of support, i.e. when they believe they are not contributing to increasing social welfare.

In part 2, participants could earn money by completing two non-competitive real effort tasks. First, they solved very simple arithmetic problems, namely adding up five single-digit numbers within a given time limit. This task is a simplified version of a real effort task used by Reinstein and Riener (2012). Second, they played a knowledge quiz related to global policy issues, including various questions on developing countries and cooperation. Both effort tasks were incorporated into the experiment to make participants feel more entitled to their endowment. The study of Reinstein and Riener (2012) suggests that individuals make more genuine donation decisions when they use money gained through own effort instead of "house money" supplied by the experimenter. The knowledge quiz fulfilled the additional function of "priming" the participants for global policy problems. A more detailed description of both effort tasks is provided in Appendix D.

In part 3, we elicited the participants' risk preferences in order to account for the possibility that risk averse individuals may (a) be more likely to buy information, and (b) donate less when they do not know the exact use of their donation. Risk preferences were elicited with an adapted version of a lottery game developed by Binswanger (1980). In four lottery rounds participants could choose

between five payoff options. Each payoff option showed two monetary payoffs that both had a 50% chance of being realized. A risk averse person would chose the risk-free first option with two equal monetary payoffs. A risk loving individual would prefer option five, which has the same expected mean gain as option four, but a higher variance. Further details of the lottery task, and the lottery rounds, are provided in Appendix E. Participants played four rounds. The amounts participants could win increased from round to round. The minimum win was 0 CHF, the maximum win 23 CHF. Participants were informed that only one randomly selected lottery round was being paid out and that the payoff was determined by the choice made in this particular round. Risk preferences are entered as a categorical variable in our estimations and range from 1 to 5. Higher values represent lower risk aversion.The variable entering our estimations is based on round three. In round one and two, participants played with low monetary values and tended to gamble more. In round three and four, the distribution shifted towards less riskier choices, which is why we believe that participants made more representative decisions in these rounds.

In part 4, the participants were asked to make the donation decision which we described in detail in the previous section. They could donate any preferred amount of their variable earnings.

Last, participants answered the questions of the exit survey (part 5). Apart from personal characteristics, we asked participants what they believe how many of the other participants also donated. They were asked to indicate a percentage Since previous studies have shown that beliefs about the behavior of others can affect individuals' decisions, we control for this in our analysis as well. The complete research protocol and instructions are available from the authors upon request.

# 3 Results

## 3.1 Information Buying

Based on the theory of warm-glow giving (Andreoni 1990), we can form a general hypothesis about why individuals (do not) self-select into information buying. First, individuals who do not intend to donate should not buy (any) information, because the value of knowing the precise use of a donation should be close to zero. Non-donors may still buy information, because they have a preference for information and gain utility from learning to what NGO their (hypothetical) donation would have gone (Lazear et al. 2012). However, we think this case is unlikely, given that information is not cost-free. Second, individuals who are motivated by warm glow, i.e. who mainly derive utility from the act of giving, should be less likely to buy information. Learning the exact donation use should be of little value for "warm glowers", who gain little to no utility from a donation's welfare impact. In contrast, more altruistic individuals should be more likely to buy information. Knowing the precise use of their gift should be of value for altruists, who gain utility from increasing the social welfare of others. Note that, in accordance with Andreoni's model, we do not imply that information buyers are pure altruists, and/ or that non-buyers are pure warm glowers.

We can further derive assumptions about the type of information participants might be most interested in. If altruists are more likely to buy information, we should observe the highest demand for information in the Aid Impact group, the second-highest demand in the Administration Costs group, and the lowest demand in the Recipient Type group. Only participants in the Aid Impact group obtain information about the impact of a donation with regard to increasing social welfare. Since altruistically motivated donors want to increase social welfare, they should be highly interested in information about a donation's impact. Participants in the Administration Costs group obtain information about an NGO's efficiency with regard to transferring donations to the beneficiaries. Cost

efficiency does not have to be correlated with the social impact of an NGO. However, we can certainly argue that if NGOs are similarly effective, lower administration costs can lead to higher social welfare, because a higher share of the donation reaches the recipient. It is possible that participants in the Administration Costs group pursue such a line of thinking because they have no information about aid effectiveness. Thus, altruists may be interested in information about administration costs, because it can ultimately have welfare implications. The information provided in the Recipient Type group is least suited for an objective assessment of a donation's welfare impact. Altruists should therefore have little interest in knowing the recipient type.

Of all participants who were offered to buy information, 27.7% decided to do so. The majority of participants decided to stay uninformed. This share is relatively close to the percentage Fong and Oberholzer-Gee (2011) obtained in their study, where 32.8% of subjects wanted to know if their donation would support a drug-abuser or a disabled person. Further, we find supporting evidence for our hypothesis that altruistically motivated individuals buy information. Individuals with a higher social preferences index are significantly more likely to buy information (Table 1). However, the results suggest that a minority of participants was sufficiently altruistic to make a well-informed decision. Thus, the (non-buying) majority seems to be more strongly motivated by warm glow (35.5% donated without obtaining additional information), or simply does not want to donate (36.8%). A further important result is that the share of information buyers varies with the information type (Figure 4). Participants were least interested in information about aid impact, and most interested in information about the recipient type benefiting from the donation.

To assess if the propensity to buy information differs significantly across information types we use regression analysis (Table 1).[11] We hold the participants' social preferences, risk aversion, earnings in the experiment, beliefs about the donation behavior of others, and personal characteristics constant. Personal characteristics include: gender, nationality, total personal income from a student loan and/or a student job and/or the parents, and whether the participant donated recently (2012 or after) to an international NGO. The summary statistics can be found in Table F1 in Appendix F. In line with Figure 4, we find that participants in the Recipient Type group group are significantly more likely to buy information than participants in the Aid Impact group. However, despite a difference of 10 percentage points, participants in the Administration Costs group are not significantly more likely to buy information than participants in the Aid Impact group (p=.202).[12] Note, that we lose about 20 observations in the regression analysis due to the fact that some participants did not want to state their personal income.

[11] In the regression in Table 1, we defined the Aid Impact group as the omitted reference category, in order to carve out the significant difference to the Recipient Type group. In Table 2 and 3, we define the Administration Costs group as the omitted reference category. We do this for practical reasons only. Since we are comparing three experimental groups, this allows us the present the results in a more convenient fashion.

[12] This might be partly due the small sample size of only around 50 per treatment group.

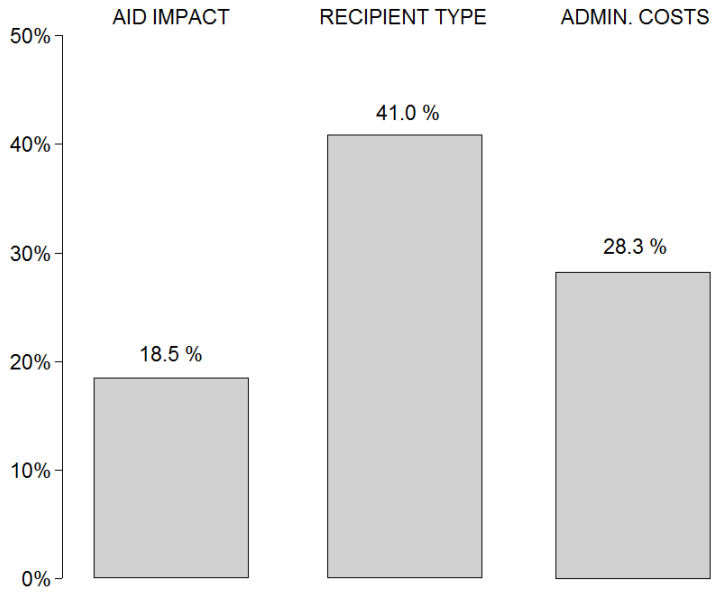



Figure 4: Mean Share Of Information Buyers By *Information Type*

Table 1: Decision To Buy Information - Probit (marginal effects)

| | |
|---|---|
| Reference Group: Aid Impact | |
| Recipient Type Group | .205** |
| | (.09) |
| Admin. Costs Group | .085 |
| | (.09) |
| *ZEWO Label* | |
| Yes | –.021 |
| | (.08) |
| *Social Preferences* | |
| Social Preferences Index | .009*** |
| | (.00) |
| *Belief About Others' Behavior* | |
| Share Of Donors In % | .001 |
| | (.00) |
| *Earnings Experiment* | |
| Total Earnings in CHF (incl. Show Up) | –.001 |
| | (.01) |
| *Risk Preferences* | |
| Risk Aversion | –.012 |
| | (.03) |
| *Personal Characteristics* | Yes |
| Pseudo $R^2$ | .12 |
| Observations | 135 |

Standard errors in parentheses;
* p<0.10, ** p<0.05, *** p<0.01

Our findings run counter to our a priori assumptions about altruistically motivated individuals being most interested in information about aid impact. Hence, warm-glow giving helps to explain why people buy information, apparently out of a concern for others' welfare, but it cannot explain the differences in preferences for various information types. Drawing on existing empirical research on charitable giving, we offer likely explanations for the observed differences in information buying. We consider it plausible that a "framing effect" is (at least partly) responsible for these differences. In this context, framing means that different information types created specific decision contexts, which influenced the probability with which participants decided to buy additional information. The first framing component may relate to a combination of the participants' perception about the "worthiness" of the recipient (Fong 2007, Fong and Oberholzer-Gee 2011) and the "identifiable victim effect" (e.g. Slovic (2010) and Small et al. (2007)). We will refer to this environment as an "empathy-stimulating" decision context. The second framing component may relate to a combination of loss aversion as described by Kőszegi and Rabin (2006), and that positive or negative feelings can affect donation behavior, as an experiment by Konow (2010) documented. We will refer to it as a "negative or positive" decision context.

The participants' high interest in knowing the recipient type supports the results of Bachke et al. (2014) who found that donors had the strongest preference for children, whom they considered most vulnerable and deserving of help. By contrasting children with young artists, we possibly appealed to what participants perceived as a reasonable distribution of money to a "worthy" recipient. The intention to make sure the children get more support than the artists may have provoked the participants' desire to control the allocation of their gift. If it is true that participants deem schoolchildren more worthy than young artists, they should give significantly more to them than to young artists. As we will see later, this is precisely what we find. The identifiable victim effect provides a further explanation for the high interest in knowing the recipient type. It describes the phenomenon that people do not value lives consistently, because they are far more willing to help a single identifiable victim than a larger number of "statistical" victims (Jenni and Loewenstein 1997, Small et al. 2007). Slovic (2010) explains this phenomenon, amongst other things, with people's lack of capacity to identify with and feel empathy for statistical victims as compared to identifiable victims. It has been shown that a decision environment in which individuals can emotionally relate to and develop empathy for the beneficiary raises more funds than an environment in which the beneficiary is presented as an impersonal, statistical "case". Although the donation appeal in the Recipient Type group was not based on a single identifiable victim, it very likely was the most empathy-stimulating of all decision contexts: it was the only appeal that was not based on statistical information, and that primarily focused on the recipient. The ability to emotionally relate to the recipients may have particularly stimulated the participants' inquisitiveness about the use of their donation.

The donation appeal in the Administration Costs directly contrasts the Recipient Type group: it lacked a designated recipient group the participants could have identified with, and presented pure statistical information about an NGO's administration costs. The decision context in the Aid Impact group lies between the extreme decision contexts of the other two groups. On the one hand, it is more emotionally tangible than the Administration Costs decision context, since it at least refers to schoolchildren as recipients. On the other hand, it is less emotionally tangible than the Recipient Type decision context, as it presents the recipients as statistical cases. If it is true that individuals respond more strongly to content they can emotionally relate to, why do we observe a higher share of information buyers in the Administration Costs group than in the Aid Impact group?

The decision context in the Administration Costs group was negatively framed. Participants

knew their donation might go to an NGO with up to 40% administration costs. It is not unreasonable to assume that participants concluded that an NGO with such a level of overhead spending might be "wasting" donation money by paying its staff high salaries instead of giving it to the poor. To avoid donating to the NGO with high overheads, participants might have bought additional information. In comparison to the Administration Costs group, the outcomes in the Aid Impact group were positive: even in the worst case, children would attend school more days per week. The comparatively less "controversial" outcome may have lowered the added value in buying additional information about the use of the donation, despite the fact that one project had a 50% higher impact than the other (similar to the Administration Costs group, where one project was 50% more efficient than the other).

A last factor that may have contributed to the comparatively low interest in information about aid impact is the potential lack of awareness about it. Charities and charity evaluators still focus on reporting about an NGO's administrative costs rather than about its aid impact. Established charity evaluators such as the German Foundation "DZI"[13], the North American "Charity Navigator"[14] and the Swiss Foundation "ZEWO"[15] - who publish donation guidelines and issue seals of approval for NGOs - have traditionally focused on topics such as administration costs, financial transparency and fair fundraising, but not on aid effectiveness. Moreover, and this comes back to the identifiable victim effect, many NGOs base their donation appeals on specific recipient types. Anyone who has ever seen ads from NGOs, or visited an NGO's website, has probably encountered a donation appeal based on a heartwarming story of a person that lives in poverty and needs help. Hence, the content that organizations in international development usually communicate may have motivated individuals to obtain information about recipient types and administration costs rather than about aid impact.

The regression in Table 1 further shows that informing the participants about an NGO's ZEWO certificate has no significant impact on the decision to buy information. It is not possible to say if the ZEWO dummy has no influence because it is not known to the participants, because they do not attach enough importance to it, or because it cannot substitute the information that is otherwise offered. Second, participants' average earnings did not influence the decision to buy information. In comparison to the average earnings of 36.65 CHF, the 0.3 CHF fee for obtaining information was very low. Thus, the earnings should hardly be relevant for the decision to buy additional information. Third, a participant's belief about the percentage of other participants donating did not significantly influence the decision to buy information either. This result is not surprising: the share of donors should not be relevant for the decision to buy information on donation use. The share of donors should only be relevant for the donation decision. Fourth, an individual's risk preference does not significantly influence the decision to buy information, confirming that information buying is driven rather by social preferences than by risk aversion.

## 3.2 Donation Behavior

We now address the questions how obtaining detailed information about the exact use of one's donation affects donation behavior, and how the effect of possessing such detailed information varies across information types. As in the previous section, we form general hypotheses about the decision-making we should observe based on the theory of warm-glow giving (Andreoni 1990). In a second step, we empirically assess to what extent the observed results are in line with the theory.

[13] *DZI*, Germany: http://www.dzi.de/wp-content/uploads/2011/11/DZI-Spenden-Siegel-Leitlinien-2011.pdf
[14] *Charity Navigator*, USA: http://www.charitynavigator.org/
[15] *ZEWO*, Switzerland: https://www.zewo.ch/hilfswerke/reglemente

The analysis of information buying in the previous section supported our hypothesis that altruistically motivated individuals are, on average, more likely to make a well-informed decision. This implies that the option to buy information led to a self-selection of altruistically motivated individuals into the group of information buyers, while non-donors and individuals who are more strongly motivated by warm glow self-selected into the group of non-buyers. Based on this observed self-selection effect, we can form general hypotheses about the differences in donation behavior between buyers (altruists), non-buyers (warm glowers and non-donors), and the control group (altruists, warm glowers, and non-donors). These hypotheses should apply to all information type groups.

According to the theory, altruists give more than warm glowers, because they are willing to substitute more of their income away from private consumption into the charitable good (Andreoni 1990). Indeed, we find that a more altruistic attitude is significantly positively correlated with higher donations (Table 2, 3, and 4). It is important to point out again that, except for the two extreme cases of pure altruism and pure warm glow, individuals are defined as impure altruists who are, to varying degrees, motivated by altruism and warm glow. Thus, we do not use the terms altruists and warm glowers categorically. The model assumes that the more altruistic the donor, the larger the contribution to the charitable good.

The theory can be applied to our case as follows. The control group consists of altruists, warm glowers, and non-donors. If self-selection increases the share of warm glowers and non-donors among non-buyers, then non-buyers should donate less, on average, than participants in the control group. Likewise, if self-selection increases the share of altruists among buyers, then buyers should donate more, on average, than donors in the control group – at least if they are matched with the "better" outcome. However, since they cannot choose between the two outcomes, it is unclear how altruists respond if they are matched with a lower impact project (Aid Impact), a less efficient NGO (Administration Costs), or a less desirable recipient (Recipient Type). On the one hand, altruists might donate less, given that the NGO does not significantly improve social welfare (in their view). On the other hand, they could donate more (even more than for the "better" outcome) in order to compensate the welfare loss of a less effective or less efficient project or NGO. Hence, if and how the possibility to make a well-informed donation decision affects donation levels remains an empirical question.

On average, participants donated 2.45 CHF (Std dev=3.25 CHF), equivalent to 6.68% of their average earnings. The 56.23% who donated a positive amount, donated on average 4.35 CHF, or 10.5% of their average earnings. The regression analysis shown in Table 2 tests the main treatment effects on donation behavior. First, we test for differences in donation levels between the Aid Impact, Recipient Type, and Administration Costs group. Second, we test for differences in donation levels between control and treatment groups.[16] The results indicate that, at the aggregate level, offering different types of information as well as the possibility to make a well-informed decision does not lead to significant differences in donation behavior.

[16] In Table G1 in Appendix G, we show the estimation in Tables 2 and 3 when the dependent variable is the decision to donate (0/1). The results are quite similar when the decision to donate is the dependent variable.

Table 2: Donation in CHF, Main Treatment Effects - OLS

| | |
|---|---|
| Reference Group: Admin. Costs | |
| Aid Impact Group | −.231 |
| | (.45) |
| Recipient Type Group | −.273 |
| | (.53) |
| *Offer To Buy* | |
| Yes | −.124 |
| | (.40) |
| *ZEWO Label* | |
| Yes | −.114 |
| | (.37) |
| *Social Preferences* | |
| Social Preferences Index | .061*** |
| | (.02) |
| *Belief About Others' Behavior* | |
| Share Of Donors In % | .040*** |
| | (.01) |
| *Earnings Experiment* | |
| Total Earnings in CHF (incl. Show Up) | .011 |
| | (.03) |
| *Risk Aversion* | |
| Risk Aversion | .046 |
| | (.13) |
| *Personal Characteristics* | Yes |
| Adjusted$R^2$ | .20 |
| Observations | 236 |

White-Huber robust standard errors
in parentheses;
* p<0.10, ** p<0.05, *** p<0.01

However, going beyond the main treatment effects by interacting the offer to buy with the information type renders the analysis of the between-group differences in donation behavior much more interesting. Figure 5 summarizes our main findings: the donated amount in each of the six experimental groups we obtain by interacting the *Offer To Buy* with the information type.[17] Table 3 shows the responding regression analysis.[18]

We observe that the offer to buy information on the exact donation use significantly decreases average donations in the Administration Costs group (p=.054), but increases donation levels in the Recipient Type group (p=.072). In the Aid Impact group, the offer to buy additional information does not lead to a significant change in donation behavior (p=.72). Hence, the possibility to make a well-informed decision led to a reduction in average transfers in the Administration Costs group and an increase in donations in the Recipient Type group. In the next section, we analyze these results in more detail.

[17]The box-and-whisker plot in Figure H1 in Appendix H shows a more detailed distribution of the data in each of these groups.

[18]Note that not all between-group comparisons can be directly read off Table 3, but require separate hypothesis testing. The p-values of these $t$ tests are provided in the text.

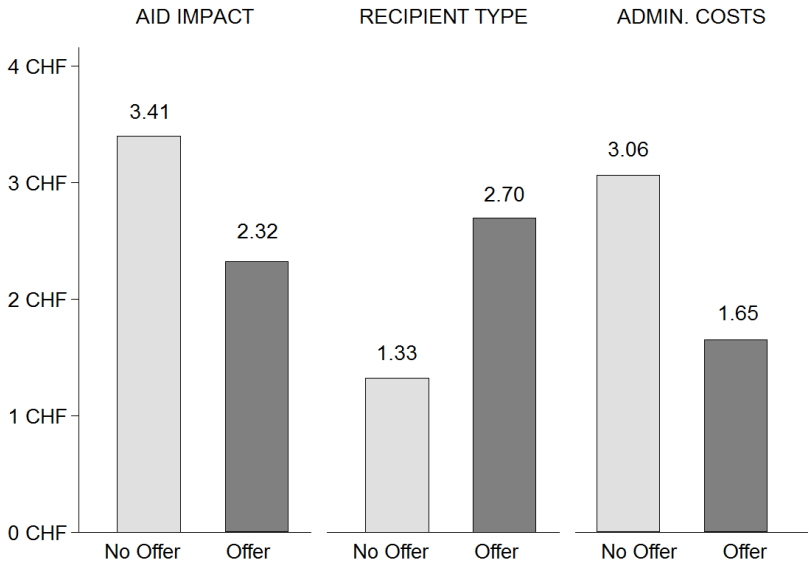



Figure 5: Mean Donation In Swiss Francs (CHF)

Table 3: Donation in CHF, Interaction Effects - OLS

| | |
|---|---|
| Reference Group: Admin. Costs, No Offer To Buy | |
| Admin. Costs, Offer To Buy | –1.341* |
| | (.69) |
| Aid Impact, No Offer To Buy | –.850 |
| | (.82) |
| Aid Impact, Offer To Buy | 1.112 |
| | (.91) |
| Recipient Type, No Offer To Buy | –1.798** |
| | (.79) |
| Recipient Type, Offer To Buy | 2.613** |
| | (1.01) |
| *ZEWO Label* | |
| Yes | –.021 |
| | (.38) |
| *Social Preferences* | |
| Social Preferences Index | .062*** |
| | (.02) |
| *Belief About Others' Behavior* | |
| Share Of Donors In % | .038*** |
| | (.01) |
| *Earnings Experiment* | |
| Total Earnings in CHF (incl. Show Up) | .016 |
| | (.03) |
| *Risk Aversion* | |
| Risk Aversion | .041 |
| | (.13) |
| *Personal Characteristics* | Yes |
| Adjusted$R^2$ | .22 |
| Observations | 236 |

White-Huber robust standard errors
in parentheses;
* p<0.10, ** p<0.05, *** p<0.01

Table 4 shows the regression analysis of the donation behavior by information type. The regressions shown in columns (1),(3), and (5) compare the buyers and non-buyers in the treatment groups to the control groups. In the regressions shown in columns (2),(4), and (6), we further split the buyers into those who were matched with the "better" and "worse" NGO respectively. For easier comparison, Figure 6a and 6b shows the actual and predicted (based on Table 3 and 4) average donations for each (sub)group. The standard errors are shown in parentheses.[19]

The results - based on the regressions shown in Table 4 and visualized in Figure 6 – first of all show that in all groups, buyers matched with the "better" NGO or project donated more than buyers matched with the "worse" NGO or project (Administration Costs: p=.024, Recipient Type: p=.01, Aid Impact: p=.03). The results, hence, indicate that certain outcomes were perceived as better and attracted higher donations than the alternative outcomes. However, the actual and the predicted difference is smallest for the Aid Impact group.

Moreover, based on Andreoni (1990) our hypothesis was that the individuals who decide to stay uninformed should donate less, on average, than the control group that did not have the possibility to make a well-informed decision. This hypothesis is only confirmed for the Administration Costs group: non-buyers donated significantly less than the control group. In the Aid Impact group, non-buyers also donated less than the control group, but the difference is not statistically significant (columns (1) and (2), Table 4). In contrast, in the Recipient Type group, non-buyers donated slightly, but not significantly more than the control group (columns (3) and (4), Table 4).

Figure 6: Mean And Predicted Mean Donation in CHF By (Sub)Group

(a) Mean Donation By (Sub)Group

| | Aid Impact | | Recipient Type | | Administration Costs | |
|---|---|---|---|---|---|---|
| No *Offer To Buy* | 3.41 CHF (4.09) | | 1.33 CHF (2.52) | | 3.06 CHF (3.67) | |
| Non-Buyers | 2.15 CHF (2.78) | | 1.88 CHF (3.70) | | 1.58 CHF (2.22) | |
| Buyers | 3.08 CHF (2.75) | | 3.89 CHF (2.77) | | 1.85 CHF (2.94) | |
| | 1.5 CHF (1.76) | 4.67 CHF (2.73) | 2.64 CHF (2.29) | 5.86 CHF ((2.34)) | 0 CHF (0.00) | 4 CHF (3.22) |
| | 1 school week | 1.5 school weeks | Artists | Children | 40 % | 10 % |

(b) Predicted Mean Donation By (Sub)Group

| | Aid Impact | | Recipient Type | | Administration Costs | |
|---|---|---|---|---|---|---|
| No *Offer To Buy* | 2.86 CHF (.55) | | 1.44 CHF (.47) | | 3.25 CHF (.64) | |
| Non-Buyers | 2.70 CHF (.46) | | 2.55 CHF (.82) | | 1.53 CHF (.37) | |
| Buyers | 2.35 CHF (.61) | | 3.36 CHF (.80) | | 1.99 CHF (.65) | |
| | 1.21 CHF (.61) | 3.56 CHF (.91) | 1.87 CHF (.92) | 5.54 CHF (.83) | 0.45 CHF (.73) | 3.44 CHF (.94) |
| | 1 school week | 1.5 school weeks | Artists | Children | 40 % | 10 % |

Furthermore, we expected that buyers (altruists), would on average likely donate more than the control group. This only happens in the Recipient Type group. The main reason for this significant increase in donation levels among buyers is that they highly "rewarded" the "worthy" recipient, namely the schoolchildren, with a mean predicted donation of 5.54 CHF. The increase in transfers was high enough to compensate the lower transfers made by the subgroup matched with the young artists,

[19] Figure G1 in Appendix G shows the corresponding tables for share of donors.

and to push average donations among information buyers significantly upwards. However, in the Administration Costs group, buyers donated significantly less than the control group. The drop in transfers occurs because participants strongly "punished" the NGO with high overheads by not donating (i.e. zero positive donations).[20] This behavior led to an overall decrease in donation levels among information buyers, despite the fact that participants donated significantly more to the NGO with lower overheads, but not enough to compensate for lower donations to the NGO with high administration costs. In the Aid Impact group, average transfers of buyers and the control group were, on average, not significantly different (column 1). Hence, those who knew the exact impact of their donation did not behave significantly different to those who did not know its exact impact.

Based on these results, we can answer the questions how detailed information about the use of one's donation affects donation behavior, and how the effect of possessing such detailed information varies with the information type. Our results show that some of the observed donation behavior is consistent with the theoretical predictions of warm-glow giving, and some is not. In line with the theory, we found evidence that more altruistically motivated individuals self-select into information buying, while individuals who are more strongly motivated by warm glow (and non-donors) self-select into the group of non-buyers. However, the donation behavior we would have expected as a result of this selection effect only occurred to a limited extent. In the next paragraphs we discuss possible reasons why some of the observed behavior is different from our expectations. Note that our explanations are primarily based on individuals' preferences over social outcomes. However, alternative explanations exist which consider self-regarding preferences as important drivers of decision making in charitable giving (Bénabou and Tirole 2006, Dana et al. 2007, Oexl and Grossman 2013, Lazear et al. 2012).

A first important finding is that participants reacted more strongly to differences in administration costs and recipient types, than to differences in aid impact. In the latter case, participants neither strongly rewarded nor strongly punished the better or worse outcome. Moreover, the Aid Impact group is the only group in which buyers, non-buyers and the control group did, on average, not significantly deviate from each other in their donation behavior. This implies that there is less of a difference in donation behavior between well-informed and uninformed individuals when the decision problem is related to differences in aid impact. This result is consistent with our earlier finding that individuals were least interested in information about aid impact. According to our hypothesis, individuals who care about social welfare outcomes (and therefore buy information) should have reacted most strongly to differences in aid impact. We provide the following explanation for this result: the rather uncontroversial as well as statistically and unemotionally framed donation decision in the Aid Impact group possibly led to a similar donation behavior among buyers, non-buyers and the control group. As we stated earlier, even in the "worst" case, children received additional schooling, which might have reduced the participants' willingness to buy information, but still led to considerable donations among uninformed individuals (control group and non-buyers). Thus, the willingness to donate does may not necessarily go along with the willingness to be well-informed about the impact of a donation.

Last, and as discussed in the previous section, it is possible that a lack of awareness about the importance of differences in aid effectiveness led to only moderate differences in donation levels between the various treatment groups. This result certainly calls for further research given the increasing efforts both policy makers and academics make to improve our knowledge of (the most) effective aid interventions and NGOs.

[20] The predicted average donation for the subgroup matched with the NGO with high overheads - which is shown in Figure 6b is greater than zero, because we control for the participants' characteristics. However, as Figure 6a shows, actual donations in this subgroup were zero.

Table 4: Donation in CHF - OLS

| | Aid Impact | | Recipient Type | | Admin. Costs | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Reference Group: *No Offer To Buy* | | | | | | |
| Non-Buyer | –.108 | –.158 | | | | |
| | (.76) | (.77) | | | | |
| Buyer | –.479 | | | | | |
| | (.80) | | | | | |
| Buyer, Low Impact | | –1.648* | | | | |
| | | (.87) | | | | |
| Buyer, High Impact | | .695 | | | | |
| | | (.98) | | | | |
| Non-Buyer | | | 1.121 | 1.110 | | |
| | | | (.94) | (.92) | | |
| Buyer | | | 1.924** | | | |
| | | | (.94) | | | |
| Buyer, Young Artists | | | | .425 | | |
| | | | | (1.04) | | |
| Buyer, School Children | | | | 4.096*** | | |
| | | | | (.94) | | |
| Non-Buyer | | | | | –1.727** | –1.722** |
| | | | | | (.83) | (.83) |
| Buyer | | | | | –1.259 | |
| | | | | | (.88) | |
| Buyer, High Overhead | | | | | | –2.803*** |
| | | | | | | (.89) |
| Buyer, Low Overhead | | | | | | .195 |
| | | | | | | (1.16) |
| *ZEWO Label* | | | | | | |
| Yes | –.488 | –.394 | .172 | .518 | .739 | .697 |
| | (.61) | (.61) | (.84) | (.84) | (.79) | (.78) |
| *Social Preferences* | | | | | | |
| Social Preferences Index | .088*** | .084*** | .050 | .055 | .038 | .038 |
| | (.03) | (.03) | (.04) | (.04) | (.03) | (.03) |
| *Belief About Others' Behavior* | | | | | | |
| Share Of Donors In % | .031** | .030** | .024 | .019 | .065*** | .063*** |
| | (.01) | (.01) | (.02) | (.02) | (.01) | (.01) |
| *Earnings Experiment* | | | | | | |
| Total Earnings (incl. Show Up) | –.058 | –.058 | .023 | .019 | .038 | .046 |
| | (.04) | (.04) | (.05) | (.05) | (.04) | (.04) |
| *Risk Aversion* | | | | | | |
| Risk Aversion | .251 | .266 | –.308 | –.379 | .178 | .144 |
| | (.27) | (.28) | (.23) | (.25) | (.17) | (.17) |
| *Personal Characteristics* | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted$R^2$ | .19 | .20 | .07 | .14 | .41 | .44 |
| Observations | 101 | 101 | 67 | 67 | 68 | 68 |

White-Huber robust standard errors
in parentheses;
* p<0.10, * p<0.05, ** p<0.01

A second important finding is that, contrary to our expectations, well-informed (more altruistic) individuals did not donate more than uninformed (and less altruistic) individuals. Instead, depending on the decision context, well-informed individuals increased (Recipient Type) or decreased (Administration Costs) their average transfers. The reaction of the buyers matched with the NGO with high overheads illustrates this point: altruistically motivated individuals, who actually intend to donate, may turn into non-donors if the use of their gift is not in line with their preferences. In previous studies, Fong (2007) already observed that pro-social individuals tend to be highly responsive to the perceived worthiness of the recipient.[21] This can explain why altruistic individuals may not necessarily give more than individuals who are more strongly motivated by warm glow. On the other hand, in the Recipient Type group lower transfers to the "less worthy" recipient (young artists) were compensated by very high transfers to the "more worthy" recipient (children).

In our view, the identifiable victim effect (vs. the statistical "victim") as well as the positive framing (vs. negative framing) of the different giving contexts provide plausible explanations for our results and hypotheses for further research. According to the identifiable victim effect, donors are more willing to donate, and donate more, when they can develop empathy for the recipient, which is easier when (s)he is not presented as a statistical "case". With the qualification that we did not provide a perfect identifiable victim description, we nevertheless believe this is more or less how participants perceived the decision context in the Recipient Type group. Moreover, we think that the decision context in the Recipient Type group was generally perceived more positive than in the Administration Costs group, because the outcomes were not "clearly bad" or "clearly good". Although perceived as less deserving than children, young artists were probably still seen as recipients in need, and not as "unworthy" recipients (as opposed to an NGO with 40% overheads). The fact that donations to young artists did not drop to zero provides support for this argument. Average donations to young artists were 2.64 CHF (1.87 CHF for predicted means) (Figure 6).

In the Administration Costs group, the offer alone to make a well-informed decision led to a reduction in average transfers. As we indicated in the previous section, the Administration Costs group decision context was rather negatively and unemotionally framed. Firstly, the statistical framing might have led to lower average donations in the treatment group. This fits the claim that unemotional and statistically framed donation appeals raise funds less effectively than more emotional, empathy-stimulating appeals (Jenni and Loewenstein 1997, Small et al. 2007). Secondly, the negative framing might have led to the "punishment" of the less efficient NGO. The fact that buyers donated nothing to the NGO with 40% administration costs suggests that this outcome was indeed perceived as very negative. Moreover, the fact that buyers more strongly punished the less efficient NGO than they rewarded the more efficient NGO supports hypotheses related to reference-point dependent loss aversion (Kőszegi and Rabin 2006) which state that losses from comparing an outcome to a counterfactual are weighted more strongly than (symmetric) gains. Overheads of 40% are clearly larger than the reference point of 23% overheads (counterfactual) that we gave the participants, and even farther away from the reference point than the gains (10% overheads).

A third important finding is that deliberately uninformed participants did not necessarily donate significantly less than the control group. As we stated earlier, this only happened in the Administration Costs group. In the Recipient Type group, non-buyers even donated slightly more than the control group (though not significantly so). This is due to the fact that average donations in the Recipient Type control group were low, at 1.33 CHF (and significantly lower than in the

[21] Fong (2007) observed this behavior in a laboratory experiment she conducted in the US, where participants could donate to a real welfare recipient, living in the US. Welfare recipients who were portrayed as lazy as opposed to industrious, received drastically lower donations even from individuals who scored high on a "humanitarianism-egalitarianism" measure.

Aid Impact and the Administration Costs control groups). The low transfers in the control group were likely driven by the reluctant donation behavior of the "conditional donors" - altruistically motivated individuals who would have donated, if they would have known the exact donation use, but who reduced their transfers when that information was missing. Once the possibility to buy more detailed information was introduced in the treatment group the conditional donors self-selected into the group of buyers, where they significantly increased their average donations. In contrast, in the Administration Costs and Aid Impact group, where individuals showed less interest in the precise donation use, control group donations were higher. An additional explanation why donations in the Administration Costs control group were on average higher than in the Recipient Type control group (despite statistical and negative framing) might be that participants were told that the administration costs of Swiss NGOs are on average at 23%. Studies have shown that private donors find overheads between 20 and 30% acceptable (ZEWO 2006). It is possible that participants expected overhead spending to be around 20%, and considered the event of very high or very low administration costs less likely. Hence, even individuals who cared about administration costs, and maybe would have preferred to know their exact level, perceived the chance of donating to an NGO with acceptable overheads sufficiently high, and donated a positive amount. This includes individuals who would not have donated to an NGO with 40% administration costs.

Last, with regard to our control variables, it is worth mentioning that, as expected, a higher social preferences index is correlated with higher average donation levels (Tables 2, 3, and 4) and a higher likelihood to donate (Table G1, Appendix G). This suggests that, in line with warm-glow giving, more altruistically motivated individuals are more likely to donate, and donate more, than less altruistic individuals. Participants were also more willing to donate more, the higher they believed the total share of donating peers was. Hence, participants apparently did not tend to free ride on the expected goodwill of others, but rather adhered to social norms of giving. However, beliefs may be endogenous: when participants decided to donate, they might have been more optimistic that their peers also donated.

# 4 Conclusion

Based on a laboratory experiment, this study tested if private donors want information (at a small cost) about the exact use of their donation to an international charity. It analyzed what type of information donors are most interested in, and the impact of detailed information about the use of one's donation on charitable giving. To increase the external validity of the results, the participants had to earn their endowments, and donated to a Swiss NGO working in international development. To the best of our knowledge, we are the first to experimentally test whether donors actively seek information about aid impact, and whether they value (information about) aid impact more or less than other donation relevant information.

The results show that a minority of individuals (29%) made a well-informed decision. This result is in line with the study of Fong and Oberholzer-Gee (2011), where about 32% of the participants made a well-informed decision. In accordance with the predictions of warm-glow giving (Andreoni 1990), this minority scores significantly higher on the altruism scale than the uninformed majority. In contrast to our expectations, individuals were least interested in information about aid effectiveness, second most interested in information about administration costs, and most interested in information about the recipient type benefiting from a donation. Hence, individuals preferred to base their decisions on information that is not really well suited to assess a donation's actual welfare impact. Similarly, donation levels were more strongly influenced by information about the recipient type and

administration costs, than by information about aid impact, which fits our results on information buying (low demand for information about aid impact). This might explain why many NGOs are still reluctant to invest in studies on the impact of their projects and programs. Interestingly, in the Recipient Type group, rewarding the preferred outcome led to an increase in charitable donations. In the Administration Costs group, punishing the less preferred outcome led to a decrease in charitable donations. Information about aid effectiveness did, on average, not lead to significant differences between uninformed and informed donors. Despite the fact that we used a different experimental approach, this last result supports the finding of Karlan and Wood (2014) that individuals who were informed about the proven aid impact of their donation to a (real-life) NGO did not behave differently from individuals who were not informed about the aid impact of their donation.

Given that information buyers are, on average, more altruistic than non-buyers, our findings imply that, depending on the decision context, stronger altruistic preferences do not necessarily result in higher transfers. This finding fits in well with Fong (2007) who finds that altruistic individuals are highly responsive to perceived differences in the "worthiness" of the recipient.

Warm-glow giving can explain the sorting of individuals into aid environments with more detailed (but costly) information and whether individuals donate in general more or less. However, it cannot explain the subtleties in donation behavior arising from specific decision contexts. Therefore, we relied on empirical explanatory frameworks that evolved from other laboratory experiments on charitable giving, providing an explanation that is based on a framing effect. Key components of this framing effect are whether it stimulates empathy for the recipient (Slovic 2010), and whether the decision context is generally positive or negative (Konow 2010). However, this later hypothesis calls for further research.

Independently of the framing effect, we furthermore concluded that individuals might attach more importance to information about recipient types and administration costs. These topics dominate much of the content charities and charity evaluators traditionally have communicated to private donors when it comes to raising funds or guiding donation decisions. This "communication bias" may have contributed to a potential lack of awareness about the importance of aid effectiveness for private charitable giving. However, the increased knowledge on the effectiveness of aid projects generated over the last decade is slowly spilling over to the private charity market. Established charity evaluators, like the German DZI and the Swiss ZEWO recently started to consider - at least to some extent - information about impact in their criteria catalogs. Moreover, other new private institutions that act as information brokers in the international charity sector, and that seek to help private donors to base their donation decisions on aid impact, have emerged in the last couple of years (e.g. Give Well, and Phineo).

Last, we suggested that the way the donation appeal in the Aid Impact group was framed - namely in a positive and statistical framing - may have reduced the added value of information buying. In other words, if we had framed the donation appeal differently, we may have observed a greater interest in information about aid effectiveness. Further research is necessary to test which ways of framing the aid impact problem are most successful in attracting a donor's attention, without reducing her willingness to donate.

# Appendix A Donation Decision

### General Instructions

Screen One[22]

You now have the possibility to donate part of your earnings to a Swiss NGO. You can check the bank receipt over the total donated amount on the ETH Decision Laboratory website on September 1st (2014) latest. We will provide you with the link to the website when you exit the experiment.

Please READ the following text CAREFULLY!

Screen Two

To WHICH organization can I donate?

You now have the possibility to donate to a Swiss NGO that is working in international development cooperation. Your donation will benefit an NGO that provides education for deprived children and young people in developing countries. After you finish the experiment, we will give you the name and a brief description of the NGO.

Screen Three

HOW can I donate?

You can donate any amount you wish from the money you have earned in the previous three tasks, i.e. through your effort, your knowledge, and your luck. That means, you can donate any amount between O CHF and your maximum total earnings from the effort, knowledge, and luck task.

Screen Four

Do the other participants learn if and how much I donate?

No, every decision you take during this experiment is entirely anonymous and private: the other participants and the experimenter team have no possibility to link your decision to your name. At no point will you learn about the decisions of the other participants. Your personal data will not be published [...] and is only used for research.

### Administration Costs, *Offer To Buy*

Screen Five

You can now donate to a Swiss NGO that provides education for deprived children and young people in developing countries.

The administrative costs of this NGO are between 10% and 40%. That means, the administrative costs can for example be 10%, 30%, or 40%. In principle, any number between 10% and 40% is possible. The administrative costs are composed of the costs for administering the NGO's work as well as the cost for fundraising and advertising. Note, that the average administration costs of Swiss NGOs are around 23%.

If you have questions, please raise your hand NOW. If you do not have questions, please click on "Next".

[22] Participants who were assigned to the ZEWO treatment, obtained the information on the ZEWO certification on this screen. The corresponding sentence read: "The NGO [*you can donate to*] has the seal of approval of the Swiss foundation for nonprofit organisations (ZEWO)."

Screen Six

You can now choose between the following two options to make your donation:

1. You make your donation decision **without** information **how high exactly the administrative costs of the NGO are that you donate to**.
   You will only know, that the administration costs of the NGO [...] lie between 10% and 40%.
2. You make your donation decision **with** information **how high exactly the administrative costs of the NGO are that you donate to**.
   That means, you first obtain the information about the exact level of the NGO's administration costs, and then decide if and how much you want to donate. **The cost for this information is 30 Rappen.**

If you have questions, please raise your hand NOW. If you do not have questions, please click on "Next".

Screen Seven

Do you want to buy the information how high exactly the administration costs of the NGO are that you donate to? Remember: The administration costs of the NGO lie between 10% and 40%.

- ... Yes, I want to buy the information (30 Rappen).
- ... No, I don't want to buy the information.

Screen Eight

The administration costs are 10%.

Next, you can decide if and how much you want to donate.

Screen Nine

Do you want to donate?

- ... No, I don't want to donate.
- ... Yes, I want to donate the following amount:

# Appendix B Observations Per Experimental Group

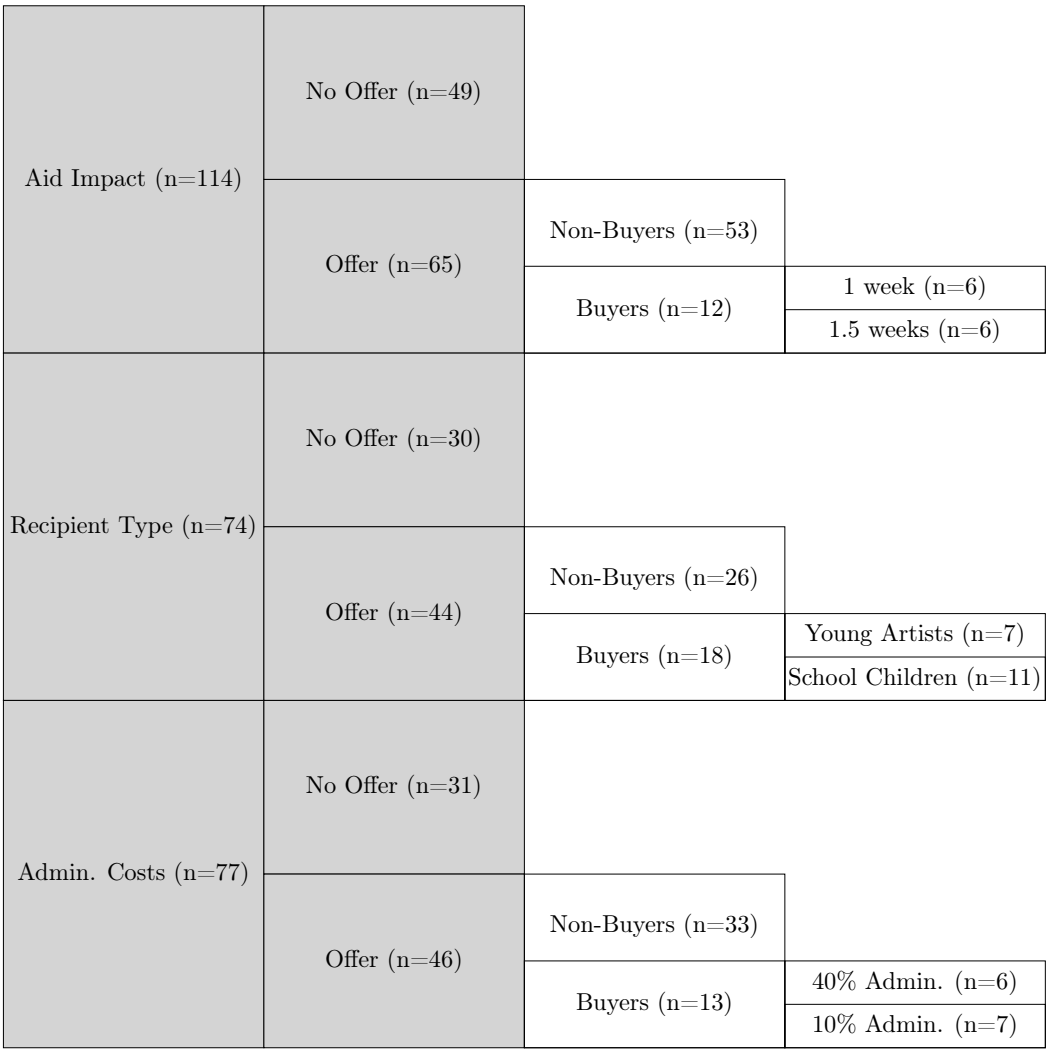



Figure B1: Observations Per Experimental Group

# Appendix C Social Value Orientation

The participants were sequentially shown six slider items; hence they made six decisions. Each slider item showed a set of nine predetermined monetary allocations. Every participant could pick one allocation from the set, in order to assign herself and another randomly selected participant a given amount of money. Participants were told that only one of the six items was going to be paid out. Every participant was furthermore told that she was going to obtain the money she allocated herself plus the money another participant had assigned her. Since it was guaranteed that personal identities and allocation decisions remained undisclosed, participants had practically no incentive to act strategically when taking their pick. We use the SVO score as a proxy for pro-social/ altruistic preferences. The social value orientation (SVO) score ranges from "perfectly altruistic" to "perfectly competitive". For example, a participant who picks the rightmost allocation item on the first slider would be categorized as perfectly altruistic. A participant who picks the leftmost allocation item would be categorized as perfectly competitive. Exact instructions how to calculate the continuous index that we use in our regression are provided on page 780 to 781 in the paper by Murphy et al. (2011).

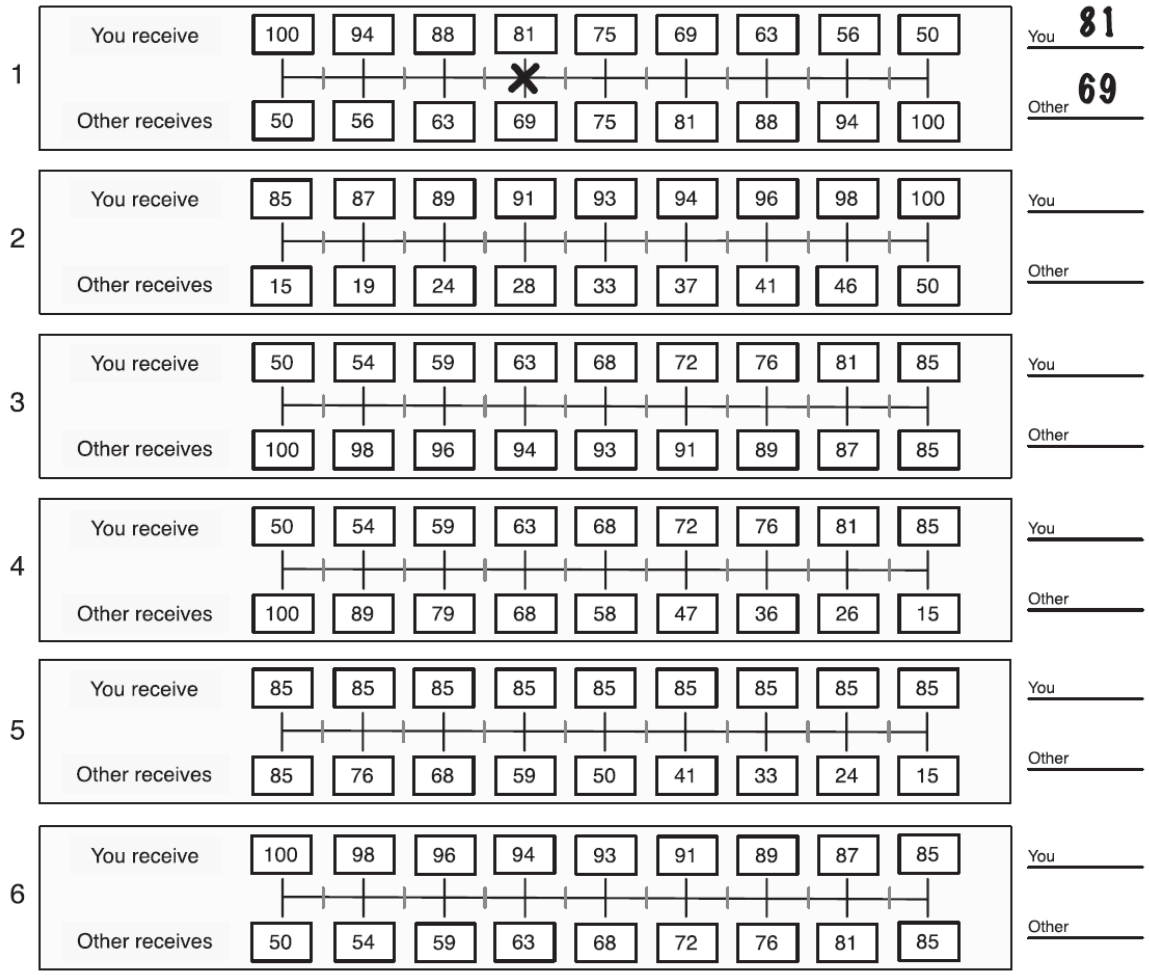



Figure C1: Social Value Orientation Slider Measure

# Appendix D Real Effort Tasks

As shown in Figure D1, participants were asked to add up five single-digit numbers. Participants could try to solve as many problems as possible. There were 60 problems in total and a time limit of 4 minutes. The task was tailored in such a way that it was not possible to solve all 60 problems within the time limit. The full set of arithmetic problems can be obtained from the authors upon request.

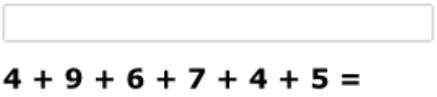



Figure D1: Arithmetic Problems

Figure D2 shows two out of twenty questions we asked in the knowledge quiz. Participants were given one minute to answer four such question, before the subsequent page with the next four questions was displayed on the screen. The full set of arithmetic problems can be obtained from the authors upon request.

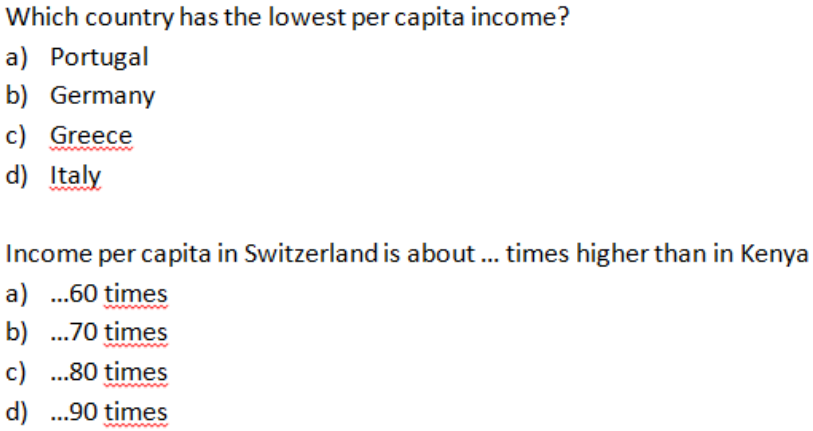



Figure D2: Knowledge Quiz

# Appendix E Risk Preferences

The four lotteries were constructed such that they are exactly comparable: each of the five payoff options represents the same degree of risk aversion. That means, Option 1 in round 1 represents the same degree of risk aversion as Option 1 in round 2, Option 1 in round 3 and Option 1 in round 4 - despite the fact that monetary amounts are changing from round to round. Option A is always risk-free as it does not involve a trade-off in payoffs. From option B to D, the mean expected gain is rising, but so is the respective variance (i.e. the risk). Only risk loving individuals would prefer choice E over D since the expected gain is the same for both options, but the variance is higher in E. A risk neutral individual is indifferent between choices with equal expected pay-offs, even if one choice is riskier. Note that we did not show participants all four rounds at once. They proceeded from round to round, and each round was displayed on a separate screen.

Lottery round 1

| Option | Heads | Tails |
|---|---|---|
| A | 1 CHF | 1 CHF |
| B | 0.9 CHF | 1.2 CHF |
| C | 0.6 CHF | 1.6 CHF |
| D | 0.2 CHF | 2.1 CHF |
| E | 0 CHF | 2.3 CHF |

Lottery round 2

| Option | Heads | Tails |
|---|---|---|
| A | 2.5 CHF | 2.5 CHF |
| B | 2.25 CHF | 3 CHF |
| C | 1.5 CHF | 4 CHF |
| D | 0.5 CHF | 5.25 CHF |
| E | 0 CHF | 5.75 CHF |

Lottery round 3

| Option | Heads | Tails |
|---|---|---|
| A | 5 CHF | 5 CHF |
| B | 4.5 CHF | 6 CHF |
| C | 3 CHF | 8 CHF |
| D | 1 CHF | 10.5 CHF |
| E | 0 CHF | 11.5 CHF |

Lottery round 4

| Option | Heads | Tails |
|---|---|---|
| A | 10 CHF | 10 CHF |
| B | 9 CHF | 12 CHF |
| C | 6 CHF | 16 CHF |
| D | 2 CHF | 21 CHF |
| E | 0 CHF | 23 CHF |

Figure E1: Practice Round Lottery Game

# Appendix F Summary Statistics

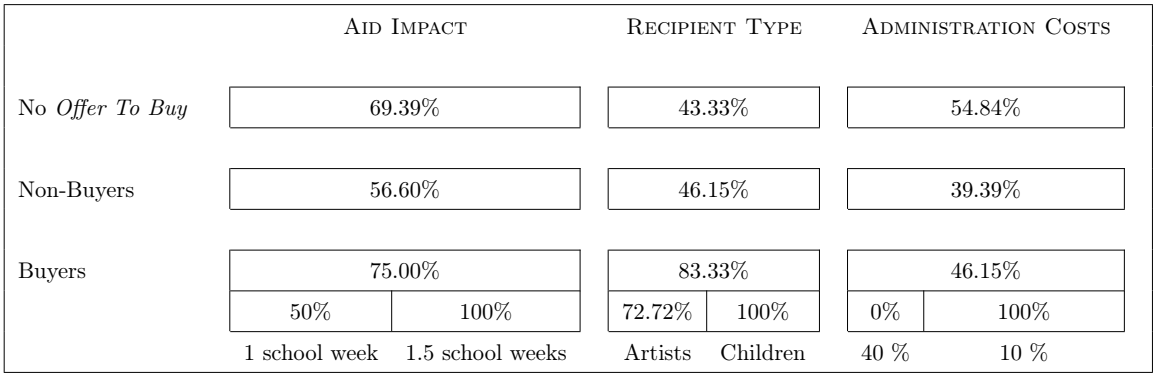
Table F1: Summary Statistics

| | Mean | sd |
|---|---|---|
| *Dependent Variables* | | |
| Bought Information (Treatment Only) | 0.28 % | |
| Decision To Donate | 0.56 % | |
| Donation in Swiss Francs | 2.45 CHF | 3.25 |
| *Offer To Buy* | | |
| Offer To Buy | 0.58 % | |
| *ZEWO Label* | | |
| ZEWO | 0.48 % | |
| *Social Preferences* | | |
| Social Preferences | 23.01 Degree | 13.68 |
| *Belief About Others' Behavior* | | |
| Share of Donors | 46.02 % | 28.27 |
| *Earnings Experiment* | | |
| Total Earnings Self | 36.66 CHF | 6.99 |
| *Risk Preferences* | | |
| Risk Preferences | 3.03 | 1.40 |
| *Personal Characteristics* | | |
| Female | 0.53 % | |
| Non Swiss | 0.28 % | |
| Donated International Recently (2012 or later) | 0.52 % | |
| Total Income | 501 - 1500 CHF | |
| Observations | 265 | |

# Appendix G Donation Decision (yes/no)

Figure G1: Mean Share Of Donors By (Sub)Group

(a) Mean Donation By (Sub)Group




(b) Predicted Mean Share Of Donors By (Sub)Group

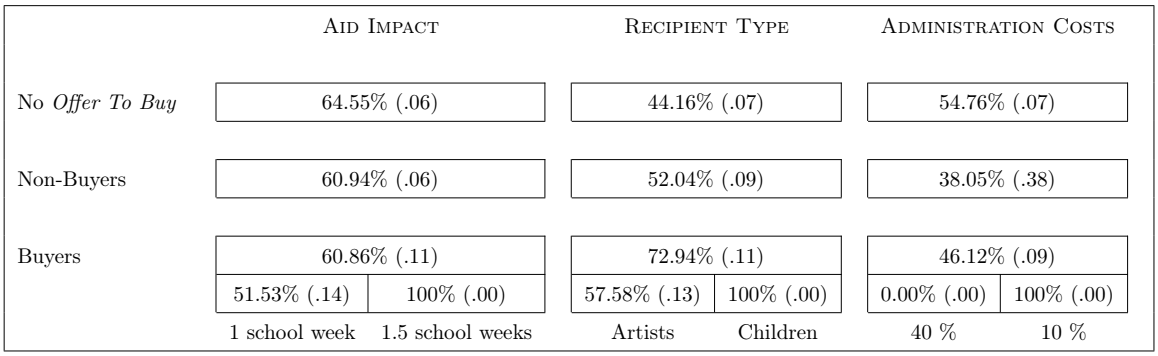


Table G1: Decision To Donate (0/1) - Main Treatment and Interaction Effects

(a) Main Treatment Effects - Probit (marginal effects)

| | |
|---|---|
| Reference Group: Admin. Costs | |
| Recipient Type Group | .051 |
| | (.06) |
| Aid Impact Group | .054 |
| | (.06) |
| *Offer To Buy* | |
| Yes | .013 |
| | (.05) |
| *ZEWO Label* | |
| Yes | –.010 |
| | (.05) |
| *Social Preferences* | |
| Social Preferences Index | .005*** |
| | (.00) |
| *Belief About Others' Behavior* | |
| Share Of Donors In % | .009*** |
| | (.00) |
| *Earnings Experiment* | |
| Total Earnings in CHF (incl. Show Up) | .002 |
| | (.00) |
| *Risk Aversion* | |
| Risk Aversion | –.041** |
| | (.02) |
| *Personal Characteristics* | Yes |
| Pseudo $R^2$ | .36 |
| Observations | 236 |

Standard errors in parentheses;
* p<0.10, ** p<0.05, *** p<0.01

(b) Interaction Effects - Probit (marginal effects)

| | |
|---|---|
| Reference Group: Admin. Costs, Control | |
| Admin. Costs, Treatment | –.067 |
| | (.09) |
| Aid Impact, Control | .038 |
| | (.09) |
| Aid Impact, Treatment | .027 |
| | (.12) |
| Recipient Type, Control | –.080 |
| | (.10) |
| Recipient Type, Treatment | .235* |
| | (.13) |
| *ZEWO Label* | |
| Yes | –.007 |
| | (.05) |
| *Social Preferences* | |
| Social Preferences Index | .005*** |
| | (.00) |
| *Belief About Others' Behavior* | |
| Share Of Donors In % | .009*** |
| | (.00) |
| *Earnings Experiment* | |
| Total Earnings in CHF (incl. Show Up) | .002 |
| *Risk Aversion* | |
| Risk Aversion | –.043** |
| | (.02) |
| | (.00) |
| *Personal Characteristics* | Yes |
| Pseudo $R^2$ | .38 |
| Observations | 236 |

Standard errors in parentheses;
* p<0.10, ** p<0.05, *** p<0.01

# Appendix H Box-And-Whisker Plot, Donation in CHF

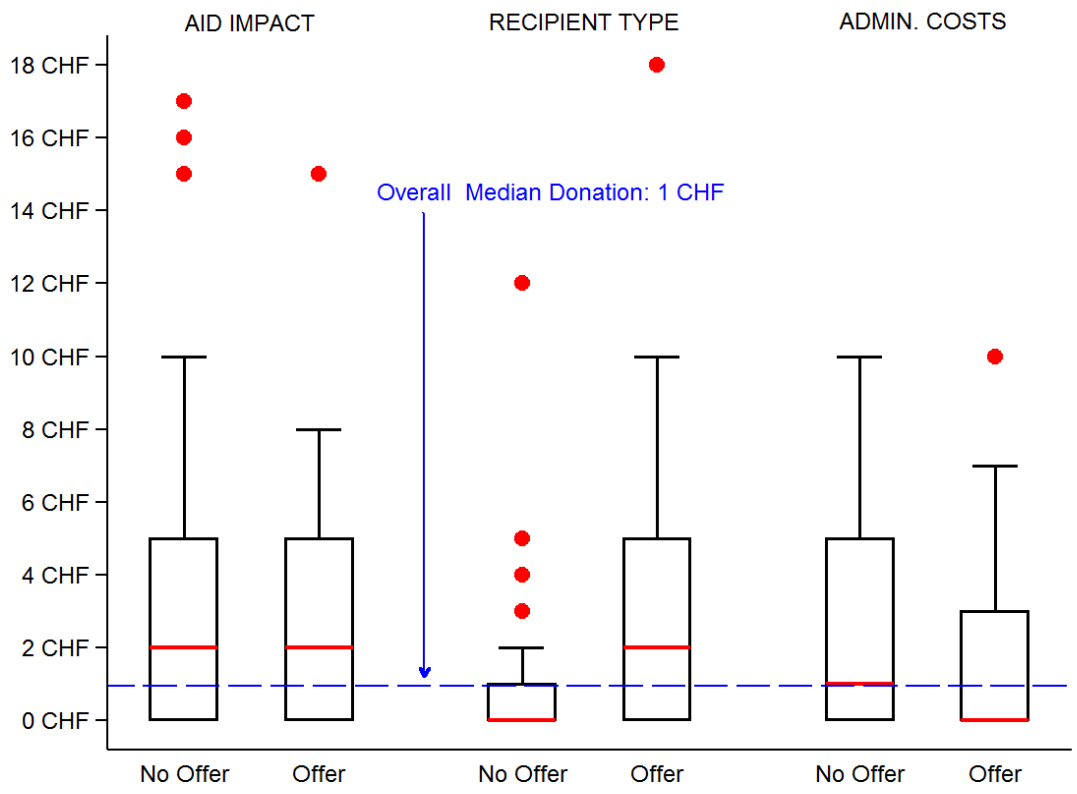



Figure H1: Box-And-Whisker Plot, Donations In CHF

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