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Perception of generosity under matching and rebate subsidies

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Abstract

Existing evidence from laboratory experiments finds that a match is likely to increase charitable donations by more than a theoretically equivalent rebate. A number of explanations have been proposed for this in the literature. One idea, which has never been tested, is that people consider a match to be more generous, because unlike the rebate, there is no reward for making a donation in the match setting. We design a survey to determine whether people do consider matches more generous than rebates, and probe the reasons subjects give for their answers. We find that a significant number of people do consider rebates less generous because of the reward associated with donations in such a setting.

Keywords: charitable giving, generosity, matching and rebate subsidies

1 Introduction

Many governments support charities' fund-raising by offering subsidies to motivate the public to give more. For example, many governments provide rebates on charitable giving through income-tax deductions. For urgent causes, like relief programmes for natural disasters, governments may instead offer a matching subsidy, where each dollar donated by the public is matched with a dollar from the government.[1] Functionally this is equivalent

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Experimental instructions, data and code are available at: https://osf.io/2nya3/.

[1]See https://www.beehive.govt.nz/release/govt-announces-funding-package-response-tsunami for an example of the New Zealand government matching donations by the public in response to a natural disaster overseas.

to a rebate: donating $100 under one-to-one matching is equivalent to donating $200 under the 50% rebate.

In spite of their theoretical equivalence, matches and rebates appear distinct in the minds of donors. Prior work has shown that matches are more effective in stimulating charitable giving than rebates (e.g., Eckel and Grossman, 2003, 2008, 2017; Gandullia, 2019; Peng and Liu, 2020).[2] This phenomenon is well-documented in laboratory studies, yet there is limited evidence as to *why* such a discrepancy arises. The present paper seeks to address this gap.

To this end, we designed two surveys.[3] Survey A provided subjects with information on two donors who had made a theoretically equivalent donation to charity, with one donor operating in a match environment and the other in a rebate environment. Subjects were asked whether the two donors felt equally generous, the donor in the match environment felt more generous or the donor in the rebate environment felt more generous. We also asked them to provide a reason for their answer. 42 percent of subjects described the donation under matching to be more generous, whereas less than 8 percent of subjects described the donation under rebates as more generous. Moreover, a large fraction of subjects said the match was more generous because the rebate involved a reward. Our finding offers direct evidence for the hypothesis of Eckel and Grossman (2003), i.e., that a cooperative versus rewards framing for subsidies may elicit different charitable behaviours.[4]

In a second survey (Survey B), we asked a different group of subjects how they thought others would perceive the differences between the match and rebate environments from Survey A. Here, the differences between matches and rebates were less pronounced, which we argue is due to differences in self-image (how subjects evaluate generosity) and social-image (how subjects think others value generosity).

We offer a unique contribution to the rich literature on matches versus rebates for charity. Eckel and Grossman (2003) used a within-subject design, with each subject making 12 pass-hold decisions. Subjects in this study exhibited a constant pass rate. That is, the *gross donation* (nominal amount given by the donor) was equal for the rebate and match treatments. This translates to a higher *donor contribution* (amount the donor is out of pocket after receiving any rebate) and a higher *net donation* (amount the charity receives) under

[2]Davis and Milner (2005) report similar discrepancies for private good purchases (chocolate bars and potato chips) and suggest that inattention to net consequences or rebate aversion could explain this behaviour.

[3]Some months previously we included a survey at the end of an online experiment asking questions about a rebate and a theoretically equivalent match. With hindsight we realised the wording in that survey was open to multiple interpretations, so developed the new design reported in this paper.

[4]Such framing effects are known to matter in other contexts, including other settings with public goods. For instance, Andreoni (1995) found that the positive externality framing of a public good game leads to greater cooperation than the negative externality framing of a common pool resource game. As another example, Cookson (2000) found that public good games generate different contributions (a) when subjects are asked to calculate group payoffs ("we" framing) vs. individual payoff ("I" framing) and (b) when the public good is presented as a shared public good vs. an investment that is distributed among group members. Dufwenberg et al. (2011) found framing effects in a public good game to be consistent with predictions from a psychological game-theoretic framework.

matching. To explain these results, Eckel and Grossman (2003) suggested, but did not test, that the matching subsidy induces a cooperative frame, unlike the rebate subsidy, which instead induces a reward frame. The former may encourage greater giving by ensuring that others are also contributing.

Many studies subsequent to Eckel and Grossman also mention the cooperation versus rewards frame hypothesis in their literature review. It is common for these studies to cite the theoretical paper of Benabou and Tirole (2006) to argue donors could give more in response to a match because they feel greedy accepting rebates and that this could reduce any warm-glow utility derived from donating. However, as far as we are aware, our study is the first to provide direct evidence on the role of framing in eliciting different charitable behaviours under matches and rebates.

A number of studies showed that other factors (e.g., isolation effects, confusion or truncation, which are all described in more detail below) cannot explain all of the differences in giving between rebate and match treatments. Removing these factors, these studies then argued that the residual difference in giving between the two treatments must be due to a "preference for matches". For instance, Lukas et al. (2011) reported that not all subjects are confused or focusing only the gross donation, meaning some subjects, at least, have a preference for matches. Yet, although the "preference for matches" gives name to these residual differences, it says little about underlying mechanisms. The preference for matches may arise because of differences in the cooperation versus reward frame, or for other reasons. Sasaki et al. (2022) explicitly argued that the cooperation versus rewards frame partly explains higher donations under matches, but they only showed that this difference cannot be entirely explained by confusion or truncation. No positive evidence was offered that framing, per se, is responsible for differences across treatments. Therefore, the existing literature tells us that some people have a preference for matches (i.e., matches raise more than rebates when isolation, confusion and/or truncation are ruled out) but not why. It could be that this is driven by the cooperation versus rewards story, but no one has shown this.

Other explanations for the constant pass rate of Eckel and Grossman (2003) have also been tested in the literature. Davis et al. (2005) demonstrate that some subjects are confused about how the rebate and match work, but when this is controlled for, giving still increases by more for matches than rebates. Davis (2006) suggested that the constant pass rate is due to an isolation effect, whereby people focus on the variable they can most easily control, which in the Eckel and Grossman experiment is the amount passed (the gross donation), ignoring the effect of a rebate or match on the net donation. Davis constructs an experiment where subjects instead focus on the amount the charity receives (the net donation); he found no significant difference in charity receipts between the match and rebate, providing evidence for an isolation effect. Notably, our design controls for the isolation effect by making very salient what both the net and gross donations are in both the rebate and the match setting. Hence, while the isolation effect may be responsible for some differences in charity under matches and rebates, we also show that other factors, like framing effects, are influential.

Another potential explanation for the match versus rebate discrepancy is truncation effects. That is, for a given amount of money a subject is endowed with in the lab, the maximum possible net donation is higher for a match than a rebate. Lukas et al. (2011) and Sasaki et al. (2022) adopted different methodologies to control for truncation effects, and both continued to find higher donations under a match than a rebate. These experiments rule out truncation as the sole driver of differential behaviour under matches and rebates, but like many of the aforementioned studies, they are unable to offer positive explanations for the residual differences.

Hungerman and Ottoni-Wilhelm (2022) develop a theoretical model in which donors place different value on gross (out of pocket) donations and accompanying matching funds. This model predicts non-equivalence between the match-price elasticity and the rebate-price elasticity, and they corroborate its conclusions using data from university donations and exogenous offerings of matches and rebates. They note that matches are more effective than rebates for fundraising, in line with the research cited above. However, because warm-glow is derived from the gross donation rather than the net donation in their model, donor welfare is actually higher under rebates.

2 Design

The survey was designed in *Qualtrics* and subjects were recruited on Prolific. To take part subjects had to be aged 18–65 and fluent in English. In order to make sure they could see all instructions on the screen, they had to be using a tablet or computer, not a mobile phone. Subjects for both Survey A and Survey B were paid a fixed fee of 1 GBP. As discussed below, there was an additional variable payment for Survey B, and this average variable payment was 0.65 GBP.

Survey A

119 subjects were recruited in *Prolific* to answer two survey questions. For the first question subjects were shown two scenarios on the same screen: one involving a donor named either Sam or Alex making a donation under a rebate setting and another involving a donor named Alex or Sam making the same donor contribution under a theoretically equivalent match setting. Subjects were asked whether they thought Sam was more generous, Alex was more generous or that both donors were equally generous. There were four versions of this survey, with the different versions varying whether the rebate or match scenario was presented first or second on the screen and whether Alex (Sam) was the name used in the rebate (match) scenario. The wording of the question is given below for the version where the rebate comes first and Sam is the name of the donor in the rebate scenario. Note that all bold text was bold in the survey.

Scenario 1.

A wealthy billionaire has offered to **pay a rebate of 50% on every dollar donated to charity**. That is, for every dollar donated to charity, the wealthy billionaire will give half of the dollar back to the donor as soon as the donation is made.

Sam just transferred $20 to charity via online banking and received the $10 rebate from the wealthy billionaire instantaneously. The charity received $20.

Scenario 2.

A wealthy billionaire has offered to **match charitable donations dollar for dollar**. That is, for every dollar donated to charity, the wealthy billionaire will give an additional dollar to the charity as soon as the donation is made.

Alex just transferred $10 to charity via online banking and the wealthy billionaire instantaneously matched this with a $10 donation. The charity received $20.

Who do you feel is more generous?

- ○ Sam (Scenario 1) is more generous
- ○ Alex (Scenario 2) is more generous
- ○ Both are equally generous

[Subjects clicked on the button for one of the above choices.]

This wording removes the possibility of confusion by carefully explaining how each subsidy works. Also, by making it very clear what the gross and net donations are, we control for isolation effects.[5] Having the amount the charity receives being the same in each scenario also controls for truncation. By stating that the rebate is received instantaneously, we remove the possibility of time or hassle costs associated with a rebate. We asked about the behaviour of a third person, as we wanted subjects to reflect on what setting was the most generous, but without having to justify their own behaviour. We chose names (Alex and Sam) that are gender neutral.

Having made their choices, subjects were asked to give a reason for their answer. For example, if they had chosen "both are equally generous" they were asked "To the question 'Who do you feel is more generous?' you answered 'Both are equally generous'. Can you

[5]Davis (2006) identified isolation effects in a lab experiment by having a control condition where the gross donation was more salient and a treatment where the net donation was more salient. Our aim was to rule out isolation effects by making the gross donation and net donation equally salient. We also made it reasonably salient what the donor contribution was for the rebate scenario. It is possible that how salient this different information is for some subjects may depend on the order the information is presented. This is something that could be explored in future research.

explain why?" Subjects were then asked what their gender is (male, female, diverse, prefer not to say) and their age.

One potential issue with both survey questions about generosity is that we do not impose a particular definition of "generosity" on subjects, so there may exist semantic differences in interpretation across subjects. Nonetheless, our study still sheds useful light on the match versus rebate puzzle as long as a subject's perception of "generosity" — however they may define it — is relevant to giving behaviour. It is reasonable to assume that, other things being equal, people would be more likely to contribute if they can think of themselves as generous.

Survey B

A day later 121 different subjects were recruited on Prolific. Rather than asking how they evaluate the generosity of Sam and Alex, as we did in Survey A, in Survey B we asked them how they thought others would have evaluated the behaviour of Sam and Alex. Subjects were shown the same scenarios as subjects in Survey A; again, randomizing the order the match and rebate scenario were presented and the names, Alex and Sam, were used for these scenarios. Next, we presented them the following task:

> In an earlier session, we showed the above scenarios to 100 subjects and asked whom they felt was more generous. Their options were (1) Sam (Scenario 1) is more generous, (2) Alex (Scenario 2) is more generous, and (3) Both are equally generous.
>
> How many of these subjects do you think have given each of these three answers?
>
> You may earn up to an additional 1 GBP for your answer, depending on how close your answer is to the true answer.

Subjects had to enter three numbers, one for each possible option, such that they added up to 100. Subjects were compensated depending on the accuracy of their estimate: In case a subject i's estimate of the distribution over the three options – match (m), rebate (r) and equal (e) – was (x_m^i, x_r^i, x_e^i) while the true distribution, coming from Survey A, was (y_m, y_r, y_e), subject i received a compensation of $\pi^i = \min\{x_m^i, y_m\} + \min\{x_r^i, y_r\} + \min\{x_e^i, y_e\}$ points (each point being converted to GBP 0.01); that is, the payment is equal to the number of correctly allocated responses.[6]

3 Results and discussion

Table 1 summarises the results from Survey A. Just over half of the 119 subjects thought generosity was equal for the two scenarios. Meanwhile, 42 percent thought the match was

[6]Note that, for the sake of simplicity, we disregarded a potential linear order of the possible outcomes.

more generous, while only 8 percent thought the rebate was more generous — more than a five-fold difference.[7] The table also shows the results for the four versions of the survey, which varied whether the match or rebate scenario was seen first and whether Sam/Alex was in the match/rebate scenario.

TABLE 1: Survey A responses: Percentages choosing the subsidy type in which donations are perceived to be more generous.

Treatment	Match	Rebate	Equal	*N*
MatchAlex–RebateSam	48.39 %	6.45 %	45.16 %	31
MatchSam–RebateAlex	48.39 %	9.68 %	41.94 %	31
RebateAlex–MatchSam	42.86 %	7.14 %	50.00 %	28
RebateSam–MatchAlex	27.59 %	6.90 %	65.52 %	29
All	42.02 %	7.56 %	50.42 %	119

The most important result is that many more subjects thought the match was more generous than thought the rebate was more generous. This could be consistent with the cooperation versus rewards frame advanced by Eckel and Grossman, a possibility that we shed more light on by analysing the subjects' open-ended responses about why they chose as they did. Given that we controlled for the isolation effect by spelling out what the gross and net donation were in each scenario, it is not surprising that there are only a small number of subjects thinking the rebate is most generous.

Figure 1 plots all the responses of Survey B, with the volumes of the circles being proportional to the number of subjects providing the respective response. Half of the observations fall below the 45-degree line, indicating that half of the subjects in Survey B assign more weight to the match being felt more generous by Survey A subjects compared to the rebate. About a third of the subjects provided weights in favour of the rebate. A Wilcoxon test using all individual observations rejects equality of weights between the match and rebate scenarios ($p = 0.002$), in favour of the alternative hypothesis that subjects place more weight on matches.

Table 2 summarises the responses, for each of the four possible randomisations, and averaged over these randomisations. The average response is marked in the figure by the blue cross. Interestingly the results are very different to those from Survey A, marked in the figure by the red cross. On average, respondents to Survey B thought 31% subjects

[7]There were four subjects who used their response to the open-ended question to say they wanted to change their answer to the question on the first screen. These subjects are included, with their original answer, in the statistics presented in Table 1 but excluded from the subsequent analysis. Three of these subjects wanted to change their response to indicate that the rebate condition was more generous, while one subject wanted to change their response to indicate that the match was more generous. Reclassifying these subjects does not lead to a material change and the adjusted proportion of respondents are: Match: 42.86%; Rebate: 9.24%; Equal: 47.90%.

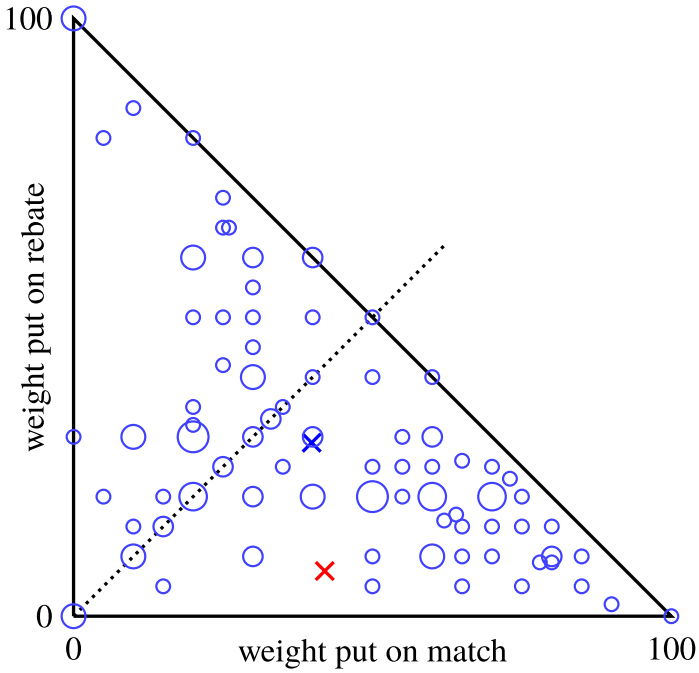

FIGURE 1: Individual responses to Survey B. Weights put on "Match" and "Rebate" are on the axes; the residual weight (distance to the hypotenuse) concerns the alternative "Equal". The volumes of the circles are in proportion to the number of observations for the specific weight-pairs. The blue cross indicates the average response of Survey B; the red cross the true outcome of Survey A.

in Survey A would have considered both scenarios equally generous, which is far below the true percentage of 50%. This difference is significant ($p = 0.000$). Also significant ($p = 0.000$) is the difference in weights assigned to the rebate, with the generosity being perceived more generous by Survey B subjects than it is truly felt by Survey A subjects. Weights are not significantly different for the match ($p = 0.350$).

TABLE 2: Survey B responses: Average percentages subjects expect as outcome to Survey A.

Treatment	Match	Rebate	Equal	*N*
MatchAlex–RebateSam	39.61 %	27.06 %	33.32 %	31
MatchSam–RebateAlex	46.61 %	26.42 %	26.97 %	31
RebateAlex–MatchSam	39.24 %	30.83 %	29.93 %	29
RebateSam–MatchAlex	33.60 %	32.00 %	34.40 %	30
All	39.83 %	29.02 %	31.15 %	121

Perhaps most interesting is the comparison between the two discriminatory responses, with the gap between these being much larger in Survey A than in Survey B. In Survey B

the ratio between the percentage assigned to the match and the rebate is 1.37, while the comparable ratio is 5.29 in Survey A. Hence, contributions are felt much more generous under a matching subsidy relative to the rebate by individuals within the Survey A population than it is expected to be by the Survey B population of individuals.

Why do we observe this gap between actual Survey A responses and Survey B estimates in Survey A responses? Possibly, subjects in Survey B may be inclined to give moderate answers. For instance, Survey B subjects who themselves feel matches and rebates are equally generous, may consider the choice for the match and the rebate option in Survey A as mistakes, and assign equal weight to these options. This would naturally close the gap between the relative weights on these two discriminatory options. Yet, only about one-sixth of subjects assign equal weight to the two discriminatory options, and the ratio between those assigning more weight to the match than the rebate and those who assigns weights in the opposite direction is just 1.50, retaining the observed gap.

One possible take-away, compatible with these findings, is that if an individual is encouraged to contribute under a matching subsidy by feelings of generosity, this act of generosity is likely to affect the self-image more than the social-image. Unfortunately, our data was not collected with the purpose to further substantiate this. A further exploration may require an experiment involving one party making actual decisions rather than both parties evaluating decisions by (hypothetical) others, which requires a careful design to ensure a similar gap is not resulting from "moral hypocrisy" (Rustichini & Villeval, 2014).

Summary of open-ended responses in Survey A

We now turn our attention to the analysis of the reasons Survey A subjects gave for their answers. The first point to note is that all subjects wrote at least a few words in response, with most writing at least a sentence or two. This gives us confidence they were engaged with the survey.

There were four subjects who used their response to the open-ended question to say they wanted to change their answer to the question on the first screen. We omit these four people from the analysis, leaving a sample of 115. Of these 115 subjects, 49 thought the match was the most generous, 9 thought the rebate was the most generous and 57 thought the two scenarios were equally generous.

Following the guidelines recommended by Caelli et al. (2003), and using general thematic analysis (Thomas, 2006), two of the authors individually read through the subjects' comments and identified general categories. After comparing notes, we found that we had identified similar categories. We then individually sorted the subjects' comments into these broad categories. Finally, we compared the categorisations to make sure we agreed on which subjects' comments belonged in which broad category. Table 3 gives examples of responses for each of the different categories. No editing has been done of these comments.

For subjects who deemed the match scenario to be more generous, we identified five broad categories of answers. The first we term *No Reward*. Answers in this category made the point that in the rebate scenario the donor received a reward for donating (the rebate),

TABLE 3: Examples of responses for each category.

Match:	
No Reward	Even though both people donated the same amount in the end, somehow the fact that one was reimbursed makes the person not getting the reimbursement seem more generous.
	Sam donate the money just because he wants to help, not with the purpose of take the half of the money back, that's being generous. It is not the money that you gave, otherwise doing because u want to do it
	alex is more generous as he donated without expecting anything back.he gave his money knowing it would not benefit the charity and not him
Twice	Because in the latter case, every dollar we donate will count twice to the charity
Incentives	There is potential for a higher donation with 1:1 matching.
Feeling	In my opinion the both have the same outcome, but first one just feels more generous.
Confused	The charity is getting more out of this scenario than it is in the second. In the second scenario the person donating would get half of their donation back which doesn't really harm the charity's donation but doesn't offer more either.
	The charity gets more money.
Rebate:	
Giving More	It is because he is giving more which is half of the money
Reward	The same amount of money is still being donated towards charity, however, the donor is also getting incentivized for the donation.
Equal:	
Same	Sam and Alex both ended up giving away a net $10 and the charity received a net $20. Financially these transactions are the same. Sam knew that he would get a 50% rebate so he knew that he was only donating $10 n reality.
	They give the same amount of money to the chairty, just in a different way.
Heart	Doesn't matter the amount of donation all the donation was from the heart.

so was possibly only donating to get the reward. Those donating in the match scenario got no such reward. The second category is *Twice*. Responses in this category noted that the charity got twice the amount of the money given by the donor. The third category is *Incentives*; answers fitting this category suggested that the incentives were better aligned for the donor in the match, relative to the rebate. Note that *Twice* and *Incentives* both focus on the impact of the donation (i.e., on the net donation). The fourth category is *Feelings*; responses in this category indicated that the match feels better. The fifth category, *Confused*, is subjects who seemed confused about how the subsidies worked. This included subjects who, for example, thought the charity got more money under a match. Answers not fitting into any of these categories were coded as *Other*.

For subjects who deemed the rebate scenario to be more generous, we identified two broad categories of answers. The first is *Giving More*. Answers fitting this category stated that the donor gave more under the rebate than the match. Such answers focus on the gross donation. The second category we label *Reward* and answers in this category stated that the subject was being rewarded under the rebate. Answers not fitting either of these categories were coded as *Other*.

We identified two broad categories of answers as to why subjects thought the match and rebate were equally generous. The first of these we label as *Same*; responses in this category state that either the donor gave the same amount in the two scenarios or the charity received the same in the two scenarios. The second category is *Heart*; answers in this category argue that giving is from the heart and the amount given does not really matter. Answers not fitting either of these categories were coded as *Other*.

The results of this classification exercise are reported in Table 4. We first discuss those who thought that match scenario was more generous. Of particular interest is that 16 people thought the match scenario was most generous because, unlike the rebate scenario, it did not involve a reward for the donor. This is almost one-third of those who thought the match scenario was most generous and 13.9% of the full sample. Therefore, we find evidence that a sizable fraction of people make statements consistent with the cooperation versus reward hypothesis made by Eckel and Grossman. Thus, framing can explain, at least in part, the differential impacts of matches and rebates on charitable giving.

TABLE 4: Responses regarding which scenario is most generous.

Reason	*N*	% of category	% of full sample
Match is more generous:			
No Reward	16	32.7	13.9
Twice	11	22.4	9.6
Incentives	4	8.2	3.5
Feeling	2	4.1	1.7
Confused	7	14.3	5.9
Other	9	18.4	7.6
Rebate is more generous:			
Giving More	3	33.3	2.6
Reward	5	55.6	4.3
Other	1	11.1	0.9
Equally generous:			
Same	46	80.7	40.0
Heart	6	10.5	5.2
Other	5	8.8	4.3

There are 11 people in the *Twice* category. To these subjects, the fact the charity receives more than the donor's gross donation makes the donation more generous, even though the donor contribution is the same in both cases. In spite of us carefully explaining what happens in each scenario, there are seven people whose responses showed they are confused (the *Confused* category), giving erroneous reasons for why the match is more generous. Five of the seven subjects in the *Confused* category mistakenly thought the charity received more money under one of the two scenarios. Four people are in the *Incentives* category and 9 in the *Other* category.

Of the small number (nine) of people who thought the rebate scenario was more generous, five are in the *Reward* category. These are people who think the donor being rewarded makes them *more* generous, in contrast to the 16 subjects who think the donor being rewarded makes them *less* generous. Three people are in the *Giving More* category. These are people who ignore the rebate, focusing on the gross donation rather than the donor contribution.

Turning to the 57 subjects who thought both settings were equally generous, 46 of them are in the *Same* category. These are subjects taking a consequentialist view who understood that the match and rebate setting are theoretically equivalent. Of interest is the six subjects in the *Heart* category, who believe generosity depends only on the act of giving itself, not how much is given. This could be consistent with a warm-glow effect that depends on donating, rather than how much is donated.

Note that the term "generous" is inherently ambiguous, so that it allows interpretations in terms of the giver's self-sacrifice or the recipient's benefit. In one extreme case, suppose that a multi-billionaire promises to contribute a billion dollars if a million people each contribute a dollar, and Kit contributes the millionth dollar one second before the deadline, knowingly providing the critical contribution. Is Kit more, or less, generous than Pat, who is not particularly wealthy but contributes a thousand dollars to the same cause? In the present study, the recipient benefit is held constant, so the main issue for most subjects, as indicated in comments, was whether the giver's self-sacrifice matters. And many subjects still considered the net self-sacrifice. It would be easier for subjects to think of self-sacrifice as reduced in the rebate case, as many apparently do, if they "segregate" the rebate and the original contribution, without thinking much about their relative magnitudes or the net result of "integrating" the two steps by subtraction (Thaler, 1999).

4 Conclusion

The existing literature finds that matches tend to be more effective than functionally equivalent rebates at increasing charitable donations in the lab. Eckel and Grossman (2003) conjecture this could be because rebates invoke a reward frame (the rebate is a reward for donating) whereas matches invoke a cooperation frame. Subsequent studies cite this conjecture, but it has never been tested. We designed a survey where we presented subjects

with a match scenario and rebate scenario, where the match and rebate were theoretically equivalent and the donor contributions were equal. Subjects were asked whether they thought the donors were equally generous, or if one was more generous than the other. Significantly more people thought the match scenario was more generous, with a number of these people saying this was because the rebate involved a reward whereas the match did not. This provides evidence in support of Eckel and Grossman's conjecture. In a second survey a new group of subjects were asked what proportion of subjects in the first survey they thought would have chosen each of three options. In this survey, there was a higher percentage thinking the rebate scenario was more generous than in the first survey, suggesting there are some important differences between self-image and social-image. We are not arguing that the rewards versus cooperation frame is the only reason for matches raising more than rebates. However, this framing effect appears to be influential for a sizable fraction of people, and it can help explain the "preference for matches" commonly observed in experiments. One practical implication is that fundraising efforts may be enhanced by identifying contexts where this framing effect is more prevalent.

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