ISSN 1178-2293 (Online)

University of Otago
Economics Discussion Papers
No. 1608

OCTOBER 2016

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Abstract

We conduct a laboratory experiment to test the effect on charitable donations to international development NGOs (INGOs) of emphasising current deprivation in a developing country, versus emphasising the potential good a donation can achieve. Using a double-blind dictator experiment with earned endowments, we find that varying the information/emphasis has no significant effect on total donations, or on the probability of donating. An emphasis on current deprivation does, however, significantly raise the variance of donations, so that conditional on donating, it significantly raises donations compared to emphasising potential gains from the charity's work.

Key words: charitable giving; dictator game; message strategy
JEL codes: C91; D64

This research was funded by a Commerce Research Grant from the School of Business, University of Otago.

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1 Introduction

International Development NGOs (INGOs) are often criticised for using, in their advertising material, narratives and images about human suffering and deprivation in developing countries (see Vossen et al. (2016) or Manzo (2008) for a review). Critics are concerned, for example, that such solicitations stereotype people from developing countries as "miserable, passive and helpless" (Vossen et al., 2016, p.2). Such concerns provide the motivation for this paper. However, rather than being concerned with the ethical question of whether INGOs should advertise in this way, or the empirical question of the extent to which they do (the focus of Vossen et al.), we test whether minimising information on current deprivation, in favour of emphasising what a donation may achieve, is likely to lead to a reduction in donations to INGOs. We analyse this question using a laboratory experiment – a double-blind Dictator Game where subjects earn payment, and may then elect to donate some portion of it to a prominent charity working in the African country of Mali.

Subjects in a control treatment are provided baseline information about the charity and recipient country. In the second treatment (the *current deprivation* treatment), subjects are provided with additional information which emphasises the amount of human suffering in Mali. Rather than providing information on one person (i.e. an identifiable victim) our focus is on providing information on the extent of suffering at a more aggregated level (e.g. by stating that child mortality rates are high). In the third treatment (the *potential gain* treatment) subjects are instead presented with information about the potential welfare gains to poor people in Mali arising from any donation. The fourth treatment (the *combined* treatment)

includes both sets of information. None of our treatments include visual images, and the information is presented verbally, so our research can be thought of as analysing the effect of different message strategies in settings like radio advertising.

Our paper is organised as follows. In Section 2 we review the literature relevant to the effects of varying information emphasis on charitable donations. Sections 3 and 4 describe our experimental design and procedures, respectively, while Section 5 provides our results and implications. Section 6 concludes.

2 Literature Review

There is a growing literature which uses Dictator Games to analyse giving to charity. Questions analysed include the effects on charitable donations of: rebates versus dollar-for-dollar matching of donations (see, for example, Eckel and Grossman, 2003; Davis, 2006), transactions costs and deadlines (Knowles and Servátka, 2015); whether the solicitation is verbal or a subtle visual cue (Fielding and Knowles, 2015) and public recognition of donations (Karlan and McConnell, 2014). Rather than reviewing this broader literature, we review below studies analysing the effect of presenting different message content on donations.

Our research question is similar to, but different from, work on the identifiable victim effect. The seminal research on the identifiable victim is due to Small et al. (2007). They use a Dictator Game to explore whether people give more when presented with personal information about an "identifiable victim", rather than statistical information about the magnitude of the problem of poverty in Africa. Having been paid $5 for completing a survey, subjects were handed a letter containing information about poverty in Africa, which invited

them to donate part of their $5 to Save the Children. In the first treatment, subjects were given statistical information about the problems of starvation in Africa, and told that this was caused by food shortages resulting from a lack of rainfall. This *statistical information* treatment is similar to our *current deprivation* treatment. In a second treatment, subjects were given a picture of a young girl from Africa and a brief description of her, noting that she faced the threat of starvation and that their donations would change her life for the better. In a third treatment, subjects were provided with both the statistical information and the picture and description. Donations were highest in the second treatment and lowest in the first. The authors' interpretation of this result is that people give more when they can picture the individual recipient; providing information about the severity of the problem at a more aggregated level just creates a perception that the problem of poverty is too overwhelming for anything to be done.

Focussing on Small et al.'s (2007) *statistical information* treatment, all the information presented focused on current deprivation, in the sense that it presented data on how serious a problem hunger is; there was no information presented on what a donation could potentially achieve. In the *identifiable victim* treatment, as well as the photo of the child, there was information on how deprived the child is and information about what a donation could achieve. Hence, Small et al.'s *identifiable victim* treatment is similar to our *combined* treatment, but with an identifiable victim. Our research question is similar, but different, to Small et al.'s. Our interest is whether, in the context of aggregate information only (i.e. with no information on an identifiable victim) charitable donations are affected by a relative emphasis on current deprivation or potential gain.

Also relevant to our question is research by Karlan and Wood (2014) on the effect of providing information on the efficiency of aid. This research is a field experiment analysing whether providing information on the effectiveness of a charity's work increases donations. Letters were sent to existing donors to Freedom From Hunger (an INGO). The control group was sent a letter containing an emotional appeal focused on a specific beneficiary (i.e. an identifiable victim). The treatment group was sent a shorter emotional appeal with added information regarding scientific evidence on the effectiveness of the charity's work. For the full sample the treatment had no effect. However, when donors were disaggregated into those making small and large donations (as determined by the size of the last donation made to the charity) it was found that the evidence treatment increased donations for large donors but decreased them for small donors. Karlan and Wood's research relates to ours in that our *potential gain* treatment includes the claim that there is scientific research confirming that a donation is likely to be effective.

As noted above, our research focuses on the effect of different types of aggregate information on donations, rather than information on identifiable victims. A laboratory study which does focus on aggregate information is Etang et al. (2012). However, they are concerned with emphasising the *causes* of deprivation in a developing country, rather than the severity of deprivation. Etang et al. find that donations to an INGO are higher when it is emphasised that the causes of deprivation are external to the country concerned, compared to emphasising that the causes of poverty are due to the choices made by people living in the recipient country.

The study that is closest to our research is Brañas-Garza (2006), who explores whether the amount given to overseas charities by students at two Spanish universities depends on being told that the money will go to poor people, and on information about what the money will be

used for. In the *no information* treatment, subjects were given three 5-Euro notes and each subject was told she could divide these between herself and three other people; no information about the recipients was provided. In the *poverty* treatment, each subject was told that the recipients were poor communities in Africa, Latin America or Asia and that "this amount of money can be very useful in these countries". In the *medicines* treatment, subjects were given the same information as in the *poverty* treatment, and also told that the money would be used to distribute basic medicines (aspirin, sterile gauze, antibiotics, thermometers, etc.) and that "these medicines can be of great help". Each subject took part in all three treatments in this within-subject design. In the *no information* treatment the mean donation was €1.50. This increased to €9 for the *poverty* treatment and to €12 for the *medicines* treatment.[1]

3 Research Design

Our research question can be illustrated using traditional welfare economic theory. Recall that an individual *i*'s willingness to pay to see a public good G increase from G^0 to $G^0 + \Delta G$ can be stated as the difference in her expenditure functions needed to achieve an initial level of utility U^0 at the two levels of public good provision:

$$WTP_i = e(p, G^0, U_i^0) - e(p, G^0 + \Delta G, U_i^0) \quad (1)$$

At issue is whether this difference, also called the individual's compensating surplus, will be affected by providing more information (and therefore emphasis) on the current dismal state of G^0, or on the improvement ΔG that the charity would achieve. More specifically, we are interested in whether providing aggregate information emphasising the severity of poverty is

[1] Subjects were also asked to give a reason for why they made the decisions they did. These answers are analysed in Aguiar et al. (2008).

likely to lead to higher donations to INGOs than providing information emphasising the improvement that donations will potentially achieve. To test this, we conduct a double blind Dictator Game with earned endowments, with an INGO as a recipient, and subjects in different treatments being provided with different information. The wording is given below for our control and three additional treatments. The second treatment provides additional information emphasising the extent of current deprivation, whereas the third treatment provides additional information on what any donation will be spent on (i.e. drawing attention to what a donation will achieve). The fourth treatment provides the information from both treatments two and three. The full experimental instructions can be found in Appendix One.

Wording for Control Treatment

> "We would like to give you the opportunity to donate part or all of your payment from today's session to the charity World Vision New Zealand, a registered charity supporting poor families overseas. Your donation will be spent in Mali. Mali is one of the poorest countries in Africa. Mali is situated on the Southern border of the Sahara desert and is one of the largest countries in Africa."

Our control is similar to Brañas-Garza's *poverty* treatment. However unlike Brañas-Garza we name the charity that will administer the donation. Although we provided no additional information about World Vision, other than that it is a registered charity, it is a high-profile charity in New Zealand, especially among young people, as many schools participate in the charity's annual 40-hour famine fundraiser. As described, subjects in the control were also given the name of the country where the donation would be spent, and told that Mali is one of the poorest countries in Africa. The geographic information is not likely relevant to whether subjects make a donation or not, but we were conscious of making sure the control message

was not too short, compared to the other treatments. The control wording was also included word for word as the opening sentences in the other treatments. Below, we only show the additional wording for each treatment.

Wording for Treatment 2 (Current Deprivation)

> "Mali has one of the highest rates of infant and child deaths of any country in the world. Many children die before they reach their first birthday, and many more will die before they reach the age of five. Mali's overall life expectancy is also one of the lowest in the world."

This treatment emphasises the extent of suffering in Mali, providing information similar to that found in Small et al.'s (2007) *statistical information* treatment.

Wording for Treatment 3 (Potential Gain)

> "Any donation you make will be used by World Vision to improve child health through antenatal and postnatal care, including programmes for immunisation, malaria and HIV/AIDS prevention, diarrhoea management, and child nutrition. Scientific research has shown that these types of interventions are highly effective at improving child health."

This treatment focuses on what the donation will be used for, as well as stating that there is evidence that these interventions are highly effective at improving child health. Note that all donations from all four treatments went to a health programme run by World Vision in Mali, that includes the health interventions mentioned in the *potential gain* treatment. This treatment is similar to Brañas-Garza's *medicines* treatment, but we, as in Karlan and Wood

(2014), state that there is scientific research showing that such interventions are highly effective at improving child health.

The fourth treatment (the *combined* treatment) includes the wording from both the current *deprivation* and *potential gain* treatments.

We have noted above some similarities between our treatments and the treatments in Brañas-Garza (2006), but there is a key difference. Brañas-Garza does not include a treatment which emphasises suffering in the recipient country. Our *current deprivation* treatment is key to our design, as we wish to analyse whether donations are likely to be lower if INGOs transfer their emphasis from current suffering to the gains their work will achieve. Our main interest is thus in comparing donations in the *current deprivation* and *potential gain* treatments. However, it is also of interest to compare the *current deprivation* treatment with the *control* in order to analyse the effect of emphasising deprivation, rather than simply mentioning it. The *combined* treatment is included for completeness to analyse whether including both sets of information leads to higher donations than *current deprivation* or *potential gain* alone.

4 Experiment Procedures

The experiment took place in the New Zealand Experimental Economics Laboratory (NZEEL) at the University of Canterbury over two days in May 2016, with 209 undergraduate students serving as subjects. Subjects were selected randomly from the NZEEL database using the ORSEE recruitment system (Greiner, 2004). The sessions were advertised as a survey on student spending habits, for which the subjects would receive a payment of $20, followed by a short decision-making task. The survey questions are provided

in Appendix Two. We advertised that a session might take up to 45 minutes, however each session lasted only 30-40 minutes.

Upon entering the laboratory all subjects were seated at cubicles. The $20 payment was in a small manilla envelope on each desk and subjects were asked to open the envelope, check that it contained $20, and to sign a receipt, which was then collected. Subjects then chose a white envelope from a box which was carried around the room by one of the experimenters. This white envelope contained the general spending survey and subjects were given 10 minutes to complete it. When the 10 minutes were up they were asked to place the survey back in the white envelope, but to not yet seal the envelope. Subjects were then informed that we were going to undertake the second part of the session, and that the remaining instructions would be read verbally from the experimenters' room at the back of the lab through a microphone (this ensured that the experimenters could not see whether subjects made a donation or not). The solicitation message for the relevant treatment was then read out. Subjects wishing to make a donation were asked to put the money in the white envelope and then all subjects, whether they had made a donation or not, were asked to seal his or her own white envelope. Subjects were then instructed to place the white envelope in a box by the door as they left the lab, and were invited to leave one at a time. These procedures implemented a double-blind protocol, yet still allowed us to match the donation amount with the spending survey responses.

5 Results

In total, 209 subjects took part in the experiments, with two sessions being run for each treatment (one per day on two successive days). There were an approximately equal number of subjects per session. Panel A of Table One summarises some characteristics of subjects

across treatments. We note that there is a higher percentage of females in *potential gain* than in the other treatments. There is also substantial variation across treatments in the percentage of subjects reporting, in the spending survey, having made a charitable donation in the previous month, with the percentage being particularly low in *combined*. Below, we include these two variables in a regression equation to control for their potential effect on donation behaviour in the experiment. However, we begin by describing and testing pairwise comparisons of donations between the different treatments.

Of the 209 subjects, 117 (56%) made a donation overall. The average donation across all subjects is $3.67, and conditional on donating is $6.56. Descriptive statistics showing how donations varied across the four treatments are reported in Panels B and C of Table One. Across all donating and non-donating subjects (Panel B), average donations are highest for *current deprivation* ($4.90) and lowest for *combined* ($2.87). The percentage of people donating did not vary widely across treatments; it is highest in the *potential gain* treatment (64%) and lowest for *control* (52%). Focusing on the intensive margin (Panel C), the average donation conditional on donating is highest in *current deprivation* ($8.93) and lowest in *combined* ($5.43).

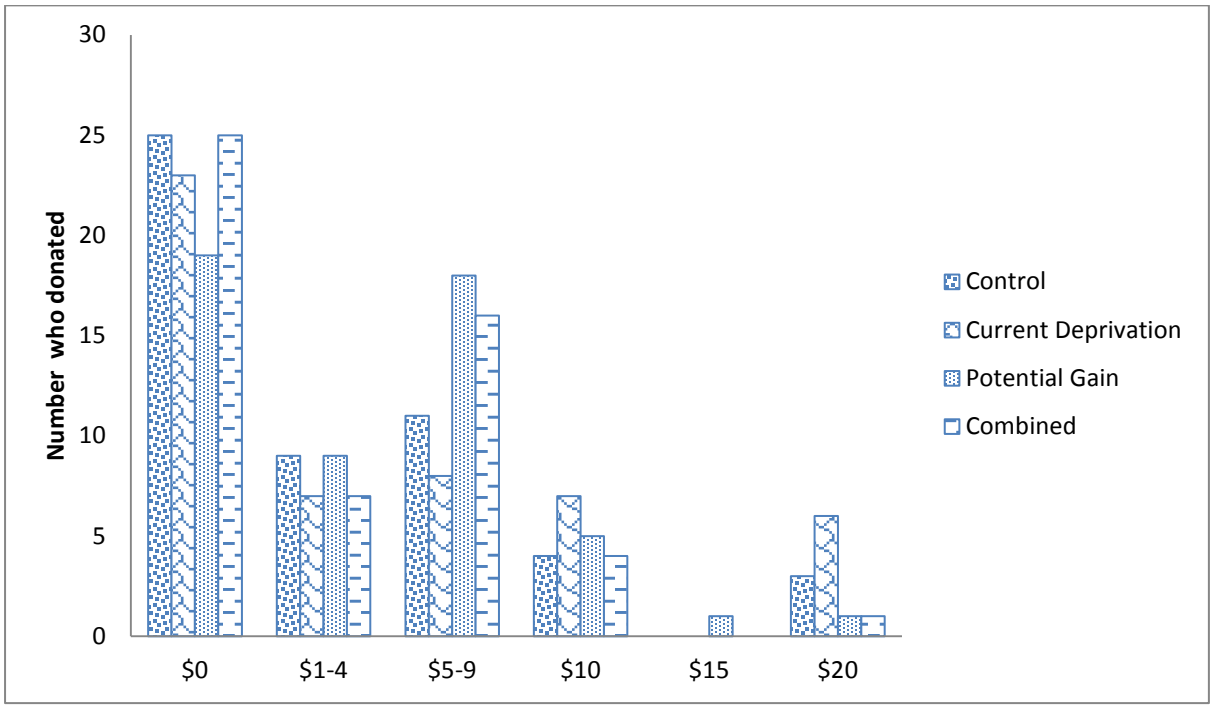
Table One: Descriptive Statistics

Treatment	*Control*	*Current Deprivation*	*Potential Gain*	*Combined*
Panel A: Subject characteristics				
Number of observations	52	51	53	53
Female (%)	46.2	52.9	64.2	49.1
Donated previous month (%)	38.5	41.2	30.2	18.9
Panel B: Experiment donation, all subjects				
Average donation	3.27	4.90	3.70	2.87
Median donation	1.00	2.50	3.50	1.00
Standard deviation	5.17	6.59	4.25	3.91
Panel C: Experiment donation, intensive margin				
Number of positive donations	27 (52%)	28 (55%)	34 (64%)	28 (53%)
Average donation (conditional on donating)	6.30	8.93	5.76	5.43
Median donation (conditional on donating)	5.00	6.00	5.00	5.00
Standard deviation (conditional on donating)	5.66	6.51	4.01	3.84

Figure One shows the frequency of different levels of donations for each treatment.[2] The number of $20 donations is highest in *current deprivation* and lowest for *control* and *combined*. This, along with the information in Table One, suggests that *current deprivation* may be most effective at getting people to donate, or at least to give more if they do donate.

[2] Note that there were no donations between $11 and $14 or between $16 and $19. Also of interest is that of the 51 people who donated $5, 10 of these gave the $5 note, rather than the coins.

Figure One: Frequency of Different Levels of Donations



Moving to formal comparisons, a Fisher test fails to find a statistically significant difference in the proportion who donate a positive amount (the lowest p-value is for *potential gain* v *control,* (0.238 two-sided)). More surprisingly, when we compare the amounts donated by the full sample using either Mann-Whitney or t-tests, we also do not generally find significant treatment effects, notwithstanding the higher mean donation in *current deprivation*. Table 2 provides two tailed p-values for the Mann Whitney test in bold, and for t-tests in plain text.

Table Two: Tests For Significant Differences Across Treatments For All Subjects

	Control	*Current Deprivation*	*Potential Gain*
Current Deprivation	**0.333** 0.163		
Potential Gain	**0.222** 0.642	**0.981** 0.271	
Combined	**0.932** 0.654	**0.331** 0.059*	**0.242** 0.296

Note: The numbers in bold are p-values for the Mann-Whitney test and the numbers in plain text the p-values from a two-sided t-test, assuming unequal variances. ***, ** and * indicate significance at the 1, 5 and 10 percent level respectively.

Table Two suggests that the only possible statistically significant difference across treatments is between *current deprivation* and *combined*. But even here the difference is significant only at the ten percent level on the basis of a t-test, and not the non-parametric Mann-Whitney test. Thus our main finding here is that there are no statistically significant differences between *current deprivation* and the other treatments. These initial results suggest that varying the information/emphasis on current deprivation vs. potential gains has no significant effect on the donations subjects made.

Finally, we test formally whether varying the emphasis affects the intensive margin of donations, or the amount given by those who give something. Table 3 provides the p-values for relevant two tailed Mann-Whitney and t-tests.

Table Three: Tests For Significant Differences Across Treatments For The Intensive Margin

	Control	*Current Deprivation*	*Potential Gain*
Current Deprivation	**0.087*** 0.115		
Potential Gain	**0.842** 0.682	**0.075*** 0.030**	
Combined	**1.000** 0.511	**0.054*** 0.018**	**0.800** 0.738

See notes to Table Two.

Only at the intensive margin do both tests find there is a statistically significant difference in donations between *current deprivation* and *potential gain*. That is, conditional on donating, people will donate more when current deprivation is emphasised in the solicitation message, rather than the potential gains a donation will achieve. For the Mann-Whitney test (but not the t-test) there is also a significant difference between *control* and *current deprivation*, implying that emphasising deprivation, rather than just mentioning it, also increases donations, conditional upon donating. For both the Mann-Whitney and t-tests, there is also a significant difference between *current deprivation* and *combined*, implying the surprising result that providing additional information on potential gain negates the benefits of providing the information on current deprivation only.

So far our analysis has focused on non-parametric tests or comparing unconditional means. Given that our research design enables us to match the answers subjects gave in the spending

survey[3] to the amount they donated in the experiment, we can also control for personal characteristics which may affect subject behaviour in the experiment and not wash out with random assignment to treatment. The two variables we control for in our core regressions are gender and whether or not subjects reported having made a charitable donation in the previous month. The descriptive statistics for these two control variables were discussed earlier, and we noted there was some variation across treatments for both. It seems likely that subjects who report having made a charitable donation in the previous month may be more likely to donate in the experiment. Although previous lab experiments tend to find no differences between males and females with respect to charitable giving in the lab (e.g. Etang et al., 2012; Carpenter et al., 2008) we still control for gender given the differences in the percentage of females in our different treatments.

The equation we estimate is given by the following equation

$$Donation_i = \alpha_0 + \alpha_1 Control_i + \alpha_2 Gain_i + \alpha_3 Combined_i + \alpha_4 Female_i + \alpha_5 Previous_i + \varepsilon_i \quad (2)$$

where,

$Donation_i$ = the amount donated in the experiment,

$Control_i$ = a dummy variable equal to 1 if subject *i* is in the control treatment, and 0 otherwise,

$Gain_i$ = a dummy variable equal to 1 if subject *i* is in the *potential gain* treatment, and 0 otherwise,

$Combined_i$ = a dummy variable equal to 1 if subject *i* is in the *combined* treatment, and 0 otherwise,

[3] The spending survey (included as Appendix Two) focused on people's spending habits and their use of the internet for shopping. The question we asked about charitable giving was only one of many survey questions, so asking this question is unlikely to have influenced behaviour in the experiment.

$Female_i$ = a dummy variable equal to 1 if subject *i* is female, and 0 otherwise,

$Previous_i$ = a dummy variable equal to 1 if subject *i* reported making a charitable donation in the previous month, and 0 otherwise.

Note that the omitted treatment is *current deprivation*. We made this the omitted category given that most of our interest is in comparing *current deprivation* to the other treatments. We estimate both OLS and Tobit[4] regressions for the full sample, a logit regression for the extensive margin and an OLS regression for the intensive margin. Note that the White test fails to reject the null of homoscedasticity for the OLS regressions.

In general, our regression results echo those found earlier using non parametric or t-tests. For the full sample, the only treatment effect that is statistically significant, and this only at the ten percent level and in the OLS regression, is that donations are lower in *combined* than in *current deprivation*.[5] Turning to the control variables, there is suggestive evidence in the OLS regression (p value = 0.102) and stronger evidence in the Tobit regression that females are found to donate more than males, and also that those who report making a charitable donation in the previous month donate more in the experiment than those who reported making no donations in the previous month.[6]

[4] Tobit estimates, allowing for censoring at the bottom of the distribution, are obtained given the large number of zero observations.

[5] We also tested for equality of all potential pairs of included treatment coefficients in Table 4, and found none of them to differ significantly from each other.

[6] In other specifications, we also tried interacting *Gender* and *Previous* with the different treatment dummies, but all interactions were statistically insignificant, so are excluded from our preferred regression. Whether subjects took part on Day One or Day Two was also insignificant, so is excluded from the reported regressions. We also tried exploiting reported expenditure data from our survey. We experimented with including a measure of discretionary spending on meals, drinks and entertainment as a proxy for income or tastes, but this variable was typically insignificant, and whether it was included or not did not qualitatively affect any of our other results. It was also not clear *ex ante* which spending items to include in this variable. We therefore exclude it from our preferred specification. The results discussed in this note are available from the corresponding author on request.

Table Four: Results for the Full Sample, Extensive Margin and Intensive Margin

	Full sample		*Extensive margin*	*Intensive margin*
	OLS	*Tobit*	*Logit*	*OLS*
Constant	3.69***	-0.01	-0.40	8.31***
	(0.82)	(1.43)	(0.34)	(1.22)
Control	-1.51	-1.90	-0.06	-2.58*
	(0.98)	(1.64)	(0.41)	(1.38)
Potential Gain	-1.18	-0.74	0.41	-3.09**
	(0.98)	(1.62)	(0.42)	(1.32)
Combined	-1.67*	-1.90	0.09	-3.39**
	(0.99)	(1.66)	(0.41)	(1.37)
Female	1.17	2.47**	0.61**	0.52
	(0.71)	(1.20)	(0.29)	(0.98)
Previous Donation	1.42*	2.72**	0.69**	0.61
	(0.77)	(1.25)	(0.33)	(0.99)
N	209	209	209	117
R^2	0.06			0.08
Pseudo R^2		0.01	0.05	
White het-test (p-value)	0.35			0.15

Standard errors are reported in parentheses. ***, ** and * indicate significance at 1 percent, 5 percent and 10 percent levels, respectively.

At the extensive margin, none of the treatment effects are statistically significant, but females are more likely to donate than males. In addition those who report making a donation in the previous month are more likely to donate in the experiment than those who do not report donating in the last month. As before, treatment differences appear only when we examine the intensive margin; all treatments have a significantly negative effect on donations relative to the omitted *current deprivation*. In particular, contingent upon donating a positive amount, a move from the *current deprivation* treatment to the *potential gain* treatment was associated with a NZ$3.09 drop in donations, all else equal. Finally, neither *Female* nor *Previous* is significant at the intensive margin, unlike at the extensive margin or full sample.

Thus, our regression results reported in Table Four are broadly consistent in their findings with the non-parametric and t-tests in Tables Two and Three. Whether the charitable solicitation emphasises current deprivation, potential gain from intervention, or both has little, if any significant effect on overall donations, nor on the proportion of individuals who choose to make a donation. Yet somewhat paradoxically, emphasis affects results at the intensive margin. Conditional on donating, subjects, on average, donate more when current deprivation alone is emphasised, than if potential gain or both potential gain and current deprivation are emphasised together.

How is it possible that an emphasis on current deprivation has no discernible effect on overall donations, nor on the proportion who donate, yet significantly raises the donations of those who give? An explanation can be found by comparing not the mean, but the variance of donations across treatments. Recall from Table 1 that the standard deviation of average donations is noticeably higher under *current deprivation* than in any other treatment, both for the full sample, and among those who donated a positive amount. Levene's robust test

statistics confirm that the standard deviation of donations is significantly higher under *current deprivation* than under *potential gain,* or indeed under any other treatment.[7] In other words, when compared to emphasising potential gains, emphasising current deprivation spurs many people to donate larger amounts, but for others, to donate less or nothing. (While not a significant difference, 55% donated under *current deprivation,* compared to 64% under *potential gain.*) Thus, while the overall average donation in the full sample was highest under *current deprivation,* the simultaneous increase in positive and negative dispersion meant the difference was not significant. Under intensive margin comparisons, the negative part of the increased dispersion caused by emphasising *current deprivation* is omitted, resulting in significant differences being found.

Applying our findings, charities may find that emphasising potential benefits from their work rather than current deprivation in fundraising campaigns will not greatly affect the total donations they receive. A benefits emphasis may, however, affect the composition of their support, increasing the number of moderate donations at the expense of extremely generous *and* zero/low donations. This may also imply that when charities are approaching people with a high probability of donating (e.g. when contacting their existing donors) they may maximise donations precisely by emphasising current deprivation.

6 Conclusion

As noted in the introduction, INGOs are often criticised for using images or narratives which emphasise human deprivation in developing countries. The aim of this paper was to analyse whether emphasising current deprivation maximises donations. We tested this experimentally using a double blind Dictator Game with earned endowments, where a well-known charity

[7] Robust equal variance tests yield p-values of .07, .01, and .00 when comparing the variance of *current deprivation* to the *control*, *potential gain*, and *combined* treatments, respectively, for the full sample. For the intensive sample, these tests yield p-values of .26, .00, and .00, respectively.

was the recipient. We used a verbal solicitation (an everyday analogue of which would be radio advertising) focusing on aggregate information, rather than on an identifiable victim. Our results suggest there are no significant differences across treatments in terms of total donations overall, or at the extensive margin. However, emphasising current deprivation rather than the potential gains of a charity's work does lead to a higher variance in donations, spurring higher donations from some, and disengagement from others, thus leading to significantly higher donations for those choosing to donate (i.e. at the intensive margin). Therefore, the only context in which we find emphasising "dire straits" rather than "the cure" might increase donations in verbal appeals would be if charities were targeting people who already have a high probability of donating. Otherwise, our results suggest that providing information about current deprivation vs. potential gains does not increase donations overall, nor the proportion who donate.

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Appendix One: Experimental Instructions

The instructions below were read out to subjects. Except where noted otherwise, the instructions were identical for each treatment.

"Thank you for participating in this research project. As well as completing a survey, we will also get you to take part in a short decision-making task. This should take no longer than 45 minutes. Please be assured that we have designed this session so that the answers you give in the survey and choices you make in the decision making task are anonymous."

"Please make sure your cell phone is turned off. We ask that you please don't speak to any of the other participants until you have left the room."

"On the desk in front of you is an information sheet, a consent form, a brown envelope which contains your $20 payment for taking part in this research session, and a receipt form. Before we begin, we need everyone to read the information sheet and sign the consent form, assuming you are happy to do so. We also need you to open the brown envelope, check that it contains $20 and to sign the receipt."

"We will now give you three minutes to read the information sheet, to sign the consent form, to check the envelope contains $20 and to sign the receipt."

[Collect consent forms and receipts.]

"The survey form is in a white envelope which we will now distribute. You may open the envelope and start filling in the survey once it is handed to you, and we will give you ten minutes, from when the last survey is handed out, to complete this. Please answer as many questions as you can in the time available. When you have finished the survey, please place it back in the white envelope, but do not seal the envelope yet. Please do not leave when you finish the survey as we still have the decision-making task to conduct."

[Distribute white envelopes containing the survey.]

"We are now going to undertake the second part of this session. All further instructions will be read from the experimenters' room at the back of the lab through a microphone."

The next paragraph differed by treatment.

Wording for Control Treatment

"We would like to give you the opportunity to donate part or all of your payment from today's session to the charity World Vision New Zealand, a registered charity supporting poor families overseas. Your donation will be spent in Mali. Mali is one of the poorest countries in Africa. Mali is situated on the Southern border of the Sahara desert and is one of the largest countries in Africa."

Wording for Treatment 2 (Current Deprivation)

"We would like to give you the opportunity to donate part or all of your payment from today's session to the charity World Vision New Zealand, a registered charity supporting poor families overseas. Your donation will be spent in Mali. Mali is one of the poorest countries in Africa. Mali is situated on the Southern border of the Sahara desert and is one of the largest countries in Africa. Mali has one of the highest rates of infant and child deaths of any country in the world. Many children die before they reach their first birthday, and many more will die before they reach the age of five. Mali's overall life expectancy is also one of the lowest in the world."

Wording for Treatment 3 (Potential Gain)

"We would like to give you the opportunity to donate part or all of your payment from today's session to the charity World Vision New Zealand, a registered charity supporting poor families overseas. Your donation will be spent in Mali. Mali is one of the poorest countries in Africa. Mali is situated on the Southern border of the Sahara desert and is one of the largest countries in Africa. Any donation you make will be used by World Vision to improve child health through antenatal and postnatal care, including programmes for immunisation, malaria and HIV/AIDS prevention, diarrhoea

management, and child nutrition. Scientific research has shown that these types of interventions are highly effective at improving child health."

Wording for Treatment 4 (Combined)

"We would like to give you the opportunity to donate part or all of your payment from today's session to the charity World Vision New Zealand, a registered charity supporting poor families overseas. Your donation will be spent in Mali. Mali is one of the poorest countries in Africa. Mali is situated on the Southern border of the Sahara desert and is one of the largest countries in Africa. Mali has one of the highest rates of infant and child deaths of any country in the world. Many children die before they reach their first birthday, and many more will die before they reach the age of five. Mali's overall life expectancy is also one of the lowest in the world. Any donation you make will be used by World Vision to improve child health through antenatal and postnatal care, including programmes for immunisation, malaria and HIV/AIDS prevention, diarrhoea management, and child nutrition. Scientific research has shown that these types of interventions are highly effective at improving child health."

All remaining wording was identical for each treatment.

"We will forward all donated money to World Vision. Because of the steps we have taken to guarantee your anonymity, we are unable to issue you with a receipt for any donation you make. However, World Vision will issue us with a receipt for the total donations made during this research project. If you would like to see a copy of the receipt, please email one of the researchers whose email address is given on the information sheet."

"If you do wish to make a donation, please now put the money in the white envelope. Whether or not you have made a donation please seal the white envelope. We will give you one minute to do this."

[Pause for one minute.]

“Please make sure the white envelope has been sealed. We will now invite you to leave one at a time. Please place the sealed white envelope in the box by the door at the back of the room as you leave.”

“Thank you once more for taking part in our study.”

Appendix Two: The Spending Habits Survey

This survey asks some questions about yourself and about your spending habits. Your responses to the questions will be completely anonymous. No one, including the researchers, will ever know which individuals gave which answers.

Some questions about yourself

1. Gender: Male ○ Female ○

2. Intended major subject (if known) _____

3. How many years have you been studying at the University of Canterbury

   (including this year)?

   1 ○ 2 ○ 3 ○ 4 or more ○

4. Where to do you live during term time?
   Halls of Residence ○
   Flat ○
   Live with parents or other family members ○
   Board with non-family members ○
   Other ○ Please specify _____

5. If you are responsible for doing grocery shopping, which supermarket do you normally shop at?
   New World ○
   Countdown ○
   Pak'n Save ○
   Fresh Choice ○
   Other ○
   Not responsible for doing grocery shopping ○

6. Do you work part time while studying at university?

   _____ Yes _____ No

PTO

Some questions about how much you have spent on different things in the last month

The following questions are about what you have spent money on in the last month (30 days). We realise you will not be able to remember exact amounts; an estimate is fine.

When answering these questions, please include money spent on items that have not yet been consumed, for example a ticket you have purchased for a concert you have not yet been to. Do **not** include things you have consumed in the last month that were paid for more than a month ago, for example a book you are reading that you purchased prior to the last month.

7. In the past month, approximately how much have you spent on the following items?

   (Please write the amount in the space provided.)

   (a) Accomodation/Rent $_____

   (b) Clothing $_____

   (c) Fresh fruits and vegetables $_____

   (d) Drinks (whether at home or while out):

      Alcoholic drinks $_____

      Coffee or other hot drinks $_____

      Energy drinks $_____

      Other drinks (e.g. lemonade) $_____

   (e) Take-aways or eating out $_____

   (f) Entertainment (excluding food or drinks purchased which should be included under drinks or eating out above):

      Movies, theatre or concerts $_____

      Sporting events $_____

      Other $_____

   (g) Music purchases (downloads, CD's, etc.) $_____

   (h) Gifts for people you know $_____

PTO

(i) Donations (including charities, religious organisations and other non profits)

$_____

(j) Books (including textbooks and ebooks) $_____

(k) Beauty and grooming products $_____

(l) Transportation (all kinds) $_____

Some questions about whether you purchase goods or services online or not

8. For the following goods, please indicate with a tick if you have purchased the good or service online in the last month (30 days).

(a) Airfares ○

(b) Holiday Accommodation ○

(c) Books ○

(d) Clothing ○

(e) Music ○

(f) Tickets to concerts, movies or sports events ○

(g) Groceries ○

(h) Previously owned goods (e.g. via Trade Me) ○

PTO

9. What do you see as the **advantages** of buying goods or services online?

10. What do you see as the **disadvantages** of buying goods or services online?