Charitable giving and intermediation

Nadine Chlaß, Lata Gangadharan and Kristy Jones*

May 2015

Abstract

Charitable donations are often made through intermediaries who can fund themselves from these same donations. Donors who purchase charitable output through an intermediary incur a principal-agent problem with *unobservable prices*. We compare charitable giving in an experiment with and without intermediation. Overall, donors give less when an intermediary is introduced, a decision which can only be partly explained by donors' beliefs about the price of charitable output. However, this overall result can be attributed to only 41 per-cent of all donors. 59 per-cent of all donors in fact give as much or more with than without intermediation. Responses to intermediation can be explained by characteristics of donors' moral judgement.

Keywords: charitable giving; altruism; intermediation; charitable institutions, price elasticity; moral judgement reasoning

JEL Codes: C91, D64, L31

* Chlaß: Department of Economics, University of Turku, Finland. Chlaß conducted this research under Leverhulme Visitor Grant DKA 7200 at the Dept. of Economics, University of Essex, UK, and at the University of Jena, Germany. nadine.chlass@utu.fi. Gangadharan: Department of Economics, Monash University, Melbourne, Australia. Lata.gangadharan@monash.edu. Jones: Department of Economics, Monash University, Melbourne, Australia. Kristy.jones@monash.edu.. Acknowledgements: We would like to thank Philip Grossman for his valued input. This project was funded by a grant from the Science of Philanthropy Initiative and Australian Research Council Grants, DP1094676 and DP140101900.

Charitable giving and intermediation

May 2015

Abstract

Charitable donations are often made through intermediaries who can fund themselves from these same donations. Donors who purchase charitable output through an intermediary incur a principal-agent problem with *unobservable prices*. We compare charitable giving in an experiment with and without intermediation. Overall, donors give less when an intermediary is introduced, a decision which can only be partly explained by donors' beliefs about the price of charitable output. However, this overall result can be attributed to only 41 per-cent of all donors. 59 per-cent of all donors in fact give as much or more with than without intermediation. Responses to intermediation can be explained by characteristics of donors' moral judgement.

Keywords: charitable giving; altruism; intermediation; charitable institutions, price elasticity; moral judgement reasoning

JEL Codes: C91, D64, L31

1. Introduction

In 2013, $335 billion dollars were donated to US charities in order to fund philanthropic causes such as education, cancer and heart disease research, treatments for victims of abuse, or assistance for people with a terminal illness[1]. Donations to charity therefore seem to effectively complement the welfare state. That same year, an investigative study of the non-profit sector (Baird et al. 2013) revealed that the fifty worst[2] US charities transferred less than four per cent of their funds to philanthropic causes.

Donors who give to intermediaries in order to support a philanthropic cause purchase charitable output at *hidden*, i.e. unobservable, prices. They never learn how much of the donation reached the recipient, that is, how much charitable output was produced. Intermediaries may exploit this fact to spend donations on inefficient administrations, or even embezzle money for their own personal gain (Abbink & Ellman 2010; Dyson 2013). This hidden prices aspect of charitable giving has not received much attention in the scientific literature and is the main focus of this paper. To identify the effect of intermediation, we resort to the laboratory as field data on intermediated and non-intermediated donation procedures for the same cause may be subject to a self-selection effect and are hard to come by, as are incentivized donor beliefs about the prices of charitable output.

We design a novel intermediated donation game comprising three players. Donors donate to a real-life disadvantaged recipient through an intermediary who has the option to take any amount of the donation for herself. We compare giving in this intermediated game – where the price of charitable output is not known – to giving in a standard donation task where the price is known since donors give directly. In both tasks, the real-life disadvantaged recipient are small local groups of Australian Aborigines. After the intermediated task, we elicit beliefs from donors about the amount intermediaries pass on to trace back the expected prices of charitable output.

Our findings indicate that on average, donations decrease under intermediation. This aggregate effect is composed of three distinct reactions to donors' beliefs about the price of charitable output: Some donors seem to be '*outcome-oriented'* since they increase their donation and keep the charitable output constant if they believe the intermediary will not pass on the entire amount; others can be classified as '*price-oriented'* since they decrease their donation when they expect the intermediary not to pass on the entire amount which implies a higher price of charitable output; we call a third group '*donation-*

[1] Charitable Giving accounted for roughly two per cent of the US GDP in 2013; donations to education alone amounted to seventy-five per-cent of the US federal education budget. 95.4% of all households give to charity with an average annual household contribution of $2974 (Giving USA Foundation 2014).

[2] Worst is defined by the amount diverted away from the intended beneficiaries and towards the founders of the charity or towards fund raising activities contracted to friends and family.

oriented' since they keep their donation constant and do not react to their beliefs about how much the intermediary passes on.

We subsequently try to understand these different behavioural patterns in more detail. Donors who expect an intermediary to divert some money may face an ethical dilemma: if the intermediary takes some of the donation, should the recipient suffer by it, and should the donor not compensate the amount taken by giving more? But if the donor decides to do so, does she not fund and reward inefficient or even corrupt behaviour? We show that donors' responses to intermediation can indeed be statistically explained by the arguments which individuals employ to resolve ethical dilemmas.

Donors in the field are acutely aware of the agency problem we study. In fact nationally representative surveys around the world suggest that most donors are concerned about how their donations are spent by intermediaries and charities. In 2010, English and Welsh survey respondents identified 'ensuring a reasonable proportion of donations make it to the end-cause' as the most important quality for trust and confidence in a charitable intermediary (Iposis Mori 2010, page 7). However, when asked on a scale of one to ten whether intermediaries can actually be trusted to ensure a reasonable proportion of donations reach the end cause (0 being 'don't trust', 10 being 'trust them completely'), 35% responded with 5 or lower. Fifty-seven per-cent of all respondents agreed that intermediaries spend too much on salaries and administration. In Australia, in a similar survey, 37% of survey respondents agreed that intermediaries are wasteful with donations and 87% stated they would like more information about how donations are spent (Millward Brown 2012).

There is – to our best knowledge – no previous empirical work on this paper's research question. Indeed, the experimental literature has hardly addressed the intermediation problem or its implications for charitable giving (Barr et al. 2004; Abbink & Ellman 2010)[3] despite the fact that most donations in the field are made through intermediaries (Marshall 1978; Weisbrod & Dominguez 1986; Hansmann 1987). Instead, experimental work has primarily focused on improving charities' fundraising strategies (e.g. Eckel & Grossman 2003, Falk 2007, List & Lucking-Reily 2002, List 2011, Huck & Rasul 2010, Huck *et al.* 2015). Observational studies of intermediation mostly test whether donors expect their donations to crowd out charities' efforts in raising other funding (e.g. Andreoni & Payne 2011, Andreoni *et al.* 2014) for their philanthropic purposes, or whether intermediaries may crowd in donor funding by soliciting grants (e.g. Khanna & Sandler 2000).

[3] Individuals' motives to donate in turn have been and continue to be extensively studied (Andreoni 1990; Eckel & Grossman 1996; Landry et al. 2006; Gruber & Hungerman 2007; Karlan & List 2007, Meer & Rosen 2009, Meer & Rosen 2011, Rondeau & List 2008, Craig *et al*. 2010, List 2011, Jones 2013; Gangadharan *et al.* 2014). Individual motivations to give may, of course, affect donors' reaction to intermediation. A warm glow giver (Andreoni 1990) may not change her donation even if she expects the price for charitable output to increase.

The paper is organized as follows: Section 2 classifies donor choices and beliefs into types. Section 3 describes the experimental design and Section 4 presents our research questions. Section 5 presents the findings of the experiment. In Section 6, we examine the moral motivations for both donor and intermediary behaviour and discuss why framing of intermediary behaviour as either inefficiency or corruption does not seem to influence donors' propensity to give. Section 7 concludes and discusses the implications of our findings.

2. Donor responses to the price of charitable output

Uncertainty exists in charitable giving through either external variables (e.g. the risk of bad weather on a charitable agriculture project, the exchange rate risk for international charities, etc.) or uncertainty which is linked to the behaviour of the intermediary itself (e.g. poor productivity or inefficiency, corruption, etc.). We refer to the latter as *institutional uncertainty*. Gangadharan *et al.* (2013) examine donors' attitudes to risk in a charitable giving experiment where uncertainty is determined exogenously by a lottery. Brock *et al.* (2013) study giving in risky settings and suggest that individuals' fairness perceptions under risk depend both on individuals' relative positions before and after the resolution of uncertainty. Bohnet and Zeckhauser (2004) find that individuals are much more willing to take risks when the outcome is determined by chance than when it depends on the actions of a stranger and when risk may therefore imply betrayal. Our paper is the first to examine how *institutional uncertainty* affects donor decisions. We introduce this institutional uncertainty through the behaviour of another party (the intermediary).

Donors may have different views about what a charitable donation is actually purchasing. If donors are concerned with the actual benefit their donation makes to the disadvantaged recipient's wellbeing (Weisbrod & Dominguez 1986; Duncan 2004), the donor may view a donation as the purchase of charitable output. A donor's marginal contribution to output is therefore related not only to the amount of money donated but also to the process by which that donation is transformed into charitable output. Differences in the intermediary's productivity effectively alter the price of charitable output which may change donors' giving decisions (either by decreasing or increasing charitable donations). Other donors may care less about charitable output and be more interested in the donation itself. For these donors, a change in the price of charitable output may have little to no effect on their donation decision.

A large number of empirical studies using data on charitable giving have found the price elasticity of donations to be negative, particularly in relation to tax (see Andreoni 2006 and Peloza and Steel 2005 for reviews). Peloza and Steel (2005) estimate a weighted mean price elasticity at -1.44 from 69 papers with large variation ranging from -7.07 to +0.12. Andreoni (2006) also finds that estimates vary significantly. Experimental papers have directly varied the price of charitable giving in the laboratory and field dictator games through experimental designs such as matching and subsidizing donations

(Eckel & Grossman 2003; Karlan & List 2007; Jakiela 2012). Andreoni and Vesterlund (2001) use a modified dictator game varying the relative price of giving to calculate the price elasticity of demand for men at -1.03 to -1.13 and for women at -0.60 to -0.7. Karlan and List (2007) find significantly lower price elasticity in a large-scale matching field experiment with spatial heterogeneity. Though many studies have found negative elasticity in aggregate, we propose that cumulative elasticities comprise a combination of very heterogeneous donor reactions to price differences.

2.1 Donors' decisions and Donor types in the presence of an Intermediary

Let's consider a very simple framework, where a donor donates to a charity. A donor's utility is a function of her own wealth, *w*, as well as her donation, *d*, and how it contributes to a particular charity's output (*Z*). That is, she may care not only about her own wealth and giving, but also about the outcome to the charity's beneficiary. Her utility is given by:

$$Utility = U(w - d, Z(d, x)),$$

where Z represents the intermediary's production function and x is the productivity of the intermediary in terms of converting donations to charitable output. Z is increasing in productivity, such that $Z'(x) > 0$. Consequently, as x decreases (e.g. through inefficiency or corruption), each dollar of donation contributes relatively less to charitable output. This effectively increases the price of the charitable output. A change in the perceived price of charitable output can affect different types of donors in different ways. While negative elasticity implies that on average donors decrease their donations and consumption of charitable output, we suggest that donors may respond heterogeneously to price changes. Specifically, we conjecture that there are three main donor types in relation to price: *Outcome-oriented donors, Price-oriented* donors and *Donation-oriented* donors.

Outcome-oriented donors are interested in the contribution of their donation to the welfare of the recipient (that is, they are interested in the purchase of charitable output). As declines in intermediary productivity increase the perceived price of charitable output, outcome-oriented donors increase their donation in order to maintain a similar level of charitable output at a higher price. An extreme form of an outcome-oriented donor is the *Compensator*. Compensators care about the aggregate impact of total donations on recipient welfare (rather than merely the effect of their own personal contribution). That is, their contributions are interdependent with the donations of others. When donations of other donors are high, they may free-ride. As intermediary productivity decreases, compensators may not only increase their donations to maintain a given level of output; they may further increase their donations if they believe that other donors will donate less and ultimately compensate the disadvantaged recipient for this loss. This may be viewed as a form of reverse free-riding.

As with outcome-oriented donors, *Price-oriented* donors are concerned with the benefit to the recipient. They are also influenced by the price of charitable output relative to other goods, including their own personal consumption. As inefficiency increases the perceived price of charitable output relative to other goods, price-oriented donors substitute personal consumption for charitable output and thereby reduce their consumption of charitable output.

In contrast to outcome and price-oriented donors, *Donation-oriented* donors are less concerned with charitable output, and the welfare of the recipient, than with the actual donation. Since inefficiency concerns the transformation of a donation into charitable output, and donation-oriented donors are not concerned with charitable output, inefficiency does not affect their dollar donation, i.e. $U(Z(d,p)) = U(d)$. As inefficiency increases and the donation remains constant, the quantity of charitable output purchased with the fixed donation declines.

Donors do, however, generally not know how exactly an intermediary will transform their donation into charitable output to benefit the recipient. In the face of this uncertainty, donors have to rely on their subjective beliefs about how the intermediary is going to act. Donors may expect intermediaries to invest funds or costly effort to improve efficiency, minimize corruption, and ensure the most efficient transformation of donations into benefit for the charitable recipient. At the same time, donors have little or no ability to determine how well this service has been performed. At one extreme an intermediary may act entirely in self-interest and provide a very poor service or embezzle the money for itself. At the other extreme, an intermediary may act altruistically or according to the donors' expectations and attempt to maximize efficiency to provide the highest benefit to the recipient. Our simplified experimental design aims to capture the main attributes of this donor/intermediary scenario.

3. Experimental design

3.1 Overview

We introduce institutional uncertainty by adding an additional player - a charitable intermediary - into the standard real donation experiment. This design allows us to examine the behaviour of donors in a setting which is more representative of the agency problem faced by donors in the real-world, where people within intermediaries decide how to invest the donors' donations.

Subjects participate in four tasks. The first is a real effort task for which subjects receive compensation which can be used in the following tasks. The second is a standard real-donation task which serves as a baseline of giving without uncertainty. In the third intermediation task, donors face uncertainty in the form of a charitable institution played by another subject in the lab. After completing these tasks subjects are asked their beliefs about the decisions made by others. They then participate in an exit survey and a Moral Judgement Task. The tasks are further detailed below. We chose not to alter the

ordering of the tasks as the framing in the intermediation task is likely to have lingering effects and can lead to spill overs in relation to giving decisions in the real donation task, making that task an inappropriate baseline. Instead, subjects are told in advance they would be randomly paid for only one of the second and third tasks. Subjects are not informed of any details of each task until after they have completed the previous task.

Experiments were conducted with university students in the MonLEE lab at Monash University in the city of Melbourne, Australia. Subjects were invited to participate in the experiment using ORSEE, an opt-in web-based recruitment system (Greiner 2004). Subjects were only invited if they had not previously participated in any similar experiment. Six sessions were run with 150 participants. Sessions ran for approximately an hour and were conducted on computer using z-Tree software (Fischbacher 2007). Subjects were asked to make no contact with any other participants in the experiment and were asked to not provide any personal information with their responses in the survey which could be used to identify them. Subjects were given a $5 payment as a show-up fee, $5 for completing a Moral Judgement Task, plus their earnings in the experiment (which consisted of earnings from task1, either task 2 or 3, and from task 4). Subjects were paid their earnings in cash in Australian Dollars at the end of the experiment.[4] Average earnings from the experiment were $27 and ranged from $17 to $36.

3.2 The Real Effort task

In the real effort task, subjects are randomly assigned either Role A or Role B. These roles later translate into the donor and the intermediary role. Each subject completes a simple task where they count the frequency of Ones or Fives in a box of numbers. The tasks are similar across both roles but different in terms of the numbers subjects see. Subjects are told that each role faces a different set of questions and that for answering the questions they will be allocated a payment which can be used for decision making in tasks 2 and 3 of the experiment. All subjects receive $10 compensation for completing the real-effort task and are only informed of their own earnings.

The real-effort task was included in the design for two purposes: firstly, to allow donors an opportunity to give money they have earned. This is representative of real-life income from which donations are made. Secondly, it is a means of compensating intermediaries for performing this role – as this is effort which in real life would be compensated (e.g. through payments to CEOs and employees). In the absence of such compensation, in the intermediation task, intermediaries may justify taking money from the donor's donation as payment for their task. Compensating both the donor and the intermediary for different tasks performed at the beginning of the session and informing them only of their own earnings (and not the earnings of the other player) rules out inequality aversion between the Role A and B

[4] At the time of the experiments, 1 Australian dollar was equivalent to around 0.90- 1 US dollar.

subjects as a motivation for giving and taking behaviour. Subjects are only informed of their respective roles as donor or intermediary at the start of the intermediation task.

3.3 The Real Donation task

After completing the real-effort task, all subjects are given instructions for the standard real-donation task in which they can choose to allocate whole dollar portions of their real effort task earnings between themselves and disadvantaged recipients (Eckel & Grossman 1996). Subjects are informed that the recipients they can donate to are disadvantaged Indigenous Australians**.** The real donation experiment is used as a baseline for donors' donations in the intermediation task without the institutional uncertainty of the intermediary. For participants who would be in the role of an intermediary in the next task, it gives a baseline measure of their preference for allocating income as a donor between disadvantaged recipients and themselves.

3.4 The Intermediation task

In the intermediation task, depicted in Figure 1, subjects learn whether they are donors or intermediaries depending on the roles they were randomly allocated in the real effort task. For ease of understanding, intermediaries were referred to as 'Charitable Institutions' in the experiment. Each donor is randomly matched with one intermediary. The donor decides how much of her earnings from the real effort task to donate, i.e. *d*, to the disadvantaged recipients through the intermediary. The intermediary decides what percentage of the donor's donation to keep for herself, i.e. *s*, and what portion to pass on to the recipient, i.e. (*d-s*). The recipient is the same as in the standard real donation task. Both donors and intermediaries make their decisions simultaneously such that intermediaries do not know the amount donated by their matched donors prior to making their decisions. Donors receive no information about what amount is taken by the intermediaries before or after making their donation decisions. As subjects also are not told the possible earnings of the other type in the initial task, neither the donors nor the intermediaries know the earnings of the other players when making their decision. If this were not the case, donors might expect intermediaries to equalize donors' and their own payoff. Such expectations would confound donors' beliefs about how much of their donation ultimately reaches the recipient. Subjects cannot identify the other subject they are matched with.

3.5 Belief elicitation task

On completion of the intermediation task, beliefs are elicited. Donors submit what percentage of the donors' donations, on average, they think intermediaries passed on to the recipient, and what percentage of their earnings, on average, they believe the other donors in the room donated. Intermediaries submit what percentage of their earnings they think the donor they are matched with donated and what percentage, on average, they believe the other intermediaries in the room chose to pass on. Beliefs are

elicited in an incentive compatible way. Subjects' compensation is higher, the closer their revealed beliefs are to the actual value from each session based on a quadratic scoring rule (see Schotter and Trevino (2014) for a recent survey of the literature on belief elicitation). In our analysis, we use the belief data to construct price arc elasticity values for each donor.

Finally, subjects complete an exit survey as well as a *Moral Judgement Task* to assess various moral motivations for the behaviour of donors and intermediaries (see Section 6 for details). After this, the payoff-relevant task was randomly selected with equal probability, and donations from the entire session in this task were donated to Indigenous associations which provide health and education programs in disadvantaged Indigenous communities.[5] A volunteer from the participants was asked to help make the aggregate donation to the association by website in front of all subjects.

4. Research Questions

4.1 Donor behaviour

The intermediation task coupled with the standard real donation task allows us to examine the impact of institutional uncertainty and the real-world principal agent problem on the giving decisions of donors. Significantly different giving behaviour between the two tasks would imply that donors are affected by the introduction of the intermediary and the increased level of uncertainty. Comparing donations between the real donation task and the intermediation task allows us to identify different types of donors based on whether a donor increases, decreases or keeps her donation constant across tasks. Elasticity can be calculated by estimating the perceived price change (using donor beliefs about how much of their donation was passed on by the intermediary) and by comparing this with the corresponding change in donation. Specifically our research questions with regard to donors are –

- What proportion of donors are *outcome-oriented* donors, *price-oriented* donors or *donation-oriented* donors?
- What is the aggregate price arc elasticity for donations with respect to intermediary uncertainty, and how do these values differ between donor types?
- Do *outcome-*, *price-*, and *donation-oriented* donors have different moral motivations to donate to disadvantaged recipients?

[5] Two small indigenous associations (Red Dust Role Models and Wunan Foundation) were used. Subjects were informed about the nature of the association and their programs but not the name of the actual association when making decisions to ensure that the reputation, institutional aspects, or personal attitudes towards a particular association do not affect decision making.

4.2 Intermediary behaviour

The intermediation task allows us to examine how much intermediaries choose to take from donors' donations for their own benefit when they are already compensated for their role as an intermediary. Comparing intermediary decisions with the standard real donation task allows us to determine whether any amount taken is due to allocation preferences between herself and the recipient, or rather motivated by norms of how members of an institution should behave. If an intermediary cares only about her own outcome and the outcome to the recipient, the proportion she chooses to donate in the real donation task should roughly equal the proportion she chooses to pass on in the intermediation task. If an intermediary is affected by her role as the intermediary and/or believes that she has an obligation to pass the donation on to the recipient, the amount passed on in the intermediation task should be significantly higher than in the real donation task. Specifically, our research questions with regard to the intermediary are –

- Do intermediary allocation decisions differ between the real donation experiment and the intermediation task?
- How do moral motivations influence intermediaries' allocation decisions?

5. Experimental results

In the standard real donation task the average donation by all 150 participants is $2.73 out of $10 (27%). Thirty-five participants (27%) give zero. This is consistent with the existing literature such as Eckel and Grossman (1996) who find that subjects in the laboratory give on average 31% of the pie in a real donation experiment, while 27% of subjects give zero. Using an interval regression of the amount donated, we find no significant difference between donors (Role X) and intermediaries (Role Y) in terms of the average donation in the real donation task, suggesting that subjects were effectively randomized into roles (p-value = 0.67). Subjects made donations in whole numbers so each dollar donation is interval-censored in that only its lower and upper bound are known. That is, a subject who donates $1 wants to give $1 at least but not more than, say $1.99. Interval regressions allow us to account for this feature of the data. All results reported in this section are also verified using nonparametric tests.

5.1 Donors

Table 1 summarizes the number of subjects who gave (and the average donation amount) in each task by role. The average amount donated by the 75 donors in the intermediation task is $2.25. This is significantly less (p-value < 0.02) than the average of $2.83 that these same donors donated in the real

donation task.[6] Figure 2a uses violin plots (Hintze & Nelson 1998) to compare the share of the pie donated in the intermediation task to the share donated in the real donation task.[7] The share donated in the intermediation task is clearly smaller than in the real donation task. Columns 1 and 2 in Table 3a show the results of an interval regression estimating the effect of the intermediation task on donor giving decisions for all donors. Consistent with Figure 2a, donations remain significantly lower in the intermediation task as compared with the real donation task.

5.2 Identifying donor types

Of the 61 subjects who were allocated to the role of the donor and who donated in at least one of the two tasks, ten donors (16.4%) can be classified as outcome-oriented in that they gave more in the intermediation task than in the real donation task and twenty-six donors (40.9%) can be considered price-oriented in that they gave less in the intermediation task than in the real donation task.[8] The remaining twenty-five donors (41%) are donation-oriented in that they give the same positive amount in both tasks.[9]

For outcome-oriented donors there is no significant difference between giving in the real donation task and the amount donors expected the recipient to receive in the intermediation task (interval regression of expected whole Dollar amount donated on a task Dummy, p-value=0.94). The expected donation in the intermediation task was calculated by multiplying a donor's actual donation in the intermediation task with the proportion the donor believed the intermediary would pass on to the recipient. This supports the argument that these donors try to maintain at least the same level of donation received by the recipient in both tasks.[10] Price-oriented donors reduce their donations in terms of both dollar value and the quantity of charitable output purchased. As donation-oriented donors expect the intermediary to pass on less than the entire donations, the same donation value results in a decrease in the quantity of charitable output purchased. The fourteen donors who gave zero in both tasks could also be considered as donation-oriented since the price of charitable output does not affect their giving behaviour.

[6] The p-values reported are from an interval regression of Dollar amounts on a task dummy with robust standard errors clustered on the individual level.

[7] The plots show the distribution in grey and the interquartile range as a black bar. The white dot depicts the average amount donated or passed on in each of the tasks.

[8] It is possible that some subjects who donated less in the intermediation task took their earnings and donated it to another charity. This would correspond to a donor switching away from one charity to another in real-life. For these individuals the transaction costs associated with making their own donation outside the experimental setting would need to be close to zero.

[9] This included one donor who could have been categorized as an outcome-oriented donor in that she gave $5 in both tasks but expected the intermediary to pass on the entire donation in the second task.

[10] For three of the ten donors, the additional donations did not fully compensate for their expectation of how much the intermediary would take; consequently, they actually donated less in terms of the final amount expected to reach the recipients (and consequently have negative elasticity in terms of charitable output).

Differences in giving between the two tasks are highly significant based on donor types. A summary of the amount donated by donor type and task is given in Table 2. For outcome-oriented donors, the average amount given more than doubled from $1.20 to $2.80 (interval regression of dollar amounts on task dummy, p-value < 0.01). For price-oriented donors, donations between the tasks more than halved from $4.12 in the real donation task to $1.85 in the intermediation task (interval regression of Dollar amounts on task dummy, p-value < 0.01). Tables 3b and 3c show that these effects are robust after controlling for donor characteristics. By definition, donations for donation-oriented donors did not change between tasks. The intermediation task dummy is perfectly correlated with the constant and hence we do not report the results for this regression.

5.3 Accounting for donor expectations

On average donors expected intermediaries to pass on just over half of their donation (51.44 %) to the recipients. Taking into account how much donors expected intermediaries to pass on, the average amount expected to make it to the recipient from the $2.25 donation in the intermediation task was $1.17. There was no significant difference in expectations between donor types.

Columns 3 and 4 in Table 3a add donor expectations about intermediary behaviour to the interval regressions from the previous section. On aggregate, we find that donors who believe the intermediary will pass on a higher amount give significantly more in the intermediation task than those who believe the intermediary will pass on less. However, even after controlling for expectations donors still donate less in the intermediation task as compared with the real donation task. This is consistent with the notion of trust betrayal as in Bohnet and Zeckhauser (2004) who find that individuals are much more willing to take risks when the outcome is due to chance than when it depends on another player being trustworthy. In our experiment, donors reduce their donations more strongly in the intermediation task than their beliefs about how much will be passed on can account for. This may be because the relative price of personal consumption becomes lower and donors substitute consumption correspondingly, or because donors are intolerant of what they deem is bad intermediary behaviour. Next, we disaggregate donors' reactions to their expectations. The moral motivations behind donor behaviour are examined further in Section 6.

5.4 Price elasticity of demand for charitable output

When the relative price of charitable output changes (as less or more is passed on to the recipient by the intermediary), donor types respond differently. As price increases, outcome-oriented donors increase their dollar donation to compensate recipients for what is not passed on by the intermediary. While most

outcome-oriented donors may have relatively inelastic demand[11]*, compensators may even have a* positive price elasticity of demand – anticipating that other donors might reduce their donation in the face of an intermediary. Price-oriented donors on the other hand, would respond by decreasing their donation and consumption of charitable output; their price elasticity of demand for charitable output would be therefore negative. Donation-oriented donors are unaffected by price and maintain the exact dollar donations as prior to the price rise. As the donations remain constant and the price of charitable output rises, the amount of charitable output purchased decreases. The price elasticity of demand for charitable output for donation-oriented donors would also be negative.

We assume for simplicity that in the real donation task a one dollar donation corresponds to one unit of charitable output, and calculate the price elasticity of demand for charitable 'output' using donors' expectations about the proportion passed on by the intermediary. In the intermediation task, the quantity of charitable output purchased by the donor can be calculated as the dollar value of the donation multiplied by the proportion the donor expects the intermediary to pass on. Figure 3 depicts the range of price elasticities and changes in dollar amounts donated between the two tasks for each donor where calculable.

On average, donors' price elasticity of demand for charitable output is -1.39.[12] This is broadly consistent with the -1.44 found by Peloza and Steel (2005). However, consistent with the varying results in the literature, we find significant heterogeneity between individual donors. Elasticity ranges from an average of -3.05 for price-oriented donors to an average of +1.99 for outcome-oriented donors.[13] Tables 3b and 3c show that, at face value, absolute donations do not respond to expectations at all after disaggregating donor reactions to intermediation. Table 6, however, analyses in detail the determinants of donors' response to price increases using a logit model that employs more data and exploits the heterogeneity in the sample more extensively than the regressions reported in Tables 3b and 3c. The model contains information on donors' demographics, attitudinal responses from the survey, their beliefs about how much will be passed on, and the characteristics of their moral judgment (see section 6). The results from this larger model confirm the donor types suggested above that the *less* donors believe intermediaries to pass on, that is, the higher the price of charitable output, the more likely they are outcome rather than donation oriented, and the more likely they are price-rather than donation

[11] Outcome-oriented donors may also have a slightly negative price elasticity of demand if they increase the dollar amount of their donations to compensate the recipient as the price of charitable output increases, but not enough to maintain the same level of charitable output previously purchased.

[12] Arc elasticity was calculated for 60 of the 75 donors. Fourteen donors donated 0 in both tasks such that the percentage change in quantity donated could not be calculated. One donor believed the intermediary would pass on the entire 100%; as such the donor faced no price change. Average elasticity is estimated at -1.16 setting elasticity equal to zero for non-givers.

[13] Elasticity ranges from -19 to 5.67 for individual donors.

oriented. As we discuss in section 6, Table 6 also shows that donors' moral judgement characteristics have a similarly large, and at times even larger standardized effect than their expectations.

5.5 Intermediaries

Figure 2b provides a visual impression of the share donated in the real donation task and the share passed on in the intermediation task, by the 75 intermediaries (Role Y). The figure shows that intermediaries pass on a considerably higher share in the intermediation task than they donate in the real donation task (the average share donated significantly increases from 26.3% to 54.3%; p-value < 0.01).[14,15]

In both tasks, the subject essentially chooses how to allocate money between the recipient and herself. If a subject is only concerned with the relative outcome for herself and the recipient, the proportion passed on in the intermediation task should not be significantly different from the proportion donated in the real donation task. What changes is how giving is structured, the respective roles of subjects and the social norms associated with those roles. In the real donation task, subjects are altruistically giving out of their own incomes. In the intermediation task, they are taking from income which was given to recipients by donors. Our results are consistent with the existing literature which finds that the choice set of donors (give vs. take) influences the donation decision, with donors significantly less likely to take from recipients than to give (List 2007; Bardsley 2008; Jakiela 2012). There is also significantly higher variance in the amount passed on in the intermediation task as compared with intermediary donations in the real donation task (Levene's nonparametric variance test, p-value < 0.01). This suggests that the view about how much should be passed on may be less uniform in the population than the view about how much to give in a real donation task.

Columns 1 and 2 in Table 4 present an interval regression on the decisions of intermediaries. Intermediaries pass on significantly more to recipients in the intermediation task as compared with their donation in the real-donation task (p-value < 0.001). This remains true after controlling for intermediary characteristics (column 2). The effect of the intermediation task is, however, reduced when we account for intermediaries' beliefs about how much will be donated, see columns 3 and 4 of Table 4. The more intermediaries believe is donated by the donor, the more they pass on (or vice-versa they pass on less when the amount donated by the donor is less). If they believe that the donor donated little, intermediaries may justify passing on less themselves. They may argue that the small donation is an

[14]As before, the p-value is from an interval regression on a task dummy, and robust standard errors are clustered at the individual level.

[15] One could argue that charities in the field would pass on a larger share of donations. Yet, in the introduction we provide evidence that this may not be the case. Indeed, charity experts classify charities who spend 35% of all donations on fundraising as *good charities* (Hundley and Taggart 2013) and even the most cost-effective large charities spend an additional 15% on administrative costs (Kane 2010).

indication that the donor did not really care much for charity anyway and thus, there is less guilt associated with taking the donor's donation. Intermediaries may also wish to take a fixed absolute amount from the donation to buy lunch, for instance – just as a charity might need to take a pre-specified amount to cover its fixed personnel or fundraising cost. This fixed amount will be a higher percentage of a low total amount of donations than of a large amount of donations.

6. Moral imperatives explain donor (and intermediary) behaviour

In this section we aim to understand the differences in donors' and intermediaries' reactions to the intermediation task as compared to the standard real donation task. Our conjecture is that individuals may have different moral ideals, or moral motivations to donate, and that the application of these ideals may prescribe different reactions to the introduction of an intermediary. For an illustration, take those donors who we labelled outcome-oriented, who increased their donation when they expect that the intermediary will keep some of it. Their motive in donating money to charity might be to secure some living standard for the recipients, to improve the recipients' access to education, and their chances of participating in public and political life. These donors might think, in some form, about securing the human rights – or similarly – the legislative rights of the recipients, an aim which donors can only reach if they keep their charitable output constant.

A motivation which could lead to a reduction in donations when facing the intermediation task might be a concern about the rules of the game. Donors may find it problematic that the rules of the intermediation task allow 'taking' – be it framed as 'corruption', or 'inefficiency' – and may refrain from funding such rules by donating less. In every-day life, institutions prescribe how the resources of a society reach their destination and help less advantaged citizens come into their legislative right.[16] Donating when institutions allow for a misdirection of funds might mean to promote corroborating the social contract.

Piaget (1948) and Kohlberg (1969, 1984) have studied which types of arguments individuals employ when judging about right and wrong of the course of an action. They formulated six classes of moral argumentation in moral decision making ranging from obeying rules and avoiding punishment, to winning approval and maintaining social order by strictly following the law, to reasoning in terms of institutions and the social contract or ethical principles of conscience such as the respect for inalienable human rights (see Table 5 for a summary of the six classes).[17]

[16] In the experiment we framed the taking as 'inefficiency' or 'corruption'. There is no significant difference of framing on donations (see Tables 3a, 3b and 3c). We discuss framing and its effects in section 6.3.

[17] 'Moral' in this context does not refer to something which the society deems right or wrong. 'Moral' refers to those normative ideals or criteria which the individual considers binding for herself and which she has 'internalized'.

We elicit participants' complete set of preferences over these different types of moral argumentation in a psychological test developed by Lind (1978, 2008) which participants complete in the Moral Judgement Task.[18] Donors' reactions to intermediation are regressed on their preferences over all six ways of argumentation – we therefore measure differences between donors' moral judgment along six dimensions. The test presents two stories in which the respective protagonists either commit a crime to prove another crime, or help another person to die upon that person's request. After each story, participants are presented with a catalogue of arguments and are asked which of them they would use to judge whether the protagonist did right or wrong. Each argument represents one class of moral argumentation from Table 5. For a detailed description of the test, see Lind (1978), or the summaries in Chlaß *et al.* (2013) and Chlaß and Moffatt (2012) from an interdisciplinary perspective. The results from this task are presented below.

6.1 Donors' reaction to the intermediation task

Donors' preferences over the different types of moral argumentation outlined above statistically explain the three donor types reported in Section 2. Table 6 presents the results of a series of simple binary logit models where the dependent variables are pairs of different donor types and the explanatory variables include subject responses in the Moral Judgement Task and demographic characteristics. The Table presents the average marginal effect of each explanatory variable on the likelihood of being a given donor type rather than another.

The first material difference between the three types of donors is the extent to which they argue in terms of general ethical principles of conscience – such as inalienable human rights and dignity (class 6). Donors are 18% more likely (p-value<0.01) to be outcome- rather than price-oriented the more they prefer to make use of such arguments.[19] Similarly, they are 16% more likely to be donation rather than price-oriented (p-value<0.01). These findings support the interpretation that donors who increase their

[18] Lind's test allows us to examine which of the different Kohlberg classes of argumentation an individual actually employs. However, the test does *not* assume that these classes reflect sequential stages which an individual passes as she develops her ability to make a moral judgement from childhood to adulthood. The test is protected by copyright and reprinted in Appendix 2 for referees' use only. For more details on the calculation of scores, see also footnote 18.

[19] In the Moral Judgement Test, subjects are asked to tick on a Likert scale how much they accept or reject the use of a given argument to judge the behaviour described in a story. The stories include scenarios such as judging a doctor who medically assists suicide upon a patient's request, and judging individuals who steal evidence to prove a crime. Consistent with previous studies (Chlass et al. 2013, Chlass and Moffatt 2012), we take the mean rank (value) of all arguments referring to the same type of moral argumentation for each type of moral argumentation (i.e. class 1 to class 6 in Table 5, there are four arguments for each class) and adjust each mean rank for the difference between the biggest and smallest value which a subject ever ticks in the entire test. These averages are then normalized on the entire sample of donors, subtracting the sample mean and dividing by the sample standard deviation. A marginal effect measures the effect of a one-unit increase of this variable. We use the complete set of moral preferences elicited in the test to model donors' reaction to intermediation, that is, we use six mean scores for each donor.

donations but also those who do not wish to reduce their donations in the intermediation task do so out of a concern for the rights of the recipient.

The second material difference is the extent to which donors prefer to argue in terms of the social contract, the institutions enforcing it, and the individual rights it stipulates (class 5). The more donors prefer to argue this way, the more likely (18%, p-value<0.01) they are outcome- rather than donation-oriented, a finding which supports the interpretation that these donors wish to help the recipient come into her legislative rights. The same type of reasoning does, however, also decrease the likelihood of being donation- rather than price-oriented, i.e. by 31%, p-value<0.01. Here, the relevance of smoothly functioning institutions for class 5 which enforce the social contract may take effect. Price-oriented donors may be concerned that the intermediary is allowed to 'take' and may refrain from funding institutions which allow this, by donating less. Donors with a no-tolerance attitude toward corruption are more likely to be price-oriented.[20]

6.2 Intermediaries' reaction to the intermediation task

Similar results can be found for intermediaries, who are more likely to pass on more to the recipient if they prefer to reason in terms of general ethical principles and inalienable human rights.[21] For each unit increase in intermediaries' use of general ethical principles and universal rights (when making a moral judgement), intermediaries are 14% more likely to pass on a higher amount than they donated in the real donation task (p-value < 0.02).[22] That is, those intermediaries who are morally motivated by principles of conscience are more likely to pass on more in the intermediation task where any amount not passed on is effectively taking from the recipient's income given by the donor.

6.3 *Inefficiency vs. corruption: Does priming matter?*

Misuse of funds by intermediaries can take a variety of different forms, each of which may have a different impact on donor giving decisions. Existing research has argued that it may be possible for framing to have an effect on the actions of subjects (Park 2000; Cooper & Kagel 2003; Abbink & Hennig-Schmidt 2006; Barr & Serra 2009). We examine how framing affects donors' reaction to the

[20] In terms of demographic characteristics we find that religious subjects are generally more likely to give and are more likely to be donation oriented than outcome oriented. Other demographic characteristics (including gender) are not significant in explaining behaviour.

[21] Even though in the field, an intermediary may not be a single individual they would be influenced by the decisions of individuals within the institution.

[22] These are results from a binary logit model of intermediaries where the dependent variable is a dummy which is equal to one if the intermediary passes on more than she donates in the real donation task, and zero otherwise. These results are available from the authors.

intermediation task and whether donor behaviour changes if decreases in productivity come through inefficiency or corruption. We do this by employing two different frames. [23]

Despite subjects being more accepting of inefficiency than corruption in post-experiment survey questions (Wilcoxon signed rank test p-value < 0.01), there is no significant difference between the amount donated or passed on between the two frames.[24] The result is interesting as it may indicate that even though inefficiency is viewed as significantly more acceptable than corruption, the effect of inefficiency and corruption on donations, and the outcome for the disadvantaged recipient, is the same.[25] An alternative explanation is, of course, that the intermediation task itself is more salient than the frames and the insignificance may be due to the fact that the inefficiency design has the features of a corruption situation (i.e. any amount the intermediary does not pass on in either frame is viewed as 'stealing', irrespective of the label) or that the framing was too artificial to trigger desires to abstain from moral behaviour (Bardsley 2005; Abbink & Hennig-Schmidt 2006; Barr & Serra 2009).

7. Conclusion and discussion

We designed a laboratory experiment to investigate how the existence of an intermediary and donors' expectations about the behaviour of this intermediary affects charitable giving. We compare giving in a standard real donation experiment with a novel intermediated donation game where donors have the opportunity to donate through an intermediary played by another participant in the laboratory. Upon leaving the laboratory, all amounts are transferred to the intended recipient to avoid additional field intermediators who might have uncontrolled effects on donors expectations about how much of a donation ultimately reaches the recipient.

If donors expect this laboratory intermediary to take some of their donation, the price for charitable output increases since less charitable output can be produced from the donation. Therefore, economic theory[26] would predict donors to reduce their consumption of charitable output, that is, to reduce their

[23] Each session is framed as either corruption or inefficiency. In the corruption framing, subjects are told that the intermediary has *an opportunity to act corruptly* and take some of the donor's donation for itself through *corrupt activities* rather than passing it on to the Recipient. In the inefficiency treatment, subjects are told that intermediaries can choose a *supplementary amount to charge the donor in administration costs* for completing the real-effort task and for acting as the intermediary between the donor and the intermediary. We find no significant difference in subject demographics between treatments.

[24] Though we find no significant difference between treatments at the 95% confidence level, we do find the coefficients on the corruption frame in regressions Tables 3a, 3b, 3c and 4, to be negative for donors and positive for intermediaries and weakly significant in a few instances.

[25] Across both frames, the moral arguments behind donor decisions are similar. Reasoning in social norms plays hardly any role at all. This may be why the frames which were aimed at activating different social norms have no effect on donors' actual decisions.

[26] If we instead assume that donations can be explained by warm glow (Andreoni 19980), and that donors do not care about charitable output - just about how they feel when they donate, we would expect intermediation to have no effect at all.

donation. Indeed, we observe that overall, donors expect the intermediary to take, and that the introduction of an intermediary decreases donations from $2.83 to $2.25, on average.

This result can, however, be attributed to only 41 per-cent of all donors. Our main finding is therefore that the aggregate result conceals a surprising heterogeneity in donors' reactions to intermediation and the determinants underneath. We identify three main types of donors: *outcome-oriented* donors who are concerned about the outcome for the recipient and for whom uncertainty due to intermediation leads to an increase in donation to compensate recipients for potential losses; *price-oriented* donors who are influenced by the relative price of charitable output as compared with other goods; and *donation-oriented* donors who are less concerned with the outcome of charity than with making the donation itself. These donor types do not differ in their beliefs about how much of their donation the intermediary passes on, they simply respond differently – or not at all – to these beliefs. Price elasticity of demand is found to range from -3.05 on average for *price-oriented* donors to +1.99 for *outcome-oriented* donors. This finding can provide a novel explanation for the wide range of price elasticity estimates for charitable donations found in the empirical literature, where the cost of donations varies in other respects than in this paper.

To understand the existence of different donor types, we study how participants make moral judgements in the face of intermediation. We obtain these moral characteristics from a standardized moral judgement test which elicits the moral arguments individuals employ to resolve ethical dilemmas. We find that donors who compensate the amount taken by the intermediary, but also donors who keep their donation constant, often refer to either general ethical principles such as the respect for human rights, or for civic rights and the social contract in their judgements, contrary to donors who reduce their donations in response to an expected price increase after intermediation.

Our findings also point towards a fundamental methodological issue in the charitable giving literature. Many studies on the crowding out effect of donations or donor reactions to the cost of charitable giving are likely confounded by donor responses to varying degrees of intermediation across giving channels, and charitable purposes. This needs to be accounted for in future work in this area.

We conclude that intermediation can have unexpected effects on giving. Intermediation is becoming increasingly common across the world. Some philanthropic purposes may require additional layers of intermediation to transform the funds collected into effective help for an intended beneficiary such as specialized local organisations in developing countries that purchase and administer goods and services. Other philanthropic causes may need less intermediation such as donations to higher education which are often directly transferred from donors to the colleges and alma maters they graduated from (e.g. Clotfelter 2003, Meer & Rosen 2009). Our results on donors' moral reasoning about intermediation suggests that if additional layers of intermediation are required, charities should explicitly inform their

donors how these contribute to letting the beneficiaries come into their human or legislative rights. This may help to maintain donations on the same level, or even trigger compensatory donations in the face of additional intermediation.

8. Figures and Tables

Figure 1. Depiction of the intermediation task

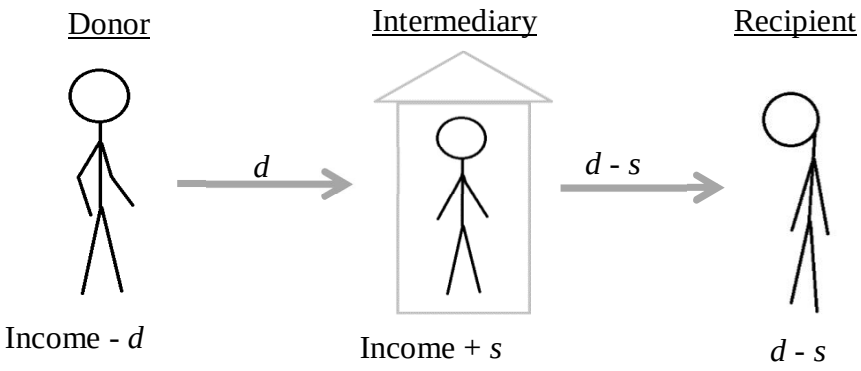
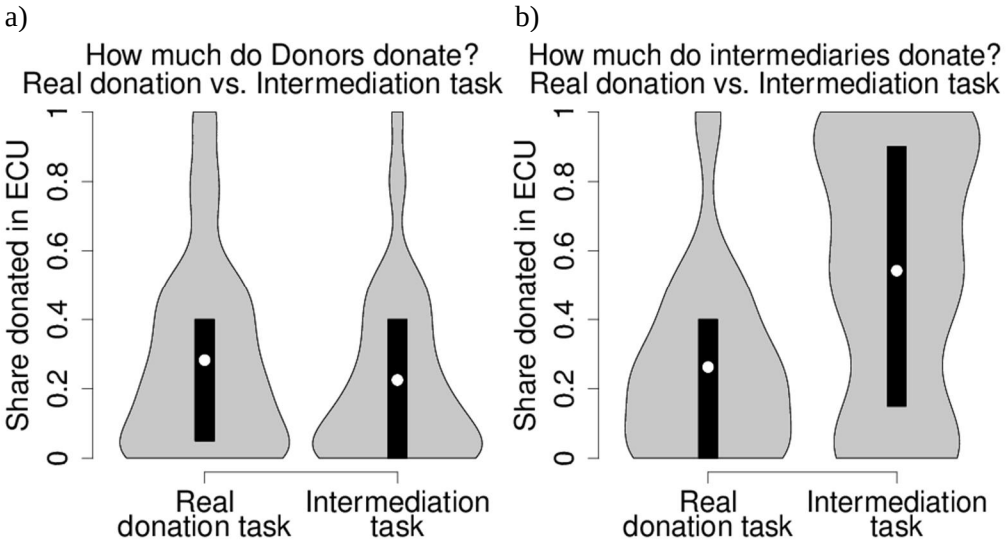


Figure 2. Intermediaries' and donors' donations in the standard real donation task and the intermediation task.



Note: Each violin plot depicts the distribution of donations expressed as a share of \$10 (Fig. 2a) or the distribution of the amounts passed on expressed as a share of \$10 (Fig 2b) in grey and their interquartile range as a black bar. The white dot depicts the average amount donated or passed on in each of the tasks (Hintze & Nelson 1998)

Figure 3: Changes in donations between standard donation task and intermediation task and the corresponding price elasticity for charitable output.

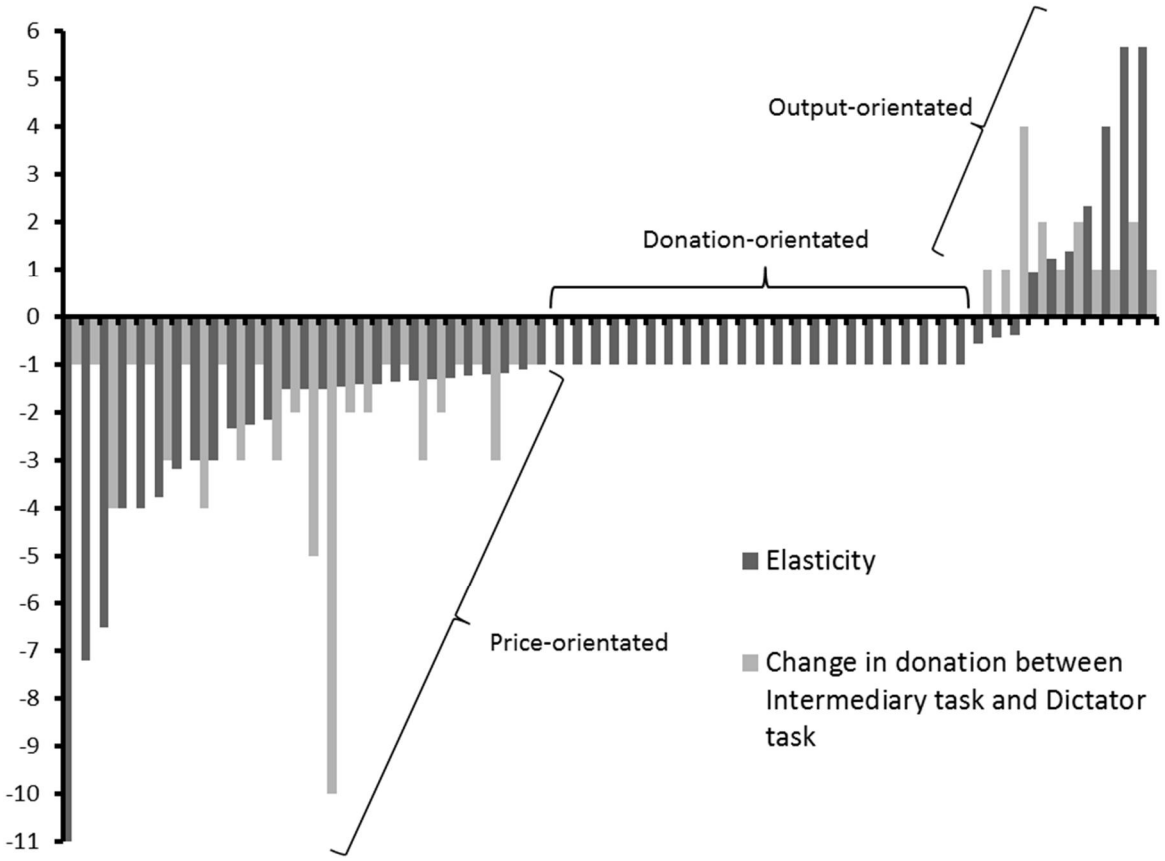


Table 1: Number of givers (amount given[1]) by type and task

	Donors	Intermediaries	Total
Real-donation task (task 1)	56/75 ($2.83)	54/75 ($2.63)	110/150 ($2.73)
intermediation task (task 2)	52/75 ($2.25)	63/75 (54.32%)	115/150

[1] The average amount donated by all subjects: both givers and non-givers

Table 2: Average donation/amount passed on by donor type (std. dev. in parentheses)

	Outcome-oriented	Price-oriented	Donation-oriented
	Real-donation task		
Amount donated	$1.20 (1.40)	$4.12 (2.53)	$3.72 (2.76)
	Intermediation task		
Amount donated	$2.80 (1.87)	$1.85 (2.05)	$3.72 (2.76)
N	10	26	25

Notes: Donation-orientated donors excludes donors who gave zero in both tasks

Table 3a: Interval regression of the amount given by donors.

	Amount donated			
	(1)	(2)	(3)	(4)
Intermediation task	-0.698**	-0.727**	-3.521***	-3.155***
	(0.290)	(0.291)	(0.972)	(0.903)
*Expectation of proportion passed on by Intermediary * Intermediation task*			5.279***	4.547***
			(1.562)	(1.416)
Male		0.012		-0.005
		(.692)		(0.657)
Aged 20 to 25		-1.535*		-1.170
		(0.784)		(0.753)
Religious[27]		0.235*		0.221*
		(0.111)		(0.107)
Self-reported SES[28]		0.071		0.030
		(0.176)		(0.169)
Constant	0.504	0.240	0.951	0.745
	(2.281)	(2.457)	(2.211)	(2.45)
[corruption frame: yes]	[-3.668]	[-3.909*]	[-2.759]	[-2.957]
	[(2.403)]	[(2.328)]	[(2.341)]	[(2.320)]
Session level dummies	YES	YES	YES	YES
N	150			

Notes: Interval regression where the dependent variable is the lower and upper bound of the donation amount in whole dollars. If a donor donated \$1, the lower bound is \$1 and the upper bound \$1.99, if she donated \$2 the lower bound is \$2 and the upper bound \$2.99 and so forth. If she donated \$0, the lower bound is unknown and the upper bound is \$0. Robust standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level. [] reports the coefficients and the corresponding standard errors if a Dummy for the corruption frame was added to each regression.

[27] In the exit survey, subjects ticked how religious they would say they were on a scale from 0 (not religious at all) to 10 (very religious).

[28] In the exist survey, subjects also ticked their economic situation (self-reported socio-economic status SES) on a scale from 0 to 10 with 0 being extremely poor, and 10 being extremely wealthy.

Table 3b: Interval regression of the amount given by OUTCOME ORIENTED donors.

	Amount donated			
	(1)	(2)	(3)	(4)
Intermediation task	2.052***	2.062***	2.053	2.142
	(0.360)	(0.398)	(1.936)	(1.513)
*Expectation of proportion passed on by Intermediary * Intermediation task*			-0.001	-0.154
			(3.265)	(2.496)
Male		-0.668		-0.666
		(0.550)		(0.548)
Aged 20 to 25		3.024***		3.016***
		(0.579)		(0.550)
Religious		-0.176		0.221*
		(0.159)		(0.107)
Self-reported SES		-0.458***		-0.461***
		(0.174)		(0.177)
Constant	1.243*	1.970**	1.243	1.999**
	(0.711)	(0.775)	(0.711)	(0.805)
[corruption frame: yes]	[1.125]	[1.619]	[1.179]	[1.638]
	[(1.326)]	[(1.020)]	[(1.427)]	[(1.028)]
Session level dummies	NO	NO	NO	NO
N	20			

Notes: Interval regression where the dependent variable is the lower and upper bound of the donation amount in whole dollars. Robust standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level. Square brackets [] report the coefficients and the corresponding standard errors if a Dummy for the corruption frame was added to each regression. Due to the smaller number of observations, we did not specify additional session dummies.

Table 3c: Interval regression of the amount given by PRICE ORIENTED DONORS.

	Amount donated			
	(1)	(2)	(3)	(4)
Intermediation task	-2.729***	-2.724***	-2.509*	-2.453**
	(0.538)	(1.288)	(1.288)	(1.162)
*Expectation of proportion passed on by Intermediary * Intermediation task*			-0.451	-0.553
			(2.000)	(1.705)
Male		0.636		0.644
		(1.015)		(1.001)
Aged 20 to 25		0.104		0.072
		(1.057)		(1.059)
Religious		0.317**		0.317**
		(0.155)		(0.154)
Self-reported SES		-0.190		-0.188
		(0.263)		(0.261)
Constant	4.630***	3.545**	4.630***	3.557
	(0.513)	(1.499)	(0.513)	(1.488)
[corruption frame: yes]	[0.916]	[0.942]	[0.917]	[0.947]
	[(0.890)]	[(0.986)]	[(0.910)]	[(1.027)]
Session level dummies	NO	NO	NO	NO
N	52			

Notes: Interval regression where the dependent variable is the lower and upper bound of the donation amount in whole dollars. Robust standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level. Square brackets [] report the coefficients and the corresponding standard errors if a Dummy for the corruption frame was added to each regression. Due to the smaller number of observations, we did not specify additional session dummies.

Table 4: Interval regression of the amount passed on by Intermediaries

	Amount donated/passed on			
	(1)	(2)	(3)	(4)
Intermediation task	3.459***	3.506***	1.455	1.994*
	(0.539)	(0.532)	(1.073)	(1.053)
Expectation of proportion donated Intermediation task*			6.714**	5.019*
			(2.638)	(2.572)
Male		-2.551***		-2.301***
		(0.832)		(0.819)
Aged 20 to 25		-1.547*		-1.385*
		(0.806)		(0.766)
Religious		0.337***		0.320***
		(0.115)		(0.112)
Self-reported SES		-0.102		-0.065
		(0.237)		(0.230)
Constant	1.075	4.242	2.007	3.885
	(0.959)	(1.635)	(1.57)	(1.509)
[corruption frame: yes]	[1.358]	[2.823]	[1.712]	[3.031*]
	[(1.981)]	[(1.738)]	[(1.832)]	[(1.632)]
Session level dummies	YES	YES	YES	YES
N	150			

Notes: interval regression where the dependent variable is the amount donated in the real donation task and the amount passed on in the intermediation task. Percentage amounts in the intermediation task were translated into the corresponding interval scale amounts used in the standard real donation task. Robust clustered standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level. [] reports the coefficients and the corresponding standard errors if a Dummy for the corruption frame was added to each regression.

Table 5: Kohlberg's (e.g. 1984) six 'classes' or 'ways' of moral argumentation summarized by Ishida (2006)

argumentation	motivations for moral behaviour
"preconventional way"	***Class 1.*** Orientation toward punishment and obedience; physical and material power. Rules are obeyed to avoid punishment. ***Class 2.*** Naïve hedonistic orientation. The individual conforms to obtain rewards.
"conventional way"	***Class 3.*** "Good boy/girl" orientation to win approval and maintain expectations of one's immediate group. The individual conforms to avoid disapproval. One earns approval by being 'nice'. ***Class 4.*** Orientation to authority, law and duty to maintain a fixed social order. One does right by doing one's duty and by abiding by the social order.
"postconventional way"	***Class 5***. Social contract orientation. Duties are defined in terms of the social contract and the respect of others' rights. Emphasis is upon equality and mutual obligation within a democratic order. **Class 6.** Moral behaviour is grounded upon individual principles of conscience such as the respect for the individual will, the individual's freedom to choose, her dignity and so forth. The rightness of an action is determined by conscience in accord with comprehensive, universal and consistent ethical principles.

Table 6: Binary Logit models of donor types: marginal effects of moral determinants, donor characteristics, and their beliefs (perceived price of charitable output)

	Pairs of donor types		
	outcome (1) vs price-oriented (0)	outcome (1) vs donation-oriented (0)	donation (1) vs price- oriented (0)
social contract: individual rights and institutions (class 5)	--	0.179*** (0.032)	-0.306*** (0.090)
general ethical principles of conscience (class 6)	0.183*** (0.071)	--	0.160*** (0.054)
guess amount passed on by intermediary	--	-1.355*** (0.265)	1.282*** (0.311)
Experienced corruption[29]	--	0.451*** (0.084)	-0.432*** (0.060)
Religious		-0.048*** (0.017)	--
No tolerance attitude toward corruption[30]	-0.184* (0.109)	0.232** (0.114)	-0.388*** (0.063)
Intercept	-1.203 (0.930)	8.801* (5.006)	-8.585* (4.410)
Session Dummies	YES	NO	YES
N	36	35	51

Notes: Binary Logit models where the dependent variable is a type pair; *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level. Specification strategy is the same as before. If we classify donors who give zero in all tasks as donation oriented, the results change as follows. Firstly, I) the results on outcome (1) vs donation-oriented (0) donors change slightly with two additional determinants coming into play: general ethical principles turn intermediately significant and have an effect of 0.127 (p-value<0.028) on being outcome rather than donation oriented, reasoning in social norms turns also intermediately significant and reduces the likelihood of being outcome-, rather than donation oriented, the effect is -0.206 (p-value<0.022). Session dummies introduce a collinearity problem when comparing outcome and donation-oriented donors -- we therefore estimate only one (common) intercept for this pair. Secondly, II) the results for donation (1) vs price-oriented (0) donors change slightly: the effect of the amount believed to be passed on becomes 0.576 (p-value < 0.02), the effect of class 6 becomes 0.131 (p-value<0.02), and the effect of class 5 becomes -0.105 (p-value < 0.09).

[29] In the exit survey subjects were asked whether they had ever experienced corruption in an organisation in which they had been involved. The Dummy takes on a value of One if they said yes.

[30] The Dummy 'no tolerance attitude toward corruption' takes on a value of One if subjects ticked 0 (strongly disagree) when confronted with the following statement: 'It is acceptable for charities to be corrupt sometimes', and a value of Zero for all other answers.

References

Abbink, Klaus, & Ellman, Matthew. (2010). The donor problem: An experimental analysis of beneficiary empowerment. *The Journal of Development Studies, 46*, 1327-1344.

Abbink, Klaus, & Hennig-Schmidt, Heike. (2006). Neutral versus loaded instructions in a bribery experiment. *Experimental Economics, 9*, 103-121

Andreoni, James. (1990). Impure altruism and donations to public goods: A theory of warm-glow giving. *The Economic Journal, 100*, 464-477.

Andreoni, James. (2006). Philanthropy. In S.-C. Kolm & J. M. Ythier (Eds.), *Handbook of the economics of giving, altruism and reciprocity*. Amsterdam: North-Holland.

Andreoni, James, & Payne, Abigail. (2011). Is crowding out entirely due to fundraising?, *Journal of Public Economics*, 95, 334-343.

Andreoni, James & Payne, Abigail & Smith, S. (2014). Do grants to charities crowd out other income? Evidence from the UK. *Journal of Public Economics, 114*, 75-86.

Andreoni, James, & Vesterlund, Lise. (2001). Which is the fair sex? Gender differences in altruism. *The Quarterly Journal of Economics, 116*, 293-312.

Baird, C. & Higgins, B. & Fitzpatrick, D. & Taggart, K. (2013). America's fifty worst charities, CNN, the Center for Investigative Reporting, and the Tampa Bay Times, www.tampabay.com/topics/specials/worst-charities1.page downloaded on 04.02.2015, 22.09]

Bardsley, Nicholas. (2005). Experimental economics and the artificiality of alteration. *Journal of Economic Methodology, 12*, 239-251.

Bardsley, Nicholas. (2008). Dictator game giving: altruism or artefact? *Experimental Economics, 11*, 122-133.

Barr, Abigail, Lindelow, Magnus, & Serneels, Pieter. (2004). To serve the community or oneself: the public servant's dilemma *World Bank Policy Research working paper No. 3187*.

Barr, Abigail, & Serra, Danila. (2009). The effects of externalities and framing on bribery in a petty corruption experiment. *Experimental Economics, 12*, 488-503.

Bohnet, Iris, & Zeckhauser, Richard. (2004). Trust, risk and betrayal. *Journal of Economic Behavior & Organization, 55*, 467-484.

Borgloh, Sarah, Dannenberg, Astrid, & Aretz, Bodo. (2013). Small is beautiful—Experimental evidence of donors' preferences for charities. *Economics Letters, 120*, 242-244.

Brock, J. Michelle, Lange, Andreas, & Ozbay, Erkut Y. (2013). Dictating the risk: Experimental evidence on giving in risky environments. *American Economic Review, 103*, 415-437.

Chlaß, Nadine, Güth, Werner, & Miettinen, Topi. (2013). *Purely Procedural Preferences-Beyond Procedural Equity and Reciprocity*. Working Paper. University of Jena.

Chlaß, Nadine., & Moffatt, Peter G. (2012). Giving in Dictator Games - Experimenter Demand Effect or Preference over the Rules of the Game? *Jena Economic Research Paper No. 2013-044*.

Clotfelder, C.T. (2003). Alumni giving to private colleges and universities, *Economics of Education Review*, 22, pp. 109-120.

Kane, C. (2010) Where Are Your Charity Dollars Going?, http://www.cnbc.com/id/40592354 downloaded on 17.05.2015, 20.37]

Cooper, David J., & Kagel, John H. (2003). The impact of meaningful context on strategic play in signaling games. *Journal of Economic Behavior & Organization, 50*, 311-337.

Duncan, Brian. (2004). A theory of impact philanthropy. *Journal of Public Economics, 88,* 2159-2180.

Dyson, R. (2013). How much charities spend on 'charitable activities', *Daily telegraph*, http://www.telegraph.co.uk/finance/personalfinance/10225883/How-much-charities-spend-on-charitable-activities.html, downloaded on 14.11.2014, 14.47]

Eckel, Catherine C., & Grossman, Philip J. (1996). Altruism in Anonymous Dictator Games. *Games and Economic Behavior, 16*, 181-191.

Eckel, Catherine C., & Grossman, Philip J. (2003). Rebate versus matching: does how we subsidize charitable contributions matter? *Journal of Public Economics, 87*, 681-701.

Falk, A. (2007). Gift Exchange in the field, *Econometrica*, 75, pp. 1501-12.

Fischbacher, Urs. (2007). z-Tree: Zurich Toolbox for Ready-made Economic Experiments. *Experimental Economics, 10*, 171-178.

Gangadharan, Lata, Grossman, Philip J., & Jones, Kristy. (2014). *Decomposing giving: Donor types and how they give*. Working Paper, Monash University.

Gangadharan, Lata, Harrison, Glenn, Leroux, Anke, & Raschky, Paul. (2013). *Multi-attribute risk aversion in charitable giving*. Working Paper, Monash University.

Giving USA Foundation. (2014). Giving USA 2014. The Annual Report on Philantrophy for the Year 2013, www.givingusareports.org, downloaded on 04.02.2015, 22.05]

Greiner, Ben. (2004). The Online Recruitment System ORSEE 2.0 - A Guide for the Organization of Experiments in Economics *Working Paper Series in Economics*. University of Cologne, Department of Economics.

Hansmann, Henry. (1987). Economic theories of non-profit organization. In W. Powell (Ed.), *The Nonprofit sector: A research handbook* New Haven: Yale University Press.

Huck, S. & Rasul, I. (2010). Transaction costs in charitable giving: evidence from two field experiments, *The B.E. Journal of Economic Analysis & Policy,* 10 (1), article 31.

Huck, S., Rasul, I. & Shephard, A. (2015). Comparing charitable fundraising schemes: evidence from a natural field experiment and a structural model, forthcoming at *American Economic Journal: Economic Policy*.

Hundley, Kris, and Kendall Taggart (2013), America's 50 worst charities rake in nearly $1 billion for corporate fundraisers, the Tampa Bay times http://www.tampabay.com/topics/specials/worst-charities1.page downloaded on 17.05.2015, 20.38]

Ishida, Chiharu. (2006). How do scores of DIT and MJT differ? A critical assessment of the use of alternative moral development scales in studies of business ethics. *Journal of Business Ethics, 67*, 63-74.

Jakiela, Pamela. (2012). Equity vs. efficiency vs. self-interest: on the use of dictator games to measure distributional preferences. *Experimental Economics, 16*, 208-221.

Jones, Kristy. (2013). *Altruism, paternalism and ethnicity*. Working Paper, Monash University

Karlan, Dean, & List, John A. (2007). Does price matter in charitable giving? Evidence from a large-scale natural field experiment. *The American Economic Review, 97*, 1774-1793.

Khanna, Jyoti & Sandler, Todd (2000). Partners in giving: The crowding in effect of UK government grants, *European Economic Review*, 44, 1543-1556.

Kohlberg, Lawrence. (1969). Stage and sequence: the cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), *Handbook of socialization and endash, theory and research*. Chicago: McNally.

Kohlberg, Lawrence. (1984). *The psychology of moral development*. San Francisco: Harper & Row.

Krupka, Erin L., & Weber, R. (2013). Identifying social norms using coordination games: why does dictator game sharing vary? *Journal of the European Economic Association, 11,* 495-524.

Landry, Craig E., Lange, Andreas, List, John A., Price, Michael K., & Rupp, Nicholas G. (2006). Toward an understanding of the economics of charity: Evidence from a field experiment. *The Quarterly Journal of Economics, 121*, 747-782.

Lind, Georg. (1978). *Wie misst man moralisches Urteil? Probleme und alternative Möglichkeiten der Messung eines komplexen Konstrukts*, in: Portele, G. (Editor) Sozialisation und Moral, pp.171-201, Weinheim: Beltz.

Lind, Georg. (2008). The meaning and measurement of moral judgment competence revisited - A duel-aspect model. In D. Fasko & W. Willis (Eds.), *Contemporary philosophical and pyschological perspectives on moral development and education* (pp. 185-220). Cresskil, NG: Hampton Press.

List, John A. (2007). On the interpretation of giving in dictator games. *Journal of Political Economy, 115*, 482-493.

List, John A. (2011). The market for charitable giving, *Journal of Economic Perspectives*, 25(2), 157-180.

List, John A. & Lucking-Reily, David. (2002). The effects of seed money and refunds on charitable giving: Experimental Evidence from a University Capital Campaign, *Journal of Political Economy*, 110, 215-33.

Marshall, G. P. (1978). The control of private charities. *Public Administration, 56*, 343-353.

Meer, Jonathan & Rosen, Harvey S. (2011), The ABCs of charitable solicitation, *Journal of Public Economics*, 95, 363-371.

Meer, Jonathan & Rosen, Harvey S. (2009), Altruism and the child cycle of alumni donations, *American Economic Journal: Economic Policy*, 1 (1), 258-86.

Millward Brown. (2011). Australian Charity Perceptions Report: Researching charity and not-for-profit organisations in Australia, Report conducted and funded by Millward Brown Australia, Australia.

Park, Eun-Soo. (2000). Warm-glow versus cold-prickle: a further experimental study of framing effects on free-riding. *Journal of Economic Behavior & Organization, 43*, 405-421.

Peloza, John & Steel, Piers. (2005). The price elasticities of charitable contributions: A meta-analysis. *Journal of Public Policy & Marketing, 24*, 260-272.

Piaget, Jean (1948). *The moral judgement of the child*. Glencoe, Illinois: Free Press.

Rondeau, D. & List, John (2008). Matching and challenge gifts to charity: evidence from laboratory and natural field experiments, *Experimental Economics,* 11(3), 253-267.

Schotter, Andrew, & Trevino, Isabel. (2014). Belief elicitation in the laboratory. *Annual Review of Economics*, *6*(1), 103-128.

Weisbrod, B. & Dominguez, Nestor D. (1986). Demand for collective goods in private nonprofit markets: Can fundraising expenditures help overcome free-rider behavior? *Journal of Public Economics, 30*, 83-96.

NOT FOR PUBLICATION

Appendix 1. Experimental Instructions

GENERAL INSTRUCTIONS[31]

General Information

Thank you for participating in this experiment. This is a study of individual and institutional decision-making. You have been paid a show-up fee of $5 for attending the experiment. The $5 show up fee is on your desk and is yours to keep. In addition to the show-up fee you will also receive compensation for your participation, which will be paid to you in cash at the end of the experiment. How you will be compensated is explained below.

The instructions that we have distributed to you are for your private information. The experimenter will read the instructions aloud and you should follow along on your own copy. It is important that you understand all the instructions. If you do not understand the instructions you may not be able to participate effectively. If there is something you do not understand or you have any questions please raise your hand.

After you have completed the tasks in the experiment you will be asked to fill out an exit survey before you receive payment.

To ensure all participants' choices remain anonymous, the computer will assign you a random ID. Please do not turn around or look at anyone else or anyone else's computer screen. Do not communicate with the other participants during the experiment.

We will ask for a volunteer to come forward to be the monitor for today's study. The monitor will verify that the instructions, as they appear, have been followed, but will otherwise take part in the experiments as everybody else.

The experiment is divided into 5 tasks. Once each task is finished, you will receive detailed information about the next task. The first 4 tasks will be performed on the computer. The 5th task will be conducted using paper and pen. At the end of the experiment you will be asked to fill out a computerised exit survey.

You will be paid your earnings in cash at the end of the experiment. You are free to leave the experiment at any time, however, you must complete all tasks and the exit survey in order to receive payment or to take any of the money earned home with you.

We anticipate that the experiment should not take longer than an hour and a half.

[31] This appendix reproduces instructions for the treatment where the intermediation task was presented in an inefficiency frame. Those parts which differ from the instructions for the alternative corruption frame are put in square brackets. These square brackets were not part of the original instructions.

Payment

The experiment is divided into 5 tasks. In the first task you will be asked to answer a series of questions for which you will receive compensation that can be used in task 2 and task 3 of the experiment. Although you make decisions in task 2 and 3 you will only be paid for the outcome of one of these tasks. Which task will be paid out will be determined by the random flip of a coin in front of you by the monitor at the end of the experiment. If the outcome of the coin is heads, you will be paid for task 2. If the outcome of the coin is tails, you will be paid for task 3. You will also be paid for task 4 and task 5 regardless of the outcome of the coin toss.

That is, in addition to your show up fee:

If coin toss is heads:

$$Your\ earnings = Task\ 2\ earnings + Task\ 4\ earnings + Task\ 5\ earnings$$

If coin toss is tails:

$$Your\ earnings = Task\ 3\ earnings + Task\ 4\ earnings + Task\ 5\ earnings$$

As you do not know which of the two tasks (task 2 or task 3) will be chosen for payment, you should pay attention to the choices you make in each decision and treat them as if they were the decision that is going to be chosen for payment.

INSTRUCTIONS FOR TASK 1

In this task you are going to be asked to complete a series of questions for which you will receive compensation that can be used in task 2 and task 3 of the experiment.

Everybody in the room will be randomly allocated to one of two 'types'. You will be allocated as either a Type A or a Type B. You will be allocated a different set of questions to answer based on whether you are a Type A or a Type B.

The questions will appear on your computer screen when the experiment starts. You will be asked to enter the answer to each of the questions. Once you have entered your answer for each of the questions and clicked OK, the computer will take your answers and allocate you a payment for answering the questions. The payment amount you have received for answering the questions will appear on your computer screen.

This payment amount will be used in the next two tasks of the experiment. How it can be used will be explained in the instructions for Task 2 and 3 of the experiment which will be given to you on completion of this task.

Do you have any questions?

INSTRUCTIONS FOR TASK 2

Thank you for participating in the first part of the experiment. You are now going to be given an opportunity to donate a portion of your earnings from task 1 of the experiment to a Needy Recipient.

The Needy Recipient that you can donate to is disadvantaged Indigenous Australians (from here forward referred to as the 'Recipient'). At the end of the experiment, if this task is chosen for payment, the total donations from all participants for this decision will be aggregated and the experimenter will donate the total amount to the Recipient. The monitor will verify that the donation has been made by observing the experimenter making the donation by website directly at the end of the experiment. Any amount of your earnings from task 1 that you do not donate will be paid out to you in cash at the end of the experiment.

Please note, your decisions in Task 2 are unrelated to Task 3, what you choose in this task will not affect Task 3. As only one of the questions will be chosen for payment, you should treat the decisions separately. That is, the donation you choose to make in this task will be made if Task 2 is selected for payment. If Task 3 is chosen for payment, the decisions you make in Task 3 will be paid out instead.

You can choose to donate any whole dollar amount from $0 to the total amount you earned in the first task. The choice is up to you. For example, if you earned $10 in the first task of the experiment, you could choose to donate any amount from $0 to $10 to the Recipient. How much you receive and how much the Recipient receives depends on your decision. For example, if you chose to donate $6 to the Recipient, the donation made to the Recipient would be $6 and your earnings for this part of the experiment would be $4.

You will be asked on the computer screen, how much of your earnings you would like to donate. You can then enter any donation amount from $0 to the total amount you earned in the first part of the experiment and press OK.

Please remember that your responses in this experiment are anonymous, nobody will be able to match the decisions you make with your name or your face.

Do you have any questions?

INSTRUCTIONS FOR TASK 3

In this task you are going to be randomly matched with another participant in the room. Who you are matched with will depend on the type you were allocated in task 1 of the experiment. If you are a 'Type A' you will be matched with a 'Type B' person. If you are a 'Type B' person, you will be matched with a 'Type A' person. You will not be informed of the identity of the person you are matched with at any stage during or after the experiment.

In this task, you will be allocated the role of a DONOR or a CHARITABLE INSITUTION based on your type. Each Donor will be matched with a Charitable Institution; Each Charitable Institution will be matched with a Donor. When the task starts, the computer will inform you whether you have been allocated the role of a Donor or the role of a Charitable Institution. Remember your type was allocated to you randomly by the computer at the start of the experiment.

Neither the Charitable Institution nor the Donor will be informed of the identity of their partner or the type of any other participant at any stage during or after the experiment. As such, all of your choices will remain anonymous.

What you are required to do in this task depends on whether you have been allocated the role of the Donor or the role of the Charitable Institution. Remember, as only one of Task 2 and Task 3 is going to be paid out you should treat your decisions in each of the Tasks separately. Therefore, you should make your decisions in this task as if you had not made any decision in Task 2.

If you are allocated the role of the DONOR

The Donor is going to be given an opportunity to donate a portion of their earnings from task 1 of the experiment to a Needy Recipient through the Charitable Institution (the other person in the room who they have been matched with for this part of the experiment).

The Needy Recipient that you can donate to is disadvantaged Indigenous Australians (from here forward referred to as the 'Recipient'). You can choose to donate any whole dollar amount from $0 to the total amount you earned in the first part. The choice is up to you. For example, if you earned $10 in the first part of the experiment, you could choose to donate any amount from $0 to $10 to the Recipient through the Charitable Institution. The Charitable Institution will decide how to allocate the funds to the Recipient.

- How much you receive depends on your decisions;
- How much disadvantaged Indigenous Australians receive depends on both your decision and the decision of the Charitable Institution (the choices the Charitable Institution can make are explained below).

At no stage will you be told the choices of the Charitable Institution so you will not know exactly how much of your donation was received by the Recipient. It could be the entire amount you donated or it could be nothing. As you do not know the Charitable Institution's decisions you will not know the earnings of the Charitable Institution or how much of your donation was received by the Recipient.

You will be asked on the computer screen, how much of your earnings you would like to donate to the Recipient through the Charitable Institution. You can enter whole dollar amount from $0 to the total amount you earned in the first part of the experiment. Once you have decided on the amount and entered it in on the computer screen, press OK.

Please remember that your responses in this experiment are anonymous, nobody will be able to match the decisions you make with your name or your face.

At the end of the experiment, if this task is chosen for payment, the total donations from all Donors for this decision will be aggregated, the decisions of the Charitable Institution will be used to calculate the final total donation amount, and the experimenter will donate the total amount to the Recipient. The monitor will verify that the donation has been made by observing the experimenter making the donation by website directly at the end of the experiment. Any amount of your earnings from task 1 that you do not donate will be paid out to you in cash at the end of the experiment.

If you are allocated the role of the CHARITABLE INSTITUTION

The Charitable Institution acts as an intermediary between the Donor and the Recipient. It is the role of the Charitable Institution to perform administrative tasks and use donations for charitable

purposes to improve the welfare of the Recipient. The money you earned in task 1 of the experiment is the compensation you receive for performing this role (you can think of this compensation as comparable to payments by charities in real-life such as payments to employees, etc.).

In addition to this compensation, [the Charitable Institution can choose a supplementary amount to charge the Donor in administration costs to compensate for performing the administrative task in task 1 and for acting as the intermediary between the Donor and the Recipient] [as the Donor does not know how much of their donation you pass on to the recipient, you have an opportunity to act corruptly and to take some of the Donor's donation for yourself rather than passing it on to the Needy Recipient]. The Charitable Institution must determine how much of the Donor's donation [to [allocate towards supplementary administration costs] [they want to take through corrupt activities] and how much to pass on to the Recipient. The amount that the Charitable Institution seeks to pass on to the Recipient will be donated to disadvantaged Indigenous Australians at the end of the experiment. Any amount the Charitable Institution chooses not to pass on will be added to the earnings of the Charitable Institution in addition to compensation received in task 1 as explained above. This amount will NOT be passed on to disadvantaged Indigenous Australians as the Donor intended.

You will be asked to decide what percentage of the donation you would like to **pass on** to the Recipient. You will have the option to pass on any amount, including some, none or all of it. You can choose any amount in between 0 and 100 percent.

What you do not pass on to the Recipient will be added to your earnings and will not be passed on to the Recipient. That is, any amount of the Donors' donation you choose not to pass on, you will take for yourself and it will not be passed on to disadvantaged Indigenous Australians.

- How much you earn as the Charitable Institution and how much the Recipient receives depends on both the Donor and your decisions in this task.

For example, suppose that you had earned $10 in task 1. Assume that the Donor decided to donate $5 to the Recipient through you as the Charitable Institution. Suppose that for a donation amount of $5, you had chosen to pass on 70 percent to the Recipient.

Based on these decisions, if this task was selected for payment, disadvantaged Indigenous Australians would receive $3.50 (70 percent of the $5 donation) and your earnings would be $11.50 ($10 received in compensation from your role as a Charitable Institution from task 1, plus the additional $1.50 (30 percent of the $5 donation) not passed on to the Recipient). As you do not know how much the Donor earned in task 1 you will not know the earnings of the Donor.

Neither the Charitable Institution nor the Donor will be informed of the identity of their partner at any stage during the experiment. The Donor will also not be informed of the actions of the Charitable Institution. The Donor will only know that they have made a donation to the Recipient through the Charitable Institution. As such, all decisions will remain completely anonymous.

At the end of the experiment, if this task is chosen for payment, the total donations from all Donors [less supplementary administration costs from all Charitable Institutions] [less the amounts taken by Charitable Institutions through corrupt activities] will be aggregated and the experimenter will donate the total amount to disadvantaged Indigenous Australians. The monitor will verify that the donation has been made by observing the experimenter making the donation by website directly at the end of the experiment.

Please remember that your responses in this experiment are anonymous, nobody will be able to match the decisions you make with your name or your face.

Control Question

(This aims to help you better understand the experiment and should not be used as a guide for decisions in the experiment)

Assume that the Donor decided to donate $10 to the Recipient. Assume the Charitable Institutions chose to pass on 80 percent of the donation to the Recipient. How much would the Charitable Institution receive in addition to the compensation they received in payment for their role? How much would disadvantaged Indigenous Australians receive?

Do you have any questions?

INSTRUCTIONS FOR TASK 4:

In this task you are going to be asked your opinion on others decisions in the previous part of the experiment. You will be asked two questions and you will be paid for your answers. How much you receive depends on how close you are to the decisions of other subjects in today's experiment. What you will be asked depends on whether you played the role of a Donor or a Charitable Institution in the previous task.

<u>If you were allocated the role of a Donor</u>

If you were allocated the role of a Donor in the previous task you will be asked how much of all Donors' donations, on average, you believe Charitable Institutions chose to pass on to the Recipient. You will also be asked what percentage of their earnings, on average, the other Donors in the room chose to donate to the recipient through the Charitable Institution. Specifically you will be asked:

Question 1: On average, what percentage of Donor's donations do you think the Charitable Institutions passed on to disadvantaged Indigenous Australians?

You should consider what percentage (from 0 percent to 100 percent) on average you believe Charitable Institutions in the room passed on to the Recipient from Donors' donations.

As you do not know which subject you are matched with in the room, (there is an equal chance that you are matched with any of the subjects playing the role of the Charitable Institution), your expectation of how much the Charitable Institution you are matched with passed on to the Recipient should be exactly equal to your guess of the average amount all Charitable Institutions in the room passed on. That is, you should answer the question 1 the same way as you would answer the question "What percentage of your donation do you think the Charitable Institution you were matched with passed on to the Recipient?"

The second question you will be asked is:

Question 2: On average, what percentage of their earnings from Task 1 do you think the other Donors in the room donated to disadvantaged Indigenous Australians through the Charitable Institutions?

If you were allocated the role of a Charitable Institution

If you were allocated the role of a Charitable Institution in the previous task you will be asked what percentage of their earnings on average the Donor you are matched with chose to donate to the recipient through you as the Charitable Institution. You will also be asked how much of the Donors' donations, on average, you believe the other Charitable Institutions in the room chose to pass on to the Recipient. Specifically, the first question you will be asked is:

Question 1: What percentage of their earnings from Task 1 do you think the Donor you are matched with donated to disadvantaged Indigenous Australians, through you the Charitable Institution?

The second question you will be asked is:

Question 2: On average, what percentage of Donor's donations do you think the other Charitable Institutions in the room passed on to disadvantaged Indigenous Australians?

How will I be paid?

For each question, you will be paid up to $5 for your answer depending on how close you are to the actual answer. That is, you will be paid up to $5 for your answer to Question 1 and up to an additional $5 for your answer to Question 2. Your maximum earnings for this task are $10.

Your payment will be based on the formula below:

$$Your\ payment\ = \$5\ x\ \left[1 - \left(\frac{actual\ percentage - your\ guess}{100}\right)^2\right]$$

The formula is such that the closer your guess is to the actual value the more you get paid.

Example 1:

For example, consider Donor's question 1. Suppose you are a Donor and that you guessed that, on average, the Charitable Institutions passed on 0 percent of the donation to the Recipient. Assume that in reality the Charitable Institutions passed on 50 percent of their earnings on average. Your earnings for this question would be $3.75.

$$\$5\ x\ \left[1 - \left(\frac{50 - 0}{100}\right)^2\right] = \$5\ x\ [1 - 0.25] = \$5\ x\ 0.75 = \$3.75$$

Alternatively, if you had guessed correctly that Charitable Institutions had, on average, passed on 50 percent of the donation you would have earned $5.

$$\$5\ x\ \left[1-\left(\frac{50-50}{100}\right)^2\right] = \$5\ x\ [1-0^2] = \$5\ x\ 1 = \$5$$

Suppose instead, on average, Charitable Institutions passed on 100 percent of the donation. If you had guessed that they had passed on 0 percent, you would earn $0 for this question

$$\$5\ x\ \left[1-\left(\frac{100-0}{100}\right)^2\right] = \$5\ x\ [1-1] = \$5\ x\ 0 = \$0$$

Example 2:

Consider the Charitable Institution's second question. Suppose you are a Charitable Institution and that you guessed that, on average, the Donor's donated 100 percent of their Task 1 earnings to the Recipient through the Charitable Institution. Assume that in reality the Donors donated 75 percent of their Task 1 earnings, on average. Your earnings for this question would be $4.69.

$$\$5\ x\ \left[1-\left(\frac{75-100}{100}\right)^2\right] = \$5\ x\ [1-0.0625] = \$5\ x\ 0.94 = \$4.69$$

Alternatively, if you had guessed that Donors had, on average, donated on 10 percent of their Task 1 earnings, but in reality they had donated 90 percent. Your earnings for this question would be $1.80

$$\$5\ x\ \left[1-\left(\frac{90-10}{100}\right)^2\right] = \$5\ x\ [1-0.64] = \$5\ x\ 0.36 = \$1.80$$

Control Questions

(These examples aim to help you better understand the experiment and should not be used as a guide for decisions in the experiment)

Control Question 1:

Assume that you are a Donor and that the actual amount, on average, the other Donors donated from their earnings was 23 percent. Suppose that you guessed that on average they donated 87 percent of their earnings. **What would the missing values in the formula used to calculate your earnings for this question be?**

$$Your\ payment = \$5\ x \left[1 - \left(\frac{?\ -\ ?}{100}\right)^2\right]$$

Control Question 2:

Assume that you are a Charitable Institution and that the Donor you are matched with donated 90 percent of their Task 1 earnings. Suppose that you guessed that the Donor you are matched with donated 50 percent of their earnings. **What would the missing values in the formula used to calculate your earnings for this question be?**

$$Your\ payment = \$5\ x \left[1 - \left(\frac{?\ -\ ?}{100}\right)^2\right]$$

Do you have any questions?

INSTRUCTIONS FOR TASK 5 **TABLE ID NUMBER_____**

On the following pages you will find two short stories. In each of these stories someone has to make a decision. You will be asked: What do you think about that decision? After each decision you will also find reasons pro and contra this decision. You will be asked: Do you accept these reasons or reject them? Please fill out your responses on the paper.

You will be paid $5 for completing this task. Please respond to all questions. Do not skip any. There is no time limit. But do not hesitate too long, either.

After everyone has completed the task, please fold your responses in half so they cannot be seen. They will then be collected by the experimenter.

After all response sheets have been collected, the monitor will be asked to flip a coin. The outcome of the coin flip will determine which of the tasks you will be paid for. The results from each of the tasks you have completed will be displayed on your computer screen. To display your final earnings for the experiment, you will be asked to click either the 'Heads' or the 'Tails' button, depending on the outcome of the coin flip.

When your final earnings are displayed on the computer screen, please fill out the payment sheet you have been given.

You will then be asked to fill out an exit survey on your computer. Please complete the exit survey.

NOT FOR PUBLICATION!

Appendix 2. Moral Judgement Test (Georg Lind 1978, 2008) [32]

Cabin number:

Workers

Recently a company fired some people for unknown reasons. Some workers think that their bosses are listening in on their private conversations through cameras and microphones in the building and using the information against them. The bosses say that they are not listening in.

The workers cannot legally do anything until they can prove that their bosses are listening in on their conversations.

Two workers then break into the main office and take the tapes that prove their bosses were listening in.

Would you agree or disagree with the workers' action ...

I strongly disagree — I strongly agree

-3	-2	-1	0	1	2	3

How acceptable do you find the following arguments *in favor* of the two workers' action? Suppose someone argued they were *right* for breaking in . . .

I strongly reject — I strongly accept

	-4	-3	-2	-1	0	1	2	3	4
because they didn't cause much damage to the company.									
because the company did not follow the law that says that they should not listen in, the actions of the two workers were allowed to bring back law and order.									
because most of the workers would approve of their action and many would be happy about it.									
because trust between people and individual dignity count more than the company's rules.									
because the company had done something wrong first by listening in, the two workers were right in breaking into the main office.									
because the two workers saw no legal ways of proving the company misused their trust by listening in, and therefore chose what they considered the lesser of two evils.									

How acceptable do you find the following arguments against the two workers´ actions? Suppose someone argued they were wrong for breaking in . . .

I strongly reject — I strongly accept

	-4	-3	-2	-1	0	1	2	3	4
because if everyone acted as the two workers did, we would be going against law and order in our society.									
because a person must not break such a basic right as the right to protection of property and take the law into one's own hands, unless there is universal moral principle that says it is o.k. to do so.									
because risking getting fired from the company in order to help other workers is not very smart.									
because the two workers should have used all the legal ways available to them without breaking a law.									
because a person doesn't steal if he wants to be considered decent and honest.									
because the firing of other workers had nothing to do with them, the two workers had no reason to steal the tapes.									

[32] Each argument in the test represents one Kohlbergian class of moral argumentation (four to identify one class) See also footnotes 17 and 18. THE TEST MUST NOT BE REPRINTED OR USED WITHOUT EXPLICIT PERMISSION BY GEORG LIND. IT IS PROTECTED BY INTERNATIONAL COPYRIGHT.

NOT FOR PUBLICATION!

Cabin number:

Doctor

A woman had cancer and she had no hope of being saved. She was in terrible pain and was so weak that a large dose of a painkiller such as morphine would have caused her to die. During a brief period of improvement, she begged the doctor to give her enough morphine to kill her. She said she could no longer stand the pain and would be dead in a few weeks anyway. After some thinking, the doctor decided to give her an overdose of morphine.

Do you agree or disagree with the doctor's action?

I strongly disagree — I strongly agree

-3	-2	-1	0	1	2	3

How acceptable do you find the following arguments in favor of the doctor's actions? Suppose someone said he acted in a right way . . .

I strongly reject — I strongly accept

because the doctor had to act according to his conscience and what he believed was right. The woman's pain made it right for the doctor to his moral obligation to preserve life.

-4	-3	-2	-1	0	1	2	3	4

because the doctor was the only one who could do what the woman asked; respect for her wish made him act the way he did.

-4	-3	-2	-1	0	1	2	3	4

because the doctor only did what the woman talked him into doing. He does not need to worry about negative consequences.

-4	-3	-2	-1	0	1	2	3	4

because the woman would have died anyway and it didn't take much effort for him to give her an overdose of a painkiller

-4	-3	-2	-1	0	1	2	3	4

because the doctor didn't really break the law. Nobody could have saved the woman and he only wanted to shorten her suffering.

-4	-3	-2	-1	0	1	2	3	4

because most of his fellow doctors would most probably have done the same thing in a similar situation.

-4	-3	-2	-1	0	1	2	3	4

How acceptable do you find the arguments presented *against* the doctor's action? Suppose someone said that he acted in a *wrong* way. . .

I strongly reject — I strongly accept

because he acted opposite to other doctors´ beliefs. If the rest of them are against mercy-killing, then the doctor shouldn't have done it.

-4	-3	-2	-1	0	1	2	3	4

because a person should be able to have complete faith in a doctor's commitment to save every life even if someone with great pain would rather die.

-4	-3	-2	-1	0	1	2	3	4

because protection of life is everyone's highest moral duty. We have no clear moral way of telling the difference between mercy-killing and plain murder.

-4	-3	-2	-1	0	1	2	3	4

because the doctor could get himself into a lot of trouble. Other doctors were punished before for doing the same thing.

-4	-3	-2	-1	0	1	2	3	4

because he could have had it much easier if he had waited and not interfered with the woman's dying.

-4	-3	-2	-1	0	1	2	3	4

because the doctor broke the law. If a person thinks that mercy-killing is illegal, then one should refuse such requests from the patient.

-4	-3	-2	-1	0	1	2	3	4

How difficult was it for you to fill out this questionnaire?

Not difficult at all — Very difficult

0	1	2	3	4	5	6	7	8

Roughly how much time did it take you to fill it out? _____ minutes