



## Charitable Giving and Intermediation

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### 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. Different donor types emerge: 41 per-cent of all donors reduce their donation in response to intermediation, 59 per-cent of all donors give as much or more with than without intermediation. The price of charitable output does not explain these types and appears to only matter after taking characteristics of donors' moral judgement into account.

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

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## 1. Introduction

In 2013, \$335 billion dollars were donated to US charities in order to fund philanthropic causes such as education, cancer and heart research, treatments for victims of abuse, or assistance for people with a terminal illness<sup>1</sup>. Donations to charity therefore could 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<sup>2</sup> 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. Similarly, donors cannot verify the accuracy of feedback charities provide about their work<sup>3</sup> and therefore, neither competition between charities, nor repeated interactions with a given charity can reduce the problem. 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 also 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

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<sup>1</sup> 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).

<sup>2</sup> 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.

<sup>3</sup> To obtain accurate statements about how charities use their donations, Baird et al. (2013) dealt with incomplete and faulty internal revenue service filings (only 0.7% of which are officially verified and hence, manipulations are relatively safe from discovery), requested and merged records of regulatory actions from different U.S. states and document that charities misreport and lie about their activities and efficiency to donors.

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-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 due to this, 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. More importantly, donor beliefs about the price of charitable output only start to matter for the donor types in question once we control for characteristics of donors’ moral judgement. This highlights that introducing an intermediary is different from increasing the cost of giving (Andreoni and Miller 2002, Andreoni and Vesterlund 2001), or from introducing a mere transaction cost (Rasul and Huck 2010) and has an effect beyond the fact that prices and price increases, are hidden from donors.

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 (Ipsos 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 the best of our knowledge – no previous empirical work on this paper’s research question. Indeed, the experimental literature has hardly addressed the intermediation<sup>4</sup> problem or its implications

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<sup>4</sup> Bartling and Fischbacher (2011) study the effects of intermediation in a standard dictator game. In a robustness check of his main results, Coffmann (2012) uses an intermediation frame in a donation task. These studies, however, have different research questions than the hidden prices aspect of intermediation and do therefore not elicit the subjective price of giving and do not choose a study design which could identify the donor types we report here.

for charitable giving (Barr et al. 2004; Abbink & Ellman 2010)<sup>5</sup> 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-Reilly 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).

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.* (2015) 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

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<sup>5</sup> 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.* 2015). 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.

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 Pelozo and Steel 2005 for reviews). Pelozo 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. Moreover, we shed light on the driving forces underneath this heterogeneity.

### *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 charitable output and donors experience a budget cut since they can purchase less quantity of this good with their given income. 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. The utility function  $U(\cdot)$  of these donors has a shape such that the optimal income allocation before, and after the perceived budget cut implies the same optimal consumption of charitable output  $Z(d, x)$ , see figure 1. 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. The utility function  $U(\cdot)$  of such a donor has a shape such that the optimal income allocation before, and after the perceived budget cut implies more optimal consumption for the self  $w - d$ , and less of charitable output  $Z(d, x)$ , see figure 2.

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.  $U(Z(d, p)) = U(d)$ . The utility function  $U(\cdot)$  of such a donor has a shape such that the optimal income allocation before, and after the perceived budget cut implies the same optimal consumption  $w - d$  for the self, see figure 3. As inefficiency increases and the donation remains constant, the quantity of charitable output purchased with the fixed donation declines.

Where do these differences in donors' utility functions arise from? Our conjecture is that donors may hold different normative ideals, or ethical 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 label outcome-oriented and who increase their donation  $x$  when they expect that the

intermediary will keep some of it. Their motive in maintaining their donation despite increases in the price of charitable output 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 civic rights of the recipients, an aim which donors can only reach if they keep their charitable output constant.

A motivation which could lead to price-orientation when facing the intermediation task might be a concern about the rules of the game. Donors may find it problematic that procedural institutions and rules at hand do not prevent charities from diverting funds away from a needy beneficiary -- be it for charity employees' own private ends or to fund a large and inefficient administration – 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.<sup>6</sup> Donating when institutions allow for a misdirection of funds might mean to promote corroborating the social contract.

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. Donations are transferred to self-help associations of the intended recipients to reduce additional layers of intermediation. This design allows us to examine the

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<sup>6</sup> In the experiment we frame the diversion of money as either 'inefficiency' or 'corruption'. This was done to examine whether people care why money is diverted, and if so, to examine whether activating internalized social norms helps prevent decreases in donations. There is no significant difference of framing on donations (see Tables 3a, 3b and 3c). We discuss framing and its effects in sections 3.4 and 6.3.

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.

Identifying the donor types proposed in section 2.1 requires that we observe the same subject with and without intermediation and hence, we opt for a within-subjects design. 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 submit 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. The within-subjects design also has the advantageous effect of keeping all individual characteristics constant across tasks.<sup>7</sup> We show that changes in individuals' behaviour from the real donation to the intermediation task can be plausibly modelled by exactly those reactions to beliefs and moral motivations which we predicted in section 2. No feedback was given between tasks. In the instructions for task 3, each participant was informed about all roles.

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 task 1, either

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<sup>7</sup> In a literature review, Bекkers and Wiepking (2011) report many individual characteristics documented to influence donations, at least forty of which also apply to students. In a between subjects design, randomization into treatment and control groups can hardly balance groups in such a large number of relevant dimensions and differences in group responses will often not reflect a treatment effect. The problem amplifies if roles require further randomization. Briz et al. (2014) provide such an example where the difference in responses between two groups is present before (and after) administering the treatment. The authors cannot retrieve the latent variable(s) nor neutralize their impact econometrically by allowing for unobserved heterogeneity.



task 2 or 3, and from task 4). Subjects were paid their earnings in cash in Australian Dollars at the end of the experiment.<sup>8</sup> 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 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 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. Participants' donations are anonymous.

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<sup>8</sup> At the time of the experiments, 1 Australian dollar was equivalent to around 0.90- 1 US dollar.

### 3.4 The Intermediation task

In the intermediation task, depicted in Figure 4, 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.  $(d-s)$ . Our setting therefore studies a type of intermediary whose sole purpose it is to provide direct access to the recipient.<sup>9</sup> 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.

The intermediation task was presented in one of two different frames: either the amount taken by the intermediary was framed as corrupt behaviour (cheating), or as the intermediary charging administrative cost. These treatments were aimed at activating social norms in case those also guide donor responses to intermediation. In section 6, we show with the help of individuals’ moral judgment characteristics that in our data, neither donors nor intermediators refer to social norms, others’ expectations, or to their social image<sup>10</sup>. It is therefore not surprising that these frames do not influence behaviour.

### 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

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<sup>9</sup> Whereas many real-world charities have no other expertise than giving access to a specific recipient, there are also charities that provide expert services beyond this access. Studying the extent to which additional expertise affects the distribution of this paper’s donor types is an interesting avenue for future research.

<sup>10</sup> The fact that these motivations do not affect behaviour in our setting also helps to rule out an audience effect as an explanation for donors’ responses to intermediation. An audience effect requires that donors care about expectations, image, or social norms such that they try to please an audience who might infer their donation somehow (the intermediary might for instance infer some of the donation from her own payoff -- should the intermediation game be paid -- though this payoff is shrouded by the intermediators’ payoffs from tasks 4 and 5). Yet, none of the mechanisms triggering an audience effect are found to be active.

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 small local self-help organizations of Indigenous Australians which provide health and education programs in disadvantaged Indigenous communities.<sup>11</sup> 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?

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<sup>11</sup> Two local self-help organizations of Indigenous Australians (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.

- Do *outcome-*, *price-*, and *donation-oriented* donors have different moral motivations to donate to disadvantaged recipients?

#### 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 A) and intermediaries (Role B) 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 ( $p\text{-value} < 0.02$ ) than the average of \$2.83 that these same donors donated in the real donation task.<sup>12</sup> Figure 5a 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.<sup>13</sup> 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.<sup>14</sup> The remaining twenty-five donors (41%) are donation-oriented in that they give the same positive amount in both tasks.<sup>15</sup>

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,  $p\text{-value}=0.94$ ). 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.<sup>16</sup> 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.

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<sup>12</sup> The  $p$ -values reported are from an interval regression of Dollar amounts donated regressed on a task dummy with robust standard errors clustered at the individual level.

<sup>13</sup> 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.

<sup>14</sup> 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 be very high.

<sup>15</sup> 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.

<sup>16</sup> 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. Indeed, we could not confirm that donor beliefs matter at all for individual donor types, see tables 3b and 3c.

On aggregate, however, 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. Columns 3 and 4 in Table 3a add donor expectations about intermediary behaviour to the interval regressions from the previous section. However, even after controlling for expectations donors still donate less in the intermediation task as compared with the real donation task. The corresponding standardized effect of intermediation is even larger than the standardized effect of the expected price of giving (donor beliefs). 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 same 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*<sup>17</sup>, *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 6 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.<sup>18</sup> This is broadly consistent with the -1.44 found by Pelozo 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.<sup>19</sup> Tables 3b and 3c show that, at face value, absolute donations do not respond to expectations at all after disaggregating donor reactions to intermediation. Only after controlling for donors’ moral judgement characteristics – see section 6 --, the expected price of giving starts to matter. Table 6 analyses in detail the determinants of donors’ response to price increases using a logit model that employs more variables 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 fully specified model confirm the donor types suggested above: 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

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<sup>17</sup> 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.

<sup>18</sup> 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.

<sup>19</sup> Elasticity ranges from -19 to 5.67 for individual donors.

oriented, and the more likely they are price-rather than donation 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 about the price of giving. This finding clearly shows that intermediation introduces behavioural responses *beyond* increasing the price of giving.

### 5.5 Intermediaries

Figure 5b 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).<sup>20,21</sup>

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

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<sup>20</sup>As before, the  $p$ -value is from an interval regression on a task dummy, and robust standard errors are clustered at the individual level.

<sup>21</sup>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).



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 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. As mentioned earlier, 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.

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, or put differently, which normative ideals individuals employ to guide their actions. Kohlberg 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).<sup>22</sup>

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.<sup>23</sup> 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 what the protagonist did was 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

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<sup>22</sup> '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'.

<sup>23</sup> 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 an excerpt reprinted in Appendix 1. For more details on the calculation of scores, see also footnote 23.

summaries in Chlaß *et al.* (2013) and Chlaß and Moffatt (2012) for 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 ( $p\text{-value} < 0.01$ ) to be outcome- rather than price-oriented the more they prefer to make use of such arguments.<sup>24</sup> Similarly, they are 16% more likely to be donation rather than price-oriented ( $p\text{-value} < 0.01$ ). These findings support the interpretation that donors who increase their 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%,  $p\text{-value} < 0.01$ ) 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%,  $p\text{-value} < 0.01$ . 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

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<sup>24</sup>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.

are more likely to be price-oriented.<sup>25</sup> It is noteworthy that we do not find any evidence that – beyond their possible effect on beliefs which we directly control for in our regressions -- social image concerns, social and others' expectations, or social norms explain donations in any way. These amount to Kohlberg classes 2 and 3 from table 5 which do not come out significant in explaining donations in any of the specifications of table 6 which is why they are not reported in this table.

### 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.<sup>26</sup> 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).<sup>27</sup> 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. Again, social image concerns, others' expectations, or social norms cannot be confirmed to guide any part of intermediary behaviour.

### 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 intermediation task and whether donor behaviour changes if decreases in productivity come through inefficiency or corruption. We do this by employing two different frames.<sup>28</sup>

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

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<sup>25</sup> 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.

<sup>26</sup> 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.

<sup>27</sup> 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.

<sup>28</sup> 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.

amount donated or passed on between the two frames.<sup>29</sup> 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.<sup>30</sup> Specifically if donors do not care about social norms or socially appropriate behaviour, they would not care about whether money is lost due to costly administration, or corruption. 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 abstract to trigger desires to abstain from immoral 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 intermediaries 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<sup>31</sup> would predict donors to reduce their consumption of charitable output, that is, to reduce their 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

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<sup>29</sup> 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.

<sup>30</sup> 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.

<sup>31</sup> If we instead assume that donations can be explained by warm glow (Andreoni 1990), 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.

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.

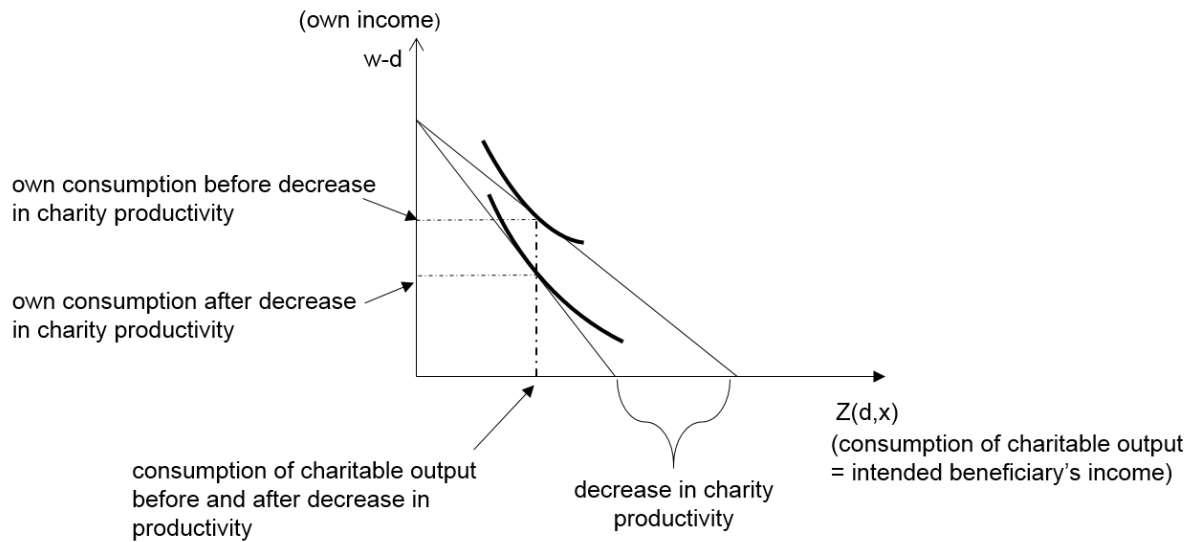
To understand the existence of different donor types, we study how participants make moral judgements in the face of intermediation. We obtain these moral characteristics from a standardized moral judgement test which elicits the moral arguments individuals employ to resolve ethical dilemmas. We find 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.

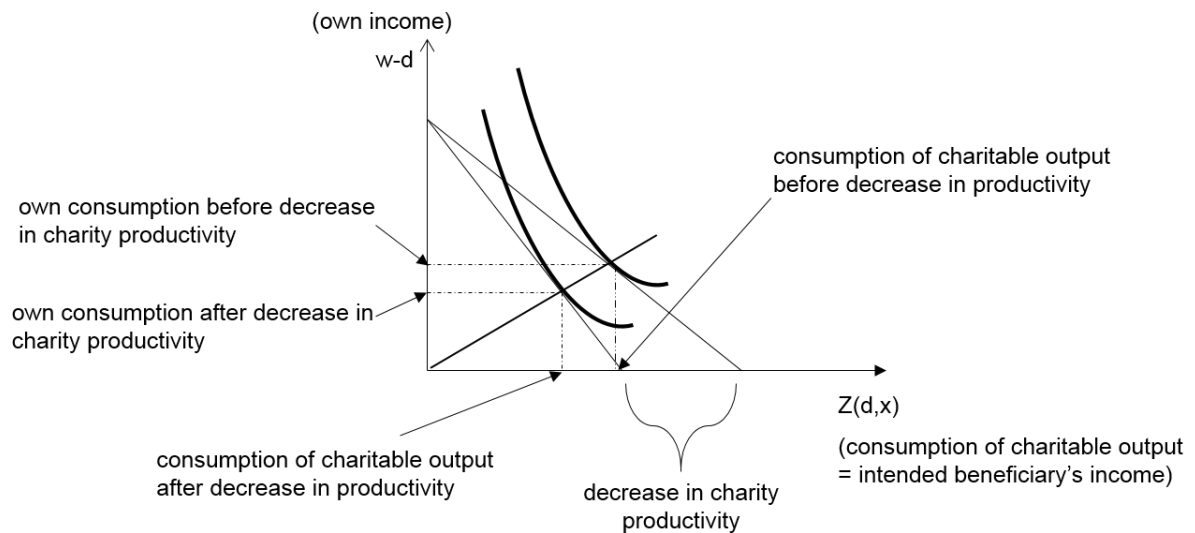
We conclude that intermediation can have unexpected effects on giving. Intermediation is becoming increasingly common across the world. Some philanthropic purposes may require additional layers of intermediation to transform the funds collected into effective help for an intended beneficiary such as 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

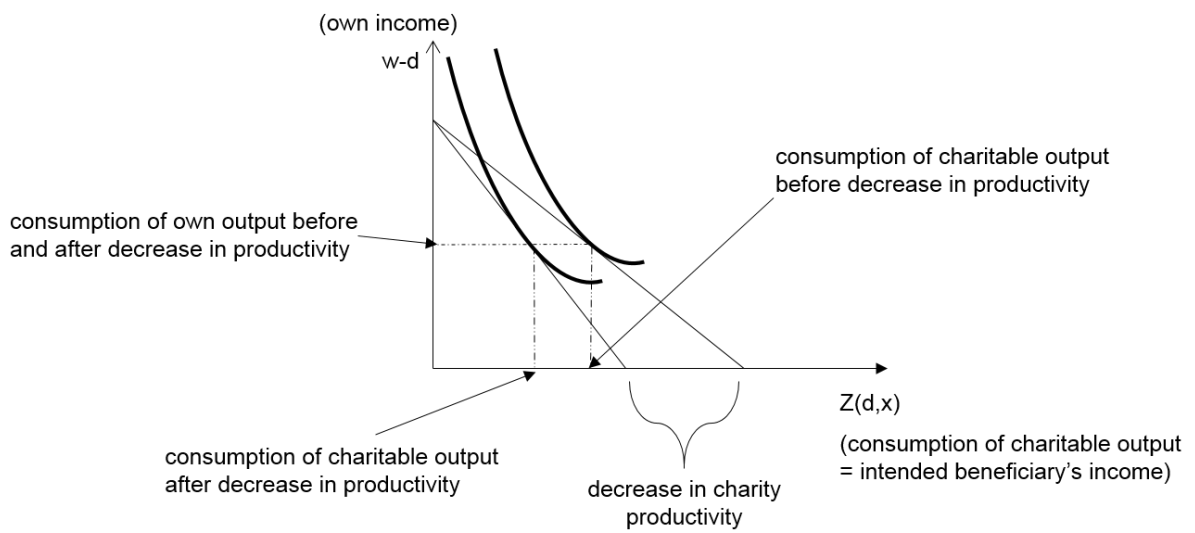
**Figure 1: OUTCOME-ORIENTED DONORS: optimal allocation between own consumption/income and charitable output before and after decrease in charity productivity.**



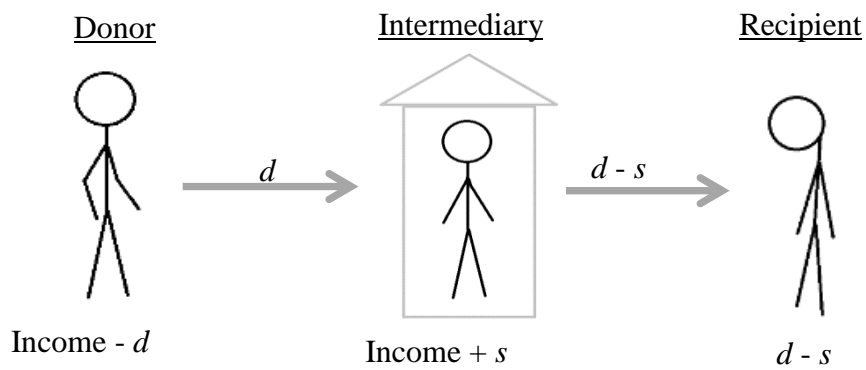
**Figure 2: PRICE-ORIENTED DONORS: optimal allocation between own consumption/income and charitable output before and after decrease in charity productivity.**



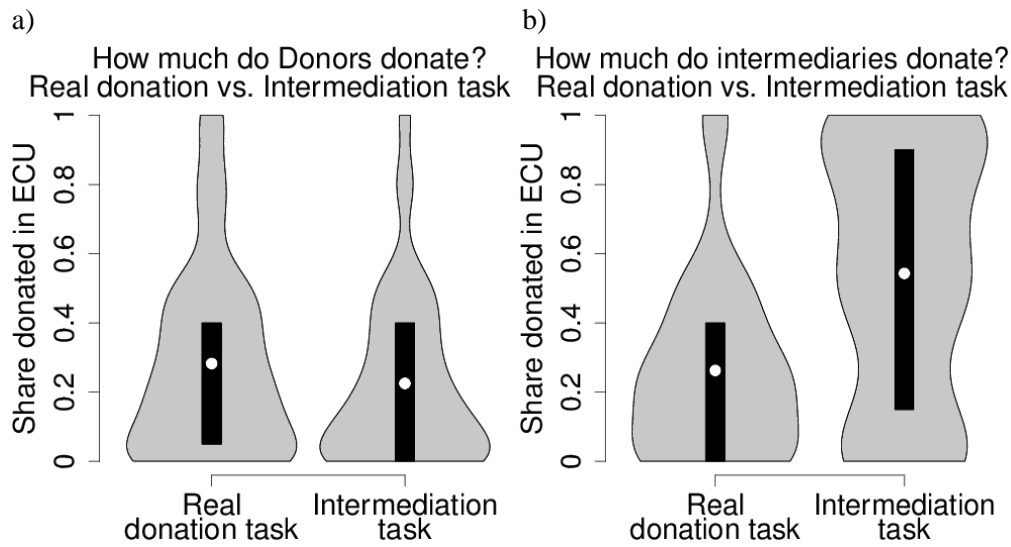
**Figure 3: DONATION-ORIENTED DONORS: optimal allocation between own consumption/income and charitable output before and after decrease in charity productivity.**



**Figure 4. Depiction of the intermediation task**

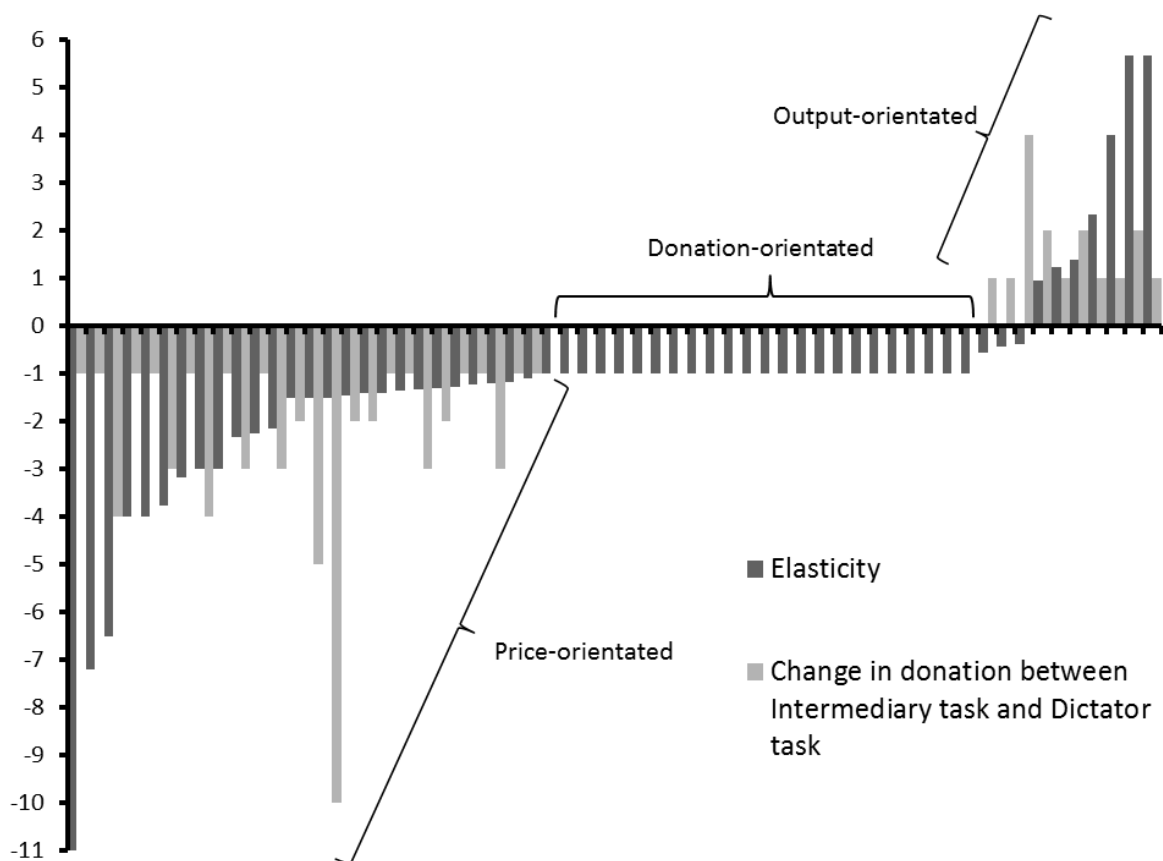


**Figure 5. Intermediaries' and donors' donations in the standard real donation task and the intermediation task.**



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 6: 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<sup>1</sup>) by type and task**

	<b>Donors</b>	<b>Intermediaries</b>	<b>Total</b>
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

<sup>1</sup> 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)**

	<b>Outcome-oriented</b>	<b>Price-oriented</b>	<b>Donation-oriented</b>
<i>Real-donation task</i>			
Amount donated	\$1.20 (1.40)	\$4.12 (2.53)	\$3.72 (2.76)
<i>Intermediation task</i>			
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.**

	<b>Amount donated</b>			
	(1)	(2)	(3)	(4)
<i>Intermediation task</i>	-0.698** (0.290)	-0.727** (0.291)	-3.521*** (0.972)	-3.155*** (0.903)
<i>Expectation of proportion passed on by Intermediary *</i>			5.279*** (1.562)	4.547*** (1.416)
<i>Intermediation task</i>				
Male		0.012 (.692)		-0.005 (0.657)
Aged 20 to 25		-1.535* (0.784)		-1.170 (0.753)
Religious <sup>32</sup>		0.235* (0.111)		0.221* (0.107)
Self-reported SES <sup>33</sup>		0.071 (0.176)		0.030 (0.169)
Constant	0.504 (2.281)	0.240 (2.457)	0.951 (2.211)	0.745 (2.45)
[corruption frame: yes]	[-3.668] [(2.403)]	[-3.909*] [(2.328)]	[-2.759] [(2.341)]	[-2.957] [(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.

<sup>32</sup>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).

<sup>33</sup> 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)
<i>Intermediation task</i>	2.052*** (0.360)	2.062*** (0.398)	2.053 (1.936)	2.142 (1.513)
<i>Expectation of proportion passed on by Intermediary *</i>			-0.001 (3.265)	-0.154 (2.496)
Male		-0.668 (0.550)		-0.666 (0.548)
Aged 20 to 25		3.024*** (0.579)		3.016*** (0.550)
Religious <sup>34</sup>		-0.176 (0.159)		0.221* (0.107)
Self-reported SES <sup>35</sup>		-0.458*** (0.174)		-0.461*** (0.177)
Constant	1.243* (0.711)	1.970** (0.775)	1.243 (0.711)	1.999** (0.805)
[corruption frame: yes]	[1.125] [(1.326)]	[1.619] [(1.020)]	[1.179] [(1.427)]	[1.638] [(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.

<sup>34</sup> 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).

<sup>35</sup> 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 3c: Interval regression of the amount given by PRICE ORIENTED DONORS.**

	<b>Amount donated</b>			
	(1)	(2)	(3)	(4)
<i>Intermediation task</i>	-2.729*** (0.538)	-2.724*** (1.288)	-2.509* (1.288)	-2.453** (1.162)
<i>Expectation of proportion passed on by Intermediary *</i>			-0.451 (2.000)	-0.553 (1.705)
Male		0.636 (1.015)		0.644 (1.001)
Aged 20 to 25		0.104 (1.057)		0.072 (1.059)
Religious <sup>36</sup>		0.317** (0.155)		0.317** (0.154)
Self-reported SES <sup>37</sup>		-0.190 (0.263)		-0.188 (0.261)
Constant	4.630*** (0.513)	3.545** (1.499)	4.630*** (0.513)	3.557 (1.488)
[corruption frame: yes]	[0.916] [(0.890)]	[0.942] [(0.986)]	[0.917] [(0.910)]	[0.947] [(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.

<sup>36</sup> 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).

<sup>37</sup> 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 4: Interval regression of the amount passed on by Intermediaries**

	Amount donated/passed on			
	(1)	(2)	(3)	(4)
<i>Intermediation task</i>	3.459*** (0.539)	3.506*** (0.532)	1.455 (1.073)	1.994* (1.053)
<i>Expectation of proportion donated* Intermediation task</i>			6.714** (2.638)	5.019* (2.572)
Male		-2.551*** (0.832)		-2.301*** (0.819)
Aged 20 to 25		-1.547* (0.806)		-1.385* (0.766)
Religious <sup>38</sup>		0.337*** (0.115)		0.320*** (0.112)
Self-reported SES <sup>39</sup>		-0.102 (0.237)		-0.065 (0.230)
Constant	1.075 (0.959)	4.242 (1.635)	2.007 (1.57)	3.885 (1.509)
[corruption frame: yes]	[1.358] [(1.981)]	[2.823] [(1.738)]	[1.712] [(1.832)]	[3.031*] [(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.

<sup>38</sup> 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).

<sup>39</sup> 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 5: Kohlberg's (e.g. 1984) six 'classes' or 'ways' of moral argumentation summarized by Ishida (2006)**

argumentation	motivations for moral behaviour
<p><b>“preconventional way”</b></p>	<p><i>Class 1.</i> Orientation toward punishment and obedience; physical and material power. Rules are obeyed to avoid punishment.  <i>Class 2.</i> Naïve hedonistic orientation. The individual conforms to obtain rewards.</p>
<p><b>“conventional way”</b></p>	<p><i>Class 3.</i> “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’.  <i>Class 4.</i> 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.</p>
<p><b>“postconventional way”</b></p>	<p><i>Class 5.</i> 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.  <i>Class 6.</i> 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.</p>

**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 <sup>40</sup>	--	0.451*** (0.084)	-0.432*** (0.060)
Religious <sup>41</sup>		-0.048*** (0.017)	--
No tolerance attitude toward corruption <sup>42</sup>	-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).

<sup>40</sup> 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.

<sup>41</sup> 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).

<sup>42</sup> 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.

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**Appendix 1. Moral Judgement Test (Georg Lind 1978, 2008) <sup>43</sup>**

Workers

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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' behaviour?

I strongly disagree

I strongly agree

-3	-2	-1	0	1	2	3
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How acceptable do you find the following arguments *in favor* of the two workers' actions? Suppose someone argued they were *right* for breaking in...

■ ■ ■

...because trust between people and individual dignity count more than the company's rules....

I strongly accept

I strongly reject

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

■ ■ ■

...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...

I strongly accept

I strongly reject

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

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

■ ■ ■

...because the two workers should have used all the legal ways available to them without breaking a law.

I strongly accept

I strongly reject

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

■ ■ ■

...because a person doesn't steal if he wants to be considered decent and honest.

I strongly accept

I strongly reject

-4	-3	-2	-1	0	1	2	3	4
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<sup>43</sup> Each argument in the test represents one Kohlbergian class of moral argumentation (four to identify one class) See also footnotes 23 and 24. **THE TEST MUST NOT BE REPRINTED OR USED WITHOUT EXPLICIT PERMISSION BY GEORG LIND. IT IS PROTECTED BY INTERNATIONAL COPYRIGHT.** **Bolds** Points indicate that parts of the test (arguments) have been left out due to copyright protection.