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## Doing good with other people's money: A charitable giving experiment with students in environmental sciences and economics

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# JENA ECONOMIC RESEARCH PAPERS



# 2010 – 089

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by

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**Doing good with other people's money:  
A charitable giving experiment with students in environmental  
sciences and economics**

Fredrik Carlsson,<sup>a</sup> Mitesh Kataria,<sup>b</sup> Elina Lampi,<sup>c</sup> M. Vittoria Levati<sup>d</sup>

**Abstract**

We augment a standard dictator game to investigate how preferences for an environmental project relate to willingness to limit others' choices. We explore this issue by distinguishing three student groups: economists, environmental economists, and environmental social scientists. We find that people are generally disposed to grant freedom of choice, but only within certain limits. In addition, our results are in line with the widely held belief that economists are more selfish than other people. Yet, against the notion of consumer sovereignty, economists are not less likely to restrict others' choices and impose restrictions closer to their own preferences than the other student groups.

**Keywords:** dictator game; charitable giving; social preferences; paternalism

**JEL classifications:** C92; D64

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“The power to do good is also the power to do harm.”

Milton Friedman (Capitalism and Freedom, 1962)

## 1. Introduction

There exist many areas within modern society where people make decisions involving others' welfare. Examples include households' decision-makers, policy makers, community leaders, and firm's managers. Accordingly, a number of experimental studies in both social psychology and economics have investigated how individuals behave when they are responsible not only for their own wellbeing, but also for someone else's wellbeing (see, e.g., Kerr and MacCoun 1985; Charness 2000; Daruvala 2007; Charness and Jackson 2009; Eriksen and Kvaløy 2010).<sup>1</sup> In comparison, relatively little is known about the individuals' willingness to voluntarily assume responsibility for others' welfare when what the others can gain bears no consequences for the decision makers' monetary payoff but can affect a third party.<sup>2</sup> Yet, trading off the welfare of one group against that of another is a decision that both individuals and policy makers around the world often face. In this paper, we provide experimental evidence on this issue by using a dictator game with an environmental organization (the WWF) as the recipient.

We place each dictator in a group with three other participants and augment the standard game so that each dictator makes three choices.<sup>3</sup> First, he decides on his individual donation to a particular WWF project with the aim to save the orangutans. Then, he chooses a donation for *all* members of his group (including himself). Finally, he is given the opportunity to dictate the other group members' *minimum* donation, thereby restricting their choice of how much to keep for themselves. Several independent researchers have studied the “individual” dictator game and found that, contrary to the predictions of standard theory, many dictators give a substantial share of their endowment to other subjects (for a survey, see Camerer

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<sup>1</sup> For example, Charness and Jackson (2009) found that in a Stag Hunt game almost one third of the people played a less risky strategy when choosing for a group than when playing only for themselves. Similarly, Eriksen and Kvaløy (2009) showed that individuals take less risk with other people's money than with their own.

<sup>2</sup> Oxoby (2006) explored people's preferences over limiting the choice sets of themselves and others in a public goods experiment and found that individuals are willing to exchange liberty (i.e. unlimited choice) for efficiency. In a similar setting, Bolle and Vogel (2010) observed that giving one group member (the allocator) the power to decide on all group members' contributions enhances efficiency, but at the same time creates inequality because the allocator forces the others to contribute more than he does.

<sup>3</sup> In the basic version of the dictator game one player is endowed by the experimenter with a certain amount of money and asked to share it with another player who has no choice to make.

2003). By extending the dictator game so as to include the two “collective” choices (i.e., choices on behalf of others) described above, we are able to shed light on the following questions: How does having to dictate a decision to the group affect dictators’ choice behavior?<sup>4</sup> How does the donation imposed on the whole group differ from the restriction placed on the others’ choice set? Will dictators limit the other individuals’ choice sets when their own and the others’ earnings are unrelated? To paraphrase Friedman’s (1962) opening quote, will the dictators decide to the good of the orangutan project at the expenses of the payoff-maximizing choice of their fellow group members?

Although theories of social preferences suggest that individuals are sensitive to the others’ wellbeing and value others’ rights, it is not completely obvious in our game what ‘pro-social’ behavior would advocate because the dictator may harm his group-members in order to help the WWF. No trade-off between humans and animals would arise if the dictators’ and his fellow members’ preferences were aligned. Conversely, consider a dictator who is willing to donate some money to the WWF project, but expects the others to be payoff-maximizers. Then, when dictating a choice for all members of his group, such a dictator may respect the others’ preferences albeit in contrast to his own. On the other hand, paternalism may induce the dictator to impose a donation on him and others with an eye to his own preferences. The issue of the willingness to restrict the others’ choices in favor of the environment is even more ambiguous. Indeed, while some have argued that people must face restrictions of liberties and choices in order to preserve social order, others have insisted on the importance of unrestricted choices. Kant’s categorical imperative, for instance, suggests that a person should not impose restrictions on others that he would resist if they were imposed on him.<sup>5</sup>

The questions we pose may have different answers depending on people’s education. For example, there is empirical evidence that students of economics behave differently from other people (see, e.g., Lanteri 2008, for a survey of relevant work). Already in the early eighties, Marwell and Ames (1981) observed that in public goods experiments, economists free ride more than non-economists. They offered two explanations for this finding. First, students who are particularly concerned with economic incentives might self-select into economics. Second, economics students might adapt their behavior over time to the basic axioms of the

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<sup>4</sup> There exists some experimental literature that has explored individual versus team decisions (see, e.g., Cason and Mui 1997; Masclet et al. 2009). Differently from us, this strand of research focuses on whether decisions made by individuals differ systematically from decisions made by the group via voting or discussion.

<sup>5</sup> See White (2004) for a detailed account of Kant’s ethics and its interpretation in terms of *homo economicus*’ decision-making process.

theories they study. These two explanations are known as the selection and learning hypotheses, respectively.<sup>6</sup>

Economists are also traditionally seen as being more libertarian than others. The message that freedom has a value is embedded in economics. As suggested by the opening quote, Milton Friedman took a clear position against “doing good with other people’s money”, thereby favoring individual freedom. Sen (1988) drew attention to the instrumental importance of freedom (as a means to other ends) as well as to its intrinsic worth. Even basic courses of economics begin by assuming consumer sovereignty. This can be traced back to Adam Smith’s proposition (1776 [1937], p. 625): “Consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer”. It is therefore of interest to address our research questions distinguishing not only students who are expected to be more prone to protect the environment from other students, but also students who are studying economics (and business administration) from non-economists. To this aim, we recruited students from two populations at the University of Gothenburg: the Environmental Social Science program and the School of Business, Economics and Law. Some of the students in the Environmental Social Science program specialize in economics or business administration, and even take the same courses as the students at the School of Business, Economics, and Law. Thus, we further categorize our students based on their specialization, and our final data set comprises three categories: i) economists, ii) environmental economists, and iii) environmental social scientists with no economics background.

To the best of our knowledge, there are no studies that have examined the willingness to restrict others’ choices of economists and non-economists. Some studies, however, have shown that there is a strong correlation between economists’ policy positions and their ideological values (e.g. Fuchs et al. 1998; Ayer 2001). We extend this line of inquiry by examining whether economists, influenced by the libertarian attitudes prevalent in economics, are less eager to restrict others’ choices, and whether factors other than education – such as gender and political preferences – can explain the willingness to restrict others’ choices.

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<sup>6</sup> Other laboratory experiments shedding light on the difference between economists and non-economists include Carter and Irons (1991), Frank et al. (1993), Fehr et al. (2006), and Rubinstein (2006). Field experiments have been performed by, e.g., Frank et al. (1996), and Frey and Meier (2003).

## 2. The experiment

### 2.1 Subject pool

Our sample consists of one hundred and two undergraduate students enrolled in two different faculties at the University of Gothenburg: the School of Business, Economics and Law, and the Environmental Social Science (ESS) program. Students at the School of Business, Economics and Law all study or have studied economics and business administration; we shall refer to them as “economists”. Students from the ESS program undertake a common first year, which includes courses in different environmental topics and in natural science, and then they enter the main stage of their study and specialize in one of the following areas: economics, business administration, political science, human geography, and human ecology. This means that some of these students also study economics and business administration. We control for this by dividing our sample into the following three groups: (i) Business School students or economists (henceforth EC), (ii) environmental economists (henceforth ENV-EC), and (iii) environmental social scientists without economic background (henceforth ENV-NO EC).

The students were recruited in classrooms during lectures hours and via e-mails from lists provided by the university administration and students unions. Table 1 summarizes the number of observations for each group.

Table 1: Number of observations (individuals) for each group

<b>Student group</b>	<b>Observations</b>
School of Business, Economics, and Law (EC)	55
Environmental Social Science program	
- Specializing in economics/business (ENV-EC)	20
- Specializing in other subjects (ENV-NO EC)	27

### 2.2 Design and procedures

The experiment was conducted late 2009 and early 2010 at the University of Gothenburg, and run as a paper and pencil experiment. In the recruitment process, the students were told that the experiment was about the environment and that they would earn a show-up of 60 SEK.<sup>7</sup> Possibilities to earn additional money in the experiment were also announced.

<sup>7</sup> At the time of the experiment 7 SEK = 1 USD.

The experiment was divided into two independent parts. Part 1, the main part, consisted of the augmented dictator game as described in the introduction. Part 2 involved a questionnaire with some questions about the students' background and their views of environmental policies. We will now describe the main part of the experiment.

Each participant was told that he would be randomly assigned to a group of four people, and that his other group members (either business school students or environmental social scientists) could be from any of the sessions we were conducting, including the one he was participating in. Each participant had to make three independent choices, all related to the amount to be donated to a WWF project with the aim to save the orangutans. For each choice, he received an endowment of 150 SEK. The students were informed that the donated money would be paid in full to the WWF. To ensure credibility, a receipt for the entire amount donated and the individual donations were made available when the participants came and collected their earnings. The receipt for the entire amount donated was also posted on a university announcement board. All participants knew about this before making any decisions.

The three decisions that the participants made were the following. The first choice was an *individual* choice: each subject decided how much he wanted to donate to the orangutan project individually and independently of the others' donations. We regard this choice as revealing people's preferences for the environmental good. The second and third choices were *collective* in the sense that each subject decided on behalf of his group. In the second choice, each subject decided the donation level which would be applied to every group member (*including himself*). In the third choice, the subject decided the *minimum* amount that the other persons in his group (*excluding himself*) had to donate (if at all) to the orangutan project; therefore, he could impose a restriction on the others' choices without direct monetary consequences for himself.<sup>8</sup> Note that the first choice concerned only the decision maker, the second concerned both the decision maker and the other group members, while the third choice only affected the others. Additionally, while in the second choice the decision maker was forced to dictate a decision for the group, in the third choice he was free to decide whether to restrict the others' choice set or not.

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<sup>8</sup> Individuals made choices 2 and 3 prior to knowing whether or not they would be in the role of dictator. This implies use of the strategy method. Previous experiments have found no difference in behavior between the strategy and the play method (see, e.g., Brandts and Charness 2000; Oxoby and McLeish 2004).



Final earnings were based on *one* of these three choices. If the second or third choice was selected for payment, one of the four group members was randomly assigned the role of group's dictator. If the third choice was the decisive one, then the chosen dictator donated an amount equal to his choice 1 and determined the minimum amount that the others had to donate; if any of the other group members were willing to give more than this minimum, their preferences were respected in the sense that they donated according to their choice 1. All subjects were informed about these payment procedures. In addition to the above choices, we elicited the subjects' beliefs about the other group members' donations in choice 1.<sup>9</sup>

We conducted six sessions. At the beginning of each session, the subjects received general instructions explaining, step by step, the procedures to be followed.<sup>10</sup> After the experimenter read these general instructions aloud, two big envelopes – one labeled 'part 1' and the other labeled 'part 2' – and one small envelope were distributed. The envelope labeled 'part 1' (2) contained the instructions and the decision forms for the first (second) part of the experiment. The small envelope contained a paper slip with a code for later identification in order to be able to distribute earnings. After the experimenter's signal, the participants could remove all contents from the envelope marked as 'part 1', read the enclosed instructions (which were also read aloud by the experimenter), and complete the corresponding decision forms. Then, they had to put back the decision forms into the 'part 1' envelope. After all 'part 1' envelopes were collected, the participants could take the instructions and decision forms out of the envelope marked as 'part 2'. The subjects were therefore informed about the questionnaire only after they had completed the first part. When everyone had filled in the questionnaire, they had to put it back into the 'part 2' envelope and return the envelope to the experimenter. Payments were carried out some days later, subsequent to the formation of the four-person groups.

### 3. Results

The results are organized in three subsections. First, we present a general overview and analysis of average behavior for the whole sample of 102 participants. Then, we study whether and to what extent the amount of money donated to the WWF varies with the task

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<sup>9</sup> We used a simple incentive mechanism where students could gain additional money if they guessed their group members' donations correctly.

<sup>10</sup> The complete set of instructions and decision forms is documented in the appendix.

and the field of study. Finally, we investigate how the individual choice relates to each of the two collective choices.

### 3.1 Whole sample analysis

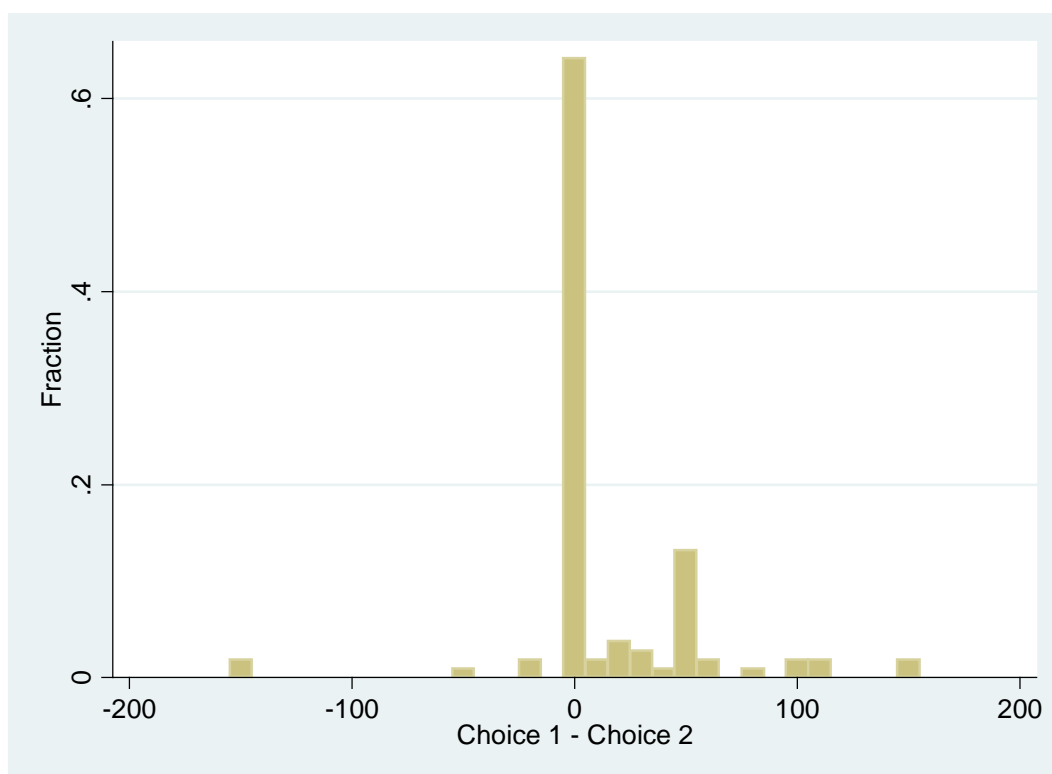
The results presented here are for the whole sample. Table 2 displays means (and standard deviations) of the amounts donated to the WWF in each of the three choices. In addition, the last row (choice 4) reports descriptive statistics of the beliefs about the others' individual donations.

Table 2: Whole sample: average response for each choice (standard deviation in parentheses)

Choice	Description	Mean
1	Standard dictator game	112 (48)
2	Dictating for the whole group	99 (49)
3	Restricting other group members' choice set	52 (53)
4	Beliefs about what others, on average, donate in choice 1	93 (40)

We start by comparing choices 1 and 2 so as to investigate whether, and if so how, having to decide for the whole group affects individual choice behavior. Figure 1 shows the distribution of the difference in donation between choice 1 and choice 2.<sup>11</sup>

Figure 1. Whole sample: histogram of the difference between choice 1 and choice 2



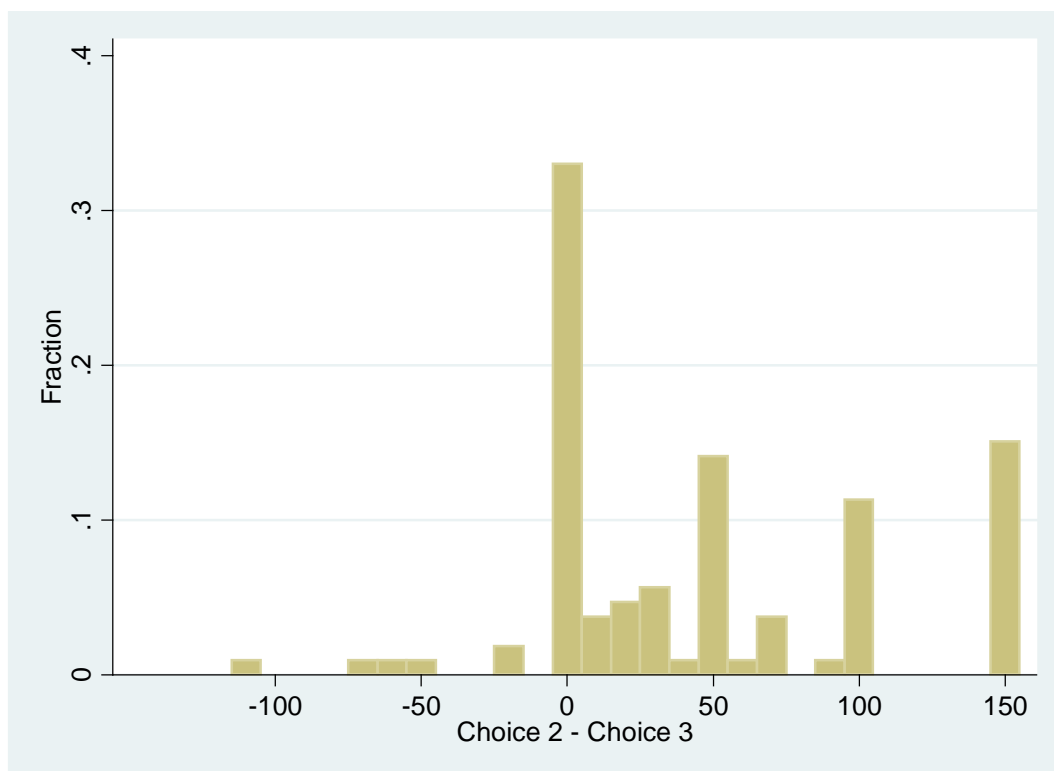
<sup>11</sup> Computing such difference is justified by the fact that each participant made all three choices.

**Result 1:** *Decision makers tend to reduce their individual donation when they know that their decision applies to all group members, but still a large fraction of participants do not change their behavior.*

Support for this result comes from Table 2 and Figure 1. The table indicates that, compared to individual choice 1, donations decrease, on average, by 12 percent when participants have to dictate a decision to the entire group. This reduction is statistically significant using a Wilcoxon signed-rank test (p-value = 0.000). At the same time, the large proportion of zeros in Figure 1 reveals that a majority of decision makers (64%) donate the same amount to the WWF in choices 1 and 2. Figure 1 also shows that it is very unlikely that an individual increases his donation when he knows that everyone in his group must donate the same.

Next, we explore how decisions differ depending on whether the individual dictates the whole group' donation (choice 2) or the others', but not his own, minimum donation (choice 3). Note that, given Result 1, this issue conveys information about the relationship between individual donations (choice 1) and restrictions (choice 3) as well. Figure 2 draws the histogram of the difference between choice 2 and choice 3.

Figure 2. Whole sample: histogram of the difference between choice 2 and choice 3



**Result 2:** *Compared to the donation they dictate to the whole group, the decision makers place a lower restriction on the choices of others.*

A first support for this result comes from Table 2, which reveals that the average restriction on the others' donation (choice 3) is about 50 percent lower than the average donation dictated to the whole group (choice 2). A Wilcoxon signed-rank test confirms that the reduction is statistically significant ( $p\text{-value} = 0.000$ ). Further support for Result 2 is provided by Figure 2, showing that the distribution of the difference between choice 2 and choice 3 is skewed to the left (there are relatively few negative values). More specifically, 63% of the participants dictate a donation to the group that is greater than the donation that they impose, as a minimum, on the others. In the light of Result 1, this implies that most participants prefer restricting others to donate a minimum amount which is much smaller than their own donation.

We conclude this section by considering the relationship between choices in the standard dictator game and beliefs about other dictators' choices.

**Result 3:** *Most subjects believe that the others donate, on average, less than themselves.*

Table 2 clearly indicates that most subjects underestimate the amount that the other group members donate in the standard dictator game: beliefs about others' donations are, on average, significantly smaller than actual donations ( $p\text{-value} = 0.000$ , Wilcoxon signed-rank test).

Summarizing the results for the whole sample we conclude that slightly more than 1/3 of the decision makers reduce the individual amount donated to the WWF project when choosing for the whole group. The reduction is even more frequent and pronounced if individuals can restrict the choices of others without bearing any personal monetary consequences. Do note, however, that the average restriction level is still well above zero, suggesting that even though the decision makers do not want to impose their preferences on others, they still set a minimum to what the others have to donate. Finally, our finding on beliefs is in line with previous studies about positive self-image, according to which people think they are better than others (see e.g. Svenson 1981; Taylor and Brown 1988; Santos-Pinto and Sobel 2005). Explanations found in the literature are that people, in general, overestimate their own abilities, or that a positive self-image increases happiness.

### 3.2 Differences among student groups

In this section, we shall focus on the descriptive results for the three student groups participating in our experiment: economists (EC), environmental economists (ENV-EC), and environmental social scientists (ENV-NO EC). The average responses for each choice and student group are summarized in Table 3. Let us first consider whether and to what extent the student groups differ in their individual willingness to donate to the WWF project and in their beliefs about others' willingness to donate.

Table 3: Average response for each choice and student group (standard deviation in parentheses)

Choice	Description	ENV-NO EC	ENV-EC	EC
1	Standard dictator game	132 (40)	123 (32)	101 (54)
2	Dictating for the whole group	117 (41)	98 (38)	92 (55)
3	Restricting other group members' choice set	48 (52)	50 (51)	54 (56)
4	Beliefs about what others, on average, donate	111 (37)	96 (38)	84 (42)

**Result 4:** *Individual donations are, on average, smaller for economists (EC) than for students with an environmental studies background (ENV-NO EC and ENV-EC), but significantly so only for ENV-NO EC.*

As shown by choice 1 in Table 3, economists are, on average, more selfish than the two groups of students enrolled in the ESS program. However, a series of Wilcoxon rank-sum tests reveal that only the difference between EC and ENV-NO EC is statistically significant (p-value = 0.025; the p-values for the comparisons between EC and ENV-EC and between ENV-EC and ENV-NO EC are 0.163 and 0.144, respectively). Hence, the individual donations of environmental economists are in between those of the two other student groups.

**Result 5:** *Both economists (EC) and environmental economists (ENV-EC) have lower expectations about the others' generosity than environmental social scientists (ENV-NO EC).*

The last row in Table 3 provides a first support for this result. Further corroboration stems from a series of Wilcoxon rank-sum tests, which reveal that the difference between EC and ENV-NO EC is statistically significant (p-value = 0.007), whereas the difference between EC and ENV-EC is not (p-value = 0.197). Moreover, the difference between ENV-EC and ENV-NO EC is weakly significant (p-value = 0.090).

Thus, although the object of the donation is an environmental good, the donation behavior of the environmental economists seems to be more similar to the behavior of the economists

than to that of the environmental social scientists. The same holds for the beliefs about others' behavior. However, we are not able to distinguish whether this result is due to a selection effect or a learning effect.

Concerning the two collective choices, Table 3 suggests that the differences in choice 2 among student groups parallel the differences in choice 1 and beliefs: economists and environmental social scientists dictate, respectively, the lowest and the highest average donation to the group. Conversely, Table 3 points at a similarity among student groups with respect to the restriction placed on the others' choice set. It is, however, problematic to directly compare choices 2 and 3 across fields of studies because the student groups differ not only in the amounts individually donated to the WWF, but also in their expectations about the others' donations. As it is likely that the collective choices depend on both one's preferences and one's expectations about the others' donations, in the next section we will look in detail at the relationship between these various decisions.

### 3.3 Choosing for the others

To what extent does choosing the amount that other people have to donate to the WWF differ from choosing one's own donation? To answer this question, we calculate the difference between the individual donation and each of the two collective choices. The bigger the difference, the more a subject is willing to modify his preferences when deciding for others. For those who, in choice 3, decide not to restrict the others' choice set, we assume a restriction of zero.<sup>12</sup> The results are reported in Table 4.

Table 4: Differences between one's own choice and each collective choice (standard deviation in parentheses)

Description	ENV- NO EC	ENV-EC	EC
Donation in choice 1 – donation in choice 2	14.5 (53.4)	24.8 (36.7)	8.7 (37.9)
Donation in choice 1 – restriction in choice 3	84.0 (59.9)	75.6 (54.3)	46.9 (60.2)
Share of participants who restrict others' choices	0.55	0.63	0.65

**Result 6:** (i) *Environmental economists (ENV-EC) are more willing than the other student groups to modify their individual donation when choosing for the whole group, although only the difference between ENV-EC and EC reaches significance.* (ii) *Economists (EC) are more likely than the other student groups to impose restrictions on the others' donations that are closer to their own donation.*

<sup>12</sup> In the experiment, the minimum restriction that a participant could place on the others' donation was 10 SEK. Thus, if one wanted to place a zero-restriction, he had to opt for not restricting the others' choices.

As to part (i) of the result, the first row in Table 4 shows that when choosing a donation for the whole group, environmental economists reduce, on average, their individual donation by almost 25 SEK, whereas environmental social scientists reduce it by 14.5 SEK, and economists by only 8.7 SEK. Wilcoxon rank-sum tests allow us to reject the hypothesis of equal reduction when comparing ENV-EC and EC (p-value = 0.015), but not when comparing ENV-EC and ENV-NO EC (p-value = 0.477), or EC and ENV-NO EC (p-value = 0.134). Since the economists are the most selfish group in the individual choice, it may appear obvious that they deviate the least from their individual donation. However, the result is confirmed even if we compare the percentile change between choice 1 and choice 2, which is, on average,  $-20\%$  ( $= -25/123$  SEK) for ENV-EC,  $-11\%$  ( $= -15/132$ ) for ENV-NO EC, and only  $-9\%$  ( $= -9/101$ ) for EC.

Turning to part (ii) of Result 6, the second row in Table 4 indicates that when imposing a restriction on others without direct monetary consequences for themselves, economists are the group which least departs from its individual donation. This difference among student groups is corroborated by Wilcoxon rank-sum tests comparing the distribution of the variable of interest (“choice 1 – choice 3”) for EC and ENV-EC (p-value = 0.058) and for EC and ENV-NO EC (p-value = 0.024).<sup>13</sup> Result 6-part (ii) may be explained by the fact that the share of those imposing a restriction is the highest for economists (see the last row in Table 4). However, tests of equal proportion reveal that the differences in these shares across student groups are not statistically significant.<sup>14</sup>

We conclude our analysis by ascertaining how the differences between individual and collective choices relate to the detected differences in expectations among the student groups, controlling for other factors. To this aim, we estimate a seemingly unrelated regression (SUR) model consisting of two equations. In the first equation, the dependent variable is the difference between own donation and group donation. In the second equation, the dependent variable is the difference between own donation and restriction on the others’ choice set. The two equations are estimated simultaneously, allowing for a correlation between their error terms. Included in each equation as independent variables are two dummy variables for the field of study (EC is the baseline), the difference between own donation and guess about the others’ donation, and interaction terms between this difference and the education dummy

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<sup>13</sup> No difference is detected between ENV-EC and ENV-NO EC (p-value = 0.531).

<sup>14</sup> This is true for all three comparisons: p-value = 0.825 for EC versus ENV-EC, p-value = 0.408 for EC versus ENV-NO EC, and p-value = 0.582 for ENV-EC versus ENV-NO EC.

variables. Control variables are personal factors such as political preferences, gender, and membership in an environmental organization.<sup>15</sup> The results are presented in Table 5.<sup>16</sup>

Table 5. Regression models

Dependent variable	Equation 1	Equation 2
	Choice 1 – choice 2	Choice 1 –choice 3
ENV-NO EC	8.413 (11.980)	36.212* (19.137)
ENV-EC	5.914 (10.297)	32.965** (16.447)
Choice 1 – Beliefs about others' donations	0.307*** (0.114)	0.223 (0.182)
(Choice 1 – Beliefs about others' donations) × ENV-NO EC	0.374* (0.221)	-0.073 (0.353)
(Choice 1 – Beliefs about others' donations) × ENV-EC	0.428* (0.229)	-0.415 (0.366)
Right-wing (= 1 if right-wing supporter)	14.613* (7.686)	3.057 (12.278)
Woman (= 1 if woman)	-11.044 (7.686)	20.257 (12.906)
Environmental Organization (= 1 if member of an environmental organization)	-2.419 (12.176)	-14.909 (19.450)
Constant	0.892 (7.319)	31.698*** (11.692)
Correlation	0.367	
Breusch-Pagan test of independence	Chi = 11.88, p-value = 0.001	
No. of obs.	102	102
R2	0.274	0.131

\*, \*\*, \*\*\* denote that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively.

Notwithstanding the positive and significant correlation – which basically indicates that there is a strong correlation between choice 2 and choice 3 even after controlling for individual donations and beliefs – the two equations bear interesting dissimilarities. Equation 1's results reveal that the larger the difference between the individual and the group choice, the larger the expected difference between one's own donation and the average donation of the others. This implies that our participants tend to respect the others' preferences: if they expect the others to donate less than themselves, they are likely to decrease their own donation when

<sup>15</sup> As the students are very homogenous with respect to age and income, these characteristics are not included in the analysis. Moreover, the student groups differ considerably in political preferences, gender, and membership in environmental organizations. More specifically, there are significantly more right-wing supporters among the economists (58%) than among the environmental social scientists (10%); the environmental economists are more similar to the economists: 41% of them support the right-wing parties. The environmental social scientists are more likely to be women (85%) and members of an environmental organization (30%) than the economists (51% and 3.6%, respectively) and the environmental economists (67% and 11%, respectively).

<sup>16</sup> We have also estimated the models without the personal characteristics (mainly because of the significant differences among the student groups). The statistical significance of the remaining coefficients remains the same.



they choose for the whole group. However, this respect for the others' (expected) preferences varies with the field of study. This is indicated by the significantly positive coefficient of the two interaction terms: an increase in the difference between own donation and beliefs about others' average donation by 10 SEK increases the dependent variable by 3.07 SEK for economists and by 7.35 SEK for environmental economists. As to the personal control variables, only political preferences influence the dependent variable significantly. Specifically, right-wingers are more prepared than students voting for other parties to decrease their donation level in choice 2. The coefficient of the dummy "Right-wing" is actually the largest one (almost 15 SEK), pointing to the economic significance of political preferences for behavior.

When considering equation 2 (and thus the difference between own donation and restriction imposed on others), the expectations about others' donations are no longer important. On the other hand, in equation 2, the coefficient of both education dummies is positive and significant, implying (in line with Result 6) that economists are more likely to state a restriction closer to their own preferences.

#### **4. Conclusion**

We have considered an augmented dictator game with a WWF project as the recipient. We placed the dictator in a group of four people and asked him to choose not only his own donation to the environmental project, but also the donation of his group and the other group members' minimum donation. By using this design, we mainly aimed at answering the following two questions: Will dictators tend to impose their preferences on the others when they choose on behalf of the group? Will dictators restrict the others' choices when such a restriction bears no monetary consequences for the dictators but affects the WWF project?

The answers to the above questions may be influenced by the respondents' education. Traditionally, economists are regarded as being more selfish and libertarian than others. It seemed therefore worth distinguishing economics students from students with an environmental studies background.

As to the first of our two main research questions, we find that while almost 2/3 of the subjects do not modify their individual donation when their decision involves the whole group, the remaining 1/3 decrease their individual donation. This decrease is positively

correlated with the expected difference between one's own donation and the others' average donation: dictators decrease more their individual donation, the less giving behavior they expect from the others. This result parallels that of Charness and Jackson (2009), who find that one-third of their population is sensitive to the issue of being responsible for another person's welfare.

As regards our second research question, our data shows that although most of the dictators apply a restriction, the imposed average restriction still leaves the others the opportunity to keep 2/3 of the initial endowment. It seems, therefore, that the decision makers do not want to impose their own preferences on other people, but they have a minimum level of donation that they deem as acceptable. This result suggests that individuals may be willing to grant freedom of choice (via larger choice sets), but only within certain limits: to some extent, they decide to the good of the orangutans at the expense of the payoff-maximizing choice of their fellow members.

Finally, the analysis of behavior of the different student groups indicates that economists are different from environmental social scientists: they donate the least individually, have the lowest expectations about the others' generosity, and impose restrictions on others' choices that are closer to their own preferences. Hence, on the one hand our results are in line with the commonly accepted wisdom that economists are more selfish than non-economists, but on the other hand they question the claim that economists are more libertarians than others. Further work needs to be done in order to be confident about the generalization of these findings to other goods. But the experimental evidence garnered here, for an environmental good, suggests that the aversion to paternalism and to "doing good with other people money" that economics education tries to inculcate does not make economists more libertarian than others.

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