

# Do experimental subjects favor their friends?\*

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June 17, 2005

## Abstract

Ideally we would like subjects of experiments to be perfect strangers so that the situation they face at the lab is not just part of a long run interaction. Unfortunately, it is not easy to reach those conditions and experimenters try to mitigate any effects from these out-of-the-lab relationships by, for instance, randomly matching subjects. However, even if this type of procedure is used, there is a positive probability that a subject may face a friend or an acquaintance. We find evidence that social proximity between subjects is irrelevant to experiment results in dictator games. Thus, although ideal conditions are not met, relations between subjects do not contaminate the results of experiments.

**Keywords:** experimental procedures, friendship effect, dictator game, fairness.

**JEL Class.:** C99, D63, D64.

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\*The idea for this paper came from conversations with Pedro Rey, who suggested we looked into this question. María Paz Espinosa acknowledges financial aid from UPV and MCT (BEC2003-02084); Pablo Brañas-Garza from Fundación Ramón Areces (2005–07) and DGICYT (SEJ2004-07554/ECON).

# 1 Motivation

We would like experiments to be run under ideal conditions. In particular, we would like subjects of experiments to be perfect strangers so that the situation they face at the lab is not just part of a long run interaction unknown to the researcher. Unfortunately, it is not easy to reach those conditions and subjects are likely to interact before and after the experiment. Experimenters try to mitigate any effects from these out-of-the-lab relations by, for instance, randomly matching subjects. However, even if this type of procedure is used, there is a positive probability that a subject may face a friend or an acquaintance. Are these out-of-the-lab relations between subjects relevant to the results of experiments? In other words, does friendship or any other pre-play relationship between participants matter in lab games? If it does, experimental economics should control for this sort of “between-subjects effect”. If it does not, that is definitely good news!

We find evidence that relations between subjects are irrelevant in dictator games, where they would be most likely to matter. Thus, even if the ideal conditions for the experiment are not met, relations between subjects do not contaminate results. Moreover, our results confirm that existing relations between participants seem to be irrelevant to subjects playing in three variations of dictatorial decisions.

Our work relates to other recent papers focused on how robust experimental results are to procedural issues (see, for instance, Brandts & Charness [2], Frank [6], or Hoffman, McCabe & Smith [8]).

# 2 The problem

This paper addresses the question of how relations between subjects may affect the results of experiments. To begin with, we must review the standard procedure for recruiting experimental subjects and properly conducting experiments:

- (1) **Public call:** The message “Would you like to participate in an experiment and earn some money?” is widely circulated.
- (2) **Selection of experimental subjects:** After this persuasive message is spread, some people decide to become candidates for participating in the experiment. From the whole set of candidates, experimental

subjects for the current session are selected through any random (or deterministic) device.

**(3) Starting point:** Finally, subjects come to the lab. Normally, they have no information about the game (decision) they will face.

**Remark 1** *The experimenter does not know whether there is any friendship link between experimental subjects.*

**(4) Matching of experimental subjects:** According to the requirements of the experimental session, subjects are randomly paired (or sorted, or divided into groups).

**Remark 2** *Depending on the procedure followed in the previous steps, there is a certain probability that subjects will be matched with a friend.*

Thus, subjects may correctly assume that there is a positive probability that their partners will be friends. This belief may affect their behavior and, thus, contaminate the results of the experiment. At this point, this is just a conjecture, but one worth looking into since it may affect almost any lab or classroom experiment.

Our work is motivated by two previous papers. Mobius, Rosenblat & Quoc-Anh [10] (MRQ hereafter) analyze a network of friends within dorms at Harvard. Once the network is obtained, they study how subjects are ready to increase their donation (in dictator games) when they choose a friend as recipient. The result is clear: *friendship enlarges donations*.

Brañas-Garza, Cobo-Reyes & Jiménez [4] (BGCRJ hereafter) elicit an undergraduate classroom network at the University of Jaén (Spain). Using the relevant network and the results from a single-room dictator game performed three months before, BGCRJ check whether the probability of the recipient being the dictator's friend affects giving. That is, whether the number of friends within a group of ten recipients affects dictators' giving behavior. The answer is no: *the probability of being matched with a friend does not affect giving*.

Thus, we have two conflicting results. Whereas MRQ support the *friendship effect*, in BGCRJ there is no such an effect. It is worth noting that in MRQ, subjects know who their partner is with probability one. In BGCRJ, although subjects may infer the probability of being matched with a friend, they do not choose who they want to play with.

This paper tries to shed some light on the effect of friendship between subjects. Specifically, it tries to answer the following question: Is there any significant difference in dictators' giving behavior when the social distance between them and their recipients is modified? We answer this question in dictator games under several scenarios and show that social proximity is not relevant. In these scenarios, decision makers face conditions such as either being recipients or not, or having the chance to shed their responsibility for previous decisions by exiting the game. However, in none of these contexts does the presence or absence of friends among recipients cause significant modifications in subjects' behavior.

The next section illustrates how we proceed to explore between-subjects relations, how we introduce random matching between dictators and recipients, and the application of these procedures to an extreme version of the dictator game.

### 3 Design and procedures

To analyze the friendship effect the following experimental procedure was designed.

FIRST, we asked subjects to list the names of some of their friends within the relevant environment (the class). At this point we did not explain anything about the game. We just gave them the following instruction:

“(Step 0) You are invited to give us the full names of your friends within the class. Select some friends you would like to play with. You have the chance to benefit them with your decisions. However, since we will randomly choose only one of the individuals in your list of friends, you should consider that the probability of helping a given individual on your list decreases with the number of people you include on it”

Since our aim was to have a network of close friends, we briefly explained the effects of listing one, two and three friends on the probability of favoring a particular individual in the list. Then the instruction sheet told them the following:

“Now please write down the full names of those friends in your class you would like to play with”.

SECOND, as a result of subjects listing those class friends they would like to favor; the two relevant groups for each experimental subject were defined as follows: (i) subject's friends, and (ii) the rest of students on the *Microeconomics 1* course. Subjects were then informed whether they were going to play with a friend randomly chosen from their list of friends or with an individual randomly taken from the rest of the population. We insisted on the fact that, in either case, recipients would be chosen randomly.

LAST, subjects faced the allocation decisions described in the next section. In total, seven different treatments were conducted at the same time using different colored sheets, but each subject played just one of them. No subject could infer the game any other subject was playing.

Experimental sessions were conducted among Economics students taking *Microeconomics 1* (with four sections: A, B, C and D) at the University of Granada (Spain). This undergraduate course is taught during the spring semester of the first year.

Subjects were informed that the number of points obtained during this experimental session, jointly with other experimental sessions in which they would participate during the semester<sup>1</sup>, contributed to the final grade of the course in the following way: Each of the four *Microeconomics 1* sections plays a different tournament. The winner in each section receives three points (out of ten) for the final grade. Other subjects' grades depend on how close their performance is to the winner's. We did not give any more details (and nobody asked).

The total sample comprised 185 subjects divided into seven treatments (see Table 1, page 8, for the distribution of subjects by treatments). In the next section we describe the decision problem subjects faced in our design.

## 4 How to divide a pie

To explore the role of friendship in dictatorial decisions where a pie is to be divided we designed three variations of the standard dictator game.

FIRST, the ALL-OR-NOTHING DICTATOR GAME (AN-DG hereafter). In a standard dictator game, the task of the dictator,  $i$ , is to allocate an

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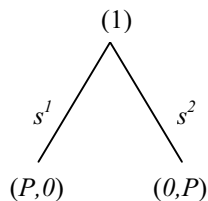
<sup>1</sup>The sequence is as follows: a dictator game (March 2005), GRE maths test (beginning of April), risk aversion experiments (end of April), and a series of tests about, among others, own-performance and overconfidence (May and June 2005). For further information about the whole dataset, see Cobo-Reyes & López del Paso [5].

amount of ECUs (experimental currency units) between a recipient  $j$  and himself/herself; that is, he/she has to decide  $\pi_i$ , and, hence,  $\pi_j = P - \pi_i$ , where, usually,  $P = 10$ .

We modified this standard version of the dictator game by making  $P$  indivisible (see a similar *discrete* approach in Bolton, Katok & Zwick [1] and Brañas-Garza[3]<sup>2</sup>). Thus, subjects' decision is reduced to just two possible allocations, either  $(P, 0)$  or  $(0, P)$ . Figure 1 summarizes the decision agents face in an AN-DG.

Observe that choosing either  $s^1$  or  $s^2$  implies a payment distribution where  $(\pi_i, \pi_j) = (P, 0)$  or  $(\pi_i, \pi_j) = (0, P)$ . That is, subjects are confronted with the dilemma of either keeping the whole pie for themselves or adopting a purely altruistic behavior in which the recipient receives the entire pie (see Gintis *et al.* [7]).

**Figure 1:** THE ALL-OR-NOTHING DG



Under the expected utility theory *selfish assumption*, subjects would choose<sup>3</sup> strategy  $s^1$ . After taking the above decision, they faced a second problem. Dictators were given the opportunity to amend their previous decision. Using part of the ECUs they got as the result of their decision in the AN-DG, now they were allowed to give a new, whole pie to the recipient. By means of a standard payment card each individual  $i$  showed his/her willingness to pay ( $wtp_i$  hereafter) to generate this new payoff distribution (see Appendix 1 and 2 for payment card instructions in the different treatments).

SECOND, to extend our analysis of the friendship effect, the second modification of the standard DG is the ALL-OR-NOTHING ALLOCATION DECISION

<sup>2</sup>In Bolton's approach, dictators always received at least a fixed prize. In our design, as in Brañas-Garza[3], they have to decide whether they get the whole pie or nothing.

<sup>3</sup>For the number of individuals who chose strategy  $s^2$  in those treatments in which this choice is relevant, see below.

(AN–AD hereafter). In this second modified version of the game, the dictator has to allocate an indivisible 10 ECU pie between two recipients,  $j$  and  $k$ . The dictator receives 10 ECU show-up fee, but the decision he/she makes does not modify his/her payment. In other words, the dictator just faces an *all-or-nothing* allocation decision which does not involve himself/herself as recipient. After dictator  $i$  has decided how to allocate the pie, he/she faces a payment card (see Appendix 1) where  $i$  reveals his/her willingness to pay to give a new whole pie to the recipient who got nothing in the previous AN–AD.

FINALLY, we use a third variation: the ALL-OR-NOTHING DICTATOR GAME WITH EXIT OPTION (AN–EXIT). The initial decision in this treatment is identical to that in the AN–DG. The difference between these two games is that after subjects have decided how to allocate an indivisible pie, they are offered the possibility of exiting the game. Leaving the game renders their decision on how to divide the 10 ECU pie invalid. This opportunity can be offered for free or at a cost. Through a payment card (see Appendix 2), they are asked about their willingness to pay to cancel their previous decision and, thus, to exit the game. Note that this variation of the game is clearly inspired on Lazear, Malmendier & Weber [9].

In short:

- in the AN–DG, we elicit dictators' *wtp* to balance an unequal distribution in which they are involved as decision makers and as recipients of the 10 ECU pie;
- in the AN–AD, by contrast, we find dictators' *wtp* to change a payment distribution in which they are involved only as decision makers, since they are not no longer recipients;
- finally, in the last variation (DG–EXIT), subjects are given the option to pay to avoid even their involvement as decision makers.

The next Table summarizes the features of the seven treatments conducted. Note that treatment numbers have been assigned taking into consideration who the recipients are and following the rule that 0 designates a dictator, 1 stands for *someone* who the dictator has not included in his/her list of friends and 2 refers to a friend of the dictator;  $e$  denotes the exit option.

The Table also shows the number of subjects taking part in each treatment<sup>4</sup>.

**Table 1:** TREATMENT SUMMARY

GAME	PLAYERS			CODE	$n$
	$i$	$j$	$k$		
Dictator	<i>Dictator</i>	<i>Someone</i>	–	<i>T01</i>	27
	<i>Dictator</i>	<i>Friend</i>	–	<i>T02</i>	22
Allocation	<i>Decision maker</i>	<i>Someone</i>	<i>Someone</i>	<i>T11</i>	36
	<i>Decision maker</i>	<i>Friend</i>	<i>Friend</i>	<i>T22</i>	23
	<i>Decision maker</i>	<i>Friend</i>	<i>Someone</i>	<i>T21</i>	22
Exit	<i>Dictator</i>	<i>Someone</i>		<i>T01e</i>	22
	<i>Dictator</i>	<i>Friend</i>		<i>T02e</i>	22

## 5 Results

This section shows the results for the three cases studied (all-or-nothing dictator game (AN–DG), all-or-nothing allocation decision (AN–AD) and all-or-nothing dictator game with exit option (DG–EXIT)).

To begin with, the following Table shows some statistical data regarding the number of friends subjects mention. It is worth noting, first, that decision makers mention 2.47 friends on average; second, 52% of the subjects mention either two or three friends, but 15% mention none; and third, the minimum and maximum number of friends are zero and eight respectively.

<sup>4</sup>Subjects who did not list the required number of friends have not been considered. In this regard, in *T02*, *T21* and *T02e* (where listing at least one friend is needed), 2, 3 and 2 subjects, respectively, were excluded. In *T22* (where at least two friends are required), 4 subjects were excluded.



**Table 2: NUMBER OF FRIENDS**

$n$	Mean	Mode	Min	Max	Frequency						
					0	1	2	3	4	5	6+
185	2.47	2	0	8	15%	9%	27%	25%	12%	8%	2%

### Friendship effect in “discrete” dictator games (AN–DG)

First, we study subjects’ decisions in the AN–DG. Surprisingly, in  $T01$ , 2 (out of 27) subjects chose  $s^2$  in node (1) of Figure 1. In  $T02$ , 4 (out of 22) individuals chose this generous payoff distribution. Although the percentage of subjects who chose this strategy is larger for  $T02$  than for  $T01$ , the differences are not significant ( $\chi^2 = 1.01$ ;  $p = 0.31$ ).

Let us now focus on subjects who played the selfish strategy,  $s^1$ , in node (1). Table 2 shows the results concerning the  $wtp$  of subjects choosing this strategy in treatments  $T01$  and  $T02$ .

On average subjects were willing to pay 2.69 when the recipient was just a classmate and 2.64 when the recipient was a listed friend. Thus, no difference due to social proximity was found. It is worth noting that in treatments  $T01$  and  $T02$  there is a social gain (collective welfare increase) which may help to explain the high  $wtp$ .

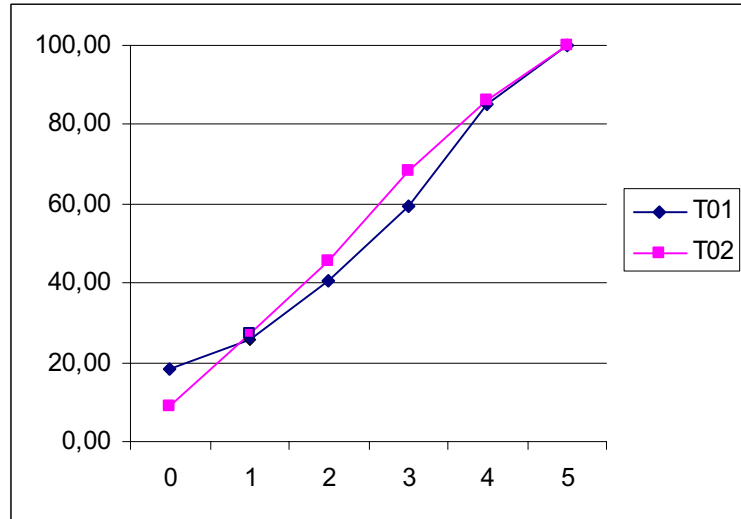
**Table 3: ALL OR NOTHING-DICTATOR GAME**

$T$	$n$	Mean	Frequency					
			0	1	2	3	4	5+
01	27	2.69	5(18%)	2(7%)	4(14%)	5(18%)	7(25%)	4(14%)
02	22	2.64	2(9%)	4(18%)	4(18%)	5(23%)	4(18%)	3(13%)

These results indicate that subjects were willing to pay a positive amount of ECUs to modify the distribution induced by decision (1), but their valuation was not affected by friendship.

Neither the Mann-Whitney ( $Z = -0.23$ ;  $p = 0.81$ ) nor the Kolmogorov–Smirnov ( $Z = -0.32$ ;  $p = 0.99$ ) tests reject the null hypothesis that both  $T01$  and  $T02$  samples are drawn from the same population. Figure 2 presents the cumulative distribution functions for the willingness to pay.

**Figure 2:** EFFECT OF FRIENDSHIP ON AN-DG



Therefore:

**Result 1:** In the All-or-Nothing Dictator Game the willingness to pay to modify decision (1) is the same regardless of the social proximity of the recipient.

Furthermore, we check whether the *number of friends* each subject names in his/her list<sup>5</sup> affects his/her *wtp* in T02. The LR test of the null of independence between number of friends and *wtp* ( $LR = 11.76; p = 0.92$ ) leads us to conclude that there is no relation between the two variables.

**Remark 3** *There is no relation between the number of friends dictators list and their wtp in the AN-DG which includes a friend as recipient of the decision.*

### Discrete allocation decisions (AN-AD)

In this variation of the DG the dictator makes a payoff distribution in which he/she is not involved as a recipient. His/her involvement is only as a decision

<sup>5</sup>Recall that In step zero we asked subjects to list the full names of those friends they would like to favor.

maker and hence the dictator does not profit directly from his/her decision. The decision task is to allocate 10 ECUs:

- between two classmates who the dictator has not included in his/her list of friends (*T11*),
- between two friends (*T22*),
- or between a friend and someone out of his/her list (*T21*).

Thus, we have three combinations. Note that the last one refers to the *classical problem of favoritism*. Table 3 summarizes the results obtained in each of these treatments.

**Table 4: ALL OR NOTHING ALLOCATION DECISION**

<i>T</i>	<i>n</i>	Mean	Frequency					
			0	1	2	3	4	5+
11	36	1.72	13(36%)	4(11%)	6(16%)	6(16%)	7(19%)	0(0%)
22	23	2.04	4(17%)	4(17%)	4(17%)	9(39%)	2(8%)	0(0%)
21	22	1.55	7(31%)	4(18%)	7(31%)	1(4%)	2(9%)	1(4%)

In *T11*, 36% of the subjects were not willing to pay anything to modify the extreme inequity which their decision had produced. That is, 2/3 of the population were ready to pay to improve the payoff distribution.

Although the average is a little lower for *T21* than for *T11*, neither the Mann-Whitney ( $Z = -0.35$ ;  $p = 0.72$ ) nor the Kolmogorov–Smirnov ( $Z = 0.58$ ;  $p = 0.88$ ) tests reject the null hypothesis of equal distribution when *T21* and *T11* are compared.

In other words, whether the problem is to favor a non-listed classmate at the expense of another non-listed classmate (*T11*) or to favor a friend at the expense of a non-listed classmate (*T21*), individuals' *wtp* is the same. Hence, favoritism does not play any role.

In *T22*, both recipients are friends of the decision maker. In this case, taking into consideration only those subjects who mention the name of at least two friends<sup>6</sup>, the average *wtp* is greater. Nevertheless, the Mann-Whitney

<sup>6</sup>We have 23 observations because 4 subjects out of 27 did not mention any names.

( $Z = -0.97$ ;  $p = 0.35$ ) and Kolmogorov–Smirnov ( $Z = 0.58$ ;  $p = 0.88$ ) tests cannot reject that  $T22$  and  $T21$  observations have the same distribution.

We obtained the same results when comparing  $T11$  and  $T22$  by means of Mann-Whitney ( $Z = -0.36$ ;  $p = 0.72$ ) and Kolmogorov–Smirnov ( $Z = 0.53$ ;  $p = 0.94$ ) tests. In fact, the Kruskal Wallis test for  $k = 3$  unpaired samples does not reject ( $\chi_2^2 = 0.82$ ;  $p = 0.66$ ) the null of equal distribution.

In short:

**Result 2:** In All-or-Nothing Allocation Decisions the willingness to pay to modify decision (1) is the same regardless of recipients’ social proximity.

As in the AN–DG, this result seems to be reinforced by the fact that LR test does not reject the hypothesis that there is no relation between the number of friends listed and subjects’ *wtp* in  $T22$  ( $LR = 15.97$ ;  $p = 0.19$ ) and in  $T21$  ( $LR = 21.24$ ;  $p = 0.68$ ). Thus:

**Remark 4** *There is no relation between the number of friends dictators list and their wtp in the AN–AD which includes friends as recipients of the decision.*

## The exit option (DG–EXIT)

In our All-or-Nothing Dictator Game, subjects have a 10 ECU pie and their task is to decide whether to keep it for themselves or give it to their recipients. A priori this is an unpleasant decision, since it involves an extremely unequal distribution which, furthermore, favors the decision maker.

To measure the extent to which this is an unpleasant decision, individuals are faced with a second decision in treatments  $T01e$  and  $T02e$ . In this second decision, we elicit the amount of ECUs they would accept to exit the game and cancel the decision they adopted in node (1) in Figure 1 (Lazear, Ulrike & Weber [9] is a seminal reference for this approach). Note that exiting the game and cancelling decision (1) implies that the 10 ECU pie is not allocated. Therefore, accepting a payoff lower than 10 in exchange for exiting the game implies a private as well as a collective loss. Given that exiting involves such an efficiency loss, it is an astonishing decision to take, equivalent to *money burning* or *value destruction*. The main results drawn in  $T01e$  and  $T02e$  are showed in Table 4<sup>7</sup>.

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<sup>7</sup>As in  $T01$  and  $T02$ , we focus on individuals who chose strategy  $s^1$  in node (1). In this regard, only 2 out of 22 subjects in  $T01e$  did not choose this strategy. In  $T02e$ , no subject chose  $s^2$ .

**Table 5: ALL-OR-NOTHING DG WITH EXIT**

T	n	Mean	Not exit	Frequency					
				0	1	2	3	4	5+
01e	22	8.91	3(14%)	7(32%)	4(18%)	4(18%)	4(18%)	0	0
02e	22	8.68	5(22%)	8(37%)	0	5(22%)	1(4%)	0	3(14%)

According to the Table above, 3 subjects out of 22 in  $T01e$ , and 5 out of 22 in  $T02e$ , did not choose the exit lever and, therefore, did not cancel their decision (1). In addition, 7 and 8 subjects in  $T01e$  and  $T02e$ , respectively, were willing to pay nothing to exit the game.

That is, the *wtp* of about half of the individuals was zero. Surprisingly, the percentage was larger when the recipient was a friend (59%) than when he/she was a classmate not included on the list of friends (45%).

The reverse reading of the results is no less surprising: 55% of the subjects in  $T01e$  and 41% of the subjects in  $T02e$  were ready to *burn money*; that is, to incur a private and social loss to cancel their previous decision (1).

In treatment  $T01e$ , when the recipient is an unlisted classmate, subjects accepted on average 8.91 points to exit the game; i.e., they were willing to pay 1.09 just to avoid making an unpleasant decision. The result was no different when the recipient was a friend. In this case, the average *wtp* was 1.32. When comparing  $T01e$  and  $T02e$ , the Mann-Whitney ( $Z = -0.28$ ;  $p = 0.77$ ) and Kolmogorov–Smirnov ( $Z = 0.45$ ;  $p = 0.98$ ) tests do not reject the null hypothesis that both  $T01e$  and  $T02e$  observations are drawn from the same population. Therefore:

**Result 3:** In the All-or-Nothing Dictator Game with Exit the willingness to pay to exit the game is the same regardless of the social proximity of the recipient.

Once again, as in the AN–DG and in the AN–AD, the LR test ( $LR = 4.07$ ;  $p = 0.85$ ) makes it possible to state that the number of friends dictators include on their list is not related to their *wtp* in  $T02e$ . In short:

**Remark 5** *There is no relation between the number of friends dictators list and their wtp in the DG–EXIT which includes a friend as recipient of the decision.*

## 6 Concluding remarks

Our results are good news for experimenters. They indicate that friendship relations which subjects may bring into the lab seem not to be very relevant in Dictator or Allocation Games. Whether social proximity matters in other games remains an open question.

To check the robustness of the result, we tested it under several environments. In particular, we changed the scenarios in order to induce different willingness to pay to avoid an extremely unequal distribution. However, *the friendship effect caused no relevant differences in any of these scenarios.* Subjects seem to react to conditions such as whether they play the role of recipients in their decisions or whether they can avoid the responsibility of deciding; but they do not change their willingness to pay depending on the social proximity of the recipients.

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## Appendix 1: Instructions concerning the payment card in $T01$ , $T02$ , $T11$ , $T22$ and $T21$ .

At this stage, you have the opportunity to modify your previous decision<sup>8</sup>. Unfortunately, this option is not free: If you want to use it, it costs you something. This cost will be deducted from your final payment (if you wish, you can check what decision you took before).

Pay attention to the following table. How should you read this table? '1 point' means that if YOU give up 1 point, then, the student who got 0 points in your decision 1 obtains 10 points; '2 points' means that if YOU give up 2 points, then, the student who got 0 points in your decision 1 obtains 10 points, and so on.

Only one of the rows of the table will be put into practice. This row will be chosen randomly; i.e., by drawing lots. Thus, if in row 10 you choose to pay 10 so that the other student gets 10 points, and if this row is randomly selected, we will reduce your final payment by 10 points and will give 10 points to the student who got 0 POINTS in your decision 1.

In each scenario (row), you must mark what you want to do with a cross. YOU MUST NOT MARK "YES" AND "NO" IN THE SAME ROW (otherwise, you lose everything).

<b>If you give up:</b>	<b>We give the student who got 0 points in your decision 1:</b>		
1 point	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
3 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
7 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
8 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
9 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
10 points	10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>

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<sup>8</sup>This "previous decision" is decision (1) in Figure 1. Specifically, it is an all-or-nothing dictator game in  $T1$ ; and an all-or-nothing allocation decision in  $T2$  and  $T3$ .



**Appendix 2: Instructions concerning the payment card in T01e and T02e.**

At this stage, we give you the opportunity TO EXIT THE EXPERIMENT and, thus, TO PREVENT DECISION 1 FROM BEING IMPLEMENTED. In other words, you can get points without facing an allocation decision.

To put it differently, we offer you points for cancelling your previous decision (if you wish, you can check what decision you took before).

To learn how this opportunity to exit the experiment works, pay attention to the following table. How should you read this table? If you choose “Exit YES” at the level where we offer you 1 point, this means that YOU get 1 point and your previous decision is not carried out; if you choose “Exit YES” at the level where we offer you 2 points, this means that YOU get 2 points and your previous decision is not carried out, and so on. Remember that, if you choose "Exit NO" at all levels, your decision 1 is implemented.

Only one of the rows of the table will be effective. This row will be chosen randomly; i.e., by drawing lots. Thus, if you choose “Exit YES” in a certain row and that row is randomly selected, we will give you the amount of points corresponding to that row. If you choose “Exit NO” in the randomly selected row, what you decided in decision 1 is executed.

In each scenario (row), you must mark what you want to do with a cross. YOU MUST NOT MARK “EXIT YES” AND “EXIT NO” IN THE SAME ROW (otherwise, you lose everything).

<b>If we offer you:</b>	<b>You agree to exit:</b>	
1 point	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
3 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
7 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
8 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
9 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>
10 points	Yes <input type="checkbox"/>	No <input type="checkbox"/>