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Pledges as a Social Influence Device

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Abstract

This paper reports the results from a two-person "pledge and give" experiment backed by a simple communication game. Each person's endowment is private information. In the first stage, each agent informs the other about the amount he/she intends to give, or makes a pledge. In the second stage, each agent makes a contribution to the joint donation. We first show that pledging a fixed proportion of the endowment can be an equilibrium of the communication game. Furthermore, if agents have a strong taste for conformity, the optimal gift is positively related to one's own endowment and to the pledge of his partner. Data from the lab experiment confirm that subjects pledge approximately 60% of their endowment. Also, pledges have an important social influence role: an agent will increase his/her donation by 20 cents on average if his/her partner pledges one more euro.

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1 Introduction

From the very beginning of the modern capitalist societies to present times, charitable giving has made a substantial contribution to the eradication of poverty and social fragility in wealthy countries, as a complement and sometimes as a substitute for public action. As a consequence, governments throughout the world have set up grants and tax incentives to support charitable action (List, 2011; Andreoni and Paine, 2013; Scharf, 2014; De Wit and Bekkers, 2017). In 2016, total giving in the US amounted to 390 bn. dollars, among which individuals donated 312 bn. dollars or 1.7% of the GDP, bequests included (Giving Institute, 2017). The Banque de France estimates charitable giving by individuals at 0.2% of the GDP of the EU area in 2015 (and another 0.45% by foundations).

Many large fundraising campaigns, such as the *French Téléthon,* which collects funds to fight myopathic disorders[1] , rely on the pledge mechanism. The *pledge* is defined as an unbinding promise to give money at a later time. A notable story in the history of philanthropy is the 1997 pledge by US media billionaire Ted Turner to give one billion dollars to the United Nations over the following ten years.[2] If his action could have been driven by several motives, he stated once that one purpose of his extremely generous pledge "was putting other rich people on notice that I would be calling on them to be more generous."[3] Created by Bill and Melinda Gates and Warren Buffet, the *Giving Pledge* initiative came to life in 2010, with the aim to prompt rich people to commit for philanthropic donations; in March 2019 there were 190 pledgers, rich people from 22 countries. As one can read on the website, "Each couple or individual who chooses to pledge will make the commitment publicly, along with a statement explaining their decision to pledge".[4]

This paper aims to contribute to the donation literature by analyzing the "generosity inducement effect" of pledges, according to which one donor who cares about the charity would make a

[1] The main event, broadcasted on main French TV channels, raised 89 million euros in 2017. See www.afm-telethon.fr/association/nos-comptes-635

[2] His action arrived at a time when the US Administration was dragging feet to pay its agreed contribution to the organization. Turner kept his promise, and ended his payment to the UN in 2016.

[3] See David Callahan, This Huge Gift Made History, 18 Sept 2017, Inside Philanthropy. www.insidephilanthropy.com/home /2017/9/18/this-huge-gift-made-philanthropic-history-whats-been-the-impact

[4] See https://givingpledge.org/ as acessed on March 28, 2019. According to Wealth-X report, a consultant firm, the total net worth of promises in 2016 implied a pledged value of at least $350 billion.

high pledge to influence the beliefs and, thus, the donation of the others. However, it is not clear whether people who pledge in order to stimulate the others will end up by giving more, because they like to keep their promises, or give less, because they will rely on the generosity of the others. To study these contradictory effects, we introduce a simple communication game and implement an original "pledge and give" experiment to test the key predictions of the game.

Existing literature revealed that pledges activate both a commitment and a signaling mechanism. As a commitment device, a pledge can have an impact on the amount of giving even if the individual takes the decision in isolation. Indeed, scholars in social psychology have argued that stating an intention or planning an outcome raise the chances that the individual will actually carry out his plans (inter alia, Feldman and Lynch, 1988; Gollwitzer and Sheeran, 2006; Morwitz and Fitzsimons, 2004). On the other hand, Meyvis et al. (2011) argue that it should be more painful to give in the future than on the spot, as reflected in the general preference to make payments before rather than after consumption (Prelec and Loewenstein, 1996). Pledges can be made in private to solicitors, or before a large audience during charity galas or TV-broadcasted events. Andreoni et al. (2015, 2016) assume that people dislike saying "no" when solicited to give; they analyze the donor's decision problem that compares the immediate gain from the pledge with the discounted cost of executing the promise at a later time (see also Damgaard and Gravert, 2017 and Schulz et al., 2018). This standard cost benefit analysis reveals that actual donations are positively related to the strength of the commitment device used to enforce the pledge. On the other hand, pledges made in public make sense if donors care about their social image. In general, large donations boost the social image of the donors and signal their wealth (Glazer and Konrad, 1996; Bénabou and Tirole, 2006; Andreoni and Bernheim, 2009; Grossman, 2015). In these models, the observers' beliefs about the type of donor enter into the utility function of the latter. In this context, donors can use pledges as a signal for future donations, and benefit from the enhanced social image until the time for donation arrives, when they might behave opportunistically or not.

In our experiment, subjects were matched in pairs, and asked to pledge, then to make a joint donation to a charity. To isolate the effect of the pledge on the behavior of the partner from other motives to pledge such as improving self-image over time, we consider that the giving decision follows immediately after the communication. The decisions are simultaneous; both agents make pledges at the same time, and then decide on their contribution to the joint donation in the last stage of the experiment. A simple communication game with homogenous agents and imperfect information about their endowments provides us with predictions to test. Agents are assumed to be altruistic, as the benefit of the charity enters into their utility function next to their private consumption. We explicitly model the preference for conformity and the cost of breaking a promise. The main implications of the theoretical analysis, which also constitute key hypotheses to test, is that the pledge is credibly signaling the donation, and that agents with a strong preference for conformity will adapt their donation to the pledge of the partner.

Our empirical results corroborate the linear relationship between the pledge and the individual's wealth on one hand, and that between the donation of one agent and the pledge made by his partner on the other hand. We thus provide evidence that pledges can be a vector of social influence, with donors being tempted to align their own donation to the gift promises of other donors in the group.

This result contributes to a substantial body of literature on social influence. Scholars in social psychology have documented the strong tendency of human beings to imitate the actions of others (Asch, 1951; 1955; Nook et al., 2016), behavior also referred to as pro-social conformity. In Sugden (1984), individuals' conformism or reciprocation of a group minimum can explain the production of higher than rational (Samulesonian) amounts of public good. Bernheim (1994) provides a model of social conformity; he argues that status seeking individuals might forego actions required by individual preferences to signal themselves as belonging to the group. DellaVigna et al. (2012) work out a model in which a subject's utility depends on total donations by the group, and bears a cost if he gives less than asked by an external solicitor. The amount of giving depends on the motive of giving (warm glow or altruism) and the external social pressure. Koessler (2019) and Barett and Dannenberg (2016) reveal that pledges can support cooperation in public good experiments inspired by the climate change negotiations. The favorable effect of the pledges is explained by the preference for conformity of the agents. Several field experiments revealed that donors to charity are subject to social influence; individuals can be induced to give more if they receive information that their peers made generous gifts (Martin and Randal, 2008; Shang and Croson, 2009; Sarah et al., 2015; Sasaki, 2019). In our analysis, too, agents use pledges to influence the behavior of others; however, by contrast to actual donations, pledges are "cheap talk" and could be discarded as such by the receiver. Our analysis reveals that this is not the case, and that pledges are an effective influence device.

Several papers have analyzed which mechanisms can foster donations (see the surveys by Andreoni and Paine, 2013; Vesterlund, 2016). Existing empirical evidence on whether pledges help to raise donations goes both ways. Cotterill et al. (2013) found that people who pledge and are offered local public recognition are more likely than the control group to make book donations. On the other hand, Peifer (2010) showed that donations are not higher in churches with pledge mechanisms. Meyvis et al. (2011) present data from a scenario-based lab experiment. Subjects are informed that they have just won the lottery, and should indicate how much they would donate to a charity right now, or two months later. Pledges are 10% lower than the donations stated immediately. Andreoni et al. (2015; 2016) study the time dimension of pledges; their experimental data show that donations are lower in the pledge mechanism compared to the immediate donation, as many promises are reneged upon. Sutan et al. (2018) showed that, in the absence of income uncertainty, and when the donation follows the pledge without delay, private and public pledges are associated with lower donations compared to no-pledge donations. In our sample, with equal numbers of high and low endowment subjects, the pledge mechanism does not lead to higher donations compared to a without pledge setting. However, the influence mechanism unveiled by our model would suggest that the different impact of the pledges on total giving depends on distribution of wealth in the group of potential donors: as some rich pledgers might influence poorer donors to give more, the opposite effect might also be present.

The paper is organized as follows. The next section presents the design of the experiment. Section 3 analyses a simple pledging game between two identical agents, with the same structure as the experiment. Section 4 presents the results of the lab experiment. Section 5 is our conclusion.

2 The experiment

All subjects were recruited from the student population of the ESSEC Business School (France), specifically those who answered to an advertisement for paid decision experiments.[5] Six sessions were organized at the ESSEC Experimental Lab in May and September 2018 with a total of 142 subjects. Subjects were seated in cubicles and made their decisions on a computer screen; instructions are provided in the Appendix 3.[6]

The experiment comprises two independent parts. In part one, subjects received an endowment (either high or low) and could make a donation to a charity. We committed to make the payment to the charity shortly after the experiment. Participants were provided with a list of 15 main charities in France with different scopes of social action.[7] At the end of the session, the computer randomly matched one gift to one and only one charity. Under this design, the amount of the donation is not related to the intensity of the preference of the donor for a specific charity, but to a "generic" charity encompassing a general commitment for the common good.[8]

The experiment included two treatments: the main treatment is "Pair donation with pledge" (or T1); "Pair donation without communication" (or T2) will serve as a benchmark.

In both treatments, at the onset of the experiment, subjects received an endowment, drawn at random by the computer from the binomial distribution B(5;10|p=0.5); the computer chose either 5 euros or 10 euros with a 1/2 probability. Participants did not know this statistical distribution. They only knew that the endowment was a random variable, and that the partner would receive an endowment *drawn from the same but unknown statistical distribution.* This assumption allows subjects to implement a simple forecasting rule. Since the distribution is unknown, without the information about one's own income, the income of the other could be anything. However, when one knows his own income, the best guess he/she can make about the partner's income is to assume

[5] As "French Grande Ecole" students, this group is relatively homogenous in terms of computing and intellectual abilities, age and educational background. See Lamiraud and Vranceanu (2018) for a description of this population.

[6] The computer program was developed by Delphine Dubart at the ESSEC Experimental Lab using z-Tree (Fichbacher, 2007).

[7] These charities sit on the top of the list of the 60 largest charities with respect to collected funds in France in 2016, as indicated in the independent report "La Générosité des Français" (Bazin et al., 2017). The amount of collected funds is inferred from National Income Tax administration data.

[8] Schulz et al. (2018) revealed that donations are higher when subjects can chose their preferred charity from a list, compared to the situation in which they must choose a charity without a list of charities.

that he/she got the same income, since he/she knows for sure that, at least, this number exists in that distribution. This informational assumption best characterizes a situation of significant uncertainty about the wealth of the partners.[9]

Table 1 indicates the number of subjects per treatment (in total, and by initial endowment).

	Pair donation decision		Total
Endowment	With pledge (T1)	Without communication (T2)	
5 euros	41	28	69
10 euros	45	28	73
Total	86	56	142

Table 1: Number of subjects by treatement and endowment

In the main "Pair donation with pledge" treatment, participants were firstly assigned to pairs of anonymous subjects. They were informed that the pair will donate to a charity selected at random from the list of charities. After receiving the endowment, each participant was asked to record the amount he/she intended to give, knowing that this piece of information would be delivered to the partner in the next stage, and that they would receive the same information on behalf of the partner. The message was unbinding, and thus had all the characteristics of "cheap talk". Instructions referred to the pledge as a "gift promise". The stated intention was recorded simultaneously by the two participants on the computer screen. In the next step, both participants simultaneously received the pledge information provided by their partner. At the last step, given this information, they had to decide on the amount they wanted to give, and their decision was irrevocable. At the same time, they also had to make an incentivized guess about the gift of the other.[10]

In the "Pair donation without communication" treatment, participants were also assigned to pairs of anonymous players, and then the pair was matched with a charity. However, no communication was allowed between the two agents in the pair. Similar to T1, one charity received the joint amount provided by the two players.

The payoffs for this first part were not communicated before the end of the experimental session

[9] The experiment could be developed with a more standard assumption, where the income distribution is common knowledge. However, in this case there is no simple (linear) pledge function, and subjects in the lab might be confronted with excessive complexity of their decisions.

[10] They are paid 2 extra euros if the guessing error is lower than 10%.

(to contain the possible income effect in the second task).

In the second part of the experiment, we collected additional measures to help us interpret the results from the first part one. First, subjects answered a survey about their gender, age and admission track. They were also asked whether they had a satisfactory knowledge about the action of the charities on our list; they could answer from 1, if "none of them", to 5, if "all of them".

Then subjects participated in a basic dictator game aimed at eliciting their degree of altruism. We asked all subjects in a session how much of 10 euros they would share with an anonymous, randomly chosen partner, knowing that, once the choice is made, the computer will assign them at random to the group of dictators or to the group of beneficiaries. We convert the monetary payoff into an index of altruism (IA) by dividing the amount by 10. Thus, the maximum degree of altruism is 1, and maximum selfishness is 0.

At the end of the experimental session, subjects learned their gain from the two parts. The sessions lasted for 20 minutes on average; participants earned 9.15 euros on average. The transfers to charities totaled 560 euros.

3 Theoretical predictions

3.1 A simple communication game

This section analyzes the communication game between two anonymous agents with identical preferences who make reciprocal pledges, and make a joint donation to a charity. The purpose of this analysis is not to provide a comprehensive modeling framework for the experiment, since the complexity of the problem makes it intractable, but to emphasize the main channels through which pledges can pass on the social influence effect.

The two players are denoted by i and j. Similar to the experiment, at the onset of the game, each one receives an income r_i (respectively r_j) drawn from the same, unknown distribution. Then each individual in a pair can make a contribution to the pair's gift. Denoting by g_i and g_j the contribution of each agent (with $g < r$), the pair will donate $(g_i + g_j)$.

Players must simultaneously indicate how much they intend to give, or make a *pledge*; their pledge is denoted by a_i and a_j, respectively. This promise is unbinding. Then, players simultaneously receive the information about the partner's pledge. With this information in hand, they decide on their gift to the charity (g_i and g_j). At the end of the game they learn the gift of the pair.

We assume that, ex-ante, agent i (or j) aims at maximizing net utility:

$$\hat{V}_i = U(\hat{c}_i, \hat{g}_i + \hat{g}_j) - \gamma \left(\hat{g}_i - \hat{g}_j\right)^2 - k(a_i - \hat{g}_i)^2 \quad (1)$$

where the "hat" represents an expected variable. The net utility of the individual i includes three components:

a) $U(\hat{c}_i, \hat{g}_i + \hat{g}_j)$ is a standard utility function with altruistic agents; individuals prefer more consumption to less, $\partial U/\partial \hat{c} > 0$, and care about the charity, $\partial U/\partial(\hat{g}_i + \hat{g}_j) > 0$. A standard assumption in the analysis of giving is that these utility curves entail convex indifference curves, making possible the existence of interior solutions for the utility maximization problem (e.g., Glazer and Konrad, 1996; Martin and Randal, 2008; Andreoni and Bernheim, 2009; DellaVigna et al., 2012). To keep the analysis tractable, in the following we use the multiplicative form: $U(\hat{c}_i, \hat{g}_i + \hat{g}_i) = \hat{c}_i \cdot (\hat{g}_i + \hat{g}_j)$, with $\hat{c}_i = r_i - \hat{g}_i$. Because in the multiplicative expression $U_{\hat{c}_i \hat{g}_i} > 0$, the general condition for the convexity of indifference curves is fulfilled. The fact that, all other things being equal, the marginal utility of private consumption is increasing in the amount of the donation, is in line with the image one can have about the purely altruistic persons.

b) $k(a_i - \hat{g}_i)^2$ is the cost related to the unfulfilled promises, with k as a positive parameter; this preference for keeping a promise can be grounded in how individuals view and perceive themselves with respect to their own norms (Gneezy, 2005; Mazar et al., 2008; Vanberg, 2008), or express guilt when not living up to their partner's expectations (Charness and Dufwenberg, 2006; Battiagli and Dufwenberg, 2007; Schwartz et al., 2018).

c) $\gamma \left(\hat{g}_i - \hat{g}_j\right)^2$ is the cost of diverging from the gift of others, related to the taste for conformism of the agents as documented in the introduction (DellaVigna et al., 2012), with γ as a positive parameter.

Following Andreoni (1989, 1990), it has been accepted that some people give because the act of giving makes them feel good, regardless of the consequences for the beneficiary of their gift. It this motive is included in complement to the altruistic motive, as an utility premium related to the agent's own donation, the implications of our model would not change. If "warm-glow" is the only motive for giving, individuals do not care about the charity per se; as a consequence, they do not care about the gift of the other (or his/her promise), thus the social influence mechanism that we study would vanish.

3.2 The optimal gift (last stage)

Given the sequential structure of the game, we first determine the optimal gifts at the last stage of the game, taking the pledge as given.

For players i and j, the FOC for maximizing utility (1) are:

$$\frac{dV_i}{dg_i} = 0 \Leftrightarrow 2(1+\gamma+k)\, g_i + (1-2\gamma)\, g_j = r_i + 2ka_i \tag{2}$$

$$\frac{dV_j}{dg_j} = 0 \Leftrightarrow (1-2\gamma)\, g_i + 2(1+\gamma+k)\, g_j = r_j + 2ka_j. \tag{3}$$

At the Nash equilibrium we have:

$$g_i = \frac{2(1+\gamma+k)(r_i+2ka_i) - (r_j+2ka_j)(1-2\gamma)}{4(1+\gamma+k)^2 - (1-2\gamma)^2} \tag{4}$$

$$g_j = \frac{2(1+\gamma+k)(r_j+2ka_j) - (r_i+2ka_i)(1-2\gamma)}{4(1+\gamma+k)^2 - (1-2\gamma)^2}. \tag{5}$$

All things equal, for $\gamma > 0.5$ a higher pledge a_i entails a higher gift g_j at the later stage. The opposite relationship holds for $\gamma < 0.5$.

In the following, we look for a specific intuitive solution in which *the pledge a_i is a linear function of the individual's income r_i*, $a_i = \alpha r_i$, with α as a positive constant. In the last subsection, we will prove that, when player i chooses his pledge according to this function and believes that his partner does the same, $a_j = \alpha r_j$, the linear pledge is optimal and consistent with the equilibrium of the game.

If both players use the linear pledge function in the equilibrium, observing the pledge a_j allows agent i to infer the income of his partner. Estimating r_j by the ratio a_j/α and replacing a_i with αr_i, the optimal gift g_i can be written as a function of one players's own income and of the pledge of his partner (itself related to the income of the latter). For player i, the expression of the optimal gift can be written as:

$$g_i = \frac{2r_i\left(1+\gamma+k\right)\left(1+2k\alpha\right) - a_j\left(\frac{1}{\alpha}+2k\right)\left(1-2\gamma\right)}{4\left(1+\gamma+k\right)^2 - \left(1-2\gamma\right)^2}, \tag{6}$$

or, in a compact form, as:

$$g_i = \tau_1 r_i + \tau_2 a_j, \tag{7}$$

an expression in which the coefficients τ_1 and τ_2 stand for:

$$\tau_1 = \frac{2\left(1+\gamma+k\right)\left(1+2k\alpha\right)}{4\left(1+\gamma+k\right)^2 - \left(1-2\gamma\right)^2} \tag{8}$$

$$\tau_2 = -\frac{\left(\frac{1}{\alpha}+2k\right)\left(1-2\gamma\right)}{4\left(1+\gamma+k\right)^2 - \left(1-2\gamma\right)^2}. \tag{9}$$

The symmetric expression defines g_i.

3.3 The optimal pledge (first stage)

We now move back to the first stage of the game and determine the optimal pledge of player i. At this stage, his utility depends on the expected donations ($\hat{g}_i$ and $\hat{g}_j$) at the last stage, which both depend on his own pledge, as shown in Eq. (6).

The first order condition for utility maximization (Eq. 1) can be written $d\hat{V}_i/da_i = 0$:

$$\frac{dg_j}{da_i}\left[\left(r_i-\hat{g}_i\right)+2\gamma\left(\hat{g}_i-\hat{g}_j\right)\right]+\frac{dg_i}{da_i}\left(r_i-\hat{g}_i\right)-\frac{dg_i}{da_i}\left(\hat{g}_i+\hat{g}_j\right)-2\gamma\left(\hat{g}_i-\hat{g}_j\right)\frac{dg_i}{da_i}-2k(a_i-\hat{g}_i)\left(1-\frac{dg_i}{da_i}\right)=0, \tag{10}$$

leading to an optimal pledge:

$$a_i = \hat{g}_i + \frac{\frac{dg_j}{da_i}\left[\left(r_i-\hat{g}_i\right)+2\gamma\left(\hat{g}_i-\hat{g}_j\right)\right]+\frac{dg_i}{da_i}\left[\left(r_i-\hat{g}_i\right)-2\gamma\left(\hat{g}_i-\hat{g}_j\right)-\left(\hat{g}_i+\hat{g}_j\right)\right]}{2k\left(1-\frac{dg_i}{da_i}\right)}, \tag{11}$$

where, according to Equations (4) and (5):

$$\frac{dg_i}{da_i} = \frac{4k\left(1+\gamma+k\right)}{4\left(1+\gamma+k\right)^2 - \left(1-2\gamma\right)^2} \tag{12}$$

$$\frac{dg_j}{da_i} = -\frac{2k\left(1-2\gamma\right)}{4\left(1+\gamma+k\right)^2 - \left(1-2\gamma\right)^2}. \tag{13}$$

According to Eq. (7), the last stage optimal gift g_i is a linear function of the income of player i and of the pledge of his partner. If player j also uses the linear pledge function $a_j = \alpha r_j$, the values $\hat{g}_i$ and $\hat{g}_j$ as expected by player i depend on the expectation by player i of player's j income contingent on the pledge of i; formally:

$$\text{For agent } i: \begin{cases} \hat{g}_i = \tau_1 r_i + \tau_2 \hat{a}_j = \tau_1 r_i + \tau_2 \alpha \hat{r}_j \\ \hat{g}_j = \tau_1 \hat{r}_j + \tau_2 a_i \end{cases}. \tag{14}$$

At the first stage, player i does not know r_j. Since all he/she knows is that the partner will receive an endowment drawn from the same unknown distribution, his/her best estimation of the income of the other must be his own income, or $\hat{r}_j = r_i$. Therefore, the expected value of the partner's gift is:

$$\hat{g}_j = \tau_1 \hat{r}_j + \tau_2 a_i = \tau_1 r_i + \tau_2 \alpha r_i = \mu r_i, \tag{15}$$

with (given Eq. 8 and 9):

$$\mu = \tau_1 + \alpha \tau_2 = \frac{1 + 2k\alpha}{3 + 2k}. \tag{16}$$

In a symmetric way, player i expects to give:

$$\hat{g}_i = \tau_1 r_i + \tau_2 \alpha \hat{r}_j = \mu r_i. \tag{17}$$

At stage one, both players expect their partners to make gifts identical to their own gifts, $\hat{g}_i = \hat{g}_j$. Therefore, the optimal pledge (Eq. 11) can be written in a simpler form as:

$$a_i = \hat{g}_i + \frac{\frac{dg_j}{da_i}(r_i - \hat{g}_i) + \frac{dg_i}{da_i}\left[(r_i - \hat{g}_i) - (\hat{g}_i + \hat{g}_j)\right]}{2k\left(1 - \frac{dg_i}{da_i}\right)} \tag{18}$$

$$= r_i \left[\mu + \frac{\frac{dg_j}{da_i}(1 - \mu) + \frac{dg_i}{da_i}(1 - 3\mu)}{2k(1 - \frac{dg_i}{da_i})}\right]. \tag{19}$$

3.4 The equilibrium α

The game has an equilibrium with a linear pledge function $a_i = \alpha r_i$ (and $a_j = \alpha r_j$) if there is an $\alpha > 0$ such that:

$$\alpha = \mu + \frac{\frac{dg_j}{da_i}(1 - \mu) + \frac{dg_i}{da_i}(1 - 3\mu)}{2k(1 - \frac{dg_i}{da_i})}. \tag{20}$$

As shown in Appendix 1, the former equilibrium condition is tantamount to the fixed point condition:

$$\alpha - \frac{1}{3} = \frac{(2\gamma - 1)\left[\frac{1+k}{\alpha} + k + 2k^2(1 - \alpha)\right]}{3k\,(1 + 2k + 4\gamma)\,(3 + 2k)}. \tag{21}$$

Proposition 1 *A solution α^* exists under the sufficient, not necessary condition $\gamma > 0.5$.*

Proof. Let $L(\alpha) = \alpha - \frac{1}{3}$, and $R(\alpha) = \frac{(2\gamma-1)\left[\frac{1+k}{\alpha}+k+2k^2(1-\alpha)\right]}{3k(1+2k+4\gamma)(3+2k)}$. Then, $\lim_{\alpha\to 0} R(\alpha) = +\infty$, $\lim_{\alpha\to\infty} R(\alpha) = -\infty$ and $\frac{dR(\alpha)}{d\alpha} < 0$. The two functions, $L(\alpha)$ and $R(\alpha)$, should cross only once, for an equilibrium α^* value, with $\alpha^* > 1/3$. The linear pledge function, $a_i = \alpha r_i$, as assumed at the onset of the problem, is an equilibrium of the pledge game. ■

While the game might have other equilibria, the simple linear form of this pledge function makes it a natural candidate for practical purposes.

Proposition 2 *For $\gamma > 0.5$, the effective gift increases in both the income of the player and the income of his partner.*

Proof. The *effective* gift, given the income r_i and r_j, is determined by Eq. (7), $g_i = \tau_1 r_i + \alpha\tau_2 r_j$, with τ_1 and τ_2 evaluated at the equilibrium α^*. More precisely:

$$g_i = \frac{2\left(1+\gamma+k\right)\left(r_i+2ka_i\right) - \left(r_j+2ka_j\right)\left(1-2\gamma\right)}{4\left(1+\gamma+k\right)^2 - \left(1-2\gamma\right)^2} = q_1 r_i + q_2 r_j,$$

with $q_1 = \frac{2(1+\gamma+k)(1+2k\alpha^*)}{4(1+\gamma+k)^2-(1-2\gamma)^2} r_i > 0$ and $q_2 = \frac{(2\gamma-1)(1+2k\alpha^*)r_j}{4(1+\gamma+k)^2-(1-2\gamma)^2} > 0$. ■

The assumed strong taste for conformity ($\gamma > 0.5$) has as a main consequence a positive relationship between one donor's gift and the income of his partner.

As a numerical example, for $k = 0.50$ and $\gamma = 2$ it turns out that $\alpha^* = 0.52$. Such an agent would pledge half of his/her income, $a_i = 0.52r_i$. On the other hand, his/her effective gift, given the income and pledge of the other agent, would be: $g_i = q_1 r_i + q_2 r_j = 0.27r_i + 0.11r_j$. If matched with a partner with the same income ($r_j = r_i$), this player would give $0.38r_i$, which is less than the pledged amount.

On the other hand, if $\gamma < 0.5$ (i.e., the taste for conformity is weak), the problem still can have solutions (with $\alpha^* < 1/3$), but with a coefficient $q_2 < 0$: there is a negative link between the income of the partner and the donation.[11]

Whether the taste for conformity is weak or strong is ultimately an empirical issue. The next section presents the empirical results, using the former theoretical predictions as a guideline.

[11] In the simplest case where the two subjects play Nash in a perfect information framework without lying costs ($k = 0$) and without a preference for conformity ($\gamma = 0$), the optimal gift is *negatively related* to the endowment of the other $g_i^* = \frac{2}{3}r_i - \frac{1}{3}r_j$ and $g_j^* = \frac{2}{3}r_j - \frac{1}{3}r_i$.

4 Empirical results

4.1 General statistics

We provide descriptive statistics for the full sample of 142 subjects in Appendix 2. In line with a standard result in the experimental research on giving, on average individuals donate approximately 50% of their endowment. An elementary regression model (see Appendix 2 Table 10) using data consolidated over the two treatments points out to the important role of altruism: the extremely altruistic person will give, on average, 3.8 euros more than the extremely selfish person. Because this measure was elicited after the execution of the main donation task, the subject's choices in the dictator game could be impacted by his experience in the first task, and in particular by his endowment; subjects who received the high amount could be more generous in the second stage, compared to subjects who received the low amount. Data analysis in the Appendix 2 show that this is not the case. In particular, in the full sample of 142 subjects, at 0.29, the mean IA for subjects who received an endowment of 5 euros is not different from the mean IA of subjects who received 10 euros, at 0.32 (p=0.52) (Table 12). A regression model of IA over endowments and treatments (factor variable) shows no statistically significant effect of the treatment and endowment (Table 13). This supports our claim that the IA measure was not influenced by the execution of task 1.

If the on average individuals will give to another anonymous player 3.10 euros, the sample is characterized by substantial variation along this characteristic: 23.4% of the participants are Selfish (give nothing), 34.4% are Moderately Altruistic (give a positive amount smaller than 5 euros) and the rest of them (37.3%) are Strongly altruistic (give more than 5 euros) (Appendix 2 Table 14).

Table 2 presents the average donation per individual in a pair, *depending on his/her endowment and the endowment of the partner.* In the without communication treatment (T2), the endowment of the partner is completely unknown to the subject. In the main treatment (with pledge), subjects might use the information conveyed by the pledge to infer something about the endowment of the partner, as revealed by the theoretical analysis.

Subject's endowment	5 euros		10 euros	
Partner's endowment	5 euros	10 euros	5 euros	10 euros
Pair donation, with pledge (T1)	1.73 (1.61)	3.16 (1.67)	4.69 (3.20)	5.35 (3.27)
Pair donation, without communication (T2)	3.03 (1.86)	2.46 (1.91)	4.96 (3.27)	4.31 (2.67)

Table 2: Average individual donation per treatement depending on endowment and partner's endowment (s.d.)

Data show that in the without communication treatment, the mean donation varies in a significant way across the subjects's own endowment but has a small sensitivity to the unknown income of the partner. In the with pledge treatment (T1), the donation varies in a significant way with the endowment of the partner in the 5 euro condition (1.73 vs. 3.16; $p<0.01$); it also varies with the endowment of the partner in the high endowment condition, but the difference in not statistically significant (4.69 vs. 5.35; $p=0.49$). p-values reported throughout the text correspond to the two-tailed t-test.

4.2 The main treatment

We now focus our analysis on the "pair donation with pledge" treatment including observations on 86 subjects.

Table 3 shows the average pledge by individual, depending on the endowment, regardless of the endowment of the partner.[12] From this aggregate perspective, subjects appear to make slightly inflated pledges, although 60% of the subjects gave what they pledged.

	5 euro	10 euro	Overall sample
Pledge	2.71 (1.54)	5.63 (3.14)	4.24 (2.89)
Donation	2.46 (1.78)	5.04 (3.21)	3.77 (2.92)
Pledge − Don.	0.25 (1.27)	0.59 (1.63)	0.43 (1.47)

Table 3: Average pledge in T3 depending on endowment (s.d.)

Figure 1 shows that donations are positively related to the degree of altruism. We distinguish between the selfish type (0: IA=0), the moderate altruistic type (1: $0<IA<0.5$) and the very altruistic type (2: $IA\geq0.5$). See Also Appendix Table 16).

Some simple regression models allow us to go beyond these descriptive statistics. A first regression model analyses the relationship between the pledge (at time t) and various covariates,

[12] In the Appendix 2, a regression model reveals that the gap depends on the pledge of the partner.

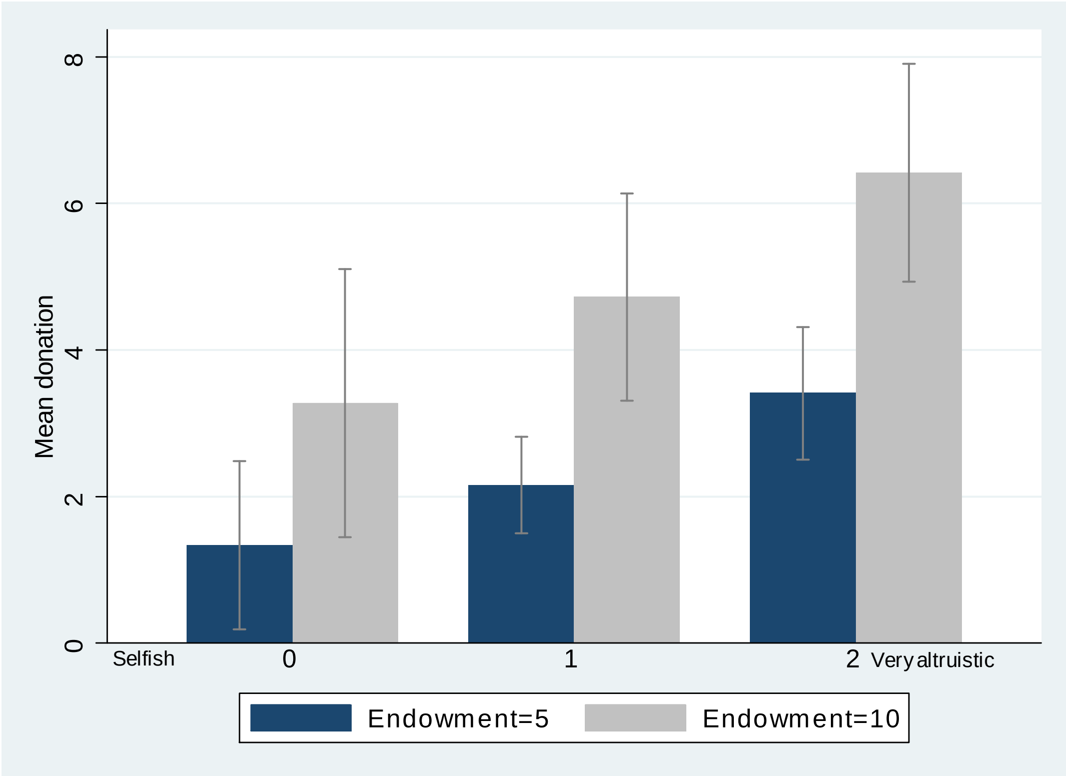

Figure 1: Mean donation by altruism type of donor.

including the endowment of the subject (5 or 10 euros), the altruism index, gender, age, how well the subject is informed about the charities on the list (Stated knowledge about charities) and whether the subject belongs to the economics admission track (Econ adm. track).

	Model 1	Model 2	Model 3
Endowment	0.583***	0.590***	0.586***
Altruism index	–	3.626**	3.723***
Gender (Fe=1)	–	-0.194	-0.260
Age	–	0.073	0.068
Stated knowledge charities	–	–	0.129
Econ track	–	–	-0.238
Constant	-0.194	-2.891*	-3.113
Nb. observations	86	86	86
R2	0.256	0.340	0.343
Note: *** Significant at 1%. ** Significant at 5%. OLS, Errors clustered by session.			

Table 4: The Pledge Equation

On average, subjects pledged approximately 60% of their income. In line with Proposition 1, the endowment is a significant factor in explaining the pledge; however, the endowment explains only 25% of the variance of the pledge. This difference from the theoretical model is not surprising, unlike before, in the lab individuals are heterogeneous with respect to many personal characteristics, while the theoretical model was built on the assumption of identical agents. In particular, individuals are heterogenous with respect to their degree of altruism, and this be reflected in more or less generous pledges and donations.

A second regression model analyzes the determining factors of the donation. From the pledge equation, we know that the endowment and the pledge are only partially related. Therefore, models 1 to 3 analyze donations depending on the individual's endowment and the pledge of the partner; models 4 to 6 analyze donations depending on the individual's own pledge and the pledge of the partner. It turns out that "pledge only" models (models 4 to 6) have a much better explanatory power than models 1 to 3. In the "pledge only" models the altruism index looses some of its significance, which suggests that individuals are aware of their degree of altruism, and take into account their information when making their pledge.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Endowment	0.488***	0.505***	0.510***	–	–	–
Own pledge	–	–	–	0.870***	0.837***	0.839***
Pledge of partner	0.200	0.120	0.117	0.202**	0.178**	0.176**
Altruism index	–	4.612***	4.727***	–	1.458	1.481*
Gender (Fe=1)	–	-0.121	-0.201	–	0.038	0.018
Age	–	0.115	0.109	–	0.041	0.039
Stated knowledge charities	–	–	0.221	–	–	0.101
Econ. adm. track	–	–	-0.025	–	–	0.141
Constant	-0.751	-4.469*	-5.117*	-0.736*	-1.884	-2.245
Nb. observations	86	86	86	86	86	86
R2	0.217	0.326	0.314	0.800	0.812	0.814
Note: *** Significant at 1%. ** Significant at 5%.* Significant at 10%. OLS, Errors clustered by session.						

Table 5: The Donation Equation

These empirical results corroborate our Proposition 2. First, the subject's donation is positively and significantly related to the pledge of the subject, and the pledged amount is related to his endowment. Second, the donation is positively and significantly related to the pledge of the partner. This positive effect suggests that, in our sample, the taste for conformity is strong enough ($\gamma > 0.5$).

Because the donation depends on both the pledge (and endowment) of the subject and the pledge of his partner, a "rich" donor matched with a "poor" one will give less, and a "poor" donor matched with a "rich" one will give more. If this mechanism entails percentage changes, the overall donation can be lower, since a 10% reduction in the rich's gift is not offset by a 10% increase in the poor' gift. However, as shown in Table (9), in this experiment there is no difference in average donations between the "pledge" and "no-pledge" conditions.

Finally, we can check for the consistency of the beliefs in this experiment, using the information provided by the subject's guess of the partner's donation. Remember that, in the last stage of the giving game (Part 1), after having received the pledge of the other, subjects not only had to decide on the gift, but were also asked to make an incentivized guess about the gift of the partner. Overall, subjects made rather correct guesses about the donations of their partner, as shown in Table (6), which presents the actual donation of the partner in the left pane, and the guessed donation in the right hand side pane. Two tailed t-tests confirm that the differences between the mean actual and guessed donations are not significant regardless of the case studied.

	Actual donation by partner			Guessed donation		
Endowment	Partner: 5	Partner: 10	Total	Partner: 5	Partner: 10	Total
Subject: 5	1.73 (1.61)	4.69 (3.20)	3.24 (2.93)	2.15 (1.63)	4.54 (2.49)	3.37 (2.41)
Subject: 10	3.17 (1.67)	5.35 (3.26)	4.33 (2.84)	3.24 (1.76)	5.71 (2.78)	4.56 (2.65)

Table 6: Actual and guessed partner's donation (s.d.)

More insights cans be obtained from a regression model of the "Estimated gift of the partner". We report the results of the OLS regression models in Table 7. The key independent variable is the pledge of the partner (which is known by the subject at the guess time).

	Model 1	Model 2	Model 3
Pledge partner	0.784***	0.773***	0.751***
Own pledge	–	0.200*	0.188*
Altruism Index	–	–	0.716
Gender (Fe=1)	–	–	0.072
Age	–	–	0.066
Stated knowledge charities	–	–	-0.077
Econ.adm. track	–	–	0.401
Constant	0.664	-0.138	-1.61
Nb. observations	86	86	86
R2	0.762	0.812	0.826
Note: *** Significant at 1%. * Significant at 10%. Errors clustered by session.			

Table 7: The Estimated Partner Gift Equation

The results point out that in this experiment individuals' beliefs are strongly consistent: individuals use almost the same linear model to forecast the gift of the partner (guessed gift by partner=0.77*pledge partner + 0.2*own pledge) as the model that explains their own gifts (Models 4 to 6 in Table 5: gift = 0.87*pledge + 0.2*pledge partner). The slight difference in coefficients (0.77 vs. 0.87) can be explained by the altruism measure, a known characteristic in the first model (the individual knows his degree of altruism) and unknown (and non-significant) in the guessed gift equation.

5 Conclusion

Many philanthropic events rely on the use of pledges: people first have the opportunity to promise to give, then, at a later time, are called to give. Several papers analyzed pledges as a tool to foster the donor's social image, or as a commitment device. In this paper, we study the generosity inducement effect of altruistic donors, using data collected on a specific "pledge and give" experiment, backed by a simple "cheap talk" communication game.

We first show that an intuitively appealing linear pledge function can be an equilibrium of the game. The lab experiment corroborates this result, as the pledge appears to be strongly related to the endowment, with subjects pledging on average approximately 60% of their endowment.

The analysis of the communication game has also revealed that pledges can be used strategically by donors to stimulate the generosity of their partners if agents care about the charity, and exhibit a strong taste for conformity. If these assumptions hold, then pledges can be efficient vectors of social influence. The lab experiment corroborates this result, with the effective donation being a convex combination of the pledge of the agent and the pledge of the partner. In particular, the subject will increase his donation by 0.20 euros if the partner increases his pledge by 1 euro, an estimation obtained while controlling for the altruism of the donor.

If both subjects have the same endowment, they will donate approximately 100% of the pledge. In pairs with an uneven (5,10) endowment distribution, agents with a low endowment will end up giving more, and those with a higher endowment will give less, as suggested by the "social conformism" principle incorporated in the theoretical model. Since "rich" and "poor" persons are equally distributed in our sample, donations are no larger in the pledge treatment than in the non-pledge treatment.

Despite its simple structure, this experiment sheds light on the social influence motive of pledging in charitable giving. The implications of our simultaneous game can be extended to a sequential setting; because pledges influence the decisions of the others, whenever the organization of the fundraising campaign allows it, it makes sense to let the wealthiest pledge first. Extremely generous donors, such as Ted Turner, Bill and Melinda Gates or Warren Buffet probably make a greater contribution to charitable giving than their own gifts would suggest, as their actions might have induced other wealthy individuals to follow their example.

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A Appendix (Online)

A.1 Appendix 1. Proof of the existence of an equilibrium α

We start from the fixed point condition:

$$\alpha = \mu + \frac{\frac{dg_j}{da_i}(1-\mu) + \frac{dg_i}{da_i}(1-3\mu)}{2k(1-\frac{dg_i}{da_i})}$$

According to Eq. (16), μ is defined as: $\mu = \frac{1+2k\alpha}{3+2k}$. Replacing μ by its explicit form, the fixed point condition becomes:

$$\begin{aligned}
2k(1-\frac{dg_i}{da_i})\alpha &= 2\mu k(1-\frac{dg_i}{da_i}) + \frac{dg_j}{da_i}(1-\mu) + \frac{dg_i}{da_i}(1-3\mu) \\
2k(1-\frac{dg_i}{da_i})\alpha &= 2\mu k - 2\mu k\frac{dg_i}{da_i} + \frac{dg_i}{da_i} - 3\mu\frac{dg_i}{da_i} + \frac{dg_j}{da_i}(1-\mu) \\
2k(1-\frac{dg_i}{da_i})\alpha &= 2\mu k + \frac{dg_i}{da_i} - \mu\frac{dg_i}{da_i}(2k+3) + \frac{dg_j}{da_i}(1-\mu) \\
2k(1-\frac{dg_i}{da_i})\alpha &= 2\mu k - 2k\alpha\frac{dg_i}{da_i} + \frac{dg_j}{da_i}(1-\mu) \\
2k\alpha &= 2\mu k + \frac{dg_j}{da_i}(1-\mu) \\
2k\alpha &= \frac{(1+2k\alpha)}{(3+2k)}2k + \frac{dg_j}{da_i}\left(1 - \frac{(1+2k\alpha)}{(3+2k)}\right) \\
2k\alpha\,(3+2k) &= 2k(1+2k\alpha) + \frac{dg_j}{da_i}\left((3+2k)-(1+2k\alpha)\right) \\
3k\alpha &= k + \frac{dg_j}{da_i}(1+k-k\alpha) \\
\alpha &= \frac{1}{3} + \frac{dg_j}{da_i}\frac{(1+k-k\alpha)}{3k} \qquad \text{(A.22)}
\end{aligned}$$

We replace now $\frac{dg_j}{da_i}$ by its explicit form, as resulting from the expression of the optimal donation (Eq. 6):

$$\frac{dg_j}{da_i} = -\frac{\left(\frac{1}{\alpha}+2k\right)(1-2\gamma)}{4\,(1+\gamma+k)^2 - (1-2\gamma)^2}.$$

The fixed point condition becomes:

$$\begin{aligned}
\alpha &= \frac{1}{3} - \frac{\left(\frac{1}{\alpha}+2k\right)(1-2\gamma)}{4\,(1+\gamma+k)^2 - (1-2\gamma)^2}\frac{(1+k-k\alpha)}{3k} \\
\alpha &= \frac{1}{3} - \frac{(1+k-k\alpha)\left(\frac{1}{\alpha}+2k\right)(1-2\gamma)}{3k\,(1+2k+4\gamma)\,(3+2k)} \\
\alpha &= \frac{1}{3} - \frac{\left[\frac{1+k}{\alpha}+k+2k^2(1-\alpha)\right](1-2\gamma)}{3k\,(1+2k+4\gamma)\,(3+2k)} \\
\alpha - \frac{1}{3} &= \frac{(2\gamma-1)\left[\frac{1+k}{\alpha}+k+2k^2(1-\alpha)\right]}{3k\,(1+2k+4\gamma)\,(3+2k)} \qquad \text{(A.23)}
\end{aligned}$$

This expression is reported in the main text.

A.2 Appendix 2. Descriptive statistics

A.2.1 Full sample

	Pair donation, with pledge	Pair donation, no communication
Nb. of subjects	86	56
Age	22.31 (0.26)	21.52 (0.21)
Female	0.61 (0.61)	0.63 (0.65)
Eco. adm. track	0.33 (0.05)	0.37 (0.06)
Altruism index	0.31 (0.02)	0.29 (0.02)
Stated knowledge of charities	3.50 (0.10)	3.59 (0.12)
Endowment	7.61 (0.27)	7.50 (0.31)

Table 8: Descriptive statistics

Table 9 shows that there is no statistically significant difference in average giving between the two treatments. In both treatments, the average donation is higher in the high endowment condition compared to the low endowment condition.

Treatment	5 euros	10 euros	Total
Pair donation, with pledge	2.46 (1.78)	5.04 (3.21)	3.81 (2.92)
Pair donation, no communication	2.78 (1.86)	4.59 (2.91)	3.69 (2.59)
Total	2.59 (1.81)	4.86 (3.09)	3.76 (2.78)

Table 9: Mean donation per treatement and endowment (s.d.)

Table 10 presents OLS estimates of the full sample donation equation. Model 1 includes only the endowment and a dummy for the pledge treatment, model 2 includes other covariates.

	Model 1	Model 2
Endowment	0.455***	0.431***
Pair, with pledge (=1)	0.074	-0.028
Altruism index	–	3.809***
Gender (Fe=1)	–	0.330
Age	–	0.049
Stated knowledge	–	0.227
Econ. adm. track	–	-0.543
Constant	0.276	-2.550
Nb. observations	142	142
R2	0.168	0.275
Note: *** Significant at 1%. Errors clustered by session.		

Table 10: Donation equation

A.2.2 Robustness checks Altruism Index (AI)

The altruism index, mesured by the task 2 - Dictator game, does not depend on the task 1 treatement or endowment of the subject (in task 1).

	Pair, no communication	Pair, with pledge
N	56	86
Average AI	0.295	0.313
Standard deviation	(0.205)	(0.224)

Table 11: Altruisme index by treatement

	5 euros	10 euros
N	69	73
Average AI	0.29	0.32
Standard deviation	(0.211)	(0.227)

Table 12: Altruism index by endowment

Regression of IA by endowment and treatement.

	Model 1	Model 2
Treatement 1 (=1)	0.017	-0.051
Endowment	-0.004	-0.001
T2×Dot10	–	-0.066
Constant	0.260***	0.267***
Nb. observations	142	142
R2	0.004	0.01

Table 13: Altruism with respect to treatement and endowment

The distribution of participants with respect to their degree of altruism by treatment

A.2.3 Focus on Treatment 3 (86 subjects)

The explanation of the difference between the pledge and the actual donation.

(OLS, Errors clustered by sessions).

The relationship between donation and altruism (contingent on the endowment).

A.3 Appendix 3. Instructions for the "pairs with pledge" treatement

[Translated from French]

Slide 1.

Good morning

We thank you for participating to this experiment that should last about 15 minutes. It is important to pay attention to these instructions because your compensation will depend on your decisions. This experiment comprises two parts. Payoffs are denominated in euros. You will be paid in cash for both parts at the end of the experiment. In addition, you will receive a 2 euros

	Selfish	Moderate altruism	Strong altruism	Total
No communication	13	24	19	56
%	23.21	42.86	33.93	100
Pairs, with pledge	20	32	34	86
%	23.26	37.21	39.53	100
Total	33	56	53	142
%	23.24	39.44	37.32	100
Legend: Selfish, IA=0; Moderate altruism, $0 < IA < 0.5$; Strong altruism, $IA \geq 0.5$.				

Table 14: Types of individuals depending on altruism

	Model 1	Model 2	Model 3
Endowment	0.095	0.093	0.086
Pledge partner	-0.205***	-0.189*	-0.186*
Altruism index		-0.846	-0.864
Gender (Fe=1)		-0.067	-0.053
Age		-0.027	-0.026
Stated knowledge			-0.080
Econ. adm. track			-0.182
Constant	0.575	1.416	1.791
Nb. observations	86	86	86
R2	0.172	0.192	0.197
Note: *** Significant at 1%. * Significant at 10%. Errors clustered by session.			

Table 15: The Difference Pledge Gift

fixed participation amount.

Your decisions are strictly anonymous. The other participants will not be informed about your decisions or about your identity.

From now on, please do not communicate in other way than it is indicated in the instructions. Stay focus and turn off cell phones and personal computers, otherwise you will be asked to leave the lab.

Do you have any question? If so, please rise your hand and wait for the Administrator.

Slide 2. First part

This first task will allow you to make a donation to one major charity in France. The list of the target organizations is:

		Mean	Std. er.	[95% conf. interval]	
Selfish (ctg. 0)	5	1.33	(0.57)	0.18	2.48
	10	3.27	(0.91)	1.44	5.09
Moderate	5	2.15	(0.33)	1.49	2.81
altruism (ctg. 1)	10	4.71	(0.71)	3.30	6.13
Strong	5	3.40	(0.45)	2.50	4.31
altruism (ctg. 2)	10	6.41	(0.74)	4.92	7.90
Legend: Selfish: IA=0, Moderate altruism: 0<IA<0.5; Strong altruism: IA≥0.5.					

Table 16: Donation by Altruism and Endowment

La Croix Rouge Française	*Secours Catholique*
Médecins sans Frontières	*Secours Populaire*
Médecins du Monde	*La Fondation Abbé Pierre*
AFM-Téléthon	*Action contre la faim*
Sidaction	*Apprentis d'Auteuil*
Handicap International	*Comité Français pour l'Unicef*
La Ligue Nationale contre le Cancer	*Greenpeace*
Les Restos du Cœur	

You will be matched at random with another participant in a pair. None of you will learn the name of the other. Each of you will receive an endowment drawn at random by the computer from the same statistical distribution.

Your pair will be allowed to make a donation to one of the charities present on the list. The computer will match at random the charity with a pair of donors.

Each pair will make a gift to only one charity and a charity will not receive more than the gift of one pair.

In a first stage, the computer will ask each participant in the pair to indicate his/her gift promise.

After filling in this information, the computer will simultaneously convey this information to the other participant.

At the second stage, you will have to decide how much you want to give. At that stage, you know: your endowment, your gift promise, and the gift promise of your partner.

We commit on transferring the amounts donated to the charities shortly after the experiment.

At the end of the experiment you will receive in cash the difference between the endowment received at the beginning of the experiment and your gift.

Do you have any question? If so, please rise your hand and wait for the Administrator.

Slide 3.

Following the random draw, your endowment is 5 (or 10) euros.

Please indicate to your partner how much you intent to give for charity. The partner is filling in the same information at the same time.

I promises to give... [x euros]

Slide 4. Decision

Your endowment is 5 (or 10) euros

Your partner promises to give [y euros]

- What is the amount you decide to give to the charity ? [z euros]

- Also, please, can you estimate the gift of your partner ? You will receive 2 more euros if the guess error is less than 10% than his actual gift.

I estimate that the partner will give [... euros]

Slide 5. Additional questions

Before moving to the second part, please answer these questions:

There are 15 charities on the list. Do you have a satisfactory knowledge of the action of how many of them ?

1 if none, some, half, most, 5 if all of them.

Your gender: M/F

Your age: [...]

Your admission track: Literature/Econ/Science/Other

Slide 6. Second part

In this second part you will execute a task completely independent from the former task.

This new task involves an interaction among two participants, called Player A and Player B.

New pairs will be made by random allocation by the computer. Participants are anonymous.

Player A receives 10 euros. He must decide how to split them with the Player B.

Player B is passive. He just accepts the amount decided for him by Player A.

You must indicate your choice as a Player A. However, you will learn whether you are Player A or Player B only at the end of the task, when the computer will assign the roles at random.

If at the end the computer decides that you are Player A, your payoff is the one you made for the pair. If the computer assigns you to role B, you receive the amount chosen for you by Player A in your pair.

Do you have any question? If so, please rise your hand and wait for the Administrator.

Slide 7. Decision.

If you were the Player A, the endowment is 10 euros.

How much would you give to the Player B ? [euros]

Slide 8. Results

Part 1.

Your endowment was: 5 / 10

You gave to charity: [. . .]

Your pair made a gift of [X euros] to organization [. . . .]

Your guess about the partner's gift was: [correct / wrong]

Your Part 1 gain is [endowment - gift + guess payment]

Part 2.

You were assigned to role: Player A/Player B

Your Part 2 gain is: [. . .].

The total gain is: [...]