Preferences vs. beliefs:

A field experiment on the determinants of trust and regional development

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Abstract

We investigate the effect of beliefs and preferences on trust and trustworthiness in the first experiment involving a stratified sample of association members and a demographically comparable sample of non-members. A portion of the sample was born in Southern Italy but resided in Northern Italy at the time the research was conducted. We show that: (1) Neither beliefs on others' behaviour nor risk aversion are relevant to account for members' significantly higher trust and trustworthiness. Hence, members and non-members must differ in their basic preferences. (2) Southern Italians trust and reward trust significantly less than Northern Italians. (3) Pessimistic beliefs account for Southerners' behaviour. The first result highlights a role of voluntary members in favouring economic development. The second and third result shed light on possible causes of the different patterns of regional economic development.

Keywords: Trust; Regional development; Beliefs; Other-regarding preferences; Voluntary associations; Field experiment.
JEL classification: A13; O12; C91; C93; D03.

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1. Introduction

Trust in unknown others, or generalised trust, has attracted the attention of many scholars over the past decades. It has been shown that high levels of inter-personal trust are associated with faster economic development (Knack and Keefer, 1997, Guiso *et al.*, 2004) and increased institutional efficiency (Arrow, 1974; La Porta *et al.*, 1999; Rothstein and Uslaner, 2005). The existence of widespread inter-personal trust in one-shot interactions is surprising because a trusting individual exposes herself to the risk of being taken advantage of by an unknown party. Individuals concerned only with material gains, believing that others are equally concerned only with material gains, should *not* trust.

Two explanations can be advanced to account for generalised trust in one-shot interactions (Barr, 2003; Binzel and Fehr, 2013; Sapienza *et al.*, 2013). According to one explanation, people trust others because they expect others to be trustworthy. In other words, trust is based on the expectation, possibly grounded on past experiences or in the analysis of the trustee's incentives, that the trustee will repay the trust posed in her (Gambetta, 2000; Hardin, 2004). In this perspective, trust may be thought of as being essentially *strategic*, since it is based on the expectation of trustworthiness from the counterpart (Rotter, 1980; Williamson, 1993; Gambetta, 2000; Hardin, 2004). Expectations of trustworthiness may also be embedded in generalised norms of reciprocity. According to Yamagishi and Yamagishi (1994), trust is based on a cognitive bias in assessing the probability of others' trustworthiness. Such an expectation is grounded on the awareness that individuals participate in generalised social exchanges (Yamagishi, 2007), in which norms of reciprocity command trusting behaviour as the default rule (Haselton and Buss, 2000). Such reciprocity norms are particularly likely to arise in socially bounded groups (Yamagishi, 2007).

According to an alternative explanation, trust and trustworthiness are based on individual tastes, or preferences. Trust may be driven by other-regarding preferences (Dufwenberg and Gneezy, 2000; Cox, 2004; Ashraf *et al.*, 2006; Thöni *et al.*, 2012). According to Uslaner (2002), trust is based on a specific moral disposition that leads individuals to believe that other individuals belong to the same "moral community" as the agent. Individuals who trust do so out of a moral imperative, rather than out of specific expectations over others' behaviour in a given situation (Mansbridge, 1999). Risk aversion may also affect trust (Ben-Ner and Putterman, 2001; Karlan, 2005; Schechter, 2007), as well as group dynamics. Social identity theorists put forward a "goal transformation hypothesis". Identification with the group entails the substitution of group interests for individual interests (Brewer, 1991; De Cremer and van Dijk, 2002). Likewise, individuals may adopt a "we-thinking" mode of reasoning, construing the social interaction from the group perspective rather than the individual perspective (Sugden, 2000; Tuomela 1995; Bacharach, 2006). Putnam *et al.* (1993) argue that participation in groups inculcates norms of co-operation and reciprocity in individuals' preferences.

From an empirical point of view, two pieces of evidence have emerged in the recent literature on trust, which are directly connected with the previous theoretical issues. First, members of voluntary associations generally report higher levels of generalised trust than non-members in surveys. This result is supported by several studies (Brehm and Rahn, 1997; Stolle and Rochon, 1998; Claiburn and Martin, 2000; Wollebaek and Selle, 2002; Paxton, 2007), with the exception of Uslaner (2002), who finds no relationship between membership and generalised trust. As for experiments, evidence that association members show higher pro-sociality than non-members emerges in Glaeser *et al.* (2000), Anderson *et al.* (2004), Binzel and Fehr (2013). Participation in association is seen to be key for social capital and hence for economic development (Putnam, 2000). Therefore understanding association members' motivations is an important endeavour.

Second, it has also been shown that trust can vary considerably across countries, or regions within the same country. Persistent economic disparities in, for instance, Southern Italy vis-à-vis

Northern Italy (Putnam *et al.*, 1993; Guiso *et al.*, 2004; Sabatini, 2008; Bigoni *et al.*, 2013), or Eastern Germany vis-à-vis Western Germany (Alesina and Fuchs-Schündeln, 2007) have been put down to the endurance of habits of behaviour enrooted in the different social and political history of the two regions. A "bad" equilibrium where low trust hampers economic activity can exist alongside a "good" equilibrium where high trust, civic engagement and spirit of co-operation foster sustained economic growth (Knack and Keefer, 1997). As suggested by Guiso *et al.* (2006) and Tabellini (2010), it becomes essential to study the behaviour of migrants moving from a low-trust society to a high-trust society to see if untrusting behaviour persists even in a context characterized by higher probability of co-operation.

We contrast the above explanations and contribute to the account of the two pieces of evidence previously illustrated within a large-scale field experiment. This involves members of real-life associations and a sample of people having comparable demographic characteristics who are not association members. We measured participants' trust and trustworthiness, as well as beliefs over others' actions, through experimental TGs. In this way we are able to contrast the relative importance of beliefs and preferences behind members and non-members' actions. We also use the information on participants' birthplace to compare the behaviour of people born in Southern regions with that of people born in the North of Italy.

Our TGs reproduce the Berg *et al.*'s (1995) seminal design. Two players were randomly matched and endowed with 25 Euros (€) each. One of the two players acted as Sender and had to decide which portion of her endowment, in multiples of 5€, to send to the other player, the Receiver. The amount sent was multiplied by two and transferred to the Receiver. The Receiver then had to decide which portion of the total sum in her possession to send back to the Sender. Each participant played one TG in the role of Sender and one in the role of Receiver. After the two TGs were played, two measures of beliefs were elicited. The first is the belief over how many tokens the Receiver will return, given the Sender's actual transfer. The second measure is the belief over how many tokens the Sender will send. Following Bohnet and Baytelman (2007), the latter can be

interpreted as one's belief over the prescription of a social norm of "good", or appropriate, behaviour.

In the companion paper to the present one (Degli Antoni and Grimalda, 2013) we show that members have significantly higher trust and trustworthiness than non-members. In the present paper we focus on the role of beliefs in accounting for the observed differences between members and non-members. Members were involved both in anonymous trust interactions with fellow association members ("in-group" interactions), or in trust interactions with individuals from the general population ("out-group" interactions).[1] As trust is more easily enforced within groups (Brewer, 1991; Yamagishi, 2007; Putnam, 2000), we can examine the extent to which beliefs and tastes play a different role within the group or outside the group. We also contrast the behaviour of people born in Northern Italy to that of people born in Southern regions. In the screening process during subjects' recruitment we required participants to have been residing in the province of Parma - Northern Italy - or surrounding provinces for at least one year. While the region where Parma is located is characterized by some of the highest levels of social capital in Italy, regions from the South rank at the bottom of the scale (Putnam *et al*., 1993; Guiso *et al*., 2004; Sabatini, 2008; Buonanno *et al.*, 2009). Social capital is generally referred to as all "features of social life – networks, norms, and trust – that enable participants to act together more effectively to pursue shared objectives" (Putnam, 1995: 67).[2] In this way we are able to examine the persistence of untrusting behaviour after people's relocation from a low-trust environment to a high-trust environment.

[1] There is a wide experimental literature based on "in-group"/"out-group" treatments. A rather robust result stemming from this strand of literature concerns the emergence of in-group favoritism when both minimal groups (groups formed in the lab on the basis of some arbitrary characteristics) and real groups are considered (on minimal groups see: Tajfel, 1970, 1974; Brewer ,1999; Mullen *et al.*, 1992; Güth *et al*., 2008; Hargreaves-Heap and Zizzo, 2009; on real groups: Goette *et al*., 2006; Ruffle and Sosis, 2006; Bernhard *et al.*, 2006; Etang *et al.* 2011, Falk and Zehnder, 2013).

[2] Social capital is understood as a multidimensional concept (Uphoff, 1999; Paldam, 2000). A structural and a cognitive dimension may be identified (Uphoff, 1999). Structural social capital refers to individuals' behaviours and mainly takes the form of networks and associations (Coleman, 1988, 1990; Burt, 2002). Cognitive social capital stems from subjects' perceptions resulting in norms, values and beliefs that contribute to co-operation (Knack and Keefer, 1997; Guiso *et al.*, 2004).

To the best of our knowledge, this is the first contribution that focuses on the specific role of beliefs in explaining the trusting behaviour of association members compared to non-members and within-country regional differences.

We contribute to the literature on economic development in three main ways. First, trust and social capital are increasingly seen as having a critical role for the success of development interventions. For instance, the World Bank recognises the role of social capital *"for enhancing the quality, effectiveness and sustainability of its operations"* (World Bank, 2011). Putnam (2000) places incentivising participation in associations at the first places of his policy agenda to enhance social capital. Our focus on association members' beliefs warrants a better understanding, within an original methodological approach, of the dynamics of trust, social capital, and participation in associations. Secondly, our investigation offers a clear-cut explanation for the lower level of trust and trustworthiness observed in Southern Italy in comparison to Northern Italy. In Putnam et al.'s (1993) seminal contribution, differences in trust and social capital have been blamed for both Italy's South economic under-development and worse institutional performance than Italy's North. Our findings strongly suggest that this is caused by pessimistic beliefs on others' behaviour rather than to intrinsic differences in individual preferences (see section 3). Third, understanding the different patterns and inter-relations between beliefs and preferences is important for economic policy. Low development and poverty traps may be caused by co-ordination failures based on "pessimistic" expectations, which can lead to either low trust in others or low association membership (Sobel, 2002; Wydick, 2008). However, individuals' preferences, perhaps linked to specific cultural traits (Tabellini, 2010), may also be relevant for under-development. Policy interventions will take different forms depending on whether beliefs rather than preferences are seen as the main relevant factor behind under-development. Some recent experimental studies examine the issue of the stability over time of preferences *vis-à-vis* beliefs, suggesting that beliefs are more malleable to change than preferences (Naef and Schunk 2010; Volk *et al.* 2012). Our study contributes to this

topic by showing that preferences and beliefs can follow different dynamics for different groups of people.

The paper is organised as follows. Section 2 describes the sample characteristics, the experimental design and procedures. Section 3 presents the empirical analysis and results. Section 4 concludes.

2. Sample, experimental design and procedures

2.1. Sample characteristics

374 subjects participated in the experiment. 263 of them were association members (i.e. subject who are formally affiliated to an association, and attend association meetings for at least an hour each month; "members" henceforth), 77 had never been members of a voluntary association (henceforth "never-members"), and 34 had been members in the past but their associational activity was finished at the time the research was run (henceforth "dropouts"). We refer to the joint set of never-members and dropouts as "non-members". During recruitment we requested that subjects had resided for at least one year prior to the research in the province of Parma or in neighbouring provinces. However, we did not restrict subjects to be born in those provinces. 58 subjects in our sample were born in Southern Italy. We based our definition of South on that used by the Italian Institute for National Statistics (ISTAT).[3]

In order to ensure the full comparability of the member and non-member sub-samples, we took care that the sub-samples had similar demographic characteristics. To achieve this objective, members were recruited by experimenters prior to non-members. We then sub-contracted the recruitment of non-members to Demoskopea, one of the most well-known opinion polls and market

[3] ISTAT classifies the following regions as being part of Italy's South: Abruzzi, Basilicata, Calabria, Campania, Molise, and Puglia. We also add Sicily to this bloc, although ISTAT classifies it as belonging to the "Islands" group. Sicily is commonly included in the South of Italy by scientific contributions on trust both for historical and for geographical reasons. In particular, all these regions belonged to the "Kingdom of Two Sicilies", under the dominion of the Spanish branch of the House of Bourbon, before Italy's unification in 1861. Merging Sicily with other regions also seems appropriate on the basis of Putnam *et al.* (1993) argument that the existing differences in social capital in Italy between North and South can be tracked down to the regions' different historical trajectories prior to Italy's unification.

research agency in Italy. We instructed Demoskopea to select non-members from the general population with the target of forming a sample that "mirrored" the member sample with respect to the three demographic characteristics that we deemed relevant, i.e. gender, age and educational attainment. These characteristics had been previously recorded for members when they signed up to the research.[4] In other words, Demoskopea was requested to apply a quota sampling method where the target quotas were those found for the member sample.

Table 1 reports the demographic characteristics of our sub-samples of members and non-members and of people who were born in the South of Italy and in other Italian regions. Tests confirm that there are no statistically significant differences between our sub-samples of members and non-members with respect to gender (Chi Square test: p= 0.919), education (Chi Square test: p= 0.782), and age (Mann-Whitney test: p= 0.5559). The sample of Southerners is significantly different from the sample of Northerners with respect to gender composition (Chi Square test: p=0.001) and age (Mann-Whitney test: p= 0.0387). No differences emerge with respect to education (Chi Square test: p=0.871). This makes the econometric analysis relevant to control for these differences.

Table 1
Demographic characteristics for sub-sample: Members, Non-members, Southerners and Northerners

Variable		Members	Non-members	South	North
Gender	Female	60.38%	59.46%	41.38%	64.47
Age	<30	11.15%	16.51%	14.04%	12.87%
	30-50	43.08%	43.12%	59.64%	40.93%
	51-60	22.69%	27.53%	15.79%	26.07%
	>60	23.88%	12.84%	10.53%	20.13%
Education	No Title	0%	0%	0%	0%
	Primary School	1.59%	0.91%	1.79%	1.01%
	Junior high School	15.08%	10.91%	8.93%	14.14%
	Secondary School certificate (3 Years)	8.73%	4.55%	5.36%	7.41%
	Secondary-School certificate (5 Years)	42.25%	50.00%	50.00%	44.78%
	Bachelor's degree	25.79%	30.91%	30.36%	27.61%
	Master's degree	3.97%	1.82%	1.79%	3.70%
	PhD	1.59%	0.91%	1.79%	1.35%
Obs.		263	111	58	305

[4] Educational attainment proxied socio-economic status. We preferred not to ask information on income levels because of its sensitivity for the subjects.

Contact with potential subjects was carried out in person by experimenters through announcements at association meetings, or over the phone by Demoskopea staff. We requested that all contacts with potential subjects were made following an identical recruitment script. In this way, potential subjects were given the same information prior to coming to the research sessions. At no time were subjects given the impression that the research focussed on association members' behaviour in social interactions (on this aspect see also section 2.2). Rather, the announcements stated that a cross-section of residents of the province of Parma and neighbouring provinces had been invited to participate in a research on individual decision-making run by University of Parma researchers. Additional details on the recruitment strategy and the recruitment scripts are available in the Supplementary Online Material (SOM): section II.

252 subjects were recruited by the experimenters from ten associations: four cultural associations (one ethnic and traditional dance association and three choirs), four social welfare and health services associations (the Italian association for blood donation, an association assisting hospitalised children, an association for medical research on cancer and an association dedicated to charity and evangelisation), and two trade unions. The choice of these three association types ensures a broad variability of the associations' general goals and type of services being produced (see SOM: Section IIA). A more detailed description of the associations is included in the SOM: section I. 11 members were inadvertently recruited by Demoskopea, and have been classified as belonging to "other associations".[5] 107 non-members were recruited by Demoskopea, while four were recruited by the experimenters to make up for no-shows.

[5] During the recruitment interview with Demoskopea, these people answered negatively to the screening question on whether a person is part of an association. However, they reported in the post-experiment questionnaire that they were in fact active association members at the time of the research. We suppose that this may be due to subjects' absent-mindedness when answering the recruitment interview, so we have kept these 11 subjects in the sample as members.

2.2. Experimental design and procedures

Sessions were run in parallel by two experimenters in two different rooms of a library at the University of Parma. We run a TG where each subject was randomly paired with a participant present in the other room. Subjects made two different decisions, the first as a Sender and the second as a Receiver. Pairs were reshuffled after the first decision, and subjects were informed that their partner in the second decision was different to the partner in the first decision. Subjects were paid only for one of the two decisions, each having 50% probability of being drawn. No feedback was given at the end of each decision, so we can consider them as independent. Instructions and further details on the experiment protocol can be found in the SOM: Section III.

Both Senders and Receivers were endowed with 25€. Senders could send any multiple of 5€ from 0€ to 25€, so there were six possible transfer levels. The amount sent was doubled and transferred to the Receiver. Receivers made their decision with the strategy method. Subjects had to report in a form the amount they wished to send back for each of the possible six options available to the Sender. Receivers could return any amount (up to the first decimal digit) between zero and the sum of the initial endowment of 25€ and the doubled amount transferred by the Sender.

After the two experimental decisions, we elicited subjects' beliefs. First we asked how much the player expected the Receiver with whom she was paired would send back, given the amount the player actually sent. Second, we asked players to estimate the amount transferred by the Sender with whom they were paired when acting as Receivers. Both measures were monetarily incentivised. Subjects received 1€ for each correct guess, allowing for a ±3€ margin of error in the first estimate. Finally, we administered the questionnaire. Payments were distributed by cash at the end of the session. Average payoffs were 31.7€ (std. dev. 11.99). In three cases did a participant in the pair earn nothing while the other earned the maximum available – 75€.

We had two treatments in the experiment. In the in-group treatment, participants were told that: "The person with whom you will be paired is a member of the Association X {researcher states the

name of the association} of which you are also a member, and is resident in Parma, or its province, or in neighbouring provinces". In the out-group treatment, subjects were only informed that: "The person with whom you will be paired is resident in the province of Parma or in neighbouring provinces".

Two specific aspects of our design deserve particular attention. A well-known reason of concern when eliciting subjects' belief after their choices is the so-called "false consensus effect" (Ross Greene and House 1977, Ellingsen et al. 2010). If Senders or Receivers believe that others will act like themselves, beliefs and choices will be correlated, but causality could go from the latter to the former. For example, in our experiment, a Sender who sends an amount equal to 10€, could believe that the Sender paired with herself when she plays as a Receiver would send the same amount. A similar problem would emerge also if Senders (Receivers) tended to make their ex post belief consistent with their ex ante behaviour. However, our data show that this possible reverse causality effect is at most limited. Only 37.7% of Senders had expectations coinciding with their actions, and this percentage drops to 30.3% for Receivers. Moreover, our key results are unchanged even introducing as control variables the amount sent and returned by subjects, or considering a dummy variable identifying those subjects who declare a belief equal to their actual choice (see section 3.2).

A second aspect of our design that needs consideration concerns the way we contacted association members – namely, through announcements at association meetings. One may wonder if the supposition that subjects were recruited for their status of association members might have distorted their behaviour in the experiment. However, we believe that this risk is minimal. First, as reported in section 2.1, during the recruitment announcement we never mentioned that the research would focus on association members. All subjects received the following general information: "Residents in the province of Parma or in neighbouring provinces contacted by us or by other people who collaborate in the project will be invited to take part in the research". Both members and non-members were recruited following strictly the same recruitment script. Second, in the out-group treatment one's association membership was never recalled during the experimental

procedures. The sessions where members participated comprised people coming from several different associations, so that most of them would, with high probability, neither be acquainted with each other nor be aware of the associational status of other participants. That subjects in the out-group treatment thought that they were unacquainted with other participants is also confirmed by answers to a question included in the post-experiment questionnaire. We asked subjects to state whether they thought that they knew personally people present in the other room. Around 93% (59%) of members participating in the out-group (in-group) treatment answered negatively to such question. This difference is statistically significant (Mann-Whitney test: $P<0.001$). This confirms that members had a clearly different perception of the in-group and out-group treatments. Finally, if the pure subjects' membership status mattered we should expect to find a sizable in-group effect, because in the in-group treatment subjects' membership was explicitly recalled and made salient, contrary to the out-group treatment. On the contrary, in-group effects are not significant in our experiment (Degli Antoni and Grimalda, 2013).

3. Results

3.1 Amount sent, amount returned and beliefs – descriptive statistics

The variables of main interest in the empirical analysis are:

- The amount sent by the Sender, which we call *Amount sent*. This can be any multiple of 5€ from 0€ to 25€.
- The amount returned by the Receiver. We normalise this variable to the [0,1] interval by dividing it by the maximum possible amount that Receivers may return. Hence we call this variable *Return rate*. Recall that the Receiver could send back any amount ranging from a minimum of zero up to a maximum given by the sum of the 25€ endowment and twice the amount sent to her by the Sender. In formulas, $Return\,Rate_A = \frac{Return}{25+2*A}$; $A = \{0, 5, \ldots, 25\}$. Returns were allowed up to the first decimal digit.

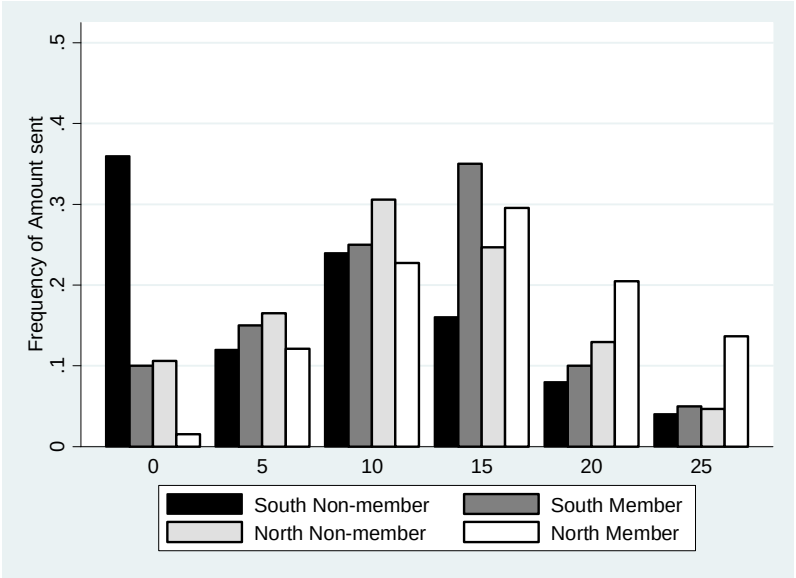
- The belief over the Receiver's return rate, given the Sender's actual transfer. The elicited variable was the total Receiver's return, but, analogously to the *Return rate*, we normalise this variable to the [0,1] interval dividing it by the maximum possible amount that the Receiver may return. We call this variable *Return rate exp.*[6]
- The belief over the amount sent by the Sender, which we call *Amount sent exp*.

Members' amounts sent and return rates are higher than non-members', both in the out-group and in-group treatments (see Table 2 for descriptive statistics and Table 4, column 1 and Table 5, column 1 for the econometric estimates; this result is fully documented and discussed in Degli Antoni and Grimalda, 2013). Moreover, people from Italy's South show lower levels of trust and trustworthiness than people from Italy's North (see Table 2 for descriptive statistics and Table 4, column 1 and Table 5, column 1 for the econometric estimates). This is in line with the evidence reported in the Introduction. Figure 1a-b reports histograms for *Amount sent* broken down by region of origin (South vs. North), membership status and treatment. Non-members born in the South stand out as being the group of people sending nothing with the highest frequency. Conversely, members born in the North are the group sending the largest amounts. Figure 2 reports the mean return rate for each of the possible transfer levels, broken down as above. Southern non-members are the only group who on average return *less* than the amount needed for the Sender to break even for any transfer level above 0€. Members born in the North are the group who returns the highest share of their endowment. Moreover, in both treatments Southerners expect less from their counterpart both when acting as Senders and when acting as Receivers (see Table 2).

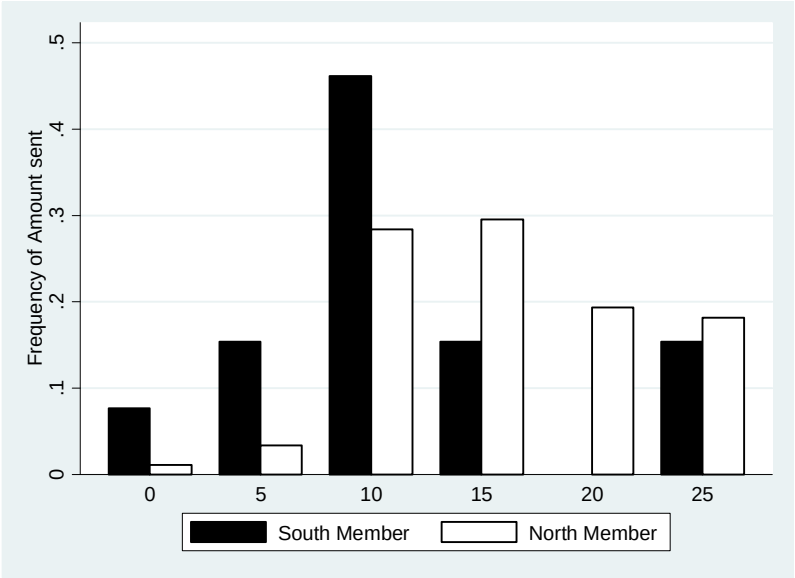
[6] Note that we did not elicit the returned amount for all the six possible transfer levels, but only for the amount actually sent by the Sender. Eliciting the whole range of beliefs would have of course been interesting. However, we felt that this would have required too long a time and too big a cognitive effort for our adult sample, especially considering belief elicitation occurred towards the end of the session

Figure 1. Histograms for *Amount sent* by treatment, membership status, and region of origin

Panel (a): Histograms for *Amount Sent* in out-group treatment



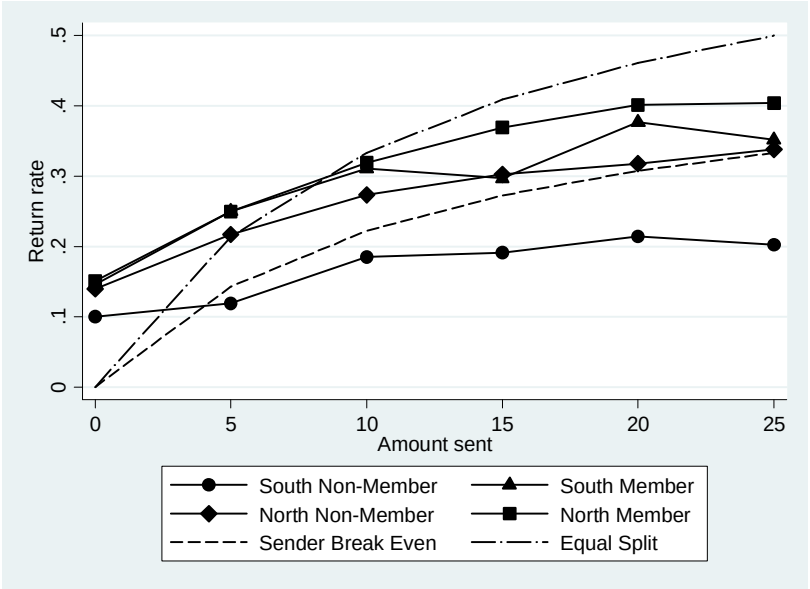
Panel (b): Histograms for *Amount Sent* in in-group treatment–



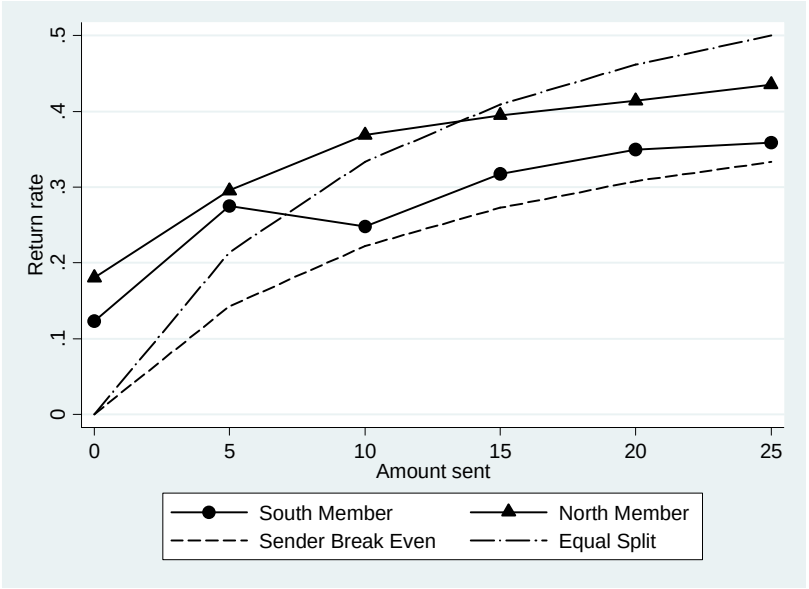
Notes: Histograms for *Amount sent* are reported for subjects participating in the out-group treatment (panel a) and in the in-group treatment (panel b). Panel a reports the relative frequency of *Amount sent* for non-members from Italy's Southern regions (black bars), members from Italy's Southern regions (dark grey bars), non-members from Italy's Northern regions (light grey bars) and members from Italy's Northern regions (white bars). Panel b reports the relative frequency of *Amount sent* for members from Southern regions (black bars), and members from Northern regions (white bars).

Figure 2. Mean *Return rates* by treatment, membership status, and region of origin

Panel (a): *Return rates* in out-group treatment



Panel (b): *Return rates* in in-group treatment



Note: Figure 2 reports mean return rates for each possible levels of *Amount sent* for subjects participating in the out-group treatment (panel a) and in the in-group treatment (panel b). Panel a reports mean return rates for non-members from Italy's Southern regions (line marked with circles), members from Italy's Southern regions (line marked with triangles), non-members from Italy's Northern regions (line marked with diamonds) and members from Italy's Northern regions (line marked with squares), who participated in the out-group treatment. Panel b reports mean return rates for members from Southern regions (line marked with circles), and members from Northern regions (line marked with triangles), who participated in the in-group treatment. The two dashed lines line represent two relevant hypothetical responses by the Receiver. The short dashes line denotes the "Sender Break Even" return rate, i.e. the return rate that makes the amount returned equal to the Sender's amount sent. The long dashes line identifies the "Equal Split" return rate, i.e. the return rate that would allow sender and responder to end up with equal payoffs.

Table 2
Descriptive statistics per experimental condition, membership type and region of origin

		Amount sent		*Average return rate*		*Return rate exp*		*Amount sent exp*	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
In-group	*Member*	15.229 (6.062) [109]	15	0.338 (0.173) [109]	0.317	0.344 0.180 [107]	0.333	14.346 (6.555) [107]	15
Out-group	*Member*	14.448 (6.457) [154]	15	0.313 (0.153) [154]	0.295	0.308 (0.182) [154]	0.286	12.646 (5.690) [154]	10
	Non-member	10.649 (6.557) [77]	10	0.253 (0.194) [77]	0.242	0.295 (0.279) [76]	0.279	11.513 (6.929) [76]	10
In-group	*South*	11.538 (7.183) [13]	10	0.279 (0.164) [13]	0.224	0.219 (0.180) [12]	0.162	10.417 (6.557) [12]	10
	North	15.852 (5.980) [88]	15	0.345 (0.176) [88]	0.319	0.358 (0.177) [87]	0.333	15 (6.470) [87]	15
Out-group	*South*	9.667 (7.339) [45]	10	0.218 (0.131) [45]	0.213	0.220 (0.197) [45]	0.182	8.889 (5.424) [45]	10
	North	13.456 (6.635) [217]	15	0.297 (0.172) [217]	0.287	0.313 (0.175) [215]	0.286	12.803 (6.149) [216]	10

Standard deviations in curved brackets and sample size in squared brackets. *Average return rate*: arithmetic average of the six return rates.

3.2. Beliefs on Senders' and Receivers' decision

We first run some Mann-Whitney (MW) tests over the null hypothesis that beliefs by members and non-members come from the same distribution. All the tests are two-tailed. The tests fail to reject the null for both expected returns ($z = -0.726$; $p= 0.47$) and expected amounts sent ($z = -1.591$; $p=0.11$). We also run MW tests over the null hypothesis that beliefs by association members differ in the in-group and out-group treatment. The null is in this case rejected for expected amounts sent ($z=-2.111$; $p= 0.035$) and, albeit weakly, for expected returns rates, too ($z = -1.842$; $p= 0.065$). Hence, association members correctly anticipate the higher trust and trustworthiness levels of their fellow members compared to the general population.

The same results are obtained in the econometric analysis. We fit a Tobit model to analyse beliefs over Receivers' return rate (see Table 3, column 1):

$$\textit{Return rate exp}_i^* = \gamma_0 + X'_i\delta + \theta_i \quad (1)$$

$$\textit{Return rate exp}_i = \begin{cases} 1 & \text{if } \textit{Return rate exp}_i^* \geq 1 \\ \textit{Return rate exp}_i^* & \text{if } 0 < \textit{Return rate exp}_i^* < 1 \\ 0 & \text{if } \textit{Return rate exp}_i^* \leq 0 \end{cases} \quad (2)$$

Eq. (1) describes the model we used to explain the latent variable *Return rate exp$_i$**, which is an individual's expectation over the amount returned by her counterpart. The index *i* denotes the individual. X_i represents a wide array of explanatory variables, commented below, reported in Table 3, and described in Appendix A. δ is a vector of parameters of interest. θ_i is an individual-specific error term. Eq. (2) describes the censoring rules for *Return rate exp$_i$*, which is the variable we observe. The censoring values are zero (lower limit) and one (upper limit). Note that the upper limit equals the total possible amount that the Receiver may return, given the amount sent by the Sender, divided by the Receiver's total endowment.

We fit an ordered logit model to the expectation of the amount sent by the Sender (see Table 3, column 2). This is appropriate given the discrete nature of this variable. We define *Amount sent exp** as a Sender's unobservable latent expectation on the amount sent by the counterpart. The mapping between *Amount sent exp** and the variable we observe, *Amount sent exp*, is then given by:

$$\textit{Amount sent exp}_i^* = X'_i\beta + \varepsilon_i \quad (3)$$

$$\textit{Amount sent exp}_i = k \text{ if } m_{k-1} < \textit{Amount sent exp}_i^* \leq m_k,\ k=0,\ldots,K \quad (4)$$

The index *i* denotes the individual. X_i is a vector including a constant term and the same control variables used in the econometric model fitted to *Return rate exp* (see the above description of equation 1). β is the vector of parameters of interest, and ε_i is the error term, assumed to be distributed according to a standardised Logistic distribution $\varepsilon_i \sim Logistic(0,1)$. The index *k* represents the discrete possible belief declarations on the amount sent and *K* the total number of categories. In our experiment, K=6. m_k are the (unobservable) cutoff points in the domain of *Amount sent exp$_i$** at

which the individual desires to switch to a higher *Amount sent exp*$_i$. We make the usual normalisation, $m_{-1}=-\infty$, $m_0=0$, and $m_k=+\infty$.

In both models, the explanatory variable *Member* (a dummy variable taking the value of 1 for members) is interacted with dummies identifying the treatment conditions. *Member_X_in* (*Member_x_out*) is thus *Member* interacted with the in-group (out-group) condition. The model includes a dummy identifying dropouts, so the residual category in the model is never-members.

Table 3

Tobit analysis of beliefs over *Return rate* and ordered logit analysis of beliefs over Sender's *Amount sent*

Dependent variable	*Return rate exp*	*Amount sent exp*
	(1)	(2)
Member_X_in	0.0453	0.986***
	(0.0315)	(0.364)
Member_x_out	-6.73e-05	0.257
	(0.0280)	(0.320)
South	-0.121***	-1.083***
	(0.0313)	(0.288)
Dropout	-0.0337	-0.200
	(0.0490)	(0.444)
Gender	-0.0152	-0.645***
	(0.0235)	(0.244)
Age	0.00260	0.0422
	(0.00591)	(0.0541)
Age squared	-2.09e-06	-0.000479
	(6.74e-05)	(0.000604)
Income_dissat	-0.00900	-0.643**
	(0.0299)	(0.313)
Town_size	-0.00397	-0.0217
	(0.0214)	(0.225)
Bachelor's_degree	0.0205	0.287
	(0.0335)	(0.392)
Upper_secondary	0.0338	0.568*
	(0.0291)	(0.344)
Retired	-0.0631	-0.00177
	(0.0440)	(0.412)
Unenmployed	0.0713	-0.322
	(0.0774)	(0.721)
Family_unit	-0.0113	-0.130
	(0.00686)	(0.0867)
Single	-0.0398	-0.399
	(0.0305)	(0.297)

Table 3 (continued)

Only_child	-0.0210	0.0923
	(0.0240)	(0.276)
Believer	-0.00509	-0.462
	(0.0245)	(0.291)
Practicing_Catholic	0.0421*	0.555*
	(0.0246)	(0.291)
Divorced	-0.00846	0.595
	(0.0655)	(0.889)
Health_sat	0.0204	0.246
	(0.0178)	(0.160)
Risfin	0.00687	0.0251
	(0.00458)	(0.0466)
Mistakes	0.00833	0.202**
	(0.00927)	(0.0871)
Experimenter	0.0658***	0.533**
	(0.0206)	(0.220)
Constant	0.0937	
	(0.158)	
Observations	318	319
F	2.258	
R^2 *adj.*		0.0654

Note: Table 3 reports the regression results for the Tobit model put forward in equation (1) and (2) relative to the expectation on *Return rate*, (Column 1), and for the ordered logit model put forward in equations (3) and (4) relative to the expectation on *Amount Sent.* The censoring values for *Return rate exp* are 0 and 1. The possible levels of *Amount sent exp* are all multiple of 5 from 0 to 25. Constants and cutoff points have not been reported. Standard errors robust to heteroschedasticity are reported in parenthesis.*** p<0.01, ** p<0.05, * p<0.1

In both regressions there is no significant effect of *Member_x_out*, which means that non-members and members involved in the out-group treatment did not have significantly different beliefs over others' actions. A Wald test carried out on the difference between *Member_x_in* and *Member_x_out* coefficients rejects the null hypothesis that the two coefficients are the same both in the regression over expected amount sent (β=0.729; p=0.005; see Table 3, column 2) and, albeit weakly, in the regression on expected amount returned (β=0.045; p=0.065; see Table 3, column 1). Hence, members correctly anticipated that fellow members would be more trusting than people from the general population, and, albeit weakly so, more trustworthy.

We conclude:

Result 1: *Members participating in the out-group treatment and non-members have no significantly different beliefs over either Senders or Receivers' actions.*

We replicate the above analyses to test for differences in beliefs between people from Italy's South and North. All tests and statistical analysis are concordant in that Southerners expect systematically less from their counterparts than Northerners. MW tests reject the null hypothesis that Southerners' beliefs come from the same distribution as Northerners' ones for both expected return rates ($z = 4.321$, $p<0.001$) and amounts sent ($z = 4.326$, $p<0.001$). This holds true both if Southerners belong to associations ($z = 3.529$, $p<0.001$ for expected returns; $z = 2.901$; $p=0.004$ for expected amounts sent) and if they do not belong ($z = 2.321$; $p=0.02$ for expected returns; $z = 2.922$; $p= 0.004$ for expected amounts sent). Finally, the variable *South* has a strongly negative effect in regressions in Table 3.

We conclude:

Result 2*: People born in the South of Italy expect their counterpart to return significantly less when they act as Senders and to send significantly less when they act as Receivers than people born in the North.*

Among the demographic controls (see Appendix A for a description of control variables included in the regressions), women (*Gender*) and people who are particularly dissatisfied with their financial situation (*Income_dissat*) have lower expectations over others' amount sent. People having attained upper secondary school diplomas have higher expectations over *Amount Sent* than people with lower educational attainment, albeit at weak significance levels (see Table 3, column 2). Subjects who attend religious services at least once a month have (weakly) higher expectations both over others' amount sent and over others' return rate in comparison with people attending religious

services less frequently or never (see Table 3, columns 1 and 2). Among the control variables, we also notice a significant effect of a dummy variable identifying one of the two experimenters who conducted the sessions (see Table 3, columns 1 and 2). We call this dummy *Experimenter*.[7] In order to check whether the *Result 1* and *2* reported above are caused by a specific experimenter effect, we interact this dummy variable with the two variables of interest in our analysis (*South* and *Member_x_out*) in two separate regressions. We find no significant effects of such interacted terms in predicting the two expectations measures, apart from a weak effect (p=0.085) of the interacted term of *Experimenter* with *South* in predicting *Amount sent exp* (not reported; estimates results are available upon request). [8] We thus conclude that *Experimenter* has a significant impact on the level of the expectation measures, but not on the slope of either *Member_x_out* or *South* – apart from the above mentioned exception. This ensures that the result we found for *Member_x_out* and *South* are not driven by which experimenter conducted the session. Moreover, we also note that *Experimenter* does not exert effects in the ensuing regressions of Tables 4 and 5, once expectations measures are included in the model (see section 3.3). As for the false consensus effect (see section 2.2), *Member_x_out* is never significant with respect to Result 1 and *South* is always significant at least at the 5% level with respect to Result 2 in regressions introducing as control variables the amount sent and returned by subjects, or a dummy variable identifying subjects who have an expectation equal to their choice (not reported).

Thus far we have established the extent to which beliefs differed between members and non-members, and between Southerners and Northerners. But we still do not know whether differences exist in the *accuracy* of their beliefs. Uslaner (2002) finds that optimism is a characteristic trait of

[7] We were surprised to find this effect, because both experimenters strictly followed the same written protocol and gave instructions according to an identical written script (SOM: section III). The experimenters had observed each other while conducting a pilot session prior to the beginning of the research, in order to level out differences in their style in conducting the sessions. An external observer had found no relevant differences between the two experimenters' conducting styles in the pilot.

[8] P-values of the interacted terms between *Member_x_out* and *Experimenter* when the dependent variables are *Return rate exp* and *Amount sent exp* are equal to p=0.382 and p=0.962 respectively; the p-value of the interacted term between *South* and *Experimenter* when the dependent variable is *Return rate exp* is equal to p=0.159.

high-trusting people in the sample he analyses. Yamagishi (2001) discusses the conjecture that trusting people may be no more than gullible people, inclined to erroneously put faith in others. We want to analyse the extent to which association members are indeed more optimistic and less accurate in their beliefs than others, and we carry over the same analysis to subjects' geographical provenance.

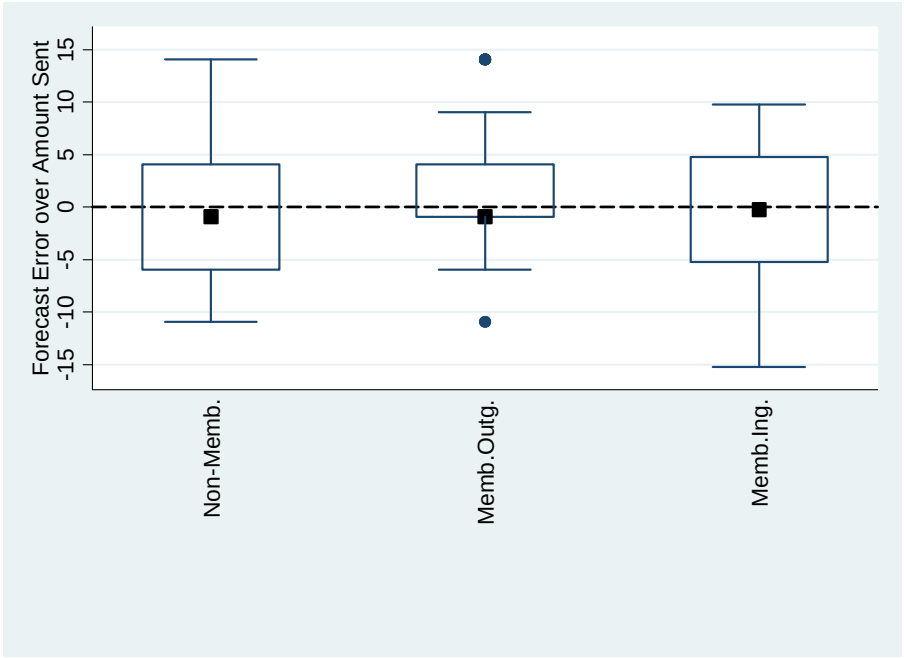
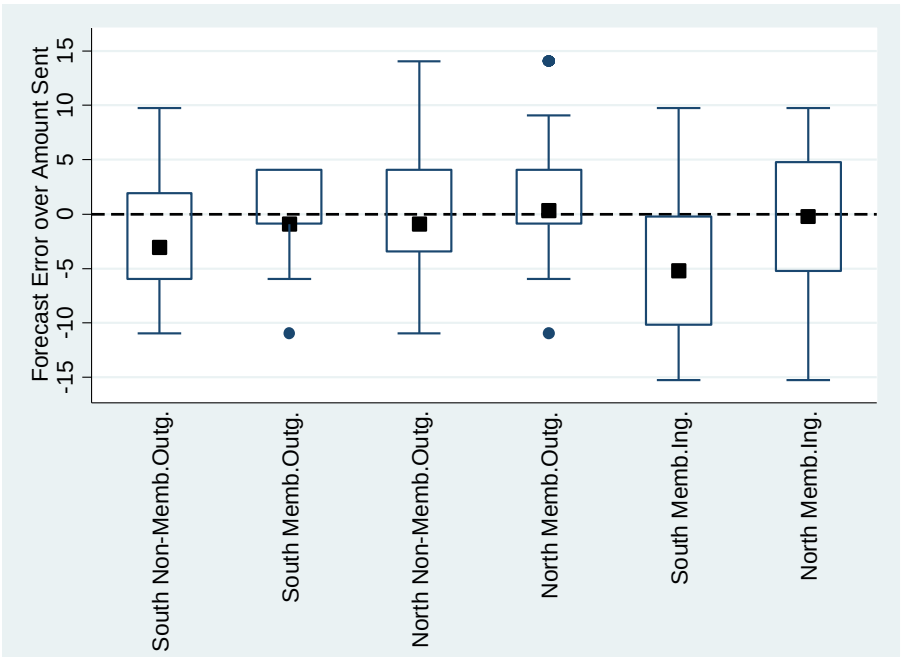
In order to do this, we construct a set of measures of forecast errors (FE) given by the difference between a subject's expectations over the counterpart's action and the average behaviour actually observed in the experiment for the corresponding action. That is, we define FE for an agent *i* with respect to action *k* as $FE_i^k = E_i(x_k) - \bar{x}_k$, where $E_i(x_k)$ is subject *i*'s expectation over a certain action *k*, $\bar{x}_k$ is the average value of action *k* observed in the experiment,[9] and FE_i^k is thus the forecast error. In the rest of analysis we define as "optimists" ("pessimists") people having an $FE>0$ ($FE<0$).[10] We also consider the absolute value of FE, which gives the magnitude of the error regardless of its sign.

We start focussing on differences between association members and non-members. Figures 3 through 5 report FE over Senders' actions (Figure 3), and Receivers' actions (Figures 4 and 5) broken down by membership status and treatment in Panels a, and additionally by region of origin in Panels b. FE over Receivers' actions are weighted averages of FE for expectations over each of the possible transfer levels in Figure 4. Figure 5 considers FE with respect to each possible level of *Amount sent*.

[9] For subjects involved in the out-group treatment, we take a weighted average of actions by members and non-members. The weights reflect the actual relative number of association members over the total population in the province of Parma. According to ISTAT (9th Census industry and services and non-profit institutions in 2011, http://dati-censimentoindustriaeservizi.istat.it/), 11.21% of Parma residents are active voluntary members of some associations.

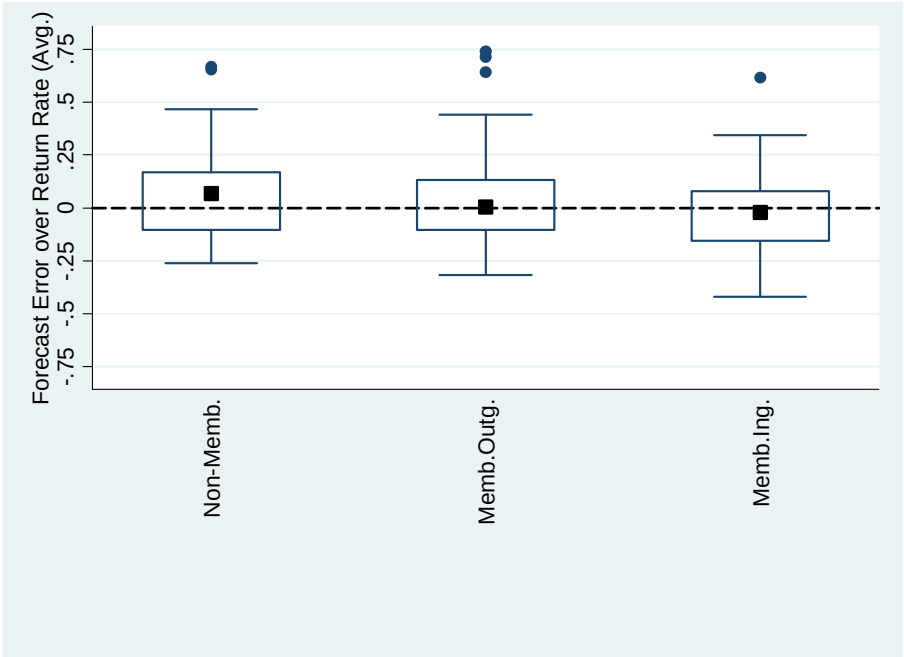
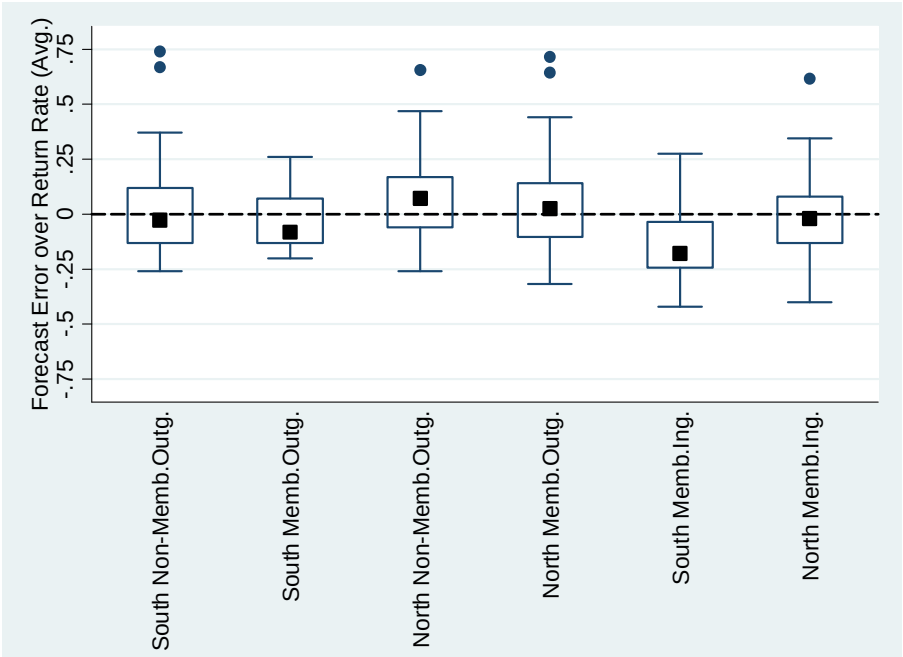
[10] Our definition of "optimism" is based exclusively on the comparison between one's own belief over others' behaviour and others' actual behaviour. We do not take into account alternative notions of "optimism" used in the literature such as over-confidence and expectation of favourable outcomes in random events (e.g. Deaux and Farris, 1977; Lichtenstein *et al.*, 1982; Lundeberg *et al.*, 1994).

Figure 3. Box plots for error forecasts over *Amount sent*, by treatment, membership status, and region of origin

Panel (a): Forecast errors by membership status and treatment	Panel (b): Forecast errors by membership status, treatment, and region of origin
	

Note: Figure 3 reports box plots for forecast errors over *Amount sent*. Forecast errors are defined as a subject's expectation over her counterpart's action and the average action observed in the experiment, suitably weighted. A value of zero for the forecast error (represented with a dashed line in the graphs) means that a subject's expectation coincides with the average behaviour observed in the experiment. A positive (negative) value for the forecast error means that the subject's expectation exceeded (fell short of) the average behaviour observed in the experiment. We called subjects with positive (negative) forecast errors "optimistic" ("pessimistic"). Panel (a) reports box plots for non-members (labelled *"Non-Memb."*), members involved in the out-group (labelled *"Memb.Outg."*), and members involved in the in-group treatment (labelled *"Memb.Ing."*). Panel (b) reports box plots further disaggregating the former categories according to whether a subject was born in Southern Italy (label begins with *"South"*) or Northern Italy (label begins with *"North"*). The box upper (lower) hinge identifies the 75th (25th) percentile. The square inside the box identifies the median of the distribution. The upper (lower) whiskers departing from the box identify the upper (lower) adjacent values. The circles lying above or under the hinges identify outside values.

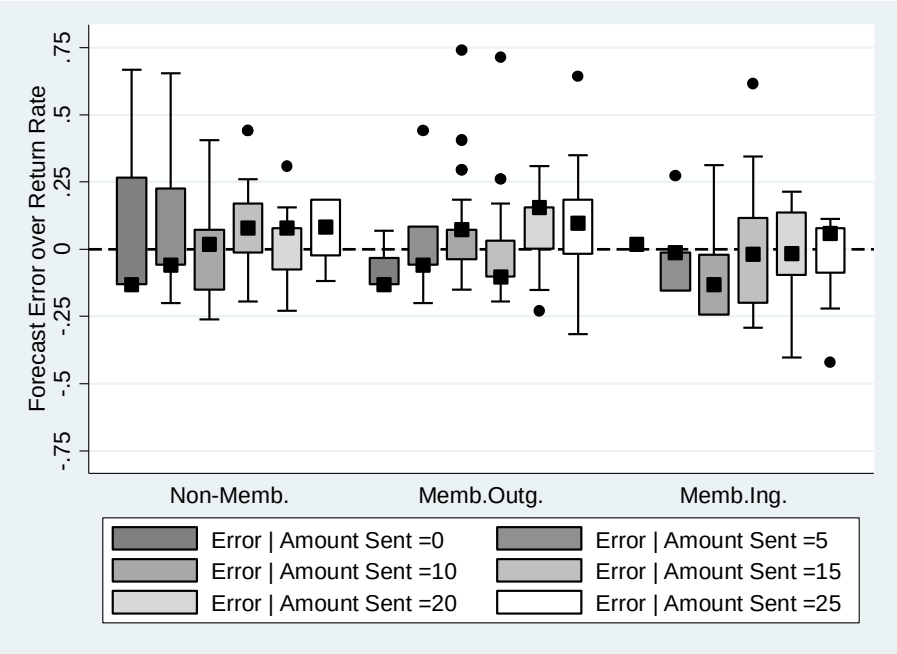
Figure 4. Box plots for error forecasts over *Return rate* (average value), by treatment, membership status, and region of origin

Panel (a): Forecast errors by membership status and treatment	Panel (b): Forecast errors by membership status, treatment, and region of origin
	

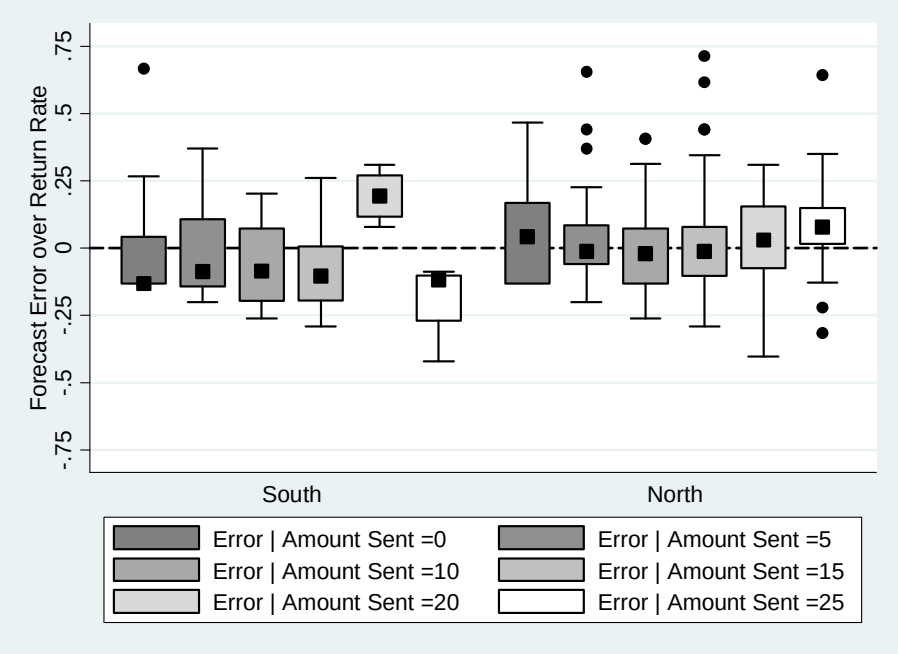
Note: Figure 4 reports box plots for forecast errors over *Return rate*. See note to Figure 3 for a definition of Forecast Error. We considered the average value of the forecast errors over *Return rate*. This is a weighted mean of all forecast errors, with weights given by the proportion of subjects who actually sent a certain amount *A={0, 5, 10, 15, 20, 25}* when acting as Sender. This weighting is a natural choice because we only elicited expectations over the return rate associated with the subject's actual amount sent. Panel (a) and (b) plot forecast errors broken down into the same groups as Figure 3. See Note to Figure 3 for a general description of a box plot.

Figure 5. Box plots for error forecasts over *Return rate* (for any possible levels of *Amount sent*), by treatment, membership status, and region of origin

Panel (a): Forecast errors per *Amount sent* by membership status and treatment



Panel (b): Forecast errors per *Amount sent* by region of origin



Note: Figure 5 reports box plots for forecast errors over *Return rate*. See Note to Figure 3 for a definition of Forecast Error. Panel (a) and (b) plot forecast errors for each of the possible six levels of *Amount sent A={0, 5, 10, 15, 20, 25}* from left to right. In panel (a) forecast errors are broken down into the same groups as in Figure 3. In panel (b) they are broken down into subjects from Italy's Southern regions and from Italy's Northern regions. See Note to Figure 3 for a general description of a box plot.

We notice that the median value for each of these measures is close to zero for both non-members and members, suggesting that there have not been systematic differences in FE across membership status (Figures 3 through 5, Panel a). This is confirmed by a series of MW tests conducted on the null hypothesis that the errors for non-members and members involved in the out-group treatment come from the same distribution. We perform seven tests, of which one concerns the expectation over the amount sent by the Sender, and six tests concern the expectation over the Receiver's action, given the amount sent. The null hypothesis is only rejected in the test for expected returns when 15€ are sent ($z=2.709$, $p<0.01$), and in that case it is non-members having more optimistic expectations than members.[11]

MW tests over the absolute value of the error reject the null hypothesis for beliefs over Senders' actions ($z=2.408$; $p<0.02$). In this case, members are significantly *more* accurate than non-members. Tests never reject the null for beliefs over return rates. Finally, tests conducted on the absolute FE fail to reject the hypothesis that members are more accurate in the in-group treatment (where only members are involved) than in the out-group treatment. We conclude:

Result 3a: *There is no significant difference between members and non-members in predicting Receivers' behaviour, while members are more accurate in predicting Senders' behaviour.*

Result 3b*:Members are no less accurate in predicting behaviour of people from the general population than in predicting behaviour of other association members.*

We also conduct a series of sign tests and Wilcoxon signed-rank tests over the null hypotheses that the median FE is equal to zero, and that the observations come from a distribution degenerate in

[11] In this case, the mean (median) forecast error by non-members is 4.51 (4.27), while it is -1.30 (-5.27) for members. Among the other tests being conducted, the test for the FE over Senders' behaviour is close to significance ($p= 0.11$). In this case, the number of people committing a positive error is approximately the same as those committing a negative error for both members and non-members (47% and 42% of members and non-members, respectively, commit a positive error), and the median of the two distributions is identical. However, pessimistic non-members tend to make larger mistakes than pessimistic members, as can be seen in Figure 3a. All tests are available upon request by the authors.

zero, respectively. This enables us to examine, respectively, (a) whether the number of optimists and pessimists is approximately the same within each sub-sample, and (b) whether the biases by optimists and pessimists are approximately equal to each other. The sign tests will reject the null if the number of "optimists" is significantly different from the number of "pessimists". The signed-rank test also takes into account the absolute value of the observations under a hypothesis of symmetry of the distribution generating the observations, so that the null is rejected if the bias by either optimists or pessimists is significantly different from the bias of the other group. As far as non-members are concerned, the sign tests never reject the hypothesis that the number of optimists differ from the number of pessimists, and the size of the respective mistakes is almost always similar.[12] This is not always the case for members. Members tend to under-estimate the return rate of people from the general population when the amount sent is equal to 15€ ($p<0.01$) and to over-estimate it when large amounts are sent (20€ - $p<0.01$ - and 25€ - $p=0.044$).[13] This feature is also apparent in Figure 5a.

We conclude:

Result 4*: Optimists and pessimists are present in similar numbers among non-members and their biases are similar. Conversely, we find instances of "excessive optimism" in Sender members for large amounts sent (20€ and 25€) and excessive pessimism when 15€ are sent when they interact with people from the general population.*

The replication of the analysis with respect to regional differences reveals a significant bias towards pessimism for Southerners. Southern non-members appear to commit sizable errors in that

[12]Only in one case do optimist and pessimist non-members commit significantly different mistakes, albeit at weak significance levels. This occurs for the FE over Receiver's return rate for transfer level equal to 10 ($z=1.713$; $p=0.09$).

[13] In these three cases, the signed-rank test rejects the null hypothesis, too. The z-statistics and p–values for the signed-rank tests are $z=-2.385$, $p=0.02$; $z=3.08$, $p=0.002$; $z=2.169$, $p=0.03$ for transfers equal to 15, 20, and 25€, respectively. The signed-rank also rejects the null for transfers equal to 10€ relative to members ($z=1.931$; $p<0.06$). This signals a weak tendency for optimist members to commit larger errors than pessimist members.

they *under-estimate* others' trust (Figure 3b), and are persistently more pessimistic than Northerners in estimating others' trustworthiness, with the only exception of the *Amount sent* equal to 20€[14] (Figures 4b and 5b). Interestingly enough, errors by Southern members are larger in the in-group treatment than in the out-group treatment with respect to both expectations over *Amount sent* (Figure 3b), and *Return rate* (Figure 4b). According to the sign test, the number of pessimists (43) clearly exceeds the number of optimists (14) for Southerners. The null hypothesis of an equal distribution of optimists and pessimists is rejected at less than the 1% level. Moreover, being involved with associations does not seem to help Southerners to improve their optimism in others' behaviour, as the same null is rejected for both members ($p<0.01$) and non-members ($p<0.05$) from the South. Signed-rank tests restricted to Southerners mirror these results. They reject the null hypothesis both in the whole sample ($p<0.01$), and breaking down the sample into Southerners belonging to associations ($p<0.01$) and not belonging to an association ($p<0.02$). Finally, MW tests always strongly reject the null that the distribution of FE is the same for Southerners and non-Southerners, both in the aggregate and separately for members and non-members ($p<0.01$ in all three tests). Southerners' forecasts are in fact significantly more inaccurate than Northerners' for return rates ($z = 4.118$; $p<0.001$), while they are not for amounts sent ($z = -0.133$; $p = 0.89$). We conclude:

Result 5: *Southerners hold significantly more pessimistic expectations than Northerners, both for return rates and sending rates. This results in significantly larger errors than Northerners with respect to return rates.*

[14] We only have expectations for Southerners participating in the out-group in relation to *Amount sent* equal to 20€, because no Southerner participating in the in-group sent 20€. Since Southerners turn out to be particularly pessimistic in the in-group treatment (Figure 3b and 4b), it is likely that this exception would be offset had we observed Southerners sending 20€ in the in-group treatment.

3.3. The role of beliefs in explaining the level of trust and trustworthiness

We now come to the main question of this paper. What is the role of expectations in accounting for trust and trustworthiness? We fit the following ordered logit model to analyse the amount sent:

$$Amount\ sent_i = \alpha_0 + \alpha_1 Amount\ sent\ exp_i + \alpha_2\ Return\ rate\ exp_i + \alpha_3\ Return\ rate_i + X'_i\beta + \varepsilon_i \quad (5)$$

where X_i is the same set of explanatory variables used in previous regressions, β and ε_i have the same meaning as in equation (3), and the cutoff points for (5) have the same functional form as in (4).

The econometric analysis of the return rate is based on the following Tobit model with random effects:

$$Return\ rate_i\ ^* = \gamma_0 + \gamma_1\ Amount\ sent_j + \gamma_2\ (Amount\ sent_j)^2 + \gamma_3\ Amount\ sent\ exp_i + \gamma_4\ Return\ rate\ exp_i + X'_i\delta + \vartheta_i + \theta_{ai} \quad (6)$$

$$Return\ rate_i = \begin{cases} 1 & \text{if } Return\ rate_i^* \geq 1 \\ Return\ rate_i^* & \text{if } 0 < Return\ rate_i^* < 1 \\ 0 & \text{if } Return\ rate_i^* \leq 0 \end{cases} \quad (7)$$

Eq. (6) describes an individual's trustworthiness, i.e. her latent propensity to reward trust. This is modelled as a function of $Amount\ sent_j$ (the index *j* denotes the individual with which individual *i* is matched), the same background characteristics used above and a vector of parameters δ. Finally, ϑ_i *and* θ_{ai} are an individual-specific and an idiosyncratic error term, respectively. The quadratic form in $Amount\ sent_j$ is added to capture possible non-linearities in the way trustworthiness respond to the amount received (Bellemare and Kröger, 2007). Eq. (7) describes the censoring rules that force

responders with either extremely low or extremely high trustworthiness to return a rate of zero or one, respectively, with positive probability.

The analysis on Senders' actions reveals that the significant effect of members over the amount sent persists even when beliefs are included in the analysis (see Table 4, columns 2-4). Both beliefs have a significant effect on the amount sent. Hence, expecting the Receiver to return more leads to a higher amount sent. This supports the idea that the choice of how much to send was at least in part seen as a financial investment. The beliefs over what others would do in a similar situation also increase the amount sent, thus confirming the importance of social norms in conditioning individual behaviour (Bohnet and Baytelman, 2007). However, the effect of membership over the amount sent is not affected by the introduction of belief measures, and, if anything, it increases slightly. Interestingly, the effect of membership is strongly significant even when members are paired with people from the general public and both measures of beliefs are introduced ($p<0.01$; see Table 4, column 4). This supports the view that members have an intrinsic *taste* for relying on others. Similarly to Sapienza et al. (2013), we also introduce in the analysis a measure of pro-social behaviour for individuals. This is taken by the decisions over how much to return to a Sender when individuals acted as Receivers. Cox (2004) shows that this variable is partly determined by altruism, partly by a desire to reciprocate Senders' trust. It thus offers an estimate of important aspects of pro-social preferences. This variable averages the six return rates indicated by the subject when acting as Receivers (elicited through the strategy method). We call it *Average return rate*. Such a variable is a strongly significant predictor of the amount sent ($p<0.01$; see Table 4, column 5). Both coefficients for *Member_X_in* and *Member_X_out* decrease, and *Member_X_out* partly loses statistical significance ($z=2.19$, $p= 0.028$). However, they still remain significant, showing that the pro-sociality attitudes captured by *Average return rate* do not completely account for trusting behaviour of members when they act as Senders. Regression 6 includes both belief measures and the pro-sociality measure based on the amount returned when acting as a Receiver. It also includes, as the other regressions, a survey measure of willingness to take financial risks (*Risfin*). This has

proved to be a reliable measure of risk aversion (see Dohmen *et al*., 2011), and it has been demonstrated to correlate strongly with an experimental measure of risk aversion in a cross-section of the German population (Fehr *et al.*, 2003). All these variables, apart from *Return rate exp*, have a significant independent effect in accounting for trusting behaviour (see Table 4, column 6). That pro-sociality and beliefs have an independent effect on experimental trust confirms Sapienza *et al.*'s (2013) results, though in our case beliefs over other Senders' behaviour seem to have a larger impact than beliefs over the Receiver's trustworthiness. It is interesting to note that even in this case there is a significant residual effect of *Member_x_out* and *Member_X_in* on *Amount sent*.

A similar result on members' behaviour also holds when we analyse Receivers' actions controlling for their beliefs. Members appear to send back significantly more than others, even after controlling for their beliefs ($p= 0.014$ for *Return rate exp* and $p<0.01$ for *Amount sent_exp*) (see Table 5, columns 2-4). This holds both in the in-group and in the out-group treatments. We conclude:

Result 6: *Beliefs over others' behaviour do not completely explain the higher level of trust and trustworthiness shown by members. Moreover, a measure of individuals' pro-sociality which mainly proxies altruism and reciprocity has an effect on the amount sent independent from beliefs, but it only partly account for members' higher amount sent.*

On the contrary, the introduction of beliefs into the regressions does change the predictive power of the variable *South*. As can be seen in both Tables 4 and 5, *South* is strongly significant when beliefs are not included in the regression. However, after controlling for beliefs the difference between the amount sent and the return rate by subjects born in the South of Italy and Northerners disappears (see Table 4 and Table 5, columns 4). On the contrary, the introduction of *Average return rate* only partly accounts for the effect of *South*, as *South* keeps a marginal significant effect in Table 4, column 5 ($p=0.053$). We run Sobel-Goodman mediation tests (Sobel, 1982) to verify the

extent to which these three measures are indeed mediators for *South* onto *Amount sent*. In the first test, we consider each variable separately, i.e. we test their mediation effect excluding the other two variables as covariates. In this case, *South* results as having a strongly significant indirect effect on the amount sent through each of these variables ($p<0.01$ for all three tests; Aroian test equation being used; bootstrapped std. err. with 1000 repetitions), but the proportion of total effect that is mediated is larger for *Amount sent exp* (63%) than for *Return rate exp* (33%) and *Average return rate* (36%). If we include all three variables in the model as covariates, and we test for the mediating effect of each of them in turn, we find that only *Amount sent exp* has a significant mediating effect ($\beta= -0.92$, $p= 0.030$; proportion of total effect mediated=57%), while neither *Return rate exp* ($\beta= -0.1591$; $p= 0.28$) nor *Average return rate* ($\beta= -0.287$; $p= 0.22$) have a significant indirect effect. Interestingly, the belief on Senders' behaviour also proves to have a larger and significant mediating effect ($\beta= -.0177$; $p= 0.025$; proportion of mediated effect: 33%) than the belief on Receivers' behaviour ($\beta= -.0107$; $p= 0.123$; proportion of mediated effect: 23%) in mediating the effect of *South* on Receivers' behaviour. We thus conclude:

Result 7a: *Southerners exhibit significantly lower levels of trust and trustworthiness than Northerners in our experiment.*

Result 7b: *The lower trust and trustworthiness shown by Southerners in our experiment in comparison to Northerners can be accounted for by their belief over others' behaviour. The belief over the amount sent by Senders has the strongest mediating effect between the measures we used.*

Table 4

Ordered logit analysis of *Amount sent*

Dependent variable: *Amount sent*

	(1)	(2)	(3)	(4)	(5)	(6)
Member_X_in	1.379***	1.318***	1.082***	1.092***	1.228***	1.018***
	(0.315)	(0.329)	(0.319)	(0.322)	(0.329)	(0.328)
Member_x_out	0.786***	0.849***	0.824***	0.848***	0.650**	0.735**
	(0.299)	(0.313)	(0.310)	(0.312)	(0.297)	(0.307)
Amount returned_ exp		3.756***		1.686**		1.185
		(0.821)		(0.803)		(0.794)
Amount sent _ exp			0.237***	0.222***		0.204***
			(0.0248)	(0.0257)		(0.0267)
Average return rate					5.503***	3.313***
					(0.842)	(0.925)
Risfin	0.0967*	0.0823	0.108**	0.103**	0.134**	0.119**
	(0.0532)	(0.0503)	(0.0490)	(0.0484)	(0.0553)	(0.0503)
South	-1.092***	-0.793**	-0.681*	-0.550	-0.755*	-0.423
	(0.359)	(0.374)	(0.399)	(0.404)	(0.390)	(0.425)
Dropout	-0.243	-0.174	-0.315	-0.310	-0.131	-0.271
	(0.492)	(0.484)	(0.447)	(0.469)	(0.490)	(0.485)
Gender	-0.527**	-0.498*	-0.171	-0.188	-0.279	-0.0928
	(0.247)	(0.254)	(0.247)	(0.254)	(0.246)	(0.257)
Age	0.146**	0.141**	0.143**	0.144**	0.153**	0.147**
	(0.0696)	(0.0670)	(0.0687)	(0.0676)	(0.0651)	(0.0645)
Age^2	-0.00168**	-0.00171**	-0.00174**	-0.00180**	-0.00190***	-0.00189***
	(0.000744)	(0.000740)	(0.000747)	(0.000745)	(0.000698)	(0.000709)
Income_dissat	-0.692**	-0.776***	-0.619**	-0.635**	-0.771***	-0.672**
	(0.292)	(0.284)	(0.282)	(0.282)	(0.279)	(0.273)
Town_size	0.0652	0.0311	0.0718	0.0468	0.0547	0.0482
	(0.230)	(0.229)	(0.235)	(0.237)	(0.240)	(0.242)
Bachelor's_degree	0.389	0.318	0.236	0.254	0.509	0.386
	(0.337)	(0.344)	(0.327)	(0.330)	(0.345)	(0.335)
Upper_secondary	0.166	0.0708	-0.179	-0.158	0.0912	-0.139
	(0.285)	(0.285)	(0.284)	(0.285)	(0.285)	(0.286)
Retired	0.319	0.484	0.509	0.616	0.728**	0.803*
	(0.364)	(0.391)	(0.447)	(0.460)	(0.350)	(0.449)
Unemployed	-1.086	-1.198**	-0.896*	-0.989*	-1.059*	-0.996*
	(0.706)	(0.572)	(0.524)	(0.509)	(0.612)	(0.518)
Family_unit	-0.120*	-0.102	-0.0691	-0.0630	-0.0683	-0.0334
	(0.0715)	(0.0722)	(0.0791)	(0.0761)	(0.0898)	(0.0760)
Single	-0.442	-0.367	-0.416	-0.398	-0.363	-0.354
	(0.340)	(0.328)	(0.338)	(0.330)	(0.348)	(0.332)
Only_child	-0.0929	-0.0786	-0.182	-0.175	-0.103	-0.188
	(0.278)	(0.275)	(0.290)	(0.281)	(0.276)	(0.277)
Believer	-0.948***	-0.888***	-0.850***	-0.854***	-0.852***	-0.817**
	(0.326)	(0.311)	(0.318)	(0.313)	(0.323)	(0.318)
Practicing_Catholic	0.425	0.204	0.161	0.0999	0.281	0.0890
	(0.295)	(0.308)	(0.312)	(0.319)	(0.301)	(0.323)
Divorced	-0.215	-0.310	-0.698	-0.718	-0.576	-0.807
	(0.497)	(0.540)	(0.703)	(0.738)	(0.559)	(0.746)
Health_sat	0.0486	-0.00822	-0.151	-0.173	-0.000243	-0.163
	(0.153)	(0.164)	(0.176)	(0.180)	(0.150)	(0.176)
Risfin	0.0967*	0.0823	0.108**	0.103**	0.134**	0.119**
	(0.0532)	(0.0503)	(0.0490)	(0.0484)	(0.0553)	(0.0503)

Table 4 (continued)

Mistakes	0.0143	-0.00827	-0.123	-0.120	-0.0545	-0.151*
	(0.0731)	(0.0868)	(0.0849)	(0.0878)	(0.0789)	(0.0892)
Experimenter	0.426*	0.251	0.130	0.0625	0.249	-0.000740
	(0.221)	(0.225)	(0.226)	(0.229)	(0.226)	(0.234)
Observations	320	318	319	318	320	318
R^2 *adj.*	0.0843	0.114	0.206	0.211	0.136	0.226
chi2	94.23	113.0	165.3	161.6	131.0	176.1
df_m	23	24	24	25	24	26

Note: Table 4 reports the regression results for the ordered logit model put forward in equations (5) relative to *Amount Sent.* The possible levels of *Amount sent* are all multiple of 5 from 0 to 25. Constants and cutoff points have not been reported. Standard errors robust to heteroschedasticity are reported in parenthesis.*** p<0.01, ** p<0.05, * p<0.1. *** p<0.01, ** p<0.05, * p<0.1.

Table 5

Tobit analysis of *Return Rate*

Dependent variable: *Return rate*

	(1)	(2)	(3)	(4)
Member_x_in	0.104***	0.0915***	0.0710**	0.0702**
	(0.0337)	(0.0328)	(0.0329)	(0.0322)
Member_x_out	0.0716**	0.0721**	0.0655**	0.0672**
	(0.0301)	(0.0295)	(0.0292)	(0.0283)
Amount returned_ exp		0.304***		0.194**
		(0.0715)		(0.0788)
Amount sent _ exp			0.0109***	0.00884***
			(0.00218)	(0.00238)
South	-0.103***	-0.0709**	-0.0632**	-0.0495
	(0.0298)	(0.0339)	(0.0301)	(0.0314)
Amount sent	0.0289***	0.0293***	0.0291***	0.0293***
	(0.00196)	(0.00200)	(0.00186)	(0.00203)
Amount sent squared^2	-0.000690***	-0.000701***	-0.000695***	-0.000701***
	(5.80e-05)	(5.94e-05)	(5.65e-05)	(6.02e-05)
Dropout	-0.00248	0.000985	0.00158	0.000949
	(0.0438)	(0.0405)	(0.0408)	(0.0384)
Gender	-0.0478*	-0.0424*	-0.0245	-0.0251
	(0.0255)	(0.0229)	(0.0233)	(0.0235)
Age	0.00473	0.00426	0.00347	0.00357
	(0.00551)	(0.00526)	(0.00537)	(0.00514)
Age^2	-2.48e-05	-2.78e-05	-1.18e-05	-1.83e-05
	(5.93e-05)	(5.76e-05)	(5.94e-05)	(5.72e-05)
Income_dissat	0.0122	0.0132	0.0311	0.0287
	(0.0312)	(0.0296)	(0.0301)	(0.0288)
Town_size	0.00941	0.0111	0.00955	0.0109
	(0.0207)	(0.0194)	(0.0198)	(0.0195)
Bachelor's_degree	-0.0137	-0.0164	-0.0231	-0.0225
	(0.0331)	(0.0338)	(0.0319)	(0.0312)
Upper_secondary	0.00730	0.00171	-0.00917	-0.00893
	(0.0308)	(0.0296)	(0.0271)	(0.0267)

Table 5 (continued)

Retired	-0.0758*	-0.0549	-0.0699*	-0.0566
	(0.0415)	(0.0406)	(0.0387)	(0.0377)
Unenmployed	0.0334	0.0163	0.0450	0.0324
	(0.0616)	(0.0467)	(0.0527)	(0.0494)
Family_unit	-0.0146*	-0.0114	-0.0103	-0.00911
	(0.00804)	(0.00726)	(0.00874)	(0.00809)
Single	-0.0346	-0.0245	-0.0252	-0.0209
	(0.0250)	(0.0259)	(0.0230)	(0.0251)
Only_child	0.00230	0.00996	-0.00126	0.00460
	(0.0266)	(0.0260)	(0.0251)	(0.0254)
Believer	-0.0402	-0.0385	-0.0253	-0.0275
	(0.0254)	(0.0248)	(0.0238)	(0.0232)
Practicing_Catholic	0.0386	0.0260	0.0212	0.0170
	(0.0248)	(0.0242)	(0.0222)	(0.0231)
Divorced	-0.0126	-0.0145	-0.0348	-0.0320
	(0.0953)	(0.0818)	(0.0759)	(0.0786)
Health_sat	0.0200	0.0156	0.0116	0.00990
	(0.0175)	(0.0165)	(0.0162)	(0.0160)
Risfin	-0.00413	-0.00580	-0.00465	-0.00558
	(0.00546)	(0.00493)	(0.00504)	(0.00484)
Mistakes	0.0201**	0.0185**	0.0138*	0.0140*
	(0.00817)	(0.00811)	(0.00779)	(0.00766)
Experimenter	0.0332	0.0143	0.0148	0.00575
	(0.0211)	(0.0212)	(0.0192)	(0.0194)
Constant	-0.128	-0.178	-0.215	-0.232*
	(0.148)	(0.140)	(0.144)	(0.133)
Observations	1,920	1,908	1,914	1,908
sigma_e	0.148	0.145	0.145	0.145
sigma_u	0.163	0.155	0.151	0.148
chi2	421.4	461.0	540.3	530.4
df_m	25	26	26	27

Note: Table 5 reports the regression results for the Tobit model put forward in equations (6) and (7) relative to *Return rate*. The censoring values are 0 and 1. The latter value corresponds to the total possible amount which the Receiver may have returned, divided by the Receiver's endowment. Bootstrapped standard errors (generated in 1000 repetitions) are reported in parentheses; *** *** p<0.01, ** p<0.05, * p<0.1

4. Conclusions

Our paper analyses the effect of beliefs, risk aversion and of some preferences measures connected with altruism on the behaviour of members of voluntary associations and people from different Italian regions in a trust game experiment. Both associational membership and the population of Southern Italy have been widely studied in the recent literature on the determinants

and effect of trusting behaviour. However, we carry out the first analysis that focuses on these two categories of subjects by combining a field experiment involving subjects of different age and education levels with the elicitation of beliefs.

We show that members do not have systematically different beliefs over others' behaviour when compared with non-members. Moreover, we find that beliefs over others' behaviour significantly affect the decision of Senders and Receivers to cooperate in the TG, but they are far from accounting for the effect of members' higher trust and trustworthiness compared to non-members'. Hence, trusting and trustworthy behaviour by members must be due to different underlying preferences. We show that a questionnaire-based measure of risk aversion has some effects in accounting for Senders' behaviour. We also used the subject's average return rate to account for Senders' behaviour. It has been shown that this measure captures both altruism and reciprocity (Cox, 2004). We find that this measure has indeed a large effect in accounting for Senders' behaviour. Nonetheless, the effect of membership remains large and significant even after having added such additional controls. Other variables may have a role in accounting for members' higher pro-sociality. Other self-regarding preferences – such as ambiguity aversion – may have a role. However, it is in our view more likely that additional other-regarding preferences may be relevant. For example, Becchetti and Degli Antoni (2010) show a positive effect of social-welfare preferences (Charness and Rabin, 2002) in explaining the Senders' decision to contribute in a TG. Efficiency concerns (Engelmann and Strobel, 2004), or a specific "taste for co-operation" (Sapienza *et al.*, 2013) may also matter for Senders. On the other hand, a higher propensity to reciprocate (Rabin, 1993) or specific forms of inequality aversion (Fehr and Schmidt, 1999) could account for the behaviour of members when they act as Receivers.

We also find evidence that people from Italy's South show significantly lower trust and trustworthiness than people born in Italy's North. It is not uncommon that people relocating to a different locality display lower trust than native people. For instance, Barr (2003) finds lower levels of trust among Zimbabwean communities formed by people who chose to relocate in contrast with

traditional communities formed by community natives. We are however convinced that the result we observe in our experiment captures a behavioural difference between Italy's Southerners and Northerners. In fact, the differences we observe in our experiment are consistent with the ethnographic evidence gathered by Putnam et al. (1993. They are also quantitatively comparable to the findings by Bigoni et al. (2013), who conducted TG experiments between people born and resident in different Northern and Southern Italian locations. They find that trust is between 18% and 42% higher in Italy's Northern locations than in Southern locations, while in our experiment trust by Northerners is 39% higher than trust by Southerners (see Table 2).[15]

We show that such behavioural differences between Northerners and Southerners are due to different beliefs over others' behaviour. Southerners have significantly more pessimistic expectations over others' pro-social attitudes. Beliefs account for observed differences for both trust and trustworthiness. This result is robust to several controls. In particular, the analysis reveals a crucial role for the belief over the amount sent by Senders in mediating the differences between Southerners' and Northerners' decisions in the game. People from Southern Italian regions seem to follow a social norm prescribing "low" co-operation, even after migrating to the North. In this sense, our result is in line with Bigoni *et al.*'s (2013) empirical findings. Consistently with Putnam et al. (1993), they explain the behaviour of people from Southern Italy in terms of social norms originated from historical differences in the quality of political institutions.

Our conclusion that behavioural differences between Northerners and Southerners are essentially caused by the pessimistic beliefs of the latter is relevant for economic policy. On the basis of this finding, policies aiming at increasing generalised trust should target a change of beliefs rather than a change in preferences. In the light of recent experimental results indicating that beliefs are in general more malleable to change than preferences (Naef and Schunk 2010; Thöni *et al.*, 2012; Volk *et al.* 2012), one may think that the chances of success in overcoming Southern Italy's low

[15] We used the behaviour of participants in the out-group treatment for this comparison.

trust are higher inasmuch as they are caused by beliefs rather than preferences. Nevertheless, we do not know how long it would take to reshape people's beliefs. Subjects in our sample have lived in Northern Italy for at least one year before taking part in the experiment, and surely many of them have lived in Parma for some decades. From our experiment we can infer that beliefs have a degree of persistence of at least one year, but this may well be much longer, as also suggested in Tabellini (2010). Ascertaining the resilience of beliefs to change, even when people migrate from areas of low social capital to high social capital, should form the object of subsequent research.

Given the importance of trust and co-operation for the economic and institutional performance, our results on association members and people from the South of Italy, a wide and populated area characterized by low growth rates, deserve particular attention and pose interesting questions for further research. First, even though we ascertained that beliefs do not explain the higher level of co-operation by association members, more research should be carried out to disentangle the alternative motivational reasons that may explain this behaviour. Second, even knowing that beliefs over others' behaviour has a crucial role in explaining the low propensity to trust of people from Southern Italy, the question is still open as to what is the most effective way to alter such beliefs in order to increase trust and trustworthiness.

APPENDIX A

Table A1
Legend of control variables

Member_X_in	Product of dummy variable (DV) identifying association members and in-group treatment
Member_x_out	Product of DV identifying association members and out-group treatment
Age	Subject's age
Gender	DV taking value one (=1) if the respondent is a female
Dropout	DV=1 if the respondent had been member of an association in the past
Income_dissat	DV=1 if the answer to the questions "How well would you say that you are doing financially these days?" is "Living in a comfortable way". Other possible answers: "Living in an acceptable way"; "Barely getting by"; "It goes really badly"
Town_size	DV=1 if the town where the respondent lives has more than 100.000 inhabitants
Bachelor's_degree	DV =1 if the respondent has a university degree or higher title
Upper_secondary	DV=1 if the respondent has attained high-school diploma ("Maturità" or "Licenza" in the Italian education system) as their highest educational achievement.
Retired	DV=1 if the respondent is retired
Unenmployed	DV=1 if the respondent is unemployed
Family_unit	Number of family members
Single	DV=1 if the respondent is single
Only_child	DV=1 if the respondent is an only child
Believer	DV=1 if the respondent states s/he is not atheist nor agnostic
Practicing_Catholic	DV=1 if the respondent is a church-goer, i.e. s/he attends religious services at least once a month
Divorced	DV=1 if the respondent is divorced
Health_sat	DV=1 if the respondent declares to be very satisfied with his/her health condition
Risfin	variable measuring the general willingness of the respondent in taking financial risk (it takes integer values from 1 to 10). We used the measure of risk aversion based on a question in the survey (Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks? Please tick a box on the scale, where the value 0 means: 'unwilling to take risks' and 10: 'fully prepared to take risk'), which proved to be a good measure of risk aversion (see Dohmen et al., 2011).
Mistakes	Numbers of mistakes in the experiment comprehension test
Experimenter	dummy variable which distinguishes between the two experimenters who conducted all the experimental sessions
Amount sent	Amount sent by the Sender to the Receiver in the first move of the TG
Average return rate	Average return rate by Receivers. Computed averaging over the six choices taken as receivers through strategy method

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SUPPLEMENTARY ONLINE MATERIAL (SOM)
FOR ONLINE PUBLICATION ONLY

SOM INCLUDES:

I. Description of associations

II. Sampling objectives and implementation

III. Experiment instructions, protocol and post-experiment questionnaire

I. Description of associations

We recruited association members from ten associations, whose general goals, number of active members, encounter frequency, are described below.

A. Trade Unions

CGIL (Confederazione Generale Italiana del Lavoro – Italian General Confederation of Labour) and UIL (Unione Italiana del Lavoro – Italian Labour Union) are two of the most representative - in terms of number of members - Italian trade unions, CGIL being the largest one. They are structured into several different branches, each focussing on one specific sector of the economy. Our sample came from CGIL and UIL "delegates". These are employees who have been appointed to represent the trade union in the firm where they work. Delegates do not receive extra payment for their activities, so these can be considered akin to a voluntary activity. Meetings are regularly organised to discuss various issues related to industrial relations. CGIL delegates meet every month. UIL delegates meet less frequently, when specific issues need to be discussed. The number of delegates belonging to each branch may vary significantly. They range from 259 for the largest branch (FIOM, active in the metalworking sector) to 25 for the smallest one (SLC, active in the -insurance and credit sector) for CGIL active in Parma. Normally between 20 and 50 members (our estimates) attend such meetings. The number of delegates is significantly lower for UIL. For example, the delegates in the metalworking sector are 45 for UIL. Overall, we estimate the total number of delegates active in the province of Parma to be 1246 for CGIL and 224 for UIL. We recruited members from five different branches of CGIL and two branches for UIL.

B. Cultural associations

We recruited from three choirs (Corale Giuseppe Verdi, Coro Renata Tebaldi, and Coro "Voci di Parma") and one ethnic and traditional dance association (Terra di Danza - Land of Dance).

All the three choirs are formed by opera amateur singers who meet to practice mainly opera works under the direction of a choral conductor. All the three choirs also perform in public events. Choir members are not paid for their participation. The rehearsals are normally held once or twice a week. The choirs meet in the city of Parma. The Giuseppe Verdi choir counts about 75 singers, while the other choirs are smaller: The Renata Tebaldi choir counts on about 50 affiliates and the Voices of Parma choir has about 40 members.

Terra di Danza is active in the provinces of Parma and the neighbouring province of Reggio Emilia. We recruited people attending classes held in Parma. It is a voluntary association organising courses, stages and events in relation to different types of dances, such as Jewish, Celtic, and other

ethnic dances. Classes are structured in three different levels: beginner, intermediate and advanced. People can enrol in quarterly courses. Classes are held once a week and participants in a class may vary between a few people (less than ten) to some dozens (but normally no more than 35 people). Overall, we estimate that around 140 people are active members of this association.

C. Social welfare and health services associations

We recruited from four associations active in social health and services.

AVIS (Associazione Volontari Italiani Sangue – Italian Association of Blood Donors) is the main Italian association organising the collection of blood donation. It is structured in different branches that organise blood collection in various municipalities of the province of Parma. We recruited people from active volunteers, i.e. subjects who help in the organisation of AVIS associational activity in the province of Parma. These subjects meet in the headquarters of their branch to organise the associational activities and blood collection. The frequency of the meetings varies in relation to the dimension and the type of activity carried out by each branch. The total number of active volunteers equals around 700 members throughout the province and 250 for the city of Parma and surroundings municipalities.

A.VO.PRO.RI.T (Associazione Volontaria Promozione Ricerca Tumori - Voluntary Association for the Promotion of Cancer Research) is an association active in the province of Parma since 1981. It promotes medical research on cancer, it offers assistance to people suffering from cancer, and it carries out several activities to raise people's awareness on cancer-related issues. Members usually meet every month to plan and organise the association's activity. The number of active members of A.VO.PRO.RI.T is around 300 people.

Giocamico (Friendly-play) is an association of volunteers founded in 1998. It is active in the area of the Parma, although two branches have been formed in two other Italian provinces (Bergamo and Sassari). Its goal is to assist hospitalised children. Volunteers spend their time in hospitals, carrying out various recreational activities with children such as playing, reading books, painting, etc. The main aim of Giocamico is to allow hospitalized children to continue to play. Members have regular monthly meetings at the association home. The number of volunteers is around 200.

Comunità di Sant'Egidio (Community of Saint Giles) is an association active nationwide dedicated to charitable activities and Catholic evangelisation. In Parma, the number of active volunteers belonging to the association equals 25 members, while 20 more people follow the association activities less regularly. Active members meet several times a month for worshipping and discussing associational activities. We recruited people from the more active group of 25 members.

II. Sampling objectives and implementation

A. Rationale

Our general goals in the selection of association members were, on the one hand, to recruit members from a broad range of the association spectrum, and, on the other, to cluster recruitment into a limited number of association types in order to have sufficient power when conducting statistical and econometric analyses. We opted for sampling trade unions (TU), cultural associations (CA), and social welfare and health services associations (SWA). According to the classification proposed by Knack and Keefer (1997), TU and CA stand at the opposite extremes of a spectrum ranking associations on the basis of their rent-seeking orientation. TU are typical "Olsonian" associations, as their main goal is to extract benefits for their members through lobbying and bargaining activities at the societal level. Other Olsonian associations are "political parties or groups" and "professional associations". CA are typical "Putnamesque" associations, in that they are the least likely to seek benefits for their members from the society as a whole. "Religious or church organizations", "education, arts, music, activities"; and "youth work" are also Putnamesque. SWA lie in a residual intermediate category between Olsonian and Putnamesque. While the type of good "produced" is mainly private in TU – members are the principal beneficiaries from the association activity – and has both a private and a public aspect in CA – members can enjoy the specific activity carried out in the association, but CA also perform publicly, often for free – the good is primarily public for SWA, as their main goal is to improve the welfare of people affected by illnesses or being marginalised. We thought that this category would be particularly relevant to test the thesis that people transfer co-operative habits from within associations to outside associations. This should be particularly the case in associations that are created specifically to take care of others' welfare (Degli Antoni 2009; Degli Antoni and Sabatini 2013; Sabatini, Modena and Tortia, 2014). We then thought that restricting recruitment to these three association groups would ensure a broad variability in terms of the association objectives and type of good being produced.

To address the main objectives of our research we also needed to recruit a control sample of people who were not association members (labelled "non-members"). This would have formed the "untreated" group and acted as a benchmark for the "treated" group – i.e. association members. About two thirds of non-members were people who declared that they had never been formally members of an association (labelled "never-member"). One third of non-members comprised people who had been active members in the past, but were not members at the time of the research (labelled "dropouts"). It was crucial to ensure that the non-members and members groups had the same demographic features, at least according to some basic characteristics such as gender, age, and socio-economic status. The latter was proxied by educational attainment. Income levels would have

been helpful to better identify one's socio-economic status, but we preferred not to ask this information because of its sensitivity for subjects. The subject's occupation may have also been used to estimate socio-economic status, but we opted for using educational attainment because of the possible ambiguities in mapping occupations into levels of socio-economic status. We thought that the best way to achieve the goal of forming a non-member sample that was demographically similar to the member sample would be to sub-contract the recruitment of non-members to Demoskopea, one of the most well-known opinion polls and market research agency in Italy. We requested Demoskopea to follow the same recruitment script as those followed by researchers in the recruitment of members (see SOM: section II. B,C for the recruitment scripts). In this way all subjects were given the same information prior to attending the research sessions. At no time were subjects given the impression that the research focussed on association members' behaviour in social interactions. Rather, the announcements stated that a cross-section of residents of the province of Parma and neighbouring provinces had been invited to participate in a research on individual decision-making run by University of Parma researchers.

We selected associations from the list of non-profit associations active in the area of Parma compiled by Forum Solidarietà – Centro di Servizi per il Volontariato in Parma (2011) (Solidarity Forum-Service Centre for Volunteering in Parma). Our goal was to have a roughly equal representation of members active in the three types of associations identified from the outset, that is, cultural, social health and welfare, and trade unions.

Although several associations are active in each of these categories, rather than selecting at random the associations to invite, we selected associations that appeared most likely to maximise participation in the research. We set out to achieve a minimal recruitment target of 20 participants per association, to be evenly divided into in-group and out-group treatments. We thus selected associations that appeared to have a large enough number of active members, also taking into account the possibility of attrition rates –i.e. subjects declining to sign up for the research - and no-shows, i.e. subjects not turning up at the research session after having signed up. Our concerns were well-founded because for some associations we failed to achieve the desired target, both because of no-shows and attrition. Hence, although our member sample was not randomly drawn from the relevant population, we believe that the practical difficulties in our field experiment were stringent enough to justify a recruitment strategy aiming at maximising participation.

After an association had been selected, Giacomo Degli Antoni (GDA) got in touch with one of the associations' co-ordinators. GDA explained in very general terms the goals of the research, demanding to co-ordinators maximum confidentiality and that the research general goals were not

revealed to anyone. If the co-ordinator agreed to be involved in the research, an appointment was made for GDA to attend an associational meeting and give an announcement of the research. In one occasion it was Gianluca Grimalda (GG) attending the meeting. All participants were contacted following the same recruitment script reported in the next section, which was read aloud. Participants in the meeting were told they were invited to participate in a research on inter-personal decision-making. It was specified that participants' earnings could vary between approximately 0€ and 50€ depending on the participant and others' choices. It was stressed that the option of earning 25€ for sure was always available to subjects. It was also made clear that the research aimed at recruiting a sample from the general population of the province of Parma and surrounding provinces. Subjects who accepted to participate had to fill out a registration form requiring stating their demographic characteristics and occupational status.

Non-members recruitment took place after the members' recruitment was terminated. In this way, the general demographic characteristics of the member sample were known before the recruitment of the non-member sample. We instructed Demoskopea to recruit a sample of non-members whose characteristics mirrored that of members with respect to gender, age, and education levels. More precisely, the quotas we considered in recruitment were three age groups - [18-30; 31-50; 50+] -, three education levels - (1) Primary and Secondary School; (2) Maturità/Licenza - equivalent to A-levels; (3) Bachelor Degree, Master and Ph.D. -, and two gender groups. This originates an 18-cell matrix of possible demographic characteristics. We demanded Demoskopea to target the same number of people in each cell as the member sample, up to a tolerance level of a few units (about 10% of the target) for each cell. We deemed inappropriate to screen subjects over their income levels because of obvious confidentiality reasons.

Within the target given by the quota sampling method, Demoskopea followed a recruitment strategy that combined selection from a non-random sample formed by people who already took part in its previous surveys, and contacting people randomly from the general population with the objective of filling up the various quotas of the sample as desired. It has to be noted that people who already participated in prior Demoskopea research had never participated in experiments before. Rather, they had taken part in meetings such as focus groups for market research.

In practice, there have been some exceptions to this general strategy. Even if Demoskopea was instructed to only recruit non-members, 11 subjects recruited by Demoskopea reported in the post-experiment questionnaire that they were active association members at the time of the research. We suppose this may be due to subjects' absent-mindedness when answering the recruitment interview. We have kept these 11 subjects in the sample as members, although only for two of them do the associations of which they are member fall into the categories of cultural, or social welfare and

health, or trade unions. In the descriptive statistics of Section II and in the ensuing econometric analysis we refer to these subjects as belonging to "Other associations". Overall, Demoskopea recruited 118 participants (including the 11 members). The remaining 256 participants were recruited by GDA and occasionally by GG. These include 256 association members recruited at association meetings and four non-members recruited to make up for Demoskopea no-shows. Association members were randomly assigned to either the in-group or out-group treatments.

As customary for Demoskopea, its recruitment was carried out through telephone calls. We requested Demoskopea recruiters to follow as closely as possible the announcements the researchers gave at the association meetings in their screening interviews. Recruiting a portion of the subject pool through personal announcements and another portion through phone calls is not optimal, because it may induce differential expectations by the subjects, and different degrees of identification with the experimenter. However, alternative recruitment strategies that would have addressed this issue were unfeasible. An alternative strategy, for instance, would have been to communicate to Demoskopea association members' telephone contacts from the associations, and have Demoskopea call on the phone members as well as non-members. However, this strategy was unfeasible because associations are generally unwilling to pass their members' contact details to external agencies. Another strategy might have been to sub-contract to Demoskopea the recruitment of both members and non-members. However, given the relative scarcity of active members in the general population,[16] and the consequent need for Demoskopea to contact a very large number of people, this method would have proved far too expensive with respect to our available budget. We believe that carrying out recruitment following the same protocol in the two samples ensures that the effect of the differential recruitment is at most small.

B. Recruitment Protocol for members

Most of members have been recruited by GDA, occasionally by GG. GDA or GG gave the following announcement below before association meetings.

Good morning. I'm a member of a research group that is working with the University of Parma. We are carrying out a research project on individual decisions. We would like to ask you if you would be interested in participating in the research. The participation implies the possibility to earn a sum of money, as I will explain shortly. Residents in the province of Parma or in neighbouring provinces contacted by us or by other people who collaborate in the project will be invited to take part in the research.

[16]According to ISTAT (2011), 11,21% of Parma residents are active voluntary members of some associations.

One of the requirements of the research methodology is not to reveal in advance the specific objectives and the precise methodology characterising the research. For this reason, in what follows I cannot be completely exhaustive. I will indicate only the essential aspects of the project. The goals and results of the research will be explained to those who are interested once it is finished. A seminar will be held where we will present the results of this study.

The objectives of the research are to study individual decisions in a group setting. Several people will be invited to participate in our sessions. Each participant will be endowed with an amount of money to make these decisions. The endowment can be used to choose among different options. The final earnings of each participant will depend on his individual decision and of those of the other people in his group. In the second part of the research you will be asked to fill out a questionnaire concerning your opinions on today's society. The research will last up to one hour.

How in practice the activity will take place and how you can earn money will be explained in detail during the research session. However, the basic idea is the following. Each participant will receive an endowment equal to 25 Euros. The choice will consist of allocating these 25 Euros between different options. One of the choice options can duplicate the sum of 25 Euros, bringing to 50 Euros, but it can also lead to entirely lose the 25 Euros. Other options can generate gains between these two extremes and, in some cases, even higher gains. The participant may always choose the option <u>not to</u> commit the initial 25 Euros, thus ensuring that his final gain is exactly 25 Euros. In all other cases, the final gain will depend in part on chance and in part on the decisions of other participants. The payment will be paid in cash at the end of the research. The decisions and responses to the questionnaire will be completely anonymous.

No special skills are required for participation. The only requirements are that you have lived in the province of Parma or in neighbouring provinces for at least one year, and that you are an Italian citizen. You will be free, if you want, to leave the research session in any moment.

After this announcement, researchers handed out a registration form including name, phone contacts, the sessions in which the subject was able to participate within the research calendar, and some questions about the participants' demographic characteristics, i.e. gender, age, educational achievements, occupation. Subjects were subsequently re-contacted to communicate the slot to which they had been assigned. About 50% of people being present at the meeting agreed to participate.

C. Recruitment Protocol for non-members

People were contacted by phone by Demoskopea collaborators, following the instructions reported below.

Good morning. I'm calling on behalf of a research group that is working with the University of Parma. We are carrying out a research project on individual decisions. We would like to ask you if you would be interested in participating in the research. The participation implies the possibility to earn a sum of money, as I will explain shortly. Residents in the province of Parma or in neighbouring provinces contacted by us or by other people who collaborate in the project will be invited to take part in the research.

In case the subject is interested proceed with screening demographic questions.

FILTER QUESTION. Are you a voluntary member (without receiving remuneration) of some associations (e.g. associations of volunteers such as the Red Cross or WWF, or cultural associations such as choirs, reading circles, sport associations) or organisations (e.g. professional associations, such as Confcommercio[17] *or trade unions)?*
(See the list of types of associations in the end of the protocol).

If yes, how many hours do you spend volunteering in this activity per month?
If No, in the past were you a voluntary member of some associations/organisations? How many hours did you spend volunteering in this activity per month?

If subject was currently an active member, the invitation was declined. The interviewer thanked and greeted the interviewee. If the subject was not currently an active member, the interviewer proceeded as follows:

Now we can go into the details of the research project.

One of the requirements of the research methodology is not to reveal in advance the specific objectives and the precise methodology characterising the research. For this reason, in what follows I cannot be completely exhaustive. I will indicate only the essential aspects of the project. The goals and results of the research will be explained to those who are interested once it is finished. A seminar will be held where we will present the results of this study.

[17] Confcommercio is a well-known professional association in Italy - authors' entry.

The objectives of the research are to study individual decisions in a group setting. Several people will be invited to participate in our sessions. Each participant will be endowed with an amount of money to make these decisions. The endowment can be used to choose among different options. The final earnings of each participant will depend on his individual decision and of those of the other people in his group. In the second part of the research you will be asked to fill out a questionnaire concerning your opinions on today's society. The research will last up to one hour.

How in practice the activity will take place and how you can earn money will be explained in detail during the research session. However, the basic idea is the following. Each participant will receive an endowment equal to 25 Euros. The choice will consist of allocating these 25 Euros between different options. One of the choice options can duplicate the sum of 25 Euros, bringing to 50 Euros, but it can also lead to entirely lose the 25 Euros. Other options can generate gains between these two extremes and, in some cases, even higher gains. The participant may always choose the option not to commit the initial 25 Euros, thus ensuring that his final gain is exactly 25 Euros. In all other cases, the final gain will depend in part on chance and in part on the decisions of other participants. The payment will be paid in cash at the end of the research. The decisions and responses to the questionnaire will be completely anonymous.

No special skills are required for participation. The only requirements are that you have lived in the province of Parma or in neighbouring provinces for at least one year, and that you are an Italian citizen. You will be free, if you want, to leave the research session in any moment.

The following note was given to the interviewer with regards to the filter question:

Please note: to be a "member" of an association involves having regular membership and registration, usually accompanied by a card and a registration number. The question on hours spent in the association per month differentiates the "active" members (at least one hour per month of participation in the activities of the association) from "non-active" members.

Associations that are deemed relevant in relation to the filter question

Social welfare services for elderly, handicapped, or deprived people
Religious or church organisations
Education, arts, music or cultural activities (for example: members of choirs, theatre groups, reading groups)
Trade Unions
Political parties or groups
Third world development or human rights (e.g. Fair Trade, Amnesty International)
Conservation, the environment, ecology (e.g. Greenpeace, WWF).
Professional associations
Youth work (e.g., scouts, guides, youth clubs, etc.)
Sport or recreational associations
Feminist organisations or groups
Peace movements
Health organisations of volunteers (e.g.. Red Cross; Blood donations etc.)

III. Experiment instructions and protocol

A. General description of experimental protocol

Experiments were conducted between May and October 2011 in Parma, Italy. For each experimental session, two groups of subjects were convened at two different locations of the University of Parma. GDA and GG were present at the two different locations. Upon their arrival, subjects' were asked to draw at random one envelope form a stack of envelopes. The envelope contained an ID number, and 5 paper tokens representing 5 Euros each. It was explained to subjects that the ID number would guarantee their anonymity throughout the research, and that the tokens would have been used in the experimental decisions. Handing subjects the tokens at the beginning of the session was functional to assuring subjects that the promised guaranteed payment of 25 Euros would in fact take place.

In the in-group treatment, subjects who had signed up to participate were randomly allocated to the two groups. In the out-group treatment, one of the two groups comprised people recruited by Demoskopea, while the other group was formed by association members recruited by the experimenters (see SOM: Section II). To form the latter group, we mixed people coming from several different associations, so that most of the people part of this group would, with high probability, not be acquainted with each other. In this way, we believe that association members could see in their own group a cross-section of Parma residents that, for the most part, was unacquainted to them. That this was in fact the case can be confirmed by the results of a control question included in the questionnaire, which asked people to state whether they thought they knew personally people present in the other research room. Around 41% of members participating in the in-group treatment answered positively to such question. On the contrary only 7% of members and 2% of non-members answered positively to the same question in the out-group treatment. This ensures that people matched in the in-group treatment experienced lower social distance than people matched in the out-group treatment.

The two groups were then separately conducted to two different rooms of the University library. Experimental sessions were run in parallel by the two experimenters. The assignment of the two experimenters to either room or group was randomised. After having been seated, instructions were administered orally, but written instructions and diagrams representing the situation of choice were also made available at subjects' desk. Subjects were instructed they would participate in two decisions, and that payments would be given by the payoff of only one of the two. The decision determining the payment was selected by a 50-50 random draw realised by the computer at the end of the session.

The rules of the TG were then illustrated to subjects, making use of some graphs and examples. The instructions are reported below in Section III.B. Each participant was paired with another participant present in the other room. Were the number of subjects in the two groups unbalanced, some randomly drawn participants from the least numerous group (say, Player A) would have been matched with two participants from the most numerous group (say, Player Bs). In this way, player A's actions would determine the payoffs for both player Bs, and the actions of one randomly chosen player between the Player Bs would determine Player A's payoff. Subjects were assured they could meet the other experimenter and the other group at the end of the session, should they wish so. It was explained that individual choices would have been transferred to the experimenter in the other room via an internet connection.

Given the expected low computer literacy of subjects, all experiments were conducted with "pen and paper". In the first decision, all subjects acted as senders. When subjects made their decision as senders, they were not aware they would have made a decision as receivers later on. It was explained that both senders and receivers were endowed with 25€. Senders' choice consisted of placing their five 5€ tokens into two envelopes named "Personal" and "Send". Each token put into the Personal envelope would enter directly the sender's final account, whereas each token put into the "Send" envelope would have been multiplied by a factor of two and transferred to the receiver. Prior to making their choice as senders, subjects' comprehension was assessed in a six-question quiz. Answers to the test were illustrated after all subjects had answered. Subjects were given ample time to understand the decision and ask questions. We comment below on the results of the comprehension test.

In the second decision, subjects acted as receivers. We applied the strategy method, so subjects had to indicate in a form the amount they wished to return for each of the possible six options available to the sender. Receivers could send back any amount between zero and the sum of the amount transferred by the sender, multiplied by two, and the 25€ endowment. Before making their choices, subjects were asked to complete a six-question comprehension test on a paper sheet. These were collected by the experimenters and then the solution to the test was explained to subjects. No feedback was given between the two decisions. It was specified that a player's partner when acting as a sender would have been different to the same player's partner when acting as a receiver. To compute payoffs, we randomly matched a sender's (receiver's) decision from a subject in one room to a receiver's (sender's) decision by a subject from the other room. We then performed a random draw to determine whether subjects from a room would be paid for their decisions when acting as senders or receivers. After the two experimental choices, we elicited subjects' beliefs. We then administered the attitudinal and demographic questionnaire. Payments were computed by the

experimenters while subjects answered the questionnaire, and distributed in cash at the end of the session. The random pairing was determined by the order with which subjects' decision envelopes were extracted from a box. A pre-set Excel algorithm automatically performed the random matching and ensured no re-matching with the same person would take place between the two decisions.

We preferred not to ask subjects to re-answer the questions in case of mistakes in the comprehension quiz, because we thought this would have conveyed the impression that subjects had "to pass an exam" to qualify for the experiment. This would have likely sounded unnatural and stressful for many subjects. We preferred to collect subjects' answers, and use the number of mistakes in the quizzes as a covariate in the econometric analysis. The average number of errors was 1.18 for non-members and 0.94 for members. The difference is statistically significant (P= 0.0197). Overall, about 53.7% of subjects made no mistakes, 15.5% made one mistake, 15.2% made two mistakes, and the remaining subjects made between three and six mistakes. All our results on membership and intensity are unaffected, and in fact somewhat strengthened, by expunging from the sample subjects who answered incorrectly the comprehension test (not reported, available upon request). The results on the absence of in-group effects cannot be replicated because of the considerable drop in observations.

The research session lasted around 75 minutes. Average payoffs were 31.7 Euros (std. dev. 11.99). In three cases did a participant in the pair earn nothing while the other earned the maximum available amount – 75 Euros.

In what follows we report the experimental protocol. All parts in italics were read aloud to participants. The final questionnaire is reported in section IIIC.

B. Instructions and experimental protocol

Two groups of subjects are summoned in two different locations at the University of Parma. The two experimenters, GDA and GG, are present, welcome subjects as they arrive, and check their registration. When a sufficient number of people have arrived, the experimenters administer the following instructions:

Welcome to this research on individual decisions. My name is Giacomo Degli Antoni (GDA)/ Gianluca Grimalda (GG) and I am here to conduct this research session. Before going to the room where the research session will take place, I would like you to draw one envelope from this deck, and to keep the envelopes closed until the beginning of the research. The envelope contains materials that will be used later. In particular, inside the envelope you will find your identification number, which will be important to ensure your anonymity at all stages of the research. We will

record your choices and responses through this identification number, rather than through your name. It will also be the number that will allow you to be paid at the end of the research. For this reason, it is important that you keep your number safe, without showing it to anyone but the researchers. Inside the envelope you will also find five cards, each card representing €5.These cards will be used during the research and will be converted into cash at its end. Could you please come towards me one by one and draw one envelope? Thank you!

Once the two groups are formed, they are conducted to the library in two separate rooms. We take care that the two groups do not meet. Subjects sit at desks separated by opaque screens to protect privacy. Subjects can choose the seat that they prefer. Once everyone is seated the experimenters can start with the following set of instructions.

Welcome again to this research project organised in collaboration with the University of Parma. A group of researchers is working on the way in which individuals make decisions. The researchers present today are GDA (GG), and my colleague GG (GDA), who is leading a session in another room of this library. Our two locations are connected through the internet.

Researchers show their personal computers at their desks, and explain that subjects' decisions will be entered in an Excel spreadsheet, and then sent via the internet to the researcher present in the other room.

The research session is divided into two phases. In the first phase you will take some decisions involving other people. In the second part you will be asked to fill out a questionnaire. The entire session will last approximately one hour. You are kindly requested not to talk to other participants and to be quiet throughout the session. If something is not clear please raise your hand and ask us questions. You can now open the envelope that you drew earlier. You can find inside a sheet of several stickers where an identification number has been printed. As already explained, this is the number that guarantees your anonymity in the research. You may also find an envelope. At the end of this session, while you fill the questionnaire, we will compute your earnings and leave the money in that envelope. After having calculated your earnings and inserted them into the envelopes, we will leave the envelopes on this table.

Researchers show a table, close to the exit, where the envelopes will be placed at the end of the session.

You will pick up the envelope associated with your identification number after having completed the questionnaire. Inside the envelope you will also found two receipts that you should fill out after having checked your earnings. You will leave the receipts in the large envelope named "RECEIPTS" hang onto the exit door, and you will be free to leave the room. Please take out the

sheet of stickers now and attach a sticker on the back of the envelope. Leave the receipts in the envelope. I will collect the envelope later on.

Researchers show the large envelope named "RECEIPTS" pasted to the exit door.

Finally you may find inside the envelopes 5 cards representing €5 each. Please remove them from the envelope.

Each card has "5€" printed on them.

Let us now describe the situation of choice. It is important to pay attention to these instructions because the amount you will earn at the end of the session depends on these decisions. You will take part in two decisions. However, you will be paid only for one of them. Which decision you will be paid for is determined by a random draw at the end of the session. Each decision has an equal chance of being drawn.

In the first decision you will be paired with another person who is not in this room. He is with the other group of people with whom we are carrying out this session. The other group is listening to instructions like the ones I am reading to you. If you want, at the end of this session you will be able to meet this other group of people. However, the identity of the person with whom you have been paired will not be revealed, nor your identity will be revealed to him or her.

In the in-group treatment instructions read:

The person with whom you will be paired is a member of the Association X {researcher states the name of the association} *of which you are also a member, and is resident in Parma, or its province, or in neighbouring provinces. He was asked to take part in the research in a similar way as you have been contacted.*

In the out-group Treatment instructions read:

The person with whom you will be paired is resident in the province of Parma or in neighbouring provinces. This person has been contacted within a large sample of people of Italian citizenship residing in Parma, or its province, or in neighbouring provinces. We have contacted more than a thousand people from various age groups and socio-economic status, to participate in this research.

From now on, instructions were the same in both treatments:

The first decision takes place as follows. We will call the two participants in this decision, "SENDER" and "RECEIVER". At the beginning of this session, both have received 25€ in tokens of 5€ each. The decision takes place in two stages. In the first stage, the SENDER can send a part of the 25€ to the RECEIVER. The SENDER may choose not to send anything, or to send 5€, or 10€, or 15€, or 20€, or the full amount of 25 €. The amount sent by the SENDER will be doubled by the researchers and transferred to the RECEIVER.

In the second stage, the RECEIVER has the opportunity to send back to the SENDER part of the total amount in his possession. This is determined by his initial 25€, plus the sum received by the SENDER that has been doubled by the researchers. The RECEIVER may decide to send back any percentage of the total amount in his possession. The amount that is transferred from the RECEIVER will not be doubled. The RECEIVER will not know the amount sent by the SENDER when making his decision. He must indicate on a sheet of paper the amount he wants to send back for each of the six possible amounts that can be sent by the SENDER. At the end of the session my colleague and I will match via the internet the decisions of each SENDER and RECEIVER who have been paired.

Let us now see an example of a decision through a chart.

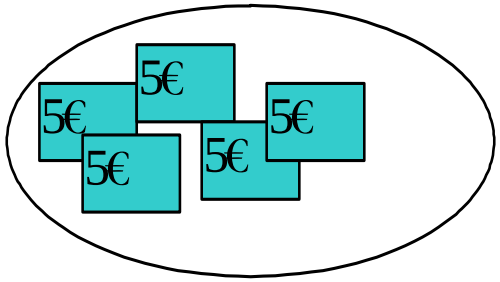
Show the poster as an example. Posters are reported in the next page of instructions.

Copies of the examples are available on your desk.

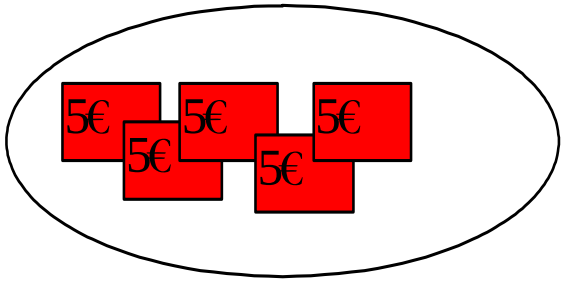
Both the SENDER and the RECEIVER receive 25€ at the beginning of the decision. In the first phase, the SENDER sends a part of these 25€ to the RECEIVER (10€ in this example). The SENDER is free to send 0€, 5€, 10€, 15€, 20€, or 25€. The amount sent is doubled and added to the 25€ already in possession of the RECEIVER. In the second phase, the RECEIVER can send back to the SENDER any part of what he holds. The amount transferred from the RECEIVER to the SENDER is not doubled (in this example, the RECEIVER sends back 15€). The final sum for the SENDER is given by the initial 25€ minus the amount sent plus the sum sent back by the RECEIVER. The final sum for the RECEIVER is given by the initial €25plus the double of the sum sent by the SENDER, minus the sum sent back.

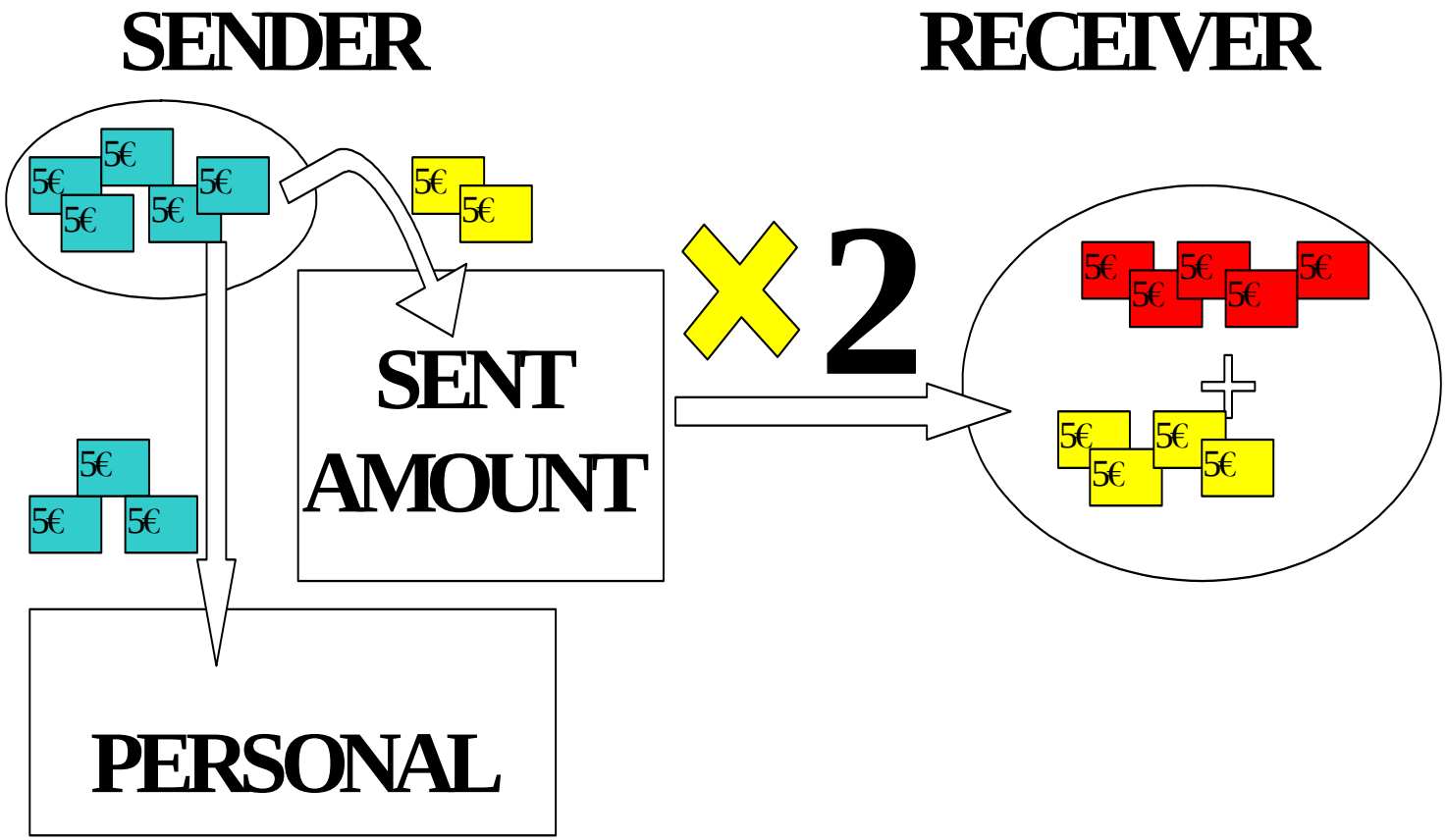
Researchers illustrate the example showing A2-format posters, reproduced in the following pages.

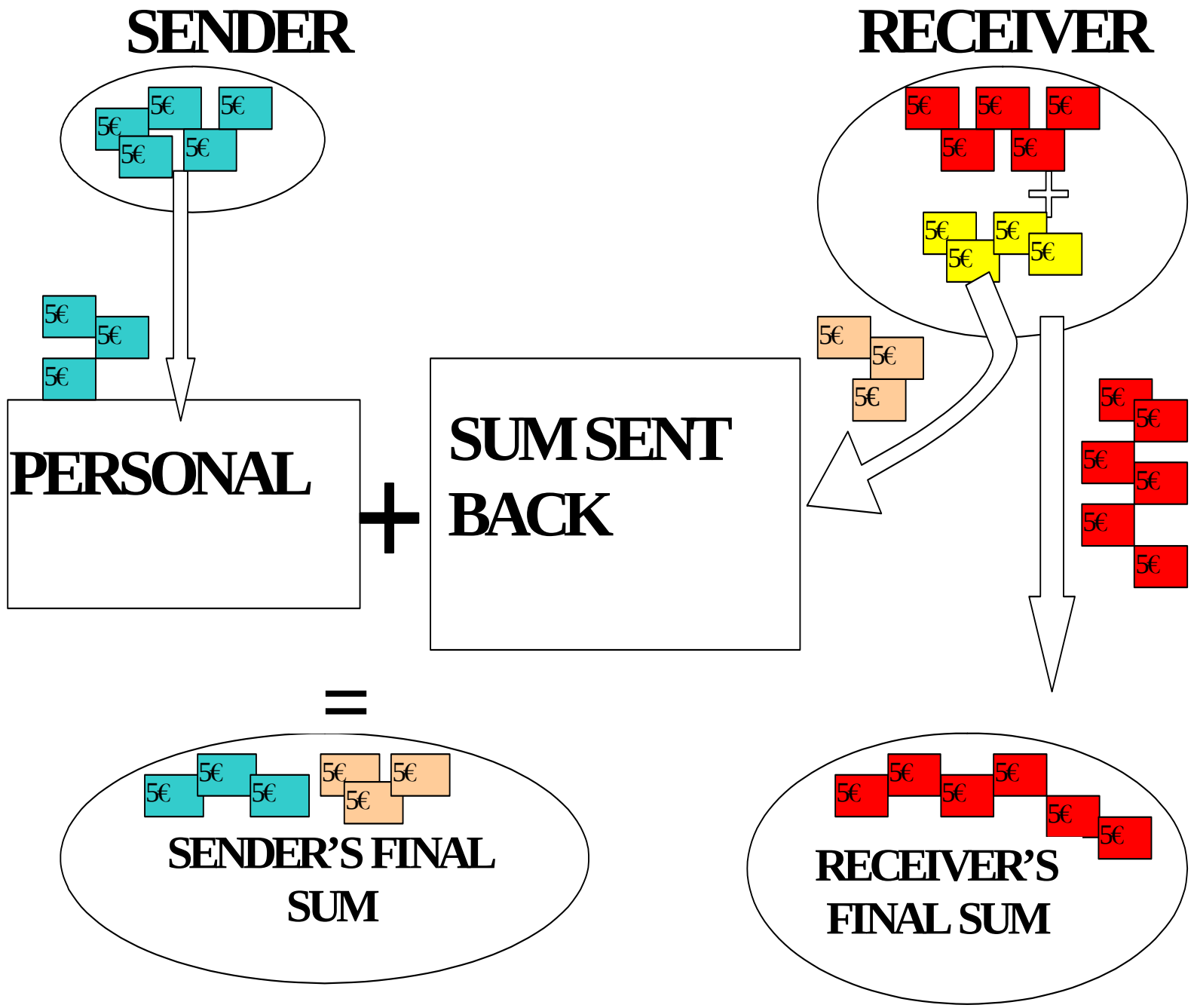
SENDER



RECEIVER




SENDER
RECEIVER
5€
5€
5€
5€
5€
5€
5€
5€
5€
5€
SENT
AMOUNT
×2
5€
5€
5€
5€
5€
5€
5€
5€
5€
PERSONAL


SENDER
RECEIVER
PERSONAL
+
SUM SENT BACK
=
SENDER'S FINAL SUM
RECEIVER'S FINAL SUM

We will now see some examples and we will try to calculate the final earnings of the SENDER and the RECEIVER. Please take the example sheet on your desk. Please attach another sticker with your identification number on the sheet on your table and try to answer the questions. When you have finished, please raise your hand and we will pick up the sheet with your answers, along with the envelope with your identification number. We will deliver also other envelopes. We will then go through the solutions together.

Examples sheet
Example 1

Suppose that the SENDER sends0 € to the RECEIVER and the RECEIVER do not send anything back to the SENDER. How much is the final sum for the two people?

Final sum sender _____

Final sum receiver _____

Example 2

Suppose that the SENDER sends20 € out of the 25€ in his possession to the RECEIVER and the RECEIVER sends back to the SENDER 5€.How much is the final sum for the two people?

Final sum sender _____

Final sum receiver _____

Example 3

Suppose that the SENDER sends all his 25€ to the RECEIVER and the RECEIVER sends back to the SENDER 35€. How much is the final sum for the two people?

Final sum sender _____

Final sum receiver _____

Researchers answer subjects' questions and then collect the answers to quiz from all subjects. While collecting the answer sheets researchers also pick up the ID envelope. They check that the identification number has been stuck on the front of the envelope and that the envelope contains the receipts. At the same time Researchers hand out the envelopes named "PERSONAL" and "AMOUNT SENT".

Now, let us consider the solutions of the examples.

Consider the first example: Would someone like to tell me what is the final sum for the two people?

Wait for the answers from the subjects.

In this case it is quite simple. Both earn 25€ that have been allocated to them at the beginning.

Researchers explain example showing to subjects A2-format posters, reproduced in the following pages.

Consider the second example: Would someone like to tell me what is the final sum for the two people?

Wait for the answers from the subjects.

The correct answer is that the SENDER earns 10€. This is equal to the initial 25€, minus the 20€ sent to the RECEIVER, plus 5€ received from the RECEIVER. The RECEIVER earns 60€. This is equal to the initial 25€, plus 20€ received from the SENDER (which are doubled), minus 5€ who are sent back.

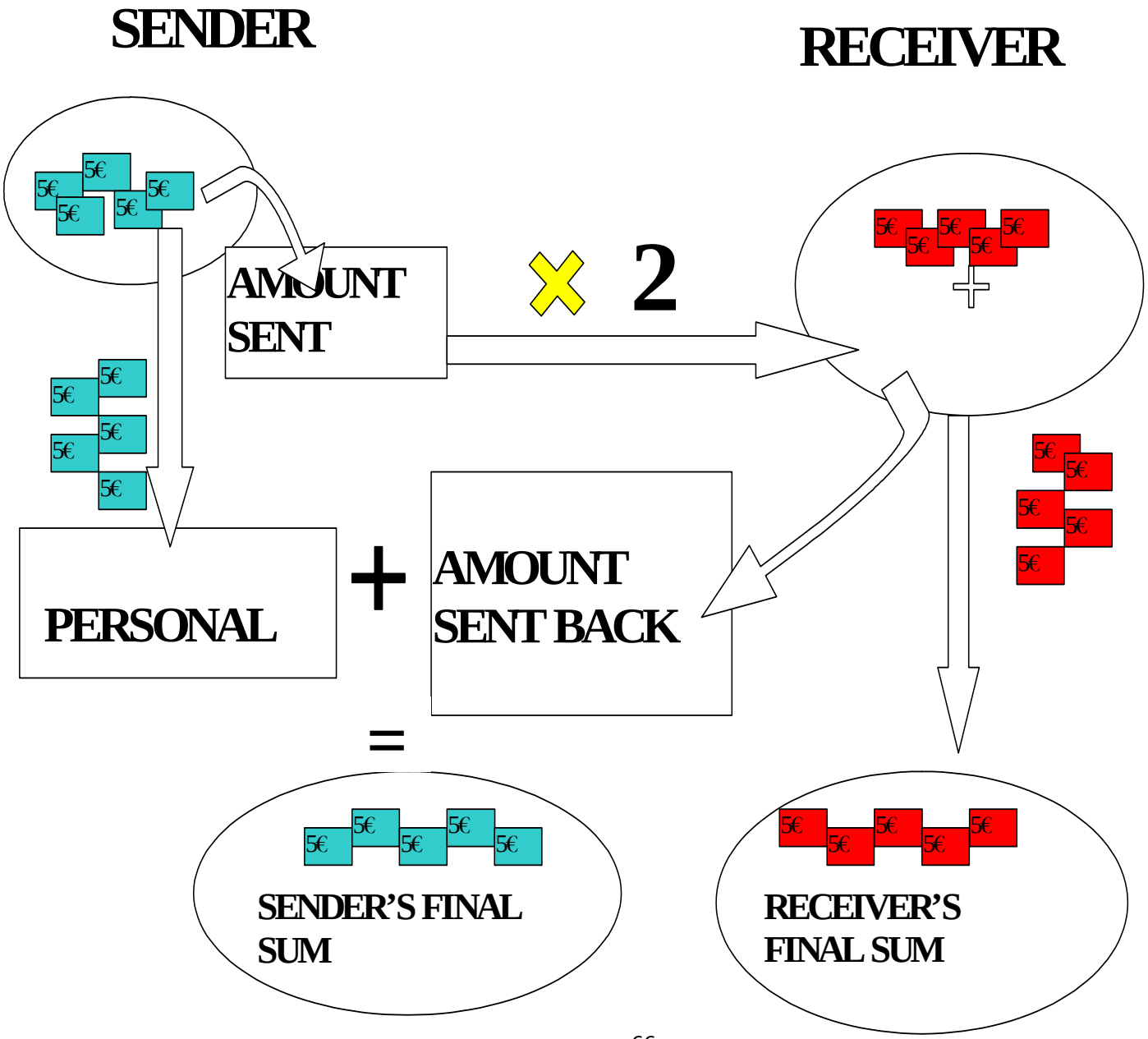
Consider the third example:

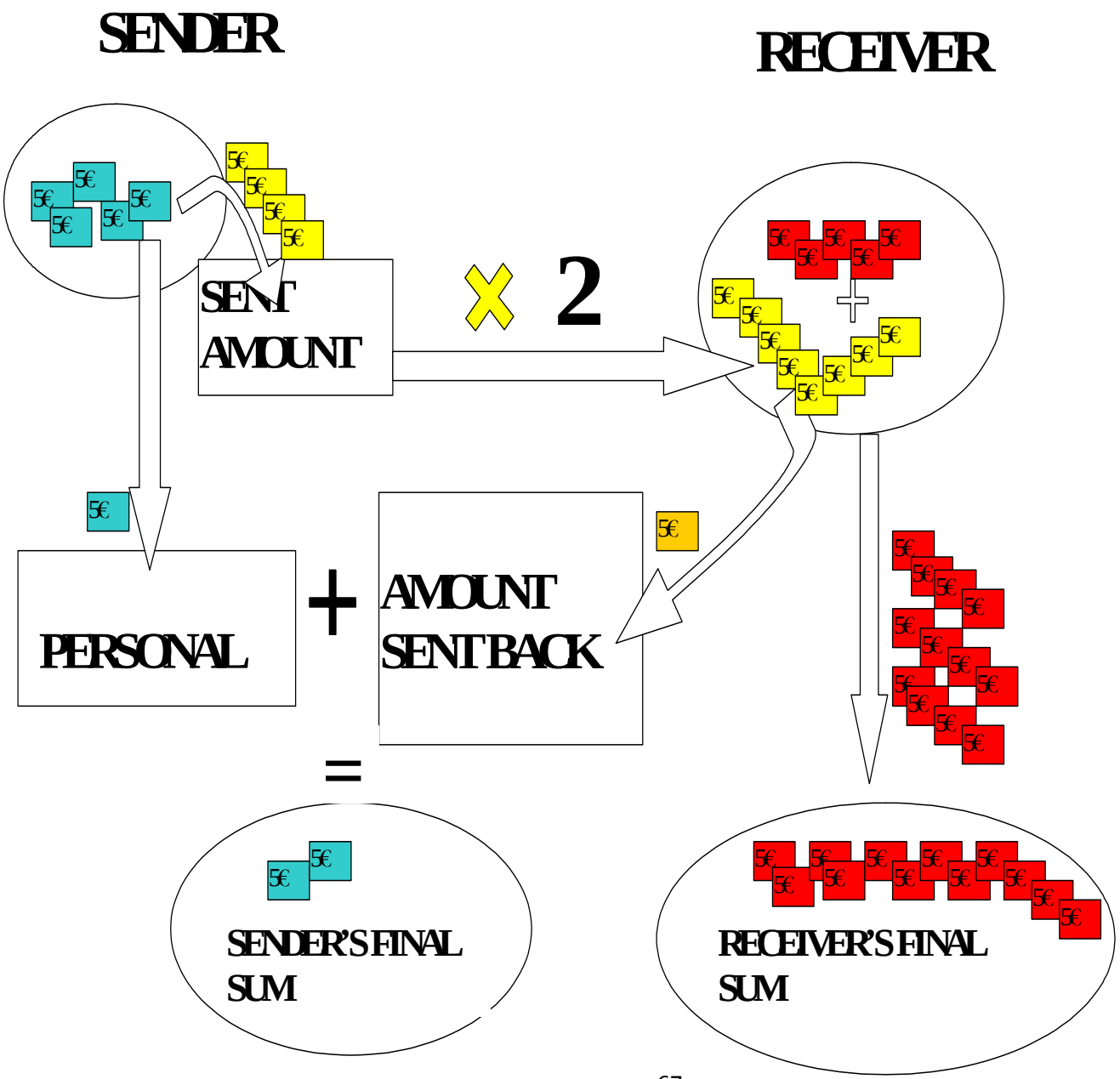
Would someone like to tell me what the final sum is for the two people?

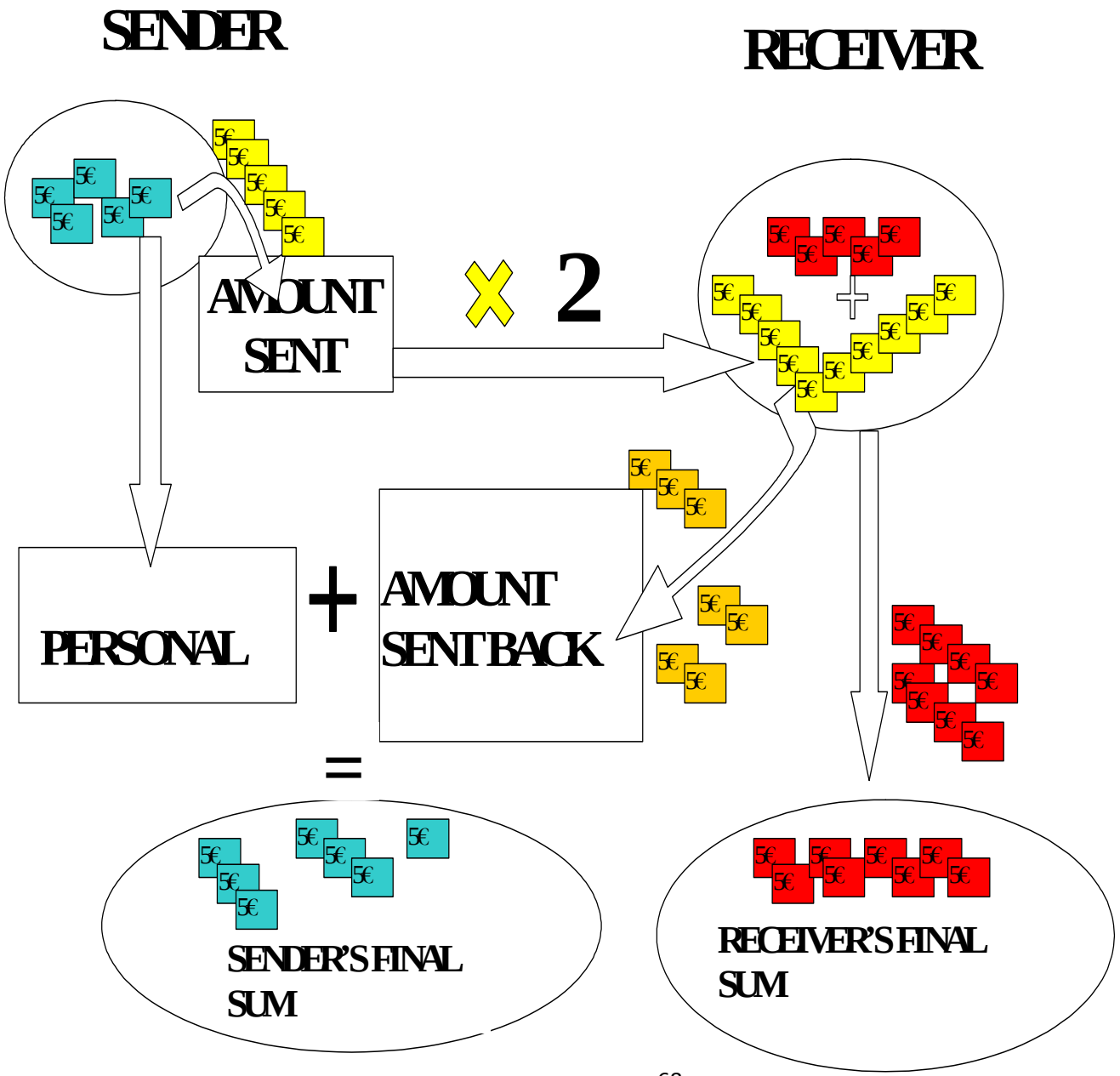
Wait for the answers from the subjects.

The correct answer is that the SENDER earns 35€ in total. This is equal to the 35€ that have been sent back by the RECEIVER. The RECEIVER earns 40€. This is equal to the initial 25€, plus 25€ that are sent by the SENDER and that have been doubled, minus 35€ which are sent back to the SENDER.

It is clear what this choice situation is all about? If there are no further questions, we can now move on to your actual decisions.


SENDER
RECEIVER
AMOUNT SENT
x 2
PERSONAL
+
AMOUNT SENT BACK
=
SENDER'S FINAL SUM
RECEIVER'S FINAL SUM


SENDER
RECEIVER
SENT AMOUNT
x 2
PERSONAL
+
AMOUNT SENT BACK
=
SENDER'S FINAL SUM
RECEIVER'S FINAL SUM


SENDER
RECEIVER
AMOUNT SENT
x 2
PERSONAL
+
AMOUNT SENT BACK
=
SENDER'S FINAL SUM
RECEIVER'S FINAL SUM

Firstly, we are going to reveal who will act as SENDER and who as RECEIVER. The role of SENDER has been assigned to each of you, while the role of RECEIVER has been assigned to the people in the other room. Now you have to choose how much you want to send to the RECEIVER. Two envelopes have been handed out to you. They are named "PERSONAL" and "AMOUNT SENT". Please attach two stickers with the identification number on the back of these envelopes. You have to put the number of 5€ cards that you want to send to the RECEIVER in the envelope "AMOUNT SENT". You have to put the number of cards equal to the sum that you want to keep in the envelope "PERSONAL". For example, if you want to send 15€ you will have to insert two cards in the envelope marked "PERSONAL" and three cards in the envelope marked "AMOUNT SENT". After your decision is completed, we will collect your envelopes in a box. Later on, while you fill out the questionnaire, we will match the decision of each of you with that of the RECEIVER to whom you have been paired, and this will determine your payment for this first decision.

In most cases, each person will be paired with another person. But there is the possibility that the number of people in the other room is a little less or greater than the number of people present in this room. Although we tried to have the same number of people in the two groups, it is possible that someone is not present or that someone leaves the research session. What shall we do in these cases? For most of you nothing will change with respect to what we have already said, but for some of you the rule we follow to form pairs will be modified. For example, if this group has one person more than the other group, we will use the decisions of a person of the other group to determine the payments for two people in this group. Who exactly are these two people in this group and who is the person in the other group will be determined by a random draw during the calculation of payments. In addition, we will use the choice of only one of the two people in this group to determine the payments of the person in the other group. It is clear how the pairs are formed in this case?

Are the characteristics of this decision clear? If there are no questions, please proceed to your choice. When everyone has finished I will pick your choices.

Leave a little time for the participants to complete their choice. Researchers sit at their desk, not interfering with subjects' choices and avoiding eye contact. After a couple of minutes researchers ask if everyone is finished. When this is the case they go round with a box, and ask subjects to stick their envelopes into the box.

We can now move on to the second decision. For this decision you will be paired again with a person present in the other room. The person with whom you are paired will be different from that of the first decision.

The choice situation is the same as the one previously described, but in this second decision you will have the role of RECEIVER, while the person in the other room is assigned the role of SENDER.

Since we still do not know the decisions of the people in the other room, please indicate in the sheet that will be handed out to you in a few moments the amount you wish to send back to the SENDER for each of the possible choices.

Researchers show a copy of the decision sheets and illustrate it. They point out it is necessary to fill out each row of the form. When everyone is clear, they start handing out the sheets.

Please attach a sticker with your identification number onto the sheet. Please make sure you write in the amount you wish to send back for each possible amount sent by the SENDER. Remember that the sum that you can send back can never exceed what is in your possession. While you fill out the questionnaire we will check the amount sent by the SENDER, and we will send back what you have decided. This will determine your payment for this second decision. Is that clear? You can now fill out the decision sheet. When you have finished, please raise your hand, and fold the sheet. When everyone has finished we will pass to collect the sheets.

Researchers leave the subjects a few minutes to make their choice. They sit at their desk and start entering subjects' prior decision in an Excel worksheet. When everyone has finished they go round and collect decision sheets in the box.

We have thus concluded the decisions phase. Before moving on to the questionnaire, we would like to give you another opportunity to earn some money. We would like to ask your expectations on the behaviour of the other person you have been matched with. That is, we would like to ask how much the receiver with whom you have been matched sent back when you acted as sender, and how much the sender you have been matched with sent to you when you acted as a receiver. You will earn 1 Euro if your answer is correct. Please fill out the form that I am going to hand out.

Researchers hand out the form reproduced in the next page.

Identification Number

Question 1

(You will receive 1euro if your answer differs no more than 3euros from the correct answer).

Consider the first decision you made, that is, when you acted as a sender. How much do you think the receiver sent back to you?

(Remember that the receiver could return a maximum equal to the doubled amount transferred by you and the initial endowment of 25€).

Please indicate how much you sent to the receiver[18]: _____

Please indicate how much you think the receiver sent back to you: _____

Question 2

(You will receive 1euro if your answer is correct)

Consider the second decision you made, that is, when you acted as a receiver.

How much do you think that the sender has sent to you? _____

(Recall that the sender could send a maximum of 25€).

[18]Note by the authors: At the moment of making their decision as senders, subjects were instructed to take note of the amount they had sent.

After all subjects have finished, the researchers collect the expectation forms.

We will now conduct a random draw to determine whether you will be paid for the first decision or the second decision you have made. At the end of the session, if you wish, you will be able to learn for which decision you have been paid, and the decisions of the people with whom you have been paired. I am now going to hand out a questionnaire. Please answer all the questions, it is very important for us to know your views on the society in which we live. When you have finished you can go to pick up the envelope with the number corresponding to your identification number on the table here.

After arranging the envelopes on the table of payments, the experimenters stand at some distance from the table not to interfere with subjects finding out about their payoffs. Researchers check that subjects hand in the questionnaire and collect the envelope with the corresponding ID number.

Identification Number

RECEIVER'S decisions form

If the SENDER sends:	I receive	Adding the initial 25€, I have in total:	The SENDER owns:	In this case I decide to send back:
0€	0€	25€	25€	_____ (remember that you can transfer between 0€ and 25€)
If the SENDER sends:	I receive	Adding the initial 25€, I have in total:	The SENDER owns:	In this case I decide to send back:
5€	10€	35€	20€	(remember that you can transfer between 0€ and 35€)
If the SENDER sends:	I receive	Adding the initial 25€, I have in total:	The SENDER owns:	In this case I decide to send back:
10€	20€	45€	15€	_____ (remember that you can transfer between 0€ and 45€)
If the SENDER sends:	I receive	Adding the initial 25€, I have in total:	The SENDER owns:	In this case I decide to send back:
15€	30€	55€	10€	_____ (remember that you can transfer between 0€ and 55€)
If the SENDER sends:	I receive	Adding the initial 25€, I have in total:	The SENDER owns:	In this case I decide to send back:
20€	40€	65€	5€	_____ (remember that you can transfer between 0€ and 65€)
If the SENDER sends:	I receive	Adding the initial 25€, I have in total:	The SENDER owns:	In this case I decide to send back:
25€	50€	75€	0€	_____ (remember that you can transfer between 0€ and 75€)

C. Questionnaire

Identification Number

QUESTIONNAIRE

Instructions for filling out the questionnaire

Please consider the following recommendations while answering the survey questions:

- ✓ Read the text of the questions carefully
- ✓ Tick the answer by placing a mark on the box or on the number next to your answer or fill in the boxes with the required information
- ✓ Consider carefully any "filter questions" (e.g. if this is not the case, go to the question ...; respond only if ..., etc.).

1. Do you think that the instructions on the previous choices were clear (from 1 –Not at all clear, to 5 – Extremely clear)?

Not at all clear ↓ Extremely clear ↓

1 2 3 4 5

2. Date of Birth |__||__||__||__|

3. Sex M ☐ F ☐

4. Place of birth (town and province) _____

5. How many inhabitants live in your town:

0-5.000 ☐
5.001-15.000 ☐
15.001-50.000 ☐
50.001-100.000 ☐
100.001-300.000 ☐
more than 300.000 ☐

6. Indicate the ZIP code of your residential address |__||__||__||__||__|

7. Indicate your height (in cm) _____

8. Marital status

Single ☐
Married ☐
Cohabitant ☐
Widow/er ☐
Separated ☐
Divorced ☐

9. How many relatives do you have at present in the following list?

Parents |__||__|
Brothers/sisters |__||__|
Sons |__||__|
Grandparents |__||__|
Nephews/nieces |__||__|
Cousins |__||__|

10. How many members does your family have (considering only people who live with you)? |__||__|

11. How often do you get in touch with the following people:

	Every day	At least once a week	At least once a month	Many times per year	Less frequently	Never
Father	☐	☐	☐	☐	☐	☐
Mother	☐	☐	☐	☐	☐	☐
Sons/daughters	☐	☐	☐	☐	☐	☐
Brothers/sisters	☐	☐	☐	☐	☐	☐
Grandparents	☐	☐	☐	☐	☐	☐
Nephews/nieces	☐	☐	☐	☐	☐	☐
Cousins	☐	☐	☐	☐	☐	☐
Friends	☐	☐	☐	☐	☐	☐

12. How often do you lend your personal belongings (such as musical cds, books, bicycle, car etc.) to the following people:

	More than once a week	About once a week	About once a month	About once every two months	Once a year or less	Never
Parents or family members	☐	☐	☐	☐	☐	☐
Friends	☐	☐	☐	☐	☐	☐
Colleagues	☐	☐	☐	☐	☐	☐
Neighbours	☐	☐	☐	☐	☐	☐

13. How often do you borrow your personal belongings (such as musical cds, books, bicycle, car etc.) from the following people:

	More than once a week	About once a week	About once a month	about once every two months	Once a year or less	Never
Parents or family members	☐	☐	☐	☐	☐	☐
Friends	☐	☐	☐	☐	☐	☐
Colleagues	☐	☐	☐	☐	☐	☐
Neighbours	☐	☐	☐	☐	☐	☐

14. How often do you happen to:

a) Lend money to your friends:

More than once a week ☐
About once a week ☐
About once a month ☐
About once every two months ☐
Once a year or less ☐
Never ☐

b) Talk with neighbours

Every day ☐
Every week ☐
Every month ☐
Less frequently ☐
Never ☐

15. How often do you happen to:

	Often	Sometimes	Never
Leave your house door unlocked	☐	☐	☐
Deliberately leave your car or bike unlocked	☐	☐	☐
Leave valuables unattended	☐	☐	☐
Trust unknown people	☐	☐	☐

16 How often have people you trusted betrayed your trust?

Often ☐
Sometimes ☐
Never ☐

17. How often have you benefited from spontaneous and selfless behaviour by a stranger?

Often ☐
Sometimes ☐
Never ☐

18. You are:

Catholic ☐
Atheist ☐
Agnostic ☐
Some other religion (specify) _____ ☐

19. How often do you attend a place of worship:

More than once a week ☐
Once a week ☐
A few times a month ☐
A few times a year ☐
Never ☐

20. Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?

Most people can be trusted ☐ Can’t be too careful ☐

21. Consider the following people, groups or institutions and indicate your level of confidence towards them:

	No trust	Little trust	Enough trust	Total trust
Family	☐	☐	☐	☐
Neighbours	☐	☐	☐	☐
Friends	☐	☐	☐	☐
Colleagues	☐	☐	☐	☐
Banks and financial institutions	☐	☐	☐	☐
Education	☐	☐	☐	☐
Political parties	☐	☐	☐	☐
Press and TV	☐	☐	☐	☐
Big companies	☐	☐	☐	☐
Religious organisations	☐	☐	☐	☐
Public health	☐	☐	☐	☐
Police	☐	☐	☐	☐
Judicial system	☐	☐	☐	☐

22. Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks? Please tick a box on the following scale, where the value 0 means: ‘unwilling to take risks’ and the value 10 means: ‘fully prepared to take risk’.”

unwilling to take risks fully prepared to take risk’

0 1 2 3 4 5 6 7 8 9 10

23. Using the same scale as above, would you say that you generally are a person who is fully prepared to take risks or do you try to avoid taking risks with respect to the following issues/activities:

unwilling to take risks fully prepared to take risk’

	0	1	2	3	4	5	6	7	8	9	10
Driving a car	0	1	2	3	4	5	6	7	8	9	10
Financial matters	0	1	2	3	4	5	6	7	8	9	10
Leisure and sport	0	1	2	3	4	5	6	7	8	9	10
Career	0	1	2	3	4	5	6	7	8	9	10
Health	0	1	2	3	4	5	6	7	8	9	10

24. How often do you read newspaper?

Every day ☐
More than once a week ☐
Once a week ☐
A few times a month ☐
Never ☐

25. In your opinion, which of the following causes is most often to blame if a person is poor?

Lack of effort ☐
Bad luck or circumstances beyond personal control ☐

26. How important are to the success of a person hard work and spirit of initiative:

Totally important ☐
Pretty important ☐
Not very important ☐
Not important at all ☐

27. If you go out at night alone, how safe do you feel?

Totally safe ☐
Pretty safe ☐
Not very safe ☐
Not safe at all ☐

28. Please indicate your level of agreement or disagreement with the following statements:

We should restrict and control the entry of people in our country more than we do.

completely agree	quite agree	quite disagree	completely disagree
☐	☐	☐	☐

29. How often do you:

	Never	Frequently	Very frequently
Contribute to the campaigns of international aid for victims of natural disasters (such as hurricanes, earthquakes, tsunamis)	☐	☐	☐
Donate to humanitarian associations	☐	☐	☐
Donate blood	☐	☐	☐
Give alms	☐	☐	☐

30. How often do you go to vote in political election or referendum?
Always ☐
Almost always ☐
Rarely ☐
Never ☐

31. Thinking of your friends - not your family members - how many close friends (people you do not have problems to talk about your personal life with) would you say you have? n.___

32. How often do you not keep promises made to the following people?

	Never	Rarely	Sometimes	Frequently
Parents or relatives	☐	☐	☐	☐
Friends	☐	☐	☐	☐
Colleagues	☐	☐	☐	☐
Neighbours	☐	☐	☐	☐

33. Generally speaking, do you think that the following behaviour may be justified?

	Not at all	Sometimes	Completely
To receive social benefits (e.g. invalidity pension) without having the right	☐	☐	☐
To avoid a fare on public transport	☐	☐	☐
To evade taxes	☐	☐	☐

34. Are you **currently** a voluntary member (without receiving a salary) of some organisations (such as a trade union) or some associations (such as cultural associations, sport associations, professional associations etc.)?

Yes ☐ if Yes go to the following question (number 34)
No ☐ if No, go to question number 38

35.

1. Indicate which and how many of the following organisations and / or associations you are **currently** a voluntary member. Indicate also the **name** of the organisations and / or associations of which you are a member

2. Next to the name specify also (by indicating the number of years and possibly of months) **how long** you have been a member of each organisation and / or association.

	Indicate the number of organisations and / or associations of which you are **currently** a voluntary member	Indicate also the **name** of the organisation and / or association **(or the names if more than one organisation / association)**	With respect to each organisation and / or association indicate **how long** you have been a member of the organisation/association (specify also the number of months if possible)
a. Social welfare services for elderly, handicapped or deprived people	|__|	_____ _____	_____ _____
b. Religious or church organisations	|__|	_____ _____ _____	_____ _____ _____
c.Cultural associations	|__|	_____ _____ _____	_____ _____ _____

d. Sport associations	|__|	_____ _____ _____	_____ _____ _____
e. Environmental and animal rights associations	|__|	_____ _____ _____	_____ _____ _____
f. Trade unions	|__|	_____ _____ _____	_____ _____ _____
g. Political parties or groups	|__|	_____ _____ _____	_____ _____ _____
h. Third world development or human rights	|__|	_____ _____ _____	_____ _____ _____
i. Professional associations	|__|	_____ _____ _____	_____ _____ _____
j. Youth work – e.g scouts, guides, youth clubs etc.	|__|	_____ _____ _____	_____ _____ _____
k. Education	|__|	_____ _____ _____	_____ _____ _____
l. Feminist groups and organisations	|__|	_____ _____ _____	_____ _____ _____
m. Peace movements	|__|	_____ _____ _____	_____ _____ _____
n. Health associations	|__|	_____ _____ _____	_____ _____ _____
o. Civil protection	|__|	_____ _____ _____	_____ _____ _____

p. Other	|__|	_____ _____ _____	_____ _____ _____

36. Consider all the associations/organisations where you participate as a voluntary member. How many hours do you spend per week, on average, doing voluntary work?
hours per week |__||__|

37.How far is your home from the organisation / association in which you spend the highest number of hours per week as a volunteer:
Km |__||__|
Time you need on average to reach the association/organisation |__||__|

38. Think about the organisation / association in which you spend the highest number of hours per week as a volunteer. How many people who worked or were volunteers in this organisation / association you knew before joining it? |__||__|

39. In the past were you a voluntary member (without receiving a salary) of any organisation (such as trade union) or of any association (such as cultural associations, sport associations, professional associations etc.) of which you are no longer a voluntary member at the moment?

Yes ☐ If yes, go to the following question (number 39)
No ☐ If no, but you are currently a voluntary member of any organisation/association go to the question number 42
If no, and you are NOT a voluntary member, go to the question number 47

40.Indicate the reasons why you stopped being a member of the organisations and/or associations of which you have been a member in the past (you may tick more than one answer)

Lack of time ☐
Either I or the organisation/association has moved ☐
End of activities of the organisation/association ☐
I disagreed with the decisions taken by
the organisation's/association's managers ☐
The activity in the organisation/association
did not meet my expectations ☐
I did not get along well with the other volunteers ☐
Impossibility to continue ☐
Other (specify) ☐
_____

41. If today you are no longer a voluntary member of organisations and / or associations, how long ago did you stop being a voluntary member? (number of years) |__||__|

42.

1. Indicate which and how many of the following organisations and / or associations you were a voluntary member **in the past** (and no longer today).
2. Indicate also the **name** of the organisations and/or associations of which you were a member
3. Next to the name specify also (by indicating the number of years and possibly of months) **how long** you have been a member of each organisation and / or association.

	Indicate the number of organisations and / or associations of which you were a voluntary member **in the past**	Indicate also the **name** of the organisation and / or association **(or the names if more than one organisation/association)**	With respect to each organisation and / or association indicate **how long** have you been member of the organisation/association (by specifying also the number of months if possible)
a. Social welfare services for elderly, handicapped or deprived people	|__|	_____ _____ _____	_____ _____ _____
b. Religious or church organisations	|__|	_____ _____	_____ _____
c. Cultural associations	|__|	_____ _____ _____	_____ _____ _____
d. Sport associations	|__|	_____ _____ _____	_____ _____ _____
e. Environmental and animal rights associations	|__|	_____ _____ _____	_____ _____ _____
f. Trade unions	|__|	_____ _____ _____	_____ _____ _____
g. Political parties or groups	|__|	_____ _____ _____	_____ _____ _____
h. Third world development or human right	|__|	_____ _____ _____	_____ _____ _____

i. Professional associations	|__|	_____ _____ _____	_____ _____ _____
j. Youth work – e.g scouts, guides, youth clubs etc.	|__|	_____ _____ _____	_____ _____ _____
k. Education	|__|	_____ _____ _____	_____ _____ _____
l. Feminist groups and organisations	|__|	_____ _____ _____	_____ _____ _____
m. Peace movements	|__|	_____ _____ _____	_____ _____ _____
n. Health associations	|__|	_____ _____ _____	_____ _____ _____
o. Civil protection	|__|	_____ _____ _____	_____ _____ _____
p. Other	|__|	_____ _____ _____	_____ _____ _____

43.Consider all the organisations/associations in which you currently participate or participated in the past as a voluntary member. As a whole, how many years did you spend as a voluntary member of organisations/associations? years |__||__|

44. Consider all the organisations/associations in which you currently participate or participated in the past as a voluntary member. How many hours did you spend per week, on average, doing voluntary work before 2011?
hours per week |__||__|

45. With respect to your decision to become a voluntary member of the organisations/associations you joined, how important were the following motivations:

	Not at all important	Little important	Quite important	Very important
The desire to increase your number of acquaintances or friends	☐	☐	☐	☐
Some of my friends are volunteers	☐	☐	☐	☐
The desire to feel useful for others	☐	☐	☐	☐
The pursuit of social recognition	☐	☐	☐	☐
The possibility to carry out an interesting activity	☐	☐	☐	☐

46. Consider all the organisations / associations of which you are currently a voluntary member or you were in the past a voluntary member. How many members whom you have met through your participation do you also you regularly see even outside the organisations/associations?
|__||__| (number)

How often do you see them:

More than once a week ☐
About once a week ☐
About once a month ☐
Once a year or less ☐
Never ☐

47. Do you think that your confidence in other people is increased through your voluntary participation in the organisations/associations you joined?

A lot ☐
Enough ☐
Little ☐
Not at all ☐

48. If you have never joined an organisation/association in the past, do you think you could consider this possibility in the future

Probably yes ☐
Is it possible, but I do not know ☐
Is it possible, but unlikely ☐
I do not think so ☐

49. Consider all the associations/organisations in which you could participate as a voluntary member in the future. How many hours do you think you will spend per week in the future, on average, doing voluntary work?

hours per week |__||__|

50. Educational qualifications:

No title ☐
Primary School ☐
Junior high School (from age 11 to 14) ☐
Secondary-School certificate (3 Years) ☐
Secondary-School certificate (5 Years) ☐
Bachelor's degree ☐
Master's degree ☐
PhD ☐

51. Could you please indicate your monthly household income, considering wages, pensions and all the other income concerning your family's members (after taxation).

_____

52. How well would you say that you are doing financially these days?

You would say that:
You live in a comfortable way ☐
You live in an acceptable way ☐
You can barely get by ☐
It goes really badly ☐

53. Does your family own a house?

Yes ☐
No ☐

54. Please, indicate your occupation:

_____

55. If you are unemployed or retired, please indicate your last occupation:

_____

56. Consider your current occupation (or your last occupation if currently unemployed or retired) and indicate to which category your occupation belong to:

Professionals, entrepreneur or business executive (responsible for more than 10 people) ☐
Associate professional or business executive (responsible for less than 10 people) ☐
Clerk ☐
Small employer (fewer than 10 employees) ☐
Self-employed ☐
Foreman ☐
Skilled worker ☐
Generic worker ☐
Salesman ☐
Farmhands ☐
Breeder/farmer ☐

57. Place of birth of your father (town and province) _____

58. Date of birth of your father (please specify day, month and year) _____

59. Place of birth of your mother (town and province) _____

60. Date of birth of your mother (please specify day, month and year) _____

61. All considered, in these days would you say that you are:

Very happy ☐
Pretty happy ☐
Not very happy ☐
Not happy at all ☐

62. All considered, how satisfied are you with your:

	Not at all	Little	Enough	A lot
Health	☐	☐	☐	☐
Relations with members of your family	☐	☐	☐	☐
Relations with friends	☐	☐	☐	☐
Leisure time	☐	☐	☐	☐

63. If you voted today, which political party would you vote for:

I would vote for the following party: _____
I would not vote ☐

64. As we have explained, during this research you made decisions together with people in another room of the library. Based on the information in you possession and of those given during the research, do you think you know these people directly?

Yes ☐
No ☐

Do you think you know these people indirectly? (For example because they are friends of your friends etc.)?

Yes ☐
No ☐

65. Indicate the way in which you have been contacted for this research:

Direct contact with a researcher ☐
Direct contact with a researcher immediately before the session ☐
By phone ☐
By e- mail ☐
Other (specify) ☐

65a.If you have been contacted in relation with your participation in some organisation and / or association, please indicate the name of the organisation / association through which you have been contacted:

_____

65b Indicate the frequency with which you normally participate in meetings of this organisation / association (e.g. two meetings per month, one meeting every two months)

_____

65c. Indicate the normal duration (in hours) of these meetings: _____

66.

Please indicate how often you meet members of this organisation / association outside of the organisation / association:

1.
2.
3. more than once a week
4. about once a week
5. about once a month
6. few times a year or less
7. never
8. _____

☐ ☐ ☐ ☐ ☐ ☐

67.

Indicate how long you have been a member of this organisation/association (specify also the number of months if possible)

_____

68. Please tell us the motivations behind the decisions you made during this research

_____
_____
_____

69. Please, tell us, if you want, what you think about this research

_____
_____

The questionnaire is finished
Thank you for your collaboration

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