Giving in Dictator Games:

Regard *for* Others or Regard *by* Others?[*]

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Abstract

Recent bargaining experiments demonstrated an impact of anonymity and incomplete information on subjects' behavior. This has rekindled the question whether "fair" behavior is inspired by regard for others or is explained by external forces. To test for the importance of external pressure we compare a standard double blind dictator game to a treatment which provides no information about the source of dictator offers and where recipients do not even know that they participate in an experiment. Our findings suggest that those dictators who give in such settings are purely internally motivated, as asserted by models of other-regarding preferences.

JEL-Classification: A13; C91; D64

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Our misdeeds are easily forgotten when they are known only to ourselves.

François Duc de La Rochefoucauld (1664)

1   Introduction

Experimental studies have challenged the notion that human behavior can be well approximated with models assuming narrow self-interest. Strong evidence for other-regarding behavior comes from dictator game experiments (Kahneman et al. (1986) and Forsythe et al. (1994)). One player (the dictator) decides on how to allocate an amount of money among himself and a passive player (the recipient). Narrow self-interest would call for the dictator to keep the entire amount, leaving the recipient with nothing. Forsythe et al. (1994) find that 70% of the dictators actually do not grab the entire pie for themselves, leaving the recipient with on average 24% of the total amount. Similar patterns have been found in many different dictator game settings (e.g., see the survey of Camerer (2003)).

But what is the source of seemingly altruistic behavior? The two fundamental views on this ancient question are pitted against each other in Plato's Republic. Glaucon claims that "[...] a man is just, not willingly or because he thinks that justice is any good to him individually, but of necessity, for whenever any one thinks that he can safely be unjust, there he is unjust." He illustrates this with the tale of the shepherd Gyges, who finds a ring that enables him to become invisible and act unjustly without anybody ever knowing. His brother Adeimantus concurs saying that otherwise "[...] we should not have been on the watch to keep one another from doing wrong, but every one would have been his own watchman." (Book II) In contrast, Socrates claims that an individual who acts just for *its own sake* rather than for *its appearance* is truly serving his own interest, justice being concerned "[...] not with the outward man, but with the inward [...]" (Book IV).

This paper looks into whether external forces – concerns for the "outward man" – are needed to motivate dictator giving, or if internal mechanisms – concerns for the "inward man" – are underlying such behavior. It has been argued that giving in dictator games might arise from a desire of subjects to appear acting in a socially appropriate way because their individual behavior is observed by others. Hoffman et al. (1994, p.349) suggest that "fairness" may not be "'own' preference, but a derivative of judgement by others." Since subjects' behavior might also be influenced by expectations about the experimenter's judgement, Hoffman et al. (1994, 1996) run a double blind treatment (DB1) to ensure that the experimenter cannot personally attribute subjects' decisions. Indeed, incidence of positive offers (36% of dictators)

and average donations (9.2% of pie) drop significantly relative to Forsythe et al. (1994). This vindicates Glaucon and Adeimantus' view that external enforcement of norms is important. Reducing observability of actions along the dimension of increasing anonymity leads to less seemingly other-regarding behavior.[1]

Nevertheless, 36% of the dictators in the DB1 experiment still donate some money. Does this imply that these subjects have pure other-regarding preferences? Hoffman et al. (1994, p.371) argue that the DB1 results "may approach the appropriate indicator of fairness as a pure preference phenomenon." However, there is another dimension of observability. Giving by a dictator might not be driven by true regard for the recipient's welfare but rather stem from a desire to avoid that the recipient discovers the deed of violating a social norm (rather than the perpetrator as an identifiable individual). Then, even in completely anonymous settings, the regard by others would still serve as an external enforcement device of norms.

To our knowledge, none of the extant dictator game experiments addresses this issue. It remains an open question whether such external enforcement is crucial, or if social norms can be sustained via internal mechanisms only. Paraphrasing Adeimantus, are individuals effective in policing themselves in completely anonymous situations? Does it matter for an individual in such a setting that others are able to assess whether his or her actions conform to established social norms or not?

Recent bargaining experiments provide some evidence that the observability of a proposer's action is an important driving force in seemingly altruistic behavior. Introducing an information asymmetry about the pie size to be divided by the proposer, the typical finding is that subjects are concerned about being perceived by others as abiding by social norms, even under inter-subject anonymity, but otherwise exploit their informational advantage in a selfish way.[2] Güth et al. (1996, p.597) conclude that "complying – at least superficially – with a (fairness) norm has some intrinsic value: you feel better when others do not know how greedy you are."

Our dictator game experiment is designed to test directly for the importance of such exter-

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[1]Dictator giving tends to increase when adding an additional observer (Cason and Mui (1997, 1998)) or visual cues in the form of stylized eyes that suggest being observed (Haley and Fessler 2005) and weakening anonymity across subjects (e.g., Bohnet and Frey (1999a, 1999b), Frohlich et al. (2001), and Burnham (2003)). Similarly, information that the recipient is deserving of aid increases dictators' offers (Eckel and Grossman 1996). However, Bolton et. al (1998) find no significant experimenter anonymity effect.

[2]See Mitzkewitz and Nagel (1993), Pillutla and Murnighan (1995), Straub and Murnighan (1995), Kagel et al. (1996), Rapoport et al. (1996, 1996), Croson (1996), Güth et al. (1996, 1997), and Kritikos and Bolle (2002). Further evidence against intrinsic benefits from giving is that charities often receive donations just sufficient to enter a publicized higher prestige donor category (Harbaugh 1998), possibly due to concerns for direct or indirect reciprocity (Engelmann and Fischbacher 2003).

nal enforcement of social norms, eliminating reputational and other strategic considerations by guaranteeing experimenter anonymity and precluding any possibility of future interaction between dictators and recipients. Treatments vary the information that recipients have. The *Aware Recipient (AR)* treatment provides recipients with the dictator game instructions. Common knowledge of the game enables recipients to become aware of being treated kindly or unkindly by the dictators. Such knowledge by recipients is crucial for external enforcement to be effective. In contrast, it is irrelevant for dictator behavior if pure other-regarding preferences (or any other internal mechanisms) are at work. Therefore, we compare behavior with that in the *Ignorant Recipient (IR)* treatment, which provides no information to recipients about the source of dictator offers. In fact, recipients do not even know that they participate in an experiment. In all treatments, we control for experimenter anonymity by implementing the Hoffman et al. (1994, 1996) procedure. To remove any possibility for future interaction between dictators and recipients, recipients are randomly selected from UK phone directories to receive the dictators' offers via mail.

Related to our experiment is a study of social distance in dictator games by Johannesson and Persson (2000). They compare a variant of the standard double blind treatment of Hoffman et al. (1994, 1996), where both dictators and recipients are students, to one where the recipients are randomly drawn from the Swedish population. In this latter treatment, dictators' offers are mailed out together with the instructions. Johannesson and Persson (2000) find no significant differences between their treatments. In contrast to our study, recipients always receive the instructions together with the dictators' offers – unless the offer is zero (in which case they receive nothing at all). Moreover, the setup in Johannesson and Persson (2000) differs from that in Hoffman et al. (1994, 1996) and our experiment in that dictators have a different strategy set.[3]

2 Experimental Design and Procedures

All experimental treatments follow the standard Hoffman et al. (1994, 1996) procedure to guarantee experimenter anonymity and instructions are kept as close as possible to the original ones (see Appendix). In the *Aware Recipient (AR)* treatment each recipient receives the instructions for the experiment along with the dictator's offer. This corresponds to the standard dictator game setting and serves as a control treatment. In the *Ignorant Recipient (IR)* treatment each recipient receives only the dictator's offer without any indication where it came

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[3]Dictators could choose to give 0, 20, 40, 60, 80, or 100 Swedish kroners, excluding the possibility of an equal split.

from. The recipient is even unaware of taking part in an experiment.

It is crucial to exclude any possibility for future interaction between dictator subjects and recipients to guarantee that the differential information treatments are credible. Therefore, instead of using laboratory subjects, recipients are randomly selected from UK phone directories to receive by mail an envelope containing the dictator's offer. Our AR treatment should be an effective control because Johannesson and Persson (2000) show that this design feature does not affect behavior in the standard Hoffman et al. (1994, 1996) DB1 treatment.

Each session has 15 subjects who receive a show-up fee of £5 upon arrival and take a seat in separate cubicles in the experimental lab, where a set of instructions is provided. Subjects are asked to remain quiet during the session, instructions are read out loud and any questions are answered. Then subjects draw a ballot to determine the monitor, who verifies that the instructions are carried out by the letter and receives an additional £10 for this.[4] The monitor randomly distributes 14 unmarked envelopes and retires to the back of the lab with the experimenters. Twelve envelopes contain ten £1 coins and ten metal discs of corresponding seize and weight, two envelopes contain only twenty metal discs.[5] Subjects tear open these envelopes and then decide how much money to place in the return envelope provided in their cubicle. They are instructed to return a total of ten coins/metal discs, seal the envelope, and place the remaining ten coins and discs in an identical envelope marked "Take this envelope with you".[6] Subjects leave in an order that guarantees each individual privacy for his or her decision. When leaving, subjects place the return envelope in a box next to the exit and take the other envelope with them. Thereafter, the monitor opens the return envelopes, records their contents, removes the discs, and places only the coins returned (if any) in a pre-addressed envelope. Finally, the monitor and experimenter go to the nearest mail box and post the 14 letters.

The 14 recipients in the IR treatment are unaware of being part of an experiment and do not know that some other person decided to allocate from a total of £10 to him or her the amount found in the envelope. In contrast, in the AR treatment recipients become aware of the fact that somebody else has decided to be kind to them or acted selfishly. Therefore, if dictator giving is (partially) motivated by external enforcement of social norms, there should

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[4]We use such a ballot to convince subjects that we did not place a stooge among them who is then selected as monitor.

[5]This guarantees that even if all subjects provided with coins return no money, the individual subjects' decisions will not become known (Hoffman et al., 1994,1996).

[6]Both envelopes are padded so that it is impossible to tell apart by looking at them an envelope filled with ten coins/discs even from an unfilled one.

be a higher fraction of people giving money and a higher average share of the pie for recipients under the AR treatment than under the IR treatment. Otherwise, if dictator giving is purely driven by internal mechanisms, there should be no behavioral differences between the AR and IR treatments.

All experiments were conducted in the Experimental Lab of Royal Holloway College, University of London. We ran three sessions for each treatment to generate 36 independent dictator observations per treatment (since in each session two dictator subjects received no money to distribute), recruiting subjects from all discipline areas of the university (of the 42 non-monitor subjects only 8 in AR and 6 in IR had economics majors or minors).

3 Results

In the AR treatment, the number of people who kept the entire endowment was 21 (58%) and recipients received 10.3% of the pie on average. In the IR treatment, the number of people who kept the entire endowment was 23 (64%) and the average share received by the recipients was 9.4%. These results are virtually identical and a chi-square test, based on the proportion of people who give zero and the proportion of people who give a positive amount, unsurprisingly yields no significant differences between treatments ($\chi^2 = 0.23$, $df = 1$, $p = 0.63$).

Figure 1 shows the cumulative distribution of dictators' choices. Again, AR and IR are rather similar. Kolmogorov-Smirnov tests for differences between distributions are insignificant ($Z = 0.281$, $p = 0.86$). These results clearly reject the hypothesis that external enforcement matters.

Figure 1 also reveals that there are no obvious differences between our treatments and the results in Hoffman et al. (1994, 1996). In DB1, 23 subjects (64%) kept the whole money endowment and 9.2% was given to recipients on average. Both of our treatments are very similar to these results and differences are not statistically significant. We conclude that our AR double blind procedure replicates the DB1 results and is consistent with Johannesson and Persson's (2000) results.

The result that the IR and AR treatments do not differ provides evidence that social norms can be effectively sustained by internal mechanisms. More than one third of the dictators gave positive amounts, and these subjects offered 25% of the pie on average. Moreover, in the IR treatment 3 out of the 36 subjects gave 40% or 50% of their endowment. This replicates both Hoffman et al.'s (1994, 1996) DB1 (3/36) and our AR (4/36) treatments. The fact that this frequency does not change across our treatments suggests that such dictators may have
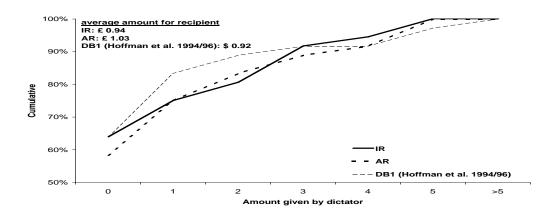
Figure 1: Cumulative distribution of dictator offers

truly other-regarding preferences. Suppose subjects felt that fairness norms call for dictators to give 50%. In the AR treatment recipients can immediately verify compliance with such a norm. In contrast, in the IR treatment recipients are completely unaware of the pie size and therefore have no obvious reference point against which to judge the offer. Therefore, external motivation for not violating this norm has no bite. If dictators still give half of the endowment, we can conclude that this decision is consistent with their true preferences.

We finally discuss whether our procedures might have biased the results. We kept very closely to the Hoffman et al. (1994, 1996) design and instructions. In our experiments, there was no evidence that dictators gave money as a result of an error. Typically, no questions were asked and even fine points in the instructions appeared to have been understood by all. For example, without exception subjects returned a total of ten coins/metal discs in their envelope, as instructed. Moreover, we took extreme care in avoiding credibility of design issues (Frohlich et al. (2001)) by selecting the monitor publicly (see footnote 4) and ensuring complete privacy of decisions through the use of separated cubicles and padded envelopes.

4   Discussion and Conclusion

Recent experiments on dictator and ultimatum games have demonstrated a substantial impact of anonymity and incomplete information on subjects' behavior. This has rekindled the question whether we follow social norms because we truly care for others, or instead because we are worried about the regard by others.

The experiment reported in this paper addresses the issue whether giving in completely

anonymous dictator games is internally motivated or whether external pressure helps enforce social norms. To this end, we remove a crucial element of observability of the dictators' actions; recipients do not receive the experimental instructions and, in fact, do not even know they participate in an experiment. Moreover, we guarantee credibility of the one-shot nature of the game and the informational treatments by eliminating through an anonymous mail-out scheme any possibility for future interaction between dictators and recipients.

In both treatments, roughly one third of the dictator subjects give positive amounts, leaving the recipients with roughly ten percent of the pie (as in the Hoffman et al. (1994, 1996) DB1 experiment). Once complete anonymity is assured, it does not matter for dictator behavior whether recipients are aware of being treated kindly or unkindly.

This result puts into perspective recent bargaining experiments, which show that subjects tend to exploit information asymmetries to engage in more selfish behavior when this does not become apparent to other subjects. The fact that information about the game provided to recipients has no impact in our completely anonymous setting suggests that those dictators who give are not driven by external pressure but are internally motivated to do so. These internal mechanisms include pure regard for others (as stipulated in models of other-regarding preferences), a *warm glow* of decision making (Andreoni 1989), a desire to maintain a positive *self impression* (Murnighan et al. (2001)) or to avoid feelings of *guilt*. The latter point has been succinctly framed by Kandel and Lazear (1992, p.806) in the context of sustaining work norms via peer pressure:[7] "Guilt is internal pressure, whereas shame is external pressure. In the context of the firm, the important issue is observability. A worker feels shame when others can observe his actions. Without observability, only guilt can be an effective form of pressure."

Our experimental results suggest that perceptions by others do not matter when there is complete anonymity. This finding supports modelling preferences as purely internal (as captured for example by other-regarding preferences) and eliminates the need to enrich models so that utility depends on judgement by others.

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[7]These concepts of guilt and shame are borrowed from sociology and have also been used by psychologists (e.g., Gehm and Scherer (1988, p.74)). It should be noted though that they contrast with Lewis (1971)'s reconceptualization of these terms which psychologists often follow (e.g., Tangney and Dearing (2002)).

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Appendix: Instructions

You have been asked to participate in an economics experiment. For your participation today we have paid you £5 in cash. You may earn an additional amount of money in cash.

We ask you to remain silent during the entire experiment; if you have any questions, please raise your hand.

In this experiment each of you will be paired with a person whose address was randomly selected from the BT phone directories for the UK. You will not be told who that person is either during or after the experiment, and he or she will not be told who you are.

You will notice that there are other people in the same room with you who are also participating in this experiment. You will not be paired with any of these people.

One of the persons in this room will be chosen to be the monitor for today's experiment. The monitor will be paid £10 in addition to the £5 already paid. The monitor will be in charge of the envelopes explained below. In addition, the monitor will verify that the instructions have been followed as they appear here.

The experiment is conducted as follows: Fourteen unmarked envelopes have been placed in a box. Twelve of these envelopes contain ten 1£ pound coins and ten metal discs. The remaining two envelopes contain 20 metal discs. The monitor will hand each person in the room one of these sealed filled envelopes. The person will then open the envelope privately inside the cubicle. Only the person who was given the envelope will know what the envelope contains.

Each person in this room will find inside the cubicle two empty padded envelopes, one of which is unmarked and the other is marked "Take this envelope with you". Each person must decide how many coins (if any) and how many discs to put into the unmarked padded envelope. The number of coins plus the number of discs must add up to 10. The person then puts the remaining coins and discs into the envelope marked "Take this envelope with you".

Examples:

1. Put £2 and 8 discs into the unmarked padded envelope, put the remaining £8 and 2 discs into the other padded envelope.

2. Put £9 and 1 disc into the unmarked padded envelope, put the remaining £1 and 9 discs into the other padded envelope.

These are examples only, the actual decision is up to each person.

If the envelope handed out by the monitor has 20 discs, put 10 discs into the unmarked padded envelope and the other 10 into the other padded envelope.

This is done in private and we ask that you tell no one of your decision. Notice that each unmarked padded envelope returned will look exactly the same. Also note that no one else, including the experimenter, will know the personal decisions of the people in this room.

Once you have made your decision you will seal your unmarked padded envelope. When called upon, leave the cubicle, place it in the box marked "return envelopes" and then leave the room taking along with you the envelope marked "Take this envelope with you".

After all 14 unmarked padded envelopes have been returned, the monitor will be given another box. This box is marked "addresses" and contains 14 envelopes with a stamp. Each of these envelopes has the address of a person randomly selected from the BT phone directories for the UK. This person does not know anything about the experiment. In fact, this person does not even know that he or she is participating in an experiment. He or she will simply receive the envelope without any explanation and without any indication where the envelope comes from. *The person will be sent a copy of these instructions but no further explanation.* [AR-treatment] There will be no return address and your identity will remain anonymous.

The monitor will then choose one envelope from the box with "return envelopes" and record its content. The monitor will put the money from this envelope into the envelope from the box "addresses" and seal it. Each addressed envelope will contain only the amount of money found in the return envelope (that is, £0 to £10), *without any explanation* [IR-treatment] *and a copy of these instructions* [AR-treatment]. The monitor will continue until all the envelopes have been opened. The monitor will then take the 14 sealed envelopes and, together with the experimenter, go to the closest mailbox and mail the envelopes. The experiment is then over.

For today's experiment, you will not have to sign a receipt for the money you received.