

Field Experiments in Charitable Contribution:  
The Impact of Social Influence on the Voluntary Provision of Public Goods

Jen Shang and Rachel Croson\*

**Abstract**

In this paper we study the effect of social influence in the voluntary provision of public goods in two field experiments. In the first field experiment we demonstrate the existence of a *social influence effect* on individual contributions. We explore the effectiveness of different levels of social information, and find the most influential to be information drawn from the 90<sup>th</sup> to 95<sup>th</sup> percentile of previous contributions. In our experiment, social influence increases contributions on average 12% (\$13) for all donors in the most effective condition and up to 29% (\$25.33) for first-time donors. Further, these increased contributions do not crowd out future contributions; social information significantly increases renewal rates and directionally increases contribution amounts one year later. In our second field experiment we demonstrate the boundary conditions of the effect. The results highlight the social cause of our results rather than an alternative cognitive cause (anchoring-and-adjustment or reference points).

---

\*Jen Shang, University of Pennsylvania, 3815 Walnut Street, Philadelphia, PA, 19104. Rachel Croson, University of Pennsylvania, 3730 Walnut Street, Philadelphia, PA 19104.

Why individuals make charitable contributions and voluntarily provide public goods is an important question in modern society. Research on this question has been conducted by economists (for reviews see Douglas Davis and Charles Holt, 1993 and John Ledyard, 1995) and by psychologists (for a review see Robyn Dawes, 1980).

Many theories have been proposed to explain why individuals give (or cooperate) when it is in their own (financial) interest to free- or cheap-ride. Explanations include altruism (e.g. Gary Becker, 1974), warm-glow and warm-glow altruism (e.g. James Andreoni, 1989, 1990), conditional cooperation (e.g. Urs Fischbacher, Simon Gächter, and Ernst Fehr, 2001), and reciprocity (e.g. Robert Sugden, 1984). These motivations have been studied using experimental data from the lab (e.g. Catherine Eckel and Philip Grossman, 2003) and naturally-occurring (empirical) data (James Andreoni, 2004).

Only very recently, field experiments have been introduced as a research tool in studying public goods provision and charitable contributions in economics (e.g. John List and David Lucking-Reiley, 2002; Bruno Frey and Stephan Meier, 2004; Catherine Eckel and Philip Grossman, 2005; Armen Falk, 2005).<sup>1</sup> List and Lucking-Reiley (2002) study the effect of seed money and refunds in a university fund raising campaign. They find that increasing the proportion of seed money increases both participation rates and the average amount contributed while instituting a refund only increases the average contribution, but not the participation rate. Eckel and Grossman (2005) study the effect of rebates as compared with matching donations in a public radio fundraising campaign via mail. They find that matching and rebates solicit about the same number of contributions,

---

<sup>1</sup>Research in psychology and marketing has long used field experiments in studying charitable giving (for a review, see James Weyant, 1996). Influence techniques studied include foot-in-the-door, door-in-the-face, low-ball, and legitimization-of-small-donation. The results, however, are mixed; some techniques show positive effects (e.g. Joel Brockner, et al., 1984), while others show no effects (e.g. Cynthia Fraser, Robert Hite and Paul Sauer, 1988).

but that matching generates higher amounts contributed. Note that both of these two experiments manipulate the payoff structure (or form of payoff) faced by individual donors.

Instead of manipulating the payoffs, our research follows Frey and Meier (2004) (reviewed in more detail below) by examining the influence of social information on behavior. While previous research has suggested that social information can have negative influences for efficiency and social welfare when there are negative externalities, for example, by leading individuals to overconsume (e.g. Robert Frank 1985, 1999), this project identifies a positive influence of social information; it can be used to enhance contributions to public goods.

In this article, we report the results of two field experiments in which social information is manipulated and shown to influence individual contributions. Our setting is an on-air fundraising campaign for a public radio station. We begin by introducing previous research on social influence and discussing how social information might influence contributions. In the next two sections, we describe our field experiments and their results. We conclude with a brief summary, discuss implications for understanding contributions toward funding public goods and economic behavior more generally.

## **I. Social Influence**

Experimental economics research has demonstrated the influence of social information in the laboratory. For example, Timothy Cason and Vai-Lam Mui (1998) use a sequential dictator game; individuals act as dictators, learn the dictator decision of another subject (or in the control condition, some irrelevant information about another

subject), and then make a second dictator decision. They find that social information indeed influences the second dictator decision; learning what others had done significantly retarded the typical pattern of decreasing generosity relative to the control condition.

Iris Bohnet and Richard Zeckhauser (2004) examine the impact of social information in ultimatum games in the lab. They show that both the size of offer and the probability of rejections are influenced by whether responders are told the average offer received by others. The effect of this social information becomes stronger as the game is repeated. Both these lab studies appeal to social norms, and the desire for conformity to them, as an explanation for their results

A few field studies have also been conducted on the influence of social information on behavior. However, these studies typically focus on the content (facts) conveyed by the social information, rather than the social influence component of the effect. For example, Esther Duflo and Emmanuel Saez (2003) provided monetary incentives for a selected set of employees of a university to attend a benefits fair, describing the advantages of a particular retirement plan. They find that the proportion of employees who enrolled in the plan was significantly higher in departments where individuals had been incentivized to attend than in those who received no incentives, even among those who did not attend themselves. They suggest that the information received at the fair was disseminated by those in attendance, which caused others in their department (but who did not attend) to enroll as well.

In the domain of charitable contributions, Frey and Meier (2004) use a mail fundraising campaign run by their university to show that social information influences

participation rates. Students are asked to contribute, in addition to the tuition they pay, to one or two charitable funds. One fund is for students in financial difficulty and the other fund is used to support foreign students. Students can make no contribution, simply sending in their tuition, or make contributions of CHF7 (about \$4.20) to one fund, CHF5 (about \$3.00) to another fund, or CHF12 (about \$7.20) to both funds. Some students receive a letter telling them that 64% of other students had previously contributed (this represents the proportion who actually contributed in a recent semester). Other students receive a letter telling them that 46% of other students had previously contributed (this represents the proportion of students who actually contributed over the last 10 years). 77% percent of students in the 64% treatment (high social comparison) contribute to at least one fund, while 74.7% of students in the 46% treatment (low social comparison) contribute to at least one fund. Unfortunately, the absolute different of 2.3% between the two conditions is not significant. The authors hypothesize that this non-significant result may be due to the fact that some donors are resilient to the social comparison information; in particular students who have always or have never contributed may not be influenced by the social information. The authors then use a logit model controlling for the previous contribution history of each respondent and find a statistically significant difference between the two treatments.

While this paper demonstrates the influences of social information on participation, we study the influence of social information on contribution amount. In our studies we communicate to potential donors not *that* another donor has given, but *how much* another donor has given, and will examine the influence of this social information on the level of contributions received.

We sought a naturally-occurring institution that captured the public good structure, where each individual has an incentive to free ride, but where the group as a whole is better off when everyone contributes. We identified public radio as one such setting. Each individual has an incentive to free ride, listen to the station, and not contribute to its continued functioning. However, the community as a whole is better off when the station is funded. This field setting also offers us the potential to offer social information to contributors in a natural way.

We collaborated with a public radio station to implement these experiments. This station has three on-air fund drives per year. During the drives, DJs on the air ask for donations and suggest particular contribution levels. Fifty dollars is the suggested level to become a basic member, listeners who give \$60 and \$75 receive additional gifts. Other gift levels kick in at \$120, \$180, \$240, \$360, \$600, \$840, \$1000 and \$2500. Listeners call into the station to make contributions in response to appeals.

According to social influence research in psychology, individuals are more likely to be influenced by social information when the following conditions hold. First, the situation is (seen as) ambiguous (Richard Crutchfield, 1955); if there were an obvious (correct) thing to do then the social information of what others were doing would not influence one's own decision. Our environment satisfies the ambiguity condition; the multiplicity (and range) of recommended contribution levels means that callers have relatively little idea of what the "right" contribution might be.

Second, the social information must be perceived as relevant or appropriate. Robert Cialdini (1998) summarized a variety of variables that influence this perception, including the appropriateness or reasonableness of the social information. In fact, Cason

and Mui (1998) show that only similar/reasonable others' information has an influence on decisions in dictator games. In our setting, this relevancy can be operationalized as the similarity between the social information and participants' intended decision.

A few theories on why people might use (relevant) social information in ambiguous situations have been developed. The purpose of our experiment is not to distinguish between these theories, but rather to test the prediction that they all make of the influence of social information on behavior. Douglas Bernheim's (1994) *conformity* model assumes that individuals care not only about their intrinsic preferences but also about status; how others perceive them. Individuals recognize that behavioral departures from the social norm will impair their status, thus information about others' contributions can influence one's own decisions. Other models of conformity assume that deviations from social norms have direct utility consequences (e.g. George Akerlof 1982, Stephen Jones 1984) and yield similar conformity results. In Sugden's (1984) *reciprocity* model, individuals with the opportunity to voluntarily provide public goods optimize their individual utility subject to two constraints. First, they give at least as much as they internally want to give. Second, they give at least as much as the least-generous person is giving. When this second constraint binds, and the gift of the least-generous person is unknown, social information can affect individuals' beliefs of this amount, affecting own contributions. Both these classes of theories can predict that social information will influence individual decisions. We will test this prediction in our first experiment.

## II. Experiment I

This field experiment was conducted in an anonymous public radio station on the East coast in June and September 2003 during the station's on-air fund drive. We used a between-subject design with three social information conditions (\$75, \$180 and \$300) and a control condition. In the social information conditions, another member's contribution was mentioned to participants before they made their own pledge; in the control condition no social information was provided.

During the on-air drive, the station DJs interspersed music with appeals for donations. Listeners responded to the on-air appeals during the drive and called the station to make a pledge. Experimenters answered the phone as volunteers for the station, asked the routine questions for the station and implemented the manipulation in the appropriate place in the conversation.

In particular, after answering the phone with the station's identifier: "Hello, STATION\_NAME member line", experimenters asked: "Are you a new member or a renewing member of STATION-NAME?" After the caller answered, experimenters read (or did not read in the control condition) the following sentence:

"We had another member, they contributed \$75 [\$180 or \$300]."

The question asked right after the manipulation was: "How much would you like to pledge today?" The dependent measure, the pledge amount, was then collected. We recorded data only during the hours when the station did not give special discounts or premiums.<sup>2</sup>

---

<sup>2</sup>During special-discount hours for example, the station offered a discount on at least one gift level. For example, it could offer a \$10 discount for each \$120 contribution that is paid in full on a credit card. That means donors could contribute only \$110 to receive thank you gifts normally awarded only to those who contribute \$120. When such special discounts are offered, almost all contributions received during those hours are exactly \$110, and unlikely to be responsive to social (or any other) information. During special-premium hours, the station offered unique gifts like



We determined the levels of social information to use by analyzing past contribution data from the station, and considering gift levels and special challenges used by station fundraisers. For this first experiment, we examined the distribution of contributions from the previous year's fund drives in June and October 2002 (2003 was the first year in which the station conducted its fall fund-drive in September instead of October, thus we used October 2002 data as the closest estimate).

We examined the distribution of the contributions. The mean contribution to the station in those two drives was \$135. The median contribution was \$75. As can be seen in Figure 1, the distribution is skewed. This figure also illustrates the “spiky-ness” of the data, with many contributions at \$50, \$60, \$75, \$120, \$240 and \$360. These spikes represent gift levels that the station uses; as a donor contributes at or above these thresholds (s)he receives additional thank-you gifts.

-----  
Insert Figure 1 about here  
-----

Next we identified the specific gifts offered for each level. For each level below \$360, donors receive only products as gifts, (e.g. CDs, mugs, T-shirts). It should be noted that these gifts levels were present, but remained consistent between our treatments. Starting from \$360, donors are invited to social events organized by the station. The station had also started to use labels like “Music Lover Circle”, “CD a Month Club”, and “Special Producer” to categorize donors who contribute above \$360. Since we wanted to identify our effect independent of any additional status or prestige that may be carried by our social information manipulation, we concluded that the social information level should be

---

concert tickets donated by popular singers or albums signed by famous station DJs. Data from these hours are extremely noisy, so we did not collect any data during those hours either.

lower than \$360. We thus used \$75 (the 50<sup>th</sup> percentile), \$180 (the 85<sup>th</sup> percentile) and \$300 (the 90<sup>th</sup> percentile) in our first experiment for the social information levels.

Other information collected by the station during the phone conversation included callers' name, phone number, email address, billing address, city, zip-code, credit card or check information, and the thank-you gifts they would like to receive. However, for confidentiality reasons and to conform to human subjects protocols, only research-related information was copied and kept by the researchers.

All experimental conditions were randomized within each experimenter and within each hour. An extra step was also taken to avoid any expectation effect or sales effect from the experimenters. The manipulation sentences were printed on labels, and then attached to each pledge form. These sentences were covered by post-it notes. The experimenter did not remove these covers until they asked the first key question, i.e. what kind of member the callers are. At this point, they removed the post-it note, read the manipulation sentence (or nothing if the control condition) and asked for the pledge amount. Experimenters were thus blind to which condition each caller was in before they read the manipulation, and the dependent measure of pledge was collected right after the manipulation.

Finally we ensured that another member had indeed contributed the amount we suggested, namely \$75, \$180 and \$300, earlier in the fund drive, so that our statements would not constitute deception. Five hundred and thirty eight donors called into the station to make a contribution and received the treatments.

## *Results*

Our analysis of existing station data suggested that contributions can be dramatically different depending on the fund-raising theme used in each drive, the thank-you gifts offered each day and hour, whether donors are new or renewing donors, their gender, and whether they pay the entire pledge amount as one payment or as installments over a period of 12 months. Although not all of these factors significantly explain variance in our data, we include them in our regression analysis, shown in Table 1.

Our primary result is that social information can influence contributions. The \$300 social information condition yields significantly higher contributions than the control condition (the omitted condition) while \$75 and \$180 are directional but not significant. The average contribution is \$119.70 in the \$300 social information condition and \$106.72 in the control condition. This is a \$13 difference, and would translate into a 12% increase in revenue for the station had all callers been offered the \$300 social information.

-----  
Insert Table 1 about here  
-----

Further analysis demonstrates that this effect exists for new members but not for renewing members. Table 2 splits the sample and shows two regressions; one for new and one for renewing members. The \$300 social information condition increases contribution in new members to \$111.91 from \$86.58 in the control condition: an increase of \$25.33 (29%). In contrast, the contributions of renewing members are not affected by our manipulations (but see below for further discussion).

-----  
Insert Table 2 about here  
-----

### *Long Term Impacts*

One reasonable question is whether this increased contribution comes at a cost. Do higher contributions this year crowd out future contributions from these new donors? To investigate this question, we went back to the radio station and tracked the contributions one year later of participants in our study. We examine three variables of interest; the renewal rate (the likelihood that the donor will renew their membership), the amount they contribute in the second year and the product of these two (the expected revenue from the donor one year hence).

As can be seen from Table 3, the renewal rate is higher in the three social information conditions (ranging from 23% to 32%) than in the control condition (12%). The difference in renewal rate is significant, according to a logit regression model. New donors who were given social information are significantly more likely to renew their membership the next year than those who were not given the information ( $z=2.85$ ,  $p=.004$ ,  $N=164$ ). We can conclude that providing social information significantly increases the renewal rate.

-----  
Insert Table 3 about here  
-----

The contribution amount one year later is also higher in the social information conditions (ranging from \$93.97 to \$121.13) than in the control condition (\$86.11). When we calculate the expected revenue from donors assigned to the various conditions in Figure 2, again the social information conditions yield higher amounts (ranging from \$22.21 to \$30.28) than the control condition (\$10.62).

-----  
Insert Figure 2 about here  
-----

A direct comparison of the \$300 social information and the control condition is of particular interest, as this social information was the most influential. We find a higher probability of contributing one year hence (in \$300 32%, in control 12%), higher amount contributed conditional on contribution (in \$300 \$93.97, in control \$86.11) and higher expected revenue (in \$300 \$29.95, in control \$10.62).

### *Discussion*

The results from Experiment I demonstrate the potential of social information to influence real-world decisions in the voluntary contribution to public goods. Providing social information significantly increased contributions. Notice that the size and significance of this effect varied, with the most effective social information level representing the 90<sup>th</sup> percentile of the distribution of contributions, and with the effect being significant for new members but not for renewing members. Furthermore, the increase in contributions due to social influence does not crowd out future contributions. In fact, it generates higher expected revenue than the control condition.

This effect is large. The most effective social influence condition increased contributions in new members by 29%, which is about \$25.33. This effect is of comparable size as that of manipulating the payoff structure of contributing. List and Lucking-Reiley (2002) report an increase of about \$25 from the non-refund to the refund policy. In Eckel and Grossman (2005), the increase in the amount of contribution ranges from \$7.85 to \$20.55.

Our research is the first to identify longer-term impacts of social influence as well. We find that donors who were provided social information were around twice as likely to contribute again one year later (between 23% and 32% compared with 12% in the control

condition), and, when they contributed, gave more (between \$93.97 and \$121.13 compared with \$86.11 in the control condition). The expected revenue from donors provided with social information was twice or three times that from donors who were not so provided (between \$22.21 and \$30.28 compared with \$10.62 in the control condition).

One puzzle remains; why social information was effective for new members but not for renewing members. One possibility is that \$300 might not have been the right social information level to use for renewing members. When we originally chose the levels from the contribution distribution data, we looked at all pledges received during previous fund drives. But renewing members tend to give more than new members, so the social information chosen might have been ineffective for renewing members. A new analysis of the history of contributions by renewing members suggests that this is indeed the case. The 90<sup>th</sup> percentile of contributions for those members is higher.

To test whether renewing members would be influenced by social information drawn from *their* percentile range, we conducted a different study with only renewing members, using \$600 as the social information (full results are reported in Shang and Croson, 2005c). We replicate the influence of social information; this social information increases average contributions from \$120.71 in the control condition to \$172.42 in the \$600 condition; a 43% (and statistically significant) increase of \$51.71.

To summarize, in Experiment I we demonstrate the influence of social information in the field. Providing social information of the 90<sup>th</sup> percentile increases contributions. Although the existence of the social information effect has been established, the mechanism behind the effect is not clear. Two alternatives suggest themselves; conformity to a social norm (as in the theories described above) and anchoring and

adjustment (reference points). In the next experiment we describe these alternatives and provide some evidence in favor of the socially-oriented explanation.

### **III. Experiment II**

One question one may ask is whether the impact of social information is based on its social origin or if it is simply a reference point to which donors (cognitively) adjust their contributions.

The social influence research suggests that people rely on social information to infer what the appropriate behavior is in an ambiguous situation, and then conform to the norm (e.g. Akerlof, 1982; Jones, 1984; Bernheim, 1994). Social information influences belief about the norm, thus influences behavior. However, when social information is no longer informative, the effect disappears. In the lab, Cason and Mui (1998) showed that outlying social information does not influence decisions, while typical social information does. The social influence explanation then predicts that unusual or outlying social information would not have an influence on contributions.

In contrast, one might imagine a more cognitive explanation for the results. Simply mentioning a number to callers might serve as an anchorpoint or reference point, and might influence their decisions in that way. There has indeed been a literature on the use of reference points to increase contributions. Reference points have typically been implemented using appraisal scales (contributions suggested by the nonprofit).<sup>3</sup>

---

<sup>3</sup>Note that this implementation is quite different from the traditional anchoring (and adjustment) effect initially discussed by Daniel Kahneman and Amos Tversky (1974). In those original experiments, the anchor value is generated randomly (using a spinner or some other device) and is clearly unrelated to the task at hand (e.g. estimating the number of African nations). In these experiments, in contrast, the anchors are (represented to be) selected intentionally by an interested party; the nonprofit organizations who are trying to increase the individual provision of their public goods. Because of this difference, we refer to reference points rather than anchoring-and-adjustment in describing this cognitive theory.

Unfortunately, no consensus has been reached on whether (or when) reference points affect either the participation rate or the amounts contributed, or why. Gerald Smith and Paul Berger (1996) found that higher reference points lead to reduced participation rates but equivalent levels of contribution. In contrast, Cynthia Fraser, Robert Hite and Paul Sauer (1988) found that a high (\$20) reference point increased contributions over the control, but lowered the participation rate. Most recently, Pierre Desmet and Fred Feinberg (2003) show that high suggested donations do not affect participation rates but do increase contributions. Overall, the reference point research does not suggest a robust picture of how reference points might influence decisions.

One way to distinguish between the cognitive (anchoring) and the social (conformity) explanation of our results is to identify a *boundary condition* for the influence of social information. We have shown that for social information to be influential, the level needs to be at least the 90<sup>th</sup> percentile of the contribution distribution; lower levels have directional but not significant impacts on contributions. However, consider what each theory would predict if the social information were even higher.

According to the cognitive reference-point theory, the higher the cognitive reference, the higher the contribution, since anchoring occurs automatically (with insufficient adjustment). Thus higher social information should be more effective.

In contrast, the social influence research suggests that individuals conform only to relevant (or appropriate) norms (e.g. Cason and Mui, 1998). A contribution that is too high might easily be seen as irrelevant or inappropriate. In our second experiment, we use social information of \$1000; the 99<sup>th</sup> percentile of contributions. Our participants are all



renewing members, and we compare their contributions to those in the effective \$600 condition reported briefly above (and in more detail here).

This experiment was conducted in the same anonymous public radio station in the East coast in February 2004 during the station's on-air fund drive. Two hundred and eighty one renewing donors received the experimental treatments. As before, we recorded data only during the hours when the station did not give special discounts or premiums. The procedure was identical to that of Experiment I. We used a between-subject design with two conditions; social information of \$600 and social information of \$1000.

As shown in Figure 3, the \$600 condition produced higher contributions than the \$1000 condition (\$172 in \$600 condition and \$140 in \$1000 condition). This difference of \$32 is statistically significant in the regression reported in Table 4.<sup>4</sup>

-----  
Insert Figure 3 and Table 4 about here  
-----

Thus in this experiment, we find evidence to support the social conformity explanation for the influence of social information, rather than the cognitive reference-point explanation. We do not consider this evidence conclusive; one might extend the reference-point story to allow for reference points that are ignored because they are too high, for example. However, we do believe that the evidence is suggestive of a social rather than a cognitive explanation.

Other of our research provides further evidence on this question. Jen Shang and Rachel Croson (2005a) manipulate the social similarity between the "other member" who

---

<sup>4</sup> Since only renewing members were tested and the experiment was conducted during a single fund drive, the member type and the drive variables are not included in this analysis.

had made a given contribution and the caller. We found that callers whose other members had the same gender as they, gave significantly more than callers whose other members had a different gender than they. This result is again consistent with the social conformity story (if another person *like me* gave a particular amount then it is more likely to be relevant or appropriate than if another person *unlike me* gave that amount), and not with the reference-point story (where the reference point of another's contribution remains constant between the treatments).

In addition, some current research directly compares the effect of social influence with the effect of reference points in a different public radio station. In the social influence condition, the manipulation is the same as above, we told donors another donor's contribution of \$200 (the 90<sup>th</sup> percentile of contributions for that station). In the reference point condition, donors were told that "to fill in all the information on the pledge form, it will take about 200 seconds", and then they were asked "do you want to contribute more or less than \$200?" The dependent variables are the same in two conditions: the pledge made after hearing the manipulations. We found that social influence generates significantly higher contributions than reference points (\$95.34 in social information, \$70.14 in reference points,  $p < .05$ ). This evidence, in combination with our previous results, reinforces our leaning toward a social explanation for the social information effect.

#### **IV. Overall Discussion , Implications, Limitations and Future Research**

Field experiments offer a unique opportunity to study the influence of social psychological processes on the voluntary provision to public goods (and charitable

contributions more generally) in a naturalistic environment. In the two field experiments reported in this paper, we show that social information influences contributions, with information drawn from the 90<sup>th</sup> percentile of contributions being the most effective. Lower social information has little or no influence, while higher social information actually *decreases* the level of contribution.

However, field experiments have limitations as well. While one can demonstrate that an effect exists, it is much harder to conclude why. We provide some field evidence in Experiment II that the effect is social rather than cognitive, nonetheless, we are further examining this question in the lab using hypothetical scenario studies. Preliminary evidence supports the conformity to social norm explanation offered here. We found that social information changes people's perceptions of both what others give to the nonprofit organization and what the appropriate contribution is. These changed perceptions correlate at the individual level with self-reported contribution behavior; individuals whose perceptions change more, give more than individuals whose perceptions change less (Shang and Croson 2005a).

A second limitation of field experiments involves the generalizability of the results. It is possible that our conclusions are sensitive to the choice of this particular public radio station and this particular experimental implementation. For example, this manipulation was done via the phone; would the results generalize to mail solicitations? Shang and Croson (2004b) examine this question in a renewal mail campaign of the same radio station. We find that renewing donors are influenced by social information presented in that setting. The fact that social information influences contributions in both situations suggests that the effect is at least reasonably general. That said, more work needs to be

done to test the generality of the social information effect with different organizations that provide public goods, different types of donors and different appeals. Conformity theory suggests that social information is most likely to be effective in ambiguous (or weak) situations. Future field experiments in domains like these could classify these situations and provide predictions of when social information is more (or less) likely to influence behavior.

We believe that social influence affects behavior in a wide variety of economic situations, even though we have demonstrated its effect only in the contribution setting. Others have suggested the importance of norms in actual (Akerlof, 1982) and experimental (Ernst Fehr, Erich Kirchler, Andreas Weichbold and Simon Gächter, 1998) labor markets, whether to work or live on welfare (Assar Lindbeck, Sten Nyberg and Jorgen Weibull, 1999), saving and consumption (Assar Lindbeck, 1997), and on profit seeking entitlements (Daniel Kahneman, Jack Knetsch and Richard Thaler, 1986). Our paper contributes to this literature by providing evidence that social influence is impactful in charitable contributions as well.

In summary, this research demonstrates the influence of social information on contributions in field experiments using a public radio station's on-air campaign. Contemporary and future research explores the same effect in different domains, using different media and different social information levels. This stream of research provides for a deeper understanding of what motivates individuals to contribute toward the funding of public goods and other charitable organizations, and provides a first step in understanding the domains in which social influence is likely to be an important factor to consider in our attempts to improve predictions (and explanations) of economic behavior.

## References

- Akerlof, George A.** Labor Contracts as Partial Gift Exchange. *Quarterly Journal of Economics*, 1982, XCVII(4), 543-569.
- Andreoni, James.** Giving with Impure Altruism: Applications to Charity and Ricardian Equivalence. *Journal of Political Economy*, 1989, vol. 97, pp.1447-1458.
- Andreoni, James.** Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving. *Economic Journal*, 1990, vol. 100, pp. 464-477.
- Andreoni, James.** Philanthropy. Prepared for L.-A. Gerard-Varet, S-C. Kolm and J. Mercier Ythier, eds., *The Handbook of Giving, Reciprocity and Altruism*, in the series Handbooks in Economics, 2004.
- Becker, Gary.** A Theory of Social Interactions. *Journal of Political Economy*, 1974, vol. 82, pp. 1063-1093.
- Bernheim, Douglas** A Theory of Conformity. *Journal of Political Economy*, 1994, 102(5), 841-877.
- Bohnet, Iris and Zeckhauser, Richard.** Social Comparisons in Ultimatum Bargaining. *Scandinavian Journal of Economics*, 2004, 106(3), 495-510.
- Brockner Joel; Guzzi, Bether; Kane, Julie; Levine, Ellen and Shaplen, Kate.** Organizational Fundraising: Further Evidence on the Effect of Legitimizing Small Donations. *Journal of Consumer Research*, 1984, Vol 11, 611-614.
- Cason, Timothy and Mui, Vai-Lam.** Social influence in the sequential dictator game. *Journal of Mathematical Psychology*, 1998, vol 42, 248-265.
- Cialdini, Robert.** *Influence: The Psychology of Persuasion*. Perennial Currents, 1998.

**Crutchfield, Richard.** Conformity and character. *American Psychologist*, 1955, 10, 191-198.

**Davis, Doug and Holt, Charles.** *Experimental Economics*, Princeton University Press, 1993.

**Dawes, Robyn.** Social dilemmas. *Annual Review of Psychology*, 1980, vol. 31, pp. 169-193.

**Desmet, Pierre and Feinberg, Fred.** Ask and Ye Shall Receive: The Effect of the Appeals Scale on Consumers' Donation Behavior. *Journal of Economic Psychology*, 2003, 24(3), 349-367.

**Duflo, Esther and Saez, Emmanuel.** The Role of Information and Social Interactions in Retirement Plan Decisions: Evidence from a Randomized Experiment. *Quarterly Journal of Economics*, 2003, 118 (3), 815-842.

**Eckel, Catherine and Grossman, Philip.** Rebate vs. Matching: Does How We Subsidize Charitable Contributions Matter? *Journal of Public Economics*, 2003, vol 87, pp. 681-701.

**Eckel, Catherine and Grossman, Philip.** Subsidizing Charitable Contributions: A Field Test Comparing Matching and Rebate Subsidies. Working Paper, Virginia Polytechnic Institute and State University, 2005.

**Falk, Armin.** Charitable Giving as a Gift Exchange: Evidence from a Field Experiment. Working paper, University of Bonn, 2005

**Fehr, Ernst; Kirchler, Erich; Weichbold, Andreas and Gächter, Simon.** When Social Norms Overpower Competition: Gift Exchange in Experimental Labor Markets. *Journal of Labor Economics*, 1998, 16(2), 324-351.

**Fischbacher, Urs; Gächter, Simon and Fehr, Ernst.** Are People Conditionally Cooperative? Evidence from a Public Goods Experiment. *Economics Letters*, 2001, vol. 71, pp. 397-404.

**Frank, Robert.** *Choosing the Right Pond: Human Behavior and the Quest for Status*. New York: Oxford University Press, 1985.

**Frank, Robert.** *Luxury Fever: Money and Happiness in an Era of Excess*. New York: The Free Press, 1999.

**Fraser, Cynthia; Hite Robert and Sauer Paul.** Increasing Contributions in Solicitation Campaigns: the Use of Large and Small Anchorpoints. *Journal of Consumer Research*, 1988, vol. 15, 284-287.

**Frey, Bruno and Meier, Stephan.** Social Comparisons and Pro-Social Behavior: Testing “Conditional Cooperation” in a Field Experiment. *American Economics Review*, 2004, 94(5), 1717-1722.

**Jones, Stephen.** *The Economics of Conformism*. Oxford: Blackwell, 1984.

**Kahneman, Daniel; Knetsch, Jack and Thaler, Richard.** Fairness as a Constraint on Profit Seeking: Entitlements in the Market. *American Economic Review*, 1986, 76(4), 728-741.

**Ledyard, John.** Public Goods: A Survey of Experimental Research, in J. Kagel and A.E. Roth (editors), *Handbook of Experimental Economics*, 1995, Princeton University Press, 111-194.

**Lindbeck, Assar.** Incentives and Social Norms in Household Behavior. *American Economic Review*, 1997, 87(2), 370-377.

**Lindbeck, Assar; Nyberg, Sten and Weibull, Jorgen.** Social Norms and Economic Incentives in the Welfare State. *The Quarterly Journal of Economics*, 1999, CXIV(1), 1-35.

**List, John and Lucking-Reiley David.** The Effects of Seed Money and Refunds on Charitable Giving: Experimental Evidence from a University Capital Campaign. *Journal of Political Economy*, 2002, vol. 110, pp.215-233.

**Shang, Jen and Croson, Rachel.** Field Experiments in Nonprofit Marketing: The Impact of Social Information. Working Paper, University of Pennsylvania, 2005a.

**Shang, Jen and Croson, Rachel.** Social Comparisons and the Voluntary Provision of Public Goods: Field Experiments. Working Paper, University of Pennsylvania, 2005b.

**Shang, Jen and Croson, Rachel.** Social Comparisons and Social Dilemmas: Evidence from the Field. Working Paper, University of Pennsylvania, 2005c.

**Smith, Gerald and Berger, Paul.** The Impact of Direct Marketing Appeals on Charitable Marketing Effectiveness. *Academy of Marketing Science*, 1996, 24(3), 219-232.

**Sugden, Robert.** Reciprocity: The Supply of Public Goods through Voluntary Contributions, *Economic Journal*, 1984, vol. 94, pp. 772-787.

**Weyant, James.** Application of Compliance Techniques to Direct-Mail Request for Charitable Donation. *Psychology and Marketing*, 1996, vol. 13(2), 157-170.



TABLE 1

The Social Information Effect

	beta	SE	p
\$75	1.495	6.670	0.823
\$180	2.656	5.622	0.637
\$300	20.666	6.881	0.003
Renewing Members	18.600	4.284	0.000
Male	7.780	4.215	0.066
Installment	32.841	4.284	0.000
Drive		yes	
Day		yes	
Hour		yes	
N	538		
R-Squared	0.180		

TABLE 2

The Social Information Effect: New versus Renewing Members

New Members				Renewing Members			
	beta	SE	p		beta	SE	p
\$75	2.669	7.514	0.723	\$75	0.266	12.399	0.983
\$180	6.228	5.619	0.269	\$180	1.512	11.638	0.897
\$300	16.531	6.833	0.016	\$300	23.854	15.182	0.118
Male	7.145	4.304	0.098	Male	7.056	8.563	0.411
Installment	28.323	4.538	0.000	Installment	42.460	8.487	0.000
Drive		yes		Drive		yes	
Day		yes		Day		yes	
Hour		yes		Hour		yes	
N	317			N	221		
R-Squared	0.194			R-Squared	0.234		

TABLE 3

New Donors One Year Later

Condition	Renewal Rate (Percent)	Mean Contribution (\$)	Expected Revenue (\$)
Control	0.12	86.11	10.62
\$75	0.23	95.50	22.21
\$180	0.25	121.13	30.28
\$300	0.32	93.97	29.95

TABLE 4

Limits of the Social Information Effect: Renewing Members Only

	beta	SE	p
\$1000	-37.598	18.848	0.047
Male	21.015	18.665	0.261
Installment	95.060	19.410	0.000
Day		yes	
Hour		yes	
N	279		
R-Squared	0.241		

FIGURE 1

Contribution History for June and October 2002 (by contribution amount)

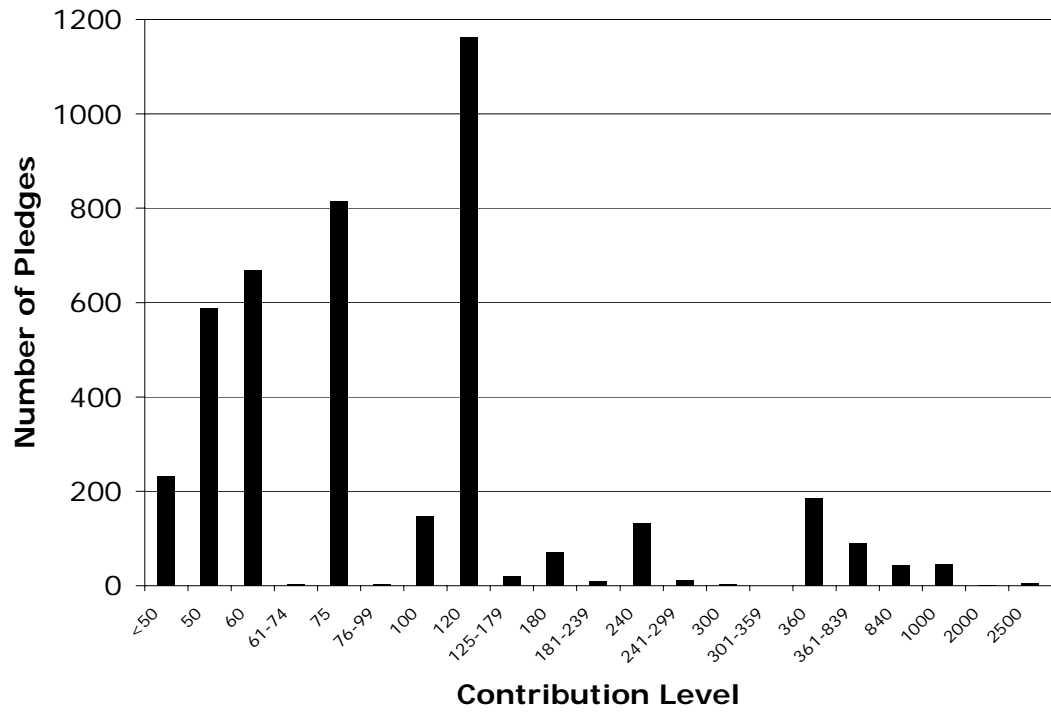


FIGURE 2

Expected Revenue One Year Later

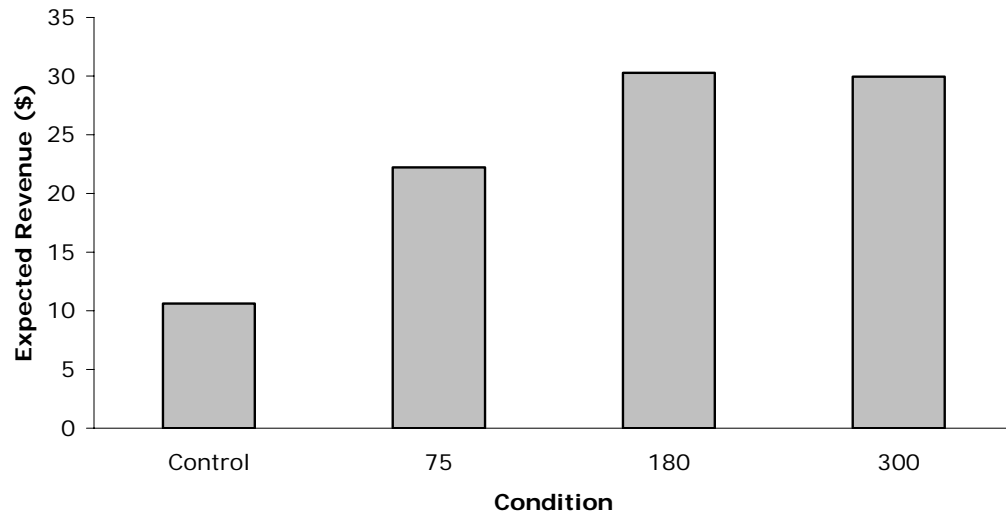


FIGURE 3

Experiment II: Boundary Conditions of Social Information Effect

