

# Whose money is it anyway? Ingroups and distributive behavior

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## Abstract

Price theory is often used to explain reactions to rebates and subsidies that are meant to encourage charitable giving. This paper describes the results of a laboratory experiment that tests standard price theory alongside an alternative perspective based on research on the perceptions and behavior of ingroups. Using a modified dictator game, we find that rebates that decrease the price of giving only increase amounts given when they are exogenously funded by the experimenters. When rebates are funded by members of one's group, the decreased price of giving does not lead to increased amounts given. The result suggests that the presence of an ingroup mentality can mediate the relationship between giving and price.

## 1. Introduction

Experiments and field studies both demonstrate that receipts to charities can be increased if institutions lower the price of giving by allowing would-be donors to spend other people's money in conjunction with their own. In lab experiments, an experimenter-generated decrease in the price of giving leads to an increase in aggregate amounts given (Andreoni and Miller, 2002; Fisman et al., 2007). Data from the field parallel these results: Karlan and List (2007) report that the presence of an anonymous donor's matching grant increases donations in mail solicitation campaigns<sup>1</sup>; Pelozo and Steel

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<sup>1</sup> But larger match ratios (i.e. \$2:\$1 or \$3:\$1) have no impact beyond what occurs with a \$1:\$1 match.

(2005) use a meta-analysis of forty years of econometric studies to show that charitable contributions are elastic with respect to rates of tax deduction.<sup>2</sup>

On the surface, these results suggest that the relationship between charitable giving and price can be neatly explained by standard price theory. Giving, however, occurs inside a social context; it is equally well documented by experiments and field studies that decisions are sensitive to social context. The interaction between social context and price becomes important given that, whenever the price of one's giving decreases, *someone else* must bear the cost. Using a modified dictator-game design that follows the approach used by Andreoni and Miller (by varying the pass and hold values of tokens), Harrison and Johnson (2006) demonstrate that it matters who this *someone else* is. The results of this experiment show that the amount given to another individual is lower when an unknown charity receives any money that is *not* given away, compared to the standard case in which the leftover money goes back to the experimenter. They also find that individuals give more money to an unknown charity when the leftover money is returned to the experimenter compared to when it is given to another subject in the experiment.<sup>3</sup>

The experiment presented here asks a related question: Does a potential giver's response to a decrease in the *price* of giving depend on whether the experimenter or members of

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<sup>2</sup> Studies that compare the differential effects of rebate and matching subsidies also demonstrate that giving is price-elastic (although more elastic for matching subsidies compared to rebates). For lab experiments that compare the two schemes, see Eckel and Grossman (2003, 2006). For field experiments, see Davis et al. (2005) and Eckel and Grossman (2008).

<sup>3</sup> Harrison and Johnson (2006) also examine the effects that decreases in prices have on giving and find weak effects when the recipient is another subject in the experiment. Price effects are stronger (and in the predicted direction), however, in the treatment in which dictators give to a charity and the leftover money is given to an unknown participant in the experiment.

one's ingroup bears the cost of the price decrease? Research in social psychology points to a strong tendency for individuals to perceive, form and favor ingroups; economists have recently begun identifying the economic consequences that stem from the presence of an ingroup mentality. Given that individuals tend to favor one's ingroup, a decreased price of giving may fail to increase an individual's giving if the price decrease is funded by people who are part of the giver's ingroup. In such instances, targets of giving will suffer, while group members will thrive. A price decrease that is funded by someone who is outside of the giver's ingroup, however, should lead to increased levels of giving. In these cases, targets of giving will benefit. This perspective leads to the prediction that the simple relationship between giving and price will break down when price decreases are funded by members of one's ingroup. The results show that the claim is verified – individuals increase the amounts that they give to an unendowed other when a price decrease comes via a rebate from the experimenter; but individuals do not increase the amounts that they give when a rebate is funded by other group members.

Our design tests a series of modified-dictator game treatments and finds that a dictator endowed with \$20 fails to increase the amount that he gives to an unendowed receiver when the price of giving is shared with group members. In one treatment, each dollar sent to a receiver has a price of \$1 to the dictator. In a second treatment, each dollar sent to a receiver has a price of \$0.125 to the dictator, with the remaining \$0.875 being paid by seven other dictators. In a third treatment, each dollar sent to a receiver has a price of \$0.25 to the dictator, with the remaining \$0.75 being paid by three other dictators. In a fourth treatment, each dollar sent to a receiver again has a price of \$0.25 to

the dictator, but the remaining \$0.75 is now paid by the experimenter. Across these treatments, a decrease in price, generated by a greater ability to spend other people's money, only leads to an increase in giving when the "other people" are the experimenters.

Our results suggest that, consistent with the predicted effects associated with the existence of an ingroup mentality, not all price decreases are created equal. When *specific, known individuals are required* to bear the costs of one's giving (rather than an anonymous donor or an abstract experimenter), the ability to spend other people's money fails to increase levels of giving.

The paper is organized as follows. The next section will review the literature on ingroups from the perspectives of psychology and economics. Subsequent sections will describe the design and results. The paper will end with a discussion of the experiment's implications, which connect the results to the teachings of Adam Smith – specifically, his warnings of the dangers of closely aligned interest groups – and address the potential for positive consequences to emerge from the organization of ingroups.

## **2. Ingroups: Psychology and Economics**

Research in social psychology has widely explored the extent to which individuals categorize themselves into groups and act differently based on perceptions of whether they are part of a group. Studies using the minimal group paradigm (Tajfel, 1970) apply a seemingly arbitrary criterion (like preferences for one of two painters or estimations of

dots on a screen) to create differentiated groups; such a manipulation leads to significantly higher levels of ingroup favoritism (Tajfel, 1974; Tajfel et al., 1971; Turner 1975).<sup>4</sup> Tajfel and Turner (1979) explain minimal-groups results in terms of social identity theory, arguing that individuals identify with – and favor – ingroups in order to maintain positive impressions of themselves. Other studies have deemphasized the motivations that underlie social identity theory, instead focusing on the environmental factors that contribute to perceptions of entitativity (Campbell, 1958) that generate ingroup favoritism.<sup>5</sup> Specific factors include perceived similarity (Castano et al., 2003; McConnell et al., 1997; McGarty et al., 1995), degree of interaction (Brewer and Miller, 1984; Cook, 1984; Dovidio et al., 1997; Freeman and Webster, 1994; Gaertner and Schopler, 1998), common outcomes/fate (Blake and Mouton, 1961; Castano, Yzerbyt, and Bourguignon, 2003; Rabbie and Horwitz, 1969) and interdependent actions amongst group members (Gaertner and Insko, 2000; Rabbie et al., 1989; Yamagishi et al., 1999; Yamagishi and Kiyonari, 2000). Yamagishi and Kiyonari (2000) argue that independencies naturally lead to “expectations of generalized reciprocity” and show that the existence of these expectations is fundamental to ingroup favoritism.<sup>6</sup> Such an outcome is consistent with the laboratory findings of Messick et al. (1983), who show that expectations of others’ restraint in a social dilemma significantly decrease one’s own resource exploitation.

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<sup>4</sup> Similar results have been found when assignment to groups is random (Billig and Tajfel, 1973; Rabbie and Horwitz, 1969).

<sup>5</sup> See Brewer (1979) for a review of early work in this area. See Lickel et al. (2000) for a recent review.

<sup>6</sup> Yamagishi and Kiyonari (2000) compare levels of ingroup favoritism by first movers in a *simultaneous* prisoners’ dilemma (a context in which expectations of generalized reciprocity may exist) with those of first movers in a *sequential* prisoners’ dilemma (a context in which these expectations do not exist). They find that ingroup favoritism is significantly higher in the former context.

The economic consequences associated with the tendency to form ingroups have also been analyzed. Akerlof and Kranton (2000) incorporate social identity in a utility function and examine implications regarding gender, labor markets and the women's movement. In a later paper (Akerlof and Kranton, 2005), they use identity to inform a principal-agent model of employment incentives and show that whether employees adopt the firm's identity (through homegrown preferences or inculcation) has ramifications regarding optimal wages and levels of monitoring. Goette, Huffman and Meier (2006), exploiting the Swiss Army's policy of randomly assigning officer trainees to groups, find that trainees, in a simultaneous prisoner's dilemma, cooperate more with members of their own group than with members of an outside group. Bernhard, Fehr and Fischbacher (2006), examining the behavior of two distinct tribes in Papua New Guinea, find that third parties punish norm violators who belong to their tribe less than they punish violating outsiders; punishment of a violator is also greater when the victim of the norm violation belongs to the same group/tribe as the punisher. Chen and Li (2009) add identity to social preference models and, using a minimal-group experiment, show that being matched with a member of an ingroup leads to increased charity, decreased envy, an increased tendency to reward good behavior and a decreased tendency to punish misbehavior.

The experiment presented here extends this literature by examining whether, in a dictator game, the effect of a decrease in the price of giving is mediated by the presence of an ingroup mentality. It is hypothesized that the direct link between price and giving will break down when the party that bears the cost of a price decrease is part of the same

ingroup as the giver. If the prediction is met, the results will parallel those associated with Adam Smith's "absurd and oppressive monopolies" (1776, IV.ii.43-44) – as insiders will benefit at the expense of outsiders.

### 3. Design

#### 3.1 Procedures

The experiment's decision task requires dictators (called "Senders" during the experiment) to choose an amount of money between \$0 and \$20 to send to an anonymous receiver. Responses to this task are compared across four treatments: a dictator-game (DICT); a treatment where each dictator pays 1/8 of the price of his contribution, with the rest being paid by a group of seven other dictators (GROUP-8); a treatment where each dictator pays 1/4 of the price of his contribution, with the rest being paid by a group of three other dictators (GROUP-4); and a treatment where each dictator pays 1/4 of the price of his contribution, with the rest being paid by the experimenter (EXP).

Subjects were recruited from a database of undergraduate and graduate students at George Mason University. Once at the lab, subjects signed a consent form, received a show-up fee<sup>7</sup> and drew a slip of paper that determined their roles in the experiment. The instructions were then read silently by the subjects and reread aloud by an experimenter.

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<sup>7</sup> Due to a change in policy, show-up fees increased to \$7.50 from \$5.00 during the course of our data collection. Subjects in the DICT treatments received \$5.00 for coming to the experiment, while all subjects in the GROUP-8 treatment received \$7.50, subjects in the GROUP-4 treatments received either \$7.50 or \$5.00 and subjects in the EXP treatment received \$7.00. The data described here include 32 GROUP-4 observations with a \$7.50 fee and exclude 18 GROUP-4 observations with a \$5.00 fee. Although results do not substantively change when these 18 observations are included (and behavior is virtually identical under the two different fees), we chose to exclude the GROUP-4 observations with the lower show-up fee in order to facilitate a *ceteris paribus* analysis across the GROUP-4 and GROUP-8 treatments.

Receivers were then brought to a separate room, while dictators remained in the lab. Communication was prohibited throughout the entire experiment. Both groups were given questionnaires that tested for comprehension of the instructions.<sup>8</sup> All dictators who did not answer the questionnaire correctly were excluded from the analysis.<sup>9</sup> Ultimately, 32 valid decisions were made in the DICT, GROUP-4 and EXP treatments, and 34 were made in the GROUP-8 treatment.<sup>10</sup>

Monitors distributed and collected all materials in order to create double-blind procedures similar to Hoffman et al. (1994). Under these conditions, the monitors knew the mapping from subject to ID, while the experimenters knew the mapping from ID to decisions; but nobody knew the mapping from subjects to decisions. The instructions made these information conditions clear to the subjects.

Once the questionnaires were completed, the monitor gave each dictator an envelope containing twenty \$1 bills and a decision form. Dictators were given time to examine the contents. The monitor then walked around with a basket and instructed dictators to put all of their money in it. Dictators then made their decisions and the monitor collected the envelopes with the decision forms inside. All money and forms

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<sup>8</sup> 20 out of 32 dictators in the DICT treatment were given questionnaires. Because decisions in this treatment did not differ depending on whether a questionnaire was administered, the two subsets were merged in the analysis.

<sup>9</sup> Questionnaires listed a series of hypothetical decisions in a table. Subjects were required to specify the earnings that each decision would generate for each sender. All dictators were given two questionnaires sequentially. After the first questionnaire, an experimenter corrected any mistakes. A monitor then returned the original questionnaire and passed out a second one. If mistakes were made on this second questionnaire, the subject's decision was excluded from the analysis. All references made to "correct" or "incorrect" questionnaires refer to this second-chance questionnaire.

<sup>10</sup> All dictators in the DICT treatment who received questionnaires answered the second one correctly. Likewise, all dictators in the GROUP-4 treatment answered the second questionnaire correctly. Perhaps because of a more difficult calculation, 6 out of 40 dictators in the GROUP-8 treatment answered incorrectly and were excluded from the analysis.



were brought to the experimenter in the room with the receivers. The experimenter put the money for each dictator and receiver into envelopes; the monitor gave the envelopes to the receivers and the receivers were dismissed. The monitor then returned to the lab and gave the envelopes to the dictators, who were also dismissed. Finally, the monitor was paid and dismissed.

### *3.2 Treatments*

The design's variables of interest are the price of giving \$1 to a receiver and the presence or absence of an ingroup mentality among senders.. Table 1 describes across-treatment procedures that generate varying prices.

[Insert Table 1 about here]

In the DICT treatment, the rule that determines earnings can be defined as follows:

$$(1) \quad e_i = s - r_i,$$

where  $i$  indexes individual dictators,  $e$  represents the dictator's earnings,  $s$  the amount of money available to the individual dictator, and  $r$  the money that the dictator chooses to send to the receiver. Instructions told subjects that each receiver would be paid the amount that was sent by the paired sender, with the amount returned to the sender equalling "\$20 – Amount Sent." Here, every dollar sent has a price to the dictator of \$1.

In the GROUP-8 and GROUP-4 treatments, a dictator's earnings were determined by the following rule:

$$(2) \quad e = (s*n - \sum r_i)/n,$$

where  $n$  represents the number of dictators and  $r_i$  captures each dictator-specific amount sent. With \$20 stakes and groups of 8 dictators, the rule used in the GROUP-8 treatment is simplified as follows:

$$(3) \quad e = (160 - \sum g_i)/8.$$

The rule in the GROUP-4 treatment is similarly defined:

$$(4) \quad e = (80 - \sum g_i)/4.$$

Like in the DICT treatment, instructions stated that each receiver would be paid the amount sent by the paired sender. In the GROUP-8 and GROUP-4 treatments, however, instructions stated that the amount returned to each sender would equal “ $(\$160 - \text{Total Sent to Receivers})/8$ ” in the GROUP-8 treatment or “ $(\$80 - \text{Total Sent to Receivers})/4$ ” in the GROUP-4 treatment. Each dictator in these treatments could now spend other group members' money on his paired recipient. With  $7/8$  ( $3/4$ ) of every contribution in the GROUP-8 (GROUP-4) treatment being paid by other dictators, every \$1 sent has a price to the dictator of \$0.125 (\$0.25).

In the EXP treatment, a 75 percent rebate was achieved by employing the following decision rule:

$$(5) \quad e_i = s - r_i + \frac{3}{4} * r_i$$

Again, instructions stated that each receiver would be paid the amount sent by the sender. Instructions in this treatment told subjects that the amount returned to each sender would equal “\$20 - amount sent +  $\frac{3}{4}$  \* amount sent.” Here, like the GROUP-4 treatment, every \$1 sent has a price of \$.25. But instead of being told that the remaining \$.75 will come from other group members, dictators in the EXP treatment are not told anything about from where the money comes.<sup>11</sup>

Two specific properties – with links to the literature on entitativity – increase the likelihood that an ingroup mentality will emerge in the GROUP treatments.<sup>12</sup> First, given that senders in these two treatments exert mutual influence each other’s payoffs (i.e. they force each other to give), it is likely that expectations of generalized reciprocity exist in these treatments. Jetten et al. (1996) demonstrate that such expectations arise in minimal group-settings, when individuals’ choices are simultaneous and interdependent; other work shows that these expectations are a robust antecedent to group favoritism (Gaertner

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<sup>11</sup> And no questions were asked about the source of the rebate.

<sup>12</sup> Importantly, the design does not allow the effects of these specific features to be disentangled. Instead, it is argued that these features jointly contribute to an ingroup mentality, the effect of which can be compared to that of a standard price change.

and Insko, 2000; Rabbie et al, 1989<sup>13</sup>; Yamagishi et al., 1999; Yamagishi and Kiyonari, 2000). Second, the senders in the GROUP treatments all ultimately receive identical payoffs. Such an outcome creates a condition of “common fate” (Campbell, 1958), which has also been shown to significantly contribute to ingroup favoritism (Blake and Mouton, 1961; Castano et al., 2003; Rabbie and Horwitz, 1969). In the EXP and DICT treatments, in contrast, senders’ payoffs are independent of the actions of other senders and senders are not tied to a common outcome.<sup>14</sup>

#### 4. Results

A price-theoretic model of giving predicts the following ranking:

$$F(\text{DICT}) < F(\text{GROUP-4}) = F(\text{EXP}) < F(\text{GROUP-8}),$$

with  $F(\cdot)$  reflecting each treatment’s population distribution of amounts sent. If senders adopt an ingroup mentality in the GROUP-8 and GROUP-4 treatments, amounts sent will be highest in the EXP treatment.

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<sup>13</sup> Rabbie et al (1989) show that interdependence with *outgroups* generates outgroup favoritism in situations in which there is no interdependency with one’s ingroup.

<sup>14</sup> Two design features, while present across all treatments, may interact with independencies and common fate and enhance the strength of a group mentality. First, all dictators are commonly labeled as “Senders” and remain in the same room while receivers leave. Second, when the money is initially collected, each dictator places their dollar bills in a communal basket.

Our data, summarized by the descriptive statistics in Table 2 and the cumulative distribution functions displayed in Figure 1, reveal the following relationship across treatments:

$$F(\text{OPM-8}) < F(\text{OPM-4}) < F(\text{DICT}) < F(\text{EXP}).$$

[Insert Table 2 about here.]

[Insert Figure 1 about here.]

[Insert Table 3 about here.]

Table 3 shows the results of pairwise Wilcoxon rank-sum tests.<sup>15</sup> Like both price theory and the ingroup perspective would predict, amounts sent in the EXP treatment are significantly higher than those sent in the DICT treatment. But, in contrast to the predictions of price theory, amounts sent actually decline as price decreases across the DICT, GROUP-4 and GROUP-8 treatments (though these differences are not statistically significant at a level of 5 percent<sup>16</sup>) Moreover, the significant difference between amounts sent in the DICT and EXP treatment ( $W = 2.48$ ,  $p = 0.013$ ), coupled with the fact that amounts sent in the DICT are *higher* than amounts sent in the GROUP-4 treatment, provide strong support that the ingroup perspective explains the data better than price theory does.

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<sup>15</sup> While the text presents results of Wilcoxon rank-sum tests, all results are robust to Epps-Singleton distribution tests.

<sup>16</sup> The difference between the distributions in the DICT and GROUP-8 approaches significance under the rank-sum test, but the difference does not approach statistical significance according to the Epps-Singleton test ( $\chi^2 = 5.67$ ,  $p = 0.22$ ).

The data is consistent with the following model that incorporates both price theory and an ingroup mentality.<sup>17</sup> Moving from the DICT to the EXP treatments, price theory predicts that amounts given will increase by some amount, denoted  $x$ . In the GROUP treatments, the existence of an ingroup mentality elicits solidarity among senders. Such solidarity causes a group member to regard other members' budget constraints as if they were one's own; this manifests in a disutility when one forces group members to subsidize his contribution to his receiver. Assuming that this disutility is lump-sum (i.e. it does not vary with the cost that is imposed on others), relative to amounts sent in the DICT treatment, amounts sent in the GROUP-4 treatment should *decrease* by an amount equal to  $x*\beta$  (where  $\beta < 1$  denotes the disutility from forcing three group members to contribute). In the GROUP-8 treatment, relative to the DICT treatment, amounts sent should decrease by an amount equal to  $x*\delta$  (where  $1 > \delta > \beta$  denotes the disutility from forcing seven group members to contribute). Thus, the total disutility from a given contribution will be higher in a group with seven others (GROUP-8) than in a group with three others (GROUP-4). A given contribution in the GROUP-8 treatment will therefore cause more disutility than an equivalent contribution in the GROUP-4 treatment. To compensate, contributions will be lower in the GROUP-8 treatment.<sup>18</sup>

## 5. Discussion

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<sup>17</sup> The authors are grateful to Elias Khalil for suggesting this model.

<sup>18</sup> Small et al. (2007, 150), in their experimental examination of the identifiable victim effect, show that "calculative thought lessens the appeal of an identifiable victim." This finding presents an alternative explanation of our results to the extent that deliberation is lowest in the EXP treatment and then increases across the DICT, OPM-4 and OPM-8 treatments.

This paper presents the results of a modified dictator game where a dictator can spend other people's money on his paired receiver. A number of dictators are grouped together and the price of giving for a dictator is decreased in two different ways. First, across two treatments, the other members of the dictator's group are forced to pay for the difference between what the dictator pays and what recipient receives. Second, in a separate treatment, a dictator is given a 75 percent rebate, paid by the experimenters, on the amount that is sent. In line with the predictions of price theory (and consistent with the results of earlier experiments), we find that the ability to spend other people's money increases giving when the experimenter provides a rebate. But the amounts sent across all other treatments suggest that recognition of the effects of ingroups can enrich the standard view of the relationship between charitable giving and price. The fact that we do not observe an inverse relationship between giving and price when rebates are funded by other group members suggests that an ingroup mentality can override the desire to help a less fortunate outsider. In short, the closeness of the "other people" affects one's decision to spend other people's money.

This result may have implications for tax deductability and charitable donations, and, possibly, transfer policies. If the government is viewed as an exogenous source of money (like a remote, abstract experimenter or an anonymous matching donor), the perceived benefits of a given donation become salient relative to the concerns for those who bear the cost of the tax deduction. Alternatively, if the government is merely viewed as a broker, taking and spending money that belongs to fellow citizens who are required

to pay, cost-bearing becomes increasingly salient relative to redistributive benefits (Rizzo, 2008). People's perceptions of the role of government – in addition to preferences for money and social preferences – may influence how they react to tax incentives intended to encourage charitable giving.

The implications of these results can also be closely connected to the teachings of Adam Smith, In *The Wealth of Nations*, Smith places emphasis on the adverse consequences that stem from the manifestation of an ingroup mentality. To Smith, small and closely connected interest groups tend to be self-referential, and potentially damaging to society (Evensky, 2005; Paganelli, 2009, 2010). He rails against the harmful effects brought about by the ability of merchants (Smith, 1776, IV.vii.b.49; V.i.e.4-5), manufacturers (*ibid*, IV.viii.17) and wage-setting employers (*ibid* I.x.c.61) to organize and shape policy. In one passage, Smith (*ibid* IV.ii.43-44) begins by specifically targeting manufacturers of wool, and then extends his criticism to merchants and manufacturers in general:

Our woollen manufacturers have been more successful than any other class of workmen in persuading the legislature that the prosperity of the nation depended upon the success and extension of their particular business. They have not only obtained a monopoly against the consumers by an absolute prohibition of importing woollen cloths from any foreign country, but they have likewise obtained another monopoly against the sheep farmers and growers of wool by a similar prohibition of the exportation of live sheep and wool... But the cruellest of our revenue laws, I will venture to affirm, are mild and gentle in comparison of some of those which the clamour of our merchants and manufacturers has extorted from the legislature for the support of their own absurd and oppressive monopolies. Like the laws of Draco, these laws may be said to be all written in blood.

Such commentary demonstrates the dangers that arise when institutions allow group members to align their interests at the expense of others. As noted by Levy and Peart



(2008), Smith cites regulations like public registers and taxes as policies that create a common interest among “people of the same trade” (Smith, 1776, I.x.c.26) and provide them with a reason and opportunity to meet and strategize.

Throughout history, the tendency to form ingroups has been – and continues to be – a force that impedes the progress of developing nations (North et al., 2009). In contemporary democracies, it is often the cause of politically expedient policies that enrich concentrated interest groups at the expense of the general population (Grossman and Helpman, 1996; Goldberg and Maggi, 1999; Bardhan and Mookherjee, 2000; Acemoglu and Robinson, 2008). Combating these malevolent effects of an ingroup mentality almost certainly requires the development of what Smith (1759, IV.i.11) calls “public spirit”, implying that political leadership should have society’s broader interests in mind and should be sufficiently unified to overcome the pervasive incentives to free-ride off of the contributions of others (Olson, 1965).

The problems associated with ingroups are pervasive, in large part, due to the fact that the tendency to form them is embedded within human nature. As emphasized by Smith (1759, VI.ii.2.7) in *The Theory of Moral Sentiments*,

Every individual is naturally more attached to his own particular order or society, than to any other. His own interest, his own vanity the interest and vanity of many of his friends and companions, are commonly a good deal connected with it. He is ambitious to extend its privileges and immunities. He is zealous to defend them against the encroachments of every other order or society.

Yet, despite the inevitability of this tendency, the consequences of ingroup formation need not be deleterious. As highlighted by Levy and Peart (2008), for Smith, the same

sentiment that manifests in harmful ingroup favoritism generally leads to cooperation among people as they seek approbation. Thus, the “zealous defense” of group members, while harmful in certain settings, may be a force for good in others. Such examples are well established in economics research. In a comprehensive examination of common pool resources (CPRs), Ostrom (1990, 88-89) sets forth the shared properties of successful self-governance:

“[T]he populations in these locations have remained stable over long periods of time. Individuals have shared a past and expect to share a future. It is important for individuals to maintain their reputations as reliable members of the community. These individuals live side by side and farm the same plots year after year. They expect their children and grandchildren to inherit their land...Extensive norms have evolved in all of these settings that narrowly define ‘proper’ behavior. Many of these norms make it feasible for individuals to live in close interdependence on many fronts without excessive conflict...None of these situations involves participants who vary greatly in regard to ownership of assets, skills, knowledge, ethnicity, race, or other variables that could strongly divide a group of individuals.”

Thus, the conditions that facilitate the formation of ingroups (i.e. common fate, physical proximity, interdependence and similarity) simultaneously help solve problems associated with CPRs. Experimental results further support this claim – Ostrom and Walker (1992) show that near-peak efficiency is observed in a CPR experiment when groups can communicate and endogenously agree upon an enforcement mechanism. In the context of public goods, van Dijk and van Winden (1997) model how the presence of social ties affects provision, while van Dijk et al. (2002) and Sonnemans et al. (2006) show that social ties increase contributions in a voluntary contributions experiment. In a model of network interactions, Bowles and Gintis (2004), show that identifiable homogeneity facilitates trust and decreases transaction costs. Like the self-governance mechanisms that solve problems associated with CPRs, homogeneity-aided trust in

networks helps solve “economic problems that are resistant to market- or state-based solutions” (ibid, 3).

In the experiment presented here, the outcomes in the GROUP-8 and GROUP-4 treatments may be reflective of either the deleterious or beneficial consequences of group mentalities. On one hand, the ingroups in this treatment benefited greatly at the (unendowed) receivers’ expense. But, on the other hand, the ingroups protected each other’s money, choosing not to exploit fellow members. If one views income equality as a primary objective, then the former perspective is likely to be emphasized; if one prioritizes freedom from imposed giving, then the latter perspective is likely to be adopted. More generally, however, the view that one takes toward a given ingroup-outgroup relationship is likely to be dependent on whether the person belongs to the ingroup or outgroup. In the words of Smith (1759, VI.ii.2.3), “The mean principle of national prejudice is often founded upon the noble one of the love of our own country” (*TMS*, VI.ii.2.3).

Table 1: Treatment-Specific Procedures

Treatment	Decision	Amount Returned	Price of Giving \$1 to Receiver
DICT	Dictator chooses amount to send	Dictator receives \$20 – amount sent	\$1.00
GROUP-8	Dictator chooses amount to send	Dictator receives (\$160 – Total Sent to Receivers)/8	\$0.125
GROUP-4	Dictator chooses amount to send	Dictator receives (\$80 – Total Sent to Receivers)/4	\$0.25
EXP	Dictator chooses amount to send	Dictator receives \$20 – amount sent + $\frac{3}{4}$ * amount sent	\$0.25

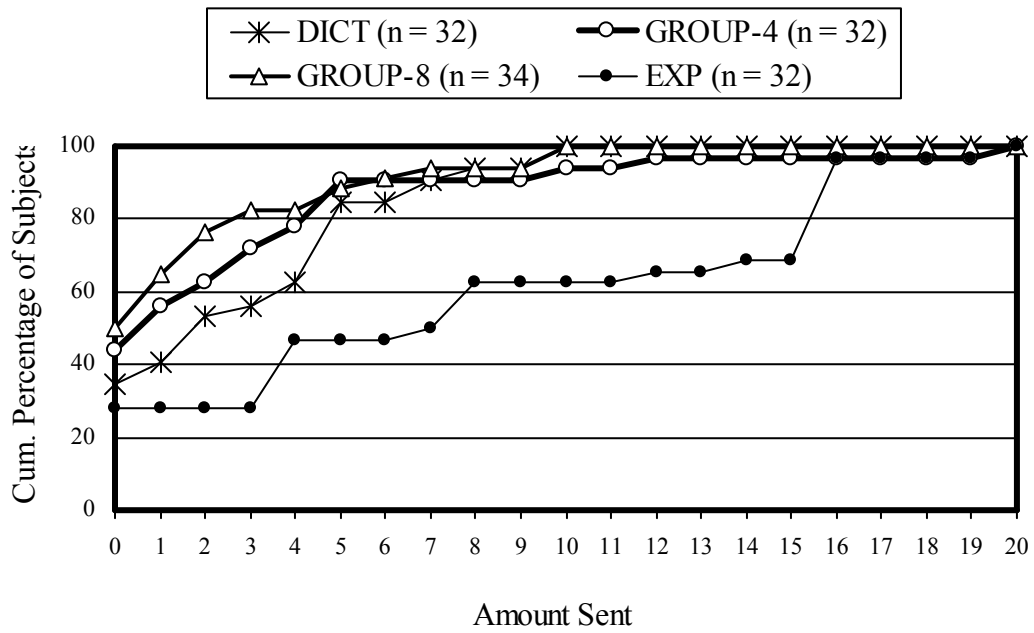
Table 2: Descriptive Statistics

	Observations	Mean Amount Sent	Median Amount Sent	Frequency that \$10 is Sent	Frequency that \$0 is Sent
DICT	32	3.06	2.00	2	11
GROUP-8	34	1.83	0.50	2	17
GROUP-4	32	2.72	1.00	1	14
EXP	32	7.91	7.50	0	9

Table 3: Pairwise Wilcoxon Rank-Sum Tests

Wilcoxon W (Probability significance level)	GROUP-8	GROUP-4	EXP
DICT	1.76 (0.08)	1.08 (0.28)	2.48 (0.013)
GROUP-8		0.75 (0.46)	3.56 (0.0004)
GROUP-4			2.92 (0.004)

Figure 1: Cumulative Distribution Functions



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