

# Social Approval as a Motivation to Give

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## Abstract

The aim of this paper is to explain gift-giving by means of social approval. In a simple framework we are able to account for a number of stylized facts. These are that gift-giving is often reciprocal, that gifts tend to be inadequate, and that gift-giving is sometimes reduced after a monetary compensation is offered. The implication for the interaction between gift-giving and the market institution is that implementing price incentives in a non-market environment can have welfare decreasing unintended consequences.

**Keywords:** gift giving, social approval, reciprocity, adequacy, compensation, market institution, exchange.

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# 1 Introduction

Gift-giving has mainly interested anthropologists because it has been taken as a primitive mode of exchange. Relying both on a double coincidence of wants and on the existence of trust between the agents, gift-giving clearly seems to be inferior to the market mechanism. Yet, gift-giving is still widely observed *even* in countries with well-developed markets. Indeed, gift-giving sometimes even flourished in the presence of a market economy (Gregory, 1989). The lack of interest from an economics point of view is therefore unjustified.

The difficulty is not to explain gift-giving *per se*. One can simply attribute utility to the act of giving, or, in the terminology of Andreoni (1990), a warm glow feeling. Rather, there are some stylized facts related to gift-giving that have to be explained but are puzzling from a standard economics point of view. These stylized facts include reciprocity, inadequate giving, and a negative correlation between monetary compensations for gifts and the level of gift-giving. Reciprocity refers to the observation that, although voluntary on guise, factually gifts appear to have strong reciprocal properties. Inadequacy points to the fact that gifts should be in cash in order to maximally satisfy the preferences of the receiver, but often they are not. Finally, it is observed that gift-giving is sometimes reduced after compensation is offered. Neither one of these stylized facts can easily be explained by standard economic arguments.

The main point to this paper is to explain gift-giving by means of social approval. The idea that approval motivates gift-giving is intuitively an appealing hypothesis. Public goods experiments show that familiarity with the identity and actions of other players leads to significantly higher contributions (Andreoni and Petrie, 2000; Gächter and Fehr, 1999). Although not entirely neglected in the economics literature,<sup>1</sup> the concept of social approval has, above all, found an eminent place in sociology and social psychology. It plays the same part there as money does in economics: recognition by others is regarded as a primary source of satisfaction.<sup>2</sup> Social approval in this sense appears to be a functional substitute for money. Hence, a transaction that is unequal in monetary terms – as a gift is – can in principle still be in balance as long as approval is awarded.

Gift-giving indeed appears to be a virtue and a source of prestige (Polanyi, 1944; Schwartz, 1967). The way in which approval is obtained is however

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<sup>1</sup>See Holländer (1990) and Van de Ven (2000).

<sup>2</sup>See for example Homans (1961) and Coleman (1990), among others.

complex; many factors play a role here. It is evident that approval will be higher the more the gift is valued. But the valuation of the gift is not only determined by its value in terms of consumption, but also by the sacrifice made by the giver. Moreover, approval seems to be closely linked with status. Recognition and status are often mentioned in one and the same breath.<sup>3</sup> Taking these factors into account, the stylized facts become natural implications of the model.

Other implications of taking into account the taste for social approval follow from relating gift-giving to the market institution. Both institutions provide in the exchange of goods but each having its own properties. Because social interaction is needed to obtain approval for an act, and since the market is in its purest form an anonymous institution, no social approval is obtained in a market exchange. On the other hand it is generally acknowledged that the market creates incentives to maximize adequacy. Gift-giving as an exchange mechanism *does* allow for acquiring approval but in general fails to maximize adequacy. Hence, in choosing between a gift-exchange or a market exchange the trade-off to be made is that between approval and adequacy. Obviously, depending on the properties of the social approval function either institution can be efficient. Of more interest is the observation that spontaneous order does not necessarily lead to the most efficient institution because the links between the institutions are shot through with externalities (Dasgupta, 2000). Trying to fix any inefficiencies with a standard economic tool like money compensations does not resolve this and may even have the opposite effect of worsening the situation. This is in line with what the model is able to predict and with ample empirical evidence.<sup>4</sup>

The basic line of argument runs as follows. In the model, two individuals are playing a sequential move gift-giving game. Each of them has preferences both over a consumption good and social approval. The decision variable is the amount of time spent doing volunteer work. Volunteer work contributes to the other's consumption level but decreases one's own consumption because of the forgone wages. For this gift, approval is awarded. Player 1, first-mover in the game, finds it profitable to make a gift if the awarded approval outweighs the consumption loss in utility terms. We assume throughout that this is indeed the case. This has two effects on player 2. First, the gift increases the consumption level of player 2, thereby decreasing his marginal utility of consumption. Second, insofar as status plays a role, it decreases the net status of player 2. Both effects give incentives to

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<sup>3</sup>For example in Schwartz (1967, p. 130), and Harsanyi (1969, p. 523).

<sup>4</sup>See Frey and Jegen (forthcoming) for a survey.

player 2 to make a countergift. The gift of player 1 elicits a countergift of player 2, which explains the reciprocal behavior that is found.

Extending the game to another decision variable, it is supposed that player 1 has the possibility to destroy part of the value of the gift. This can be achieved by making a gift in kind that is not so valuable to player 2 instead of giving the money equivalent in cash. At first sight, this seems quite an awkward thing to do for player 1, for he will lose some approval. But there is a subtle additional effect: reducing the value of the gift increases the marginal utility of consumption for player 2. This makes it more expensive for player 2 to make a countergift, and this on its turn increases the net status of player 1. Hence, the value of the gift is a strategic variable for player 1 and it is shown that decreasing the value of the gift can indeed pay-off. This can explain why gifts are often inadequate.

Finally, note that a compensation reduces the sacrifice needed to make a gift. This is positive in terms of consumption, but it is also likely to reduce the awarded social approval for the gift. Whereas with standard assumptions on preferences a compensation should increase gift-giving, with a preference for approval it is ambiguous whether compensation increases or reduces gift-giving in equilibrium.

The setup is as follows. The subsequent section is concerned with deriving the basic properties of gift-giving from a simple model. Building on empirical as well as experimental evidence, an extensive account is given on what the social approval function should look like and what kind of consequences it has for the way we think about the workings of the market institution. Section 3 relates the model to the existing literature. Social approval is, of course, only one of the many possible motivations for gift-giving. Other suggestions made in the literature include altruism, fairness, and signalling. A brief discussion of these alternative explanations is also dealt with in that section. Section 4 concludes.

## 2 Social approval as a motivation to give

Gratitude is bestowed on a giver.

Aristotle - *Nicomachean Ethics*

### 2.1 The basic model

In this section, the tentative explanations of the stylized facts are put more precise. The model is highly simplified and is only meant to be suggestive

in explaining how social approval can affect decisions. We believe however that the key insights are not sensitive to the model's specifications and that they would survive in a more general framework.

In the model there are two players. Player 1 is the first mover in a sequential gift-giving game, and player 2 follows. Their decision variable is the amount of time to spend doing volunteer work ( $l_i^v$ ).<sup>5</sup> The rest of their available unit of time ( $1 - l_i^v$ ) is devoted to working in the market sector at wage  $w_i^m$ . With the income that is earned on the market,  $w_i^m(1 - l_i^v)$ , the consumption good  $x$  can be purchased, which is available at unity price:  $p_x = 1$ .

The time spent doing volunteer work is a gift and contributes to the other person's consumption level. Rather than giving money, the gift is in kind. For simplicity, it is assumed that the gift is the same consumption good  $x$ . The gift increases the other person's consumption by the amount of  $(\delta_i l_i^v)/p_x$ . This way, the parameter  $\delta$  can be interpreted as a measure of *adequacy*. By adequacy it is meant how the receiver's utility of consumption is increased relative to the costs incurred by the giver. A more adequate gift increases the receiver's utility of consumption more given the costs incurred by the giver. Note that standard microeconomic arguments tell us that it can never be worse to get a gift in cash rather than in kind, with the case of incomplete information over one's own preferences as the exception.<sup>6</sup> As a result, a cash-gift is in general more adequate than a gift in kind. This can be translated back into the model as follows. If  $\delta_i = w_i^m$  then the gift is exactly identical to giving money. Hence, this case is interpreted as if it were a cash-gift. If  $\delta_i > w_i^m$ , then the gift is worth more to the receiver than the cash-equivalent would have been. This can be true if the receiver has incomplete knowledge about his own preferences. The more plausible case is that  $\delta_i < w_i^m$ , so that the gift is generally worth less than the cash-equivalent. The latter case is interpreted as a gift in kind.

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<sup>5</sup>The focus here is on the supply of voluntary labor but it can easily be substituted for money transfers. In an empirical study, Duncan (1999) finds that money and time as a gift are perfect substitutes.

<sup>6</sup>Mankiw states for example in his *Principles* that:

"The Theory of consumer choice teaches a simple lesson about cash versus in-kind transfers. If an in-kind transfer of a good forces the recipient to consume more of the good than he would on his own, then the recipient prefers the cash transfer. If the in-kind transfer does not force the recipient to consume more of the good than he would on his own, then the cash and in-kind transfer have exactly the same effect on the consumption and welfare of the recipient." (Mankiw, 1998 p. 471)

In sum, total consumption of good  $x$  by player  $i$  is given by:

$$x_i = w_i^m(1 - l_i^v) + \delta_j l_j^v. \quad (1)$$

If utility is only derived from consumption, as is usually assumed in economics, neither one of the players will give. Whatever player 1 gives to player 2, it is optimal for player 2 not to make a countergift. Foreseeing this behavior, player 1 does not make a gift as well. The main departure from mainstream economics is the inclusion of a preference for social approval. There are good reasons to do so. It is hardly beyond any doubt that such preferences exist. Man is a 'social being' whose economy is submerged in his social relationships. Polanyi considers this to be the "one conclusion [that] stands out more clearly than another from the recent study of early societies".<sup>7</sup> Indeed, the preference for social approval may very well be as important as the preference for consumption goods (Harsanyi 1969, Sugden 1989, Dasgupta 2000). In studying market trade, there are good reasons to neglect the role of social approval since any sentiment is ruled out by its strictly anonymous character. But things are different when studying gift-giving where, contrary to abstract markets, trade is not anonymous. Gift exchange is above all a social relationship (Gregory 1989). In such a case the taste for approval strongly influences behavior. Suggestive in this respect is the recent finding by Gächter and Fehr (1999) that some minimal social familiarity generates a significant rise in cooperation in a public good game.

Despite this establishment that there exists a preference for social approval, it is much less clear in which way this is obtained. Our conjecture is that, among others, at least the following three elements matter:

- The most trivial element is the *value of the gift* as judged by the receiver: a higher value is approved more. Hence, the social approval function for player  $i$  should be increasing in  $\delta_i$ . This needs no further illumination.<sup>8</sup>
- A second determinant is the *sacrifice* made by the giver. Sacrifice is something relative to what you earn. A gift of one dollar by a poor guy

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<sup>7</sup>See Polanyi (1944, p. 46). A modern sociologist like Coleman (1990) or philosopher like MacIntyre (1999) are only the most recent in a long line of thinkers who share this view, with Aristotle as one of the most notable predecessors. Economists, of course, have also acknowledged this already since *The Theory of Moral Sentiments* by Adam Smith (see Coase, 1976), but in general they ignore this in their analyses.

<sup>8</sup>In fact, this may not be entirely trivial. In some cases a very large gift may actually cause embarrassment thereby decreasing approval, as in the case one would get diamonds on a first date. We do not pursue this point any further here.

is approved more than a donation of one dollar by a millionaire. This is exactly the behavior that Pruitt (1968) finds. In his experiment, more reward was provided by the receiver if the giver had sent out 80% of his endowment of \$1 than if he had sent out 20% of his endowment of \$4, presumably because the sacrifice is larger in the former case. The most simple measure of sacrifice is the wage level. The higher the wage, the more consumption is forgone in order to give. So a higher wage corresponds to a higher sacrifice. This amounts to a social approval function that is increasing in  $w_i^m$ . Further empirical evidence for this is found by Robben and Verhallen (1994).

- The final element of importance considered here is *status*: people not only look at the absolute gift, but also at the relative valuation of their gift compared to that of the other. See Gächter and Fehr (1999) for affirmative evidence on status effects. As a consequence, the social approval function should be increasing in one's own gift and decreasing in that of the other's.

Each of these elements is represented in the following measure:

$$s_i = \beta_i l_i^v - \alpha \beta_j l_j^v, \quad \alpha \geq 0. \quad (2)$$

Every unit of voluntary labor is weighed by the function  $\beta_i = \beta(\delta_i, \tilde{w}_i)$ , which is increasing in both of its arguments: the weight is larger if the value of gift is higher ( $\delta_i$ ) and if the sacrifice is greater, as measured by the forgone wage of the giver ( $\tilde{w}_i = w_i^m$ ). The parameter  $\alpha$  in equation (2) reflects the degree of status orientation.

Finally, preferences are represented by a utility function that is for simplicity additive in consumption and social approval:

$$u_i = u_x(x_i) + u_s(s_i). \quad (3)$$

It satisfies the usual assumptions with respect to  $x$  and  $s$ :  $u'_x, u'_s > 0$  and  $u''_x, u''_s \leq 0$ , where (double) primes denote first (second) derivatives.

One interpretation of this functional form (3) is that it captures both the extreme interpretations of economics and sociology. Much of the economic tradition relies on the undersocialized view of absent social relations ( $u_s = 0$ ), whereas sociology has an oversocialized view of man as completely embedded in social relations ( $u_x = 0$ ). (see Granovetter, 1985). Both of these views are idealized conceptions of man. The above specification gives credit to both views by assuming that individuals pursue self-interest but do take into account their social relations.

Another interpretation would be that this is a possible representation of a theory of social behavior that Homans has in his mind when he speaks of 'social behavior as exchange' (Homans, 1958 p. 606). In his view, social behavior is an exchange of goods, including non-material ones such as approval. Now note that although an exchange of material goods can be accomplished in any social setting, the accomplishment of approval is tied to social interaction. This amounts to a useful interpretation of equation (3) in the sense that it captures various exchange regimes characterized by different intensities of social interaction, with the strictly anonymous market exchange as the extremal where no social interaction exists at all ( $u_s = 0$ ). The focus here is on the latter interpretation. That the utility derived from a good depends on the social context is a simple extension of Lancaster's theory of consumption<sup>9</sup> (Lancaster, 1966; Hirsch, 1976 p. 85).

## 2.2 Sequential move equilibrium

The game is solved by backward induction. The problem of player 2 is to solve for:

$$l_2^{v*} \in \arg \max_{l_2^v} u_2(l_1^v, l_2^v),$$

for any given  $l_1^v$ . The first order condition for this problem is:

$$\frac{\partial u_2}{\partial l_2^v} = u'_x \frac{\partial x_2}{\partial l_2^v} + u'_s \frac{\partial s_2}{\partial l_2^v} = 0. \quad (4)$$

Ignoring parameters, this gives a reaction function of player 2 of the form  $l_2^{v*} = f_2(l_1^v)$ . Player 1 takes this behavior of player 2 into account and therefore solves for:

$$l_1^{v*} \in \arg \max_{l_1^v} u_1(l_1^v, f_2(l_1^v)).$$

The first-order condition is given by:

$$\frac{du_1}{dl_1^v} = u'_x \left[ \frac{\partial x_1}{\partial l_1^v} + \frac{\partial x_1}{\partial l_2^v} f_2' \right] + u'_s \left[ \frac{\partial s_1}{\partial l_1^v} + \frac{\partial s_1}{\partial l_2^v} f_2' \right] = 0. \quad (5)$$

Equations (4) and (5) constitute an equilibrium. Throughout the focus is on an interior solution since this is the only interesting case.

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<sup>9</sup>In the view of Lancaster, goods as such are not the direct object of utility. Instead, utility is derived from characteristics and goods are bundles of characteristics. The environment of exchange can be seen as one of those characteristics. Compare also Bowles (1998, p. 87) who notes that "the terms on which [people] are willing to transact depends on the perceived relationship".

Our first result is obtained from the properties of player 2's response function  $f_2(l_1^v)$ . Since this function relates the optimal gift of player 2 to the gift of player 1, it predicts whether reciprocal behavior should be observed or not. Note first that, as argued earlier, *without* a preference for approval ( $u_s = 0$ ) the optimal response of player 2 is not to make a gift, independent of the gift by player 1. Without a preference for approval, the only effect of a gift would be a loss of consumption, so that  $\partial u_2 / \partial l_2^v = u'_x(\partial x_2 / \partial l_2^v) < 0$ . Player 1 foresees that  $f_2 = 0$ , so that it is also for him optimal not to give:  $du_1 / dl_1^v = u'_x(\partial x_1 / \partial l_1^v) < 0$ . No gift-giving occurs even if there are mutual gains of giving ( $\delta_1 > w_2^m$  and  $\delta_2 > w_1^m$ ). The cause of this is that player 1 has to rely on a counter-gift by player 2, but he has no reason to trust player 2 on this. An explicit or implicit contract can of course solve this problem of trust. But reciprocal gift-giving is also observed in situations where no explicit contract exists, or at most an incomplete one, and where an implicit contract is not credible. Mauss (1925), for example, portrays gift-giving among tribes, and finds that reciprocity is one of the basic elements. And Akerlof (1982) gives a description of labor contracts, where wages are set above the minimum acceptable standard and these are reciprocated in the form of higher efforts. These results of reciprocal gift-giving without complete explicit contracts are replicated in many laboratory experiments.<sup>10</sup> In many cases these were one-shot games so that reputation cannot enforce credible implicit contracts either. The point of all this, is that apparently contracts are not always necessary to induce reciprocal gift-giving. As it turns out, a preference for social approval is enough. That gifts can be positive in equilibrium is quite obvious: all we need to assume is that the gain in social approval outweighs the loss of consumption in utility terms. More interesting is to account for reciprocity. This is established in the following proposition:

**Proposition 1** (*Reciprocity*) *With a preference for social approval, the optimal gift of player 2 is positively related to the gift of player 1, i.e.  $f_2'(l_1^v) > 0$ .*

**Proof.** By definition of  $f_2$ :  $\frac{\partial u_2(l_1^v, f_2(l_1^v))}{\partial l_2^v} \equiv 0$ . Differentiating both sides with respect to  $l_1^v$  gives:  $\frac{\partial^2 u_2(\cdot)}{\partial l_2^v \partial l_1^v} + \frac{\partial^2 u_2(\cdot)}{\partial l_2^v{}^2} \cdot \frac{df_2(l_1^v)}{dl_1^v} = 0 \Leftrightarrow \frac{df_2(l_1^v)}{dl_1^v} = - \frac{\partial^2 u_2(\cdot) / \partial l_2^v \partial l_1^v}{\partial^2 u_2(\cdot) / \partial l_2^v{}^2} \Big|_{l_2^v = f_2(l_1^v)}$ . By the second order condition of maximization, the denominator of the right hand side is negative, so that  $sign \frac{df_2(l_1^v)}{dl_1^v} = sign \frac{\partial^2 u_2(\cdot)}{\partial l_2^v \partial l_1^v} =$

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<sup>10</sup>See for example Fehr and Schmidt (1999) and Bolton and Ockenfels (2000), among many other studies.

$sign \left[ u_x'' \frac{\partial x_2}{\partial l_2^v} \frac{\partial x_2}{\partial l_1^v} + u_s'' \frac{\partial s_2}{\partial l_2^v} \frac{\partial s_2}{\partial l_1^v} \right] \Big|_{l_2=f_2(l_1^v)}$ . The first term in brackets is strictly positive. The second term is zero if  $\alpha = 0$ , in which case  $\frac{\partial s_2}{\partial l_1^v} = 0$ , and positive if  $\alpha > 0$ . Hence, at the optimum  $sign \frac{df_2(l_1^v)}{dl_1^v} > 0$ . ■

If the players care about approval, they behave in a reciprocal manner. This partly solves the trust problem. Player 1 has now reason to believe that player 2 makes a counter-gift, simply because it is in player 2's own benefit to do so. This does not mean that player 2 *always* reciprocates the gift of player 1, just like an altruist not always gives something. What it means is that the more player 1 gives, the more he is likely to get something back. The intuition behind this result is the following. The gift of player 1 increases the consumption level of player 2, thereby decreasing marginal utility of consumption. Insofar as status plays a role, the gift also decreases the net social approval received by player 2, thereby increasing the marginal utility of social approval. Because a counter-gift has exactly the opposite effects on the consumption and approval level, a gift by player 1 creates incentives for player 2 to give as well.<sup>11</sup> This can explain why reciprocal behavior is observed. Note that this does not stem from mutual advantages in the long run, as in Kranton (1996). Reputation effects can in principle provide a motivation to reciprocate, but experimental evidence shows that reciprocal behavior is also observed in one-shot games.<sup>12</sup> The current approach, consistent with reciprocity in one-shot games, is more along the lines of for example Trivers (1971), Frank (1988), Rabin (1993), and Romer (1996) who assume that people experience emotional sentiments, such as a taste for imposing a punishment on persons who do not reciprocate. The existence of suchlike sentiments possibly has emerged from selection pressures because indirectly their emotive motivations induces behavior that is evolutionary successful (see Güth and Kliemt, 1994; 1998).<sup>13</sup>

The presence of a taste for approval secures that a gift is usually reciprocated. This allows that an exchange can take place without the support of contracts. But in the gift-giving game, the exchange is only an intermediate variable with approval as the ultimate objective. It is interesting to see how

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<sup>11</sup>In the terminology of Bulow et al. (1985), this means that the gifts of the players are strategic complements.

<sup>12</sup>See for example Cooper, DeJong, and Forsythe (1996), and Gächter and Falk (1999).

<sup>13</sup>In the terminology of Fehr and Gächter (1999), part of the population evolved is *Homo Reciprocans*. The difference is that here people are not *Homo Reciprocans* because they do not have a taste for reciprocity per se; reciprocity does not enter the utility function as an argument. The reciprocal behavior is only triggered by the giver by giving incentives to the recipient to give back. It is therefore more appropriate to speak of *indirect reciprocity*.

this role of exchange affects the properties of the gift. This relates to a puzzle that concerns the adequacy of gifts. Recall that a cash-gift is more adequate than a gift in kind. But on many occasions, it is quite unusual to give cash. As Douglas and Isherwood (1978, p. 58) remark: "It is all right to send flowers to your aunt in the hospital, but never right to send the cash they are worth". Research by Webley and Wilson(1989) is also illustrative of this. Their questionnaires reveal that subjects prefer to give presents rather than money. Likewise, Caplow (1982) finds that in the data he collected less than 9% of the Christmas gifts were in cash. This means that gifts are usually inadequate because the cost of giving \$10 in cash or spending the same amount on a gift in kind are identical to the giver, but the receiver's utility of cash is in general higher according to standard theory.

At first sight, all this is puzzling, because the assumption here is that gifts serve to gain approval and presumably less adequate gifts are less approved. But on closer inspection, there is a rationale behind this behavior. The basic argument is that the adequacy of the gift is a strategic variable that changes not only the total payoff of the other player, but also his marginal payoff, hence his behavior. Suppose that in equilibrium both players give. Player 1 likes the fact that he gets a counter-gift because it increases his consumption. But he dislikes it for it decreases his net approval. Clearly, if the gift of player 2 would be a little bit lower, he can be either better or worse off, depending on the relative decrease in consumption as compared to the relative increase in social approval. The increase in social approval is large if status is relatively important. This means that there are incentives for player 1 to manipulate the gift of player 2. Suppose he indeed wants to lower the gift of player 2. According to the following lemma, he can do this by decreasing the adequacy of his own gift.

**Lemma 1** *Player 2 reciprocates more if he receives more adequate gifts:*

$$\partial f_2 / \partial \delta_1 > 0.$$

**Proof.** With the introduction of the second decision variable for player 1,  $\delta_1$ , the optimal gift of player 2 is dependent both on  $l_1^v$  and  $\delta_1$ :  $l_2^{v*} = f_2(l_1^v, \delta_1)$ . By definition of  $f_2$ :  $\frac{\partial u_2(l_1^v, f_2(l_1^v, \delta_1), \delta_1)}{\partial f_2} \equiv 0$ . Differentiating both sides with respect to  $\delta_1$  gives, after rearranging:  $\frac{\partial f_2}{\partial \delta_1} = - \frac{\partial^2 u_2 / \partial l_2 \partial \delta_1}{\partial^2 u_2 / \partial l_2^2} \Big|_{l_2=f_2(l_1^v, \delta_1)}$ . By the second order condition the denominator is negative, so that  $sign \frac{\partial f_2}{\partial \delta_1} = sign \frac{\partial^2 u_2}{\partial l_2 \partial \delta_1} \Big|_{l_2=f_2(l_1^v, \delta_1)} > 0$ . ■

The intuition behind this result is that by lowering the adequacy of his gift, player 1 contributes less to the consumption level of player 2, keeping

the marginal utility of consumption for him at a high level. This makes it more expensive for player 2 to give. Besides this effect, it also increases the net status of player 2, decreasing the marginal utility of social approval. Both effects reduce the incentives for player 2 to make a gift.

Put more formally, let  $\alpha$  be a measure of status orientation. Furthermore, we say that the gesture is relatively important if the approval rate is not very sensitive to the value of the gift: i.e.  $\partial\beta_i/\partial\delta_i$  is low. In this case, it is the *act of giving* that counts, and not so much the gift itself. This is not so unreasonable. As Holländer (1990, p. 1161) puts it: "we generally approve of cooperative behavior even if it does not make us significantly better off."

With the foregoing definitions, we obtain the following result:

**Proposition 2** (*Adequacy*) *With a preference for social approval, player 1 has an incentive to reduce the adequacy of his gift ( $du_1/d\delta_1 < 0$ ) if status is relatively important ( $\alpha$  high) and the gesture is relatively important ( $\partial\beta_1/\partial\delta_1$  low).*

**Proof.** Player 1's utility is given by:  $u_1 = u_1(l_1^v, f_2(l_1^v, \delta_1), \delta_1)$ . The total derivative is given by:  $du_1 = \left[ \frac{\partial u_1}{\partial l_1^v} + \frac{\partial u_1}{\partial f_2} \frac{\partial f_2}{\partial l_1^v} \right] dl_1 + \left[ \frac{\partial u_1}{\partial \delta_1} + \frac{\partial u_1}{\partial f_2} \frac{\partial f_2}{\partial \delta_1} \right] d\delta_1$ . The term in the first brackets is zero by the first order condition. Hence:  $\frac{du_1}{d\delta_1} = \left[ \frac{\partial u_1}{\partial \delta_1} + \frac{\partial u_1}{\partial f_2} \frac{\partial f_2}{\partial \delta_1} \right] \Big|_{l_1^v=l_1^{v*}}$ . The first term in brackets is the direct effect and is positive  $\partial u_1/\partial \delta_1 = (\partial\beta_1/\partial\delta_1)l_1 u'_s$ : a higher  $\delta_1$  increases approval at the rate  $(\partial\beta_1/\partial\delta_1)l_1 u'_s$ . This term vanishes as  $\partial\beta_1/\partial\delta_1$  becomes smaller. The second term in brackets is the indirect effect due to the response of player 2. Since by lemma 1  $\partial f_2/\partial \delta_1 > 0$ , the sign of the indirect effect is given by the sign of  $\frac{\partial u_1}{\partial f_2} = \delta_2 u'_x - \alpha\beta_2 u'_s$ . Using the FOC and the additional assumption that  $w_1^m > \delta_2 f'_2$  it is easy to show that the sign is negative for  $\alpha > (\beta_1/\beta_2) \cdot (\delta_2/w_1^m)$ . Hence, the total effect is negative if  $\partial\beta_1/\partial\delta_1$  is low and  $\alpha$  is large. The assumption that  $w_1^m > \delta_2 f'_2$  merely states that gifts require a sacrifice and are made to gain approval, not to increase consumption. This seems reasonable when we speak of social approval as a motivation to give. Note also that without a preference for social approval ( $u_s = 0$ ), the indirect effect is always positive and consequently there is never an incentive to lower the adequacy. ■

The above proposition gives a rationale why gifts are in kind rather than in cash. In the most extreme case, the gift is something utterly worthless to the receiver ( $\delta_1 = 0$ ). Although this may seem as an artifact of the model, it is exactly in accordance with what is observed among the much discussed Kwakiutl tribe. Interestingly enough, it was common to find that

the copper being given away was immediately destroyed by the giver. This would fit our proposition if status and the gesture are relatively important. The literature is indeed quite conclusive in assuming that status was of very significant importance among this tribe. Illustrative of this is the description by Codere (1950) of how the Kwakiutl gain social prestige by 'fighting with property' instead of fighting with weapons. The broken copper is seen as a victory much like as a killing of a rival would have been. This also suggests that for them the social prestige is insensitive to the value of the gift.

### 2.3 Simultaneous move equilibrium

So far, the focus has been on the sequential move gift-giving game. The reason is that the inclusion of time is necessary to have a meaningful interpretation of reciprocity. After all, 'to reciprocate' is a notion of giving *back*. But in an important class of gift-giving, namely charity, gift-giving occurs anonymously and therefore necessarily without any counter-gift. Formally this means that both players act as player 2, i.e. without having to take into account the response of the receiver. The question is whether this can be explained by a taste for social approval.

Quite obviously does the absence of counter-gifts not preclude gift-giving. The difficulty therefore lies in the anonymous aspect of charity. Can approval be obtained in an anonymous setting? The answer, perhaps surprisingly, is yes. Status is often awarded on the basis of events that do not directly affect the person who awards status (Coleman 1990, p. 130). The receiver may very well be anonymous, but the giver can make his act known to other persons than the receiver. This is most clearly described by Schwartz who states that "it is common knowledge that men present themselves publicly by the conspicuous presentation of gifts. Generous contributions to charity have always been a source of prestige in the United States" (Schwartz 1967, p. 2). This is acknowledged by fund raisers by providing people with "I gave" stickers to be affixed to the front door (Schwartz, 1967) or coffee mugs, lapel pins, and bumper stickers and so on (Andreoni and Petrie, 2000). In this way, donors can signal their contributions.

Clearly, if approval is indeed the motivation of charity then behavior should depend heavily on whether or not the possibility exists to make the act of giving publicly known. In a cleverly designed experiment Andreoni and Petrie (2000) have tested for this. They allowed subjects to choose between donating to two public goods. The two public goods were identical except for that donations to one of the goods would be kept anonymous and those to the other good would be made public knowledge.

Two hypotheses that can be constructed to test for this are first that subjects choose to be publicly known as donators and second that they would donate more in case they can reveal their identity publicly. Both hypotheses are confirmed by the data. Average contributions in last rounds are more than twice as high as in anonymous settings. Moreover, on average people contributed 55,8% of their endowment to the two public goods of which a mere 3% went to the anonymous public good.

As a last piece of evidence, we report an empirical study by Harbaugh (1998). He tested for the following hypothesis. Suppose that donors to charity are indeed driven by a desire for approval. Given that charities often report contributions in categories rather than in exact amounts, it is impossible for the public to discriminate between different donations within each categorie. The donor can therefore as well contribute the lowest amount within a certain categorie and as a consequence a large proportion of donations should equal the boundaries of those categories. Again, the data supports the hypothesis that (part of) the motivation to give stems from a desire for social approval.<sup>14</sup>

## 2.4 Gifts, reciprocity, and markets

Thus far the focus has been on the properties of gift-giving. Reciprocity and non-adequacy have been established. In this subsection these results are related to another exchange mechansim: the market mechansim.

The above example of the destruction of copper is especially interesting because the destruction of copper is a strong indication of a large social waste. In the literature, gifts in kind are usually taken as a social waste because the recipient could have achieved the same utility level with a cash gift smaller than the costs of the gift in kind. The level of adequacy is in this case taken to be a measure of efficiency. Problematic in this respect is that individual rationality sometimes prescribes to give in kind rather than in cash, as shown in proposition 2. As a consequence, individuals do not always aim at maximizing the level of efficiency. The market mechanism is in this respect in particular interesting because it always gives incentives to maximize efficiency. It is for this reason that gift-exchange is thought to create a deadweight loss as compared to a market exchange. For example Waldfogel (1993) estimated in this way the deadweight loss of Christmas gifts to be 10-30% of their value.

Estimating a 'deadweight loss' suggests that society at large can attain a

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<sup>14</sup>Though a reasonable alternative explanation is that framing effects play parts.

higher level of welfare by avoiding gifts in kind. Implicit in the research done by Waldfogel (1993) and in the follow-up studies of Solnick and Hemenway (1996) and Waldfogel (1996) is that the giver is indifferent between giving in cash and in kind, because their estimates are solely based on valuations by recipients. However, as found in questionnaires<sup>15</sup> and in line with proposition 2, givers are not at all indifferent but clearly prefer to give in kind. To identify efficiency with adequacy is accordingly misleading because a higher level of adequacy does not make both players better or equally off. As a matter of fact, substituting the market institution for gift-giving can even make both players worse off. To see this, note that the market mechanism differs in two major respects from gift-giving:

- (i) The market creates no trust problem. Every transaction is instantaneously compensated for in the form of money or the compensation is specified in advance by the use of explicit contracts. This feature enables trade possibilities if there are possible mutual gains.
- (ii) The market is an anonymous institution.<sup>16</sup> This implies that no social approval is obtained. In terms of our model, this means that  $u_s = 0$  for every market transaction. It is this feature that guarantees adequacy, and therefore efficiency in the usual sense. This result is a corollary of proposition 2, since with  $u_s = 0$  the negative effect of gifts on the status level is absent and there is no role for adequacy as a strategic variable any longer.

The above properties are only weakly in support of the implementation of the market mechanism. It is true that by (i) exchange will take place if there are mutual gains and by (ii) the transfers will be adequate. The first property shows the advantage of the market mechanism: if there are mutual gains trade will take place. This in contrast to gift-giving where exchange only takes place for high enough marginal values of  $u_s$  independent of whether there are mutual gains or not.

But the second property at the same time lays bare the disadvantage of the market mechanism: no social approval is obtained. Within any gift-exchange a valuable psychological sentiment is realized: the obtainment of social approval. This sentiment is a by-product of the exchange that is not

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<sup>15</sup>See e.g. Webley and Wilson (1989).

<sup>16</sup>This is not to say that in reality markets are strictly anonymous. However, unless social interaction does not influence behavior at all, anonymity is needed to establish the desired properties of the market. Endowments and preferences determine the equilibrium prices, not names.

inherent to the goods exchanged, but stems from the social interaction. Since a market exchange is strictly anonymous by assumption, its only purpose is the transfer of goods. So the market does not realize that part of the value of the exchange that is not inherent to the goods themselves. The trade-off therefore is that between adequacy and approval. The gain in adequacy by turning to the market ( $\Delta u_x > 0$ ) is partly or more than offset by the decrease in approval ( $\Delta u_s < 0$ ). In neglecting this latter effect in measuring a deadweight loss of gifts, one tends to overestimate the size of it, perhaps even reporting a deadweight loss of giving when there is none.

Of equal interest is how the market institution *interacts* with gift-giving. There are instructive examples that show how the opening of a market leads to a crowding-out of gift-giving (Hirsch, 1976; Yellen, 1990). This is not something detrimental to social welfare per se, but problematic is that part of the trade-off between adequacy and approval is not based on an individual choice. The keypoint is that the links between the market institution and gift-giving are shot through with externalities (cf. Kranton, 1996; Dasgupta, 2000). As Hirsch (1976, p. 78) puts it, "social relationships do not, by their nature, have the character of private economic goods." Indeed, when the !Kung tribe gained access to markets which were superior in the supply of goods, they abolished gift-giving and at the same time retreated from their social life, eroding the cohesion of society (Yellen, 1990).

There is also another side to the coin. Where the market is an efficient institution, gift-giving can be a hindrance. For example, in case agents have preferences over the entire allocation of consumption Kranich (1994) points out that when gifts are permitted, the First Welfare Theorem is no longer valid. That is, an efficient equilibrium need not be reached when agents give. This occurs when some individuals are willing to give provided that others also give, leading to a coordination problem. As another example, Arnott and Stiglitz (1991) show that when nonmarket insurers (such as a family) have no better information than market insurers, reciprocal assistance not only crowds out market insurance but is also harmful and therefore dysfunctional.

On the more positive side can gift-giving be a useful complement to the market institution in case the latter fails. The market creates no incentives to supply a public good because individually it does not pay off in terms of consumption. Social approval at least gives *some* incentives, alas not exactly the right ones either. Take for example the following case where each unit of voluntary labor not only adds to the other's consumption level but also

to one's own, both at the rate of  $\delta_i$ . Hence, consumption is now given by:

$$x_i = w_i^m(1 - l_i^v) + \delta_i l_i^v + \delta_j l_j^v. \quad (1')$$

It is assumed that  $\delta_i + \delta_j > w_i^m > \delta_i$  so that the supply of voluntary labor is indeed a public good. If both agents contribute one unit of labor, both are better off in terms of consumption since  $\delta_i + \delta_j > w_i^m$ . However, if only one contributes, he is worse off in terms of consumption because  $w_i^m > \delta_i$ . Without a taste for social approval, neither one has an incentive to contribute. With a taste for social approval, they may have an incentive to contribute but still not necessarily what would be the optimal amount in terms of consumption ( $l_i^v = 1$ ).

Gift-giving partly fills the lack of the market but in order to reach the optimal amount additional incentives to give are needed. It is probably not unfair to say that the effects on social approval are usually neglected when it comes to institutions being recipients. This is not to say that the receiver does not show approval for a gift (although in some cases it indeed does not, as in the case of charity where approval is obtained from other givers rather than the actual receivers), merely that it does not take into account the effects on social approval when designing its incentive scheme. Technically speaking, the institution as receiver acts as if  $u_s = 0$ . The solution to stimulate giving then seems obvious: compensate directly for the labor efforts. This is exactly the solution that was implemented in the widely studied case of blood donation. However, quite unexpectedly to many, the actual change in the supply of blood turned out to be negative (see Titmuss, 1970). Other studies that show this pattern in different settings include Gneezy and Rustichini (2000) and Frey (1997a, 1997b). Yet, this kind of behavior is only surprising insofar as the object of human behavior is material gain. The compensation increases the material gain from giving. This on itself unambiguously creates more incentives to give. A higher compensation makes you richer and it makes giving relatively cheaper. Or in the more common terminology: both the income effect and substitution effect are positive with regard to giving. In short, one should, if anything, increase one's gift. On the other hand should the effect on social approval be taken into account. Rewarding gift-giving reduces sacrifice, and as argued earlier, there is evidence that sacrifice is positively correlated with social approval. Hence, rewarding gift-giving deprives the agent from the opportunity to realize social approval. This latter effect reduces the incentives to give and makes the end outcome ambiguous.

Consider therefore the case where the receiver does not make a counter-gift but gives a monetary compensation instead. Thus, let  $l_2^v = 0$  and

denote by  $w^v$  the compensation the institution offers for each unit of voluntary labor. The forgone wage of giving is now  $\tilde{w}_i \equiv w_i^m - w^v > 0$ . We say that sacrifice is relatively important if the approval rate is sensitive to the sacrifice made: i.e.  $\partial\beta_i/\partial\tilde{w}_i$  is high.

**Proposition 3** (*Compensation*) *With a preference for social approval, the optimal gift size of player 1 is decreasing in compensation ( $dl_1^v/dw^v < 0$ ) if the absolute elasticity of  $u'_s$  is less than unity and if sacrifice is relatively important ( $\partial\beta_1/\partial\tilde{w}_1$  high).*

An immediate corollary is the following:

**Corollary 1** *If compensation crowds out gift-giving then welfare is reduced:  $\partial u_1/\partial w^v < 0$  if  $dl_1^v/dw^v < 0$ .*

**Proof.** With  $l_2^v = 0$ , player 1's utility function becomes (ignoring fixed parameters):  $u_1 = u_1(l_1^v(w^v), w^v)$ . Differentiating at the optimum with respect to  $w^v$  gives: sign of  $\frac{dl_1^v}{dw^v}$  is equal to the sign of  $\frac{\partial^2 u_1}{\partial l_1^v \partial w^v} = u'_x \frac{\partial^2 x_1}{\partial l_1^v \partial w^v} + u''_x \frac{\partial x_1}{\partial w^v} \frac{\partial x_1}{\partial l_1^v} + u'_s \frac{\partial^2 s_1}{\partial l_1^v \partial w^v} + u''_s \frac{\partial s_1}{\partial w^v} \frac{\partial s_1}{\partial l_1^v}$ . The first two effects are positive. Since  $\frac{\partial^2 s_1}{\partial l_1^v \partial w^v} = -\frac{\partial\beta_1}{\partial\tilde{w}_1}$  the last two effects can be combined into  $-\frac{\partial\beta_1}{\partial\tilde{w}_1}(u'_s + \beta_1 l_1 u''_s)$ . Clearly,  $\frac{\partial^2 u_1}{\partial l_1^v \partial w^v} < 0$  requires that  $u'_s + \beta_1 l_1 u''_s > 0$  (which is true for an absolute elasticity of  $u'_s$  smaller than one), and that  $\frac{\partial\beta_1}{\partial\tilde{w}_1} > \mathbf{b}_w \equiv [u'_x - \tilde{w}_1 l_1 u''_x] / [u'_s + \beta_1 l_1 u''_s]$ . This proves proposition 3.

To prove corollary 1, note that  $du_1(l_1^v(w^v), w^v)/dw^v = (\partial u_1/\partial l_1^v) \cdot (dl_1^v/dw^v) + (\partial u_1/\partial w^v) = \partial u_1/\partial w^v|_{l_1^v=l_1^{v*}}$ . Hence, at the optimum, utility decreases in compensation if  $\partial u_1/\partial w^v = l_1^v u'_x - (\partial\beta_1/\partial\tilde{w}_1) l_1^v u'_s < 0 \Leftrightarrow \partial\beta_1/\partial\tilde{w}_1 > u'_x/u'_s$ . With the definition of  $\mathbf{b}_w$  we have  $\frac{\partial\beta_1}{\partial\tilde{w}_1} > \mathbf{b}_w > u'_x/u'_s$  so that if beta is high enough such that compensation reduces gift-giving, then compensation also reduces welfare. ■

The intuition is again straightforward. If sacrifice is relatively important then every unit of voluntary labor is valued a lot less when sacrifice is a little bit lower. This reduces the incentives to give if compensation is offered.<sup>17</sup>

<sup>17</sup>In a similar context, Holländer (1990) argues that the *opening* of a market reduces incentives to give to a public good. If the market (or government) provides some of the public good, then the marginal benefits of the public good declines and less approval is obtained for each contribution. Here the argument depends on the decrease in sacrifice. This contrasts with the results of Holländer because with a lower marginal rate of substitution between the public and the private good, sacrifice increases with the opening of a market and the opening of the market would therefore give *more* incentives to give rather than less.

There is an additional positive effect on social approval since a lower  $\beta$  reduces  $s$  and this increases marginal utility of giving. But this latter effect is always dominated by the former effect as long as the absolute elasticity of  $u'_s$  is smaller than one. Furthermore, by corollary 1 the deprivation of social approval is in this case enough to reduce utility.

Compensations possibly crowds out gift-giving. Frey and Jegen (forthcoming) conclude that there exists compelling empirical evidence for this. To appreciate the significance of this to its fullest extent, note that gifts in the form of bequests can affect the long-run growth of an economy (see Galor and Zeira, 1993). If gifts are too low, young people have to borrow on the capital market to be able to invest in human capital. If the interest rate is too high, they may be discouraged to do so and remain unskilled. This has a negative impact on economic growth. Trying to stimulate growth by compensating for giving bequests may have the opposite effect of reducing the size of bequests and thereby reducing economic growth.

The insight gained is therefore of considerable importance, so much the more Frey (1997b) argues that in addition there are spill-over effects.<sup>18</sup> For example, spill-over effects to other activities or spill-overs over time may occur. Thus, the social approval that can be obtained for giving this particular good can influence the approval for giving some other good. Or, not unreasonably, social approval is time dependent.<sup>19</sup> Giving an inadequate gift now reduces social approval, but persistently giving inadequate gifts reduces social approval even more. Albeit these are interesting extensions of the model, it would be too speculative to elaborate upon them at the present state. More should be known about the exact determinants and shape of the social approval function, as well as its dynamics. Nonetheless can the conclusion be drawn that one should be very careful with the implementation of market incentives in non-market institutions. This can result in unintended consequences that are harmful to social welfare.

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<sup>18</sup>The approach of Frey (1997a, 1997b) to explain crowding-out is in many ways similar to the one taken here. In his view, people are often intrinsically motivated, that is, they undertake an activity for its own sake. Extrinsic motivation, such as compensation, is assumed to crowd-out intrinsic motivation. However, the channels through which intrinsic motivation is crowded out are not made explicit in his models.

<sup>19</sup>Some of the evidence reported in Frey (1997b) as well as in Gneezy and Rustichini (2000) indicates persistence over time.

### 3 Related literature

The idea of social approval seems intuitively plausible. It comes therefore at no surprise that social approval takes a prominent place in other social sciences. This makes it all the more remarkable that the economics literature is mostly silent on this.<sup>20</sup> The works that are most closely related are that of Holländer (1990), Frey (1997a, b) and Andreoni (1990). But there are some notable differences. Holländer relies on the seemingly un-intuitive assumption that sacrifice is negatively correlated with approval. Compensation would then increase gift-giving, contrary to many empirical findings. Frey and Andreoni use other emotive concepts that are very close to approval, namely *intrinsic motivation* and *warm glow* respectively. Both concepts attribute the act of gift-giving to the fact that people derive utility from the act of giving per se. We do not unconditionally reject these notions, but in fact are of the opinion that these are to a certain extent compatible with the current framework.<sup>21</sup> The advantage of the current framework is that an attempt is made to uncover the exact channel through which the intrinsic motivation or a warm glow feeling is obtained. This leads to a better insight in what the properties of gift-giving and the gift itself will be. For example, if social approval is indeed the real source of the warm glow, then the assumption of Andreoni that the warm glow is independent of the subsidy is doubtful since a subsidy reduces sacrifice. This doubt is strengthened by the fact that this assumption rules out a negative relation between subsidy and gift-giving, contrary to the empirical findings. Neither do the theories of Andreoni and Frey in their current state have anything to say about the optimality of the adequacy of the gifts even though this property is of critical importance in making welfare judgements. Central in the theory of Frey is that intrinsic motivation is crowded out by extrinsic motivation. Although this may be costly, the extrinsic motivation perhaps results in a higher level of adequacy.

There is by now a fastly growing literature that tries to explain the properties of gift-giving by other means than social approval. These include altruism, signalling, and fairness. Alike the current approach, each of these

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<sup>20</sup>There are of course exceptions. See for instance Akerlof (1997) and the references therein.

<sup>21</sup>One difference is that the concepts of intrinsic motivation and warm glow feeling also work in a strictly anonymous setting. In this sense, it is different from a taste for approval. Social approval cannot explain truly anonymous charity. See however the discussion in the main text on the simultaneous move equilibrium where it is argued that even charity is often not truly anonymous.

alternative theories has its own deficiencies. For example, if altruism is the motivation to give as suggested by Becker (1974), then the higher the utility of the recipient the better so that inadequate gifts cannot be explained. Neither could crowding-out be explained, since a compensation would make gifts less effective so more should be given to obtain the desired distribution.<sup>22</sup>

In case information is asymmetric, gifts can also act as a signal. Exemplary in this respect is the work by Camerer (1988). In his model, honest players can make gifts to signal themselves as being trustworthy. Cheaters do not find it profitable to make gifts. As a corollary, this explains the inadequacy of gifts, because with adequate gifts cheaters would participate in the gift-giving game anticipating that they will collect valuable gifts. However, a compensation would increase gift-giving since it would make current gifts less effective as signals. More should be given to reveal one's type.

The fairness approach probably got most attention in the literature. It successfully accounts for a broad range of experimental games by assuming that people not only care about their own monetary payoffs, but also about the distribution of payoffs and the intentions that other players have. The theory is especially productive in explaining reciprocity. Inadequacy seems not to be easily explicable: if one gives to make the distribution more equal, then the most effective way to do this is to give adequate gifts. For similar reasons should a compensation increase gift-giving: more should be given to achieve the desired equality in the income distribution.

Subsequent experiments have been designed to test for fairness behavior. Two of the main competing theories in this respect are those of Bolton and Ockenfels (2000) and Fehr and Schmidt (1999). A direct test between those two reveals that the theory by Fehr and Schmidt performs better (see Engelmann and Strobel, 2000). However, with regard to this theory Güth and Van Damme designed an experiment that "clearly refuted the idea that proposers are intrinsically motivated by considerations of fairness (...) proposers do not want to be fair, but rather want to appear fair" (Güth and Van Damme, 1998 p. 242). One candidate they consider to explain the behavior is that people care about social approval. This is

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<sup>22</sup>Note the difference with the social approval approach. With altruism, compensating a gift does not impose costs on the giver, it only makes the gift less effective. So in order to achieve the same result one can simply give more. (Except for the limit case of full compensation, then any gift would be ineffective and gift-giving would be reduced. The same argument applies for signalling and fairness) On the other hand, with social approval there are costs for the giver since with a compensation he is deprived from some approval and this cannot be costlessly compensated by giving more.

immediately disregarded by them since a study by Bolton, Katok, and Zwick (1998) showed that the effect of whether behavior can be observed by the experimenter or not is only minor. However, the social distance to the experimenter is not the only possibility to get social approval. It is more likely that the social distance to the other participants matters and this is what is indeed found (Andreoni and Petrie 2000, Gächter and Fehr 1999, Ledyard 1995).

## 4 Concluding remarks

The aim of this paper is to argue that at least part of gift-giving can be sensibly understood as the result of a desire for social approval. At the cost of a loss in predictive power, the analysis is kept rather general. The motivation for that is simply because little is known about the exact shape of the approval function. However, under weak but nevertheless in our view reasonable assumptions we have been able to derive some properties which we think are not sensitive to the specifications of the model.

The foregoing shows that social approval may indeed play a role in people's behavior. This is not to say that social approval is the unique motivation next to one's own payoff or that social approval plays a role in every kind of exchange. Indeed, it is very probable *not* the unique motivation. The gift-giving behavior found in truly anonymous games cannot be attributed to a taste for social approval. But insofar as it does explain part of the behavior, its implications are far reaching. Wherever social approval is important the superiority of the market institution to gift-giving must be reconsidered, despite the fact that gift-giving elicits inadequate gift exchanges. And where the market is considered to be superior but does not arise from spontaneous order, the incentive schemes based on price incentives as designed by typical economic arguments should be rethought so as to take into account the effects it has on social approval.

Prior to that, more research is needed to assess when social approval is a main driving spirit, what the exact determinants are, and to substantiate the role of inadequacy of gifts as a strategic variable. Perhaps a promising direction to go is to design experiments that not only reveal the identity or actions of players, but in addition communicates more precise information on the approval of players. Because the propositions are stated in terms of how social approval is affected by different actions, information on the approval allows the propositions to be more specifically tested. More concretely, one possibility is to include an index of how each player approves the gift. This

allows players to reveal their appreciation of the gift. It is then possible to see how the other player responds to changes in that index. If this index is designed carefully, propositions 2 and 3 lend themselves to be tested. Proposition 2 can be tested by making the adequacy of the donation in a public goods games a choice variable.<sup>23</sup> Proposition 3 can be tested by examining whether the existence of crowding out is related to the approval obtained in a way corresponding to the conditions stated.

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<sup>23</sup>This is in the spirit of Goeree et al. (forthcoming). They test the effects of changing the *external rate* of the contribution. The external rate is the rate at which other players profit from your gift, the adequacy level in other words. In their experiments the external rate is a given variable for the subjects.

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