Social Preferences and Experimental Auctions for Ethical and Eco-labelled Food

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Abstract

We design an experiment aimed at examining the role of social motives in socially responsible consumption. We restrict our study on non-durable goods such as food. We investigate the existence of a link between the willingness-to-pay for ethical and eco-labelled products and social preferences. Firstly, our experimental design focuses on measuring altruism, and more specifically the warm-glow giving behaviour. For this, we design a transfer game that combines a reduced dictator game and a social value orientation test, the ring test. Secondly, our experimental design uses experimental auctions to reveal willingness-to-pay for labelled food.

1 Introduction

Fair-trade-labelled and eco-labelled food products represent admittedly niche markets, but these markets are growing in Europe and other countries. The arrival of eco-labelled and fair-trade-labelled products on the supermarket shelves can be seen as a recent phenomenon. For instance, fair-trade-labelled food is sold in mainstream grocery stores in France since 2002.

Fair-trade labels, and sometimes organic labels as well, are considered as 'ethical attributes' or better, 'socially responsible attributes' (De Pelsmacker, Driesen, and Rayp 2005). Indeed, these attributes are related to ethical issues such as decent labor conditions, animal well-being and the environment that an individual consumer can freely choose to respect. Despite the increasing demand for socially responsible food, few studies examine the motives for socially responsible consumption experimentally.

The existing literature regarding the premiums of consumers for ethical food relies heavily on stated preference measures elicited through hypothetical survey techniques, e.g. Loureiro and Lotade (2005) in the US, and De Pelsmacker, Driesen, and Rayp (2005) in Belgium. In addition, at least one field study reveals preferences for fair-trade food. This study on coffee in Canada is by Arnot, Boxall, and Cash (2006). A common point to all the cited studies is that consumption motives are only derived from questionnaires.

Nevertheless, consumers' motives cannot be fully apprehended through questionnaires. Especially motives for socially responsible consumption that remain puzzling. It is generally admitted that consumers' buying behaviour is inconsistent with their stated attitude toward organic and fair-trade-labelled products. This puzzle partly comes from the mixed motives of consumers. Self-oriented and other-regarding motives are actually intertwined (Bougherara and Combris 2005) in socially responsible purchase behaviour, and so far, questionnaires have not completely succeeded in disentangling the influences of each of these motives.

Another approach would consist in focusing only on other-regarding motives. One can observe social preferences before trying to reveal consumption preferences. This is a way to question the role of other-regarding motives in consumption behaviour, and it is precisely the objective of our experimental design.

While a large literature covers the issue of social preferences, our experimental design needs not address all social preferences. Of interest for the design of our experiment are the findings (Charness and Rabin 2002, Stahl and Haruvy 2006) that human players may care about the payoff of anonymous strangers while making decision, and especially when decisions directly affects the other's payoff. These experimental observations can shed light on other-regarding actions, such as donating money to charity, volunteering to work for nonprofit organizations, and, possibly, ethical or green consumption behaviour.

To take into account non-purely self-oriented behaviour, researchers have developed different types of social preference models. Additionaly, a sizeable experimental litterature that measures altruistic behaviour has flowered. Two main classes (Charness and Rabin 2002) of social preference models are commonly distinguished: social preferences represent either motives about the allocation of resources, or reciprocity-based motives (Fehr and Schmidt 2005, Charness and Haruvy 2002).

In our approach, we only consider the first type of model, that is altruism without reciprocity. We also build our hypothese assuming that individual preferences are heterogeneous (Andreoni and Miller 2002).

Our objective is to set an experiment to study consumers' motives for purchasing organic or fair-trade-labelled products. The questions we focus on are the following: (1) What type of altruism can be relevant to study purchase behaviour? (2) To what extend can individual observations of social preferences be linked to revealed valuations of ethical goods? (3) Is other-regarding concern a larger motive for the purchase of fair-trade-labelled products than for the purchase of organic products?

In section 2, we provide a more detailed discussion on the payoff-oriented models of altruism, and a short review of the related experimental literature. In section 3 we describe our two-part experiment, designed to test whether social preferences are linked to willingness-to-pay for ethical food. Finally, we conclude in section 4 with the expected results, a possible specification of the model to estimate, and general remarks.

2 Background and literature

2.1 Theories and definitions of altruism

In this section, we refer only to models of 'pecuniary oriented' social preferences. This restriction obviously leads to limitations in the experimental setting that we design. In 'pecuniary oriented' models of altruism, the utility function of an individual depends on the allocation of resources between himself or herself and the others[1]. Following that view, utility expresses an individual level of altruism.

Bowles (2003) defines altruism as an action that is costly to self and beneficial to others. Fehr and Schmidt (2005) defines altruism as a favor that does not necessarily emerge as a response to a favor received. Altruism can stem from inequity aversion, that is the difference among payoffs to self and to the other. But altruism can also come from the preference for maximising social welfare. In technical terms, altruism expresses the strict positivity of the first derivate of the utility function of an individual with respect to the material resources received by any other agent (Fehr and Schmidt 2005). This general definition of altruism is commonly called *pure altruism*.

Nevertheless, some studies show that pure altruism can rarely explain all experimental observations in reduced game settings. For instance, Charness and Rabin (2002) use different types of model to explain reduced social games, with two players and two alternatives. The best fitting model combines social welfare preferences, difference-aversion, and reciprocity. In another study, Charness and Haruvy (2002) estimate similar restricted and encompassing models on experimental observations of a gift-exchange game. They conclude that altruistic considerations, distributive concerns and reciprocity all play a role in decisions.

[1]The others can be assumed to belong to the individual's reference group (see definition by Fehr and Schmidt (2005)).

Hence, reciprocity is important in games in which at least two players make a decision. To avoid any reciprocity, we will therefore concentrate our effort on one-decision-maker games with consequences on the payoffs of at least two players.

In economic settings where reciprocity admittedly does not play a role, pure altruism models lack also predictive power, as it is the case for donations to privately provided public goods (Andreoni 1990). To overcome this difficulty, Andreoni defines what he calls the 'warm-glow' altruism. Warm-glow is an additional argument to the individual's utility emerging from both the decision and the intensity of donation[2]. When mixed with purely altruistic preferences, warm-glow leads to impure altruistic preferences.

To sum up in Bolton and Katok's (1998) terms, *pure altruism* implies that people care solely about the final distribution of resources. *Warm-glow* implies that people care only about the initial distribution and the feasible set of voluntary gifts, whereas *impure altruism* implies that both the initial and final distributions matter (together with the level of voluntary gifts).

2.2 A model of impure altruism

Following Andreoni's (1990) and Konow's (2006) formulations, we present a general utility function with impure altruism in the context of a variation of the dictator game.

We consider the relationship between a dictator[3] and a recipient. Let π_i be the donor's endowment, π_j the recipient's endowment of an allocable resource, and t the donor's transfer to the recipient that occurs after the initial endowments. The *purely altruistic* donor's utility is given by

$$U_i(\pi_i, \pi_j, t) = u(\pi_i - t) + v(\pi_j + t).$$

Here $u(\cdot)$ represents the donor's material utility, in other words, the donor's utility from his or her own allocation. The donor's utility $v(\cdot)$ associated with the recipient is written as a function of the recipient's endowment plus the transfert allocated. Both material utility and utility associated with the donor's payoff are separable arguments of the main utility function. In addition, the usual assumptions of positive, and diminishing marginal utility are made in the arguments of the utility function. Hence, $u'(\cdot) > 0$, $u''(\cdot) \leq 0$, $v'(\cdot) > 0$, and $v''(\cdot) \leq 0$.

For a model with *warm-glow*, the utility is a function of the gift itself. The altruism argument is therefore entirely summarised in a function of the dictator's transfer. Hence, without the context of the provision of public goods, we can formulate the donor utility function as

$$U_i(\pi_i, t) = u(\pi_i - t) + w(t),$$

where $w(\cdot)$ is the warm-glow utility argument. In this case, the donor's utility does not depend on the recipient's initial endowment. We also make the assumption that the warm-glow is an increasing, and saturating function, with $w'(\cdot) > 0$, and $w''(\cdot) \leq 0$. This assumption can also be interpreted in terms of engagement for the donor. For a small gift, the engagement is easy and almost costless, whereas for a larger gift, the donor may feel more engaged in the donation.

Last, *impure altruism* is expressed as a combination of the warm-glow and the pure altruism utility models. The donor's impure altruistic utility can therefore be written as

$$U_i(\pi_i, \pi_j, t) = u(\pi_i - t) + v(\pi_j + t) + w(t).$$

Finally, the choice of the dictator (or donor) is the result of the utility maximisation with respect to (π_i, π_j, t).

[2]Since warm-glow depends on the intensity of the gift, it can be considered as a 'pecuniary' motive, even if it is not a motive about the final allocation to self or the others.

[3]The dictator can also be considered as the donor.

2.3 Experimental literature on warm-glow

Impure altruism and warm-glow have mostly been studied in the context of donations to charities, and so, in the context of public goods games. Originally, studies on warm-glow focus on predictions regarding the crowding out effect in donations, that is the reduction in private donations due to public spending through tax (Andreoni 1990, Andreoni 1995, Offerman, Sonnemans, and Schram 1996, Konow 2006). Most of these experimental studies use public goods game settings.

We are rather interested in other games analysing warm-glow and impure altruism. Indeed, some recent studies on warm-glow use variations of the dictator game (Bolton and Katok 1998, Stahl and Haruvy 2006, Eckel and Grossman 2004, Konow 2006).

Of interest is Bolton and Katok's experimental setting that aims at testing the donor's preferences. Their work addresses the existence of impure altruism with a two-treatment reduced dictator game. Each treatment corresponds to an initial endowment between two players, (18,2) or (15,5)[4]. With this setting, the authors test the pure altruism prediction that the amount of units given in the (15,5) treatment corresponds to the same amount plus 3 units in the (18,2) treatment. The authors find evidence that donors have impure altruistic motives when deciding to give money to others.

In another study (Stahl and Haruvy 2006), the existence of warm-glow is tested with a repeated reduced dictator game. This variation of the dictator game introduces a *path-dependency* by adding a final step to the game-tree: Nature selects only one decision from the decision set to be implemented. This setting allows to set a lower bound [5] to the warm-glow giving behaviour. In our experimental setting, we could similarly use the introduction of uncertainty in the transfers to measure a path-dependent warm-glow.

In addition to the cited two studies that inspire our experimental design we also use a social value orientation test from social psychology, the ring test. The ring test is used *ex ante* in previous experimental studies on social preferences (Offerman, Sonnemans, and Schram 1996, Carpenter 2003).

The *ring test* consists of a set of allocation alternatives between a 'dictator' and an anonymous recipient. The number[6] of proposed alternatives is usually 24. The alternatives comprise two choices that are represented by adjacent points on a ring (see fig. 1). Each dictator chooses between two allocations $(\pi_{\text{self}}, \pi_{\text{other}})$, or (π_i, π_j) using the notations of the previous section. The allocations are chosen with a constant sum of the squares: $\pi_i^2 + \pi_j^2 = r^2$, where r is the radius of the ring. The sum of allocations is therefore variable[7].

The 24 choices of the dictator are then added to give a resultant vector. The resultant vector norm belongs to $[0, 2r]$. The resultant vector angle with respect to the π_{self}-axis gives the player's *social orientation* as defined by social psychologists: altruism, cooperativeness, individualism, competitiveness or agressiveness (see fig. 1).

3 Experimental design

Our experimental design can be divided in two parts. The first part of the experiment comprises two similar allocation games. The second part of the experiment uses auctions to reveal individual valuations for food products. At the end of the experiment, subjects are required to fill up a questionnaire.

3.1 First part : the transfer game

The first part of our experimental design consists of two treatments of an allocation game with transfers. It is a 2-player allocation game, in which each player is paired with the same

[4] The notation corresponds to $(\pi_{\text{donor}}, \pi_{\text{recipient}})$.

[5] The lower bound level depends on the initial endowments and the size of the decision set.

[6] The number of alternatives is necessarily a multiple of 4 to keep axial symmetry.

[7] For instance, consider the examples of allocation on figure 1 where $r = 100$, $(-100, 0)$, $(-87, 50)$ and $(0, 100)$. The sum $\pi_i + \pi_j$ respectively equals -100, -37 and 100.

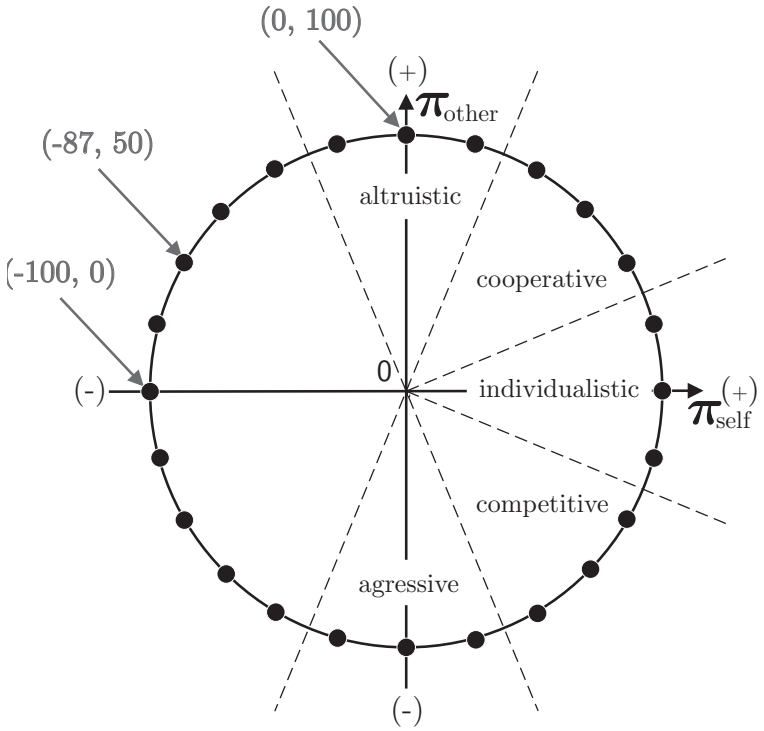

Figure 1: The value orientation ring with radius $r = 100$. The 24 possible choices are represented by the 24 points on the ring, separated from each other by a $\frac{\pi}{12}$ angle.

unknown subject during each treatment.

The two treatments

The basic game is the following. For each alternative of the ring test, we add two new steps. Accordingly, the game is composed of 24 sets of 3 steps:

1. The first step consists of an initial ring test alternative (see sections 2.2 and 2.3). Two allocations are proposed to the dictator who chooses one of the form (π_i, π_j).
2. In the second step, the dictator has the possibility to make additionally a transfer t to the other player, the only constraint being that $t \geq 0$.
3. The third step defines the way the transfer occurs and so, the treatment.
   - For the basic treatment (treatment 0), the transfer occurs so that players are endowed with $(\pi_i - t, \pi_j + t)$.
   - For the second treatment (treatment 1), the transfer is completed and matched by the experimenters so that the final allocation vector is $(\pi_i - t, \pi_j + 2\,t)$.
   - Other treatments using uncertainty about the transfer are in discussion and could be used in alternative experimental settings.

Specific features of the transfer game

Payoffs are expressed in points. The conversion rate from point to money is given at the beginning of the experiment. The summary of initial endowments, transfers, final endowments and the sum is only displayed at the end of the completed transfer game, i.e. after the completion of both treatments.

Additionally, any dictator A is anonymously paired with a recipient B to avoid strategic behaviour[8] from dictators. Player B plays the transfer game as the dictator with a player C as the recipient, etc. This feature is emphasized to the participants of the experiment.

Participants are also informed about the payment rules before the game while instructions are given. Firstly, payoffs are expressed in points, but the conversion rate from point to money is given. Secondly, the summary of allocations, transfers, final endowments and the resulting sum are displayed after the completion of the entire transfer games (treatments 0 and 1). And finally, payments are anonymously given to players at the end of the experiment.

To sum up, both treatments are played with the role of dictator by each participant. Subjects make 96 decisions in total, that is 48 decisions per treatment (24 allocations and 24 transfer amounts). Additionally, the order in which treatments are implemented varies among experimental sessions.

3.2 Second part : experimental auction valuation

The second part of our experimental design consists in revealing private values for labelled food products, and the corresponding standard substitutes.

General characteristics of the experimental valuation

For our experiment primary food shoppers are needed. No specific announcement must be made about the products to be sold. On the contrary, recruitment must only describe the study as an economics experiment in return for a payment, i.e. a compensation for transport and participation. This way, the recruitment avoids over-selection of fair-trade lovers and likers, for instance[9]. Additionally, this procedure prevents changes in participants' behaviour. Participants could try to please the experimenters rather than truthfully reveal their actual preferences if they are informed on the objective of the experiment.

In addition to recruitment, the choice of auction mechanism is important. The auction format must satisfy incentive compatible properties, and avoid as much as possible under- or over-bidding behaviour. Among the incentive compatible procedures commonly used in experiments are the Vickrey (or second price), Becker–DeGroot–Marschak (BDM) and random nth price auctions. As for under- or over-bidding issues, Lusk, Feldkamp, and Schroeder (2004) state that the second price auction format generates higher valuations than the other cited auctions. In another comparative study on auction formats, Noussair, Robin, and Ruffieux (2004) find converse results where the Vickrey auction becomes preferable to the BDM auction, if sufficient pratice and appropriate training in the rules of the auction is provided.

We choose the Vickrey auction for simplicity of the rules. More specifically, we opt for the *fourth-price auction* format that allows to sell 3 items of the good in each auction.

Every auction stage is made on a different type of good. Participants are informed while the instructions are explained that winning prices are posted at the end of each stage (so for different rounds at the same time). It is stressed that only one auction round leads to a binding transaction for each stage.

Outline of the fourth price auction rounds

The food valuation part of the experimental design is divided in four stages. Table 1 summarises the auction stages of the experimental design.

Stage 0 is aimed at learning the fourth price auction. We simply choose a single trial round that allows participants to learn about the auction format. Stage 1 is a practice auction on candy bars. Finally, labelled goods are sold in stages 2 and 3.

[8] The chosen setting avoids this way reciprocity that would stem from anticipated believes toward the recipient's decisions as a dictator.

[9] These types of shopper are clusters of consumers described by De Pelsmacker et al. (2005).

Stage	Auction	Product	Attributes	Number of binding transactions
0 (trial)	A0	Can of fizzy drink		none
1 (practice)	A1	Candy bar		1
2	A20 A21 A22 A23	Orange juice	- standard - with brand - organic - fair-trade	1
3	A30 A31 A32 A33	Chocolate bar	- standard - fair-trade - brand - organic	1

Table 1: Description of the second part of the experiment.

The participants successively bid on one standard-size candy bar (practice stage), one 1 L orange juice (second stage with four different types of orange juice, so four rounds), and one standard size (100 or 200 grammes) chocolate bar (third stage with four different bars).

For each round, a picture and a brief description of the products are given to the participants before the bids. Simple figures about the products are given if not readable on the picture: size, brand, and labels. Each product is put up to experimental auction only once. For each round, a blank paper is provided to participants to write any comments during the rounds.

We choose to sell candy bars, chocolate bars and orange juices since these products have been used in many experimental auction studies. Especially, premiums for organic orange juice and fair-trade-labelled chocolate bars have been estimated for French consumers in two experimental studies (Bougherara and Combris 2005, Tagbata and Sirieix 2007).

At the end of the experimental auction rounds, participants are asked to fill in a short questionnaire. In the questionnaire, the respondents are asked about their consumption and purchase habits, and a number of sociodemographic characteristics including gender, age, and education.

4 General remarks and expected results

4.1 Measures of social value orientation and warm-glow

In this section, we present the measures of social preferences offered by the transfer game, that is the first part of the experimental setting.

Firstly, we can consider that a ring test is included in each treatment of the allocation game. This means that extracting the first-step choices gives two social value orientation vectors for each individual. Each social value orientation vector corresponds to one treatment. Hence, in addition to the social value orientation of subjects, it becomes possible to test for: (1) the consistency in social value orientation between treatments, and (2) the general sample scattering of the social value orientation between our experiment and previous studies.

Secondely, the transfer game is used as a tool to distinguish the presence from the absence of a warm-glow giving behaviour for each individual. Figure 2 summarises the game steps and the payoffs for a dictator in the basic treatment (treatment 0). When the dictator (D)

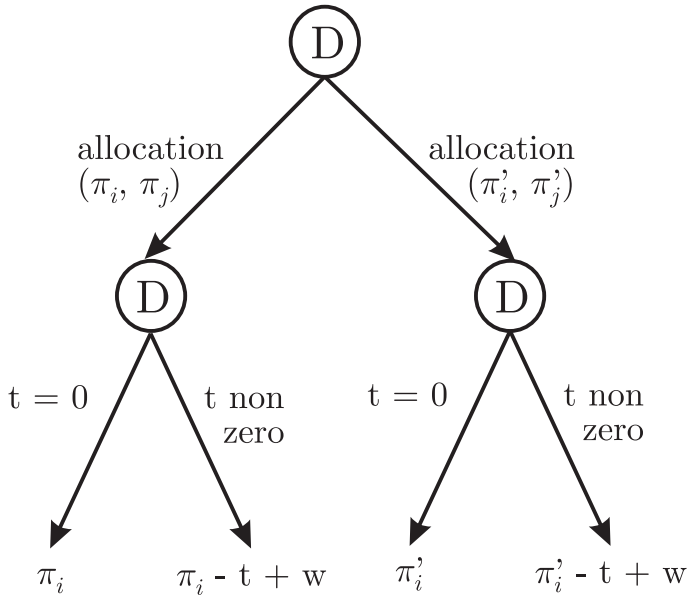

Figure 2: The tree representation of the treatment 0 of the transfer game. The dictator's (D) payoffs are expressed. w is the warm-glow.

chooses a level of transfer $t > 0$ it is assumed that D gets a warm-glow of w. Since the warm-glow depends on the level of gift t rather than the final allocation to the recipient ($\pi_j + \text{gift}$), we can assume that the payoffs are similar in treatment 1 with regard to the warm-glow: the dictator gets again a warm-glow of w if the transfer satisfies $t > 0$.

Using the notations of section 2.2, this means that the utility has an additional argument $w(t)$ in the presence of a warm-glow giving behaviour. The function $w(\cdot)$ must satisfy $w(0) = 0$.

The comparison of the transfer choices (for a same allocation choice) between the two treatments offers the possibility to separate warm-glow from impure altruism. If a subject gets utility only from warm-glow but not from pure altruism when giving, his or her utility level does not depend on the final allocation to the recipient. Consequently, the chosen non zero transfer should be identical in both treatments for a same first-step allocation (π_i, π_j). On the contrary, if a subject cares about the recipient's final payoff, his or her level of utility should be higher when the transfer is matched, for a same transfer t and a same allocation (π_i, π_j). In the latter case, t should be smaller in treatment 1 than in treatment 0, for a same allocation (π_i, π_j).

An estimation model for pure altruism and warm-glow is proposed in the following section.

4.2 A model for estimation

Using the utility model of section 2, we can write the programme of the dictator:

$$\begin{gathered}\max_{(\pi_i,\pi_j,t)} U_i(\pi_i, \pi_j, t) \\ \text{subject to } \ \pi_i^2 + \pi_j^2 = r^2, \\ \text{and } t \geq 0.\end{gathered}$$

Since the transfer game is in two steps, we can as well consider that the optimisation occurs in two steps. First the dictator chooses the allocation (π_i, π_j), then the transfer t. Replacing

U_i by the model of section 2.2, the dictator's objective can be rewritten as

$$\begin{aligned} \text{first,} \quad & \max_{(\pi_i,\pi_j)} u(\pi_i) + v(\pi_j) && (1)\\ & \text{subject to} \;\; \pi_i^2 + \pi_j^2 = r^2, \\ \text{and then} \quad & \max_{t} u(\pi_i^\star - t) + v(\pi_j^\star + t) + w(t) && (2)\\ & \text{subject to} \;\; t \geq 0, \end{aligned}$$

where $\pi_i^\star$ and $\pi_j^\star$ are the arguments of the first step of the optimisation. Solving for the first step of the optimisation gives

$$\frac{\pi_i^\star}{\pi_j^\star} = \frac{u'(\pi_i^\star)}{v'(\pi_j^\star)}.$$

To solve the second step of the optimisation, we assume that t is small enough to write that $u(\pi_i^\star - t) \simeq u(\pi_i^\star) - tu'(\pi_i^\star)$, and similarly that $v(\pi_j^\star + t) \simeq u(\pi_j^\star) + tu'(\pi_j^\star)$. This leads to

$$U_i(\pi_i^\star, \pi_j^\star, t) \simeq u(\pi_i^\star) + v(\pi_j^\star) + t\Big(v'(\pi_j^\star) - u'(\pi_i^\star)\Big) + w(t).$$

Then, solving for the second step of the optimisation gives

$$w'(t^e) = u'(\pi_i^\star) - v'(\pi_j^\star)\ ,$$

where t^e is the optimal transfer, if $t^e > 0$. Hence, if we choose simple arguments[10] for the utility function as for instance

$$\begin{aligned} & u(\pi_i) = \pi_i, \\ & v(\pi_j) = \alpha\, \pi_j \text{ with } 0 < \alpha < 1, \\ \text{and} \quad & w(t) = \beta \sqrt{t} \text{ with } 0 < \beta, \end{aligned}$$

the 2-step optimisation gives

$$\begin{aligned} & \alpha = \frac{\pi_j^\star}{\pi_i^\star}, && (3)\\ \text{and} \quad & \beta = 2\sqrt{t^e}\,(1-\alpha) \text{ if } t^e > 0 \\ \text{that is} \quad & \beta = 2\sqrt{t^e}\left(1 - \frac{\pi_j^\star}{\pi_i^\star}\right) \text{ if } t^e > 0. && (4) \end{aligned}$$

This example would allow to estimate individual altruism and warm-glow levels by $\tilde{\alpha}_i$ with equation 3 and $\tilde{\beta}_i$ with equation 4, if the individual has chosen some strictly positive transfer t.

Finally, the link with individual willingness-to-pay for green and socially-oriented labelled products would be made by estimating the following linear model:

$$WTP_i = f\big(X_i, Y_i\big)$$

where X_i is a vector of characteristics such as age, gender, and education, and where Y_i represents i's social preference level. Y_i could either be the social value orientation, or be composed of $\tilde{\alpha}_i$ and $\tilde{\beta}_i$, if these estimations on the transfer game data are possible.

[10] In this example, we push the assumption of a diminishing marginal utility to its limit by choosing $u(\cdot)$ and $v(\cdot)$ linear.

4.3 Expected results

Our experimental design is aimed at determining the link between consumption behaviour and social value orientation.

To sum up, the first part of our experimental design should provide an individual social value orientation, coming from individual decisions on the allocation $(\pi_{\text{self}}, \pi_{\text{other}})$. Individual levels of pure altruism and warm-glow could also be obtained thanks to the transfer game and a following estimation on the observations. On the other hand, the experimental auctions should reveal the willingness-to-pay for organic labelled and fair-trade-labelled food.

Our main hypothesis is that the preference for ethical food, i.e. a high willingness-to-pay for ethical food, could be similar to the warm-glow giving behaviour. It could correspond to small amount given to others that do not engage the consumer. Therefore we expect that the observed social value orientation scores, and the levels of pure altruism and warm-glow ($\tilde{\alpha}$ and $\tilde{\beta}$) can explain more accuratly the willingness-to-pay for organic food than the willingness-to-pay for standard food. Similarly, we expect the predictive power of the social value orientation, $\tilde{\alpha}$ and $\tilde{\beta}$ to be higher for the willingness-to-pay for fair-trade-labelled food than for the willingness-to-pay for organic food. This relies on the assumption that the organic label has a lower intensity as an ethical attribute than the fair-trade label do.

4.4 Concluding remarks

At this point we would like to make two remarks on the transfer game described in section 3, i.e. the first part of the experimental design.

Our first remark is about studies on charity giving. Charity experiments or field studies are highly related to the measure and the analysis of warm-glow. It would therefore be consistent to use experimental design that let participants allocate money between themselves and a chosen charity for instance, as in the study by Eckel and Grossman (2004). In fact, the described transfer game is inspired by an experiment on charities. Our matching treatment (treatment 1) is used in Karlan and List's (2007) field study on charitable donations. The auhors find an increase in offers when donation is matched, both in gift intensity and response rate. This interesting finding in giving behaviour could be explained by impure altruism.

Our second remark addresses what could be seen as a lack of contextualisation of the transfer game. We voluntarily design the transfer game in order to avoid terms obviously linked to 'charity' or 'gift'. In our opinion, the term 'transfer' is neutral enough not to influence later behaviour in the experimental auctions.

To conclude, we hope that the transfer game can become an interesting variant of a charity game, useful to predict behavioral patterns. Other types of transfer game could be set using uncertainty on the implementation of the transfer. Finally, it could be interesting to compare the transfer game with existing experimental settings on charities or warm-glow.

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