Journal of Economic Methodology,
Vol. 17, No. 3, September 2010, 261–275

Routledge
Taylor & Francis Group

Personal identity: a theoretical and experimental analysis

Fernando Aguiar[a], Pablo Brañas-Garza[b], Maria Paz Espinosa[c] and Luis M. Miller[d]*

[a]*IESA-CSIC, Córdoba, Spain;* [b]*Universidad de Granada, Teoría Económica, Granada, Spain;* [c]*Universidad del País Vasco, Fundamentos del Análisis Económico II, Bilbao, Spain;* [d]*Nuffield College, CESS, New Road, Oxford OX1 1NF, UK*

This paper aims to analyze the role of personal identity in altruism. To this end, it starts by reviewing critically the growing literature on economics and identity. Considering the ambiguities that the concept of social identity poses, our proposal focuses on the concept of personal identity. A formal model to study how personal identity enters in individuals' utility function when facing a dictator game decision is then presented. Finally, this 'identity-based' utility function is studied experimentally. The experiment allows us to study the main parameters of the model, suggesting that we should move with caution when attributing identities to individuals.

Keywords: personal identity; dictator game; game theory; experiments

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1 Introduction

Until recently, little attention was given to the concept of identity in economics. Many have attempted to explain this lack of interest by appealing to the traditional concept of the *homo economicus* driven by self-interest (Sen 1985, 2004, 2006; Davis 2003; Basu 2006; Horst, Kirman, and Teschl 2006). Thus, for example, to explain the so-called wealth gap between blacks and whites in the United States, standard economics treats a radically individual self-interested 'taste for discrimination' as an argument in the utility function (Becker 1971), as if individuals were not embedded in a social context in which race and racism determine the conduct and the economic outcomes of blacks and whites, regardless of their respective tastes for discrimination (Arrow 1998; Mason 2001; Austen-Smith and Fryer 2005; Basu 2005; Darity, Mason, and Stewart 2006). Yet not only race, but sex, social class, culture, language or personal loyalties towards members of the group or groups to which an individual belongs also have a decisive weight in economic behavior (Davis 2003; Luchini and Teschl 2005; Bénabou and Tirole 2007).

According to this standpoint, which is commonly shared by such disciplines as sociology or social psychology and which is already held to be true in economics, people's identity, their sense of self, is shaped in the heart of the groups with which the individual identifies. The group can therefore have more weight than the individual and determine norms for acceptance and rejection or for solidarity and competence that cannot always be attributed solely to selfish behavior.

In an article that can be considered the predecessor to the introduction of identity in economics, George Akerlof shows, for example, how wealthy parents who try to maximize the economic benefits of their children, consider it advantageous to teach them

*Corresponding author. Email: luis.miller@nuffield.ox.ac.uk

ISSN 1350-178X print/ISSN 1469-9427 online
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DOI: 10.1080/13501781003792670
http://www.informaworld.com

to identify with members of their own class and to be loyal and honest with them, 'even though these traits may in some circumstances cause the individual to engage in nonmaximizing behavior' (Akerlof 1983, p. 61). As Akerlof points out, individuals cannot identify with their class without being loyal, but this group loyalty can be detrimental to them. A vast amount of social psychology literature demonstrates that individuals may indeed incur enormous personal costs to themselves in benefit of the group to which they belong (Dawes, van der Kragt, and Orbell 1990).

Departing from the empirical evidence on the weight of social identity in economic and non-economic conduct, George Akerlof and Rachel Kranton were the first to introduce the concept of identity in an economic analysis (Akerlof and Kranton 2000). In Akerlof and Kranton's proposal, the utility of individual i is a function of i's actions, the actions of others and of identity I or i's self-image. On the one hand, identity is based on the social category that others attribute to a given person, while on the other it is based on the degree to which the traits ϵ_i of i coincide with the ideal social category that others attribute to her, which is indicated by prescription P (Akerlof and Kranton 2000, p. 719). Social identity therefore involves accommodating one's own image and thus one's own actions to that ideal. Insofar as individuals internalize the code of conduct linked to a prescribed behavior, feelings of anxiety and cognitive dissonance may be evoked when violating the prescription. Likewise, the person may have a higher sense of self when accommodating the behavior prescribed by the reference group. Nonetheless, as Akerlof and Kranton point out, general agreement does not exist regarding social categories and prescriptions, thus providing the individual the option to choose her total or partial identity.

The pioneer article by Akerlof and Kranton led to an authentic boom in research on identity and economics – giving rise to the creation of a new field of study: the economics of identity (Kirman and Teschl 2004). Part of this research has applied, developed or modified the model proposed by these authors in concrete studies on identity. Others have attempted to propose new general models of behavior to include identity in an economic analysis. Akerlof and Kranton's own studies are among the former type. In the first paper in which they apply their model (Akerlof and Kranton 2002), the authors demonstrate that students' performance depends on their identity, that is, the social category that is attributed to them ('crowd leader', 'nerds' or 'burnouts') and how they accommodate their self-image to this category. In order to maximize their utility, students must not only maximize their effort, but must fit into a category. In a second study (Akerlof and Kranton 2005), they show how workers' efficiency improves when they identify with their company.

Other examples of studies applied to concrete cases, in which the economic outcomes of identity are expressly analyzed, include studies on racial conflict (Mason 2001; Bodenhorn and Ruebeck 2003; Basu 2005; Benjamin, Choi, and Strickland 2006; Darity et al. 2006), religious identity (Minkler and Cosgel 2004), trust and identity (Güth, Levati, and Ploner 2008), economic development (Basu 2006), identity and microfinance programs (Chatterjee and Sarangi 2004), consumption of symbolic goods (Dolfsma 2004; Starr 2004), political integration (Wichardt 2008a), identity and cooperative social norms (Wichardt 2008b), or law and economics of identity (Hill 2007).

There are far fewer general models. One of the most notable is the evolutionary model by Bénabou and Tirole (2007), who present a general theoretical model to explain people's beliefs about their deepest values and how preferences for identity, dignity and taboos interfere in these beliefs. Davis (2007), on the other hand, transforms Akerlof and Kranton's utility function by making personal identity a function of individual utility,

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which is at the same time a function of social identity. Given that we all have multiple social identities, personal identity implies the capacity to choose from among numerous social categories according to their utility.

In spite of the unquestionable interest that these investigations arouse, it is striking that although the concept is questioned by other disciplines, particularly sociology and political science, economics addresses the concept of social identity and does not take into account these widespread criticisms. The main criticisms regarding the concept of social identity can be grouped into three categories.

(1) *Conceptual ambiguity.* The meanings of 'identity' abound in the sociological, political science and psychological literature. Identity can be people's concept of who they are and how they relate with others; biological aspects which acquire a socially constructed meaning of identity (race, gender); identification with national, cultural or linguistic symbols; role-specific understanding and expectations about self; cognitive schemata by which the individual knows the world; the prescriptive representation of political actors; expressivist behavior or non-instrumental modes of action; the unstable, multiple and fragmented contemporary self, etc. (Fearon 1999; Brubaker and Cooper 2000). Thus, 'the term "identity" is made to do a great deal of work' (Brubaker and Cooper 2000, p. 8). In economics the term is made to do a great deal of work too. In the recent literature on economics and identity we find that identity is understood as a payoff, as a set of social categories, as an interiorized social norm, as the belief in profound personal values, as a perceptual lens or as non-instrumental deontological elements of action (Hill 2007; Davis 2006). These myriad definitions pose reasonable doubts as to the usefulness of a concept which is at best vague and capable of encompassing multiple definitions and as to the causal tie between identity and action (Oberschall and Kim 1996; Aguiar and de Francisco 2002; Bicchieri 2002; Maclnnes 2004).

(2) *Categories of practice vs. categories of analysis.* It is often difficult to distinguish whether identity refers to the way in which people understand or see themselves in everyday life and in their social, political or economic practice, or whether identity refers to an analytical concept embedded in a theory of social action. In other words, identity is not distinguished so much as a category of social practice as a category of analysis (Brubaker and Cooper 2000, p. 4). For example, when Akerlof and Kranton analyze the influence of the feminist movement in the job market, they mix both categories. This is certainly legitimate, but it is convenient to clarify the difference, otherwise it is impossible to know if we are referring to identity as a category attributed by the researcher to the individual or if we are referring to identity as a true process of self-categorization.

(3) *Social identity does not exhaust personal identity.* Influenced by sociology and social psychology, the economics of identity has chiefly focused on social identity, while overlooking personal identity. When identity is defined as a process of social or intragroupal identification, people are considered 'embodiments of group prototypes rather than as independent individuals' (Davis 2007, p. 354). Personal identity thus vanishes in a hypersocialized concept of individual. But given the notably widespread consensus that people have multiple identities, it is necessary to appeal to individual or personal identity as a reference for the individual who reflexively chooses what she wants to be. That is, if the social identity in Akerlof and Kranton's model involves fitting individual action to a social category that

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> others attribute to us, personal identity would imply fitting the action to the image that one has or wishes to have about oneself (Sen 2004; Teschl 2006). This is a complex process full of ambiguities and incoherences that can affect identification with others. For this reason, as Davis points out, 'without some account of the "bearer" of a set of social identities, saying that an individual identifies with others is largely an empty claim' (Davis 2007, p. 357).

Bearing in mind these criticisms, in the present article we aim to study the growing interest in the issue of personal identity by means of a dictator game (DG) in order to contribute some insight into the 'bearer' of social identities. Identity is used here as an analytical category, since individuals do not make express references to their identity or anything of the kind nor is it something they talk about. The issue of identity (in the analytical or attributed sense) emerges when subjects in a DG are made to reflect upon what they should give and what they should keep – the fairest decision in their opinion – following the action, that is, once they have given an amount of money or have kept it all for themselves.

Given that this is a question of coherency between what the subjects have done and what they believe they should do in a context in which information about others is lacking (i.e. the identity of the recipients) and in which social identity does not come into play (in a standard DG the actions of experimental subjects are not channeled to fit to a social prescription *P*), we find ourselves before an instance of personal identity. As social psychologist John Turner points out,

> Personal identity refers to self-categories which define the individual as a unique person in terms of their individual differences from other (ingroup) persons. Social identity refers to social categorization of self and others, self-categories which define the individual in terms of his or her shared similarities with members of certain social categories in contrast to other social categories. (Turner 1999, p. 12)

Social identity is only a portion of the identity of a person; that portion the person shares with others. However, when an individual makes an isolated decision in a DG without knowing anything about the partner, it is not the individual's social category that is revealed in the decision, but his or her self-definition or self-understanding as a unique person, that is, a selfish person, an egalitarian person, an altruistic person, a charitable person, and so on.

To the best of our knowledge, few economic experiments have been expressly conducted on social and personal identity, and even fewer with dictator games. However, this is an especially useful tool for analyzing individuals' self-image when carrying out an action. In the only work prior to ours on identity and giving behavior, Ben-Ner, McCall, Stephane, and Wang (2006) show how experimental subjects give more (hypothetical) money in a dictator game to those who are similar to them in a wide range of social categories. Now, as we have said, in our case we do not want to analyze the subjects' social identity in a DG, but rather to analyze their personal identity, that is, the link between self-definition and giving (real) money in a dictator game.

To accomplish this end, in the following section we present a formal model – inspired by the work of Akerlof and Kranton (2000) – in which we consider that the subjects establish a personal prescription that dictates how an amount of money should be divided in a DG. Personal identity is thus defined as the accommodation between what one does and the prescription about what one says one should do. An experiment designed to explore the main parameters of the model is presented in section 3. Given that contradictions arise between what subjects do and what they say they should do, we establish a process of self-understanding with a view to shedding some light on who attaches lesser weight to personal identity and why and who attaches greater weight to personal identity and why. The results of

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the experiment are discussed in the fourth section, where we warn of the difficulties of attributing identities to people when explaining economic behavior.

2 The model

Let us assume that a population of N individuals is playing a DG.[1] Let S be the amount of money to be divided, g_i the amount donated by dictator i to a recipient, $g_i \in [0, S]$, and $x_i = S - g_i$ the money she keeps. Following Akerlof and Kranton (2000), we assume that subjects derive utility from the money they keep (consumption $x_i \in [0, S]$) and also from a sense of personal identity, I_i:[2]

$$U_i = U_i(I_i, x_i) \tag{1}$$

To model identity, I_i, first we define the PRESCRIPTION P_i as a normative principle for each individual[3] concerning how S should be shared $P_i = (p_{ii}, p_{ij})$, $p_{ii} + p_{ij} = S$. In the rest of the paper, we refer to the personal prescription as the amount of money one should keep, that is p_{ii}. Violating this prescription has a cost $c_i = |x_i - p_{ii}|$ which is symmetric for upward or downward deviations from the prescription.

IDENTITY, then, is defined as: $I_i = I - c_i$ where I is a constant. I_i is the stock of identity that an individual has and reaches its maximum value when subject i exactly follows her prescription: $x_i = p_{ii}$. When she does not follow it, she loses identity with respect to that maximum stock.

Individuals decide their level of consumption and identity by solving the following problem:[4]

$$max_{x_i, I_i} U_i = U_i(x_i, I_i) \tag{2}$$

$$s.t. : I_i = I - c_i \tag{3}$$

$$c_i = (x_i - p_{ii}) \tag{4}$$

$$x_i \in [0, S] \tag{5}$$

We assume a trade-off between identity and consumption. To capture this trade-off formally, i.e. to parameterize the importance given to consumption and identity, we use a Cobb-Douglas utility function,

$$U_i = I_i^{\alpha_i} x_i^{1-\alpha_i}$$

where α_i measures the relative weight given to identity in i's preferences. We can substitute Equations (3) and (4) in the objective function and rewrite the maximization problem as:

$$max_{x_i}[I - (x_i - p_{ii})]^{\alpha_i} x_i^{1-\alpha_i} \tag{6}$$

From the First Order Condition (FOC) of this problem we obtain the optimal consumption:

$$x_i = (1 - \alpha_i)[I + p_{ii}] \tag{7}$$

Note that Equation (5) has to hold so that $x_i \leq S$. For high values of the parameter I, we could have a corner solution at $x_i = S$. Thus,

$$x_i = \min\{(1 - \alpha_i)(I + p_{ii}), S\} \tag{8}$$

When $x_i < S$, Equation (7) characterizes the optimal solution.

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The experiment described in the next section was designed to obtain the values x_i and p_{ii} for each individual. The observed values are denoted $\tilde{x}_i$ and $\tilde{p}_{ii}$. We assume that this behavior is rational and comes from the solution of their individual optimization problems, Equation (6). I is not observable but since in our data we have $\tilde{x}_i < S$ for some i, I must be such that it allows for interior solutions; therefore, we approximate I by $\tilde{I} = \frac{S}{2}$, which is consistent with the observed $\tilde{x}_i$ and $\tilde{p}_{ii}$ for any value of α_i.

Substituting in Equation (7) the values of $\tilde{x}_i$, $\tilde{p}_{ii}$ and $\tilde{I}$, we can calculate for each subject the value of α_i that makes the decisions consistent with the maximization of the Cobb-Douglas utility function:

$$\widehat{\alpha}_i = 1 - \frac{\tilde{x}_i}{[\tilde{I} + \tilde{p}_{ii}]} \tag{9}$$

Note that the higher the value of $\tilde{x}_i$ relative to the prescription $\tilde{p}_{ii}$, the lower is the estimated weight of identity in the utility function. Even with a different utility function, α_i would provide a reasonable measure of the weight given to identity relative to consumption in the subject's preferences.[5]

To sum up, the model provides a framework in which to measure the weight given to identity in the utility function, α_i, using observable variables like consumption x_i and prescription p_{ii}. In the next section, we describe how x_i and p_{ii} were obtained from the experimental data, then we calculate the values $\widehat{\alpha}_i$ and explore the determinants of the weight given to identity.

3 The experiment

3.1 Experimental design and procedures

For the experiment, 78 undergraduate students were recruited (mainly biology students) at the Autonomous University of Southern Baja California (UABCS) in La Paz (Mexico) in September 2006. Two experimental sessions were conducted (each one corresponding to a different treatment).[6] Students were recruited by a professor of biology by means of posters placed throughout the school. The message 'Do you want to earn some money?' appeared on all of the posters as well as an email address for participants to sign up for the experiment. The whole recruitment process was carried out the week prior to the experiment (performed on Monday, 25 September).

Why did we choose Mexico? The reason for choosing the UABCS was that – as far as we knew – no experiment had ever been run there. Thus, the whole population was completely uninformed about dictators' behavior and had no previous knowledge about it. We assumed that this lack of information was strictly necessary to obtain clean results.

In the first session, 26 subjects played the game as dictators. The other 26 subjects, who played as recipients, waited for half an hour and then came into the room (once the dictators had left the room through another door). In the second session, only 26 subjects acted as dictators since the potential donations were for a student association.

We used a very standard design in order to avoid words such as 'sharing' that could trigger generous behavior.[7] Furthermore, the subjects received clues indicating that they were allowed to keep all the money. The exact procedure followed in the experiment is presented below.

Dictators received a package including a large envelope which contained another small envelope (for the dictators' payoffs), 10 20-Mexican peso bills each (or a total of 200 pesos $\cong$ US\$15 $\cong$ €14), plus a questionnaire and instructions. The instructions explained

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the division problem and indicated that the recipient would be randomly selected from among the people waiting outside (alternatively a student association).

The instructions were read aloud to guarantee common understanding. The subjects were then told to carry out the task privately with the help of the large envelope. They had to transfer the money they wanted to keep into the small envelope, seal it and put it in their pockets. Thus, the money they wished to donate (to the recipients) had to remain inside the big envelope. Once the subjects had finished the task, they filled out a short questionnaire. Among other questions, they were hypothetically asked: 'What division do you think is the fairest?' (item #3). This question is crucial for our analysis, since we derive individual prescriptions from it. We explain below why we elicit individual prescriptions in this way.

After this, they were asked to turn in the questionnaire and sign a blank receipt form. They left the instructions and the large envelope (with the donation) on a table. While the recipients were being asked to come in, the dictators proceeded to leave the room. Communication among them was impossible.

It should be noted that our design has a clear order effect: first participants make the decision and then prescriptions are elicited. This order obviously may affect the results: subjects may accommodate prescriptions to actions. However, using the opposite order could be even worse, since subjects would adapt their choices to previous declarations. A related issue is that, precisely, analyzing the role of fairness once decisions have been made makes a lot of sense if we want to calibrate how important identity is for individuals. Thus, we decide to use this order.

Our subjects were also asked (item #4) about the behavior of the other participants, i.e., the average donation. Thus, we have for each individual: her donation, her prescription and her expectation about others' behavior (on average). We run a number of Wilcoxon tests for paired samples. Interestingly, we find that givings and expected givings are identically distributed ($z = -0.746$, $p = 0.456$), whereas prescriptions are not correlated with givings ($z = -4.56$, $p < 0.001$) nor with expected givings ($z = -4.334$, $p < 0.001$). Therefore, these tests indicate that:

- individuals believe that the other subjects behave as they did;
- prescriptions are not accommodated to actions.

Then we consider that our design is 'clean' and that the provided information is valuable. Also recall that the experiment was doubleblind, so participants did not feel any pressure to provide a 'correct' answer.

3.2 Experimental results

In the following, we present the results in a somewhat different way from the standard literature on dictator games. We analyze mainly the variables consumption (x_i), i.e. the money actually kept by subjects, and prescription (p_{ii}), i.e. the self-reported individual prescriptions about the money they should keep. We have 52 actions and 51 prescriptions (1 null), respectively.

Figures 1 and 2 plot the actual behavior and the revealed prescriptions by the participants in the DG, respectively. Mainly, we can observe the contrast between the homogeneity of the sample shown in prescriptions and the heterogeneity of actual behaviors. Thus, whereas most of the subjects (68.6%) report a prescription equal to 5, no general trend is found regarding consumption behavior. Purely selfish behavior is not clearly observed since only 9 subjects out of 52 keep the whole amount of money. Neither

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is it possible to speak about a general egalitarian behavior as only 12 out of the 52 participants donate 5, far from the number of participants (35) that reveal this prescription.

3.2.1 *The weight of identity*

We will now focus on the subjects' utility function. Although the utility function is not observable, we can derive the value for α_i for each subject by using the experimental information for x_i and p_{ii} (see Equation (9) in section 2). Table 1 shows the α_i value for all the participants in our experiment. Recall that α_i means the importance of identity in the utility function.

The lack of homogeneity in the weight subjects assign to identity is a consequence of the heterogeneity of behaviors (x_i) and the stability of prescriptions (p_{ii}) in the population. Note that the range of values that α_i adopts is determined by the type of utility function that we use. Only five individuals give no value to identity, but 12 assign the highest possible value. With the exception of 14 subjects ($\alpha_i < 0.25$), participants value identity in a very notable way. In other words, we can say that individual consumption is constrained dramatically due to identity concerns. In fact, the mean α_i is 0.31, the median is 0.35 and the mode 0.50.

Result 1: Most of the individuals give a positive value to identity in their utility function.

3.2.2 *Determinants of* α_i

We have already shown that identity matters. In the following we are interested in studying which are the main determinants of identity. For instance, the weight given to identity may be related to individuals' personal characteristics, socioeconomic variables or other

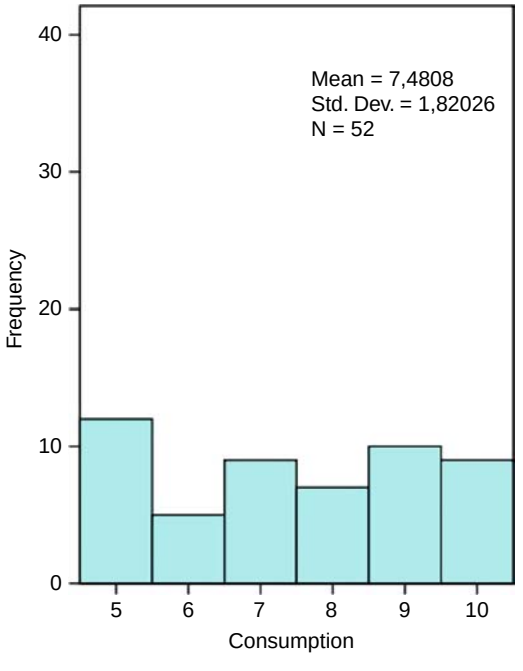


Figure 1. Consumption.

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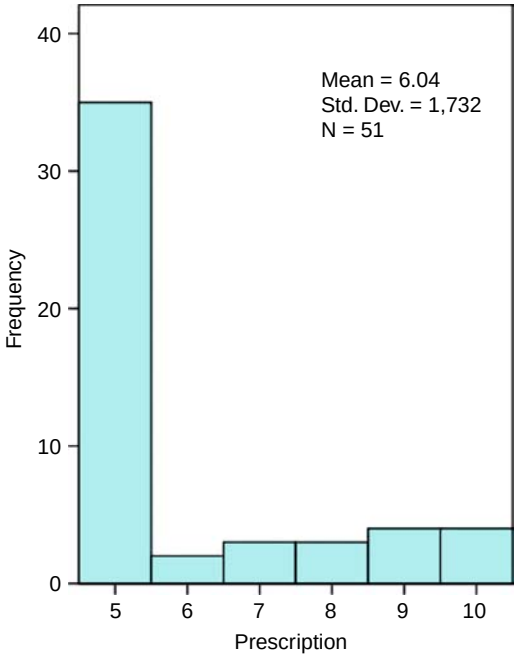


Figure 2. Prescription.

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factors. Using data from the questionnaire the participants filled in after the experiment, we can obtain some insights about the determinants of the weight given to identity (α_i). We use a set of variables that includes: questions related to the self-understanding of participants (*selfish* and *cooperative*), socio-demographic variables (*sex, income, siblings*), and social capital variables (*club* and *NGO*).

The *selfish* variable refers to a question in which the subjects are asked to define the situation as one in which they maximize their own welfare or the welfare of both participants, that is the dictator and the recipient. This variable ranges from 1 to 7: 1 meaning maximize joint (me + recipient) welfare a lot and 7 meaning maximize my own welfare a lot.

Table 1. α_i values.

α_i values	N	%	cum %
0.00	5	9.6	9.8
0.10	4	7.7	17.6
0.20	5	9.6	27.5
0.25	1	1.9	29.4
0.30	4	7.7	37.3
0.31	1	1.9	39.2
0.33	4	7.7	47.1
0.36	6	11.5	58.8
0.38	2	3.8	62.7
0.40	5	9.6	72.5
0.42	2	3.8	76.5
0.50	12	23.1	100.0
Total	51	100.0	

The *cooperative* variable is derived from the participants' answers to a question in which they are asked to state if they perceive themselves as competing or cooperating with their partners in this game. This variable ranges from 1 to 7: 1 meaning competing a lot and 7 meaning cooperating a lot.

We estimate the effect of the above-mentioned variables in α_i using censored data models (Tobit). We present two models, one including the variable *selfish* and one including the variable *cooperative*.[8]

The most salient result is that no socio-demographic variable – neither sex, income, siblings – explains the weight that the subjects give to identity, whereas participating in clubs increases weakly the weight of the identity in the utility function. Variables regarding self-understanding are clearly relevant. On the one hand, selfish subjects who consider that their own income is more important than joint social welfare give less weight to identity. On the other hand, cooperative subjects give more weight to identity, according to their own taste for cooperation.

Result 2: The weight given to identity in a standard DG depends on personal self-understanding variables and it is not correlated to socio-demographic nor social capital variables.

3.2.3 *Arguments provided by subjects*

If self-understanding is so important in explaining actual behavior in the DG, we should be interested in knowing the reasons behind this self-understanding. In what follows we explore the reasons given by participants when asked to rationalize their behavior. We hypothesized that these reasons are the key arguments that contribute to individuals' self-understanding.[9]

We have just shown that individuals' self-understanding plays a crucial role in the weight subjects give to identity (α_i). After completing the questionnaire, the subjects were asked to explain their decisions regarding their donation in the DG. We now explore the reasons self-reported by subjects when they have to rationalize their actual behavior. From the whole set of answers we define four groups of reasons. These groups are labeled as follows and include a representative comment by the subjects in each case as an example.

- 'Equity' (n = 14 subjects): An example of 'equity' reasoning is the following: 'Taking all the money is not fair, so I consider that taking 50% is enough and acceptable.'

Table 2. Determinants of α_i.

	α_i values	
Sex	−0.059 (0.352)	−0.062 (0.270)
Income	−0.003 (0.943)	0.005 (0.883)
Siblings	−0.010 (0.757)	0.030 (0.323)
Self	**−0.040 (0.010)**	–
Coop	–	**0.069 (0.000)**
Club	0.108 (0.404)	0.198 (0.099)
NGO	−0.166 (0.243)	−0.155 (0.239)
c	0.573 (0.018)	0.079 (0.705)
R_2	0.181	0.311
n	48	48

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- 'Selfishness' (n = 13 subjects): '... because I always want more for me.'
- 'Hardship' (n = 13 subjects): '... because at this moment I'm hungry and I only have $50 for the next 2 weeks. I know that my decision is not fair but I took it anyway.'
- 'Charity' (n = 4 subjects): '... I consider myself a religious person, I don't believe in the Church but I believe in God, and He asked me to give between 10% and 20% to charity. My decision is giving the highest quantity without affecting my economy.'

Figure 3 plots the reported prescription (p_{ii}) and the amount of money the dictator kept (x_i) by groups.

The first idea that arises from Figure 3 is the contrast between the homogeneity in prescriptions and behaviors among 'equitable' people and the heterogeneity in both variables in the other three groups. Interestingly, there is no variability at all in the 'Equity' group. These individuals have a clear idea about the prescription and almost all of them follow it.

The group of 'selfish' individuals is completely different. They show a notable variability in self-reported prescriptions and also heterogeneity in relation to the money they keep. The median value is to keep 90% of the endowment, thus half of the 'Selfish' group keeps the whole amount of money. Subjects who declare that they need the money ('Hardship' group) accommodate the prescription to their own interest or to the need they appear to have, while the 'Charity' group follows, on average, their prescription.[10]

In sum, self-reported arguments indicate that:

Result 3a: In the case of 'Equity' subjects' behavior and prescription almost always fit.

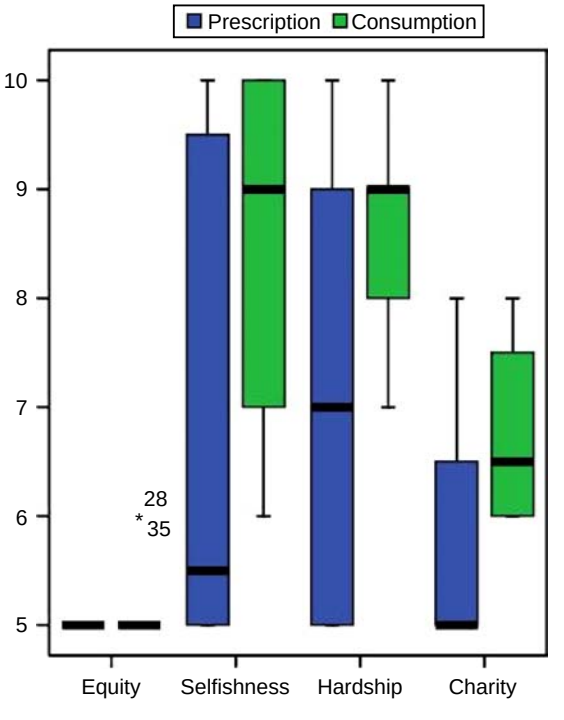


Figure 3. p_{ii} and x_i by group of reasons.

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Result 3b: Subjects that allude to reasons other than 'Equity' show heterogeneous prescriptions and behaviors. In this case, the behavior and the prescription of what should be done do not always coincide.

4 Discussion

Under the influence of sociology and social psychology, particularly social identity theory, the growing literature on economics and identity has centered more on the concept of social identity than on the concept of personal identity. In the most influential study to date, that of Akerlof and Kranton, identity is considered a process of social categorization. Identity, or sense of self, has to do with the (not always conscious) accommodation of individual action to the categories that others attribute to individuals. These categories are presented in the form of prescriptions or codes of conduct. Hence, an Afro-American woman from New York with two children who is a professor of literature and a feminist, for example, would have a drawer full of labels – woman, Afro-American, mother, professor, feminist – that would all fit provided that she attempts to accommodate her conduct to the various prescriptions that determine the ideal behavior of these categories. Yet, can that person's behavior, her economic and non-economic conduct be explained in terms of these labels? To a large extent it can be, but not without a wide margin of discretion. As we said in the introduction, it is not easy to establish causal ties between identity and action and even less so when identity is attributed to large population groups (Hispanics, Blacks, Afro-Americans, Muslims). Consequently, there are those who prefer to talk about identification with values, interests and desires, of self-understanding or of personal identity rather than social identity.

Although we have not rejected the usefulness of the concept of social identity in this article, we believe that it is necessary to give some account of the bearers of a set of social identities. With this aim, we have focused on personal identity in a standard dictator game, that is, in a context where social distance is large with respect to the subjects' social identities and where personal identity is revealed with great clarity. By doing so, we have demonstrated that it is not an easy task to attribute identities to individuals, not even in such an apparently simple context as that of the DG. Our experiment has produced the following results.

(1) *Incoherency between conduct and prescription.* In order to keep within the conceptual framework established by Akerlof and Kranton, while bearing in mind the literature on personal identity, we have considered that one of the key elements of the concept is the coherency between what one actually does and what one says should be done (personal identity). Identities that people attribute to themselves turn out to be unsustainable in the long run if that person does nothing that the identity prescribes. Clearly, the person who says 'I'm altruistic' would have an ideal about what that label prescribes and will judge her action according to this self-prescription. In our experiment, however, actual conduct and the prescription belong to two different worlds since while a minority does in effect donate half of the money to the recipient, the majority states that they should donate half.

(2) *The weight given to identity is highly heterogeneous.* When instead of attributing identities to large population groups, we descend to the level of individual decisions as we have done here, we find that the weight individuals give to identity is very heterogeneous. Common codes of conduct do not, by any means, exist; a fact which has to do with how individuals understand themselves.

(3) *The weight of identity has to do with individuals' self-understanding.* The regression analysis has shown that the weight of identity (α_i) is correlated with the

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image subjects have of themselves. In an initial process of self-understanding, we asked the subjects to define themselves as being either selfish (efficiency minded) or cooperative (competitive). This self-understanding turns out to be key to understanding the weight that individuals attach to identity.

(4) *Individuals who play the DG on selfish terms show less coherency between action and prescription, while individuals who consider themselves to be equitable show greater coherency*. Given that we have defined personal identity à la Akerlof–Kranton as the accommodation between action and prescription (personal prescription in our case), the fact that a person manifests selfish values in a DG does not mean that they attach less weight to identity. Personal identity is the coherency between what is given and what one says should be given. The selfish individual gives the same weight to identity as the non-selfish individual when action and prescription coincide. However, in a subsequent process of self-understanding in which subjects were asked to give reasons for their actions, it is striking that the selfish subjects are the least coherent, whereas the equitable subjects are the most coherent.

All of this casts doubts on the concept of identity and on the generalized identities that are attributed to individuals. It is very likely that these attributions conceal interests, beliefs and desires that go further in explaining conduct than the very identity itself (Aguiar and de Francisco 2009). Furthermore, as several experimental and non-experimental studies have shown, group pressure – which does not exist in our experiment – can force individuals to align with others around identity because it is beneficial to them or because they are obliged to do so. Unquestionably, the concept of identity should continue to play an explanatory role in economics and other social sciences given that there are clear cases in which this concept is the driving force behind individuals' decisions. Nonetheless, when descending to the level of personal identity, several contradictions arise that oblige us to be cautious when attributing identities to people and attempting to explain economic conduct in terms of these identities.

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Notes

1. In a standard DG, one of the players, the dictator, is given a fixed amount of money. He is then told that the money has been assigned to two players – the dictator and the recipient – but that only the dictator is entitled to decide how much money to keep and how much money to give to the recipient.
2. Akerlof and Kranton (2000, p. 719) propose a utility function where utility depends on one's own action, others' actions and identity. Since, in the DG, the second player does not make any decision, we simplify the function making it only dependent on own consumption and identity.
3. Note that, in contrast to other papers (Fehr and Schmidt 1999; Bolton and Ockenfels 2000), our subjects are not compelled to follow any defined principle, for instance the 'equal split', the 'minimum difference', etc.
4. Note that in this context it would not be rational for a subject to keep less than the amount indicated by the prescription, so that we can ignore the case $x_i < p_{ii}$. This allows us to write the Equation as $c_i = (x_i - p_{ii})$.
5. An alternative formulation would be to consider that utility is dependent on consumption and identity loss; for example, consider preferences $U_i = (p_{ii} - x_i)^{\alpha_i} x_i^{1-\alpha_i}$. In this case $\widehat{\alpha}_i = 1 - \frac{\bar{x}_i}{\bar{p}_{ii}}$.
6. The two treatments were designed to test if information about the recipient had an influence on dictators' behavior. In the first treatment the recipient was an unknown student, whereas in the second one the recipient was a real student association for the protection of the sea cucumber. Since there are no differences in the behavior and prescriptions between both groups (Mann-Whitney test; $z = -0.028$, $p = 0.978$, for actual giving; $z = -0.573$, $p = 0.567$, for prescriptions), we can pool the data and analyze them as a single sample.

7. Instructions of the experiment can be sent upon request.
8. The high correlation between these two variables ($\rho = 0.336$, $p = 0.016$) recommends not including both of them in the same model.
9. Aguiar Brañas-Garza, and Miller (2008) provide an exhaustive analysis of self-reported reasons for giving behavior in the DG.
10. A quantitative measure of the coherency shown by each of these groups of individuals is the average cost (c_i), that is the difference between what individuals in each group say they should do (p_{ii}) and what they actually do (x_i). The average cost of the selfish group is 1.75, whereas the average cost of the equitable group is only 0.14. The 'Hardship' and 'Charity' groups show intermediate costs, 1.38 and 1.00 respectively.

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