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by

**Fernando Aguiar
Pablo Brañas-Garza
María Paz Espinosa
Luis M. Miller**

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Max-Planck-Institute of Economics
Kahlaische Str. 10
D-07745 Jena
www.econ.mpg.de

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Personal Identity in the Dictator Game*

Fernando Aguiar[†], Pablo Brañas-Garza[‡], María Paz Espinosa[§], Luis M. Miller[¶]

Abstract

This paper aims to analyze the role of personal identity in decision making. 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 allow 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.

JEL: A13, C72, C91

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[†]IESA-CSIC, Campo Santo de los Mártires 7, 14004, Córdoba (Spain); email: faguiar@iesaa.csic.es.

[‡]Departamento de Teoría Económica, Universidad de Granada, Campus de la Cartuja, 18011, Granada (Spain); email: pbg@ugr.es.

[§]Departamento de Fundamentos del Análisis Económico II, Universidad del País Vasco, Avenida Lehendakari Aguirre, 83, 48015, Bilbao (Spain); email: maria-paz.espinosa.ehu.es.

[¶]IESA-CSIC and Strategic Interaction Group, Max Planck Institute of Economics, Kahlaische Str. 10, 07745, Jena (Germany); email: miller@econ.mpg.de. Corresponding author.

"I have a drawer full of labels -architect, husband, father- and none of them fits" ; Kirk Douglas as Larry Coe in Richard Quine's *Strangers when we meet* (1960).

I. INTRODUCTION

The Dictator Game (DG) has been considered an excellent way of analyzing altruism in humans because any amount of money not kept by the dictator was deemed incompatible with a purely selfish subject and accordingly interpreted as showing some kind of altruism. While classical extensions of the utility function to include altruism and other pro-social behavior have done a great deal in explaining deviations from selfish predictions in Dictator Games, these extensions do not exhaust all possible options. Indeed, it seems quite unrealistic to attribute every single deviation to altruism and social preferences. In this paper we propose and test experimentally an alternative, simple extension of the utility function to expand upon our understanding of deviant behavior (from the standard selfish assumption) in Dictator Games. This extension is based on the idea that people maximize a utility function that includes identity-based preferences.

The article is structured as follows. In the following section we critically review the growing literature on "economics and identity". In the third section we present a formal model -inspired in the work of Akerlof and Kranton (2000)-, in which we consider that the subjects establish a 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. The experimental design is presented in the fourth section, while the data is analyzed in the fifth section. Given that contradictions arise between what subjects do and what they say they should do, we establish a process of self-understanding¹ with a view to shedding some light on who attaches lesser weight to identity and why and who attaches greater weight to identity and why. The results of the experiment are discussed in the sixth section, where we warn of the difficulties of attributing identities to people when explaining economic behavior. Conclusions are drawn in the seventh section.

¹Self-understanding should be understood here as the way people define or categorize themselves (Turner, 1985; Abrams, 1999; Brubaker and Cooper, 2000).

II. ECONOMICS AND IDENTITY

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 (Basu, 2006; Davis, 2003; Horst *et al.* 2006; Sen, 1985, 2004, 2006, p. 21). 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; Austen-Smith and Fryer, 2005; Basu, 2005; Darity *et al.* 2006; Mason, 2001). 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 (Bénabou and Tirole, 2007; Davis, 2003; Luchini and Teschl, 2005). 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 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 *et al.*, 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 ac-

tions 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 him, 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 (Basu, 2005; Benjamin *et al.*, 2006; Bodenhorn and Ruebeck, 2003; Darity *et al.* 2006; Mason, 2001), religious identity (Minkler and Cosgel, 2004); trust and identity (Güth *et al.*, forthcoming), economic development (Basu, 2006), identity and microfinance programs (Chatterjee and Sarangi, 2004), consumption of symbolic goods (Dolfma, 2004; Starr, 2004), political integration (Wichardt, 2005), identity and cooperative social norms (Wichardt, 2007), or law and economics of identity (Hill, 2005).

There are much 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 (forthcoming), on the other hand, transforms Akerlof and Kranton's utility function by making personal identity a function of individual identity, 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.

a. *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.² 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.³ 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 on the causal tie between identity and action (Aguilar and de Francisco, 2002; Bicchieri, 2002; MacInnes, 2004; Obershall and Kim, 1996).

²For an exhaustive critical analysis of these uses see Brubaker and Cooper (2000) and Fearon (1999).

³For a review of all these meanings see Hill (2005) and Davis (2003; 2006).

b. *Categories of practice vs. categories of analysis*

It is often difficult to distinguish if identity refers to the way in which people understand or see themselves in everyday life and in their social, political or economic practice, or if 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). Much the same occurs with the concept of identity as with concepts such as race or nation.⁴ For example, the use that a nationalist makes of the term "nation" does not have to be the same as that of the political scientist who studies nationalism. 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.

c. *Social identity does not exhaust personal identity*

Influenced by sociology and social psychology, the economics of identity have chiefly focused on social identity, while overlooking personal identity. When identity is defined as a process of social or intragroupal identification, people are considered to be 'embodiments of group prototypes rather than as independent individuals' (Davis, forthcoming). 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 he or 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 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

⁴'[T]he collective fiction labeled "race"... has always mixed science with common sense and traded on the complicity between them' (Wacquant, 1997: 223). Without being aware of it, the economics of identity has inherited this trade. For this reason, the definitions of identity are often confusing since we do not know if people "see themselves" in this way (identity as a perceptual lens) or it is the researcher who labels them as such.

‘an individual identifies with others is largely an empty claim’ (Davis, forthcoming).

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 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, we find ourselves before an example of personal identity.

Personal identity can be understood in psychological terms as character traits (Matthews *et al.*, 2003), from a philosophical standpoint as one’s self over time (Parfit, 1984) or from a normative approach as the level of coherency between what people do and what they believe they should do⁵. These three aspects of identity can affect individuals’ personal identity. Thus, personal identity involves a certain stability of self between what is done and what one says should be done (Parfit, 1984; Copp, 2002). We use the term here in the third sense. What we want to know is to what degree individuals identify with an action or not once the action has been carried out. Identifying with the actions that one does is a key element of personal identity and at the same time provides grounds for our identification with others. It is difficult to identify with others if our action and the judgement and beliefs about that action never fit. As we will see below, this coherency is surprisingly lower than one would expect.

To the best of our knowledge, few economic experiments have been

⁵To do what one says one should do implies having a reason for action (being this reason social, political, economic or moral) (Hausman, 1985). It would be impossible that a person had reasons to do some things and not others and never fulfil them. This fact would lead her to a problem of personal identity. Moreover, if a person never does what she says it should be done (as a mother, a member of a club, a feminist...), she would not have credibility and would undermine the grounds of her social identity. This aspect of personal identity is central in our experiment. In sum, it is an aspect, previous to social identity, which determines the grounds of individual credibility.

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 *et al.* (2005) show how experimental subjects give more money (hypothetical) 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 want to analyze how the subject identifies herself and with her action as one of the most basic elements of identity and without which other identifications would not be possible or difficult.

III. THE THEORETICAL MODEL

Let us assume that a population of N individuals is playing a DG. Let S be the amount of money to be divided, $g_i \in [0, S]$ the amount donated by the dictator i to a recipient, and $x_i = S - g_i$ the money she keeps.

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 :

$$U_i = U_i(I_i, x_i).$$

First we define the PRESCRIPTION P_i as a normative principle concerning how S should be shared (p_{ii}, p_{i-i}).⁶ Violating this prescription has a cost $c_i = |x_i - p_{ii}|$ which is symmetric for upward or downward deviations from the prescription.

IDENTITY is defined as: $I_i = \bar{I} - c_i$ where \bar{I} is a constant. This is the stock of identity that an individual has and reaches its maximum value when a 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 problem⁷,

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

$$\text{s.t.: } c_i = (x_i - p_{ii}) \tag{2}$$

⁶When we refer to prescriptions in the rest of the paper, we are always referring to the personal prescription regarding the money one should keep, that is p_{ii} .

⁷In this problem it would be rational for a subject to keep more than the amount indicated by the prescription. We ignore the case $x_i < p_{ii}$.

$$x_i + g_i = S \quad (3)$$

To parametrize the importance given to consumption and identity we use a Cobb-Douglas utility function, $(U_i = I_i^\alpha, x_i^{1-\alpha})$ where α_i will measure the relative weight given to identity in i 's preferences. We can substitute restrictions (2) and (3) in the objective function and obtain:

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

Solving the problem:

$$\bar{x}_i = (1 - \bar{\alpha}_i)[\bar{I} + \bar{p}_{ii}] \quad (4)$$

Note that constraint (3) has to hold so that $x_i \leq S$. We use the assumption $\bar{I} = \frac{S}{2}$ to guarantee that the restriction $x_i \leq S$ holds and thus to avoid dealing with corner solutions.

Considering the FOC (4) and that \bar{p}_{ii} and \bar{x}_i are observable, and provided that our data come from the optimal solution to the individual optimization problems, we can give a value to $\bar{\alpha}_i$, which is not observable:

$$\bar{\alpha}_i = 1 - \frac{\bar{x}_i}{[\bar{I} + \bar{p}_{ii}]} \quad (5)$$

where $\bar{I} = \frac{S}{2}$. Table 1a (in section 5) shows the empirical results for the calibration of α_i .

IV. EXPERIMENTAL DESIGN AND PROCEDURE

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)⁸. Students were recruited by a professor of Biology by means

⁸The 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; $z = -.028$, $p = 0.978$, for actual giving; $z = -.573$, $p = 0.567$, for prescriptions), we can pool the data and analyze it as a single sample.

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 E-mail 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, September 25th).

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.

As can be seen in the experimental instructions (see appendix A), we used a very standard design in order to avoid words such as "sharing" that could trigger generous behavior. 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 envelope⁹ (for the dictators' payoffs), ten 20-Mexican peso bills each (or a total of 200 pesos¹⁰ \simeq 15 US\$ \simeq 14 euros), plus a questionnaire and instructions. The instructions explained the division problem and indicated that the recipient would be randomly selected from among the people waiting outside (alternatively a student association called "CoBi").

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 (see appendix B).

After this, they were asked to turn in the questionnaire and sign a blank receipt form¹¹. They left the instructions and the large envelope

⁹ A brown envelope measuring 25.4x33.0 cm. and a white envelope measuring 10.5x24.1 cm., respectively.

¹⁰ 200 pesos is enough to buy 25 beers at any canteen in La Paz.

¹¹ Given that the donation was strictly confidential, we could not ask them to reveal

(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.

As is customary in dictator games, we will only focus on dictators' behavior in the rest of the paper. In sum, our sample comprises 52 dictatorial allocations $(x_i, i = 1, \dots, 52)$ and 51 answers regarding the prescription (p_{ii}, p_{i-i}) ¹² (1 null).

V. RESULTS

1. *Prescriptions and actual behavior*

Figures 1a and 1b plot the revealed prescriptions¹³ and actual behavior of 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%) propose 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 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.

the amount of money they kept. We informed them that we would make note of the average earning in all the cases.

¹²The exact question was: As regards the task - What division do you think is the fairest?

¹³As we have explained in section 2 and formalize in section 3, contrary to Akerlof and Kranton's proposal, we consider individual prescriptions. However, can we distinguish between individual and social prescriptions using our data? To reject the idea that individual prescriptions are fully socially determined, we elicit the expectations about the behavior of other participants. Controlling for individual prescriptions (p_{ii}) , the partial correlation between these expectations and actual behavior (x_i) is not statistically significant ($r = .236$; $p = .153$).

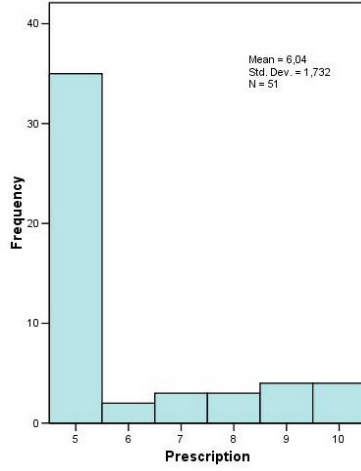


Figure 1a: Prescription

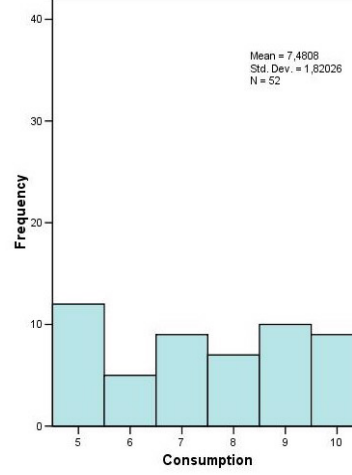


Figure 1b: Consumption

Result 1a: The majority of participants (68.6%) reveal a prescription consistent with an equal split.

Result 1b: Purely selfish behavior is only observed in 17.3% of the cases and, on average, subjects keep 75% of the endowment.

Remark 1 *Actual behavior does not always coincide with purely selfish behavior nor with the prescriptions revealed by participants.*

2. 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 (see (5) in section 3) by using the experimental information for x_i and p_{ii} . By knowing x_i and p_i we can also compute the value of I_i for every participant. Tables 1a and 1b show the α_i and I_i values for the sample in our experiment. 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. At the same time, the heterogeneity of parameter α_i suggests that we should expect heterogeneity in identity too. In Table 1b we can observe, however, that in spite of the fact that we can find in the sample any single value of I_i , -the range of I_i values goes from 0 to 5- almost half of the sample has an identity value equal to 5¹⁴.

¹⁴Note that the range of values that α_i and I_i adopt is determined by the type of utility function that we use.

Table 1a: α_i values

α_i values	N	%	cum %
.00	5	9.6	9.8
.10	4	7.7	17.6
.20	5	9.6	27.5
.25	1	1.9	29.4
.30	4	7.7	37.3
.31	1	1.9	39.2
.33	4	7.7	47.1
.36	6	11.5	58.8
.38	2	3.8	62.7
.40	5	9.6	72.5
.42	2	3.8	76.5
.50	12	23.1	100.0
Total	51	100.0	

Table 1b: I_i values

I_i values	N	%	cum %
0	5	9.8	9.8
1	4	7.8	17.6
2	5	9.8	27.5
3	5	9.8	37.3
4	8	15.7	52.9
5	24	47.1	100.0
Total	51	100.0	

Result 2a: The values of α_i (the weight of identity) are heterogeneously distributed in the population.

Result 2b: Almost half of the sample has an identity value equal to 5, that is, given the coherency between behavior and prescription, almost half of the sample does not suffer any loss of identity.

By distinguishing I_i and α_i , we can study the type of individual separately, that is, what every individual identifies with, and the weight this identity concern has in the subjects' utility function. Thus, we can find an individual that identifies with giving 5 -a quite equitable person- but this identity parameter is not so key in determining her utility, for instance a α_i equal to .10. We argue that this distinction is a more powerful analytical tool than one in which it is impossible to distinguish between the behavior a person identifies with and the weight of this identity concern in her utility function.

3. *Self-understanding*

The weight given to identity may be related to individuals' personal characteristics, socioeconomic variables or other factors. Using data from the questionnaire the participants answered after the experiment, we can obtain some insight about the determinants of our two key variables: the weight given to identity (α_i) and the personal prescription (p_{ii}). We use a set of variables that includes: variables related to the self-understanding of participants (*selfish* and *cooperative*), socio-demographic variables (*sex*, *income*, *siblings*), and social capital variables (*club* and *NGO*).

In the questionnaire (see appendix B) we included two variables that are related to the perception that subjects have about themselves (self-understanding) in the particular situation they are participating in. 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"). 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. This variable ranges from 1 to 7 (1 meaning "competing a lot" and 7 meaning "cooperating a lot").

The notion of self-understanding -or self-perception- is crucial to the interpretation of our model in terms of personal identity. We know that the standard selfish motivation does not explain the behavior of every participant in the experiment and we also know that the revealed prescriptions and actual behavior do not always coincide, so what variables help us to understand the link between prescription and behavior? To approach this question we estimate the effect of the above-mentioned variables in both prescriptions and behaviors using a regular OSL model. We present two models for each variable α_i and p_{ii} , one including the variable *selfish* and one including the variable *cooperative*.¹⁵

¹⁵The high correlation between these two variables ($r=-.336$, $p=0.016$) recommends not including both of them in the same model

Table 2: OLS regressions

	α_i		p_{ii}	
<i>sex</i>	-.051(.307)	-.057(.235)	.236(.652)	.361(.505)
<i>income</i>	-.042(.211)	-.030(.346)	.749(.033)	.616(.082)
<i>siblings</i>	.024(.375)	.007(.785)	.277(.326)	.164(.580)
<i>self</i>	-.045(.001)	—	.267(.043)	—
<i>coop</i>	—	.054(.000)	—	-.138(.347)
<i>club</i>	.027(.797)	.086(.402)	.780(.469)	.613(.586)
<i>ngo</i>	-.170(.134)	.129(.224)	.791(.490)	.355(.760)
<i>c</i>	.671(.001)	.231(.201)	1.384(.482)	3.282(.107)
R^2	.277	.331	.167	.099
n	48	48	48	48

We focus first on the relative importance of the weight of identity (α_i) on the utility function. The most salient result is that no socio-demographic variable -neither sex, income, siblings- nor social capital indexes explain the weight that the subjects give to identity. Variables regarding self-understanding are clearly relevant. On the one hand, self-ish subjects who consider that their own income is more important than joint social welfare give less weight to identity. As we will see in the next section, this means that they prescribe to giving nothing to the partner or that they are ready to violate their own prescription of giving money to the partner. On the other hand, cooperative subjects give more weight to identity, because they are used to respecting the prescription.

Result 3: 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.

Now we explore the determinants of *prescriptions*. Interestingly, individual *income* is a positive determinant of p_{ii} , meaning that the larger the income the higher the prescription to keep money. Although the coefficient is reduced (and the R^2 is poor), it is significant at conventional levels. In this case, gender, social capital and cooperative behavior are irrelevant. Moreover, selfish individuals have higher prescriptions to keep the money.

Result 4: Prescriptions are influenced by social welfare criteria and individual income.

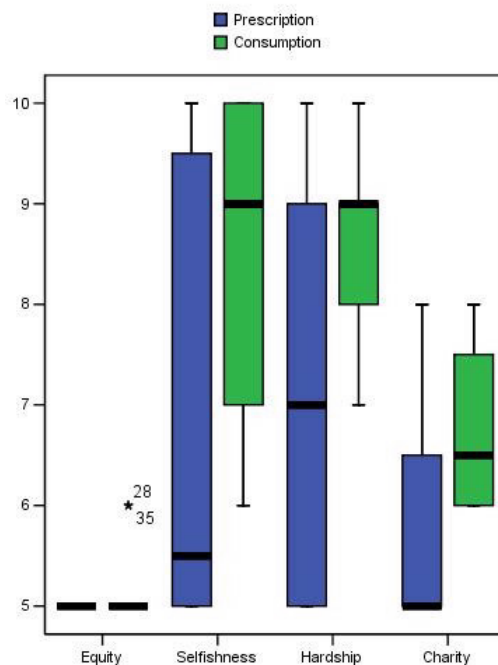
4. Arguments provided by subjects

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.

We have just shown that individuals' self-understanding plays a crucial role in the prescription (p_{ii}) and 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 labelled 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".
- "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 2 plots the reported prescription and the amount of money the dictator kept (x_i) by groups.

Figure 2: p_i and x_i values by reasons

The first idea that arises from this figure 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 money. Subjects who declare that they need the money ("Hardship" group) accommodate the prescription to their own interest or to the need they manifest to have, while the "Charity" group follows, on average, their prescription.¹⁶

In sum, self-reported arguments indicate that:

¹⁶A 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 .14. The "Hardship" and "Charity" groups show intermediate costs, 1.38 and 1.00 respectively.

Result 5: In the case of "Equity", subjects' behavior and prescription almost always fit.

Result 6: 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.

VI. 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 section 2, 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 shown 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. This coherency, which is characteristic of personal identity, provides the basis for social identity. Identities that people attribute to themselves or which are attributed to them, 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 a feminist" or "I'm egalitarian" would have an ideal about what those labels prescribe and will judge her action according to those prescriptions. 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 and the nature of the prescription have to do with individuals' self-understanding.* The regression analysis has shown that the weight of identity (α_i) is correlated with the 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. Selfish individuals give less weight to identity than non-selfish individuals.

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. 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. 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.¹⁷ 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.

VII. CONCLUSION

A vast amount of literature has focused on the deviation of the standard selfish result in dictator games. However, this literature has not dealt with the weight of identity as a cause for these possible deviations. In consonance with the recent interest in the economics of identity, in this article we have conducted an experiment to test how individuals maximize a function in which identity has a notable weight. However, given the ambiguities regarding the concept of social identity, we have focused on personal identity as a basic element of identity and without which it would be impossible to understand social identity. In so doing, we have shown that, in effect, some but not all subjects deviate from the standard selfish result for reasons of identity -they give half the amount and prescribe that half should be given. Others, albeit a very small minority, fit the selfish result for reasons of identity -they do not give and prescribe that it is not necessary to give. The large majority, however, show a heterogeneous conduct in which action and prescription do not coincide. Many subjects who perceive or understand themselves to be selfish, establish an equitable prescription that they do not subsequently fulfill. The heterogeneity of the results suggests that we should move with caution when attributing identities to individuals.

¹⁷In the literature on racial conflict, it is clearly seen how people who had never before posed the question of their "identity" (Hutus and Tutsis, Bosnians and Serbs) find themselves obligated to do so out of pure fear. See Hardin (1995).

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APPENDIX A. EXPERIMENTAL INSTRUCTIONS¹⁸

Hello! My name is Pablo Brañas and I am a Research Professor at the University of Granada in Spain. I've come to the UABCS to do this work and give a seminar.

The purpose of this Experiment is to study how individuals make decisions in certain contexts. The instructions are simple and if you follow them carefully, you will receive an amount of money at the end of the experiment in a confidential manner. Nobody will know how much money you have earned.

Feel free to ask any questions you may have at any time by raising your hand (not high). Apart from those questions, any type of communication between you is prohibited and will be cause for immediate exclusion from the Experiment.

Before continuing there are a few things you should know.

- i) The money you are going to use does not belong to the researchers, but was donated by a Spanish foundation for scientific purposes.
- ii) Secondly, as you will notice, no one has asked you your name at any time. Everything is confidential.

Now what you must do is:

- Place the money in the two envelopes in the way that you consider most convenient. (Given the large amount of space available, this operation can be done quite discretely).
- Seal the envelopes.
- Put the envelope that you want to keep in your pocket, and,
- Leave the other envelope on top of the table.

Remember, everything is private. Nobody will know how you have resolved this decision problem. Keep in mind that the DECISION you are going to make is as REAL as the MONEY in front of you.

When you have completed these tasks, please fill out the questionnaire. When you have finished remain in silence until you are told you can leave.

Thank you for your collaboration!

¹⁸In appendix A and appendix B we present translations of the original instructions and questionnaires in Spanish.

APPENDIX B. QUESTIONNAIRE

Questionnaire

1) In what way do you think you are competing or cooperating with your partner? (Competing A LOT=1; Competing AVERAGE=2; Competing A LITTLE=3; Neither competing nor cooperating=4; Cooperating A LITTLE=5; Cooperating AVERAGE=6; Cooperating A LOT=7)

2) What do you think is more important in this experiment, to maximize both your own welfare and that of your partner or only your own welfare? (joint welfare A LOT=1; joint welfare AVERAGE=2; joint welfare A LITTLE=3; Neither joint welfare nor my own =4; only my welfare A LITTLE=5; only my welfare AVERAGE=6; only my welfare A LOT=7)

3) As regards the task → What division do you think is the fairest? Why?

4) As regards the task → What do you think the others have done?

5) How many brothers or sisters do you have?

6) How many people live in your house including yourself?

7) How many friends do you have?

8) Are you male/female?

9) What are you studying at the UABCS?

10) Do you belong to an NGO? Which one?

11) Do you belong to a club? Which one?

12) Do you go to church? How many times a week?

13) What do you think your income level (economic level of your family) is as compared to the average Mexican? (poor VERY=1; poor AVERAGE=2; poor A LITTLE=3; Neither poor nor rich=4; rich A LITTLE=5; rich AVERAGE=6; rich VERY=7)

14) Do you like people? (aversion to people A LOT=1; aversion AVERAGE=2; aversion A LITTLE=3; Neither aversion nor love =4; love A LITTLE=5; love AVERAGE=6; love people A LOT=7)

15) Do you like animals? (aversion to animals A LOT=1; aversion AVERAGE=2; aversion A LITTLE=3; Neither aversion nor love =4; love A LITTLE=5; love AVERAGE=6; love animals A LOT=7)

16) To FINISH, How did you divide the money: (for me ____, for my partner ____)?

17) Can you explain why you made this decision? (you can write on the back of the page)