Exp Econ (2006) 9:253–264
DOI 10.1007/s10683-006-9126-0

"Si él lo necesita": Gypsy fairness in Vallecas

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Received: 15 January 2005 / Revised: 3 November 2005 / Accepted: 14 April 2006
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Abstract "*Si él lo necesita*" (if he really needs it) was the most common argument given by the subjects who accepted the zero offer in the ultimatum game (strategy method) during experiments conducted among illiterate (adult) gypsies in Vallecas, Madrid. Interestingly the acceptance of the zero offer was not a rare case but, in contrast, was the modal value. This is even more remarkable if we consider that the 97% of the subjects proposed the equal split.

Keywords Gypsies · Fairness · Social welfare · Strategy method ultimatum game · Bargaining

JEL Classification D63 · D64 · C93 · J15

1. Introduction

A great many authors from varying disciplines have studied the driving forces behind individuals' social behavior (see for example Bateson and Shaw (1991), Camerer (2002) and Rabin (1998)). Interestingly, experimental evidence suggests that the canonical assumption of selfishness does not accurately represent individual behavior (see Henrich (2000) and Henrich *et al.* (2001)). Bolton and Ockenfelds (2000), Charness and Rabin (2002), Fehr and Schmidt (1999) or Rabin (1993) propose new models in which equity, reciprocity or fairness substitute the standard selfish behavior.

Electronic Supplementary Material Supplementary material is available in the online version of this article at http://dx.doi.org/10.1007/s10683-006-9126-0.

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In most human societies a wide range of social phenomena is governed by sets of norms that prescribe appropriate behaviors and sanction inappropriate conduct. Most populations have institutional rules which promote sharing or fair transactions, albeit these vary according to the degree to which they are stressed and the boundaries within which they apply (see Barth (1969)). Authors such as Henrich & Ensminger (2002–2005) or Henrich et al. (2001) have studied the influence that social context has on the behavior of individuals. Concretely, they conduct an exhaustive analysis of this behavior in what they call "small societies" and compare behavior among different cultures.

The aim of this paper is to study concepts of **fairness** or equity in a specific ethnic group: **non-integrated Spanish gypsies**. It should be noted that our objective is to analyze the above concepts solely within and among gypsies.[1] Two reasons motivate this paper: (*i*) Spanish gypsies are a highly marginalized, yet very cohesive, sub-group embedded in an advanced western society and tend to be characterized in a very contradictory manner. That is, non-gypsy citizens have a very negative concept about this community[2] for reasons such as their involvement in drug trafficking or gypsies' tendency to live on the fringes of mainstream society or to be asocial. But not everything that gypsies do is deemed negative. Indeed, there are some "positive" characteristics associated with them, namely their artistic skills such as flamenco dancing or their extraordinarily strong family ties and group solidarity (see Martin & Gamella (2005)). (*ii*) This paper expands upon the growing body of cross-cultural experimental research in western countries using the CORE[3] package in Spain; a developed country which is a member of both the EU and the OECD. This type of experiment has typically (although not exclusively) been conducted in underdeveloped countries of Asia, South-America or Africa. Here we analyze a "small community" living within the context of a European country.

In sum, this paper examines the Strategy Method Ultimatum Game played among gypsies in Vallecas (Madrid). Our aim is to study two measurements of behavior: **the sense of fairness (or altruism) and the fear of direct punishment (sanctions for inappropriate or unfair behaviors)**. In section 2 we show some features of the population. In Section 3 the experimental design and procedures are described, while results are shown in Section 4. Conclusions are drawn in Section 6.

2. Study population: Gypsies living in slums outside Madrid

Gypsies[4] are an extremely diverse minority in Europe, with multiple subgroups based on linguistic, historical and occupational distinctions. The history of the Roma is as varied as the countries to which they have migrated. Nonetheless, *marginalization and discrimination* have been and continue to be common features of this population. Gypsies usually live in overcrowded households located in isolated neighborhoods with high rates of crime and

[1] We only compare intra-gyspy behavior in an attempt to avoid such problems as racism, apprehension or feelings of unsafety and mistrust that may arise when the game is played against another ethnic group and can influence offers (see Ferraro & Cummings (2005)). Although we can only conclude that our specific population plays the game in this way, note that results from this experiment could be generalized to other populations which share the same features as ours.

[2] Indeed, confrontations between gypsies and non-gypsies are not uncommon (see Gamella (2002)). *The Spanish Racial Discrimination Report* (see Díez–Nicolás (1998)) shows that a large percentage of ethnic Spaniards disapprove of gypsies (nearly 90%).

[3] Additional information and the whole CORE protocol may be consulted at: http://webuser.bus.umich.edu/henrich/gameproject.htm

[4] This section is a summary of several papers devoted to gypsies. Specifically we used Martin & Gamella (2005), Gamella (2002), Ringold et al. (2000) and Gay Blasco (1999).

drug use and with limited access to public services such as waste collection, gas, electricity and water. Large distances separate gypsies and non-gypsies or "gadje" and gypsies consider themselves to be very different from the gadje. This distance breeds mistrust and reinforces negative stereotypes.

Education is also a problem: school-age children suffer from increasingly high dropout rates while the percentage of gypsies in secondary and post-secondary education is much lower than that of non-Roma citizens. Unemployment rates among the gypsy population are often exceptionally high (100% unemployment is not uncommon in some Roma settlements). In terms of demographic trends, the Roma have a higher population growth than other groups, meaning that this community is younger than other groups.

Approximately 600,000 gypsies currently live in Spain (half of them in the region of Andalusia) and have settled down in permanent communities. Although poverty levels and social discrimination are lower for Spanish gypsies than for Roma communities in Central and Eastern Europe, gypsy households and communities in Spain are still characterized by their lack of running water or the absence of police protection.

Gypsies do not have written rules. Instead, their entire set of social norms is transmitted by observation and imitation (see Lancy (1996)) or can be transmitted orally from generation to generation. Thus the older members play a key role in the society and are looked up to by the whole population who hold their experience and knowledge in high esteem. The older members hold authority over the younger members of the society as do men over women. Three basic social rules govern gypsy society:

- **solidarity among gypsies**. This can be classified into two main obligations: hospitality and aiding others; including giving financial support to other gypsies.
- freedom as a natural condition of gypsy life.
- symbolism as a representative feature of gypsy culture. This includes flamenco, which is considered to be an expression of gypsy lifestyle.

As in the rest of Europe, literacy and school attendance rates are very low among the Roma population. A very small percentage of the Roma finish basic education in Spain. The job market for Roma families is very different from that of the rest of population. Jobs are low paid and few gypsies hold full-time, salaried employment. Around 50–80% of gypsies are peddlers, collect scrap or perform menial jobs.

The average Roma family is made up of 5.4 members compared to 3.7 members of a non-Roma Spanish family. The points above are applicable to the entire population of gypsies living in Spain.

Let us now explore our subject pool.[5] The entire experiment was conducted in July 2004 at the "Asociación Barró" School for Adult Education. Run by nuns, the main goal of this school is to teach illiterate adults to read and write. The school is located in Vallecas, one of the poorest districts on the outskirts of Madrid, Spain. Although most of the students at "Asociación Barró" are originally from Santa Catalina (a slum outside Madrid), many of them have benefitted from subsidized housing provided by the autonomous government of Madrid and have moved out of the area. Others, however, have remained in the Santa Catalina settlement or are squatters.

[5] This part includes an interview conducted with Blanca González, one of the volunteers who works at the Barró Association.

Table 1.a Population Features I

ATTRIBUTE	%	*n*	ATTRIBUTE	%	*n*
female	68	38	married	73	37
some level of education	93	37	lives with partner	67	33
part-time job	64	11	has children	86	35
gypsy boss	0	4	was born in Spain	100	38
homeowner	3	34	was born in Madrid	63	38
does not own a watch	64	38	was born in a rural village	18	33
no satellite television	87	38	head of the family	54	35
does not own a radio	24	38	the family eats together	16	38
does not own a car	70	38	houses with guests	54	37
property owner	0	38	thinks they live in a safe home	74	38
unemployed	83	23	club member	24	34
religious	75	36	volunteer worker	15	33
goes to church	59	29	distrustful of people	56	36
goes to school	65	38	inequity averse	49	37

Table 1.b Population Features II

ATTRIBUTE	MEAN	*n*	ATTRIBUTE	MEAN	*n*
age	28.79	37	number of children	2.57	30
school attend./years	3.6	25	number of siblings	6	38
hours worked/week	24.6	10	position among siblings	3.84	38
gypsy colleg./job	15.3	3	people living in a house	4.76	38
church attend. days/month	21.61	18	guests for lunch everyday	5.73	23

Although gypsy children generally receive schooling, absenteeism and dropout rates are very high.[6] These alarming figures can be explained by the phenomenon of "exclusion" (marginalization) occurring in the south-east area of Madrid where the Asociación Barró is located. More than 50% of the adult population is illiterate. Many of them, especially women and older members, do not have stable employment and must do unskilled work such as selling flowers, fruits and vegetables or clothes in the marketplace or collecting and selling scrap metal, etc . . . Although gypsies have become the target of a public program to improve their precarious situation, their relationship with the State is a complex one. While in some cases they will accept public protection such as housing (aid that they become very dependent upon), in most cases they prefer to have nothing to do with public authorities, especially the police.

From the CORE questionnaire we selected the 40 most relevant items for urban populations in Western countries. Table 1a and 1b summarize the main findings for the 38 subjects who participated in the experiment (*n* is the number of answers). Table 1a shows the percentage of the population having the selected attribute, while the average of some numerical attributes is analyzed in Table 1b.

As shown, 73% of the population is married and 86% has children. The mean number of children per family is close to 3, even though the mean age of the population is very low (28.79). 93% of the population considers that they have some level of education. It is interesting to note that gypsies consider learning to read and write an indicator of having

[6] The Plan against Social Exclusion in Madrid reports rates of absenteeism to be as high as 48.7% during the period of compulsory education.

achieved a certain educational level. On the whole, the population is very poor. Only 1 out of 38 subjects is a homeowner and none owns property.

Cooperative institutions. 15% of the population does volunteer work in an association and dedicates about 1 hour per week on average to this activity. 24% are club members and spend around 5 hours per week at their club.

Networking. We observed that the mean number of guests that come for lunch in gypsy homes is higher than 5. This finding, together with the fact that the mean number of siblings is 6 (a very high number compared to the overall Spanish mean of 2.7), may be of great help in understanding the "sharing" behavior shown by the players.

3. Experimental design & procedures

The research was conducted following part of the CORE package guidelines from the Cross-Cultural Analysis (see Henrich and Ensminger (2002–2005)). Specifically we used the Strategy Method Ultimatum Game[7] (SMUG hereafter)[8] as well as an extensive survey included in that package. Observe that we obtain two different measures of individual behavior: from player B's responses (recipients) we obtain if they would accept or reject each of all the possible offers made by player A (proposer). This value allows us to determine how willing individuals are to punish others' unfairness at a cost to themselves. On the other hand, from player A's behavior we can obtain a combination of preferences for fairness or fear of direct punishment (strategic behavior). From post-game interviews we can conjecture whether or not player A's response is given out of a pure sense of fairness.

As shown in Table 1, the survey explores several individual attributes such as personal features, labor issues, social integration and so on. The survey includes several questions related to the game that players are asked to answer after playing. Specifically:

- Proposers were asked to answer the following questions: (#1) Did the ultimatum game remind you of anything related to real life? (#2) Why did you give that amount? Why not less or more? (#3) Do you think most people would have given less?.
- Recipients were also asked about the previous item (#1) and: (#2) How would you have felt if you had received an offer of 0 € from Player 1?; (#3) How would you have felt if you had received an offer of 10 €?.

In order to gain further knowledge about this particular population we enlarged upon the standard procedure. Once the subjects had answered questions 1 to 3 we added another item: they were asked to play the opposite role (hypothetically). The proposers were then asked about acceptation rates and the recipients were asked about divisions.

Participants (a total of 38) were students at "Asociación Barró" (an adult school located in the Vallecas neighborhood of Madrid, see previous section) who came voluntarily the day of the experiment. They were invited to "participate in an investigation in which they could

[7] The SMUG is basically identical to standard Ultimatum Game for proposers. The main variation is related to responders who are invited to accept/reject offers in advance. Using a 10-euro pie, we asked subjects the following questions:

– Would you accept the division of the money if the proposer offers you 10 Euros?

– Would you accept the division of the money if the proposer offers you 9 Euros?

And so on untill the last one: Would you accept the division of the money if the proposer offers you 0 Euros?

[8] Guth, Huck and Muller (2001) show that results from the SMUG are significantly different from the results of the standard UG (although this comparison is not straightforward), so the results obtained in this paper may be considered from this point of view.

earn some money". The experiment was conducted by the 3 authors[9] plus 6 volunteers who helped to do the survey[10] as follows:

- First, all the subjects received the instructions orally in one room (recall that the subjects did not know how to read or write). The instructions stated that the money did not belong to the experimenters, so it was very clear that the game was not a question of gypsies *vs.* experimenters, but gypsies *vs.* gypsies. At this time each subject also received the 3 € show-up fee and was assigned an identification number.
- Second, the subjects were randomly asked one by one to go to another room where PBG conducted personal interviews which included the game (this implies that the experiment was single blind). Real money was placed on the table to explain each case to both recipients and proposers. The examples were repeated until they were fully understood by the subjects.
- Third, subjects went to another room where AD and RCR, with the help of the 6 volunteers, conducted the full CORE survey. That is, when subjects finished the SMUG, they went to a different room to continue with the questionnaire.[11] By doing so, the participants who had finished the game could not talk to the individuals who were waiting to play.
- Lastly, PBG did the matching and then each subject received the money privately in a sealed envelope.

Given that we were more interested in obtaining data from the recipients rather than the proposers, we decided to use a simple mechanism: all the subjects with an identification number that was a multiple of 3 would be proposers, while the remaining players would be recipients. To facilitate the matching process, we used the following rules: the two numbers[12] following each multiple of 3 would be the recipients of the previous multiple. Hence subjects #4 and #5 were the recipients of #3; subjects #7 and #8 were the recipients of #6 and so on). However for the proposer to earn the money, his only relevant partner was the following subject (i.e. #4 for #3, #16 for #15, etc.). A complete transcription of the instructions and procedures are available in both Spanish (original) and English (professional translation) at www.ugr.es/˜pbg/material/intro.htm. The instructions show that deception does not constitute a problem given that we never told participants that they would be matched one-to-one with only one person in the experiment. The experiment lasted two hours. The subjects' average and modal earnings were 5 € plus 3 € for the show-up fee. This amount of money is approximately equal to the daily salary they earn selling scrap metal.

4. Results

Recall that the players played two different roles. The results of the regular task (i.e. the standard SMUG) are summarized in column 2 of Tables 2 and 3. In column 4 of Tables 2

[9] Pablo Brañas-Garza (PBG) read the instructions and conducted the SMUG individual by individual, while Ramón Cobo-Reyes (RCR) and Almudena Dominguez (AD) coordinated the whole survey with the help of the 6 volunteer nuns.

[10] Note that the 6 volunteers did not know anything about the game and only helped us with the questionnaire. They were in a different room while the SMUG was conducted in order to ensure the participants' anonimity with respect to the nuns.

[11] The survey asked the individuals (hypothetically) about inequity aversion. For purposes of brevity, the test about inequity aversion is not included in the final version of this paper. Cobo-Reyes and Jiménez (2006) explore these results in depth.

[12] Obviously, in the case of subject number 2 there is only one number which is paired with 1. Of course, these devices were not made public. We also used subject 26 as a proposer to introduce some "noise" with the aim of making it more difficult for participants to guess who their partners were.

Table 2 Proposed Divisions

	Original		Role-Rev.		Both	
Divisions	Abs.	Rel.	Abs.	Rel.	Abs.	Rel.
10.0	0	0	0	0	0	0
9.1	0	0	0	0	0	0
8.2	0	0	0	0	0	0
7.3	1	0.07	0	0	1	.03
6.4	0	0	0	0	0	0
5.5	13	.93	24	1	37	.97
4.6	0	0	0	0	0	0
3.7	0	0	0	0	0	0
2.8	0	0	0	0	0	0
1.9	0	0	0	0	0	0
0.10	0	0	0	0	0	0
Total	14	1	24	1	38	1

Table 3 Accepted Offers

	Original		Role-Rev.		Both	
Intervals	Abs.	Rel.	Abs.	Rel.	Abs.	Rel.
$o \in [0, 10]$	6	0.25	5	0.36	11	0.29
$o \in [1, 10]$	2	0.08	3	0.21	5	0.13
$o \in [2, 10]$	7	0.29	0	0	7	0.18
$o \in [3, 10]$	3	0.13	2	0.14	5	0.13
$o \in [4, 10]$	4	0.17	1	0.07	5	0.13
$o \in [5, 10]$	0	0	1	0.07	1	0.03
Others						
$o \in [4, 6]$	1	0.04	0	0	1	0.03
$o \in [2, 8]$	0	0	1	0.07	1	0.03
$o = [5, 5]$	1	0.04	1	0.07	2	0.05
Total	24	1	14	1	38	1

and 3 we show the results of the role reversal in which individuals switch their roles (but only in a hypothetical way). That is, former proposers play the game as recipients and former recipients play the role of proposers. Finally we analyze if both samples arise from the same population. The results after merging the samples are shown in Column 6 of Tables 2 and 3.

Column 2 in Table 2 shows the divisions proposed by the 14 gypsy subjects who played as player A in the SMUG.

The result is clear: proposers do not take advantage of their position and only one of them proposes an unfair division.

Result 1: The percentage of subjects offering an equal split is overwhelming (93%).

Why did they choose the equal split? Recall that we asked the subjects some questions during the experiment. Item #2 inquired as to why subjects made such a division. The only subject who did not choose the equal split did not give an answer. The remaining subjects gave

such explanations as *fairness* (11 out of 14 subjects) and *strategic behavior*[13] (2 individuals). Thus, we may conjecture that the division was not caused by fear of rejection.

In contrast, item #1 asked subjects if they associated their role in the SMUG with any real situation: 4 of them considered their role to be unfair; 3 mentioned sharing rules, whereas the remaining subjects made reference to gambling (3), TV programs (1) or business dealings (3).

Column 2 in Table 3 shows all the offers accepted by the 24 gypsies who played as recipients. Note that $o \in [0, 10]$ means that the subject accepted offers of 0 €, 1 €, ..., 10 € and $o \in [4, 6]$ means that they only accepted offers of 4 €, 5 € and 6 €. Note that o denotes the recipients' acceptance.

It is striking to note that about 33% of the population accepted any amount greater than 1 €, while it is even more surprising that 25% of the subjects accepted the zero offer, the Nash equilibrium.

The explanations that these 6 subjects gave regarding their behavior are very interesting indeed. They said that they accepted a zero offer because if the proposer did not share, it was because he or she needed the money. They also remarked that it was better for the proposer to keep the entire amount of money than to lose it all!

Result 2: Driven by solidarity and utilitarian criteria, 25% of the subjects accepted the zero offer.

Let us highlight some of the answers given by subjects during the experiments. Item #1: 10 subjects (out of 24) did not associate their role in the SMUG with any real situation; 4 considered their role to be unfair; 3 mentioned sharing rules whereas the remaining subjects made references to gambling (3), TV programs (1) or business dealings (3).

Thirteen (out of 24) subjects admitted that they would not be happy with the zero offer (item #2), while only one considered such an offer to be an offensive division. In contrast, only 7 subjects stated that they would be happy if the proposers gave them the whole endowment (item #3) and 10 of them said that they *did not like* this advantageous division (however only two of them did not accept divisions heavily in their favor).

As we mentioned above, subjects were asked to hypothetically play the opposite role. Column 4 in Table 2 shows the offers proposed by former recipients, while the same column in Table 3 shows the acceptance rates for former proposers. We have used non-parametric tests to check if both samples arise from the same population. Fortunately, the answer is yes for both the divisions [Mann-Whitney ($z = 1.30$, $p = 0.73$) and Kolmogorov-Smirnov tests ($z = 0.21$, $p = 1$) do not reject] and the acceptance values [neither the Mann-Whitney ($z = -0.77$, $p = 0.46$) nor the Kolmogorov-Smirnov tests ($z = 0.84$, $p = 0.47$) reject]. Given that the data are drawn from the same population, we are able to merge samples. Column 6 in both Table 2 and Table 3 respectively shows the population values for divisions and acceptance rates.

While the percentage of subjects offering an equal split is even larger than in the original case, the most striking result is that *after merging samples, zero became the modal* of the acceptance rate! Hence we can conclude that fairness criteria is not symmetrically distributed: while there is a large percentage of subjects accepting very unfair, even zero offers, the percentage of subjects proposing the equal split is overwhelming. To summarize:

[13] One of them admitted: "Everybody here will accept an equal split. Using another more advantageous division would be very risky".

Table 4 OLS regressions

VARIABLES	REGRESSION 1	REGRESSION 2
constant	3.36(2.89)*	2.05(1.21)*
school attendance	−0.53(0.70)	
unemployed	1.90(1.37)	
church attendance	1.46(0.53)*	1.13(0.49)*
number of siblings	−0.03(0.08)	
people living in a house	−0.47(0.18)*	−0.33(0.17)*
the family eats together	−0.96(1.03)	
houses with guests	−1.21(0.54)*	−1.51(0.52)*
number of guests	−0.18(0.08)*	−0.12(0.06)*
think they live in a safe home	0.40(0.57)	
clubmember	2.80(0.60)*	2.15(0.57)*
volunteer worker	−0.64(0.71)	
trustful of people	−0.03(0.68)	
gender	0.32(0.49)	
age	−0.06(0.04)	
dummy	−0.45(0.63)	−0.55(0.72)
R^2	0.88	0.67

$n = 23$. Standard errors in brackets. * significant for $\alpha = 1\%$

Result 3 (main): The equal split is not solely the modal proposal, but is used by 97% of the subjects. In contrast, gypsies are willing to accept completely unfair offers including the minimum modal offer of zero.

The former means that subjects are completely fair when they are asked to share some amount of money. However, the latter illustrates that they are also willing to accept completely unfair divisions!

Now we study determinants of fairness using a linear regression. The minimum value (MV hereafter) of each individual's accepted offer is used as a dependent variable. Thus, MV is the minimum value from the whole set of accepted offers.[14] We use the previous socioeconomic items obtained with the survey as independent variables (see Table 1).

To control real from hypothetical data we introduce a dummy variable which takes a value of 1 **if subjects hypothetically decide the proposed distribution**. Recall that nearly 100% of the subjects chose the equal split so we cannot estimate the effect of the variables reported in Table 1 on the proposed divisions.

Table 4 shows these estimates: Column (1) shows the estimation with the whole set of variables, whereas column (2) repeats the estimation with only the significant variables.

The results are summarized as follows:

- Educational level, economic variables (home ownership, job conditions, etc.), number of siblings, social integration (trust, volunteer work) do not explain the minimum value.
- On the other hand, church attendance, number of people living in a house, houses with guests, number of guests invited for lunch and club membership have a significant effect on the minimum accepted offer.
- The dummy variable which labels role reversal does not have a significant effect.

[14] Observe that if individuals give us more than a switching point (from accepting to rejecting) it would be problematic; in fact, we may not proceed as we did with that "special" observations. A larger number of switching points would be explained by both confussion (see first part of section 5) and prominence.

Our results show that individuals who share their lunch with guests are ready to accept lower amounts of money. In the same way, the number of guests invited for lunch and the number of people living in a house diminishes MV. However, subjects who are members of a club are not willing to accept small offers. Church attendance also has a positive and significant effect on MV. A possible explanation for this behavior is that individuals who invite guests for lunch and subjects who live in houses with a large number of people have a greater sense of *solidarity*. On the other hand, individuals who belong to a club have a stricter sense of *fairness*, so they are not going to accept an amount of money which they consider to be unfair. In the following section we study both ideas of fairness and solidarity.

5. Discussion and concluding remarks

Before discussing subjects' behavior in greater detail, we must note that confusion does not constitute a problem in our results. Bahry and Wilson [1] hypothesize that "atypical intervals of rejection" may be due to fairness or confusion. Following their criteria, the number of possible confused subjects is very low (2 recipients + 2 role-reversal recipients out of 38 individuals) in our sample. Even for these subjects, the responses on the questionnaire given at the end of the experiment seem to support the claim that they were not confused, but were acting on a desire to be fair.

We observed two contradictory behaviors in the two different decisions that the subjects took. In the first decision, the subjects proposed an equal division of the money. The reason for this is that they are morally obliged to distribute the money in a **fair** manner.[15] This sense of fairness could be due to the fact that they have a large number of siblings, that they invite many guests for lunch everyday and that many of them do volunteer work (see Table 1 for an overview of the population features).

In the second case, subjects even accept zero offers. Therefore, individual decisions are not driven by the same sense of fairness. The arguments given by the experimental subjects may serve to explain this behavior. Statements such as "if he needs the money ..." or "he is more needy than me" lead us to the following conjecture: *subjects will accept even the most disadvantageous distribution because they believe that if another subject does not respect the "sharing rule" it is because he is more needy.* Hence, as our survey pointed out, they do not feel offended, but just think that if the proposer offers zero it is because he needs the money and should therefore accept it! Arguments such as solidarity also come into play. Martin & Gamella (2005) reinforce the hypothesis of solidarity for this population with the notion that the high rate of consanguinity among Spanish gypsies may have important social consequences; one of them being that it increases the solidarity of gypsies along family lines. Brañas-Garza (2004) shows that solidarity will be greater in cases where the counterpart is more needy. Note that when subjects consider that their partners really need the money, the only way to ensure that the other individual will receive the payment is by choosing the interval [0,10]. In this case, the subject will get the amount the other does not need. In the ethnic group studied here, solidarity is related to the gypsies' social norms. As we explained above, solidarity is one of the main features of the value system of this population, particularly helping other gypsies financially. Hence, individuals are socially obligated not

[15] The idea of fairness has been analyzed by authors such as Fehr and Schmidt (1999) or Bolton and Ockenfels (2000).

to punish other gypsies. Our results show that this social norm is, in fact, observed by these actors, thus explaining the two contradictory behaviors shown by the players.[16]

Lastly, our analysis shows that variables related to education, economic standards (home ownership, job conditions, etc.), religiosity, siblings, social integration (trust, volunteer work) do not explain MV. We also find that both the number of people living in a house and guests for lunch play a negative and significant role on the minimum amount of money accepted. However, other variables such as club membership or church attendance have a positive effect on MV.

To sum up, individuals will demonstrate fair behavior when deciding how to divide the money. Nonetheless, when subjects must decide about the minimum amount of money they will accept, this behavior will change depending on their sense of solidarity and their desire to maximize their social welfare.

Given the diversity of gypsy communities and their differentiation in multiple subgroups, we cannot affirm that these results are generalizable to all Roma across Europe. However, in Spain, gypsy patterns of behavior are very similar and the living and social conditions of our specific population are not very different from those of other Spanish gypsies. Hence, it is plausible to expect similar behavior among the Spanish gypsy population.

Acknowledgments Special thanks to Abigail Barr, Juan Camilo Cárdenas and Jeff Carpenter who encourage us to conduct this research from the very beginning; Jordi Brandts shared his insight with us and Mari Paz Espinosa give us stimulating advises. We would like to acknowledge the participants at the IMEBE'04 & Flip–Flop'05 seminars held in Granada, especially Antonio J. Morales, Roberto Weber, Natalia Jiménez and Ana I. Moro who enlarged upon the discussion about gyspies social preferences. Two anonymous referees and the editors, Roberto Weber and Colin Camerer, made valuable contributions to the original version, we thanks both. This experiment has been fully financed by the Instituto de Estudios Sociales Avanzados (IESA/CSIC). Pablo Brañas also akcnowledges finantial support from DGCYT (SEJ2004-07554/ECON). Our thanks go out to the people in Asociación Barró who helped us to conduct the experiment (Ángeles Alfonso Aguirre, Antonia Martín García, Blanca González Mitre, Encina Viçens López, Lidia Lletjos Llambias and Pilar Franco Pardo) and Martha Gausthad for revising the English grammar.

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[16] As well as solidarity, we may also suppose that lexicographic preferences play a relevant role in individuals' behavior, i.e., individuals will accept even unfair divisions because they want to *maximize their social welfare regardless of how the money is actually distributed* (with this strategy they minimize the probability of both players obtaining zero). However, as the referee pointed out, this argument is not wholly true because, under this kind of preferences, proposers should offer the entire amount of money to the responder.

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