Bargaining and Ethnicity: A field experiment with students and villagers*

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Abstract

We report data from a field experiment aimed at determining the extent of both in-group favoritism and out-group discrimination, known as parochial altruism, within a multiethnic society, Ecuador. The main ethnic groups studied were: mestizos, indigenous, montubios, and african-ecuadorians. We worked with standard subject, college students (116), and non-standard subjects, villagers (110). We took the experimenter and the students out into the field. Participants played an ultimatum game twice under an in-group and an out-group condition. The second time the game was played we switched the roles of the players. We do not find a systematic evidence for in-group favoritism and out-group discrimination across groups. However, for values above the fair division, students favor their own groups more than villagers do. Villagers present more hyper-fair or confused profile preferences compared to students, while the latter are more monotonically rational.

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1 Introduction

Cross-cultural studies that use microeconomic experiments as their main tool of inquiry have appeared in the experimental economics literature to investigate deviations from the canonical model of self-regarding behavior in economics (Roth et al., 1991; Henrich et al., 2001; Henrich at al., 2006; Gächter and Herrmann, 2009; Barr et al., 2010). This research has led to the confirmation that preliminary experimental findings from laboratory experiments conducted only with college students have a more universal footing (Güth et al., 1982; Kahnemann et al., 1986). For other authors, these results do not contextualize the game in a more dynamic or realistic setting (Binmore et al., 1985; Hoffman et al., 1994; Hoffman et al., 1996; Hoffman et al., 2000). All in all, economists are more involved in studying cross-cultural or cross-country studies using laboratory and field experiments.

We conducted field experiments that addressed one[1] of the criticisms by Oosterbeek et al. (2004:172) regarding cross-country/cross-cultural studies, namely that they based their results on experiments from two cities in two different countries. More precisely between country differences are reduced to a comparison of two cities, or as many cities as countries that the respective study covers (see Buchan et al., 1999). Thus, the issue of heterogeneity within the same country population is not justly addressed.

Moreover, their crucial point is that if within country differences are of the same magnitude as the between country differences, then they cannot be attributed to culture. They did a meta-analysis of 37 papers, all of which used the ultimatum game to study fairness. After grouping countries into geographic regions, they found no significant differences across regions in proposers' behaviors, but Asian responders showed higher rejection rates than US responders, and responders in the western part of the US had lower rejection rates than their eastern counterparts. Regarding cultural traits, they found that only Inglehart's scale (Oosterbeek et al. 2004:183, Inglehart, 2000) for respect to authority is related inversely with proposers' offers.

Bahry and Wilson (2006) conducted a field experiment in two different regions within Russia, Tatarstan and Sakha-Yakutia, both of which are multiethnic. They compared their results against typical results in experimental ultimatum games such as: frequency of equal split offers and rejection rates. They only highlight

[1] The second drawback of these studies according to Oosterbeek et al. (2004) is that cross-country differences are not well specified from the outset. That is, there is no specification of the cultural traits that underlie cultural differences. This point will not be confronted here.

that an important number of subjects showed hyper-fair preferences, that is people who rejected equally low and high offers. We study ethnic heterogeneity within Ecuador; the last constitution of this country approved in 2008 proclaims the country as a multiethnic society with the following recognized ethnic groups: afro-ecuadorian, indigenous, mestizo, montubio and white people.

Our research is also related to the study of in-group versus out-group behavior (Choi and Bowles, 2007; Chen and Li, 2009; Heap and Zizzo, 2009; Rand et al., 2009; Pan and Houser, 2013). In-group favoritism is found to explain parochial altruism or out-group discrimination for most of these studies, except for Rand et al. (2009) and Pan and Houser (2013) who found ways in which in-group favoritism is attenuated. We designed field experiments wherein standard experimental subjects such as college students interact with villagers out into the field, that is in rural communities.

Our inquiry is whether students or villagers show more or less in-group favoritism, the extent of any favoritism, and whether or not differences across groups exist. Particularly, whether any asymmetry between students and some ethnic groups regarding out-group discrimination exists (Espinosa, 2010). Notwithstanding, our results so far do not show that there is strong evidence neither for in-group favoritism nor for out-group discrimination between these two groups. However, there exists variation between the students and villagers regarding the frequency in each population of hyper-fair compared to monotonically rational individuals and other profiles, and maximum acceptable offers. This next section explains our experimental design, hypotheses and procedures. Section 3 presents and discusses the results, and section 4 concludes.

2 Experimental design and hypotheses

2.1 Experimental design

Experiments were conducted at the Universidad San Francisco de Quito (USFQ), in the rural villages of Cayambe, Guangaje, Bataboro, Palestina and Tachina. Subjects were 116 undergraduate students and 110 non-standard subjects from the villages (including 18 ethnically diverse undergraduate students). Every subject received three dollars just for showing up, plus whatever amount of money each of them made during the experiment. This last amount was privately paid at the end of each session. The instructions were printed out on paper and written in Spanish, except in Bataboro where locals prefer their original dialect, *Waorani*. Thus, in Bataboro the instructions were written in Waorani and back-translation was used to secure uniformity. The oral instructions were given in Spanish by an experimenter and sequentially translated into Waorani by a local bilingual person.

At each session instructions were also read aloud and explained to the subjects by implementing a trial exercise.

For each session we recruited 40 subjects then divided them into two groups of 20: one was a standard subject group comprised of undergraduate students from economics, management and political science classes at USFQ and the other was a non-standard subject group[2] composed of people from the rural towns previously mentioned. Hereafter, an in-group is comprised of subjects from the same pool (or place), whereas an out-group refers to the case in which two pools of subjects are mixed. Each group occupied a separate room and within each room each subject was seated in such a way to be isolated from the rest. This part of our design is defended based on financial restrictions. It was not possible for the experimenters to fund more than one trip with 20 students to the villages, otherwise the costs would have been burdensome.

The pairing process was random as usual, whether for the in-group or out-group treatments. Also, the subjects did not know the identity of the person with whom they were paired. In both treatments (in-group and out-group) every pair of subjects played an ultimatum game twice to divide a pie of US 8 dollars. The second time they bargained, everything was the same as before except that the roles of the players, proposer and responder, were switched.[3] The change in the information set of the subjects was crucial for both treatments since we wanted to investigate whether knowing how the proposer treated you would affect your decision when you were the proposer; the same logic applies for responders since knowing how you responded to my previous offer could have affected my decision as responder. Also, subjects were always aware of the ethnicity of the other individual in their pair. The feature of our design allowed us to make reciprocity conditional to ethnic variation.

The randomization proceeded as follows. First, for the in-group treatments, each subject picks, blindly, a numbered piece of paper from an urn with the numbers from one to twenty. Once this is done, the subjects are matched as follows: 1 and 11, 2 and 12, and so on until ten pairs are formed. Players with the numbers from one to ten were the proposers while the players from eleven to twenty were the responders. Second, for the mixed treatments there were two urns, each containing ten folded small pieces of paper numbered from one to ten. Simultaneously, proposers and responders had to pick one piece of paper from one of the urns, not revealing the private information on the paper. The pairing matched two subjects with the same number. In the case of mixed groups, the proposers in the first

[2] Except for the session ran on campus, but we include them as part of the group of villagers in our analysis.

[3] Brandts and Charness (2000) find no evidence suggesting that role reversal may systematically affect results, while Brosig et al. (2003) suggest that this may lead to more empathy between the subjects since they play both roles.

three sessions: Campus, Ayora and Guangaje, were selected from the university's general student population[4] excluding those that belonged to the sub-group called *ethnically diverse,* that encompasses 240 students from different ethnic communities such as Otavalos, Shuars, Tsachilas, among others. In the next three sessions there was crossover, thus in the villages of Bataboro, Palestina and Tachina the out-group sessions were first with the villagers being the proposers.

Table 1: What is your decision if the proposer offers you the amount of money in each of the cells from the first column and he/she keeps the rest of the US 8 dollars?

Money offered to you	Money kept by the proposer	Accept (+)	Reject (-)
US \$0.50	US \$7.50		
US \$1.00	US \$7.00		
US \$1.50	US \$6.50		
US \$2.00	US \$6.00		
US \$2.50	US \$5.50		
US \$3.00	US \$5.00		
US \$3.50	US \$4.50		
US \$4.00	US \$4.00		
US \$4.50	US \$3.50		
US \$5.00	US \$3.00		
US \$5.50	US \$2.50		
US \$6.00	US \$2.00		
US \$6.50	US \$1.50		
US \$7.00	US \$1.00		
US \$7.50	US \$0.50		

The minimum offer that could be made was 50 cents and from it augmented by 50 cents up to a maximum of US\$7.50. This responded to the fact that it is not easy to get smaller change in Ecuadorian banks. The Nash equilibrium is (7.50, 0.50), that is US\$7.50 for person A and US\$0.50 for person B and the equal division (4, 4), respectively. An instruction sheet was distributed to all subjects; there were *Person A* and *Person B* instructions (see Appendix A). In addition, proposers received a sheet named *Proposal and Decision Form* (Appendix A) where the actual proposals and decisions were written on. The trial round was implemented to help subjects to understand that player A makes a proposal about how to divide the money, while player B has to decide whether to accept or reject such proposal. Every time B agreed with A, both earned money according to the division proposed, otherwise both subjects received zero. Both instruction sheets contained two questions that asked subjects firstly, if they belonged to a particular

[4] During pilots we found that most of these students did not consider themselves white, rather, mestizos, even when they might appear to be white. According to the 2010 population census, white people represent 6.1 percent of the population while 72 percent are mestizos, INEC (2010).

ethnic group and secondly, if the other person in his/her pair belonged to an ethnic group without looking for any details, just plain "yes" or "no" answers. A very important difference between the two sheets was that for subject assigned person B, we asked every subject to fill out the form in Table 1, since we wanted to elicit responders' preferences about each possible way of sharing the money, even though the actual offer was obtained through the direct method (see Selten, 1967 and Selten et al., 2003; Brandts and Charness, 2011:376-7 indicate the superiority of this approach for a thorough analysis of results).

Individual earnings were calculated at the end of the session. Also, each subject had to fill out a short socio-demographic questionnaire before getting paid, available on Appendix B.

2.2 Hypotheses

Our hypotheses are:

1. The "minimum acceptable offer" (**MAO**) for both subject pools will be lower when they are playing the in-group compared to the out-group.

2. The "maximum acceptable offer" (**MXAO**) for villagers and students will be lower for the in-group while higher for the out-group.

Thus, we are testing whether any of the groups shows "parochial altruism" in a systematic fashion, and if there are any differences in its degree (Bowles and Gintis, 2004). Likewise, this design also allowed us to study if there is ethnic variation within a self-proclaimed multi-ethnic country such as Ecuador.

In our hypotheses we follow Thaler (1988) and with some slight modifications Henrich et al. (2006). Specifically, the MAO for an individual was obtained from her answers to the questions in Table 1. By identifying the monetary offer of a respondent between 0.5 and 4, we do not build an index. For example, if an individual rejects 0.5 and 1 but accepts 1.5, her MAO will be 1.5. By the same token, an individual who rejects all offers from 0.5 to 7.5 has no MAO, whereas another who instead accepts all offers has a MAO of 0.5.

Similarly, the MXAO was computed without building an index. Instead, we used data from Table 1 to identify what the highest monetary offer, between 4.5 and 7.5, accepted by any individual was. For example, an individual who rejected 4.5, 5, 5.5 and then accepted 6, has a MXAO of 6. If someone accepted all offers from 0.5 up to 7.5, she has a MXAO of 7.5; when she rejected all offers her MXAO was set to 0.

There were also subjects who showed strict *hyper-fair* behavior defined as someone who rejected offers from 0.5 to 3.5, then accepted 4, after which again rejected offers from 4.5 to 7.5. These subjects were excluded when measuring the MAO

and MXAO. But we allow for a less rigid definition wherein we classify individuals as having hyper-fair preferences if they accept any amount close to the fair split of money and reject both values either below or above it.

2.3 Procedures

In all sessions we proceeded as follows:

1. We met with the recruited subjects;
2. We separated them into two rooms, in each one there were 20 (or the closest we could get) subjects;
3. In one room there were students and in the other non-students (except in the session ran on campus that included students from the ethnically diverse group); this was done for the first three sessions. For the last three sessions each room had a mixed pool of subjects randomly selected;
4. The authors conducted all sessions; each of them plus an assistant were in charge of one of the rooms during the whole session. The following steps were done simultaneously;
5. Random matching was done and the material was distributed;
6. Instructions were read aloud and the trial exercise was carried out;
7. Once everything was made clear, subjects proceeded to play the game;
8. After the first round, all the material was recollected;
9. Next, material was distributed but we switched the roles of the paired subjects and played again;
10. In the first three sessions we randomly selected 10 subjects from each room to send them to the other room. For the last three we would just send students/villagers to the other room with the other students/villagers;
11. They would play the ultimatum game twice, switching the roles of the players the second time;
12. After all this, subjects filled out a questionnaire and then were paid privately.

Below we describe our sessions on campus and out into the field in order to provide a context about these communities and the subjects who participated. Sessions are presented in a chronological order.

On campus:

At the only session conducted at USFQ we recruited, via conventional methods, subjects from the general population of students, which includes the group of students from *ethnically diverse*. We had 20 students that did not belong to the ethnically diverse group and 18 that did belong. All the subjects in this session can be classified as part of a standard pool, except for the majority of the students belonging to the ethnically diverse group, since each of them recognizes that they come from a particular ethnic origin and still live in their villages. Many of them usually dress in their ethnic clothing on campus and speak with each other in their own dialect. Therefore it was important for our research to set up a session with them to generate the necessary data. The ethnic composition of this group of students is described in Table 2.

Table 2: Ethnic distribution of the University's group.

Ethnic Group	Number
Otavalo	6
Other Andes Kichwas	5
Amazon Kichwas	2
Puruhá	1
Chachi	1
Cañari	1
Salasaca	1
Shuar	1
Total	18

Ayora:

Ayora is a rural parish of Cayambe, which is a canton of the province of Pichincha. It is located at 80 km to the northeast of the capital of Ecuador, Quito, and at an altitude of 2,830 meters above sea level. Its population is about 15,000 (INEC, 2010). The population of this village is part of a larger group scattered throughout the Ecuadorian Andes who speak kichwa (Andes Kichwas). This is because kichwa was the lingua franca imposed by the Incan Empire as native dialects were abolished. Before this episode (circa 1500 CE), this area was populated by small chiefdoms known as the Caranquis; the name of Cayambe (Kayambis) comes from this time (Becker and Tutillo, 2009). Its economy is mostly based on trading agricultural products such as: flowers, corn, potatoes, onions, strawberries, and a few other vegetables. The village of Ayora is no more than a 5 minute drive from the town of Cayambe with a population of almost 40,000. Thus, people from Ayora are used to trading in currency (since 2001 in US dollars) with people nearby and from other parts of the country.

After contacting the local authorities, they pointed us to a farmers' cooperative and through them we were able to recruit 20 people from this village ages 15 to 38 years old. At the same time, we were recruiting subjects (except those students that belonged to the *ethnically diverse* group) at the university. When we had all this set up, we went to Ayora by bus with 20 students to conduct the session for two hours at a facility owned by the cooperative.

Guangaje:

Guangaje is a rural parish of the canton Pujilí located in the province of Cotopaxi, which is to the south of Pichincha. Guangaje is 45.3 km west of the nearest city, Latacunga, and is 140 km south of Quito and at an altitude of 3,800 meters above sea level. Its population is 8,000 (INEC, 2010) and it is composed of a conglomeration of scattered, smaller indigenous villages, called communes. People from this village are also part of the Andes Kichwas who speak kichwa and have lived there, at least, since Incan times. It was harder to get to Guangaje than to Ayora. The center of Guangaje is 10 km away from the main road that connects Pujilí with La Maná, bordering the coastal province of Guayas. From the main road there is an unmarked turn only known by locals, which is a dirt road to get there. Although its economy is also based on agricultural production, it is not as vibrant as that of Ayora, as Guangaje's economy is primarily for survival rather than business. The main item of production is potatoes, which is also their staple food. Men and women from Guangaje usually work in the agriculture industry for someone else in a nearby town.

We contacted the local authorities to help us recruit 20 people from this village, who were between the ages of 20 and 62. Again, with another 20 students from the university we went to Guangaje by bus to conduct the session at a local public school for three hours. It took us more time to conduct the session here because the people of this village were, on average, less educated.

Bataboro:

The waoranis (or huaoranis) we visited were in Bataboro, a small village of approximately 140 people (INEC, 2010). Bataboro is located in the province of Pastaza in the amazonia, 64 km east of Puyo, which is the nearest city. Bataboro and Puyo are connected by a poorly constructed road. Their original dialect is Wao, but they have been exposed to Spanish in primary or secondary school. This village was established just about fifteen years ago according to the locals, along a dirt road built by an oil company. Waoranis were traditionally hunter and gatherers, but the arrival of these companies allowed them to temporarily work there, mostly doing manual activities. For instance, most men divide their activities during the year working for an oil company. When that is over or not enough, they still go into the jungle to hunt wild animals that are sold in the nearest market. On the other hand, women stay at home doing domestic activities

or in some cases they make handcrafts to be sold to tourists. Some families, also, may sell green plantains grown in their small lots. Most of their houses are made of wood, while the leaders own cement houses.

We got there thanks to a student at USFQ who is waorani and an inhabitant of Bataboro. His family helped us recruit subjects. He and another female waorani student facilitated back-translation for the written instructions. Another member of his family helped us with the oral sequential translation during the session. People who participated were between 15 and 50 years old. This session lasted about three hours more than the others because of the sequential translation. Due to time constraints and weather conditions we could not run the last in-group round.

Palestina:

Palestina is a village located in the littoral region of Ecuador in the province of Guayas. Its population is 15,000, according to the 2010 national census. It is located 73 km north of Guayaquil (2.5 million population) and connected to it by a modern highway, making it very easy to commute between these two places and from Palestina to other nearby towns. About 58 percent of its population are self-proclaimed montubios. Thus, we included them in our sample and recruited subjects with the help of local authorities, as we have done before. It was the only place that we traveled to by plane, from Quito to Guayaquil, and from there by bus.

We could not get a facility with separate rooms, but the area we used was large enough as to allow us to make space between the two groups of subjects. People in Palestina could understand Spanish very well. Its annual income per capita is US $996 as of 2010 (INEC). Palestina's economy is mainly based on commercial activities that spring from farm related businesses. Some of our subjects either work or study in Guayaquil and their ages ranged from 17 to 73.

Tachina:

We also included in our study afro-ecuadorians who live in the north-western province of Esmeraldas in the coastal region. We made contact with the community of Tachina with help from one of our colleagues at USFQ. Its population is just between 70-80 people. Tachina is located along the river Santiago, 79 km north of Esmeraldas, the largest nearby city. To get there one has to travel by boat about an hour from the nearest port in Maldonado, which is about nine hours away from Quito by bus. They understand Spanish but most of them did not finish primary school. In this field site we could not find a facility with separate rooms, though we managed to place students outside on benches along the shoreline.

Families usually earn their income from illegal mining activities. Since this activity has been outlawed in the last years, they have resorted to less profitable activities such as: agriculture or handy work in near towns. It is a community that

lacks basic infrastructure and of public utilities. In Tachina there are no schools or hospitals and women wash their clothes in the river. A local authority helped us recruit subjects in Tachina, 14 to 77 years old.

3 Results

We show in Table 3 the descriptive statistics for the minimum acceptable offer divided by subject's type for in- and out-group data. We observe that for both groups and in each location the average MAOs are related. That is, a higher average MAO for villagers corresponds to a higher average MAO for students and viceversa. There were two locations, Ayora and Palestina, where the mode of the MAO for villagers was the highest ($4), while for the students the mode was never greater than $3.5 in Palestina, campus and in Ayora where it reached higher values.

Table 3: Minimum Acceptable Offer (in- and out-group)

	Villagers				Students			
	mean	mode	st. dev	subjects	mean	mode	st. dev	subjects
Ayora	3.09	4	1.146	20	2.82	3	1.096	20
Bataboro	1.75	0.5	1.282	15	2.15	0.5	1.317	16
Campus	2.37	0.5	1.342	18	2.68	3.5	1.308	20
Guangaje	2.2	0.5	1.296	20	2.1	0.5	1.415	20
Palestina	2.91	4	1.428	17	3.27	3.5	0.701	20
Tachina	1.81	0.5	1.567	20	1.46	0.5	1.34	20

In Table 4 the same statistics are shown for the maximum acceptable offer per subject type. An important pattern observed here is that the average MXAO for students is higher than that for villagers, except in Palestina. There is significantly less dispersion for students than for villagers. Modes are similar for both groups in every rural town. Villagers from Ayora presented the highest MAO and the lowest MXAO, suggesting that most of them held hyper-fair preferences. The same average behavior was observed by the students in Palestina.

Table 5 shows the average MAO and MXAO by subject type and distinguished by group treatment. The main contrast between students and villagers is related to the MXAO in the out-group treatment, wherein students accepted higher values than villagers, again except in Palestina. These results may be explained by the fact that students mainly hold a monotonically rational preference for splitting the stake compared to villagers, who comparatively are more hyper-fair. This contrast does not appear in the case of the MAO whether in the in-group or out-group for both types of subjects.

Table 4: Maximum Acceptable Offer (in- and out-group)

	Villagers				Students			
	mean	mode	st. dev	subjects	mean	mode	st. dev	subjects
Ayora	6.22	7.5	1.344	20	7.5	7.5	0	20
Bataboro	6.38	7.5	1.202	15	7.5	7.5	0	16
Campus	6.48	7.5	1.27	18	6.93	7.5	0.98	20
Guangaje	6.52	7.5	1.626	20	7.33	7.5	0.626	20
Palestina	7.08	7.5	1.439	17	6.67	7.5	0.975	20
Tachina	7	7.5	1	20	7.13	7.5	0.951	20

Table 5: Means by Subject Type and Group

	Villagers				Students			
	MAO		MXAO		MAO		MXAO	
	in	out	in	out	in	out	in	out
Ayora	2.97	3.22	6.34	6.09	na	2.81	na	7.5
Bataboro	2	1.62	5.57	6.81	2.13	2.19	7.5	7.5
Campus	2.05	2.81	6.58	6.33	2.61	2.75	6.97	6.88
Guangaje	2.21	2.43	6.61	6.82	2.53	1.68	7.28	7.38
Palestina	3.37	2.39	7.22	7.46	3.31	3.21	6.53	6.91
Tachina	1.72	2	7.14	6.94	1.33	1.68	7.33	7.08

Table 6: Frequencies of Profile Preferences for Villagers

	MR		HF		C		A	
	in	out	in	out	in	out	in	out
Ayora	5/39	7/39	12/39	12/39	3/39	0/39	0/39	0/39
Bataboro	0/22	2/22	2/22	4/22	5/22	9/22	0/22	0/22
Campus	4/33	4/33	9/33	10/33	2/33	1/33	3/33	0/33
Guangaje	2/37	5/37	6/37	5/37	9/37	8/37	2/37	0/37
Palestina	10/29	7/29	2/29	0/29	3/29	3/29	1/29	3/29
Tachina	2/39	4/39	3/39	3/39	10/39	9/39	5/39	3/39

Regarding preference profiles, we follow Bahry and Wilson (2006) with three types: monotonically rational, hyper-fair, confused, and we must add a fourth[5] profile named "accept all," which includes 47 subjects (of which 34 were students) who accepted every possible division of money. The frequencies for in- versus out-group treatment by location are presented in Tables 6 and 7. In each table it should be recalled that if in a given location there were 20 people per subject type, then the horizontal sum should add up to 40. Villagers presented mostly hyper-fair or confused preferences, while students mainly held monotonically rational behavior, though in Palestina they have a slightly more hyper-fair profile and in Tachina mostly an accept all profile. However, when we separate those individuals that did not change their profile from those who did across groups, we obtain that the most typical and stable profile for villagers is to be hyper-fair, with 27 subjects, and only 19 subjects keeping a confused profile. Whereas for students, their most common and stable profile across groups was being monotonically rational with 31 subjects, and only 16 having an accept all profile.

Table 7: Frequencies of Profile Preference for Students

	MR		HF		C		A	
	in	out	in	out	in	out	in	out
Ayora	1/21	12/21	0/21	5/21	0/21	1/21	0/21	2/21
Bataboro	11/31	10/31	0/31	2/31	0/31	0/31	5/31	3/31
Campus	9/34	8/34	4/34	4/34	3/34	1/34	2/34	3/34
Guangaje	14/40	9/40	1/40	1/40	2/40	0/40	3/40	10/40
Palestina	6/34	6/34	11/34	8/34	3/34	0/34	0/34	0/34
Tachina	5/37	5/37	1/37	2/37	0/37	2/37	12/37	10/37

3.1 Estimation Method

We have an unbalanced panel of 223 individuals (114 students and 109 villagers) that made decisions through two treatments, in-group and out-group or viceversa. We created several variables to test our hypothesis on parochial altruism or in-group bias. The regressor *diffeth* is a binary variable that takes a value equal to one if the individual made his/her decision in the out-group treatment and zero otherwise. In other words, whether or not a student or a villager is interacting with someone else who is an outsider. There are two dependent variables that are continuos, the minimum acceptable offer (MAO) and the maximum acceptable

[5] There were three subjects–two students from the session on campus and a villager from Guangaje–whose profile could not be included in any of these categories. We excluded these observations from the next analysis.

offer (MXAO). We also assign binary variables per location. Table C1 in appendix C describes these and all the other socio-economic variables used here.

An individual who belongs to a community with a higher degree of parochialism and has internalized such a norm, should behave according to our two hypotheses showing both a lower MAO and MXAO in the in-group compared to another individual that either has not internalized such a norm or belongs to a distinct community with a lower degree of parochialism. Even if the individual does or does not show this in-group bias, he/she could still comply with a norm of fair division of money in the ultimatum game.

In our regressions below, we included interaction terms between the variable *diffeth* and the location binary variables for each community we visited, as well as, one for the campus session. This could allow us to observe differences between communities. Hence, according to our first hypothesis the interaction term between diffeth and any location variable (e.g. Palestina) should be positive when the dependent variable is MAO, and the same positive effect should also be present in the case of the second hypothesis with MXAO as the dependent variable. Differences across communities may not only show in the magnitude but also in the sign of this coefficient. We applied this analysis to the complete data as well as divided the sample between students and villagers.

Another variable we added is *offj*, which is continuos and measures the monetary value that was offered in each treatment from person A to person B in the game. This was necessary in order to study the effect of the offer by person A to B in the out-group for a given community, for instance, Guangaje. Then, the triple interaction term 'guangaje*diffeth*offj' will capture this effect over MAO and MXAO of the offers made by outsiders to either students or villagers. The sign of the coefficient of this interaction should also be positive if there is in-group bias in any place. However, we have been very cautious applying this interaction and it was inserted just when we thought it was strictly necessary.

Table 8 shows the analysis when the minimum acceptable offer (MAO) is the dependent variable with the whole sample, that is aggregating students and villagers. It shows a pooling (Pool), two random effects (RE1 and RE2), and two fixed effects (FE1 and FE2) models. Besides our focus variables and interaction terms there are control variables per each field site, race variable (white), a variable for non-standard subjects (nssubject), and socio-economic and gender variables. The bottom part of this table and the next tables also show the number of observations, the adjusted R squared and the F statistic for the test of joint significance for every model.

The models in this table are all jointly significant but a Lagrange multiplier test between the Pool and RE1 (random effect) models rejects the pooling model at 1%, while an F-test between the pooled and fixed model (FE1) for individual

Table 8: MAO: Whole Sample

	Dependent variable:				
	Minimum Acceptable Offer				
	Pool	RE1	RE2	FE1	FE2
diffeth	0.621	0.346	0.976***	0.255	0.355
	(0.452)	(0.368)	(0.215)	(0.240)	(0.430)
offj	0.158*	0.112			0.075
	(0.088)	(0.072)			(0.105)
diffeth:ayora			−0.714*	−0.243	−0.059
			(0.388)	(0.407)	(0.417)
diffeth:bataboro			−1.065***	−0.310	−0.259
			(0.346)	(0.357)	(0.401)
diffeth:campus			−0.784**	−0.340	−0.340
			(0.330)	(0.334)	(0.367)
diffeth:guangaje			−1.343***	−0.772**	−1.437
			(0.300)	(0.303)	(1.150)
diffeth:palestina			−1.580***	−1.050***	−1.014***
			(0.327)	(0.333)	(0.374)
diffeth:nssubject	0.102	0.141	−0.042	0.256	
	(0.293)	(0.206)	(0.209)	(0.214)	
diffeth:offj	−0.221*	−0.155			−0.002
	(0.117)	(0.099)			(0.144)
guangaje:offj					−0.441**
					(0.219)
diffeth:guangaje:offj					0.207
					(0.341)
ayora	1.074***	1.178***	2.572***		
	(0.275)	(0.312)	(0.349)		
bataboro	0.076	0.105	1.811***		
	(0.258)	(0.304)	(0.289)		
campus	0.621**	0.498	2.222***		
	(0.278)	(0.335)	(0.266)		
guangaje	0.388*	0.376	2.147***		
	(0.230)	(0.280)	(0.239)		
palestina	1.407***	1.391***	3.141***		
	(0.261)	(0.309)	(0.254)		
white	−0.770	−0.753			
	(0.484)	(0.567)			
nssubject	0.096	0.051	0.461**		
	(0.248)	(0.250)	(0.191)		
hhwealth	−0.099	−0.136			
	(0.102)	(0.122)			
female	0.288*	0.177			
	(0.155)	(0.185)			
civil	−0.158	−0.116			
	(0.227)	(0.271)			
Constant	1.601***	1.888***			
	(0.507)	(0.561)			
Observations	325	325	354	354	354
R^2	0.170	0.147	0.134	0.102	0.132
Adjusted R^2	0.162	0.140	0.129	0.040	0.051
F Statistic	4.540*** (df = 14; 310)	3.813*** (df = 14; 310)	1.504 (df = 13; 341)	2.264** (df = 7; 140)	2.080** (df = 10; 137)
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 9: MAO: Students(s) and Villagers(v)

	Dependent variable:				
	Minimum Acceptable Offer				
	FEs1	FEs2	REs	FEv	REv
diffeth	0.340	0.330	0.695***	0.456	0.786**
	(0.289)	(0.281)	(0.263)	(0.324)	(0.323)
offj	0.074	0.129*	0.194***	−0.113	0.190**
	(0.064)	(0.067)	(0.055)	(0.107)	(0.077)
diffeth:ayora	−0.340	−0.330	−0.753	−0.252	−0.415
	(1.226)	(1.192)	(1.109)	(0.483)	(0.488)
diffeth:bataboro	−0.352	−0.317	−0.743*	−0.333	−0.643
	(0.463)	(0.450)	(0.448)	(0.553)	(0.547)
diffeth:campus	−0.473	−0.446	−0.650	−0.116	−0.330
	(0.416)	(0.405)	(0.403)	(0.542)	(0.552)
diffeth:guangaje	−1.223***	−1.052***	−1.487***	−0.291	−0.498
	(0.393)	(0.390)	(0.385)	(0.470)	(0.478)
diffeth:palestina	−0.619	−0.600	−0.875**	−1.565***	−1.801***
	(0.450)	(0.437)	(0.429)	(0.485)	(0.493)
guangaje:offj		−0.414**	−0.324*		
		(0.183)	(0.170)		
palestina:offj				0.646	−0.168
				(0.436)	(0.380)
ayora			2.151*		2.321***
			(1.102)		(0.456)
bataboro			1.373***		1.047*
			(0.411)		(0.543)
campus			1.844***		1.371***
			(0.372)		(0.516)
guangaje			2.931***		1.540***
			(0.579)		(0.430)
palestina			2.593***		3.344**
			(0.363)		(1.462)
Observations	185	185	185	169	169
R^2	0.167	0.224	0.213	0.190	0.128
Adjusted R^2	0.063	0.084	0.198	0.070	0.118
F Statistic	2.001* (df = 7; 70)	2.489** (df = 8; 69)	2.873*** (df = 13; 172)	1.814* (df = 8; 62)	0.745 (df = 13; 156)
Note:					*p<0.1; **p<0.05; ***p<0.01

effects does not reject the latter at 1%. A Hausman test indicates that a fixed effect model (FE1) should be chosen over the random effects (RE2) model with a χ^2 equal to 52.1 and less than 1% level of significance. A similar result is obtained when the fixed effect model (FE2) is compared against a similar random effects model (not shown on the table, $\chi^2 = 33$ and $p - value = 0.000$). Hence, the variation is mostly explained by the individuals.

We will focus on the last two columns of Table 8 to analyze the coefficients. First of all, each of the interaction terms between diffeth and five of our locations (we leave outside Tachina due to issues of multi-collinearity) in models FE1 and FE2 have an opposite sign, that is a negative sign which is the opposite of what we would have observed if there was an in-group bias. Also, in both of the models the interaction term 'diffeth*palestina' is negative and significant at less than one percent with a magnitude slightly greater than one dollar; this implies that subjects in Palestina reduce their MAO by that amount on average in the aggregate. Meanwhile, in the FE1 model the interaction term for Guangaje also has a negative sign and is significant at less than 5% with a magnitude close to 80¢. In the case of the FE2 model we added a triple interaction term 'guangaje*diffeth*offj' that was positive but not significant. What turned out to be significant ($p-value$ less than five percent) was the interaction between Guangaje and offj, which accounts for the amount offered from person A to B in that location. We did not anticipate the sign of this particular interaction, since in this case negative implies that overall subjects in their role of person B thereby reduced their MAO by a magnitude equal to 44¢ for every increase in the amount offered by subjects in their role of person A. The separated effects of the variables diffeth and offj were not significant, as was also the case for the interaction between diffeth and nssubject (non-standard subject or villager).

To get a better grasp of the previous results for the variable MAO, we divided the data into sub-sample by kind of subjects, that is villagers and students. This is what is shown in Table 9; from left to right we have two fixed effects models (FEs1 and FEs2) and one random effect model (REs) for students, then a fixed effect model (FEv) and a random effect model (REv) for villagers. A Hausman test for deciding whether to choose the random or the fixed effect model for both kinds of subjects yielded that the within models better explain the results. That is, comparing FEs2 and REs we have a $\chi^2 = 255.5$ and between FEv and REv we have a $\chi^2 = 30.4$, thus favoring the fixed effects specification at less than 1% level of significance in both cases (a similar test comparing FEs1 and its respective random specification which is not shown yielded the same result).

Again, we will focus on the within models since individual variation explains these results. Starting with the students, we observe that in both fixed effect models our five interaction terms present a negative sign contrary to what was

Table 10: MXAO: Whole Sample

	Dependent variable:				
	Maximum Acceptable Offer				
	Pool	RE1	RE2	FE1	FE2
diffeth	0.143	0.028	0.999***	−0.222	−0.212
	(0.160)	(0.095)	(0.260)	(0.142)	(0.140)
offj	−0.084*	−0.062*	0.305***	−0.045	−0.062*
	(0.046)	(0.033)	(0.057)	(0.032)	(0.033)
diffeth:ayora			−0.477	−0.203	−0.210
			(0.448)	(0.241)	(0.238)
diffeth:bataboro			−0.335	0.564***	0.551***
			(0.398)	(0.212)	(0.210)
diffeth:campus			−0.885**	0.094	0.087
			(0.368)	(0.195)	(0.193)
diffeth:guangaje			−0.845**	0.132	0.129
			(0.340)	(0.180)	(0.178)
diffeth:palestina			−0.433	0.522***	0.519***
			(0.374)	(0.199)	(0.197)
diffeth:nssubject	−0.096	−0.059	−0.533**	0.009	−0.004
	(0.228)	(0.136)	(0.238)	(0.127)	(0.126)
palestina:offj			−0.125		0.253*
			(0.224)		(0.129)
ayora	−0.328	−0.357	4.455***		
	(0.218)	(0.255)	(0.570)		
bataboro	0.012	−0.032	4.793***		
	(0.198)	(0.243)	(0.537)		
campus	−0.308	−0.334	5.012***		
	(0.212)	(0.267)	(0.504)		
guangaje	−0.032	−0.123	5.180***		
	(0.179)	(0.227)	(0.454)		
palestina	−0.053	−0.147	5.418***		
	(0.200)	(0.247)	(0.906)		
white	0.269	0.250			
	(0.372)	(0.454)			
nssubject	−0.448**	−0.487**	1.643***		
	(0.193)	(0.194)	(0.331)		
hhwealth	−0.049	−0.0001			
	(0.081)	(0.100)			
female	0.027	0.004			
	(0.121)	(0.150)			
civil	0.113	0.039			
	(0.179)	(0.218)			
Constant	7.444***	7.449***			
	(0.366)	(0.431)			
Observations	324	324	353	353	353
R^2	0.093	0.253	0.007	0.121	0.145
Adjusted R^2	0.089	0.242	0.007	0.048	0.057
F Statistic	2.438*** (df = 13; 310)	7.999*** (df = 13; 310)	-15.995 (df = 15; 338)	2.399** (df = 8; 139)	2.609*** (df = 9; 138)
Note:					*p<0.1; **p<0.05; ***p<0.01

hypothesized. In the first model, FEs1, only the interaction between Guangaje and diffeth is significant at less than 1% level of significance with a magnitude equal to negative $1.22, thus in that community students reduced their MAO by that amount in the out-group or when they were playing against villagers. We get the same effect for the second model (FEs2), but this time the magnitude is a bit lower, in such a way that students reduce their MAO by about $1.05 when they interact with the villagers of Guangaje.

Taking into account that in this community the order of the treatments went from in-group to out-group, this can be explained by the students there who switched their profile preferences from monotonically rational or confused to accept any amount offered to them in the out-group. To be precise, there were only three students having an 'accept all' profile for the in-group and this increased to ten students in the out-group. Out of those seven that switched their preferences, five held a monotonically rational and only two a confused profile during the in-group. Guangaje is one of the poorest towns with most villagers declaring an average household income of less than $100 per month and was also one of the smallest communities we visited. Nonetheless, the national census reported a population of 8,000 since it is composed of scattered communes (as explained in section 2.3). Thus, when we visited we could not see more than five hundred people. The center of the village is very small, being just a few square meters. The variable offj appears in model FEs2 as significant at a ten percent level, with a positive sign and a magnitude of almost 13 cents. The interaction of this variable with Guangaje again shows up as significant (5% level of significance) and with the same negative sign and almost the same magnitude as before (negative 41 cents), but in this case we can be sure that students reduced their MAO by that amount in Guangaje for every amount offered by villagers.

In the case of villagers in the fixed effects model (FEv) we observe that the sign of the coefficients for the five interaction terms between the variable diffeth and each of the locations are again negative. This time the only significant coefficient (at 1% level of confidence) is the one measuring for Palestina; there, villagers reduced their MAO by about $1.57 when students were playing as proposers. In general, neither villagers nor students showed an in-group bias regarding their minimum acceptable offers.

We present in Table 10 the analysis for the dependent variable of the maximum acceptable offer (MXAO) with the aggregated sample. There are several models with different specifications and estimation methods but with the same variables we have focused on so far. We applied: a Lagrange multiplier test between the pooling (Pool) and the random effects model (RE1), which showed that the latter better explains the specified relationship between the regressors and the dependent variable($Z = 16$ and $p - value = 0.000$). However, the fixed effects models passed

the tests against the random effects models as before. Thus, a Hausman test between the within model (FE2) and the random effects model (RE2) yielded a χ^2 of 121 and a low $p - value$ of less than 1%. All the models satisfy the joint significance test as it is shown at the bottom of the table.

Table 11: MXAO: Students(s) and Villagers(v)

	Dependent variable:			
	Maximum Acceptable Offer			
	FEs1	FEs2	FEv1	FEv2
diffeth	−0.279*	−0.210	0.071	0.229
	(0.144)	(0.271)	(0.419)	(0.419)
offj	−0.087**	−0.073	−0.038	−0.006
	(0.033)	(0.057)	(0.098)	(0.098)
diffeth:ayora	0.279	0.312	−0.277	−0.235
	(0.610)	(0.612)	(0.310)	(0.305)
diffeth:bataboro	0.239	0.274	1.318***	−2.855
	(0.230)	(0.255)	(0.382)	(2.245)
diffeth:campus	0.095	0.121	0.169	0.219
	(0.207)	(0.222)	(0.343)	(0.338)
diffeth:guangaje	0.418**	0.434**	−0.230	−0.191
	(0.196)	(0.200)	(0.306)	(0.301)
diffeth:palestina	0.733***	−1.992	0.449	0.520
	(0.230)	(1.385)	(0.340)	(0.335)
palestina:offj	0.421***	−0.288		
	(0.123)	(0.375)		
bataboro:offj			0.518**	−0.407
			(0.243)	(0.545)
diffeth:offj		−0.025	−0.077	−0.135
		(0.086)	(0.137)	(0.138)
diffeth:bataboro:offj				1.160*
				(0.616)
diffeth:palestina:offj		0.730*		
		(0.367)		
Observations	181	181	172	172
R^2	0.276	0.317	0.279	0.319
Adjusted R^2	0.104	0.116	0.101	0.113
F Statistic	3.239*** (df = 8; 68)	3.065*** (df = 10; 66)	2.670** (df = 9; 62)	2.857*** (df = 10; 61)
Note:				*p<0.1; **p<0.05; ***p<0.01

According to our second hypothesis, our interaction terms are expected to have a positive sign if there is any presence of in-group bias for both subject types. In both fixed effects models, FE1 and FE2, the only exception we do find to this positive sign requirement is in the town of Ayora. But only the interaction terms for the villages of Bataboro and Palestina are significant, and more or less present the same magnitude of roughly 50¢in both of the models. Thus, in those villages, subjects increased their MXAO while playing the out-group by about half of a dollar. We further note that in the other towns where this coefficient was positive, it never exceeds thirteen cents. For Bataboro and Palestina we cannot altogether reject the presence of some in-group bias, so as to distinguish this effect, we will analyze the split data in Table 11.

We report additional results in Table 10 for the model FE2 that the variable offj is negative and significant (- 6 cents) and its interaction with Palestina is positive and significant (25 cents), both at a ten percent level. Hence, a higher offer from person A reduced person B's MXAO by six cents, meanwhile in Palestina this increased by a quarter of a dollar.

Table 11 shows the analysis for the data divided by subject pool. We only included the fixed effects models since the respective random effects models do not stand a Hausman test (at a 1% level of significance), as was the case previously. Beginning with the students in both models, FEs1 and FEs2, our five key interaction terms present a positive sign except in the second model, the one corresponding to Palestina. The interaction term that is significant (at five percent) in both models is the one with the community of Guangaje with approximately the same magnitude, slightly more than 40 cents. Therefore, in Guangaje students increased their MXAO by about that amount on average when interacting with locals.

Regarding Palestina, we find an important difference between the two models. In the first model (FEs1) the interaction term is positive and significant (at one percent) but is negative and not significant in the second model (FEs2). Moreover, the change in magnitude is very large, it goes from 73 cents to negative $1.99. In the second model we included a triple interaction term for Palestina, adding the variable offj, that is positive and significant (ten percent level) with a magnitude of 73¢, which is similar to the one obtained from the double interaction in model FEs1. In the latter, the interaction term between offj and Palestina is significant at one percent level with a positive magnitude of 42 cents. Thus, in Palestina students did show in-group bias in their MXAO, but it was arguably due to the offers made by the villagers. In the first model we observe that the variables diffeth and offj separately are negative and significant (at ten and five percent, respectively). This can only be explained by taking into account that in Tachina students reduced their average MXAO between the in-group and the out-group from $7.33 to $7.08 and that it was the only place where this ocurred.

On the other hand, in the models for villagers, specifically in FEv1, we find that just two (Ayora and Guangaje) out of the five interaction terms are negative but statistically insignificant. Only the interacting terms between the variables diffeth and offj with Bataboro turned out to be significant at one and five percent, respectively. The interaction with diffeth is positive and of appreciable magnitude equal to $1.32, while the interaction term with offj is close to 52 cents. The first result implies that in Bataboro villagers increased their MXAO before students. In the second model FEv2, only the triple interaction term is significant (at ten percent), which adds offj to the previous double interacting term with Bataboro. The coefficient is positive and equal to $1.16, implying that for every increase in

a student's offer, the villagers increased their MXAO by that amount on average. Hence, villagers in Bataboro showed in-group bias in the case of their MXAO.

A striking general result is the asymmetry between the minimum and maximum acceptable offers by students and villagers. In Guangaje, students do not present an in-group bias when they exert their MAO, while the same subjects revert this for their MXAO. Villagers from that same community do not present any in-group bias whether in their MAO or MXAO (although it is not statistically significant). Again in the case of students, if there was any in-group bias regarding their MXAO in Palestina, this was absent in their MAO. But this time, villagers from Palestina did manifest an in-group bias regarding their MXAO, but not in the case of their MAO. Meanwhile, in Bataboro, villagers and students yet again displayed this asymmetry between their MAO and MXAO. Therefore, for values below the fair division, there is not a clear in-group bias pattern whether subjects were students or villagers, while this pattern is essentially reverted in the case of values above that threshold most clearly for students. In the case of villagers from Ayora, Bataboro, Guangaje and Tachina, this reversion did not occur. This may be explained by the fact that 31 students held a monotonically rational profile in both treatments while another 34 held it only once, and 18 more students held an accept-all profile at least once. In contrast, 27 villagers held a hyper-fair profile in both treatments, while 14 more displayed it only once.

In our experimental design subjects were not devoid of antecedents. We wanted them to realize that students and villagers were two different groups with distinctive origins. Yet the presence of in-group bias was not as strong as expected. Furthermore, any expectation of reciprocity due to role reversal should have also worked against that result (Yamagishi et al., 1999).

4 Conclusion

We reported data from a field experiment based on an ultimatum game played for an in-group and an out-group condition. The two subject pools that participated at each session were college students and villagers who represented the main ecuadorian ethnic groups. We took not just the experimenter, but also the standard subjects out into the field. This parsimonious design allowed us to conduct experiments under less than ideal conditions.

Neither students nor villagers showed a systematic in-group bias for values below the fair division. But for values above the fair division, students favored their own group more than when compared to villagers. This may be due to students having a higher frequency of a monotonically rational and accept-all behavior than villagers, while the latter group presented a more hyper-fair or confused preference profile. Focusing only on villagers, there was more in-group bias for

values above the fair division in Palestina and with the ethnically diverse students on campus, only. This could be explained by the fact that the latter subjects are more intertwined with college students living in the capital of the country, while villagers from Palestina are just about 45 minutes by car from Guayaquil, the largest city in the country with a population of nearly 2.5 million, many of who carry on most of their activities there.

Individuals cooperate. But issues about fairness are more complex than usually thought. Students and a few villagers went from in-group discrimination to in-group favoritism, but this is explained by their preference profiles. Moreover, above the fair division threshold, it may seem that self regarding preferences for these subjects matter the most. Taking into account the context of a large and anonymous city in contrast to a small town organized as a common with personalized exchange, this difference may have affected the subjects in our sample. This channel is captured by their internalized preferences, even though cooperation emerges through the coordination of the 50-50 norm. Parochial altruism may have not appeared, possibly because our subjects belonged to the same nation. Another reason could be the short time of our stays in these communities without posing a threat to them.

An important topic for further research is the preference profile switch that was observed in both groups, students and villagers. Specifically, changes from preference profiles about how to divide money that exclude confusion by the subjects. Since this implies that the context from the other person with whom one is playing matters without affecting the consistency of choice.

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Appendix A

Instructions for person A

Instructions for person A# ····· Code/ID#:

Now, you are going to participate in an economic experiment which is an investigation financed by USFQ funds.

Besides the $3 you received at the beginning for participating, you can also earn extra money after this experiment. This extra money will be paid to you in private at the end of the whole process. Each participant can make as much money as they want.

In this experiment, each participant will work in pairs with a random person inside the room. One of the partners will be known as "Person A" and the other as "Person B". You will not know who your partner is neither during nor after the experiment and he/she will not know who you are during or after the experiment.

The experiment will proceed as follows: a sum of $8 is going to be divided between both members of the pair. Person A has to propose a division of the money with a mark in the "Proposal and Decision Form" which was given. Once person A from each pair has made his/her money division proposal, the forms will be collected and will be given to person B (who was assigned through a random process previously). Then, each person B must choose with a mark the option "accept" or "reject" of the money division proposal made by person A. Again, all forms will be collected from person B and will be given to person A. At this time, Person A can check if his/her money division proposal was accepted or rejected. It is clear that both actions taken by person A and B will be completely in private.

Money will be divided as follows: if the money division proposal made by person A is accepted by B, then each person will be granted that division of the money. However, if B rejects the money division proposal from A, neither participant will get any money. It means that each participant will receive $0.

Do you have any questions?

Practice exercise: suppose that you are participant A this time, and that you have $8 to be divided between you and person B:

a) Write down your decision:

b) If the offer was accepted: Then you will receive $\$\cdots$, and person B will get $\$\cdots$.

c) If the offer is rejected: Then you will receive $\$\cdots$ and person B will get $\$\cdots$.

This practice exercise is only played in the beginning.

Please answer:

1. For each one of the following questions underline the correct one:
   a) You are: Person A, Person B
   b) Do you belong to an indigenous ethnicity? Yes, No
   c) Does the other person in your pair belong to an indigenous ethnicity? Yes, No
2. How much money did you earn?

Proposal and Decision Form

Pair A# ····· B# ·····

Proposal and Decision Form

Person A offers	Select only one
\$0.50 for A, and \$7.50 for B	
\$1.00 for A, and \$7.00 for B	
\$1.50 for A, and \$6.50 for B	
\$2.00 for A, and \$6.00 for B	
\$2.50 for A, and \$5.50 for B	
\$3.00 for A, and \$5.00 for B	
\$3.50 for A, and \$4.50 for B	
\$4.00 for A, and \$4.00 for B	
\$4.50 for A, and \$3.50 for B	
\$5.00 for A, and \$3.00 for B	
\$5.50 for A, and \$2.50 for B	
\$6.00 for A, and \$2.00 for B	
\$6.50 for A, and \$1.50 for B	
\$7.00 for A, and \$1.00 for B	
\$7.50 for A, and \$0.50 for B	

Person B decides:
Accept
Reject

Instruction for Person B

Instructions for person B# ····· Code/ID#:

Now, you are going to participate in an economic experiment which is an investigation financed by USFQ funds.

Besides the $3 you received at the beginning for participating, you can also earn extra money after this experiment. This extra money will be paid to you in private at the end of the whole process. Each participant can make as much money as they want.

In this experiment, each participant will work in pairs with a random person inside the room. One of the partners will be known as "Person A" and the other as "Person B." You will not know who your partner is neither during nor after the experiment and he/she will not know who you are during or after the experiment either.

The experiment will proceed as follows: a sum of $8 is going to be divided between both members of the pair. Person A has to propose a division of the money with a mark in the "Proposal and Decision Form" which was given. Once person A of each pair has made his/her money division proposal, the forms will be collected and will be given to person B (who was assigned through a random process previously). Then, each person B must choose with a mark the option "accept" or "reject" of the money division proposal made by person A. Again, all forms will be collected from person B and will be given to person A. At this time, Person A can check if his/her money division proposal was accepted or rejected. It is clear that both actions taken by person A and B will be completely in private. Money will be divided as follows: if the money division proposal made by person A is accepted by B, then each person will be granted that division of the money. However, if B rejects the money division proposal from A, neither participant will get any money. It means that each participant will receive $0.

Do you have any questions?

Practice exercise: suppose that you are person A this time, and you have $8 to be divided between you and person B:

a) Write down your decision:

b) If the offer was accepted: Then you will receive $\$\cdots$, and person B will get $\$\cdots$.

c) If the offer is rejected: Then you will receive $\$\cdots$ and person B will get $\$\cdots$.

This practice exercise is only played in the beginning.

Please answer:

1. For each one of the following questions underline the correct one:

a) You are: Person A, Person B

b) Do you belong to an indigenous ethnicity? Yes, No

c) Does the other person in your pair belong to an indigenous ethnicity? Yes, No

2. Which would be your decision if you have all the following options in order to split the $8? Please mark accordingly on the table, which option will you agree upon and which one would you not?

Money offered to you	Money kept by the proposer	Accept (+)	Reject (-)
US $0.50	US $7.50		
US $1.00	US $7.00		
US $1.50	US $6.50		
US $2.00	US $6.00		
US $2.50	US $5.50		
US $3.00	US $5.00		
US $3.50	US $4.50		
US $4.00	US $4.00		
US $4.50	US $3.50		
US $5.00	US $3.00		
US $5.50	US $2.50		
US $6.00	US $2.00		
US $6.50	US $1.50		
US $7.00	US $1.00		
US $7.50	US $0.50		

3. How much money did you earn?

Appendix B

Questionnaire

Participant information

Name:

Student Code/ID: Sex: M / F

E-mail: Date of birth:

Race: Afro-Ecuadorian / Indigenous / Mestizo / Montubio / White / other $\cdots$

Which ethnicity do you belong to?:

Where were you born and where did you grow up?:

Marital status: Single / Married / Divorced / Free Union / Widow

Maximum level of education:

a) No education

b) Currently in elementary school

c) Completed elementary school

d) Dropped out of elementary school

e) Currently in high school

f) Completed high school

g) Dropped out of high school

h) Currently in college

i) Completed college

j) Dropped out of college

What is your current job status?:

a) Looking for a job

b) Employed

c) Own a business

d) Full time student

e) House maid

Monthly household income:

a) Less than $200

b) Between $200 and $400

c) Between $400 and $600

d) Between $600 and $800

e) Between $800 and $1000

f) Between $1000 and $1200

g) Between $1200 and $1400

h) Between $1400 and $1600

i) Between $1600 and $1800

j) More than $1800

The house or apartment you are living in is:

a) Own without a mortgage

b) Own but still mortgaged

c) Rented

d) Other$\cdots$

Do you think that government intervention in the socio-economic aspects of Ecuadorian families should be?:

a) Greater than it is now

b) Less than it is now

Appendix C

Table C1: Description Data

Var	Name	Data Description
mao	Minimum acceptable offer	US dollar amount accepted by person B
mxao	Maximum acceptable offer	US dollar amount accepted by person B
diffeth	Out-group Treatment	Dichotomous: 1 is out-group
offj	Offer from person A	US dollar amount offered to B
ayora	Field Site	Dichotomous: 1 is for session in Ayora
bataboro	Field Site	Dichotomous: 1 is for session in Bataboro
campus	Field Site	Dichotomous: 1 is for session on Campus
guangaje	Field Site	Dichotomous: 1 is for session in Guangaje
palestina	Field Site	Dichotomous: 1 is for session in Palestina
white	Race	Dichotomous: 1 is subject was white
nssubject	Non-standard subject	Dichotomous: 1 is for a villager
hhwealth	Household wealth	Ordered variable
female	Sex	Dichotomous: 1 is for a female
civil	Civil status	Ordered variable