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Brañas-Garza, Pablo and Rodriguez-Lara, Ismael

Middlesex University London, Middlesex University London

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Pablo Brañas–Garza[*]and Ismael Rodriguez–Lara[†]

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Abstract

What do we expect of others? Do we expect people to be generous? If so, can we attribute this expected generosity to wishful thinking? Are our expectations, to some extent, related to our personal involvement in the outcome or the size of the stakes? This study investigates expectations on generosity by means of a series of controlled experiments. A total of 205 subjects were recruited and their expectations about the dictator's behavior in the dictator game were elicited. Despite differences in the roles, involvement in the game, the degree of social distance or the variation of stakes, the results are conclusive: subjects seldom predict that dictators will behave selfishly, and the

[*]Middlesex University London

[†]Corresponding Author: Middlesex University London. Email: ismaelrl@gmail.com

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majority of subjects expect that dictators will choose the equal split. This, in turn, implies that generous behavior is not only observed in the lab, but also expected by subjects.

JEL Codes: C9, D3, D63, D64

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1 Motivation

We often make expectations about the degree of kindness of those we interact with, even when they are *anonymous* to us. When we ask for a coffee in the canteen we expect that the barista will do his best in preparing our cappuccino. We expect dedication and care when we visit the doctor, when we ask for advice in the wine shop or when we bring our pet to the vet. And this is true not only when we visit our canteen, our doctor, our grocery or our vet, but also when we are on holidays - far from home - and meet people for the first (and, ultimately, the only) time. Most probably, without this sort of *wishful thinking*, we would not travel abroad, since there is always a risk of getting sick, losing one?s glasses, or simply longing forlornly for a delicious cappuccino. Expectations, in turn, grease the wheels of social integration, affecting not only our behavior but also our level of happiness (Frey and Stutzer 2002, Clark 2008, McBride 2010).

But expectations are also crucial in many economic environments.[1] These are associated with herding behavior (Brunnermeier 2001), decisions to trust in the investment game (Ashraf et al. 2006), incentives to undertake or delay

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[1]As a matter of fact, expectations have been taken as a reference point in many economic models (e.g., Loomes and Sugden 1986, Gul 1991, Charness and Dufwenberg 2006, Koszegi and Rabin 2006, Battigalli and Dufwenberg 2007).

a particular decision (Ponti et al. 2014), or cooperation in social dilemmas (Fischbacher and Gachter 2010). At the organizational level, candidates in the job market are offered tenure-track positions based on expectations about their future performance, whereas expectations about peers' performance can influence the level of effort exerted (Cabrales 2010). Expected generosity is also relevant in the principal-agent relationship. Principals may be kind to their employees in terms of monetary or social-gift exchanges (e.g., offering generous wages or providing costly attention to them) under the expectation that competing firms do this as well. Employees may form beliefs about how principals (should) behave, this affecting their decisions about giving up their current job or accepting a particular offer.

This paper is an attempt to explore subjects' expectations about generosity. It elicits expectations in the dictator game (DG for short), which has provided huge experimental evidence of altruistic behaviour in the lab during the last twenty years. The DG is a simple one-shot game with two players: player i (the dictator) is invited to divide a specified amount between himself and player $-i$ (the recipient). The dictator may divide the pie in the manner he sees fit, while the recipient may not make any claim to the money. Theoretically, self-centered preferences predict that player i keeps all the pie and player $-i$ receives nothing; therefore any positive donation can be interpreted as proof of generosity.

Engel's meta-analysis (2011) shows that a huge number of individuals deviate from the selfish prediction (donating zero). On average, subjects donate between 20-30% of the total pie with a non-trivial fraction of subjects choosing the equal split.[2] But do subjects expect this generous behavior in one-shot interactions? The answer to this question may provide useful insights into organizational behavior, as systematic differences in expectations may result in deception (see Khalmetski et al 2013).

Although there is a growing interest in eliciting expectations about the dictator's behavior, literature is still scarce. In a recent study, Iriberri and Rey-Biel (2013) investigated how dictators believe that other dictators will behave, showing that there exists a correlation between the dictator's specific type and their beliefs; e.g., selfish dictators are likely to see other dictators as selfish (see also Krupka and Weber 2009 for the effect of beliefs on behavior). Chowdhury and Jeon (2013) investigate what recipients expect to receive from dictators and test for gender differences, showing that men expect to receive more than women. Along these lines, Aguiar et al. (2009) show that recipients

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[2]Interestingly, some authors find the observed level of donations to be *low*. Frohlich et al. (2001) consider that the absence of social context within a lab experiment generates doubts, which explains the low level of generosity (a similar argument to that of Eckel and Grossman 1996). It is far from the objective of this paper to discuss why dictators donate to the DG. The interested reader can see the recent survey in Cooper and Kagel (2012) for a list of arguments behind generous behavior.

prefer to receive donations from women than from men; as such, donations of the former type are expected to be more generous (see also Rigdon and Levine 2011 for the role of gender on expectations).

The current study's contribution to this literature is to discern the expectations that exist within differing scenarios. Across conditions, the study varies locations, the size of the stakes, the social distance or the degree of involvement in the outcome (e.g., the study uses third party observers to predict what dictators donate or ask recipients to guess not only what they are going to receive, but also what they expect other dictators to donate).

2   Experimental Design

This section explains the different treatments used along this research, the questions the study set out to answer in every treatment and the experimental procedures followed in each stage. The data comes from 205 subjects who made a total of 255 (incentivized) guesses about the dictator's donation.

Condition 1: Recipients in the lab guessing own donations

A total of 100 subjects, all of them undergraduate students from fields other than Economics and Business, reporting no previous experience in experiments, participated in an experiment at the Laboratory for Research in Ex-

perimental Economics (LINEEX), University of Valencia, in February 2013. The experiment was conducted using the z-Tree software (Fischbacher, 2007).

Subjects were randomly assigned to the role of dictator or recipient. Following standard instructions, dictators were asked to make a division of the pie (10 Euros) in integer numbers. The instructions (read aloud by the instructor) made subjects aware that keeping the whole pie was acceptable.

Once the dictators had reached their decision, the recipients ($n_1 = 50$) were privately asked to guess the donation they were going to receive. A scoring rule with monetary incentives motivated recipients to make accurate guesses. Subjects were paid 5 Euros for correct answers, 1 Euro if they failed by just one unit, and 0 otherwise. All participants received a show-up fee of 2 Euros. Subjects earned on average 7 Euros for the 30 minute session. The main question the paper seeks to address using the first condition is:

Question 1 *Do experimental subjects in the lab expect selfish behavior?*

In this experiment, recipients were also invited to guess the donation of *another* dictator in the room, different from his/her own dictator (this constitutes Condition 2).[3] Order effects were controlled for (i.e., half of them first

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[3]At the end one of the beliefs (Condition 1 or 2) randomly selected was paid out. Recipients received this amount in addition to the donation of their matched dictator. Although there is not much evidence for hedging strategies (see Blanco et al. 2010), recipients may have incentives to hedge in the experiment. As should become clear, hedging is possible in some conditions but not in

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made the guesses for their own dictators).[4] Finally, dictators were also asked to guess the donation of another randomly selected dictator in the room (this constitutes Condition 6).

Condition 2: Recipients in the lab guessing other donations

As noted above, recipients in Condition 1 were also asked to guess the behavior of *another* randomly selected dictator in the room ($n_2 = 50$). The same scoring rule was used to incentivize beliefs (i.e., 5 Euros for correct answers, 1 Euro if they failed by just one unit, and 0 otherwise).

The critical difference between Conditions 1 and 2 is that the recipient should feel less involved in the latter. Since they are not guessing the money

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others. It was decided not to use a payment scheme to avoid hedging (e.g., paying recipients only once -i.e., either the dictator's donation or one of their guesses) because it would imply deception against the dictator (who made a donation thinking that a recipient would receive the money). Besides, it was important that dictators make their decision without being aware of the intention to elicit beliefs in the second stage. Along these lines, a noteworthy aspect of the experimental design used in this study is that dictators made their decision as to how to divide the surplus without knowing that recipients in the experiment would make guesses about donations, thus avoiding any strategic giving.

[4]No order effect was found; the distribution of guesses of those recipients who estimated the donation of their dictator first is not different from those who estimated other dictators first (Mann-Whitney U or the t-test, p-values > 0.183).

they are going to receive but the donation to a third person, less wishful thinking is expected. From this condition the following question can be answered:

Question 2 *Do experimental subjects in the lab expect selfish behavior when they are not involved in the outcome?*

Using Conditions 1 and 2, we can see if recipients overestimate (or underestimate) the amount of money they are going to receive compared with what they believe other recipients will get.[5]

Condition 3: Recipients in the field guessing own donations

This experiment was run at the Universidad Autonoma de Baja California Sur (UABCS) at La Paz (Mexico) in 2006. This location was chosen for two main reasons. First, as far as can be discerned, no one had ever run any experiments at that location; therefore the whole population was completely inexperienced. Second, there was an interest in exploring the effect of "high stakes" on expected generosity. Thus, the size of the surplus to be divided (200 pesos $\approx$ 15 US$ $\approx$ 14 Euros in 2006) made a difference. More precisely,

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[5]We can see if the fact of being involved in the outcome has some effect on expected generosity. In the case of the dictator's behavior Brañas-Garza et al. (2009) compare a situation where the dictator divides the pie between themselves and a recipient with another treatment where the dictator divides a pie between two recipients, showing that giving differs in both treatments (see also Croson and Konow 2009).

200 pesos were enough to buy 25 beers at any canteen there at La Paz. This would have cost more than \$50 in the US in 2006 (this amount more than triples the standard pie of \$10 in the DG).

A total of 56 students were recruited the week prior to the experiment. On the day of the experiment, subjects waited in the central plaza of the school near the auditorium. Twenty-eight subjects were randomly selected as dictators ($n_3 = 28$), while the remaining subjects were asked to wait for 15 minutes.

Dictators received a package comprising a large brown envelope with another smaller white envelope inside, containing ten 20-mexican peso bills (200 pesos) and experimental instructions. Instructions stated that the money they wished to keep should be placed within the small white envelope and then in their pockets. The money they wished to donate to the recipients waiting outside had to remain in the big envelope.

When recipients were asked to come in, dictators left by the back door, making communication among them impossible. Each recipient was seated 2 meters away from the place where their particular dictator had been seated and left the big envelope. Recipients received the instructions that their corresponding dictators had left. It was explained that these instructions belonged to the previous participants and then read them aloud. Recipients were informed that they would definitely receive the money in the envelope. They

could earn 80 additional pesos if they guessed correctly the number of bills in the envelope, 20 pesos if they failed by just one unit, and 0 additional pesos otherwise.

The main question under consideration is:

Question 3 *Do experimental subjects (in the field) expect selfish behavior in the presence of high stakes?*

The intention is to assess the importance of the *lab* effect on expected generosity. Another interesting feature of this condition, apart from introducing high stakes, is that recipients received the instructions once dictators left the room. This is not the case with previous conditions, under which instructions are read aloud in front of dictators and recipients (i.e., in Conditions 1 and 2 some credibility issues are minimized). This issue is further explored under the next condition, where the maximization of social distance is attempted.

Condition 4: Recipients in the lab paired with absent dictators

A total of 27 students at the University of Granada were recruited by standard procedures in May 2008. When subjects arrived at the lab they found the experimental instructions and envelopes containing the donations of dictators in Braas-Garza (2007). Again, subjects were asked to guess the donation contained in the envelope using the same scoring rule as in Conditions 1 and 2. Recipients received this amount in addition to the dictator's donation in

the envelope.

This condition and the experiment in Braas-Garza (2007) were both run in the same University but with an interim of several years. Data from this condition therefore differs from previously collected data in that dictators were absent when recipients made their prediction (i.e., recipients did not see any dictator in the room, nor did they receive any information about them). It is important to emphasize that while wishful thinking remains intact - since the subjects are recipients of the money- the social distance is maximized (Leider et al. 2009) since the dictators who did the job were absent when recipients made their guesses.

From this condition the study intends to answer the following question:

Question 4 *Do experimental subjects in the lab expect selfish behavior when dictators are absent?*

Condition 5: External observers guessing dictators' donations

One week after the experimental sessions ran in the LINEEX (see Condition 1) 50 new subjects were recruited. They received the instructions of the game (read aloud) in Condition 1 and were asked to predict dictators' behavior, that is, donations to recipients in the experiment one week before.

Participants were asked to guess the amount donated by a randomly selected dictator. They were not told that they would receive any donation from

these dictators. In line with all previous conditions, subjects were given incentives to make accurate guesses. The same scoring rule was used as before (5 Euros for a correct guess, 1 Euros if they failed by just 1 unit and 0 otherwise).

The observations for this condition correspond to external observers. As in the case of Condition 2, this should allow us to explore the role played by involvement in the outcome. Interestingly, Condition 5 can be interpreted as an extreme variation of Condition 4. In both cases, the dictator is absent but, on top of that, subjects who make their guesses are not going to receive the dictator's donation in Condition 5. Any wishful thinking is therefore eliminated.[6]

This condition will help to understand the following question:

Question 5 *Do experimental subjects in the lab expect selfish behavior when they are just observers?*

Condition 6: Dictators guessing the donation of other dictators

Dictators in Condition 1 were invited to make a second decision after dividing the pie. They had to predict what another dictator in the same area had donated to his or her corresponding recipient. Again, we use the same scoring rule with monetary incentives (5 Euros if they are perfectly accurate, 1 Euro if they fail by one and zero otherwise) to motivate dictators to make accurate

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[6]Besides, hedging is not possible in this condition.

guesses. Dictators received this amount in addition to that which they decided to keep in the dictator game.[7]

Thus, the study proposes to answer the following question:

Question 6 *Do experimental subjects in the lab expect selfish behavior after they divided the pie?*

This condition provides us with new evidence: since these participants were dictators themselves and had already divided the pie, they may have felt that they had some *property rights* (i.e., "owing the game") and therefore might be more likely to predict selfish behavior. Because they were not receiving any donation, apart from what they decided to keep, dictators should not have suffered any wishful thinking.

3   Results

Figure 1 shows the distribution of guesses for each condition. Table 3 summarizes the descriptive statistics by treatment.

The distribution of guesses is roughly the same across conditions and there

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[7]It was deliberately decided to elicit dictators' beliefs after they made their donation to eliminate any *focusing* influence. Krupka and Weber (2009) found that asking subjects about others' behavior before playing the dictator game triggers pro-social behavior, even when subjects do not think that others are generous.

are some behavioral patterns that are worth mentioning.

- First, the largest fraction of subjects expect the equal split (i.e., 5 is the modal value in all the conditions).[8]

- Second, selfish behavior is predicted by roughly 10% - 15% of the subjects, with the remarkable exception of Condition 2 where the recipient has to make a prediction about another dictator: none of them predicted 0.

- Finally, subjects seldom predict donations above the equal split. However, in every session -except Condition 1- there is at least one subject who predicts full donation.

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[8]Also note that a significant fraction of subjects expect 4, which is the median in all the conditions except the one in which external observers guess the dictator's donation (Median = 3)
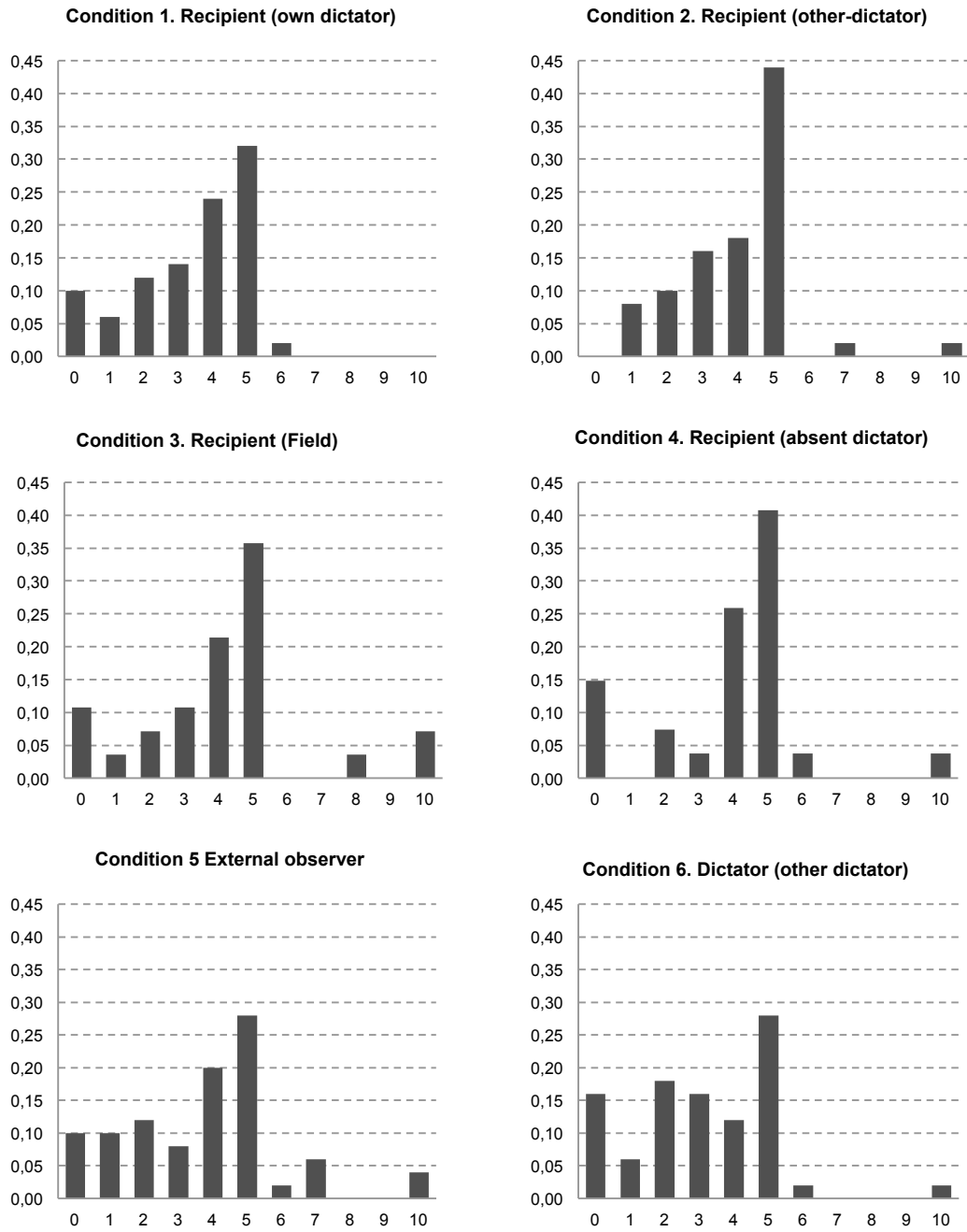
Figure 1: Distribution of guesses by treatment.

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Table 1: Summary of the data

| Condition | | n | Mean | Median | Min. | Max. | Observed frequency | |
							Guess = 0	Guess = 5
1. Recipient	(own-dictator)	50	3.40	4	0	6	10%	32%
2. Recipient	(other dictator)	50	4.02	4	1	10	0%	44%
3. Recipient	(field)	28	4.14	4	0	10	11%	36%
4. Recipient	(absent dictator)	27	3.93	4	0	10	15%	41%
5. External	(observer)	50	3.10	3	0	10	16%	28%
6. Dictator	(other dictator)	50	3.40	4	0	10	10%	32%

Note: The modal value was 5 in every single condition.

The Kruskal-Wallis test cannot reject the null hypothesis that all guesses come from the same distribution at any common significance level ($\chi^2_5 = 7.30$, p-value = 0.199).[9] Pairwise comparisons are performed using the Mann-Whitney test to see if differences are significant across conditions.[10] The value of the statistics is reported in Table 2. Because multiple tests were performed, the p-values are corrected to control the familywise error rate using the Holm-Bonferroni method. The results suggest that there is not a statistically signif-

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[9]This assumes that guesses from Condition 1 and 2 are unpaired. One can also perform the Kruskal-Wallis test excluding Condition 1 or 2, and the results will still hold (p-values = 0.173 and 0.287, respectively).

[10]The Wilcoxon signed-rank test is used to compare Condition 1 and 2.

icant difference between the underlying distributions of any two conditions at any common significance level (p-values > 0.305).

Table 2: Pairwise comparison of distributions across conditions.

	C2 (other dictator)	C3 (field)	C4 (absent dictator)	C5 (observer)	C6 (dictator)
C1 (own-dictator)	1.728 [a]	1.146	1.212	0.934	0.510
C2 (other dictator)		0.005	0.059	2.320	0.848
C3 (field)			0.017	1.750	0.630
C4 (absent dictator)				1.724	0.576
C5 (observer)					1.272

Note: This is a within-subject comparisson therefore the Wilcoxon signed-rank test is used. Because we perform a total of 15 pairwise comparissons, we correct the p-values using the Holm-Bonferroni method. The smallest of the unadjasted p-values is 0.020 (when comparing Conditions 2 and 5). This is not smaller than $\alpha/15$ so we fail to reject the null hypothesis that guesses in Condition 2 and 5 come from the same distribution at any common significance level α =0.10,0.05,0.01. The rest of the null hypotheses are therefore rejected.

The subjects' expectations are further investigated by means of an econometric analysis. Table 3 reports the estimates of four different specifications that attempt to predict what subjects expect that dictators will donate. These specifications are frequently used to model the dictator's behavior (e.g., see Engel 2011). The results of the first specification are reported in Column (1) and refer to OLS regression. Because there is a fraction of subjects that predict selfish behavior or the full donation of the pie (see Figure 1), one may argue the data to be censored. In that case, a Tobit model may be more appropri-

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ate. Column (2) reports the results of a Tobit model. The hurdle model also accounts for the "spike" in the zero donation, but assumes that the forces affecting the willingness to guess a positive amount may differ from the ones that determine what subjects expect dictators to donate (see McDowell 2003). The hurdle specification therefore assumes that subjects have to decide whether to guess any donation at all with a logit model (Hurdle0), and only then does the process determining the positive guessing apply (Hurdle+). Estimates for these specifications are reported in Columns (3) and (4), respectively. Finally, Column (5) reports the results of a logit model to test if there is a difference in subjects predicting the donation of the equal split.

In regressions (1) and (2) the value of the constant is significantly different from zero, which indicates that subjects expect a positive donation from the dictator. The negative (and significant) value of the constant in Hurdle0 can be interpreted as subjects not being likely to predict the zero donation, whereas the negative value of the constant in regression (5) suggests that subjects expect less than an equal split.

In line with the findings presented in Table 3, guesses are found to be consistent across conditions (i.e., none of the dummy variables are significantly different from zero).[11] This, in turn, indicates that generous behavior is ex-

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[11]Interestingly enough, Condition 2 (in which recipients make guesses for other dictators) is excluded from the analysis in Column (3) (Hurdle0) because it perfectly predicts guesses. This

Table 3: Econometric results for guesses about the dictator's donation.

	OLS	Tobit	Hurdle0	Hurdle+	Logit5
	(1)	(2)	(3)	(4)	(5)
C2 (Other dictators)	0.620	0.717		0.102	0.513
	(0.41)	(0.44)		(0.42)	(0.42)
C3 (Field)	0.743	0.747	0.077	0.355	0.166
	(0.48)	(0.53)	(0.77)	(0.50)	(0.50)
C4 (Absent dictator)	0.526	0.489	0.448	0.342	0.379
	(0.49)	(0.53)	(0.72)	(0.52)	(0.49)
C5 (Observer)	-0.300	-0.368	0.539	-0.037	-0.191
	(0.41)	(0.45)	(0.61)	(0.44)	(0.44)
C6 (Dictator)	0.320	0.325	0.000	0.149	-0.191
	(0.29)	(0.31)	(0.47)	(0.31)	(0.30)
Constant	3.400**	3.303	-2.197**	-0.499	-0.754*
	(0.289)	(0.315)	(0.471)	(0.307)	(0.303)
n	255	255	205	230	255

Note: Robust standard errors in parentheses. The hurdle model (Hurdle0) considers 205 observations because recipients never predict that other dictators will donate zero (i.e., Condition 2 is not taken into account in the analysis). Hurdle+ relies on the 230 observations that correspond to positive guesses. Significance at the *5%, **1% level.

pected regardless of the location, the degree of involvement in the outcome, the social distance or the size of the stakes.[12]

4   Discussion

This paper studies expected generosity in dictator games. Subjects' expectations about the dictator's donation were elicited in a series of experiments, varying the degree of involvement, the social distance, the possibility of hedging, the size of the stake or the location of the experiment. Regardless of all the different conditions the results are systematic in showing that subjects expect generous behavior and seldom predict selfish behavior. In fact, the equal spit systematically appears as the modal guess in all the conditions.

Recent experimental evidence suggests that a large fraction of people consider "cooperation" as the default option (e.g., Rand et al. 2012, Gachter 2012). The current study's results highlight that generosity is also the (expected) default option in one-shot interactions. Perhaps the simplest expla-

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occurs because recipients never predict that other dictators (different from their own) will be selfish.

[12]An interesting question to be addressed concerns the accuracy of beliefs. We find that subjects are quite accurate in their predictions, and we find no significant difference between expected and actual donation overall, or within each condition. This is consistent with the findings of Dreber et al. (2013), where dictators' behaviour and recipients' expectations are also found to be robust to framing effects (e.g., giving versus taking games).

nation is to consider that the social norm (choosing the equal split) is well-internalized and thus becomes the de facto rule, which is then reflected in subject expectations.

This, in turn, may be important in the studies of charitable giving (List 2011) or in organizational literature. Although principal-agent interactions might be subject to strategic behavior or repetition, the clear-cut results suggest that if principals expect other principals to be generous with their employees, they may be likely to offer generous contracts. Similarly, if agents expect their principals to be generous, they may be less likely to quit their current job.

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