DON'T LET ME DOWN

Are elected representatives less corrupt?

by

Hajnalka Katona

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Supervisor: Alessandro De Chiara

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Abstract

In this thesis I have conducted and run an experiment on corruption. My setting has tested if elected representatives act more honestly than those who are just randomly selected when faced with a corruption opportunity. The sample consists of young people (20-30) from different occupations. The results on this sample show that the players who have been elected act more honestly and they think that others expect them to be more honest as well.

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Introduction

In today's world one of the most burning issues is corruption. We hear about it from the everyday news, we see it in our everyday encounters and sometimes we even face it in our own decisions. We can define corruption as any behaviour that involves dishonest actions by those in power.

When people hear the word 'corruption' they identify it with an inevitable accompanying phenomenon of politics. We can see that it is not just a theoretical problem. Transparency International (2017) makes an estimated Corruption Perception Index which describes how a country's citizens feel about its corruption status. 176 countries fell below the midpoint of the scale in 2016. On a 0-100 scale only 22 countries are above 70 points. These data show that most countries face serious problems concerning their public sector. Even though everyone knows it exists and everyone wants it to disappear there are not so many discussions about how to end it.

One of the reasons for this is that it is hard to measure its scale and find out who stole money and how. Because of its hidden nature we cannot investigate corruption by looking at databases and finding out what policies were effective to lower corruption and what were not. That is why we need other methods to have a deeper knowledge of the background of this dishonest behaviour.

Since acting corrupt is the result of the decisions of the agents it is clearly a good idea to use experiments to see how different situations affect these decisions. Given that experiments are conducted properly, they mimic real life in an essential aspect: no one will know who acted honestly and who was dishonest. In this way participants are not accountable so they can act like they would do in real life.

The stakes may not be that high as in real life political corruption situation, but for a regular person even smaller but significant scale payoffs can be luring. These are good incentives to act according to the real world preferences even though there may be a threshold above which people 'give up' their honesty and most probably experimental payoffs are not reaching that. But the harm is much less than what can be caused by corruption in real life so if we look at the ratio of (social) cost per benefit I think experiments may perform well compared to real life situations.

One of the drawbacks, however, is that in all experiments experimenter bias appears. This means that people act according to what they think is expected of them just because they are aware that they are observed. This usually means they act more honestly because they want to be seen as better people. Even if they are sure that their anonymity is safe they may still be unconsciously affected. Of course there can also be a bias toward dishonest behaviour if they realise that the experiment is about corruption and they think the experimenter wants them to be corrupt. That is why it is hard to determine how experimenter bias would distort the results.

With all its faults and limitations experiments are still the only way to test different policy effects on corruption. This is because we cannot observe real life corruption, and because no corrupt politician would make any law against corruption. But if scientists get to know how we can lower corruption there may be some ways to enforce politicians to make these changes and so corruption would be lower.

In this thesis I conduct and run an experiment that is designed to deal with the difficult duty of exploring corruption. I create a close-to-real life situation where people need to contribute to the common as they do in the real economy with taxes. Then a representative of each group is selected to announce the state of the world. The difference between the selection of the representatives in the treatment group and in

the control group is that in the treatment group they are elected and in the control group one of them is just randomly selected.

From the literature I expect that elected representatives act more honestly because they know that those who elected them have expectations towards them not to steal their money. I argue that this in itself is enough of a motivation for people to raise the inner cost of corruption and lower the probability of stealing. Of course we need to realise that in real life there is self-selection since people choose to have a political carrier. This may result in a different distribution of leaning to corruption in politicians and in a representative sample of the population.

My results show that on a sample of mostly young (20-30) people the elected representatives did act more honestly than their randomly selected counterparts. The experiment also showed that these representatives think that people have higher expectations towards them. This means that in fact one of the underlying processes that drives people to act honestly is not to disappoint people who expect them to represent them fairly.

Sadly I also observe that even those who acted more honestly were not very honest in absolute terms. Randomly selected representatives have a probability of lying of 49% and this was 31% for elected ones. Clearly these are still large numbers but the difference between them is significant.

My results are from a small experimental sample and they need further strengthening. But my findings show that the more directly elected decision makers are in a country's leadership the less chance there is for them to steal the public's money.

I present the relevant literature in the next section. Then I introduce my experimental setting in the third section and investigate its predictions and drawbacks in the fourth

one. I describe the data I used in the fifth section and I also provide covariate balance tests to prove that the selection into the two groups was random. The results are shown in the sixth section and I conclude my finding in the final section of the thesis.

Literature review

We can divide the experimental literature on corruption into two broad categories, depending on whether only the bribee's behaviour is analysed (unilateral) or the briber's behaviour is also studied (bilateral).

The first experiments about corruption were mostly bilateral. The basic one for this category was set in 1993 by Fehr, Kirchsteiger, & Riedl. It had three participants, the briber; the agent who received the bribe; and the third party who determined the wage of the agent and also suffered a loss if the bribe was accepted. They found that people almost never offered bribe but if they did then the agent did not accept it. The boss always paid the higher wage to the agent. Their results showed that people behaved way more honestly than what game theory predicted. From the purely rational game theory perspective we would expect people to maximise their material payoff that can be achieved by being corrupt in this setting. Corruption is also part of our everyday news which suggests that most people act dishonestly if they have a chance to.

Another bilateral experiment was the so called moonlight experiment by Berg, Dickhaut, & McCabe (1995), where the agent's boss gave him an amount of resources which he could steal or use (i.e. pass back). If he passed it back it tripled and the boss could decide on the distribution between the two of them. The principal could also punish the agent if he thought he had stolen the amount. The results showed that the principals always punished the agent when he stole the resources, even though it reduced their own outcome too, but when the agent did not steal they did not reward him (namely, the principals did not split the amount in half or close to that).

Nowadays, most researchers often use the setting developed by Abbink, Irlenbusch, & Renner (2000). This was a simple experiment, where the agent could accept or

refuse the bribe. Their main interest was to see whether or not the decision makers who are explicitly informed that their actions have negative consequences on a third party change their behaviour to be more honest. They also checked the effect of "sudden death" punishment, which meant that if the boss found out that the agent accepted the bribe he lost his job immediately. They found that negative externality on the third party had no significant effect. The introduction of sudden death had some effect but the agent usually underestimated the probability of getting caught.

Later the same authors added different states of wages (low and high) (Abbink, Irlenbusch, & Renner (2002)), but they found that, unexpectedly, it had no effect on the bribees' behaviour. Abbink (2004) improved their experiment again, trying the effect of staff-rotation, which turned out to reduce bribery significantly.

Other experiments tested the effect of context on the agents (Abbink and Hennig-Schmidt (2006)), gender bias (Rivas (2013)) and different types of monitoring (Serra (2012)). The latter showed that citizens' option to report bribees is more efficient than top-down monitoring. There were no effect from the context but females tend to be less corrupt.

There were also a lot of experiments with unilateral settings. The first one I found was set by Frank & Schulze (2003). They put students in a real life situation. They made a film club where the club's money got stuck in a pipe. The students needed to choose someone to get the money out of the pipe. The options were listed on paper and they either offered a bribe or not. The students could either chose one that offered a bribe or one that did not. One of the students was selected and his choice determined the resolution of the situation (so they hired that person who he chose and the student got the bribe if he chose one that offered it). The amount that stuck in the pipe minus the amount of bribe was the final budget of the film club.

The treatments they used were high and low wage bias and punishment (meaning they could get caught with an exogenously given probability and then they got punished). The results showed, similarly to Abbink et al. (2002), that wages had no effect in the basic setting, but when punishment also played a role higher wages caused significantly less corruption. Punishment had its usual effect in all scenarios.

Another experiment was conducted by Azfar and Nelson (2007). They had eight participants, one of whom was the officer (first randomly chosen). He got some tiles, both worthless and non-worthless. He was the only one who knew the amount of worthless tiles. He needed to decide how many non-worthless ones to keep and how many to give to the citizens.

They had several treatments for this experiment. One of the most important ones was the introduction of an attorney who could take a look at the tiles the officer kept (turn two for free and two more for a given price). In one scenario the attorney was elected, in other just randomly picked. Attorneys were generally active; most of the time they even paid for turning tiles. They were more active when they were elected. It only happened if someone was non-elected that he did not even take a look at the free tiles.

Usually officers gave all the non-worthless tiles to citizens (74% of all). A higher wage reduced the corruptibility; transparency (controlled by the number of worthless tiles) also had the expected effect, with higher transparency came lower corruption but this effect was not clearly significant. Surprisingly the elected/non-elected status of the attorney did not have any effect on the behaviour of the official, which is strange given that elected ones were significantly more active.

Other treatments were also tested by different papers, Drugov et al. (2011) tested the effect of communication; Lambsdorff and Frank (2010) introduced whistle-blowing; and

Schikora (2011) tested how cooperation changed the results. Armantier and Boly (2008) showed that field studies and experiments have the same results, so it is plausible to use experiments as an easier way to examine this topic.

One of the undeservedly understudied issues in corruption experiments is how the democratic election of public servants affects their behaviour. There is some evidence that in a corruption setting an election can lower dishonest behaviour. For example in the experiment by Azfar and Nelson (2007) mentioned above we saw that the attorney was more thorough if he was elected. But in that game they also tested what happens when the decision maker is elected. Their results show that election was only effective in reducing corruption if the official could be re-elected because then the fear from losing office forced them to act more honestly.

Barr et al (2009) conducted an experiment on Ethiopian health care employees. They had a principal-agent setting where the agent provided service for a third party. Although he was being monitored the agent could engage in corrupt behaviour. They found that if the public servant is elected by the service recipient then he provides better service to them.

I argue that not only the fear of re-election but also the aversion to disappointment alone can result in lower corruption in the case of elected officials. This phenomena means that people's utility is lowered because they cause disappointment to others. As it was shown by Heintz et al (2014) this plays an important role in people's decision.

Balafoutas (2009) also pointed out bureaucrats tend to behave more honestly if they think that the public expects them to do so. He also provides evidence that in a corrupt environment the public updates their beliefs and thus lowers the disutility from aversion

to disappointing. Since they expect the official to be corrupt he does not feel like letting the public down when he actually steals the money.

Dong et al (2008) also found that the willingness to act dishonestly is affected by the perceived behaviour of the community. With my experimental design I investigate if election alone leads to an increased aversion to disappointing in decision makers.

In Drazen and Ozbay (2016) participants were divided into groups of three and they were assigned different roles. There were two candidates in each group and one citizen who voted for them. When he elected the winner he then decided on a policy. Each participant had their type indicated by a number (from 0 to 100) and the policy should also be chosen as a number. Everyone got a higher payoff if the policy was closer to their number. Elected decision makers favoured the citizen more than themselves or the other candidate.

In Brandts et al (2002) elected decision makers were also more pro-social. In that experiment three players were grouped together and one of them chose to enter a dictator game (as opposed to an outside option). If they entered it he could either elect the dictator or he was randomly chosen. Elected dictators were more generous but they favoured the electorate more than the other player.

My experiment is different from the previous ones because it studies only the pure effect of election on behaviour. There is no chance of getting re-elected and there is no chance of getting caught. I am only interested in whether getting a position by election in itself is enough for people to act more honestly. I examine it with a unilateral experiment described in the following section.

Experimental setting

In my experiment I use a public-good game (PGG) modified so as to create opportunities for corruption. As far as I know there have not been any corruption experiments tested in a PGG setting, and none of them asked my same research question. Its advantages are that it is a well-defined game, which is easy to understand for the participants and their actions have clear interpretations.

In this game, social preferences and cooperation play a big role in determining the behaviour of the participants. At the same time, these factors are also important for investigating corruption. Since the aim in every experiment should be to resemble real life as much as they can, PGG is the best setting I know that mimics public good decisions in which the corruption risk is very high in real life.

In the typical PGG each player is assigned to a group (three players in my case) and each of them independently and simultaneously needs to decide how much they contribute to the shared budget. The sum of the contributions is multiplied (usually by 2) and then distributed equally among all players. They keep all the money that they did not add to the common project and that is not changed in its value at all. The typical PGG setting is usually run to analyse the relevance of the free-rider problem, according to which an individual may refrain from contributing to the public good while enjoying the benefits stemming from other participants' contributions.

To fulfil my goal of studying corruption I modified the standard PGG. One of the three players is the decision maker (representative) and the others are the citizens. In my setting corruption can occur through asymmetric information. There are two equally likely states of the world: recession and boom. The contributions are multiplied by 1 and 2 respectively and then distributed equally among contributors. Only the

representative is able to see the real state of world. He needs to report the state of the world to the citizens, but he can falsify the information when there is a boom. If he reports that the economy is in a worse state than it actually is the citizens get the money according to his report. The representative keeps the remaining contributions, namely he embezzles the money. Everything is common knowledge prior to the experiment.

I compare two treatments which only differ with respect to how the representative is selected. This allows me to determine whether the selection procedure of the expert affects embezzlement and corruption expectations (elicited by observing both true contributions and beliefs). Specifically, in the control group the representative is randomly selected whereas in the treatment group the representative is elected by the participants. The election result is based on majority rule (where participants cannot vote for themselves) but in case of a tie the vote of one randomly selected participant determines the winner. The participants know that this is the method but the representative does not know if he was elected by majority or according to the vote of one participant.

My expectation is that an elected representative feels more responsible towards the citizens, who have entrusted him, than a randomly-selected one. Being unwilling to disappoint their trust, the elected representative will be more unlikely to misreport the state of the world. This will be anticipated by the citizens and will boost their contributions.

The timeline is as follows. First the three subjects decide how much to contribute (it must be any integer amount between 5 and 20 ECU). Then, after observing each other's contribution the representative is selected. The representative provides his strategy for the boom state of the world (i.e., the content of the report contingent on

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the true state of the world). The state of the world realises and the subjects receive the contributions according to the report.

It is a one-shot game so it is possible to rule out that the fear of not getting re-elected lowers corruption. But groups are rotated to gain more observations. Each player play the PGG three to six times (depending how many participants attended the sessions), every time with randomly selected other two people. This way I have observed more decisions for each player. The subjects do not see the outcomes right after each round, instead they see all of them at the end of the session. If they have observed the outcomes, their expectations toward the expert could have been distorted (e.g., if the reported state is recession they may infer that the expert is corrupt even though he may not have misreported the state).

After each round I ask them about their expectations concerning corruption (this is also why it is better not to show them the outcomes right away). From the representative I ask what he believed the expectations towards him were regarding honesty. Specifically he need to indicate how many citizens thought he have lied to them about the state of the world. The citizens are asked if they thought the representative lied to them.

At the end of the session I ask the subjects to fill out a questionnaire containing demographic questions, cognitive reflection tests, and questions regarding social preferences and corruption perceptions.

Participants got a 500 HUF show-up fee and their payoff according to their group's decision (between approximately 1000 and 3000). They were only paid after one randomly chosen round.

Other than the questionnaire part of the experiment everything was played on a computer so the participants did not interact with each other in person. The experiment was programmed and conducted with the experiment software *z*-Tree (Fischbacher, 2007). The screenshot of the stages of the experiments can be found in Appendix 1. The questionnaire is attached in Appendix 2 in Hungarian and in English too. This was provided in paper because that is not an unusual format how people respond to questionnaires so it seemed unnecessarily complicated to do it on computer. The results were later digitalised by myself. Finally the instructions are also in Appendix 3 in both languages.

Predictions and drawbacks of the setting

In my experiment there is one treatment and one control group. In the former group participants have three decisions to make such as contribution to the common, voting and then only the representatives make the decision about corruption. In the control group there is only two of these options since they do not need to vote.

My main interest concerns the decisions of the representatives. They have to choose between the honest and the dishonest but materially preferable options. I predict that because of aversion to disappointing those who were elected to be the representative of their group would act more honestly. Since they are technically asked by the other members to make this decision they may think that the citizens expect them to act in a way that is in the best interest of the citizens. They do not want to disappoint them so they act honestly. On the contrary those who were randomly picked have no expectation from the others so they can be opportunistic and seize the possibility to increase their payoffs significantly. So I expect to have a significant difference in the behaviour of the representatives of the two kinds.

The other decision that everybody faces is how much money to contribute to the common. My prediction here would be that those who know that there will be an election in their group would tend to contribute more. This can be because they have higher faith in that the elected representative will not embezzle their money. Or it can be because they would like to be the representative and they think if they contribute more that increases their chance of being elected. This later logic may be challenged because of iterated expectations that I explain below. But either way it is interesting to see if the existence of election in the system alone can increase public good contributions.

This leads us to the last decision that is in the game: voting. This is only a decision to make for the treatment group. Here I do not have clear expectations because my two hypotheses contradict each other. One could assume that people would vote for the person who contributed the most because they think this is some kind of signal of their pro-socialness. But if everyone realises this strategy those who are seeking the possibility of embezzlement may offer more money at first so they have a better chance of stealing even more. If citizens reach this step of iteration they may not vote for those who contributed the most because they recognize them as opportunists. So I do not have a clear prediction of the connection between contributions and received votes. This interesting question may be answered by the data.

Finally, records of expectations also play a big role in strengthening my theory. For my hypothesis that aversion to disappointing is the key to incentivise representatives to act more honestly three patterns should be observed. First, elected representatives should in fact act more honestly. Then citizens must expect them to be honest and finally representatives must realise this and report that they think citizens expected them to be honest (and randomly chosen ones should not report the same).

I think my setting does a good job capturing these aspects of my theory but of course it has some possible drawbacks. One of them is that it is hard to get the real initial expectations from the participants ex post.

The other problem is that the contributions may affect the decision of the representatives. If they know that they contributed more than the others they may feel that their corruption is justified. Because they gave more to the public they may feel that they need to get back more as well. That is why it is important to control for the contributions in each game (both control and treatment one). But if the results show that in the treatment group people actually contribute more to the common and still

representatives are less corrupt that makes the effect of election on honesty even stronger: that is they resist the temptation to embezzle money, despite this option being more tempting.

I choose to have the PGG played before the election period because this gives a basis on which they can elect their representative but it can also mean that more socially sensitive people are playing the role of the representatives in the treatment setting and that results in lower corruption. For this I would try to control with the questions regarding willingness to corruption and social preferences.

Data

I was lucky enough to have the same number of observations for both the treatment and the control group. I had 27-27 participants for both. They were recruited through Facebook and were randomly selected into one of the categories. All participants were Hungarians and had Hungarian as their native language. Since the instructions were in Hungarian too this allows for the lowest possible misinterpretation of the setting. Most of the participants were student but around one third of the participants are working already. The field they study or occupation varied from confectioner to accountant but probably economists were the biggest group from all.

The main variable of interest is the decision what to report when there is a boom. Thanks to strategy method I have 45-45 observation for this that I collected from the representatives of each groups. Two other variables can be interesting to look at: one is the contribution of each person for which I have 135-135 observations. The other is people's voting decision that was only observed in the treatment group so I have 135 observation only.

I also have plenty of control variables. Cognitive reflection test was measured by three logic questions described in Appendix 2. Social preferences were measured by a fictional dictator game and risk aversion by a fictional investment question (find both in Appendix 2). Willingness to corruption was measured by three everyday life corruption situations that I got from K-monitor's corruption test (2015) (also attached in Appendix 2). Besides these I only asked for their gender because almost all participants were between 20-27 years old so there was no variation in age differences. To prove that the composition of the two group is not different I will present some covariate balance statistics using these variables. I present the covariate balance data in Table 1.

	Control group	Treatment group
Number of participants	27	27
Female	19	17
Amount given to risky investment	4600	5000
Amount given in dictator game	300	350
Max CRT points	15	16
Corrupt in at least one	21	25

Table 1. Proof of covariate balance in the control variables

The first and obvious thing to see if there are proportionally more or less of some gender in one of the two groups. In the treatment group 17 of the participants were women and in the control 19 as seen in Table 1. That means we can think of the two samples as same considering gender.

Then I took a look at the amount they invested in the risky business and I also found no real difference. The results are presented in Table 1's second row. Both group had an average of around 5000 HUF (from 10.000 HUF that is around 32 EUR) that they invested. Same is true for the amount they gave to the others in the dictator game which is in the third row of the same table. From 1000 Ft people in the treatment group gave 350 HUF/1.13 EUR on average and people in the control group gave 300 HUF/0.97 EUR which is not a significant difference at all. This difference is even smaller if we take out one outlier from the treatment group who gave all the money to the receiver.

With respect to the result of the cognitive reflection test more than half of both group (16 in treatment and 15 in control) got all the answers right (see Table 1) and the other

few are equally distributed between 0, 1 and 2 correct answers from 3. This means their cognitive abilities are also the same in distribution.

Finally, I checked their willingness to engage in corruption. Most people (16 in treatment and 13 in control) answered positively to corruption situations in 2 cases out of 3. This means they would have acted dishonestly in these situations. The other few are again equally distributed so this property of the participants is the same on average in the two groups too. But Table 1 shows that from 27 more than 20 would have engaged in corrupt behaviour in both groups.

The statistics of variables that describe the decision of the participants will be presented in the next section where I introduce the results of my analysis.

Results

When I looked at the mean differences between the frequencies of reporting the true state in case of a boom I found that those who were elected were more honest on average than those who were randomly selected. Out of the 45 observations only 23 were honest from the control group but 31 told the truth from the treatment group.

I also looked at the two distribution with paired t-test which showed a negative difference for the randomly chosen representatives. The results are shown in Table 2 in the first row. They had on average just 50% chance that they would not lie. The elected ones only had a chance of 70% for being honest. The significance level of the difference was around 7% so this method only showed a significant difference on the 10% significance level.

	Elected average	Random Average	Difference	P-value
Honesty	0.6889	0.5111	-0.1778	0.0660
Representatives' Expectations	0.9333	1.2444	0.3111	0.0497
Citizens' expectations	0.4222	0.5444	0.1222	0.0545
Contributions	13.0667	12.9623	0.1038	0.4256

Table 2. Distributional differences in the dependent variables between the two groups

Then I compared the proportion the representatives thought would expect them to lie. This number was much less for the elected representatives that is they thought more people expect them to be honest. Out of 45, it was only 29 times that at least one of the other group members think they falsified the information. In the control group the representatives thought 38 out of 45 times that at least one citizen expect them to lie. The paired t-test showed a negative difference for the elected ones in this case. This means that they thought the citizens had higher expectations towards them. These results are also shown in Table 2 (in the second row). Randomly chosen representatives expected on average less than one people to think that they would lie. The representatives in the control group expected slightly more than one. This difference on the 5% level so we can reject that there is no difference between the representatives' expectations in the two groups.

It is interesting to see that although elected ones think that there were higher expectations towards them and they did act more honestly they were not that honest themselves. Also randomly selected people did not think that the public had really low expectation towards them either. The correlation between the assumed expectations and their choice of honesty is not that high. The two variables have a correlation of - 0.35 which means that if they think that people expect them to be honest they tend to act more honestly but not that much. It is interesting that the correlation is higher for the control group (-0.36) than the treatment group (-0.30) so randomly selected representatives may be more affected by the expectations towards them once they realise these expectations exist.

We can also see the expected pattern in the behaviour of the citizens as presented in Table 2's third row. On average the citizens in the control group expected the representatives to lie 49 times out of 90 which is slightly more than half of the time. Those who elected their representative only expected them to lie 38 times. The paired t-test showed a positive difference on a 10% significance level but we can see in Table 2 that the p-value is just a bit more than 0.05. This means that those who could elect their representative expected him to be more honest.

From these simple statistics we can see that the citizens have higher expectations towards their representatives than those whose representative gained their position due to pure luck. These representatives realised it and they act more honestly than their lucky counterparts. But we can also see that even these representatives are not that honest. Moreover randomly chosen ones think the public expects less of them but these are still not really low expectations. The observed expectations of the public justify these thought of the representatives since they do expect elected ones to be more honest.

Finally, I observed how the contributions are different in the two settings. There seems to be no difference in the distribution of the contributions between the two groups. Both group has an average 13 for individual contributions. The paired t-test did not show any significant difference in any reasonable level of significance as it is shown in Table 2 in the last row. So my hypothesis that people would give more when they know there will be an election was rejected.

To have a clearer view on the causal relationship between election and honesty I present some regression results in the following paragraphs. All the detailed regression outputs can be seen in Appendix 4.

	Hoposty	Representatives'	Citizens'	
	nonesty	expectation	expectations	
Treatment	0.1744**	-0.3063**	-0.1052	
freatment	(0.1013)	(0.1590)	(0.0737)	
Sum of	0.0108**	-0.1556**	0.0045	
contributions	(0.0058)	(0.0091)	(0.0042)	
Amount given in			-0.0004*	
dictator game	-	-	(0.0002)	
R-squared	0.0701	0.0722	0.0516	

Table 3.	The	effect of	the	treatment	on t	he three	main	depend	dent	variables

First, I regressed the dummy variable that describes the representatives' choice on the treatment dummy. Results are shown in Table 3 in the first column. The honesty variable takes the value of one if they told the truth and zero if they lied. No control variable had any significant effect so gender, social preferences and cognitive abilities are not important in determining how honestly one would act in this situation. These are not present in Table 3 because in the final regression I only had two explanatory variables:

honesty = $\alpha_i + \beta_1 *$ *treatment dummy* + $\beta_2 *$ *sum of contributions* + ε

Other than the main explanatory variable only the sum of all contributions in the representative' group had an effect on honest behaviour. For this reason these two are the only variables that were included in my regression. The treatment dummy has a positive effect as shown in Table 3's first column. It is significant at the 10% significance level. The variable for the sum of the contributions also had a positive significant effect as it is shown in Table 3. The higher the contribution of the group, the lower the chance for the representative to be corrupt. This can be because if the group is more pro-social the representatives feel bigger guilt if he steals the money. But even after controlling for contributions I got a positive effect from the treatment. So being elected alone lowers the probability that the representative would lie.

I also checked if being elected was a result of the contributed amount by the later elected person but there was no significant relationship between them. The results are presented in Figure 6 in the Appendix 4.

Then I considered the expectations of the representatives about the citizens' expectations:

 $representatives' exp = \alpha + \beta_1 * treatment dummy_i + \beta_2 * sum of contributions_i + \varepsilon_i$

The regression results (Table 3, second row) show that both the treatment dummy and the level of contributions have a negative effect on how many people the representatives expected to think that they lied. Both variables are significant at a 10% significance level. This means that being elected makes the representatives think that the citizens expect them to be more honest. Also if the contributions are higher they think that the citizens expect them not to embezzle the money.

But do the citizens actually expect the elected representatives to tell the truth? To investigate this question I run the following regression:

citizens'exp =
$$\alpha_i + \beta_1 *$$
 treatment d. $+\beta_2 *$ sum of cont $+\beta_3 *$ dict. amount $+\varepsilon$

My regression results shown in the third column of Table 3 say they do not. The effect of the treatment dummy on the expectation of the citizens has a close-to-zero coefficient and it is not significant. From this it can be concluded that those in the treatment group did not expect their elected representatives to act more honestly than those who are in the control group. The sum of all contributions did not have any effect either but not surprisingly social preferences did. These were measured by a fictional dictator game and we can see that the more people gave to the receiver in this game the more they contributed to the common.

With the regression results I got a more detailed view on how the election treatment affected the decisions of the people. We can see that elected representatives are indeed more honest. But the results show that the citizens do not expect them to be. However those who were elected thought that the citizens expected them not to lie so I still argue that aversion to disappointing plays a role in their decision to tell the truth and not to embezzle the money.

Conclusion

In this thesis I attempted to get a closer look on how election influence the honesty of people's action. For this reason I conducted and ran an experiment that mimicked real life situations as much as I could arrange it to.

The base of my experiment was a slightly modified public good game. I added a feature that described real life economy such as there could be a boom and a recession. This made an opportunity for corruption because in my world only one person of each group could see in which state the economy is. If they reported recession when there was a boom they got to keep the extra profit the common project made and so they embezzled the money of their group.

My question was how different people act if they are elected or if they are just randomly chosen. I hypothesised that elected ones will act more honestly and for the reason that those who elected them expect them to do so. If they realise that the public wants them to act more honestly there is a disappointing effect which lowers the representatives' well-being and so they tend to have a lower chance to steal the money.

And this is exactly what the results show: elected representatives are 18% more likely not to steal the money. Questions about their expectations also show that they thought that the public expects them to be more honest. From the results it is also clear that the public expected them to be more honest.

If my results hold in a bigger sample and in real life situation then this means that we should aim to have more and more decision makers elected directly because that lowers their chance to steal the money.

Of course there is a self-selection in who chooses to be a politician and my results may differ on a sample consisting only of politicians. It would be interesting to see how they would perform in an experiment like this. This is practically impossible because I am sure they would not act as they would in real life because they are afraid that somehow their results would be found out by the public. But maybe if the experiment could be run on university students who are preparing for political carriers that could have a better description of how election really affects politicians.

Like all of the experiments, mine had has a number of drawbacks. It is hard to get the real initial expectations of the participants since expectations are asked after the decisions. There are not many observations as I could only arrange to get 45-45 observations for the representatives in each group.

There are also possible extensions for this experiment. In my setting I ruled out reelection because my interest was the effect of election through aversion to disappointing only. It would be interesting to see how repeated rounds would change the behaviour either because of the fear of not getting re-elected or because citizens adopt their expectations according to the behaviour of the representatives.

It would also be useful to run on different composition groups. One is – as I mentioned above – to run with political students only. But it would also be interesting how different nationalities perform. I only had Hungarian participants but the results would most probably differ for participants from other countries.

The results of the experiments reveal that election is a good tool to make politicians accountable. But we also need to keep in mind that it is very important to elect capable people to these roles. For this I think the best policy would be to educate the public to realise how big their role is in choosing the right person and also to force parties to have a detailed program and description of what there nominated potential representatives are good in and why are they a suitable choice for the role.

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Appendices

Appendix 1. Screenshots of the experiment

<u>A1.1. The experiment for the treatment group</u> (English instructions are below the pictures)

1st step



Kérlek minden körben írd le a saját számodat, majd nyomd meg az OK-t! Please write down your number in every round and then click OK!

2nd step

kör					
	1 per 1				Hátralevő idő [sec]: 27
		Arondolkozásado	állá nánz KVE bon 00		
		A hozzálárulásod a proj	ekthez (min. 5 KVE)	1	
]	
					ОК
^	bozzájárulánna	•	projetit		
4	nozzajarulasod	a	projektr		JNVE

Your contribution to the project (min. 5KVE)

3rd step

rkor 1 per 1	Hátralevő idő (sec): 27
Írd le a csoporttársad számát, akt képviselőnek szeretnél választani (magadra ne	em szavazhatsz)/ C 1 C 2 C 3
	ОК
Az 1-es szárnú csoporttag hozzájárulása 10	
A 2-es szárnú csoporttag hozzájárulása 15 A 3-as szárnú csoporttag hozzájárulása 5	

Írd be a csapattársad számát, akit szeretnél képviselőnek megválasztani Choose your teammates number who you would like to vote for

4th step (only for the representative)



Te lettél megválasztva képviselőnek/You have been elected to be the representative

Ha megtudod, hogy a gazdaság virágzik, te mit mondanál a többieknek, milyen állapotban van?

If you get to know that the economy is in a boom what would you tell to the others?

5th step (only for the representative)



Mit gondolsz, hány csapattársad gondolta azt, hogy hazudni fogsz? What do you think the number of people in your team thought you would lie?

6th step (only for citizens)



For the control group the experiment was different just in that they did not have the 1st step and did not have the voting option in the 3rd step. Also the representatives' 4th step was framed differently like here:



Te lettél KISORSOLVA képviselőnek/You were DRAWN to be the representative

Appendix 2. Surveys

<u>A2.1 The end survey in Hungarian</u> (as used in the experiment):

Kérdőív

(A kérdőív kétoldalas, a lap alján kérlek fordíts és töltsd ki a másik oldalt is!)

- 1. Nemed:
- 2. Tegyük fel, hogy van 10000 Ft-od. Mennyit fektetnél be egy olyan projektbe, amely
- 50 százalék eséllyel minden befektetett forint után 2.5 Ft-ot fizet;
- 50 százalék eséllyel azonban a befektetett pénz elveszik.

Befektetni kívánt összeg:

- 3. Tegyük fel, hogy véletlenszerűen összesorsolnak valakivel a teremben, de nem tudod, hogy ki az és a másik fél sem tudja, hogy Veled van összepárosítva. Ezek után kapsz 1000 Ft-ot, amiből adhatsz a másik személynek, aki csak Tőled kaphat pénzt. Nem kötelező adni. Mennyi pénzt adnál neki?
- 4. Kérlek válaszoljon az alábbi kérdésekre.

(i) 4 macska 4 nap alatt 4 konzervet eszik meg. Mennyi idő alatt enne meg 40 macska 40 konzervet?

(ii) Egy tóban az alga elkezd terjeszkedni és minden nap megduplázza a méretét.
 Ha 10 nap alatt a teljes tavat beborítja az alga, mennyi idő alatt növi be a fél tavat?

(iii) Egy elemlámpa elemmel 3,3 dollárba kerül. Az elemlámpa 3 dollárral kerül többe, mint az elem. Mennyibe kerül az elem?

5. Egy kollégád hazavisz kocsival a hosszúra nyúlt céges parti után. Útközben rendőrök állítanak meg. Kollégád megkér, hogy amíg az intézkedő rendőr a kocsihoz ér, gyorsan cseréljetek helyet a volán mögött, mert ő ivott egy pohár bort a partin, te pedig nem fogyasztottál alkoholt, és a jogosítványod is nálad van.

Helyet cserélsz vele?

- 6. Egy fényképész barátod benevez egy online fotópályázatra, ahol közönségszavazatok döntenek a győztesről. Bár még nem láttad a versenymunkáit, barátod megkér, hogy szólj az ismerőseidnek, szavazzanak rá. Megkéred az ismerőseid?
- A szerelő, aki megjavította lakásodban a fűtést, felajánlja, hogy nem ad számlát, így kevesebbet kell fizetned. Kifizeted a kisebb díjat számla nélkül?

Köszönöm, hogy az időddel hozzá járultál a szakdolgozatom sikeréhez! További szép napot! [©]

A2.2. The end survey in English

(translated from the original one)

Survey

(the survey consist of two pages: at the end of this page please turn the paper and fill in the other page too!)

- 1. Gender
- 2. Let' assume you have 10000 HUF. How much would you invest in a project that

with 50% bear 2.5 HUF after each invested one; with 50% you lose all the money? Amount you wish to invest:

- 3. Let' assume you are randomly paired with someone in the room but you don't know who it is and the other person doesn't know they are paired with you. Then you get 1000 HUF from which you can give some to your pair who only gets money from you. It is not obligatory to give any. What amount would you give to them?
- 4. Please answer the following questions.
 - a. 4 cats eat 4 cat foods in 4 days. How much does it take for 40 cats to eat 40 cat foods?
 - b. In a lake an algae starts to grow and covers the double of the surface that is covered the previous day. If it takes 10 days to cover the full surface of the lake how many days does it take for it to cover half of it?
 - c. A flashlight and the battery in it cost 3.3 dollars. The flashlight costs 3 dollars more than the battery. How much does the battery cost?
- 5. A college of yours takes you home from a company party. On the way the police stops you. You college ask you to change seats while the police is approaching the car because she/he drank a glass of wine and you did not drink anything and you have your licence with you. Do you change seats?
- 6. A photographer friend of yours participates in an online photography contest where the votes of the public determines the winner. Although you haven't seen her/his work yet she/he asks you to ask your friends to vote for her/him. Do you ask them?
- The mechanic who repaired your heating system offers you not to give a bill and so you need to pay less.
 Do you accept the lower price without a bill?

Thank you to contribute to the success of my thesis!

Have a nice day! ©

Appendix 3. Instructions

<u>A3.1. The instructions for the treatment group in Hungarian</u> (as used in the experiment)

Te most egy közgazdasági kísérletben veszel részt, amit a CEU mester diploma kutatásra szánt alapja finanszíroz. Ha az alábbi útmutatót figyelmesen elolvasod, akkor a döntéseid függvényében jelentős pénzösszeget nyerhetsz. Ezért nagyon fontos, hogy figyelmesen olvasd végig az alábbiakat.

A számodra kiosztott útmutató kizárólagosan a te saját tájékoztatásodra szolgál. Tilos a kísérlet alatt a többi résztvevővel bármilyen módon kommunikálni. Ha bármilyen kérdésed merül fel a kísérlet során bármikor, azt a kísérletvezetőnek tedd fel. Ha ezt a szabályt megsérted, a kísérletből kizárunk és a fizetésed sem kaphatod meg.

A kísérlet folyamán nem forintokról lesz szó, hanem Kísérleti Valuta Egységekről (továbbiakban KVE). A kísérlet folyamán a teljes jövedelmed KVEban lesz meghatározva. A kísérlet végén a teljes összeg átváltásra kerül forintra a következő átváltási rátával:

1KVE = 50 forint

A kísérlet végén **a teljes jövedelmed plusz 500 forint** (megjelenési díj) kerül kifizetésre Aldi kuponok formájában.

A kísérlet összességében 5 körből áll. Minden körben három fős csoportokba lesztek sorolva. Te tehát két másik játokossal együtt alkotsz majd egy csoportot. Minden körben újraosztjuk a csoportokat, ezért nem fogtok ugyanazokkal játszani többször. Minden körben a kísérletnek három része lesz.

Az első részben el kell döntened, hogy mennyi KVE-vel járulsz hozzá egy közös projekt megvalósításához. Minden kör elején 20 KVE áll rendelkezésedre, amiből legalább 5 KVE-t hozzá kell tenned a közös projekthez. **5 és 20 KVE között bármennyit felajánlhats**z. Amit nem adsz be a közösbe, az megmarad neked. **A projekt vagy nyereséget termel vagy nem**, ez a gazdaság állapotától függ. **A gazdaság két féle állapota lehet, válság vagy virágzó**, ezek egyenlő valószínűséggel következnek be. Ha a gazdaság válságban van, akkor a közösen összegyűjtött pénz egyenlően lesz szétosztva a csoport tagjai között. Ha a gazdaság virágzik, akkor a közösen összegyűjtött pénz megduplázódik és ez után lesz szétosztva egyenlően a csoport tagjai között.

A második részben látni fogod mindenkinek a hozzájárulását a közös projekthez. Ezután eldöntheted, hogy **a másik két társad közül kire szavazol**, aki a megválaszott képviselője lesz a csoportnak. **MAGADRA NEM SZAVAZHATSZ!** Ha döntetlen eredmény születik, akkor minden csoportban egy véletlenszerűen kiválasztott játékos szavazata dönti el, hogy, ki kerül megválasztásra azok közül, akik döntetlen eredményt értek el.

Végül következik a harmadik fázis. **A képviselő** lesz az egyetlen, aki látni fogja a valódi állapotát a gazdaságnak. A feladata, hogy **tájékoztassa** a többieket, hogy válságban vagy virágzásban van-e a gazdaság, de **meghamisíthatja az információt**, amivel jelentős pénzhet juthat. Mindenki a képviselő által közölt állapot alapján kapja meg a fizetését és nem a valós állapot alapján. Tehát, ha a képviselő válságot jelent mindenki csak a közös összeg 1/3-ád kapja vissza, ha virágzást, akkor a 2/3-ád. Amennyiben a képviselő virágzás idején válságot jelent megtartja a virágzás miatt keletkezett többlet pénzt (ő tehát nem 1/3-ád, hanem 4/3-ád kapja a közös összegnek).

Ez a vége az első körnek. Minden kör végén felteszünk neked egy kérdést a többiek felé tett várakozásodhoz kapcsolódóan.

Ezután a teljes fent leírt kör megismétlődik még négyszer. Így összesen ötször játszod le a játékot. Az ötödik forduló után még ki kell töltened egy kérdőívet, amit papíron fogunk odaadni.

A kifizetésedet és a gazdaság állapotát az összes körből csak a kísérlet legvégén láthatod.

Egy véletlenszerűen kiválasztott kör alapján fogod megkapni a fizetésed.

A kísérlet teljesen anoním és vissza nem követhető, tehát senki sem fogja tudni, hogy te hogyan döntöttél. A kísérletben önkéntesen veszel részt, és bármikor megszakíthatod azt. Ennek semmilyen következménye nincs, de a kifizetésedet ebben az esetben nem kapod meg.

A fentieket megértettem, a kérdéseimre választ kaptam. A kísérletben önként veszek részt és megértettem, hogy bármikor megszakíthatom azt:

NÉV:

Aláírás:

Dátum: Budapest, 2017. 04. 25.

Ha szeretnél információt kapni a kísérlet eredményéről kérlek add meg a neved és az e-mail címed!

A3.2. The instructions for the treatmen group in English (translated from the original one)

You are now taking part in an economic experiment which has been financed by CEU's foundation for MA thesis research. If you read the following instructions carefully, you can, depending on your decisions, earn a considerable amount of money. It is therefore very important that you read these instructions with care.

The instructions which we have distributed to you, are solely for your private information. It is prohibited to communicate with the other participants during the experiment. Should you have any questions please ask us. If you violate this rule, we shall have to excluded you from the experiment and from all payments.

During the experiment we shall not speak of Forints but rather of Experimental Currency Units (ECU). During the experiment your entire earnings will be calculated in ECU. At the end of the experiment the total amount of ECUs you have earned will be converted to Forints at the following rate:

1 ECU = 50 Forints

At the end of the experiment your entire earnings from the experiment plus 500 Forints (show up fee) will be immediately paid to you in the form of Aldi vouchers.

In all, the experiment consists of 5 periods. In each period the participants are divided into groups of three. You will therefore be in a group with 2 other participants. The composition of the groups will change by random after each period. **In each period your group will therefore consist of different participants.** In each period the experiment consists of three stages.

At the first stage you have to decide how many ECU you would like to contribute to a project. At the beginning of all period you will have 20 ECU and you must contribute at least 5 ECU to the project but you can offer any amount between 5 and 20 ECU. The money that you do not contribute will be kept yours. The project will either bear profit or not depending on the state of the world. There will be two states of world, recession and boom; these are realised with equal probabilities. If the state of the world is recession the sum of contributions is divided equally among all three participants. If it is a boom then the sum is multiplied by two and then distributed equally.

At the second stage you are informed on the contributions of the two other group. You can then decide who would you elect to be your representative from the other two group members. YOU CANNOT VOTE FOR YOURSELF! If there is a tie the vote of one randomly selected group member will determine the representative from those who had equal votes.

And finally there is the third stage. The representative will be the only one who will know if the economy is in boom or in recession. The representatives' task is to report the economic state (boom or recession) but he/she can falsify this information and gain reasonable money on that. Everyone will be paid according to the reported state and not the real one. So if the representative reports recession everyone would get 1/3 of the common amount; if he reports boom then 2/3. If the representative reports recession when the true state is boom he can keep the profit of the project (so he gets 4/3 of the common amount instead of 1/3).

This is the end of the first period. After each period you will be asked about your expectations towards the others.

You will then repeat the game with different people for 4 more times. That is you play the game for 5 times altogether. After the 5th round you will be asked to fill out a questionnaire provided to you on paper.

You can only see the states of world and your payoffs of all periods at the end of the whole experiment.

You will get paid according to one randomly selected period.

The experiment is completely anonymous and non-trackable so no one will know your decisions. You participate in this experiment voluntarily and you can end it any time. This has no consequences but you cannot get your payment in this case.

I understood the above written and I got answers to my questions. I participate in this experiment voluntarily and I understand that I can end I any time:

NAME:

Signature:

If you wish to get information about the results please give me your name and e-mail address!

A3.3. The instructions for the control group in Hungarian

(as used in the experiment)

Te most egy közgazdasági kísérletben veszel részt, amit a CEU mester diploma kutatásra szánt alapja finanszíroz. Ha az alábbi útmutatót figyelmesen elolvasod, akkor a döntéseid függvényében jelentős pénzösszeget nyerhetsz. Ezért nagyon fontos, hogy figyelmesen olvasd végig az alábbiakat.

A számodra kiosztott útmutató kizárólagosan a te saját tájékoztatásodra szolgál. Tilos a kísérlet alatt a többi résztvevővel bármilyen módon kommunikálni. Ha bármilyen kérdésed merül fel a kísérlet során bármikor, azt a kísérletvezetőnek tedd fel. Ha ezt a szabályt megsérted, a kísérletből kizárunk és a fizetésed sem kaphatod meg.

A kísérlet folyamán nem forintokról lesz szó, hanem Kísérleti Valuta Egységekről (továbbiakban KVE). A kísérlet folyamán a teljes jövedelmed KVEban lesz meghatározva. A kísérlet végén a teljes összeg átváltásra kerül forintra a következő átváltási rátával:

1KVE = 50 forint

A kísérlet végén **a teljes jövedelmed plusz 500 forint** (megjelenési díj) kerül kifizetésre Aldi kuponok formájában.

A kísérlet összességében 3 körből áll. Minden körben három fős csoportokba lesztek sorolva. Te tehát két másik játokossal együtt alkotsz majd egy csoportot. Minden körben újraosztjuk a csoportokat, ezért nem fogtok ugyanazokkal játszani többször. Minden körben a kísérletnek három része lesz.

Az első részben el kell döntened, hogy mennyi KVE-vel járulsz hozzá egy közös projekt megvalósításához. Minden kör elején 20 KVE áll rendelkezésedre, amiből legalább 5 KVE-t hozzá kell tenned a közös projekthez. **5 és 20 KVE között bármennyit felajánlhats**z. Amit nem adsz be a közösbe, az megmarad neked. **A projekt vagy nyereséget termel vagy nem**, ez a gazdaság állapotától függ. **A gazdaság két féle állapota lehet, válság vagy virágzó**, ezek egyenlő valószínűséggel következnek be. Ha a gazdaság válságban van, akkor a közösen összegyűjtött pénz egyenlően lesz szétosztva a csoport tagjai között. Ha a gazdaság virágzik, akkor a közösen összegyűjtött pénz megduplázódik és ez után lesz szétosztva egyenlően a csoport tagjai között.

A második részben látni fogod minden csoporttársad hozzájárulását a közös projekthez. Ezután valamelyikőtök véletlen ki lesz sorsolva, ő lesz a csoport képviselője.

Végül következik a harmadik fázis. **A képviselő** lesz az egyetlen, aki látni fogja a valódi állapotát a gazdaságnak. A feladata, hogy **tájékoztassa** a többieket, hogy válságban vagy virágzásban van-e a gazdaság, de **meghamisíthatja az információt**, amivel jelentős pénzhet juthat. Mindenki a képviselő által közölt állapot alapján kapja meg a fizetését és nem a valós állapot alapján. Tehát, ha a képviselő válságot jelent mindenki csak a közös összeg 1/3-ád kapja vissza, ha virágzást, akkor a 2/3-ád. Amennyiben a képviselő virágzás idején válságot jelent megtartja a virágzás miatt keletkezett többlet pénzt (ő tehát nem 1/3-ád, hanem 4/3-ád kapja a közös összegnek).

Ez a vége az első körnek. Minden kör végén felteszünk neked egy kérdést a többiek felé tett várakozásodhoz kapcsolódóan.

Ezután a teljes fent leírt kör megismétlődik még kétszer. Így **összesen ötször játszod le** a játékot. Az ötödik forduló után még ki kell töltened egy kérdőívet, amit papíron fogunk odaadni.

A kísérlet legelején játszani fotok egy próba kört, eközben én elmagyarázom, hogy mit láttok és mit kell csinálnotok. Ez a kör nem számít a kísérleti eredményekbe sem és kifizetést sem kapsz utána.

A kifizetésedet és a gazdaság állapotát az összes körből csak a kísérlet legvégén láthatod.

Egy véletlenszerűen kiválasztott kör alapján fogod megkapni a fizetésed.

A kísérlet teljesen anoním és vissza nem követhető, tehát senki sem fogja tudni, hogy te hogyan döntöttél. A kísérletben önkéntesen veszel részt, és bármikor megszakíthatod azt. Ennek semmilyen következménye nincs, de a kifizetésedet ebben az esetben nem kapod meg.

A fentieket megértettem, a kérdéseimre választ kaptam. A kísérletben önként veszek részt és megértettem, hogy bármikor megszakíthatom azt:

NÉV:

Aláírás:

Dátum: Budapest, 2017. 04. 25.

Ha szeretnél információt kapni a kísérlet eredményéről kérlek add meg a neved és az e-mail címed!

A3.4. The instructions for the control group in English (translated from the original one)

You are now taking part in an economic experiment which has been financed by CEU's foundation for MA thesis research. If you read the following instructions carefully, you can, depending on your decisions, earn a considerable amount of money. It is therefore very important that you read these instructions with care.

The instructions which we have distributed to you, are solely for your private information. It is prohibited to communicate with the other participants during the experiment. Should you have any questions please ask us. If you violate this rule, we shall have to excluded you from the experiment and from all payments.

During the experiment we shall not speak of Forints but rather of Experimental Currency Units (ECU). During the experiment your entire earnings will be calculated in ECU. At the end of the experiment the total amount of ECUs you have earned will be converted to Forints at the following rate:

1 ECU = 50 Forints

At the end of the experiment your entire earnings from the experiment plus 500 Forints (show up fee) will be immediately paid to you in the form of Aldi vouchers.

In all, the experiment consists of 5 periods. In each period the participants are divided into groups of three. You will therefore be in a group with 2 other participants. The composition of the groups will change by random after each period. **In each period your group will therefore consist of different participants.** In each period the experiment consists of three stages.

At the first stage you have to decide how many ECU you would like to contribute to a project. At the beginning of all period you will have 20 ECU and you must contribute at least 5 ECU to the project but you can offer any amount between 5 and 20 ECU. The money that you do not contribute will be kept yours. The project will either bear profit or not depending on the state of the world. There will be two states of world, recession and boom; these are realised with equal probabilities. If the state of the world is recession the sum of contributions is divided equally among all three participants. If it is a boom then the sum is multiplied by two and then distributed equally.

At the second stage you are informed on the contributions of the two other group. Then one of you will be randomly chosen to be the representative of the group.

And finally there is the third stage. The representative will be the only one who will know if the economy is in boom or in recession. The representatives' task is to report the economic state (boom or recession) but he/she can falsify this information and gain reasonable money on that. Everyone will be paid according to the reported state and not the real one. So if the representative reports recession everyone would get 1/3 of the common amount; if he reports boom then 2/3. If the representative reports recession when the true state is boom he can keep the profit of the project (so he gets 4/3 of the common amount instead of 1/3).

This is the end of the first period. After each period you will be asked about your expectations towards the others.

You will then repeat the game with different people for 4 more times. That is you play the game for 5 times altogether. After the 5th round you will be asked to fill out a questionnaire provided to you on paper.

You can only see the states of world and your payoffs of all periods at the end of the whole experiment.

You will get paid according to one randomly selected period.

The experiment is completely anonymous and non-trackable so no one will know your decisions. You participate in this experiment voluntarily and you can end it any time. This has no consequences but you cannot get your payment in this case.

I understood the above written and I got answers to my questions. I participate in this experiment voluntarily and I understand that I can end I any time:

NAME:

Signature:

If you wish to get information about the results please give me your name and e-mail address!

Figure 1. Paired t-test of the honesty variable

```
. ttest state_rand=state_elect
Paired t test
Variable
           Obs
                     Mean Std. Err. Std. Dev. [95% Conf. Interval]
            45 .5111111 .0753592 .505525 .3592346 .6629876
state ~d
                 .6888889 .0697921 .4681794 .5482322 .8295455
state_~t
             45
             45 -.1777778 .1158582 .7772004 -.4112746
   diff
   mean(diff) = mean(state_rand - state_elect)
```

```
Ho: mean(diff) = 0
                                                     degrees of freedom =
                                                                                  44
Ha: mean(diff) < 0 Ha: mean(diff) != 0
Pr(T < t) = 0.0660 Pr(|T| > |t|) = 0.1321
                                                                 Ha: mean(diff) > 0
                                                                Pr(T > t) = 0.9340
```

.0557191

t = -1.5344

Figure 2. Paired t-test of the representatives' expectations

. ttest exp_rep_rand=exp_rep_elect

Paired t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
exp_re~d	45	1.244444	.106152	.712089	1.030509	1.45838
exp_re~t	45	. 9333333	.1206045	.8090398	. 6902709	1.176396
diff	45	.3111111	.1848347	1.239909	0613987	. 6836209
mean	(diff) = me	an(exp_rep_r	and - exp_re	p_elect)	t	= 1.6832
Ho: mean	(diff) = 0			degrees	of freedom	= 44
Ha: mean	(diff) < 0	Ha	: mean(diff)	!= 0	Ha: mean	(diff) > 0
Pr(T < t)) = 0.9503	Pr(T > t) =	0.0994	Pr(T > t) = 0.0497

```
. ttest exp_cit_rand=exp_cit_elect
```

Paired t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
exp_ci~d	90	.5444444	.0527901	.5008108	. 4395516	. 6493372
exp_ci~t	90	. 4222222	.0523547	.4966806	.3181945	.52625
diff	90	.1222222	.0754972	.7162289	027789	. 2722335
mean	(diff) = mea	an(exp_cit_r	and - exp_ci	t_elect)	t	= 1.6189
Ho: mean	(diff) = 0		_	degrees	of freedom	= 89
Ha: mean	(diff) < 0	Ha	: mean(diff)	!= 0	Ha: mean	(diff) > 0
Pr(T < t)) = 0.9455	Pr()	T > t) =	0.1090	Pr(T > t) = 0.0545

Figure 4. Paired t-test of contributions

. ttest cont_elect=cont_rand

Paired t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
cont_e~t	135	13.06667	.4083431	4.744518	12.25904	13.8743
cont_r~d	135	12.96296	.4001668	4.649518	12.1715	13.75442
diff	135	.1037037	.5519225	6.41276	9879029	1.19531
mean	(diff) = mea	an (cont_elec	t - cont_ran	d)	t	= 0.1879
Ho: mean	(diff) = 0	_	_	degrees	of freedom	= 134
Ha: mean	(diff) < 0	Ha	: mean(diff)	!= 0	Ha: mean	(diff) > 0
Pr(T < t)) = 0.5744	Pr()	T > t) =	0.8512	Pr(T > t	= 0.4256

Figure 5. R	Regression	output of the l	honesty variable
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	SS		df		MS		Number	of	obs	=	90
							F(1,		88)	=	3.00
.7	711111	111	1	.711	111111		Prob >	F		=	0.0870
20	0.8888	889	88	.237	373737		R-squar	ced		=	0.0329
							Adj R-s	squa	red	=	0.0219
	2:	1.6	89	.242	696629		Root MS	SE		=	.48721
	Coe	E. 1	Std.	Err.	t	₽> t	[954	6 Co	nf.	In	terval]
	. 17777	78	. 1027	129	1.73	0.087	020	5342	6		3818981
-	.511111	11	.072	629	7.04	0.000	.36	5776	2		. 655446

. regress state_i election

Figure 6. Regression output of the representatives' expectations

Source	SS	df	MS		Number of obs	=	90
Model Residual	2.17777778 51.1111111	12 88.	.17777778 580808081		F(1, 88) Prob ≻ F R-squared	= = =	3.75 0.0560 0.0409
Total	53.2888889	89.	598751561		Adj R-squared Root MSE	=	0.0300 .76211
exp_repres~e	Coef.	Std. Er	r. t	₽> t	[95% Conf.	In	terval]
1.election _cons	3111111 1.244444	.160666 .113608	4 -1.94 3 10.95	0.056 0.000	6304018 1.018672	1	0081796 .470217

. regress $exp_representative i.election$

Figure 7. Regression output of getting elected

Source	ss	df	MS		Number of obs	= 135
Model Residual	.175374619 29.8246254	1 133	.175374619 .224245304		F(1, 133) Prob > F R-squared	= 0.78 = 0.3781 = 0.0058 = -0.0016
Total	30	134	.223880597		Root MSE	= .47355
winner	Coef.	Std. 1	Err. t	₽> t	[95% Conf.	Interval]
contribution _ ^{cons}	.007625	.0086	222 0.8 085 1.9	8 0.378 5 0.053	0094294 0032763	.0246793 .4706767

. r	regress	winner	contribution
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Figure 8. Regression output of citizens' expectations

Source	ss	df	MS		Number of obs	=	180
Model Residual	2.04666393 42.9033361	2 1.0 177 .2	D2333196 42391729		Prob > F R-squared	= =	0.0162
Total	44.95	179 .2	51117318		Root MSE	=	. 49233
exp_citizens	Coef.	Std. Err	. t	₽> t	[95% Conf.	Int	erval]
election dictamount _cons	1045676 0003923 .6564747	.0737662 .0001648 .0700475	-1.42 -2.38 9.37	0.158 0.018 0.000	2501421 0007175 .518239	.0 0 .7	9410068 0000672 947105

regress	exp	citizen	election	dictamount