Positive Reciprocity – a further explanation

ERASMUS UNIVERSITY ROTTERDAM

Erasmus School of Economics

Department of Behavioural Economics

Supervisor: Jan Heufer

Name: Rona Krietemeijer

Exam number: 400660

E-mail address: 400660rk@student.eur.nl

Abstract:

Since the standard economic models failed to explain non-selfish actions made by people, researchers begun to develop models of social preferences. One of those types are reciprocity models, in which peoples' desire to raise or lower the payoff of others depend on how fairly those others are behaving. However, even though much research has been conducted on the topic of reciprocity, there is still a lack of evidence for the existence of positive reciprocity. The main purpose of this thesis is to design an experiment that examines the extend of positive reciprocity. Also, a pilot project is executed. The results of this pilot project indicate statistical significant evidence for the existence of positive reciprocity. Even though this pilot project has its' limitations, it shows the necessity of further research on this topic.

1. Introduction

Standard economic models presume that people act purely selfish. Maximizing their own monetary payoff, without regard for social norms such as fairness and reciprocity (Charness, 2004). However, participants in experiments frequently choose actions that do not maximize their own monetary payoffs when those actions affect others' payoffs. Often, one cannot explain behaviour fully by using standard economic models. Because of that, researchers have begun to develop models that assume people are self-interested, but are also concerned about the payoffs of others. There are different types of those so called models of social preferences. One type of model assumes people like to reduce differences between theirs and others' payoffs, the difference-aversion models. Social-welfare models assume people are motivated to increase social surplus. Also, reciprocity models, that assume that peoples' desire to raise or lower others' payoffs depend on how fairly those others are behaving (Charness and Rabin, 2002). The latter type of model will be the central focus of this paper.

The models of social preferences tend to explain the behaviour in multiple economic settings. One can think of consumer response to price changes, attitudes toward different tax schemes, and employee response to change in wage and employment practices (Charness and Rabin, 2002). For instance, an employer might offer a higher wage if he can expect the employee to exert a higher effort level.

As mentioned before, this paper will focus on reciprocity. Reciprocity consists of two parts: the degree to which people like to help those who are helping them, positive reciprocity, and the degree to which people want to hurt those who are hurting them, negative reciprocity. Experimental settings concerning reciprocity usually use response games. Those games distinguish two players, A and B. First A makes a decision, which might influence the outcome of B. After A made his decision, B decides. This setting enables the possibility to test whether B's decision is influenced by the options A has and the decision A has made.

Much research have been conducted to yield evidence for the existence of reciprocity. Where many researchers have found statistically significant results for the existence of negative reciprocity, experimental evidence states that positive reciprocity is not a strong force in experimental settings.

The main purpose of this thesis is to design an experiment in which the extent of positive reciprocity is examined. The occurrence of positive reciprocity by B can depend on multiple things. First of all, the kind action made by A should be kind and substantial enough for B to notice and take into account. Next to that, the required sacrifice from B should be sufficiently small. In other words, it should not be too expensive for B to be positively reciprocal because he would not choose it if it is. Furthermore, the relative gain for A should be high enough. If the gain for A is not high enough, it might not induce B to be positively reciprocal because it might not be worth it. The amounts of the things stated above depend relatively on each other. It might be the case that B might not be willing to sacrifice 100 lab money if A only gains 150 lab money, while he would be willing to sacrifice 100 lab money if A would gain 300 lab money. Therefore, we will use relative differences from now on. Using experimental design, the foundation will be laid for further research to examine the following research question:

- What are the minimum relative differences between the level of the kind action, the height of the sacrifice and the height of the opponents gain, to trigger positive reciprocity?

Next to this, a pilot project will be designed and executed. The pilot project will focus on the first part of the experiment, namely the height of the kind action made by A. The pilot project might be able to already slightly give an answer to the first sub-question:

- What is the height of the kind action that triggers positive reciprocity by B?

The other two sub-questions that should be answered before the research question can be answered are as follows:

- What is the maximum height of the sacrifice of B to induce positive reciprocity by B?
- What is the height of the gain for A that triggers positive reciprocity by B?

This paper consists of the following sections. Section 2 will give an overview of the related literature. In this section, a subsample of all conducted research on this topic will be discussed. Section 3 will focus on the experimental design. The experimental setting will be discussed in section 3.1, and section 3.2 will give further details about the games. Section 4 will focus on the pilot project. The design of the pilot project will be given in section 4.1. Also, in section 4.2 the results of the pilot project will be presented and discussed. At the end, in section 5, concluding remarks will be made.

2. Related Literature

As mentioned in the introduction, much research have been conducted to yield evidence for the existence of reciprocity. Those researchers found statistically significant results for the existence of negative reciprocity. Nevertheless, there is still a lack of evidence for the existence of positive reciprocity. A subsample of all conducted research will be discussed below, emphasising results about positive reciprocity.

Understanding Social Preferences with Simple Tests

The first and most important article that will be discussed here is by Charness and Rabin (2002). This article is most important since the experiments designed and conducted in this paper are mostly based on the games used in the experiments conducted by Charness and Rabin. Within their research, they did not merely focus on the existence of reciprocity, although this will be the only part discussed in this article.

Charness and Rabin had multiple response games within their research. All games will have the same set-up. Subject A has to make a decision between two options: (Y_{a1}, Y_{b1}), in which Y_a is allocated to A and Y_b is allocated to B, or let B decide between (Y_{a2}, Y_{b2}) or (Y_{a3}, Y_{b3}). Subject B will be asked to decide between option 2 and 3, under the assumption that A has chosen to let B decide. Most of their evidence strongly shows that positive reciprocity has virtually no explanatory power in many of their games studied. Instead, subjects exhibit a form of reciprocity called *concern withdrawal*: they withdraw their willingness to sacrifice to allocate the fair share toward somebody who himself is unwilling to sacrifice for the sake of fairness. Subjects also significantly increased their Pareto-damaging behaviour following selfish actions by A. Nevertheless, the data from one game calls the generality of this conclusion into question. In the game A had the option (750,0) or to let B decide between (400,400) or (750,400). In this game, only 6 percent of B's choose (400,400). In other games, where A had either no choice or made a nasty choice – a game in which B had a higher payoff when A would have chosen A1 instead of A2 - this was 30 percent. Even though it is only one game played by 36 participants, the findings suggest a possible form of positive reciprocity.

As already said, the games by Charness and Rabin (2002) will be the foundation for the experiments designed in this paper. The abovementioned game that showed some form of

positive reciprocity will be extended for further research. The minimum and maximum values that induce positive reciprocity within this game should be tested and discussed to see at what values positive reciprocity appears to be present.

Positive reciprocity and intentions in trust games

McCabe, Rigdon and Smith (2003), conducted a simple experiment including two treatments. The first treatment was a voluntary trust game (VTG) and the other was an involuntary trust game (ITG). In the VTG the first mover had two options, either choosing the outside option [20,20] or let player 2 decide between the symmetric joint maximum outcome [25,25] and the defection outcome [15,30]. In the ITG player 1 does not have the outside option. Their results showed that there is a significant treatment effect between the two environments. They found statistically significant evidence of positive reciprocity.

This article is important because this is one of the few research articles that had found significant evidence for positive reciprocity. However, since the evidence is based on only one simple game, more evidence is required to make substantial conclusions. This research can thus be seen as one of the inducements for further research by pointing to the existence of positive reciprocity.

Attribution and Reciprocity in an Experimental Labor Market

In 2004, Charness published another article about reciprocity. In this article, he elaborates on the attribution and reciprocity in the labor market. He set up an experimental labor market with two treatments. Either the wages were chosen by the employer or by an external process. Using this setting, Charness tests whether attribution of volition in choosing a wage has a significant effect on subsequent costly effort provision. The results all indicated a positive relationship between effort and wage. Next to this, negative reciprocity is clearly indicated by the results, whereas there is only limited positive reciprocity observed which is not statistically significant. The effort provided for intentionally high wages is not significantly higher than for equivalent exogenous high wages, as would have been expected with positive reciprocity.

The importance of this research has two sides. First and most importantly, it emphasizes the real-world importance of the existence of reciprocity. If positive reciprocity can be found to

be statistically significant, the relation between wage structure and effort can be further evaluated. Second, it is another article that gives deepening into the existence of reciprocity, in which the existence of positive reciprocity seems present but is not statistically significant. Since it is not statistically significant and thus might also be due to chance, further research is needed to substantiate and evaluate. Using treatments with strong magnitude, as will be used in the experimental design explained in section 3, it might be more likely to find positive reciprocity.

Expressed Preferences and Behaviour in Experimental Games

Another article written by Charness and Rabin (2005) shed some light on reciprocity and expressed preferences. They conducted three different games. In one type of the games player A could not express preference, while the other two types were expressed-preference games. In those 'expressed-preference games', player A could express his preference about the choice B was about to make. In one of those games, player A had no option to remain silent, and in the other games player A had such an option. In the first expressed-preference game, player A was given a choice between A1 (outside option), A2 with a preference for B1 and A2 with a preference for B2. In the second, player A could also choose A2 with a choice to not express preference. Within the games without preference expression, no significant positive reciprocity was observed for games in which A made a kind action towards B. However, positive reciprocity seems to be present when player A makes a favourable play – makes a kind action towards B - and expresses preference for a favourable response – a response in which A has a higher outcome than in the other option. This can go two ways. It might be that a more personal form of communication will strengthen the effect. On the other hand, it might also be possible that the results stem from the preference expression itself instead of the favourable play. It might thus be the case that the suggestive evidence that positive reciprocity is enhanced when a preference for favourable treatment is expressed, stems from a reluctance to disappoint the first mover.

This research is important for two things. First, it shows once again that without preference expression, still no evidence has been found to substantiate positive reciprocity. Second, it explores a new ground within the subject. Since most experimental studies of social preferences do not allow any communication between subjects, while this is an important part of the real-world problems they are trying to understand, this research might expand the field

of research into a more realistic one. Nevertheless, since the evidence that is suggestively found in the research might stem from different sources, this step is presumably made too fast. Priority should be given to finding evidence within the normal experimental setting first. Therefore, preference-expression will not be further used in this article.

Social Distance and Reciprocity: An Internet Experiment

Charness, Haruvy and Sonsino (2007) conducted an experiment about social distance and reciprocity. Within the experiment, they had three types of treatments. They did an internet experiment, a classroom laboratory experiment and an inter-state laboratory experiment. The latter tries to control for one while varying the other, by having one group sitting in a lab influence another group sitting in another – inter-state – laboratory. In all experiments, they used the "Lost-wallet Game" (Dufwenberg & Gneezy, 2000). In this game, player A finds a wallet which has more value to player B – it's owner - than to themselves (player A). Player A has to decide to turn the wallet in at the police station or not. If player A turns it in, player B might compensate player A for their consideration and trouble. If player A does not turn in the wallet, player A keeps the wallet and its value. If player A hands it in, player B can choose the amount of compensation for player A. Choices would indicate positive reciprocity if player B decides to compensate player A. This is the case because player B does not need to compensate A since the decision of A has already been made and will not be influences by the decision of B, and not compensating A would maximize B's outcome. In all treatments and cases, a substantial minority makes choices indicating positive reciprocity. Also, the three tests give no close to statistical significance difference, suggesting that social distance is no factor in those decisions. However, if the data is aggregated, the pattern of positive reciprocity is diminished. Regressions on aggregated data show a positive slope that is statistically significant, however small.

This research does find small significant evidence for positive reciprocity. Since this research used a different type of game, it induces the question whether the evidence can also be found in the experimental response games which will be used in this article. Next to this, this research shed some light on the relation between reciprocity and social distance. Since this had not been captured in other articles it broadens the view. However, since the results show that preferences are unaffected by social distance, this will not be used further on in this article.

3. The Experiment

The following section will design the experiment that could answer the research question. In subsection 1, the experimental setting will be described. This will be followed by subsection 2, in which the specific games that will be played during the experiment will be discussed.

3.1 Experimental setting

As mentioned in the introduction, the occurrence of positive reciprocity by B can depend on multiple things. First of all, the kind action made by A should be sufficient. Next to that, the required sacrifice from B should be sufficiently small. Furthermore, the relative gain for A should be high enough. The experiment which will be designed should be able to answer the question about the minimum relative differences – to trigger positive reciprocity - between the above mentioned conditions.

The design of the experiment will follow the experiments conducted by Charness and Rabin (2002). Subject A has to make a decision between two options: (Y_{a1}, Y_{b1}), in which Y_a is allocated to A and Y_b is allocated to B, or let B decide between (Y_{a2}, Y_{b2}) or (Y_{a3}, Y_{b3}). Subject B will be asked to decide between option 2 and 3, under the assumption that A has chosen to let B decide. Using this setting, the above mentioned conditions for positive reciprocity will be further examined. Also a different setting will be used so the outcomes can be compared to a neutral case. In this case, A will have no decision to make and B will decide between (Y_{a2}, Y_{b2}) and (Y_{a3}, Y_{b3}). The experiment will consist of three different parts. During the experiment there will however be made no division between the three parts. The games that will be played in every experiment will be randomly chosen out of the total number of games, containing games of all three parts. The first part of the experiment will examine how extreme the kind action by A should be to encourage positive reciprocity by B. The second part of the experiment tests how small the sacrifice of B should be, and the third part tests how high the gain of allocation for A should be, to induce B to act positively reciprocal. Combining the results from those three parts after comparing them to the neutral cases, one can conduct the minimum relative differences – that enact positive reciprocity - between the three conditions as stated above.

For all three parts, the same setting is used, difference will however be made in the amount of money in the allocation options. The amount of money in the allocation options will be discussed in section 3.2. Following the experiment conducted by Charness and Rabin (2002), lab money will be used. The exchange rate for the experimental design is set equal to the one from Charness and Rabin, 100 lab money is $1, which is equal to €0.88. The decision has been made consciously to not set it at €1, avoiding an easily convertible exchange rate. This will help to prevent participants from converting lab money into real money, instead of thinking in lab money. Also, participants will receive a show up fee of €5.

In the experiment, for every decision task, participants will be anonymously paired with a different person than in previous decisions. This will cause participants to make every decision independent of other decisions.

Every experiment will include 50 participants, divided into two groups of 25. Within one group the participants will play, the same, 25 games. The games within the two groups are connected to each other. If the participants of group 1 play game 17 as player A, the participants of group 2 will play game 17 as player B. This enables paring, between the two groups. Because the groups are equal in size and equal to the number of games played, pairing to someone different for each decision is possible. Since there is a total of 300 games, and 50 different games are played each experiment – 25 games as player A and the same 25 games as player B - it will take 6 experiments to get 25 responses for all games. More information about the games follows in the next section.

The experiment will be held in a computer lab. Participants will be in cubicles with a PC. Before participants will start the experiment, they will get to see a disclosure (Appendix A). When everything is clear the experiment will start.

When all games have been played, 25 black dots will appear. All dots will include a letter-number combination from the games they played. Participants will select 5 dots, turning them white and revealing the letter-number combination for which they will receive their outcome. Participants will get a sealed envelope with their payment inside handed out in their cubicle.

3.2 Games

As stated before, participants will play 25 games out of the total number of games. The total number of games is 150 games per role, so in total there will be 300 different games. All games can be found in Appendix A. Those games test three categories. First, to test the height of the kind action. Second, testing how small the required sacrifice by B is. Third, how high the relative gain for A should be. All games will also be played without option A1, so A cannot make a decision. Those tests are the neutral cases.

For option A1, B will always receive 0. A will however get either 750, 850 or 950. Option B1 will give A and B the same outcome. This outcome will be equal to the outcome for A in option A1 minus either 150, 250 or 350. For option B2, the amount A will receive is the outcome for A in option A1 minus either 0, 50, 100. B will however receive the pay-out of option B1 minus either 10, 25 or 50.

The abovementioned can be written as follows:
Decision: {[X,0]} or {[X-Y,X-Y] or [X-W,X-Y-Z]}
Where:X=750,850,950 Y=150,250,350 Z=10,25,50 W=0,50,100

Using the amounts as stated above ensures multiple things. First, it ensures that the pay-out of A is smaller in option B1 than in B2. Next, the outcome for B is always smaller in B2 than in B1. Combined, this makes sure that B should make a sacrifice to be able to make A better off. Also, the pay-out of A in B1 and B2 is always smaller than or equal to the amount in A1. This ensures that A always makes a sacrifice or at least takes a risk when choosing A2 – letting B decide. Also, since B receives 0 in A1, B is always better off if A chooses A2. Last, the differences will not become too big, which would have resulted in a non-credible sacrifice from A. If B thinks the sacrifice made by A when choosing A2 is non-credible and he knows his decision is only relevant when A chooses A2, he might think the choice he makes will be irrelevant, this might cause B to make biased decisions.

If one conducts the experiment and finds that the amounts are not high/low enough, the amounts can be changed. The above mentioned ensuring conditions will still count, as long as: $X > Y+Z$ and $Y > W$.

4. Pilot project

In this section, the pilot project that will help answer the first sub-question will be presented. In subsection 1, the experimental setting will be explained. Furthermore, in subsection 2, the results will be presented and discussed.

4.1 Experimental setting

The pilot project is merely focussed on the first part of the designed experiment. To recall, the first part of the experiment will examine how extreme the kind action by A should be to encourage positive reciprocity by B. The pilot project might be able to slightly give an answer to the first sub-question:

- What is the height of the kind action that triggers positive reciprocity by B?

The pilot project will be executed at the Erasmus University Rotterdam. Four groups of on average eighteen students, who are in their first year of their bachelor economics and business economics, will participate in this experiment. Within their study, they did not practice game theory yet.

All students will partake twice in the experiment, both as A and B. In two groups, all students will first play part A and after that part B. In the other two groups, this will be the other way around. The players A of one group are connected to the players B of another group, this to ensure anonymity. Two pairs of players will be picked randomly to actually receive their prize.

In the pilot project, the games will be displayed on a screen. All participants receive a disclosure and an answer form (Appendix B). The disclosure should be read before the experiment starts. As can be read in the disclosure, the exchange rate for the pilot project is different than for the normal experimental designs. To keep costs low, 100 lab money is equal to €0,43. Once again a random number is chosen to prevent participants from converting lab money into real money, instead of thinking in lab money.

The games that were played can also be found in Appendix B. The options for B are always the same, namely [400,400] or [750,375]. As mentioned before, this is the case because for

this experiment, we only want to see how big the kind action of A should be, thus only the height of the gain for B and the risk or loss for A can vary. The height of the sacrifice B should make and the height of the gain for A should be the same in all the games. There are 7 different games, in which option A1 varies – option A2 is to let B decide, between the same options in every game. A1 has 4 different pay-outs for player A and 2 different outcomes for player B. The outcomes for A can be either 0, 750, 800 or 900. For player B the outcome is either 0 or 200. The decision for those numbers is made following Charness and Rabin. They used only [0,0], [725,0], [750,0] and [800,0]. In this experiment we added the 200 as outcome for B to get different levels of gains for A, and 900 as a pay-out for A to make the kind action bigger.

4.2 Results and interpretation

Table I shows the results of the different games. Only the results for the choices of player B are shown, because those are the decisions of interest.

Table I

Games	**(#)**	**(400,400)**	**(750,375)**	**p-value**
A chooses (0,0) or lets B decide	(3)	.85	.15	-
(400,400) vs. (750,375)		(61)	(11)	
A chooses (750,0) or lets B decide	(2)	.68	.32	.003788
(400,400) vs. (750,375)		(49)	(21)	
A chooses (750,200) or lets B decide	(6)	.69	.31	.006677
(400,400) vs. (750,375)		(50)	(22)	
A chooses (800,0) or lets B decide	(7)	.71	.29	.012115
(400,400) vs. (750,375)		(51)	(21)	
A chooses (800,200) or lets B decide	(4)	.75	.25	.062705
(400,400) vs. (750,375)		(54)	(18)	
A chooses (900,0) or lets B decide	(5)	.78	.22	.163642
(400,400) vs. (750,375)		(56)	(16)	
A chooses (900,200) or lets B decide	(1)	.72	.28	.021472
(400,400) vs. (750,375)		(52)	(20)	

The first column states the game and the second column gives the number of the game that was given during the experiment. In the following two columns the percentages of participants that choice that option, stated for the column, are given. Also, in between brackets, the actual number of participants that choice the option are stated. The p-value, following a two tailed t-test, in the last column shows at what level the decision of B in that game differs from the decision B made in the neutral game (3) – A chooses (0,0) or lets B decide (400,400) vs. (750,375).

In most of the cases, the difference is highly significant. Looking at the percentages one can see that for all games, B chooses (750,375) more often than in the neutral game. This is what is expected if one is positively reciprocal. Striking is that the difference when A1 is (750,0) is the most significant ($p < 0.003788$), while the difference when A1 is (900,0) is not significant ($p < 0.163642$). Positive reciprocity can thus be seen in the former option, while it is not significantly present in the latter. The opposite would have been more expected, because A makes a bigger sacrifice in the latter decision. An explanation might be one that is already briefly discussed in section 3.2. If B thinks the sacrifice made by A when choosing A2 is non-credible and he knows his decision is only relevant when A chooses A2, he might think the choice he makes will be irrelevant, this might cause B to make biased decisions. In this case it might be that people do not expect A to make such a high sacrifice, in other words make a kind action this high, and therefore make a biased decision in the latter choice.

One could slightly answer the first sub-question - *What is the height of the kind action that triggers positive reciprocity by B?* – with the above mentioned results. The kind action is divided into two parts, the risk A takes (sacrifice if B choose B1) and the sacrifice A makes if B chooses B2. If one gives the results in absolute values, the risk A takes should be smaller than 500 – there might be a lower bound at 350 but there was no game to test for this, since there is still positive reciprocity at 350 – and the sacrifice A makes if B chooses B2 should be smaller than 150. In both cases, the upper bound might be lower than is stated here, they could be respectively 400 and 50, but there was no game to test the values between those bounds. However, one could also phrase the results in terms of likelihood of occurrence. Results generally show that, if the risk is lower than 500 and the sacrifice is lower than 150 – following the same sub-notes as before -, on average 15% of the participants behave more positively reciprocal than in the neutral case.

This pilot project has its limitations. First of all, the outcomes given may have been affected because the students might give biased answers because they are able to see a relationship between the questions. In the full experiment this will be eliminated because the three parts of the experiment will be combined, making it less obvious. Next to that, although it ensures that the subjects are relatively homogeneous and thus there is no need to control for socioeconomic variables, the decisions might not be representative of the entire population because it is only tested on first bachelor year economics and business economics students. Furthermore, students might not see each other as strangers and may not feel totally anonymous. This might cause socially-preferred answers. The small exchange rate and the small pay-out ratio may also be a problem. In the ideal experiment the exchange rate is higher and everybody can be paid for multiple (not all) games. This can ensure better real-world decisions.

5. Conclusion

The main purpose of this thesis was to design an experiment with which the foundation will be laid for further research. The extend of positive reciprocity should be further examined, since researchers up until now were mostly unable to find substantial evidence for the existence of positive reciprocity. Therefore, the minimum relative differences between the level of the kind action, the height of the sacrifice and the height of the opponents gain, that trigger positive reciprocity, should be determined.

The experiment is designed following the experiments conducted by Charness and Rabin (2002). Taken into account are the games that did or did not provide indications for the existence of positive reciprocity. 150 games for each role are designed to determine the above mentioned minimum relative differences.

On the basis of the designed experiment, a pilot project was designed and executed. The pilot projects' focus was on the first part of the experiment – the height of the kind action made by A. The results were partly significant, giving some indication of the existence of positive reciprocity. Nevertheless, the results were striking since the highest sacrifice gave a non-significant result while the smallest sacrifice in the games gave a highly significant result. This might be due to non-credibility and biased decisions. Further examination can be made

while executing the experiment, since the experimental design will eliminate most limitations of the pilot project.

However, since the results of the pilot project already slightly give a significant indication for the existence of positive reciprocity, this has its implications. If positive reciprocity is indeed existing, employers can set a higher wage and expect employees to exert a higher work effort, since employees will experience the higher wage as an act of kindness. This can increase efficiency in the labor market. Also, producers can set lower prices and expect consumers to increase their sales volume, since consumers will experience the price decrease as an act of kindness. Furthermore, government can introduce other tax schemes, since tax-payers would act positively reciprocal towards a decrease in taxation, since it can be seen as a kind action.

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Appendix A

Disclosure Experiment

Thank you for participating in this experiment. You will receive a show-up fee of €5 in addition to other money to be paid as a result of decisions made in the experiment.

In this experiment, you will make decisions in several different situations ("games"). The decisions and outcomes from each game are independent and thus will not affect outcomes in any other game. In every game, you are anonymously paired with someone. In every game, you are paired with a different person than in previous decisions. Keep in mind that your decision may affect the payoff of others, just as the decision of others may affect your payoff.

There are two roles in each game, player A and player B, and each game consists of two periods. Notice that you can be either one of those players in the different games. Every game you play will be played by someone else, playing the other role. You will not be informed of the results of any previous period or game prior to making your decision.

In the experiment, lab money is used. The exchange rate is 100 lab money equals €0,83. Please note that some of the games played are hypothetical. You will have 27 outcomes, from which only 9 outcomes will be selected for payoffs. You will select those games randomly at the end of the experiment. After you have selected the games, you will receive your outcome in a sealed envelope which will be brought to your cubicle. Please stay seated until you have received the envelope.

Please feel free to ask questions at any point in time if you feel you need clarification. Please do so by raising your hand. Please DO NOT attempt to communicate with any other participants in the session until the session is concluded.

We will proceed to the decisions once the instructions are clear. Are there any questions?

Games

Decision: {[X,0]} or {[X-Y,X-Y] or [X-W,X-Y-Z]}

X=750,850,950 Y=150,250,350 Z=10,25,50 W=0,50,100

Decision 1:	{[750,0]}	or	{[400,400] or [750,390]}
Decision 2:	{[750,0]}	or	{[400,400] or [750,375]}
Decision 3:	{[750,0]}	or	{[400,400] or [750,350]}
Decision 4:	{[750,0]}	or	{[500,500] or [750,490]}
Decision 5:	{[750,0]}	or	{[500,500] or [750,475]}
Decision 6:	{[750,0]}	or	{[500,500] or [750,450]}
Decision 7:	{[750,0]}	or	{[600,600] or [750,590]}
Decision 8:	{[750,0]}	or	{[600,600] or [750,575]}
Decision 9:	{[750,0]}	or	{[600,600] or [750,550]}
Decision 10:	{[750,0]}	or	{[400,400] or [700,390]}
Decision 11:	{[750,0]}	or	{[400,400] or [700,375]}
Decision 12:	{[750,0]}	or	{[400,400] or [700,350]}
Decision 13:	{[750,0]}	or	{[500,500] or [700,490]}
Decision 14:	{[750,0]}	or	{[500,500] or [700,475]}
Decision 15:	{[750,0]}	or	{[500,500] or [700,450]}
Decision 16:	{[750,0]}	or	{[600,600] or [700,590]}
Decision 17:	{[750,0]}	or	{[600,600] or [700,575]}
Decision 18:	{[750,0]}	or	{[600,600] or [700,550]}
Decision 19:	{[750,0]}	or	{[400,400] or [650,390]}
Decision 20:	{[750,0]}	or	{[400,400] or [650,375]}
Decision 21:	{[750,0]}	or	{[400,400] or [650,350]}
Decision 22:	{[750,0]}	or	{[500,500] or [650,490]}
Decision 23:	{[750,0]}	or	{[500,500] or [650,475]}
Decision 24:	{[750,0]}	or	{[500,500] or [650,450]}
Decision 25:	{[750,0]}	or	{[600,600] or [650,590]}
Decision 26:	{[750,0]}	or	{[600,600] or [650,575]}
Decision 27:	{[750,0]}	or	{[600,600] or [650,550]}
Decision 28:	{[850,0]}	or	{[500,500] or [850,490]}
Decision 29:	{[850,0]}	or	{[500,500] or [850,475]}
Decision 30:	{[850,0]}	or	{[500,500] or [850,450]}
Decision 31:	{[850,0]}	or	{[600,600] or [850,590]}
Decision 32:	{[850,0]}	or	{[600,600] or [850,575]}
Decision 33:	{[850,0]}	or	{[600,600] or [850,550]}
Decision 34:	{[850,0]}	or	{[700,700] or [850,690]}
Decision 35:	{[850,0]}	or	{[700,700] or [850,675]}
Decision 36:	{[850,0]}	or	{[700,700] or [850,650]}
Decision 37:	{[850,0]}	or	{[500,500] or [800,490]}
Decision 38:	{[850,0]}	or	{[500,500] or [800,475]}
Decision 39:	{[850,0]}	or	{[500,500] or [800,450]}
Decision 40:	{[850,0]}	or	{[600,600] or [800,590]}
Decision 41:	{[850,0]}	or	{[600,600] or [800,575]}

Decision 42:	{[850,0]}	or	{[600,600] or [800,550]}
Decision 43:	{[850,0]}	or	{[700,700] or [800,690]}
Decision 44:	{[850,0]}	or	{[700,700] or [800,675]}
Decision 45:	{[850,0]}	or	{[700,700] or [800,650]}
Decision 46:	{[850,0]}	or	{[500,500] or [750,490]}
Decision 47:	{[850,0]}	or	{[500,500] or [750,475]}
Decision 48:	{[850,0]}	or	{[500,500] or [750,450]}
Decision 49:	{[850,0]}	or	{[600,600] or [750,590]}
Decision 50:	{[850,0]}	or	{[600,600] or [750,575]}
Decision 51:	{[850,0]}	or	{[600,600] or [750,550]}
Decision 52:	{[850,0]}	or	{[700,700] or [750,690]}
Decision 53:	{[850,0]}	or	{[700,700] or [750,675]}
Decision 54:	{[850,0]}	or	{[700,700] or [750,650]}
Decision 55:	{[950,0]}	or	{[600,600] or [950,590]}
Decision 56:	{[950,0]}	or	{[600,600] or [950,575]}
Decision 57:	{[950,0]}	or	{[600,600] or [950,550]}
Decision 58:	{[950,0]}	or	{[700,700] or [950,690]}
Decision 59:	{[950,0]}	or	{[700,700] or [950,675]}
Decision 60:	{[950,0]}	or	{[700,700] or [950,650]}
Decision 61:	{[950,0]}	or	{[800,800] or [950,790]}
Decision 62:	{[950,0]}	or	{[800,800] or [950,775]}
Decision 63:	{[950,0]}	or	{[800,800] or [950,750]}
Decision 64:	{[950,0]}	or	{[600,600] or [950,590]}
Decision 65:	{[950,0]}	or	{[600,600] or [900,575]}
Decision 66:	{[950,0]}	or	{[600,600] or [900,550]}
Decision 67:	{[950,0]}	or	{[700,700] or [900,690]}
Decision 68:	{[950,0]}	or	{[700,700] or [900,675]}
Decision 69:	{[950,0]}	or	{[700,700] or [900,650]}
Decision 70:	{[950,0]}	or	{[800,800] or [900,790]}
Decision 71:	{[950,0]}	or	{[800,800] or [900,775]}
Decision 72:	{[950,0]}	or	{[800,800] or [900,750]}
Decision 73:	{[950,0]}	or	{[600,600] or [850,590]}
Decision 74:	{[950,0]}	or	{[600,600] or [850,575]}
Decision 75:	{[950,0]}	or	{[600,600] or [850,550]}
Decision 76:	{[950,0]}	or	{[700,700] or [850,690]}
Decision 77:	{[950,0]}	or	{[700,700] or [850,675]}
Decision 78:	{[950,0]}	or	{[700,700] or [850,650]}
Decision 79:	{[950,0]}	or	{[800,800] or [850,790]}
Decision 80:	{[950,0]}	or	{[800,800] or [850,775]}
Decision 81:	{[950,0]}	or	{[800,800] or [850,750]}

All games will also be played without option A1. In those cases, A won't make a decision. The numbering for those games will start at 82, in the same order as the decisions above. 12 games will however be the same when option A1 doesn't count. Games 4-9 would be the same as games 46-51 and games 31-36 would be the same as 73-78. Games 46-51 and 73-78 will thus not be included for the games where A does not have a decision. This will leave a total of 150 (81+69) unique decisions.

Appendix B

Disclosure Pilot Project

Thank you for participating in this experiment. This will bring me a step closer to finishing my bachelor degree.

In this experiment, you will make decisions in several different situations ("games"). The decisions and outcomes from each game are independent and thus will not affect outcomes in any other game. In every game, you are anonymously paired with someone from another group. Keep in mind that your decision may affect the payoff of others, just as the decision of others may affect your payoff. In every game, you are paired with a different person than in previous decisions.

There are two roles in each game, player A and player B, and each game consists of two periods. You will play each game twice, with a different role (and a different anonymous pairing) in each case. You will not be informed of the results of any previous period or game prior to making your decision. If you have made your decisions, please turn your decision sheet over, so that it is clear when people are finished.

Please note that the games played are mostly hypothetical. Only one pair of participants, of one game, will be chosen (randomly) to be paid their outcome. Note that in the experiment, lab money is used. The exchange rate is 100 lab money equals €0,43. At the end of the experiment, you will see a box in which you can fill in either your IBAN or your e-mail. If you are selected to receive your outcome and you choose to fill in your IBAN, the money will be transferred to your bank-account. If you prefer to fill in your e-mail, I will get in touch with you to arrange the payment if you have been selected. Note that in this case your class mates still don't know you received the price and/or what amount you received.

Please feel free to ask questions at any point in time if you feel you need clarification. Please do so by raising your hand. Please DO NOT attempt to communicate with any other participants in the sessions until both sessions are concluded.

We will proceed to the decisions once the instructions are clear. Are there any questions?

Answer form participants who are player A first and then player B

Part 1

For the first part of the experiment, you are player A. We want you to give your choice for the games that are shown on the screen. Please encircle your preferred choice.

Decision 1	A1	A2
Decision 2	A1	A2
Decision 3	A1	A2
Decision 4	A1	A2
Decision 5	A1	A2
Decision 6	A1	A2
Decision 7	A1	A2

Part 2

For the second part of the experiment, you are player B. We want you to give your choice for the games that are shown on the screen. Please encircle your preferred choice.

Decision 1	B1	B2
Decision 2	B1	B2
Decision 3	B1	B2
Decision 4	B1	B2
Decision 5	B1	B2
Decision 6	B1	B2
Decision 7	B1	B2

Payment information

IBAN		Name of accountholder
E-mail		

Answer form participants who are player B first and then player A

Part 1

For the first part of the experiment, you are player B. We want you to give your choice for the games that are shown on the screen. Please encircle your preferred choice.

Decision 1	B1	B2
Decision 2	B1	B2
Decision 3	B1	B2
Decision 4	B1	B2
Decision 5	B1	B2
Decision 6	B1	B2
Decision 7	B1	B2

Part 2

For the second part of the experiment, you are player A. We want you to give your choice for the games that are shown on the screen. Please encircle your preferred choice.

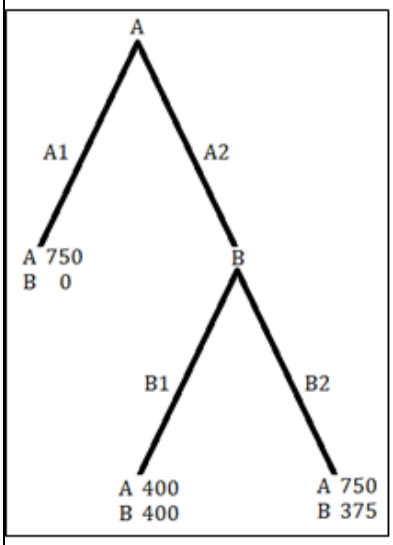
Decision 1	A1	A2
Decision 2	A1	A2
Decision 3	A1	A2
Decision 4	A1	A2
Decision 5	A1	A2
Decision 6	A1	A2
Decision 7	A1	A2

Payment information

IBAN		Name of accountholder
E-mail		

Games

Decision 1



You may choose Al or A2.

If you choose Al, you would receive 750, and player B would receive 0. If you choose A2, then player B's choice of Bl or B2 would determine the outcome. If you choose A2 and player B chooses Bl, you would each receive 400. If you choose A2 and player B chooses B2, you would receive 750, and he or she would receive 375. Player B will make a choice without being informed of your decision. Player B knows that his or her choice only affects the outcome if you choose A2, so that he or she will choose Bl or B2 on the assumption that you have chosen A2 over Al.

Please encircle your preferred choice on your answer sheet

Above you can see the format for the decisions made in the pilot project. This was shown to the participants on a screen in the front of the classroom. Below the games that were played are summed.

Part A

Decision 1: {[750,0]}	or	{[400,400] or [750,375]}
Decision 2: {[900,200]}	or	{[400,400] or [750,375]}
Decision 3: {[800,0]}	or	{[400,400] or [750,375]}
Decision 4: {[0,0]}	or	{[400,400] or [750,375]}
Decision 5: {[900,0]}	or	{[400,400] or [750,375]}
Decision 6: {[750,200]}	or	{[400,400] or [750,375]}
Decision 7: {[800,200]}	or	{[400,400] or [750,375]}

Part B

Decision 1: {[900,200]}	or	{[400,400] or [750,375]}
Decision 2: {[750,0]}	or	{[400,400] or [750,375]}
Decision 3: {[0,0]}	or	{[400,400] or [750,375]}
Decision 4: {[800,200]}	or	{[400,400] or [750,375]}
Decision 5: {[900,0]}	or	{[400,400] or [750,375]}
Decision 6: {[750,200]}	or	{[400,400] or [750,375]}
Decision 7: {[800,0]}	or	{[400,400] or [750,375]}