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Bonn 2012/6**

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Abstract

Bracketing is a mental procedure about how people deal with multiple tasks. If a decision maker handles all the tasks at the same time, it is called broad bracketing. If she handles the tasks separately, e.g., one or a few tasks each time, it is called narrow bracketing. This paper experimentally investigates the effect of broad versus narrow bracketing in the context of a mini-trust game. The result shows that, in the narrow bracketing treatment, the investor (first mover) is more likely to place trust in others, but the receiver (second mover) is less likely to fulfill the trust under the same condition. The effect is partly conditional on beliefs in others' behavior.

Keywords: Framing, Choice Bracketing, Social Preference

JEL Codes: C91 (Design of Experiments);

D03 (Behavioral Economics)

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1. Introduction

When a decision-maker faces many tasks, she may evaluate the overall consequences simultaneously or group the tasks into multiple subsets, e.g., put one or a few tasks in each subset, and solve the subsets separately. Such a mental process that describes how people solve several tasks is called choice bracketing. The global evaluating process is termed as *broad bracketing* and the subset evaluating process is termed as *narrow bracketing*. Classical economic theory assumes that people use broad bracketing when making decisions. That is, they evaluate all the possible options at the same time and make decisions that could maximize the overall outcome. However, empirical research has found that this assumption is often violated. For example, in a study on consumer's behavior, Simonson (1990) set two hypothetical purchasing situations to the consumers: in one scenario, people needed to choose food consumption decisions simultaneously for three coming weeks which is a broad bracketing condition; in the other scenario, people made the decisions for each week at the beginning of every week which is a narrow bracketing condition. Simonson found that when making decisions simultaneously, consumers' choices were more variety-seeking than when making decisions subsequently. Moreover, in further research concerning consumer's purchasing decisions (Gourville, 1998), the price was framed either as an aggregate one-time expense (broad bracketing) or by dividing the cost into series of small ongoing expenses (narrow bracketing). The finding was that when facing a narrow bracketing situation which was called "pennies-a-day", consumers were more likely to purchase the product than in the broad bracketing situation. Besides, choice bracketing had been found to be influential in the domain of investment decisions (Gneezy & Potters, 1997; Thaler et al., 1997), where people were more risk-averse when the gambles were presented at one time; and demand for the state lottery tickets (Haisley, Mostafa & Loewenstein, 2008), where people were more likely to buy lottery tickets when making several purchase decisions separately.[2]

In the previous applications, suppliers exploit bracketing to their advantage. In so doing, they act strategically. But to the extent that suppliers are under the control of workable competition, the underlying situation is not one of strategic interactions. Does bracketing also influence choices if the situation is itself fraught with strategic interaction? This is the question posted in this paper. Specifically I investigate whether choices in a dilemma differ between two conditions: when two unrelated but identical dilemmas are presented sequentially, and when they are presented simultaneously. With this test, I aim at understanding how choice bracketing and social preference interact. To the best of my knowledge, this is the first study on this question. The answer is not only of interest for behavioral economists. If there is a sufficiently pronounced difference, bracketing might also serve as a very mild form of

[2] See Read, Loewenstein and Rabin (1999) for an extensive review of the literature on choice bracketing.

intervention for policy makers.

The workhorse used for testing the influence of choice bracketing is a mini-trust game (Berg, Dickhaut & McCabe, 1995). Experimental treatments include broad bracketing and narrow bracketing. The broad bracketing treatment is set by asking subjects to make the two choices on the same screen, while the narrow bracketing treatment is set by asking subjects to make their two decisions on two subsequent screens.

If, as assumed in classic economic theory, people hold standard preferences, it is irrelevant how two independent tasks are presented. Even for a person who holds social preferences, it is often supposed that the preferences are pretty stable which means social preferences will not be affected by the visual frame of the tasks (Bolton & Ockenfels, 2000; Charness & Rabin, 2003; Fehr, Naef & Schmidt, 2005). Therefore, I offer a hypothesis that is consistent with classic theory. That is, there should be no difference between behaviors under two bracketing conditions. However, by intuition, the hypothesis is doubtable for the following reason. In previous research, it has been proved that, under different bracketing situations, the mental procedures that decision makers invoke are different, e.g., in the broad bracketing condition, subjects solve the problems by considering the overall tasks from a global perspective and maximizing the whole payoff, whereas in the narrow bracketing condition, subjects deal with the tasks separately, i.e., one or several tasks at a time. For the participants who are involved in the two bracketing conditions in my experiment, it is reasonable to speculate that they could invoke different mental procedures. Suppose, if a participant faces two games sequentially and one per screen, she would develop a solution for the game she sees each time. But if a subject sees two dilemmas on the same screen, she is induced to consider both problems as a set. This could lead to more calibrations than in a single game. As a result, the decisions might not be the same as the ones when participants deal with the problems separately.

The remainder of the paper is organized as follows. Section 2 illustrates how the bracketing environment is set for the participants and introduces the experimental procedures in detail. Section 3 presents the experimental results. Section 4 discusses two potential explanations for the effects found in the experiment. Section 5 is the conclusion.

2. Experimental Design

2.1. The Game

Figure 1 shows the game tree of the mini-trust game where player A (investor) can choose to not place her trust (option A1) or place her trust (option A2) and player B (receiver) can choose not to be trustworthy (option B1) or to be trustworthy (option B2). In order to exclude the possibility that feedback concerning what the partner did in the previous game interacts with the frame, neither player A nor player B receives information of the decisions their partners already made. Because this is a sequential game, for the sake of comparing the decisions made by all the second movers (players B), I use the strategy method to elicit their decisions (Selten, 1967). More specifically, player B is asked to answer the hypothetical questions, i.e., "if player A's decision in stage 1 in the blue (green) game is A2, my decision in the blue (green) game is: B1 or B2".

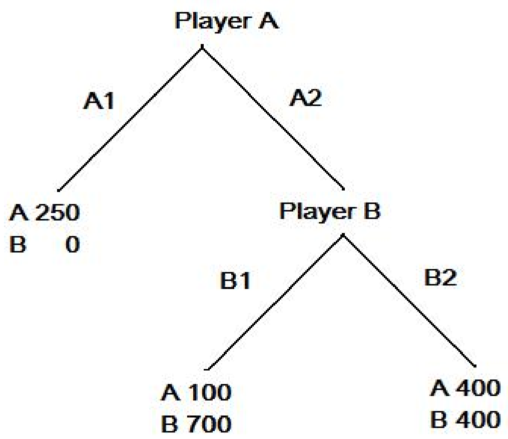

Figure 1 The Mini-Trust Game

There are two treatments in the experiment: broad bracketing and narrow bracketing, which are differentiated by the visual appearance displayed to the participants. In the broad bracketing treatment (*Broad*), two identical games are presented on the same screen, and the participants are asked to input the two decisions at the same time (see Appendix I, Panel A), while in the narrow bracketing treatment (*Narrow*), two identical games are presented sequentially — each time only one game is shown on the whole screen — and the participants have to input their decisions one by one (see Appendix I, Panel B). From the instructions, participants know that they will play the same game twice, and they will be randomly matched with two different players, but do not know how the games will be displayed on the screen. In order to avoid hedging, one game out of the two is drawn to implement for real payment.

2.2. Experimental Procedure

The experiments were run in the Bonn Econ Lab at the University of Bonn in 2010. All participants were recruited with ORSEE (Greiner, 2004). They were students from various disciplines at the University of Bonn who participated in the experiment for the first time. No subject was allowed to attend the experiment more than once. Payoffs were stated in experimental points in the games and converted into Euros at an exchange rate of 100 points = 1 Euro at the end. Each session lasted about half an hour. On average, the students earned 2.37 Euros plus a show-up fee, which was paid at the end of the session.

In each session, participants randomly drew numbers so as to know their terminals in the lab. After being seated in the cubicles that were visually separated from one another by curtains, the experimenter read the instructions aloud and explained them in detail (see Appendix II for the instructions).[3] The experiment was programmed and conducted with the software z-Tree (Fischbacher, 2007). The participants had their roles assigned at the beginning of the game and knew that the roles would not change in the whole experiment. For the sake of distinguishing the two identical games they played in the experiment, the first one was called "blue game" and the second one was called "green game".[4]

Participants received identical instructions (see Appendix II) in two treatments. The instructions presented the game that would be played in the experiment, informed participants of the fact that the same game would be played twice, and explained the results of all the possible payoffs in detail, without supplying information on how the two games would be displayed on the screen(s). In the print-out instructions, characters instead of numbers were used in the payoff matrix. The reason of doing so was to allow participants to make their decisions only when they faced with the computers. If the game with real numbers was shown to the participants in the print-out instructions, it was possible that the decisions were already made when subjects read the instructions and as a result, the settings of the choice bracketing were meaningless. This possibility needs to be excluded.

Furthermore, a player A was randomly matched with a player B in the blue game and randomly matched with another player B in the green game. Once all the participants made their decisions, their beliefs about the behavior of others were elicited before the announcement of their payoffs in the experiment. And they did not know in advance that their beliefs would be elicited. Participants needed to answer questions about behavior of both players A and players B in this stage (see Appendix III). The decisions on beliefs were not incentivized.

3. Experimental Results

In this section, I will show the experimental results in two main parts: from the perspective of the investors (Players A) and from the perspective of the receivers (Players B). Figure 2 descriptively presents the choices participants made in the games.

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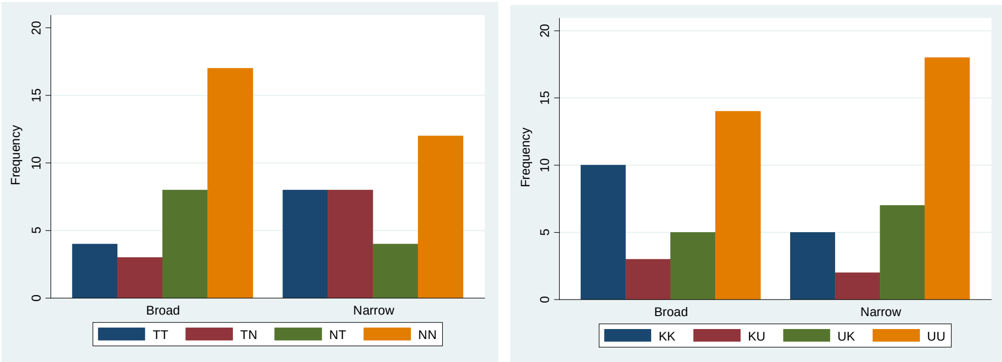
[3] The instructions used in the experiment were written in German.

[4] In order to avoid color-dependent emotional behavior, blue and green are intentionally chosen for labeling games (Valdez and Mehrabian, 1994).



Panel A: Player A's Decisions   Panel B: Player B's Decisions

Broad denotes the broad bracketing treatment and *Narrow* denotes the narrow bracketing treatment. T denotes an investor places trust (option A2). N denotes an investor does not place trust (option A1). U denotes that a receiver is not trustworthy (option B1). K denotes a receiver is trustworthy (option B2). The first letter in a pair, e.g., T in TN, denotes the strategy chosen in the first game (blue game), and the second letter denotes the strategy chosen in the second game (green game).

Figure 2 Decisions in the Mini-Trust Game

From Figure 2 it could be seen that, under two bracketing conditions, both players A and players B behaved differently, especially with regard to the selection of undesirable-choice pair, e.g., NN of player A and UU of player B, and the selection of desirable-choice pair, e.g., TT of player A and KK of player B.

3.1. The Behavior of Player A (Investor)

Now I first focus on the behavior of investors - players A. In the game, a player A needs to decide whether to place trust (option A2) or not to place trust (option A1) in player B. If player A is reluctant to place trust, the game is over. Otherwise the right of making a final allocation is given to player B. There are 32 subjects in each treatment and each subject makes two decisions, so there are 64 decisions made in each treatment. The behavioral result is the following: the frequency of the trust strategy (A2) being chosen is higher in the narrow bracketing treatment (28 times out of 64 decisions) than in the broad bracketing treatment (19 times out of 64 decisions). It is obvious that there are more players A in the narrow bracketing condition decide to trust than in the broad bracketing condition. Yet, the difference between treatments is neither parametrically nor non-parametrically statistically significant. The Logit regression (random effect model) with a treatment dummy only confirms the idea.[5]

Relying on Hardin's (2006) argument that trust is encapsulated self-interest, player A

[5] I run a Logit regression (random effect model). The dependent variable is the decisions players A made in the experiment. The independent variable is the treatment dummy. The effect of treatment dummy is not statistically significant.

has to find good reasons to trust her partner player B. If both players hold standard preferences, i.e., if either of them maximizes payoff, and if she expects her counterpart to do the same, beliefs do not matter. The game is solved by backward induction. A receiver holding standard preferences exploits the investor when given the opportunity. In anticipation, the investor does not place trust. Yet from earlier experiments it is proved that a substantial fraction of receivers refrain from exploitation (Arrow, 1972; Fukuyama, 1995; Putnam, 1993). Such behavior has been explained by social preferences and by the intention-based preference for reciprocal behavior in particular (Cox, 2004; Bohnet et. al., 2008; Fehr, 2009; Ben-Ner & Halldorsson, 2010; Ermisch et. al., 2009). If the investor deems trusting behavior not impossible, for her decision, beliefs are critical. So it is reasonable to doubt whether player A's belief in what players B will do is the potential alternative that leads to the treatment difference in the experiment. Besides, previous studies point out that expectation not only influences individual decision-making when expectation relates to payoff (Rapoport & Eshed-Levy, 1989; Rapoport & Suleiman, 1993; Offerman et al., 1996; Croson, 2000; Croson & Shang, 2006; Charness & Dufwenberg, 2006), but also when it is irrelevant to payoff (Cason & Mui, 1998; Bardsley & Sausgruber, 2005). Although what the other players A choose will not influence player A's payoff, the prediction is a normative expectation. Therefore I introduce player A's beliefs in both the behavior of players B and the behavior of the other players A into the regression for finding out the factors that influence player A's decisions.

First, I regress player A's decision to place trust on the bracketing conditions, the sequence of games and beliefs. There are two beliefs in the regression. One is player A's belief in the percentage of players B who will not fulfill the trust (*Belief Not Trustworthy*) in the blue game (when *Sequence*=1) or in the green game (when *Sequence*=0). The other is the percentage of the other players A who will not place trust in player B (*Belief Not Trust*) in the blue game (if *Sequence*=1) or in the green game (if *Sequence*=0). The regression result is presented in Table 1.

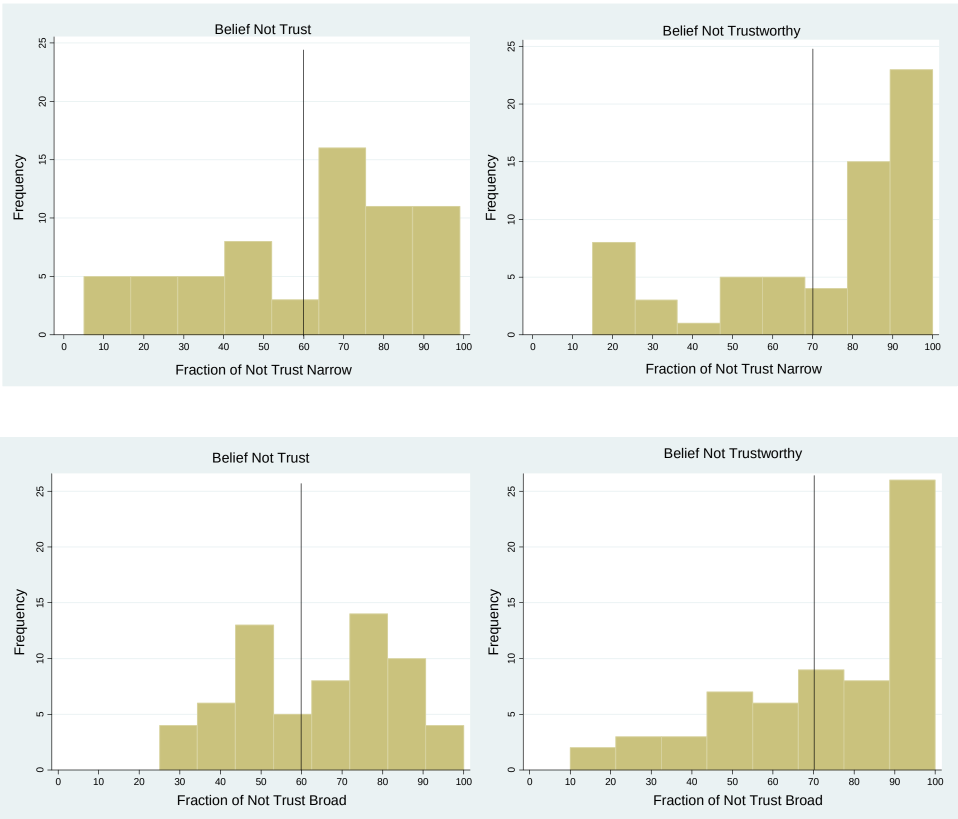
The result in the table reveals the fact that player A's predictions of other players' behavior play an important role regarding her decisions, and the effect is significant. First, in the experimental setting, the most straightforward belief that player A normally uses for making decisions should be the belief in the actions of players B. If player A deals with the problems strategically, she needs to consider the choices of players B so as to find out the best response. This is proved by the significance of the variable - *Belief not Trustworthy*. The negative coefficient of the variable indicates that the higher an investor believes the fraction of receivers who will not to be trustworthy is, the lower the probability that an investor places her trust is. Player A succeeds in reacting strategically to the prediction of the behavior of the players B. Besides, it is interesting to find that, in games, player A cares about how the other players A behave as well, and this effect is surprisingly stronger than *Belief Not Trustworthy* which could be inferred from the variables' coefficients. The negative coefficient of the variable - *Belief Not Trust* proves that the higher that a player A forecasts the proportion of the other players A who will not place their trust is, the lower the probability that a player A chooses to trust is. The coefficient demonstrates the fact that, for player A, the opinion about the behavior of the other players A is even more important than the opinion about the trustworthiness of the recipients. This illustrates that player A's main consideration is not strategic, but rather rests on the normative expectation.

Table 1 Determinants for Decision to Place Trust

	Dependent Variable: *Place Trust*
Treatment	-0.518
	(0.459)
Belief Not Trust (%)	-0.0397***
	(0.0118)
Belief Not Trustworthy (%)	-0.0182*
	(0.00981)
Sequence	0.218
	(0.439)
Constant	3.294***
	(0.988)
Observations	128
Number of Obs.	64

Notes: Logit regression (random effect model) results on the determinants of player A 's decisions to place trust. *Treatment* is a dummy which equals 1 for the broad bracketing treatment and 0 for the narrow bracketing treatment. *Belief Not Trust* is player A's belief in the percentage of the other players A choosing not to place trust. *Belief Not Trustworthy* is player A's belief in the percentage of players B choosing not to be trustworthy. *Sequence* is a dummy which equals 1 for the blue game and 0 for the green game. Absolute value of z statistics is in parentheses. * stands for significant at 10%; ** stand for significant at 5%; *** stand for significant at 1%.

However, the treatment effect is still not significant in the regression.[6] At this moment, it is necessary to ask whether the bracketing condition does not influence player A's behavior in any situation. In order to answer this question, the first step is to see how the beliefs distribute which is shown in Figure 3 (for more details, see appendix IV).



Note: *Belief Not Trust* stands for player A's belief in the fraction of the other players A who will not place trust. *Belief Not Trustworthy* stands for player A's belief in the fraction of players B who will not fulfill the trust. The vertical line is the reference line for the treatment effect.

Figure 3 Distribution of Player A's Beliefs

In Figure 3, it is displayed that beliefs vary widely, especially the belief on what the other players A behave.[7] It has been proved previously that the belief in how others behave is an important factor that has been taken into account by player A. Therefore, it is reasonable to suspect whether, for players A who hold different levels of belief, the bracketing conditions have different influence on the decision to trust. In other

[6] I also run regressions with other possible variables' combinations, e.g., with interaction items included, but none of them have a significant treatment effect.

[7] The variance of *Belief Not Trustworthy* is not significantly different between treatments (variance-comparison tests, p=0.443).The variance of *Belief Not Trust* is significantly different between treatments (variance-comparison tests, p=0.034).

words, the wide distribution of belief is the reason for the invisibility of treatment effect.

To examine this possibility, I run a Logit regression (random effect model) on the determinants with all possible interaction items and test the marginal effect conditional on the levels of belief (see Figure 4). In the figure, each slot presents the treatment effect on a unique value of *Belief Not Trustworthy*. The x-axis in each slot is player A's prediction on the percentage of the other players A who will not place trust. The y-axis is the average marginal effect.

The four slots in Figure 4 display that the treatment effect reverses for those players A who perceive high percentage of the other players A will choose not to place trust versus those players A who perceive low percentage of the other players A will choose not to place trust. Specifically speaking, for those players A who simultaneously forecast that there will be more than 60% of the other players A will not trust their co-players and more than 70% of players B will choose not to be trustworthy, the treatment effect significantly differs from 0 (more details, see Appendix V). And the probability of choosing to place trust is lower for this type of players A who are in the broad bracketing condition than this type of players A who are in the narrow bracketing condition.

Although not all the players A are influenced by the bracketing conditions, the subpopulation that is affected is the majority of the whole population, which could be read from Figure 3. It is time to question why people behave differently in two bracketing conditions. My explanation is that two groups of player A solve the games via different mental procedures. In the narrow bracketing condition, player A deals with two problems one by one, as in the repeated game without feedback. She tries to figure out the solution for each single case when faces with it. But, in the broad bracketing condition, when faces with two games at the same time, player A treats the problems as a package instead of two single games and reflects more intensely about what is a good policy in such a situation. This makes her, besides other things, think more about whether it is wise to place trust. One way of finding this out is predicting what others who are in the same role would choose. So, not only the *Belief Not Trustworthy*, but also the *Belief Not Trust* significantly influences the decisions. And the latter belief is a more important consideration than the former one.

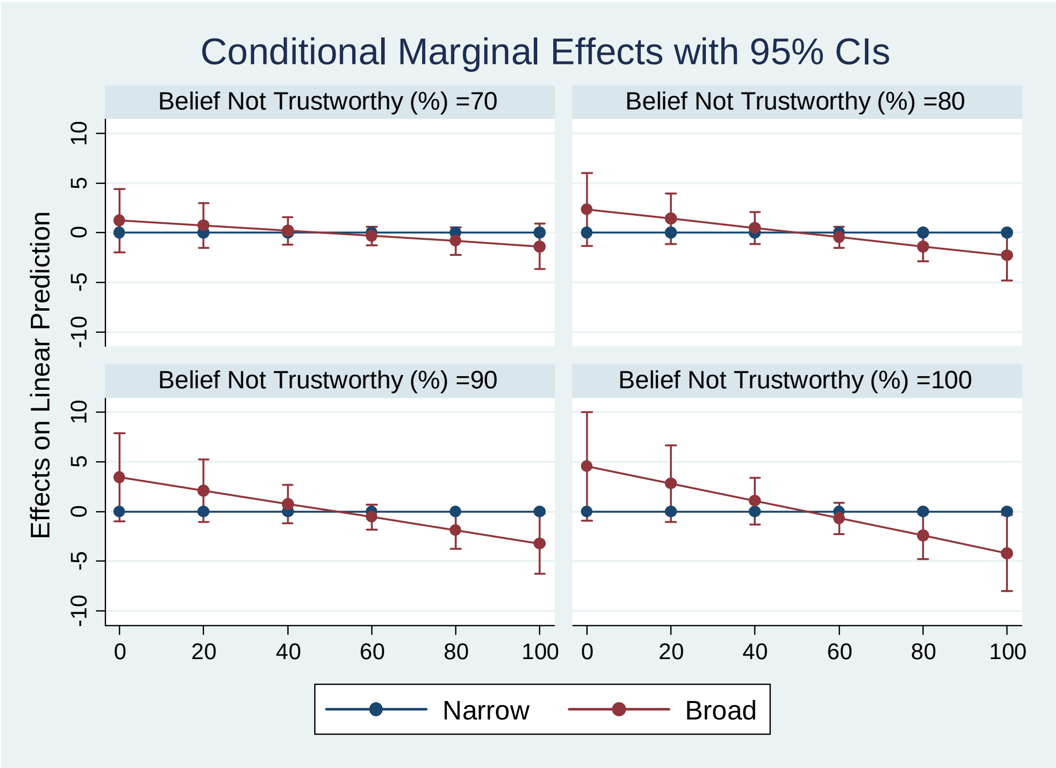


Figure 4 Average Marginal Effects (Player A)

Besides, another way of interpreting beliefs provides support to the explanation mentioned above. In the experiment, player A answered two belief elicitation questions concerning the behavior of the other players A. One is the belief in what the other players A will choose in the blue game. The other one is the belief in what the other players A will choose in the green game. I set two variables for these beliefs. The variable *Belief Not Trust* is the belief elicited in the game player A is playing and the variable *OBelief Not Trust* is the belief elicited in the other game that player A will play or has already played. For example, in blue (green) game, the *Belief Not Trust* is player A's belief in the fraction of the other players A who will choose not to place trust in blue game (green game). And the *OBelief Not Trust* is player A's belief in the fraction of the other players A who will choose not to place trust in the green (blue) game. The *OBelief Not Trust* in one game equals the *Belief Not Trust* in the other game. The aim of this setting is to test whether people form a general belief in the broad bracketing condition. If the answer is yes, the two beliefs would interact with each other in a stronger degree and jointly result in the treatment effect. By running a regression on the determinants for the decisions to place trust with this newly-set variable, the possibility mentioned above gets confirmed (see Table 2). The significance of the interaction item *Belief*OBelief Not Trust* shows that players A, especially those in the broad bracketing, behave in a way that formulates an overall belief about how the other players A will behave. This indicates that, other than showing a strategic reaction, player A has a stronger tendency to imitate people who are in the same role in the broad bracketing condition than in the narrow bracketing condition.

In sum, I find a weakly significant main effect for the broad bracketing treatment in the expected direction. According to the paper by Bicchieri et al. (2011), it is predictable that encouraging behavior of placing trust is not an easy job. This will be discussed in detail after player B's behavior is reported.

Result 1: For those players A who simultaneously hold the beliefs that more than 60% of the other players A will not place trust and more than 70% of players B will not fulfill the trust, the probability that they will choose to place trust is lower in the broad bracketing condition than in the narrow bracketing condition.

Table 2 Determinants for Decision to Trust

	Dependent Variable: *Trust*
Treatment	-0.808*
	(0.480)
Belief Not Trust (%)	0.00465
	(0.0254)
OBelief Not Trust (%)	0.0405
	(0.0256)
*Belief*OBelief Not Trust*	-0.000847**
	(0.000429)
Constant	0.548
	(1.101)
Observations	128
Number of id	64

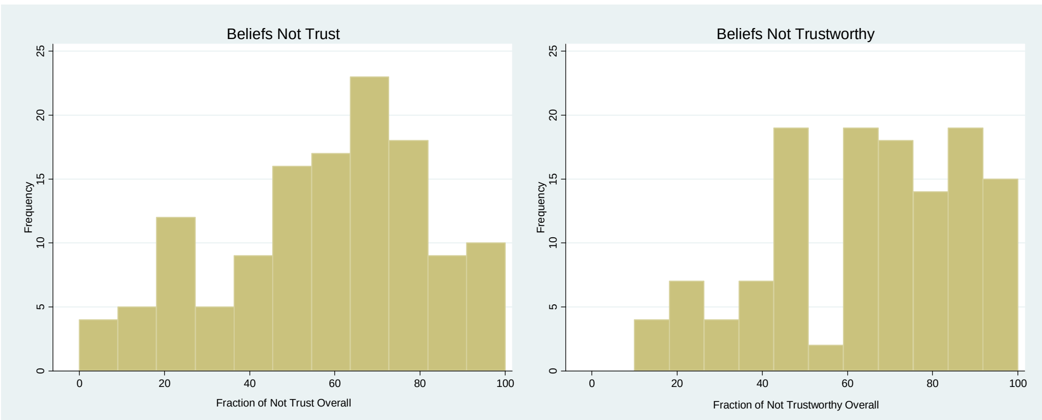
Notes: Logit regression (random effect model) result on the determinants for player A's decisions to place trust. *Treatment* is a dummy which equals 1 for the broad bracketing treatment, 0 for the narrow bracketing treatment. *Belief Not Trust* is player A's belief in the percentage of the other players A choose not to place trust in the current game. *OBelief Not Trust* is player A's belief in the percentage of the other players A to choose not to place trust in the other game. Absolute value of z statistics is in parentheses. * stands for significant at 10%; ** stand for significant at 5%; *** stand for significant at 1%.

3.2. The Behavior of Player B (Receiver)

In this section, I switch the attention to player B's behavior. Player B's decisions are elicited by a strategy method, i.e., "suppose the player A who is matched with you in the blue game (green game) has chosen option A2, as player B what do you want to choose- option B1 or B2".[8] There were 32 players B in each treatment and each player B made two decisions. Therefore, in each bracketing condition, 64 decisions were made. The behavioral result is option B1 (not to be trustworthy) was chosen 36 times in the broad bracketing condition and was chosen 45 times in the narrow bracketing condition.

From the numbers reported above, it could be found that there are more players B in the broad bracketing condition picked the trustworthy option than in the narrow bracketing condition, although the treatment effect is not statistically significant with either the parametric or the non-parametric test. The Logit regression (random effect model) with a *Treatment* dummy produces the same result.

In the section of investigating player A's behavior reported above, it has been proved that beliefs in what others will choose influence player A's decision-making. Hence, I propose that player B's beliefs (see Figure 5) in others' choices and bracketing conditions jointly affect behavior which results in the treatment difference. Table 3 supplies the regression results with both the bracketing conditions and the elicited beliefs as independent variables.



Note: *Belief Not Trust* stands for player B's belief in the fraction of players A who will not place trust. *Belief Not Trustworthy* stands for player B's belief in the fraction of the other players B who will not fulfill the trust.

Figure 5 Distribution of Player B's Beliefs

[8] The behavior is elicited with strategy method for two reasons: first, if player A chose option A1, the game is over. Player B cannot react to such situation. Then her behavior is not observable without strategy method. Second, if player B gets feedback of player A's behavior, it is difficult to distinguish the influence of bracketing conditions and feedback.

In Table 3, the coefficient of the *Treatment* dummy indicates that the probability a player B decides to be trustworthy is significantly higher in the broad bracketing condition than in the narrow bracketing condition. The effect is the strongest one among all. It proves the idea that subjects process games differently in the two bracketing conditions. Moreover, the significance of three interaction items which include the *Treatment* dummy shows the fact that the bracketing setting not only influences the decisions to be trustworthy, but also interacts with belief which as a result enhances the difference of the probabilities of fulfilling the trust between treatments. First, the significance of the interaction between *Treatment* and *Belief Not Trust* indicates that player B solves the problem strategically. Especially in the broad bracketing condition, player B uses the prediction on what players A will do as a cue for tackling the game. The negative coefficient of the interaction items tells that player B views the trustworthy decision as a chance of reciprocity. If she forecasts that most players A will place trust in the first step, she would like to be trustworthy to reciprocate her co-player positively. Otherwise, she will negatively reciprocate by choosing not to fulfill the trust. Second, the significance of the interaction between *Treatment* and *Belief Not Trustworthy* indicates that player B solves the problems as a social interaction situation. When a player B is in the narrow bracketing condition, she has the tendency to handle the problems sequentially and independently. In contrast, when a player B is in the broad bracketing condition, she regards the two games as a general social interaction and tries to generate a rule for such cases. So, besides thinking about the problems strategically, player B reflects deeply whether it is socially acceptable if she fails to fulfill player A's trust. The solution to the question is to predict the size of the subpopulation of the other players B who plan not to fulfill the trust. The bigger the subgroup is, the less possible that player B takes the trustworthy option.

Result 2: The probability that player B fulfills the trust is higher in the broad bracketing condition than in the narrow bracketing condition.

Table 3 Determinants for Decision to be Trustworthy

	Dependent Variable: *Trustworthy*
Treatment	13.11**
	(5.977)
Belief Not Trust (%)	0.0417
	(0.0572)
Belief Not Trustworthy (%)	0.00972
	(0.0474)
*Treatment*Belief Not Trust*	-0.182*
	(0.0935)
*Treatment*Belief Not Trustworthy*	-0.156*
	(0.0872)
*Belief Not Trust * Belief Not Trustworthy*	-0.000569
	(0.000817)
*Treatment*Belief Not Trust**	0.00220*
Belief Not Trustworthy	(0.00128)
Constant	-2.096
	(2.800)
Observations	128
Number of id	64

Notes: Logit regression (random effect model) result on the determinants for player B's decisions to be trustworthy. *Treatment* is a dummy which equals 1 for the broad bracketing treatment, 0 for the narrow bracketing treatment. *Belief Not Trust* is player B's belief in the percentage of players A choose not to place trust. *Belief Not Trustworthy* is player B's belief in the percentage of the other players B choose not to be trustworthy. Absolute value of z statistics is in parentheses. * stands for significant at 10%; ** stand for significant at 5%; *** stand for significant at 1%.

When analyzing player A's behavior, it was found that, at different levels of belief, the treatment effect varies. I think it worth investigating the treatment effect more deeply, conditional on the various belief values of players B (see Figure 6). The figure shows that if a player B predicts that less than 60% of the players A will not trust him, the treatment effect is more salient (more details, see Appendix VI). This makes sense from the structure of the game. If player B conjectures that most of players A will not place trust, the game is more likely to be over by the time a player A confirms the decision and player B has no chance to change anything. It is not necessary for player B to think further about how to react strategically. Therefore, the bracketing conditions do not have influential effect on the decisions. However, it is worth noticing that players B are reluctant to reciprocate positively (71.43% in narrow bracketing and 65.63% in broad bracketing) if they think that the game is over on player A's side with high probability. This could be interpreted as hypothetical punishment. More specifically, if player B perceives that player A will not trust her, she has nothing to do with the zero income. But she still needs find a way to express her negative emotion. Hypothetically choosing not to be trustworthy is exactly the way out.[9]

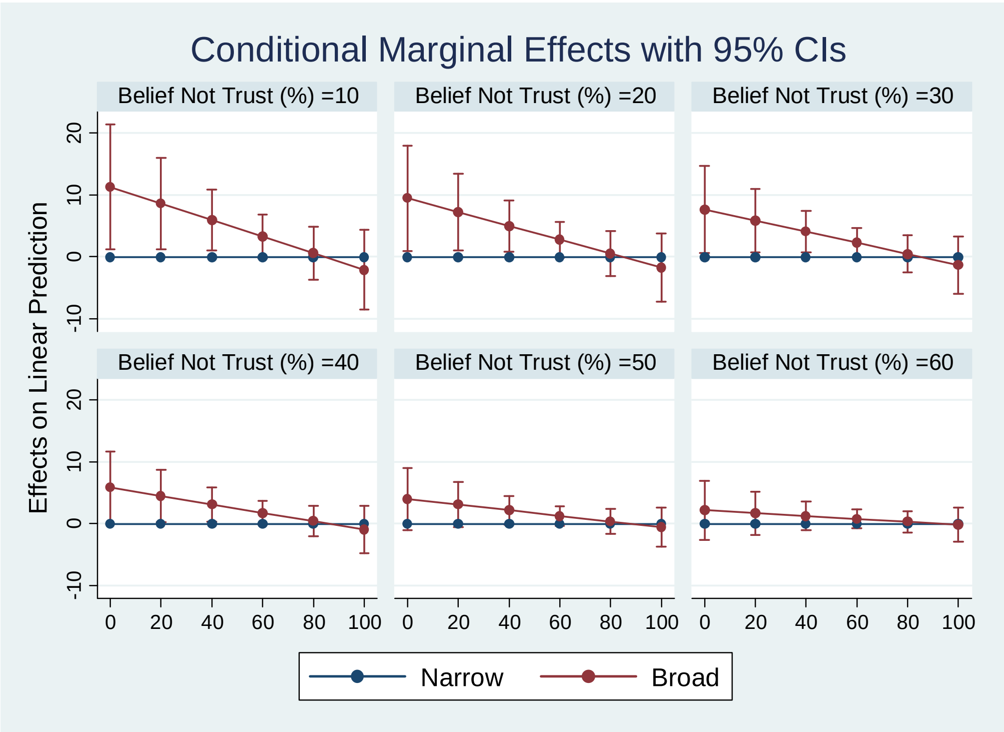


Figure 6 Average Marginal Effects (Player B)

Here is a finding which could interest policy makers. It is proved that player B treats the prediction of the other B players' behavior as a reference and considers whether it

[9] The influence of emotion could be found in research, e.g., Houser & Xiao (2003).

is wise to be trustworthy. Although the prediction is that only a relatively small proportion of the other players B will choose to be trustworthy, player B still would like to fulfill the trust, especially in the broad bracketing. From the distribution of beliefs elicited from players B (Figure 5), it could be found that this type of player B is the majority of the population (more details, see appendix IV). For policy makers, it would be good news from both the pro-social behavior of player B and the size of the subpopulations that are subject to bracketing manipulation although player B's belief in the other B players' pro-social behavior is not optimistic. If policy makers could create an environment which makes people have the impression that at least a few of the others decide to be trustworthy, it would not be too difficult to guide people to behave in the same way especially when people consider the decisions as a social interaction like the mental procedure in the broad bracketing condition.

From the behavior reported above, it could be inferred that more players B are subject to bracketing settings than the players A. This could partly be explained by the nature of trust and trustworthiness. Bicchieri et al. (2011) experimentally test why people trust others in a trust game. The finding is people believe trustworthy is a norm but trust is not. In my experiment, this is a similar case. In games, although both player A and player B make their decisions based on their beliefs in what others will do, especially the belief in the behavior of the players who are in the same role, the effect is more salient on players B. In the broad bracketing condition, subjects deal with the two tasks at the same time and try to find out a policy for such circumstance. Under this situation, the influence of the bracketing setting is stronger on players B because trustworthiness is a norm for them. They need to take the behavior of the other players B as a hint and figure out what is a socially acceptable decision. Although most of the players A are subject to bracketing conditions as well, the effect is weaker because trust is not a norm for players A. Even though players A consider how the other players A behave, this does not always play a role on their decisions.

4. Discussion

In this section, I discuss some other possibilities that could lead to the treatment effect.

4.1. Cognitive Complexity

One possibility that could cause the treatment difference is the complexity of the tasks. By intuition, it could be assumed that when people deal with two games at the same time, the calibration is more complicated than when they deal with the two games separately. As suggested in last section, the participants in the broad bracketing condition need to generate a good policy since they reflect the games more general and this is more difficult than simply solving two single games as in the narrow bracketing condition. Since the experiment is computer-based, I recorded the time each player spent on the decision tasks and set the time that participants spent on the tasks as a proxy for the level of cognitive complexity. There were three time records obtained from the program: 1, the total time each player spent on making decisions in the broad bracketing treatment; 2, the time each player spent on the blue game in the narrow bracketing treatment and 3, the time each player spent on the green game in the narrow bracketing treatment. First, I compared the total time players used in two treatments. (In the broad bracketing condition, the total time a player used equals the time record 1. In the narrow bracketing condition, the total time a player used is the sum of time record 2 and time record 3.) The statistic test indicates that the total amounts of time spent on the tasks have no significant difference between treatments for both player A and player B. The idea that the aggregated complexities of the mental process are different between treatments is rejected. Therefore the cognitive load is not the reason for the observed difference between treatments.

4.2. Consistency

Another possibility in doubt which could induce the treatment difference is the consistency consideration. If a subject chose the same option in games, it is said she had made *consistent choices*. This may, in fact, reflect her preference, for example, preference for variety (McAlister, 1982; Simonson, 1990). In the broad bracketing treatment, subjects indicate their two choices on the same screen, while in the narrow bracketing treatment they input each of the answers on two separate screens. Hence, one may speculate that more people will make two same choices in the broad bracketing treatment. The statistic test rejects this conjecture. No evidence supports that the treatment effect is caused by the difference of consistency preference.

5. Conclusion

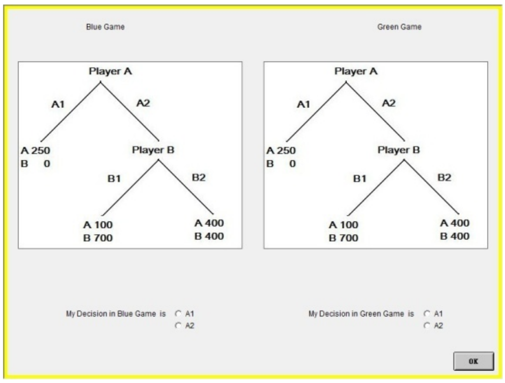
The paper experimentally tests whether bracketing conditions affect social preferences, e.g., decisions on whether to place trust (player A) or decisions on whether to be trustworthy (player B), in a mini-trust game. In the narrow bracketing condition, subjects face two identical games sequentially. In the broad bracketing condition, subjects face the games on the same screen, which is a creative and decisive visual setting. It is just this small manipulation proves the fact that bracketing conditions do affect individual social preferences, but the consequences are different depending on the decision situations and conditional on the beliefs in how others behave.

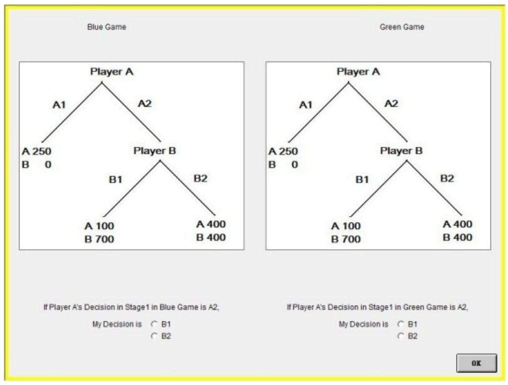
On the one hand, the probability an investor (player A) chooses to place trust is lower in the broad bracketing condition than in the narrow bracketing condition. The data of beliefs supplies an explanation to the behavioral difference between two bracketing conditions. That is, in games, player A not only solves the problems strategically by conjecturing how her co-player (player B) will behave, but also include consideration of how the other players A decide. The consideration of (which could be termed as) social imitation is more influential than the consideration of strategic thinking. From the perspective of player B’s final choices, it is more reasonable for players A in the broad bracketing condition to place trust because trustworthiness is more likely, but actually few players A do this. Apparently, in one of the two treatments, players A are poorly calibrated. Either they overestimate positive reciprocity with the narrow bracketing setting– then the broad bracketing setting would be a subtle, but effective technology for instilling justified mistrust. Or, alternatively, they place too little trust with the broad bracketing setting. Then the narrow bracketing setting is a technology for overcoming excessive distrust.

On the other hand, receivers (players B) tend to be more trustworthy in the broad bracketing condition than in the narrow bracketing condition, especially for those players B who predict that at least there are a few other players B will behave pro-socially. In games, player B not only cares about what players A will choose in the first step, but also tries to perceive what the other players B will reply. This is an indication of imitating others who are in the same situation. For player B, it is wiser to be trustworthy in the narrow bracketing condition than in the broad bracketing condition, because more players A place trust in such a situation. However, in fact, most players B fail to do so. Obviously, in one of the treatments, players B do not calibrate properly. In one case, it could be that they overestimate the trust in the broad bracketing setting – then the narrow bracketing setting could be an efficient instrument for instilling perceived trust. Or, in the other case, they tend not to fulfill the trust more with the narrow bracketing condition. Then the broad bracketing setting is an effective tool aimed at discouraging socially undesirable behavior.

In conclusion, choice bracketing could be considered as an instrument for inducing people to behave pro-socially, especially when the decisions are considered in a social manner. When people face several tasks all at once, they tend to solve the problem as a social situation rather than as some independent tasks. The prediction on the behavior of the population that is in the same situation plays a crucial role, especially for the decision to be trustworthy, and the reflection leads to social imitation. Therefore, the social image is an indication of which bracketing condition is better for inducing pro-social behavior. If policy makers could use the bracketing settings properly, it is possible to lead people behave more pro-socially which is a social-desirable consequence.

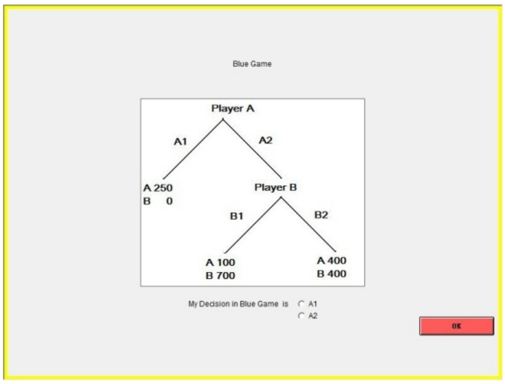
Appendix I Screenshots of the Bracketing Settings

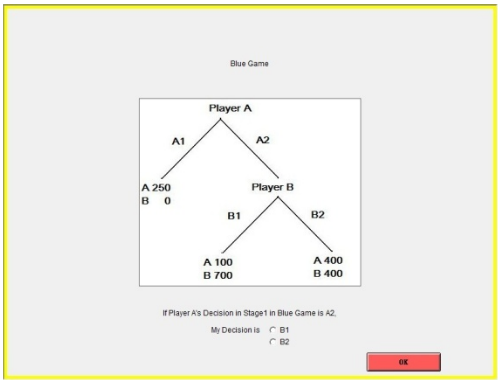


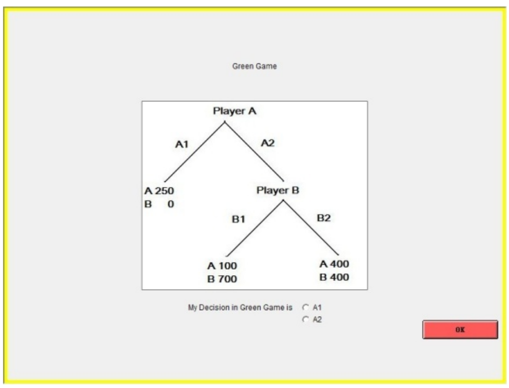


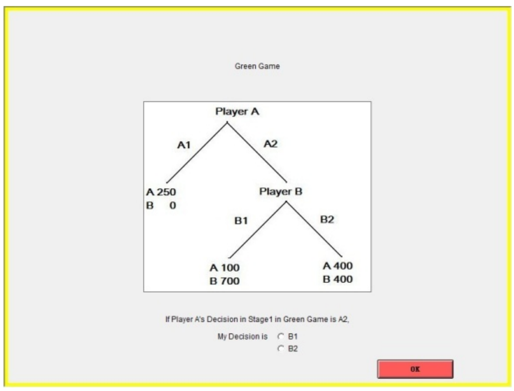
a. Player A **b. Player B**

Panel A. Broad Bracketing Treatment









a. Player A **b. Player B**

Panel B. Narrow Bracketing Treatment

Appendix II: Instruction

Welcome to our experimental study on decision-making. Please read the instructions very carefully. It is very important that you do not talk to other participants during the whole experiment. In case you do not understand some parts of the experiment, please read through these instructions again. If you still have questions, please give us a sign by raising your hand out of your cubicle. We will come to you and answer your questions personally.

Please note that everybody in the lab receives the same instruction as you.

In the experiment, your decisions will be anonymous, which means other participants will not be able to link your decisions with your identity.

During the experiment, the payoff will be calculated in points. At the end of the experiment, all the points you earn in the experiment will be converted into Euros with the following exchange rate:

1 point = 1€

Therefore your total earning will be:

The money you earn in the experiment + 4 Euros show-up fee

The amount of money you get from the experiment will depend on both your own decision and the decision of other participants.

We will privately pay this amount to you in cash at the end of the experiment.

==

The Game

In the experiment, you will play the following game twice. In each game, you will be randomly and anonymously matched with another participant. You will never be matched with the same participant twice, i.e., you will be matched with a new participant in each game. In order to distinguish the games, we call one the "Blue Game" and the other the "Green Game".

There are two roles of player in the game, Player A and Player B. The computer will randomly assign your role at the beginning of the experiment. Once your role is assigned, it will be fixed for both games. For each game, you will receive no feedback on what the other player has chosen.

The game has two stages.

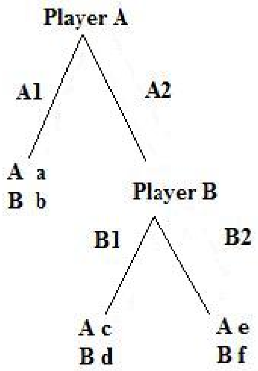
Stage 1

Player A chooses between A1 and A2. If Player A chooses A1, Player A's payoff is *a* points and Player B's payoff is *b* points. If player A chooses A2, then the payoff of the players will be determined by player B in stage 2.

Stage 2

Player B needs to specify what he/she will choose between B1 and B2 if Player A chooses A2. Notice that Player B makes the choices without knowing what player A has chosen. Thus player B's choice will be implemented only when Player A has chosen A2 in stage 1.

The payoff is determined by the following table. (You will see numbers instead of characters on the screen later. The numbers will be identical for both games).



If Player A chooses A1, Player A's payoff is *a* points and Player B's payoff is *b* points.

If Player A chooses A2, and Player B chooses B1, then Player A's payoff is *c* points and Player B's payoff is *d* points.

If Player A chooses A2, and Player B chooses B2, then Player A's payoff is *e* points and Player B's payoff is *f* points.

Your Payoff:

At the end of the experiment, the program will randomly draw *one game* out of the two to determine your payoff. Your payoff from the experiment will be the points from the selected game.

Computer

You need to indicate your choices by clicking on the corresponding button shown on the screen. Player A will choose to click on either A1 or A2, while Player B will choose to click on either B1 or B2.

If you have any questions, please raise your hand now.

Appendix III: Belief Elicitation:

Player A:

1, In your estimation, how many percent of the other players A have chosen A1 in the Blue Game?

Please input a number between 0 and 100:_

2, In your estimation, how many percent of the other players A have chosen A1 in the Green Game?

Please input a number between 0 and 100:_

3, In your estimation, how many percent of the players B have chosen B1 in the Blue Game?

Please input a number between 0 and 100:_

4, In your estimation, how many percent of the players B have in the Green Game?

Please input a number between 0 and 100:_

Player B:

1, In your estimation, how many percent of the players A have chosen A1 in the Blue Game?

Please input a number between 0 and 100:_

2, In your estimation, how many percent of the players A have chosen A1 in the Green Game?

Please input a number between 0 and 100:_

3, In your estimation, how many percent of the other players B have chosen B1 in Blue Game?

Please input a number between 0 and 100:_

4, In your estimation, how many percent of the other players B have chosen B1 in Green Game?

Please input a number between 0 and 100:_

Appendix IV

Table 1: Beliefs (Players A)

Panel A: Belief in the Percentage of Players B Choose Not to Be Trustworthy

Belief in Percentage of Player B Choose not to be trustworthy	Obs.	Mean (Std. Dev) Narrow	Broad	Mean Difference (Narrow – Broad)	*p*-value
All Observations	64	70.16	74.14	-3.98	0.37
		(26.43)	(23.98)		
Blue Game	32	70.16	75.31	-5.16	0.43
		(27.72)	(23.93)		
Green Game	32	70.16	72.97	-2.81	0.65
		(25.51)	(24.36)		

Panel B: Belief in the Percentage of The other players A Choose Not to Place Trust

Belief in Percentage of Other Player A Chooses to not Trust	Obs.	Mean (Std. Dev) Narrow	Broad	Mean Difference (Narrow – Broad)	*p*-value
All Observations	64	60.86	66.48	-5.62	0.17
		(26.20)	(19.99)		
Blue Game	32	58.06	63.28	-5.22	0.32
		(24.19)	(20.85)		
Green Game	32	63.66	69.69	6.03	0.36
		(28.17)	(18.88)		

Table 2: Beliefs (Player B)

Panel A: Belief in the Percentage of Players A Choose Not to Place Trust

Belief in Percentage of Other Player A Chooses to not Trust	Obs.	Mean (Std. Dev) Narrow	Broad	Mean Difference (Narrow – Broad)	*p*-value
All Observations	64	57.05	59.38	-2.33	0.61
		(23.14)	(27.87)		
Blue Game	32	60.41	60.94	-0.53	0.93
		(23.02)	(27.07)		
Green Game	32	53.69	57.81	-4.12	0.53
		(23.13)	(28.99)		

Panel B: Belief in the Percentage of The other players B Choose Not to Be Trustworthy

Belief in Percentage of Player B Choose Not to Be Trustworthy	Obs.	Mean (Std. Dev) Narrow	Broad	Mean Difference (Narrow -Broad)	*p*-value
All Observations	64	65.55	65.20	0.34	0.94
		(23.57)	(24.31)		
Blue Game	32	67.00	66.38	0.63	0.92
		(24.41)	(24.82)		
Green Game	32	64.09	64.03	0.06	0.99
		(22.99)	(24.13)		

Appendix V Conditional Marginal Effects (Player A)

Table 1 Average Marginal Effect (*Belief Not Trustworthy* (%) =70)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad						
Belief Not Trust						
5	1.104648	1.507037	0.73	0.464	-1.849091	4.058387
10	.9753195	1.384611	0.70	0.481	-1.738468	3.689107
20	.7166624	1.144809	0.63	0.531	-1.527122	2.960447
25	.5873339	1.028613	0.57	0.568	-1.42871	2.603377
30	.4580053	.9161458	0.50	0.617	-1.337607	2.253618
33	.3804082	.8510735	0.45	0.655	-1.287665	2.048482
40	.1993483	.7094736	0.28	0.779	-1.191194	1.589891
45	.0700197	.6213718	0.11	0.910	-1.147847	1.287886
50	-.0593088	.5501608	-0.11	0.914	-1.137604	1.018987
55	-.1886373	.5030647	-0.37	0.708	-1.174626	.7973514
60	-.3179659	.4871294	-0.65	0.514	-1.272722	.6367903
70	-.5766229	.5542633	-1.04	0.298	-1.662959	.5097131
75	-.7059515	.6268169	-1.13	0.260	-1.93449	.5225872
80	-.83528	.7158315	-1.17	0.243	-2.238284	.567724
85	-.9646085	.8159373	-1.18	0.237	-2.563816	.6345992
90	-1.093937	.9235346	-1.18	0.236	-2.904032	.7161575
95	-1.223266	1.036293	-1.18	0.238	-3.254362	.8078305
99	-1.326728	1.129179	-1.17	0.240	-3.539878	.8864208
100	-1.352594	1.152698	-1.17	0.241	-3.61184	.9066518

Note: dy/dx for factor levels is the discrete change from the base level.

Table 2 Average Marginal Effect (*Belief Not Trustworthy* (%) =80)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad						
Belief Not Trust						
5	2.109447	1.721839	1.23	0.221	-1.265296	5.48419
10	1.877637	1.583558	1.19	0.236	-1.22608	4.981355
20	1.414018	1.31211	1.08	0.281	-1.15767	3.985706
25	1.182209	1.180119	1.00	0.316	-1.130782	3.4952
30	.950399	1.051874	0.90	0.366	-1.111235	3.012033
33	.8113132	.9773393	0.83	0.406	-1.104237	2.726863
40	.4867798	.8136802	0.60	0.550	-1.108004	2.081564
45	.2549702	.7098984	0.36	0.719	-1.136405	1.646345
50	.0231606	.6233328	0.04	0.970	-1.198549	1.24487
55	-.2086491	.5619961	-0.37	0.710	-1.310141	.8928431
60	-.4404587	.5346431	-0.82	0.410	-1.48834	.6074226
70	-.9040779	.594957	-1.52	0.129	-2.070172	.2620164
75	-1.135888	.6723844	-1.69	0.091	-2.453737	.1819616
80	-1.367697	.770023	-1.78	0.076	-2.876914	.1415203
85	-1.599507	.8811798	-1.82	0.069	-3.326587	.127574
90	-1.831316	1.001363	-1.83	0.067	-3.793952	.1313194
95	-2.063126	1.127691	-1.83	0.067	-4.273359	.1471071
99	-2.248574	1.23191	-1.83	0.068	-4.663073	.1659255
100	-2.294936	1.258313	-1.82	0.068	-4.761184	.1713129

Note: dy/dx for factor levels is the discrete change from the base level.

Table 3 Average Marginal Effect (*Belief Not Trustworthy* (%) =90)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad						
Belief Not Trust						
5	3.114246	2.102661	1.48	0.139	-1.006894	7.235386
10	2.779955	1.932751	1.44	0.150	-1.008166	6.568077
20	2.111374	1.599202	1.32	0.187	-1.023004	5.245752
25	1.777083	1.43702	1.24	0.216	-1.039424	4.59359
30	1.442793	1.27946	1.13	0.259	-1.064902	3.950488
33	1.242218	1.18791	1.05	0.296	-1.086043	3.570479
40	.7742113	.9870354	0.78	0.433	-1.160342	2.708765
45	.4399206	.8599235	0.51	0.609	-1.245499	2.12534
50	.1056299	.7543942	0.14	0.889	-1.372956	1.584215
55	-.2286608	.6805626	-0.34	0.737	-1.562539	1.105217
60	-.5629515	.6493327	-0.87	0.386	-1.83562	.7097171
70	-1.231533	.72925	-1.69	0.091	-2.660837	.1977708
75	-1.565824	.8267471	-1.89	0.058	-3.186218	.0545709
80	-1.900114	.9484875	-2.00	0.045	-3.759116	-.0411129
85	-2.234405	1.086351	-2.06	0.040	-4.363614	-.1051957
90	-2.568696	1.23495	-2.08	0.038	-4.989153	-.1482378
95	-2.902986	1.390848	-2.09	0.037	-5.628998	-.1769748
99	-3.170419	1.519315	-2.09	0.037	-6.148222	-.1926156
100	-3.237277	1.551846	-2.09	0.037	-6.278839	-.195715

Note: dy/dx for factor levels is the discrete change from the base level.

Table 4 Average Marginal Effect (*Belief Not Trustworthy* (%) =100)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad Belief Not Trust						
5	4.119045	2.576921	1.60	0.110	-.9316272	9.169717
10	3.682273	2.366591	1.56	0.120	-.9561599	8.320707
20	2.80873	1.953978	1.44	0.151	-1.020997	6.638457
25	2.371958	1.75359	1.35	0.176	-1.065015	5.808931
30	1.935186	1.559186	1.24	0.215	-1.120762	4.991135
33	1.673123	1.446424	1.16	0.247	-1.161815	4.508062
40	1.061643	1.199935	0.88	0.376	-1.290186	3.413471
45	.624871	1.045295	0.60	0.550	-1.42387	2.673612
50	.1880992	.9189001	0.20	0.838	-1.612912	1.98911
55	-.2486725	.8336976	-0.30	0.765	-1.88269	1.385345
60	-.6854443	.8029097	-0.85	0.393	-2.259118	.8882298
70	-1.558988	.9168985	-1.70	0.089	-3.356076	.2381002
75	-1.99576	1.042655	-1.91	0.056	-4.039326	.0478066
80	-2.432531	1.196868	-2.03	0.042	-4.77835	-.0867124
85	-2.869303	1.369962	-2.09	0.036	-5.55438	-.1842264
90	-3.306075	1.555647	-2.13	0.034	-6.355087	-.2570629
95	-3.742847	1.749919	-2.14	0.032	-7.172625	-.3130686
99	-4.092264	1.909763	-2.14	0.032	-7.835331	-.3491974
100	-4.179618	1.950214	-2.14	0.032	-8.001967	-.35727

Note: dy/dx for factor levels is the discrete change from the base level.

Appendix VI Conditional Marginal Effect (Player B)

Table 1 Average Marginal Effect (*Belief Not Trust* (%) =10)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad Belief Not-Trustworthy						
10	9.94854	4.43454	2.24	0.025	1.257003	18.64008
20	8.611652	3.753031	2.29	0.022	1.255847	15.96746
25	7.943208	3.424165	2.32	0.020	1.231968	14.65445
30	7.274764	3.106603	2.34	0.019	1.185935	13.36359
35	6.60632	2.804187	2.36	0.018	1.110215	12.10243
40	5.937876	2.522371	2.35	0.019	.9941202	10.88163
50	4.600988	2.054109	2.24	0.025	.5750079	8.626968
54	4.066233	1.919101	2.12	0.034	.3048648	7.827601
55	3.932544	1.891424	2.08	0.038	.2254217	7.639666
60	3.2641	1.794996	1.82	0.069	-.2540279	6.782228
65	2.595656	1.775654	1.46	0.144	-.8845625	6.075874
70	1.927212	1.835836	1.05	0.294	-1.670961	5.525384
75	1.258768	1.96826	0.64	0.522	-2.598952	5.116487
80	.5903238	2.159679	0.27	0.785	-3.642569	4.823217
83	.1892574	2.296908	0.08	0.934	-4.3126	4.691115
85	-.0781202	2.395994	-0.03	0.974	-4.774182	4.617941
90	-.7465643	2.665289	-0.28	0.779	-5.970436	4.477307
95	-1.415008	2.958574	-0.48	0.632	-7.213706	4.38369
97	-1.682386	3.081089	-0.55	0.585	-7.72121	4.356438
98	-1.816075	3.14329	-0.58	0.563	-7.976809	4.34466
99	-1.949764	3.20607	-0.61	0.543	-8.233546	4.334019
100	-2.083452	3.269397	-0.64	0.524	-8.491353	4.324449

Note: dy/dx for factor levels is the discrete change from the base level.

Table 2 Average Marginal Effect (*Belief Not Trust* (%) =20)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad Belief Not-Trustworthy						
10	8.348399	3.735341	2.23	0.025	1.027264	15.66953
20	7.231877	3.152382	2.29	0.022	1.053322	13.41043
25	6.673616	2.87104	2.32	0.020	1.046481	12.30075
30	6.115355	2.599401	2.35	0.019	1.020622	11.21009
35	5.557094	2.340847	2.37	0.018	.969119	10.14507
40	4.998834	2.100214	2.38	0.017	.8824894	9.115178
50	3.882312	1.702806	2.28	0.023	.5448729	7.219751
54	3.435703	1.590191	2.16	0.031	.3189861	6.55242
55	3.324051	1.567438	2.12	0.034	.2519284	6.396174
60	2.76579	1.490918	1.86	0.064	-.156355	5.687936
65	2.207529	1.482386	1.49	0.136	-.6978938	5.112953
70	1.649269	1.542971	1.07	0.285	-1.374899	4.673437
75	1.091008	1.665146	0.66	0.512	-2.172618	4.354634
80	.532747	1.83666	0.29	0.772	-3.067041	4.132535
83	.1977905	1.95802	0.10	0.920	-3.639859	4.03544
85	-.0255139	2.045138	-0.01	0.990	-4.033911	3.982884
90	-.5837747	2.280465	-0.26	0.798	-5.053403	3.885854
95	-1.142036	2.535174	-0.45	0.652	-6.110885	3.826814
97	-1.36534	2.641244	-0.52	0.605	-6.542082	3.811402
98	-1.476992	2.695036	-0.55	0.584	-6.759165	3.805181
99	-1.588644	2.749293	-0.58	0.563	-6.97716	3.799871
100	-1.700296	2.803989	-0.61	0.544	-7.196014	3.795421

Note: dy/dx for factor levels is the discrete change from the base level.

Table 3 Average Marginal Effect (*Belief Not Trust* (%) =30)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad Belief Not-Trustworthy						
10	6.748257	3.093826	2.18	0.029	.6844699	12.81204
20	5.852101	2.602082	2.25	0.025	.7521145	10.95209
25	5.404024	2.364601	2.29	0.022	.769491	10.03856
30	4.955946	2.135219	2.32	0.020	.7709942	9.140898
35	4.507869	1.916845	2.35	0.019	.7509215	8.264816
40	4.059791	1.713693	2.37	0.018	.7010144	7.418568
50	3.163636	1.379704	2.29	0.022	.4594655	5.867806
54	2.805174	1.286589	2.18	0.029	.2835061	5.326841
55	2.715558	1.268059	2.14	0.032	.2302081	5.200908
60	2.267481	1.208171	1.88	0.061	-.1004919	4.635453
65	1.819403	1.207765	1.51	0.132	-.547773	4.186579
70	1.371325	1.266897	1.08	0.279	-1.111747	3.854398
75	.9232477	1.377924	0.67	0.503	-1.777433	3.623929
80	.4751701	1.529586	0.31	0.756	-2.522764	3.473104
83	.2063236	1.635518	0.13	0.900	-2.999234	3.411881
85	.0270925	1.711113	0.02	0.987	-3.326627	3.380812
90	-.4209851	1.914026	-0.22	0.826	-4.172407	3.330436
95	-.8690627	2.132228	-0.41	0.684	-5.048153	3.310027
97	-1.048294	2.222792	-0.47	0.637	-5.404886	3.308298
98	-1.137909	2.268666	-0.50	0.616	-5.584414	3.308595
99	-1.227525	2.314904	-0.53	0.596	-5.764654	3.309605
100	-1.31714	2.361485	-0.56	0.577	-5.945566	3.311285

Note: dy/dx for factor levels is the discrete change from the base level.

Table 4 Average Marginal Effect (*Belief Not Trust* (%) =40)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad Belief Not-Trustworthy						
10	5.148115	2.553838	2.02	0.044	.1426836	10.15355
20	4.472326	2.141308	2.09	0.037	.27544	8.669212
25	4.134432	1.941729	2.13	0.033	.3287126	7.940151
30	3.796537	1.748656	2.17	0.030	.3692346	7.22384
35	3.458643	1.564499	2.21	0.027	.3922819	6.525004
40	3.120748	1.392798	2.24	0.025	.3909141	5.850583
50	2.44496	1.109715	2.20	0.028	.2699585	4.619961
54	2.174644	1.030901	2.11	0.035	.1541157	4.195173
55	2.107065	1.015291	2.08	0.038	.1171312	4.096999
60	1.769171	.9656799	1.83	0.067	-.123527	3.661869
65	1.431276	.9677975	1.48	0.139	-.4655719	3.328125
70	1.093382	1.021322	1.07	0.284	-.9083727	3.095137
75	.7554877	1.118901	0.68	0.500	-1.437517	2.948493
80	.4175933	1.25026	0.33	0.738	-2.032872	2.868059
83	.2148566	1.341275	0.16	0.873	-2.413993	2.843706
85	.0796989	1.405964	0.06	0.955	-2.675941	2.835339
90	-.2581955	1.578827	-0.16	0.870	-3.352639	2.836248
95	-.5960899	1.76381	-0.34	0.735	-4.053093	2.860913
97	-.7312477	1.840386	-0.40	0.691	-4.338338	2.875843
98	-.7988266	1.879138	-0.43	0.671	-4.48187	2.884217
99	-.8664054	1.918175	-0.45	0.651	-4.62596	2.893149
100	-.9339843	1.95748	-0.48	0.633	-4.770574	2.902605

Note: dy/dx for factor levels is the discrete change from the base level.

Table 5 Average Marginal Effect (*Belief Not Trust* (%) =50)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad Belief Not-Trustworthy						
10	3.547973	2.191751	1.62	0.105	-.747781	7.843727
20	3.092551	1.838645	1.68	0.093	-.5111278	6.696229
25	2.864839	1.66727	1.72	0.086	-.4029507	6.13263
30	2.637128	1.500933	1.76	0.079	-.3046473	5.578904
35	2.409417	1.341509	1.80	0.072	-.219893	5.038727
40	2.181706	1.191776	1.83	0.067	-.1541315	4.517543
50	1.726284	.9397874	1.84	0.066	-.115666	3.568233
54	1.544115	.8666285	1.78	0.075	-.1544461	3.242675
55	1.498572	.8516981	1.76	0.078	-.1707253	3.16787
60	1.270861	.8008837	1.59	0.113	-.2988421	2.840564
65	1.04315	.7945285	1.31	0.189	-.5140974	2.600397
70	.8154388	.8336499	0.98	0.328	-.8184851	2.449363
75	.5877276	.9124169	0.64	0.519	-1.200577	2.376032
80	.3600164	1.021701	0.35	0.725	-1.642481	2.362513
83	.2233897	1.098242	0.20	0.839	-1.929125	2.375904
85	.1323052	1.152856	0.11	0.909	-2.127251	2.391861
90	-.0954059	1.299275	-0.07	0.941	-2.641939	2.451127
95	-.3231171	1.456363	-0.22	0.824	-3.177535	2.531301
97	-.4142016	1.521452	-0.27	0.785	-3.396193	2.56779
98	-.4597438	1.5544	-0.30	0.767	-3.506311	2.586824
99	-.5052861	1.587594	-0.32	0.750	-3.616913	2.606341
100	-.5508283	1.621019	-0.34	0.734	-3.727968	2.626311

Note: dy/dx for factor levels is the discrete change from the base level.

Table 6 Average Marginal Effect (*Belief Not Trust* (%) =60)

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Broad Belief Not-Trustworthy						
10	1.947831	2.101621	0.93	0.354	-2.171269	6.066932
20	1.712775	1.776818	0.96	0.335	-1.769725	5.195275
25	1.595247	1.618572	0.99	0.324	-1.577096	4.76759
30	1.477719	1.464299	1.01	0.313	-1.392253	4.347692
35	1.360191	1.315397	1.03	0.301	-1.217939	3.938322
40	1.242663	1.173913	1.06	0.290	-1.058163	3.54349
50	1.007607	.9267058	1.09	0.277	-.8087025	2.823917
54	.913585	.8486318	1.08	0.282	-.7497027	2.576873
55	.8900794	.8316819	1.07	0.285	-.7399872	2.520146
60	.7725514	.7657083	1.01	0.313	-.7282094	2.273312
65	.6550235	.7366322	0.89	0.374	-.788749	2.098796
70	.5374955	.7487642	0.72	0.473	-.9300553	2.005046
75	.4199675	.8002324	0.52	0.600	-1.148459	1.988394
80	.3024396	.8841941	0.34	0.732	-1.430549	2.035428
83	.2319228	.946717	0.24	0.806	-1.623608	2.087454
85	.1849116	.9924362	0.19	0.852	-1.760228	2.130051
90	.0673836	1.117928	0.06	0.952	-2.123715	2.258482
95	-.0501443	1.255508	-0.04	0.968	-2.510895	2.410606
97	-.0971555	1.313085	-0.07	0.941	-2.670755	2.476443
98	-.1206611	1.342326	-0.09	0.928	-2.751572	2.51025
99	-.1441667	1.371844	-0.11	0.916	-2.832932	2.544598
100	-.1676723	1.401621	-0.12	0.905	-2.914798	2.579454

Note: dy/dx for factor levels is the discrete change from the base level.

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