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Naïve Responses to Kind Delegation

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Abstract:

People do not like to delegate the distribution of favors. To explain this reluctance we disentangle reward motives in an experiment, in which an investor can directly transfer money to a trustee or delegate this decision to another investor. Varying the transfer values of investor and delegate, we find that the trustee's rewards follow a rather simple pattern. In all situations, both investors are rewarded, but the person who ultimately decides gets a higher reward. Unlike studies on the punishment of delegated unkind decisions our results do not reveal sophisticated reward behavior that takes the responsibility of people into account.

Keywords: Delegation, trust, reciprocity, intentions, experiment

JEL Codes: C91, D63

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1 Introduction

It is well known that people often care about intentions and punish unkind behavior strongly. They also exhibit fairly sophisticated punishment behavior if unkind decisions are delegated to another person. In this case the punishment reflects the unkindness and causal responsibility of the delegator (Bartling and Fischbacher, 2012). However, rewards for kindness are less strong (Kube, Maréchal and Puppe, 2006; Bruttel and Eisenkopf, 2012) but it is not clear whether the reward behavior is qualitatively different. This holds in particular for the rewards in the context of delegated kind decisions. Do the rewards take the kindness of the delegator into account? Do the rewards reflect the individual responsibility of delegators and delegates? To address these questions, we investigate the response to a delegation of doing a favor using an experiment. Our results provide an empirical test for the second part of Machiavelli's[1] advice that it is prudent to delegate unpopular measures but not the distribution of favors.

In our experiment, people can make a beneficial transfer themselves or can delegate the decision to another person. We investigate how rewards are assigned if a person's delegation makes a higher transfer possible, but also whether people' reward is reduced if they do the transfer themselves, preventing an even higher transfer by the delegate. We use a variant of the trust game (Berg, Dickhaut and McCabe, 1995) in which the decision to trust can be delegated from one investor to another. In our three person game, one player (investor) can choose between an equal distribution with low payoffs and a transfer of a relatively large payoff to another person, the trustee. This first investor can make the choice herself or delegate the decision to the second investor. If the decision is delegated, the second investor has to decide whether to transfer an amount of money to the trustee. Both investors bear the same cost of any investment decision, irrespective of who is the actual decision maker. The size of the benefit for the trustee depends on who, the first or the second investor, makes the transfer. After the decision of the investors, the trustee is informed about the decisions and has the possibility to transfer money to them.

The focus of our research is the reward pattern of the subjects who acted as trustee. We find two main results. When the trustees receive a transfer, they substantially reward both investors and this reward increases in the transfer to the trustee. The rewards for the investor

[1] '*Princes should delegate to others the enactment of unpopular measures and keep in their own hands the distribution of favours.*' (Machiavelli, 1995, p. 59)

who finally makes the transfer are higher than the rewards for the other investor. Delegation yields rather small rewards. Otherwise the rewards do not take intentions or responsibility of the transferring investors into account.

We are among the first to explore the delegation of potentially beneficial decisions and the motives behind the resulting reward. Coffman (2011) shows in a framing experiment that reward levels for charitable donations decrease if the role of an intermediate agent becomes more salient. While this perceived decrease in responsibility leads to a lower reward for the delegating person it does not reveal whether the intermediary benefits from the increase in responsibility. Our results provide an interesting contrast to studies on the delegation of harmful decisions (Hamman, Loewenstein and Weber, 2009; Coffman, 2011; Bartling and Fischbacher, 2012). Similar to our results on rewards of kind decisions, punishment of harmful decisions is focused on the person who actually took the decision. However, the specific situation has a large impact on punishment, which means that the punishment pattern in these studies is more complex than the reward pattern in our study. So, Bartling and Fischbacher (2012) show that punishment for delegated harmful decisions reflects intentions, actual economic outcomes and responsibility attributions for a decision. This asymmetry has also been found in the literature on the motives for reciprocal behavior. While most studies find that in punishment decisions people take intentions into account (e.g. Brandts and Sola, 2001; Charness and Levine, 2003; Falk, Fehr and Fischbacher, 2003; McCabe, Rigdon and Smith, 2003; Falk and Fischbacher, 2006; Falk, Fehr and Fischbacher, 2008), the evidence is more mixed in the domain of rewarding behavior (Bolton, Brandts and Ockenfels, 1998).

The paper is structured as follows. We present the design of the experiment in the following section. Section 3 captures our behavioral predictions and section 4 shows the results. Section 5 concludes the paper.

2 The Experiment

In the experiment, we randomly assigned subjects into groups of three. In each group, there was one subject in the role of player A, player B, and player C. The experiment consisted of 5 games with the same structure but with different parameters. In each game the players kept their type but were assigned to new groups. No player played more than once with any other player. The players received a payment for each game. Table 1 provides an overview of the experimental design. All payments are in points. We exchanged points into Euros at the end of the experiment at a rate of 10 points to 1 euro. Participants received a show-up fee of 4 Euros (1 Euro exchanged into around 1.4 US-dollars at the time of the experiment in June and July 2008).

In each game, player A decided about an investment at first. A could also decide to delegate the investment decision to B. The investment increased the payouts of player C who could reward A and B in return. More specifically, player A (the first investor or delegator) had to choose between three options. If player A chose option AN she decided against an investment and in favor of a uniform payout of 10 points to all three players. By choosing option AI the players A and B received nothing and C (the trustee) received an amount X. The amount of X differed between the games (see Table 1). The third option for player A was to delegate the decision to player B. If player A chose to delegate she could not alter the outcome of the experiment any further.

Player B (the second investor or delegate) had two options. Option BN implied the same payouts as player A's option AN, i.e., all players received 10 points. In option BI, the players A and B received nothing and C received an amount Y. Just like the amount X, the amount of Y differed between the games.

After the decision of player A and/or B, player C could transfer points to players A and B. Every transferred point was withdrawn from the account of player C, multiplied by the factor 5, and added to the account of the receiving player. We used the strategy method for player C. This means that player C decided how many points to transfer to A and to B for all four possible outcomes of a game. Subjects received information about actual decisions and payouts only at the end of the entire experiment.

As mentioned above, five games were played. The parameters of these games are listed in Table 1. The games are listed in the sequence of the first two sessions. This sequence was reversed in the latter two sessions. We have chosen our parameters in a way that in three situations after decision AI and in three situations after decision BI, the amount for player C equals 50. These situations are perfectly equivalent with respect to outcome oriented models. The games 10/50, 30/50, and 50/90 map the situation that we presented in the introduction, i.e. a potential efficiency gain from delegating. Player A can make her own investment, or delegate, which allows B to generate an even higher payout for C. The other games are added for theoretical reasons. We want to compare situations which are equal from the point of view of the outcome. For this reason, in all games, X or Y equals 50. In game 50/50, both X and Y equal 50; and in game 50/10, we add a situation in which Y is smaller than X.

Table 1: The Experimental Design

Step 1: Decision options of player A (1st investor / delegator)				
	AN (No Investment)	AI (Investment)	Delegation to B	
Step 2 (in case of delegation only): Decision options of Person B (2nd investor, delegate)				
			BN (No Investment)	BI (Investment)
Payout before Rewards	A: 10 B: 10 C: 10	A: 0 B: 0 C: X*	A: 10 B: 10 C: 10	A: 0 B: 0 C: Y*
Step 3: Reward Decision of Person C (Trustee)				
	Reward for A Reward for B	Reward for A Reward for B	Reward for A Reward for B	Reward for A Reward for B

***Specifications of the Payout of C**

	Game 10/50	Game 30/50	Game 50/50	Game 50/90	Game 50/10
X	10	30	50	50	50
Y	50	50	50	90	10

The 90 participating subjects (30 players A, 30 players B and 30 players C) were recruited with ORSEE (Greiner, 2004) among the students of the University of Konstanz. The experiment was programmed with z-Tree (Fischbacher, 2007) and conducted at *Lakelab*, the economics laboratory at the University of Konstanz. The experiment lasted about 90 minutes and participants earned around 14 Euros on average.

3 Behavioral Predictions

We are interested in the reward behavior of players C. Therefore we look at prominent motives (selfishness, inequity aversion, reciprocity) and how they translate into reward behavior. We summarize the results into different observable behavioral types. Of course, these three types only cover some of the potential behavioral patterns of players C but in the light of the above mentioned literature we expect them to be the most dominant ones. Then we derive hypotheses about which motive will dominate.

Assuming common knowledge about selfishness, there are no transfers in the subgame perfect equilibrium. Selfish subjects in the role of C will never reward any decision. Anticipating this behavior, selfish subjects in the role of B will choose their no-investment option BN. Assuming that player B will choose this option, player A is indifferent between his option AN and delegation. In both cases the expected payout to each player equals 10 points.

Type 1 (Selfishness): Selfish subjects in the role of C never reward any decision.

However, there is abundant experimental evidence that not all people are always selfish. For this reason non-selfish motives have been incorporated into theoretical models. One of these motives is inequity aversion (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000) which has received great attention. Applied to our game, sufficiently inequity averse players C will reward if options AI or BI are chosen. Moreover the rewards will increase in the number of points player C receives. Since both A and B pay the cost, the payoff of A and B are the same, and inequity aversion models predict no difference in how A and B are rewarded.[2] Furthermore, these models do not take into account how the payout for C was

[2] The Bolton and Ockenfels (2000) model predicts the same reward for A and B. In the Fehr and Schmidt (1999) model, either both players receive zero, both receive an equalizing payoff or C is indifferent between any amount to A and B that is lower than what C gets. This latter situation renders different rewards to A and B possible, but only for the very specific parameter value $\beta=2/3$. Furthermore, even if different rewards for A and B are possible, no prediction is made about whether and how reward differs.

achieved. In our game, there were 6 situations in which this payout was 50, three situations in which this option was chosen by A and three situations in which A delegated and B chose this option. Hence these models predict the same reward in all these situations.

Type 2 (Inequity aversion): Inequity aversion implies the following behavior of players C:

- They reward if options AI or BI are chosen.
- The rewards increase in the number of points player C receives.
- The rewards for players A and B not differ.

Other outcome oriented motives that have been discussed in the literature are a preference for efficiency and a concern for the poorest player as suggested by Charness and Rabin (2002). Efficiency concerns apply in the context of our experiment because any reward increases the aggregate payoffs since the reward is multiplied by factor 5. However, efficiency concerns do not indicate whether and how A or B will be rewarded. We also do not discuss the concern the poorest more deeply because it makes the same prediction as advantageous inequality aversion, which is the sort of inequality that is relevant in our experiment

Another class of models is based on reciprocity (Rabin, 1993; Levine, 1998; Dufwenberg and Kirchsteiger, 2004; Falk and Fischbacher, 2006). In these models, the trustees focus their reward on the kindness of the person who transferred the money. In reciprocity models in the spirit of Rabin (1993), the prediction depends on the players' beliefs and second order beliefs. These beliefs are necessary to assess the kindness of an action. Nevertheless, many predictions are independent of the beliefs.[3] First, options AN is never kind since it is worse than or equal to the other options. For this reason, no reward is expected in these models either. If option AI is chosen, B did not affect the outcome and, therefore, B does not deserve a reward for a kind decision. How kind A's action is perceived depends on the game-specific parameters. In games 50/50 and 50/10, option AI is the kindest A can exercise. In game 30/50, the option AI is kinder than option AN, and it depends on A's belief about B's behavior whether it is considered as less or more kind than delegation.

If A delegated and B chooses BI, then B is maximally kind. In game 10/50, A's kindest move is also delegation. Thus, in this game, reciprocity models also predict the same reward

[3] We use the model in the form of Dufwenberg and Kirchsteiger (2004). In this model also Pareto improvements can be kind.

for A and B. In game 50/50, delegation is kinder than option AN but less kind than option AI. The exact amount depends on the beliefs about B's behavior. In games 30/50 and 50/90 the kindness of A depends even qualitatively on beliefs. If A believes that B chooses the investment option BI with high probability, then delegating is the best A can do. If A believes that B chooses option BI with low probability, then AI is the kindest action for A.

Type 3 (Reciprocity): If reciprocity in the sense of Dufwenberg and Kirchsteiger (2004) drives C's behavior, we will see the following reward pattern for options AI and BI.

- Only A, but not B, is rewarded when A chooses the investment option AI.
- If A chooses AI, then A receives a lower reward in game 50/90 than in the games 50/50 and 50/10.
- If A delegates the decision and B chooses her option BI; then B receives at least as many points as A.
- Player A receives a reward in case of option BI (Unlike player B in case of option AI (see above)).
- If A delegates and B chooses option BI in the games 10/50, 30/50 and 50/50, then the rewards for A is the highest in game 10/50 and the lowest in game 50/50.

As mentioned above, this type relies on assumptions about beliefs and second-order beliefs of players C in order to assess the kindness of player A. However it is not clear whether reciprocal players C will actually engage in such rather sophisticated calculations. A rather naïve reciprocal reward behavior invalidates in particular the second and the last statement in type 3. These statements focus on the kindness of a choice by comparing the alternative options of player A in specific games.

We now focus on the prevalence of the specific behavioral types. First of all we expect that many people are not selfish and that all types can be observed on an aggregate level.

Hypothesis 1: In case of option AI:

1. *Many participants C reward both A and B.*
2. *The rewards increase in the transfer to C*
3. *The average rewards for A are higher than for B.*
4. *A receives a lower reward in game 50/90 than in the games 50/50 and 50/10.*

A confirmation of the first two statements provides aggregate evidence for the existence of the inequity aversion type. The third and the fourth statement provide aggregate evidence for the existence of the reciprocity type. Note that fourth statement requires more sophisticated calculations. If rewarding behavior is qualitatively the same as punishment behavior (as in Bartling and Fischbacher (2012), for example) we should observe that players C take the individual decision alternatives of player A into account.

Hypothesis 2: In case of option BI:

1. *The rewards of B increase in the transfer to C;*
2. *B receives at least as many points as A;*
3. *A receives a higher reward in case of option BI than player B in case of option AI.*
4. *The rewards for A are the highest in game 10/50 and the lowest in game 50/50;*

Again the first statement in hypothesis 2 claims the existence of inequity aversion (statement 1). Statements 2 and 3 both focus on reciprocity. They consider that B is the final decision maker (statement 2) but also that A actively contributed to the decision (statement 3). As in hypothesis 1, statement 4 claims that players C take the outside options of A into account.

Both hypotheses focus on aggregate outcome. Since we observe the same players C in multiple games we can also have a closer look how many players behave according to the specific behavioral types.

4 Results

The focus of our analysis is on the behavior of player C (N = 30) and addresses two main questions. First, how does player C react if A's generosity precludes player C from benefiting from an even higher generosity of player B? Second, what happens if player A delegates and player B actually invests? Table 2 indicates how many points a player C transfers on average to A and B. One immediately observes that rewards occur almost only if a transfer has been made. If options AN or BN are chosen, rewards are negligible.

Table 2: Mean rewards from C to A and B

(in points, investors receive 5 times the transferred amount, N = 30 in each cell).

Options realized	Game 10/50		Game 30/50		Game 50/50		Game 50/90		Game 50/10	
	To A	To B	To A	To B	To A	To B	To A	To B	To A	To B
AN	0.47	0.43	0.57	0.63	0.40	0.37	0.50	0.5	0.53	0.53
AI	1.13	0.73	3.27	2.37	4.90	2.93	4.57	3.47	4.57	3.10
BN	0.47	0.33	0.67	0.60	0.60	0.80	0.63	0.47	0.70	0.60
BI	3.97	4.67	3.90	4.40	3.63	4.40	6.10	6.67	1.27	1.53

We now investigate the motives that explain rewards after a choice of AI, which we document in the second row in table 2. The rewards of A and B increase in the amount C receives. A’s reward is higher in game 30/50 than in game 10/50 (p = .000 according to the Wilcoxon signed-rank test) and again higher in the games 50/50, 50/90, and 50/10 than in game 30/50 (The p-values are 0.001, 0.003 and 0.004). Likewise, the reward of B is significantly higher in game 30/50 than in game 10/50 (p = .000). In the other three games (50/10, 50/50, 50/90) the rewards are again higher than in game 30/50 (The p-values are 0.070, 0.002 and 0.050). The rewards for B are significantly lower than the rewards for A (all relevant p-values < .05, Wilcoxon signed rank tests).

The rewards for A do not differ between games 50/50, 50/90 and 50/10 if A chooses her investment option. The consequences of non-delegation for C differ substantially across these three games, but they do not have an impact on C’s rewards for A. Thus, we cannot confirm the fourth statement of the first hypothesis. This means that we find evidence for reciprocity when a beneficial action is obvious. But we find no evidence for more sophisticated reward behavior. People do not take into account that some benevolent actions do not deliver positive consequences (i.e. if delegation does not lead to an investment by B) or if a transfer eliminates a potentially welfare increasing delegation.

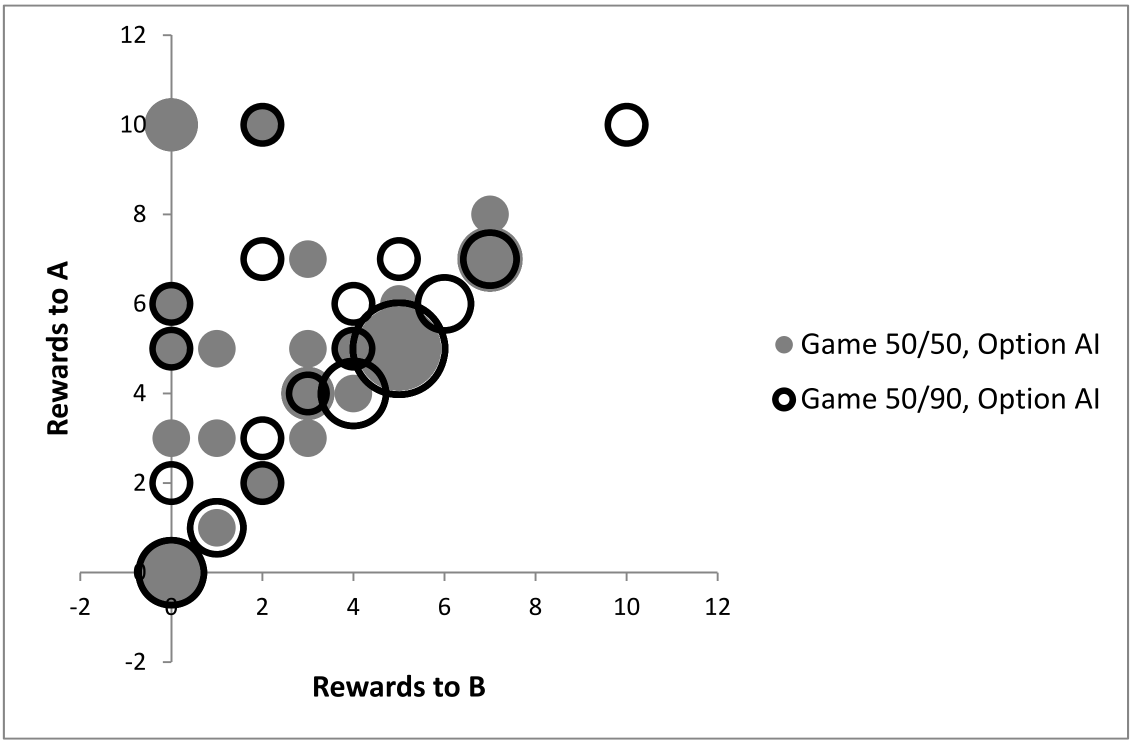
Results 1: In case of option AI:

1. *Most participants C reward both A and B. This result confirms the first statement of hypothesis 1.*
2. *The rewards increase in the transfer to C. This result confirms the second statement of hypothesis 1.*

3. *The average rewards for A are higher than for B. This result confirms the third statement of hypothesis 1.*
4. *A does not receive a lower reward in game 50/90 than in the games 50/50 and 50/10. This result contradicts the fourth statement of hypothesis 1.*

The results show at an aggregate level that inequity aversion and reciprocity are important. However, we do not find evidence for complex reciprocal behavior. The individual data disentangle individual behavior with respect to the different reward motives. Figure 1 shows the rewards for A and B in games 50/50 and 50/90 in case of option AI. Very few people do not provide any reward (The observations at the origin). The plurality of observations (40% in game 50/50 and 56.7% in game 50/90) sits on the 45 degree line and many others are in the vicinity. These people reveal inequity aversion as they give A and B the same rewards. The observations along the y axis (16.7% in game 50/50 and 10% in game 50/90) follow the reciprocity type. They only reward A but not B. We cannot disentangle any significant differences in type distribution across the games. For transparency reasons Figure 1 does not include the relevant rewards from game 50/10. The data in this treatment reveal the same patterns as those documented in the figure. The results suggest that few people care about the kindness of a person, let alone about the level of kindness.

Figure 1: The relationship between rewards for A and B after a choice of options AI, differentiated for games 50/50 and 50/90 (N = 30; Bubble size increases in the number of relevant observations)



We find a similar reward pattern when A delegates and B chooses the investment option BI. The relevant descriptive statistics are documented in the fourth row in table 2. Players C give more rewards to the person who actually made the investment decision. If B invests, she receives a higher reward than A in games 10/50, 30/50 and 50/50 (all p-values < .05). In game 50/90, the reward to B is higher than the reward to A, but not significantly (p = .151). The rewards for B also increase in the amount of points a player C receives from B's investment decision (all p-values < .01). The rewards for A also increase in a similar way (again all p-values <.01). In this situation, the rewards for A do not clearly reflect intentions. In all games except game 50/10 the rewards for A in case of option BI are greater than the rewards for B in case of option BI. In most games the increased transfer of B may explain this difference. However, we also observe a similar difference in game 50/50 in which both players can make the same transfer (p-value = .024). This result suggests that players C acknowledge that A has contributed to B's investment but B did not do so in case of A's. They do not differ between games 10/50, 30/50 and 50/50 even though delegation in the latter game imposes an earnings risk on player C. The p-value of a Wilcoxon signed-rank test for the difference in rewards for A after an investment decision by player B between games 10/50 and 50/50 is about .35.

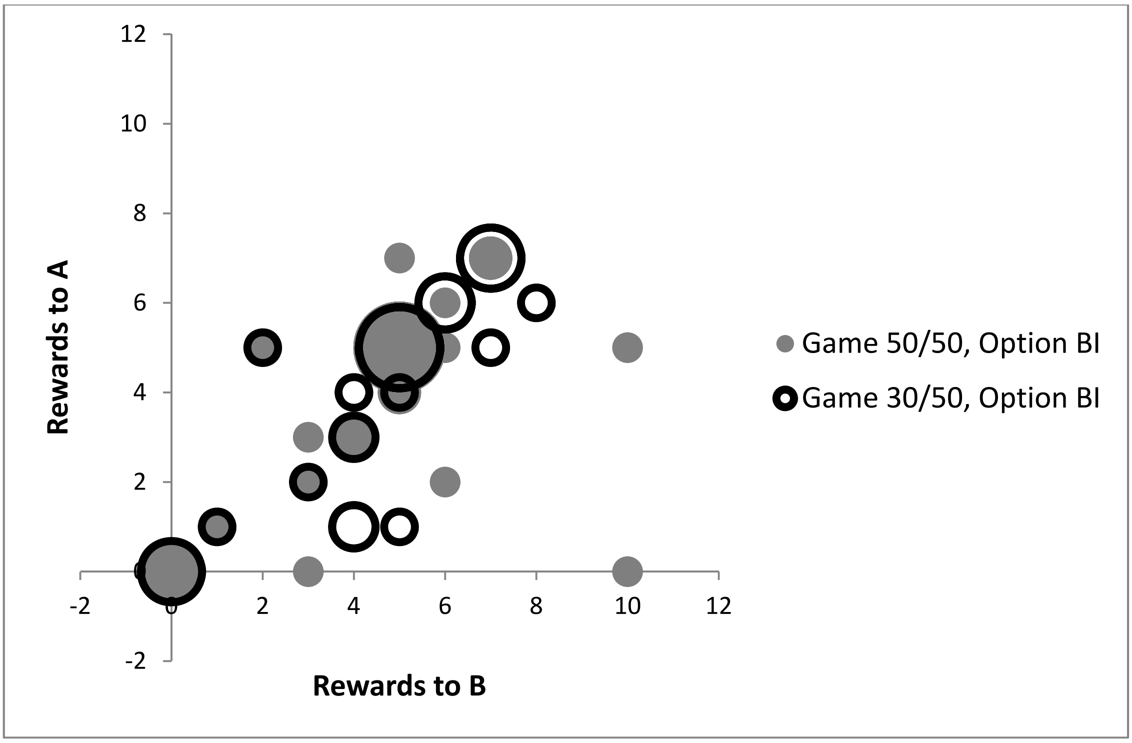
Results 2: In case of option BI:

1. *The rewards of B increase in the transfer to C; This result confirms the first statement of hypothesis 2.*
2. *B receives at least as many points as A; This result confirms the second statement of hypothesis 2.*
3. *A receives a greater reward in case of option BI than player B in case of option AI. This result confirms the third statement of hypothesis 2.*
4. *The rewards for A do no not differ in games 10/50. 30/50 and 50/50; This result contradicts the fourth statement of hypothesis 2.*

Again we use the individual data to disentangle individual behavior with respect to the different reward motives. Figure 2 shows the rewards for A and B in games 50/50 and 30/50[4] in case of option BI. As in Figure 1, very few people do not provide any reward (The observations at the origin). Again, most observations are on the 45 degree line (46.7% in game 50/50 and 63.3% in game 50/90) or around it. These people reveal inequity aversion as they give A and B the same rewards. Most of the remaining observations are below the 45 degree line and fit into the reciprocity type (33.3% in game 50/50 and 20% in game 50/90). They give B more than A. Very few people do not fit into any of these behavioral types and we cannot disentangle any significant differences in type distribution across the games.

[4] As in figure 1, figure 2 does not include the relevant rewards from game 10/50. The data in this treatment reveal the same patterns as those documented in the figure.

Figure 2: The relationship between rewards for A and B after a choice of options BI, differentiated for games 30/50 and 50/50 (N = 30; Bubble size increases in the number of relevant observations)



The data suggests that inequity aversion is much more relevant than 'naïve' reciprocity in the context of delegating beneficial decisions. In order to estimate the impact of both preferences more precisely, we use OLS models that are based on the following idea. In situation AI, A and B will be rewarded equally by purely inequality averse players, and B will receive no reward at all if C is purely reciprocal. Thus, the relative reward of B in comparison to the reward of A informs us about the relative strength of the two motives. In model 1 in Table 3, we therefore predict the reward to player B using the size of the transfer and the reward to A as independent variables.[5] If all players C were inequity averse, the coefficient of the reward to A should equal 1 and if they were strictly reciprocal, the coefficient of the reward to A should equal 0. The results in Table 3 show that the coefficient equals 0.540, which is both significantly higher than 0 and smaller than 1. Neither motive can explain aggregate behavior on its own.

[5] In Table 2, we use the terminology "reward to the person who made the transfer decision" in order to be able to compare model 1 and model 2.

Model 2 estimates the rewards to A after a transfer from B to C using the transfer and the reward to B as independent variables. In this situation, reciprocity also predicts a positive reward to A, and as above, we use the reward to B as a measure of player C's strength of social preferences. In this situation reciprocal players might also reward A. Thus, we expect player A's reward to depend on player B's reward. Further, a higher coefficient of B's reward in model 2 than the coefficient of A's reward in model 1 is evidence for reciprocity (as suggested by prediction 4d). Indeed, this coefficient equals 0.733 and is also significantly larger than 0 and significantly smaller than 1. In model 3 we test the difference between model 1 and model 2 using a regression in which we interact each variable with a dummy that captures who is the actual decision maker. This difference in rewards for the decision maker equals 0.193 and is significant at the 10% level.

Table 3: OLS estimations on the impact of inequity aversion and reciprocity on rewards if a transfer was made; dependent variable is the reward to the person who did not make the transfer decision.

	Model 1 A chooses investment option AI Reward to A	Model 2 A delegates and B chooses investment option BI Reward to B	Difference between models 1 and 2
Received transfer	.012 (.008)	.013* (.007)	.002 (.008)
Reward to the person who did make the transfer	.540*** (.129)	.733*** (.100)	.193* (.107)
Constant	.089 (.195)	-.072 (.183)	-.160 (.220)
Decisions	150	150	300
N	30	30	30
R^2	.417	.643	.578

All transfers and rewards are measured in points; Levels of significance: * <.1; ** < .05; *** < .001. The standard errors (in parentheses) are robust and clustered at the subject level.

Let us finally turn to the decisions of the players A and B. Table 4 shows the decisions of players A and B. If the players correctly anticipate the reward behavior that we observe, then player B should transfer in all games except game 50/10. Player A should directly invest in games 30/50, 50/50 and 50/10 and delegate in games 10/50 and 50/90. These are the modal choices except for the decision of A in game 30/50, in which a majority does not invest. It is also remarkable that the share of delegated decisions monotonously increases in the difference between the potential investment values of B and A.

Table 4: Choices of A and B (in percentages)

	Game 10/50	Game 30/50	Game 50/50	Game 50/90	Game 50/10
AN	43.3%	50%	23.3%	16.7%	26.7%
AI	3.3%	16.7%	53.3%	16.7%	63.3%
Delegation	53,3%	33.3%	23.3%	66.7%	10%
BN	33.3%	43.3%	43,3%	13.3%	100%
BI	66.7%	56.7%	56,7%	86.7%	0%

5 Conclusion

We reported on an experiment about delegation of beneficial decisions. We find, first, that rewards increase in the material benefit of the rewarding person. Second, the person who finally takes the decision gets a higher reward than the other person. Third, delegation increases rewards only marginally when the delegate chooses the beneficial outcome. If the beneficial outcome results after delegation, the reward of the person who delegates is only little higher than the reward of the person not involved in the decision when the decision is not delegated. Fifth, our results show a relatively simplistic reward pattern on the aggregate level. Subjects do not seem to bother about the more sophisticated intention or responsibility motives of the (potentially) delegating person that are observable in the punishment of delegated harmful decisions (Bartling and Fischbacher, 2012). For example, it does not matter whether delegation could have increased the payoff of the rewarding (as in the 10/50 and in the 30/50 games) or not (as in the 50/50 game).

A potential explanation for this asymmetry between reward and punishment behavior lies in the motives of kind and unkind behavior. While unkind behavior is definitely unkind, seemingly kind behavior can be motivated from selfish motives. Player A and B could be kind in the hope of getting reward. Such a behavior is inexistent in the case of punishment; it is implausible that people are unkind in the hope of getting punished. Based on player C's behavior, we find that delegation only pays for the investor if the delegate can transfer much more money than the investor herself. So, given the more moderate gains from delegating charitable actions that we expect in the real world, our results support Machiavelli's claim (1995, p. 59).

Appendix A Instructions for players C (translated from German)

We cordially welcome you to this economic experiment.

If you read the following explanation carefully, you can, based on your decisions and other participants‘ decisions, earn money in addition to the 5 euros you receive as starting money for your participation. It is therefore very important that you read these explanations very carefully. If you have questions, please direct them to us before the beginning of the experiment.

During the experiment you are not allowed to speak with the other participants. Failure to adhere to this rule will result in expulsion from the experiment and all payments.

During the experiment we will not talk about euros, but about points. Your total income will therefore initially be calculated in points. The total points you attain in the experiment will then at the end be converted into euros, where

10 points = 1 euro.

At the end of today's experiment you will receive the points earned during the experiment plus 5 euros for showing up.

On the following pages we will explain the exact procedure of the experiment to you.

Experiment

Structure:

This experiment consists of five stages (or rounds). At the beginning of each round two other people who are also participating in this experiment will be randomly assigned to you. Throughout the experiment you will **never** interact twice with the same person; neither before nor after the experiment will you learn the identity of the person assigned to you. Likewise, the people assigned to you will learn nothing about your identity.

In this experiment there are three types of participants: Participant A, B, and C. **You are a Participant C.** The two people assigned to you are one Participant A and one Participant B. Each stage of the experiment is subdivided into up to three steps:

Step 1: Participant A can choose between the two predetermined Variants 1 and 2 in order to divide points between himself [no gender specified in original] and Participants B and C. He can also hand the decision over to Participant B.

Step 2 (optional)**:** If Participant A hands the decision over to Participant B, then Participant B must choose between the predetermined Variants 3 and 4. These alternatives do not necessarily match the variants available to him [Participant A]. Step 2 is omitted if Participant A does not hand the decision over. In this case Participant B cannot make a decision.

Step 3: After Participant A or Participant B has decided on a division of points, you, Participant C will be informed about the respective decisions. You can decide at this point if you want to give up to 10 points to each of the other participants. These points will be deducted from you. Each beneficiary participant is credited five times the number of points assigned to him.

In the individual rounds of the experiment the payments of Variants 2 and 4 will be varied. **All participants know at all times what possibilities A and B have or have had.** We will now explain the individual steps to you.

Step 1:

In each stage Participant A can decide how points between three participants will be divided. He has three alternatives for this decision.

- **Variant 1:** Participant A, Participant B, and Participant C each receive 10 points.
- **Variant 2:** Participant C receives between 10 and 50 points. Participants A and B receive no points. *Note that the value of the payment to Participant C can change from stage to stage. In each round the value will be specifically set before the beginning and will be communicated to all participants.*

Participant A can also hand the decision over to Participant B. If he/she does not hand the decision over, then Participant B does not make a decision in that round. If he/she does hand the decision over, then Participant A cannot make any more decisions in that round. In this case Participant B makes the decision.

Step 2:

If Participant A hands the decision over to Participant B, then these [the following] two decision alternatives are available to him from which he/she must choose. Participant B cannot hand the decision over further.

- **Variant 3:** Participant A, Participant B, and Participant C each receive 10 points.
- **Variant 4:** Participant C receives between 10 and 80 points. Participants A and B receive no points. *Note that here too the value of the payment to Participant C can change from stage to stage. In each round the value will be specifically set before the beginning and will be communicated to all participants.*

The following table gives you an overview once more of the two divisions, between which Participant A, or if he hands the decision over, Participant B must decide.

	Points for Participant A	Points for Participant B	Your points
Variant 1	10	10	10
Variant 2	0	0	10-50
If Participant A hands the decision over			
Variant 3	10	10	10
Variant 4	0	0	10-80

Step 3:

After Participant A or Participant B has made a decision, you will learn whether Participant A handed the decision over and what decision was made.

As Participant C, you have at this point the possibility to give Participant A and Participant B up to 10 points each. These points will be deducted from you. Participant A will then be credited five times the points assigned to him. Likewise Participant B will be credited five times the points assigned to him.

You can distribute more points than you has received in a round. The surplus points will then be removed from previous receipts or the starting money.

<u>Example 1</u>: Variant 2 is chosen by Participant A. Participant C receives 30 points from the choice of Variant 2 in this round. Participant C gives up 8 points in total in order to give Participant A <u>3 points</u> and Participant B <u>5 points</u>. The following payments result:

Points for Participant A	Points for Participant B	Your points
0+3×5 = 15	0+5×5 = 25	30-3-5 = 22

Example 2: Participant A delegated the decision to Participant B. Variant 3 is chosen by Participant B. All participants receive 10 points from the choice of Variant 3. Participant C gives up 11 points in order to give Participant A 10 points and Participant B 4 points.

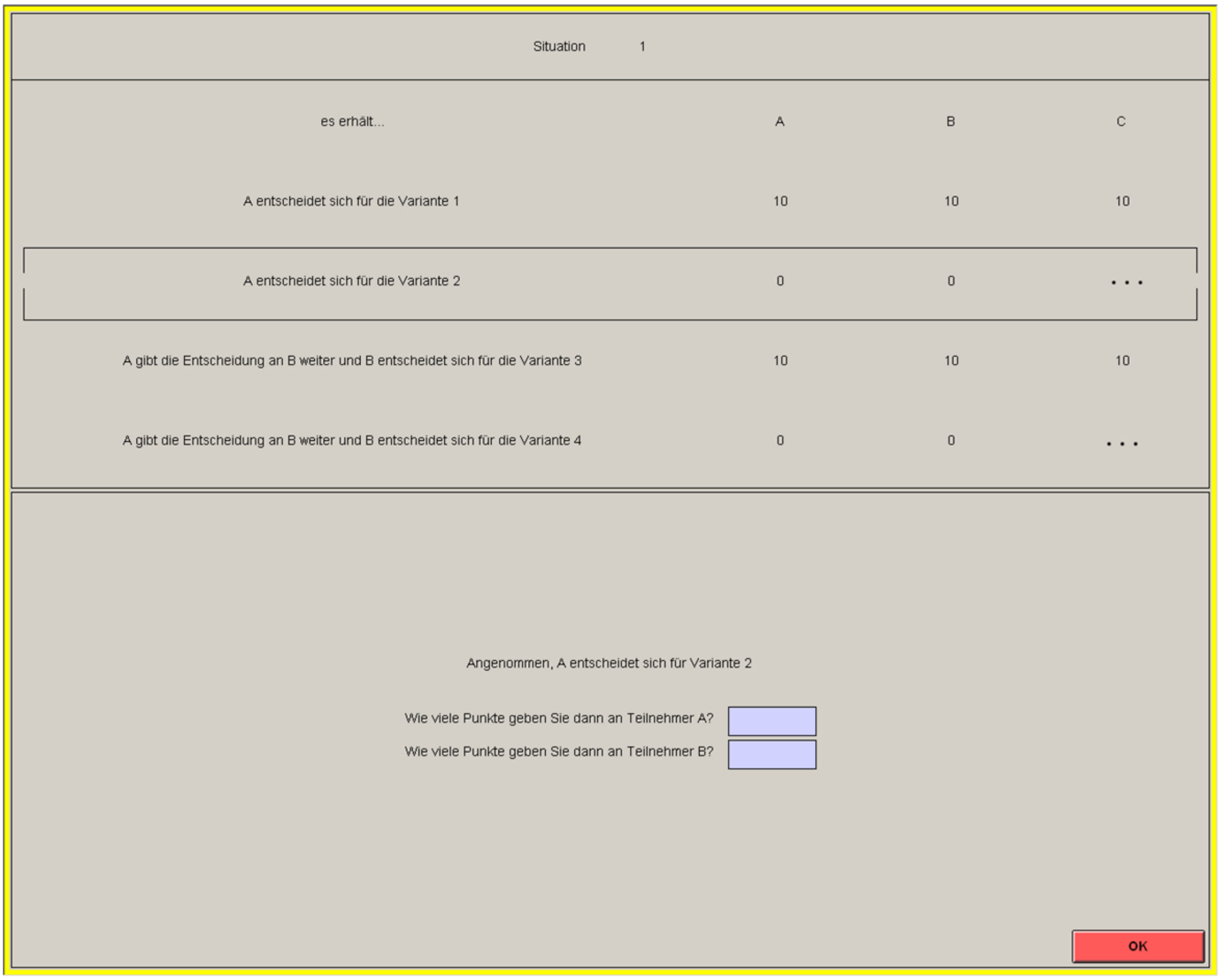
Points for Participant A	Points for Participant B	Your points
10+10×5 = 60	10+4×5 = 30	10-7-4 = -1

Example 3: Participant A gave the decision over and Participant B decided on Variant 4. Participant C receives 60 points from the choice of Variant 4 in this round. Participant C gives up no points in order to give points to the other participants.

Points for Participant A	Points for Participant B	Your points
0	0	60

Computer Procedure

You must specify for all situations, before A and B have actually decided, your decision of how many points you want to give to Participant A and how many to Participant B. Please indicate your preferred number of points for each of the four variants. Note that the resulting decision is binding. The situations appear one after another on one screen, which looks as follows:[6]



At the top you see the results of Participant A and B's possible decisions. The situation for which you are making your decision is specially framed. In the above example, the situation is the one in which A decides for Variant 2. At the bottom you make your decision. So in this case, that means how many points you want to give to A and how many points to B. When you've made your decisions, click the OK button on the bottom right. As long as this button has not been clicked, you can revise your decision.

When all participants have made their decisions, then at the end of the five stages the experiment is over, you learn the decisions of the other participants in your respective groups, and you receive your points converted into euros, as well the starting money paid out in cash.

Do you have any remaining questions?

6

Practice Problems

Please answer the following practice problems. Your answers have no influence on your payment at the end of the experiment.

1. Participant A handed the decision over to Participant B. Which decisions are relevant for payment at the end of the experiment?

2. Participant A did <u>not</u> hand the decision over to Participant B. Which decisions are now relevant for payment?

3. Participant A chose Variant 1. Participant C gives up no points to the other participants. Complete the table.

Variant 1	Participant A	Participant B	Participant C
Payments			

4. Participant A handed the decision over to Participant B. Participant B chose Variant 3. Upon the choice of Variant 3 Participant C gives the following points up: 3 to Participant A and 4 to Participant B. Complete the table and determine the payments for the participants.

	Participant A	Participant B	Participant C
Variant 3	10	10	10
Payments			

5. Participant A chose Variant 2. Upon the choice of Variant, Participant C receives 30 points in the ongoing stage. Participant C now gives up 7 points for Participant A and 0 points for Participant B. Complete the table and determine the payments for the participants.

	Participant A	Participant B	Participant C
Variant 2	0	0	30
Payment			

6. Participant A handed the decision over to Participant B. Participant B chose Variant 4. Upon the choice of variant 4, Participant C receives 50 points in the ongoing stage.

Participant C gives up no points for the other participants. Complete the table and determine the payments for the participants.

	Participant A	Participant B	Participant C
Variant 4	0	0	50
Payments			

When you have solved all the problems, please give a sign. We will then come to you and check your answers.

Once we have checked the problems it will be useful for you to think once thoroughly through your decisions.

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