ELECTRONIC SUPPLEMENTARY MATERIAL

to

Giving in the Face of Risk*

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Contents

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A Graphs and additional results

A.1 Distribution of allocations

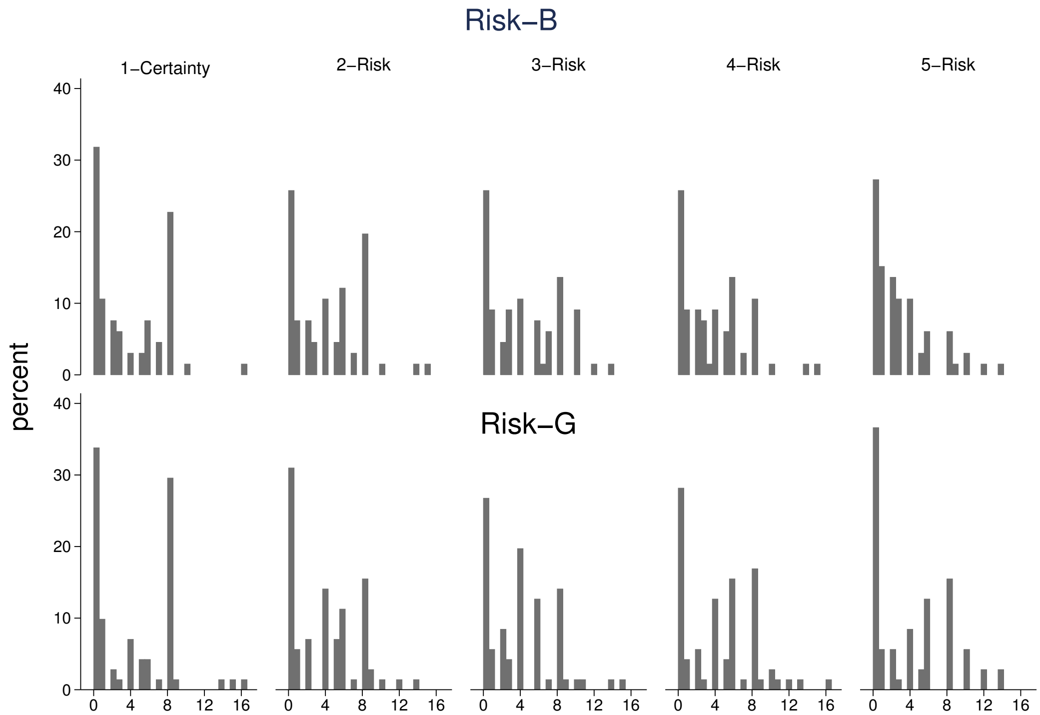

Figure A.1: Giving by allocation problem

A.2 Beliefs about the beneficiaries' risk preferences

Table A.1 shows how givers' beliefs about the risk preferences of beneficiaries affect their allocation decisions.

Table A.1: Regressions for Risk-B and Risk-G with beliefs on beneficiaries' risk aversion

	Risk-B		Risk-G	
Dep. var.	Allocation	Allocation	Allocation	Allocation
Believed risk aversion	2.350*	1.317	-0.690	0.297
	(1.2158)	(1.3136)	(0.7610)	(0.7650)
Risk aversion		2.086*		-1.870**
		(1.2350)		(0.7343)
Riskiness	-0.183***	-0.183***	0.025	0.025
	(0.0678)	(0.0679)	(0.1083)	(0.1084)
Constant	3.647***	3.367***	4.143***	4.282***
	(0.5226)	(0.5536)	(0.5285)	(0.5263)
Observations	330	330	345	345
Adjusted R^2	0.046	0.065	-0.000	0.018

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; OLS regressions; in parentheses standard errors adjusted for 66 (69) clusters on givers level in Risk-B (Risk-G); in Risk-G two givers are excluded from the analysis because their estimated risk aversion is infinite.

A.3 Gender effects

Several studies have shown that women tend to be more risk averse than man, while gender differences are less clear cut when social preferences are concerned (see Croson and Gneezy 2009, for a review). We test whether the observed correlation between allocations to B and risk aversion of givers is driven by female participants, and whether gender has an independent effect on the type of allocations. The first two columns in Table A.2 show that female givers in Risk-B allocate a little more to B than male givers, but this effect is not statistically significant. Gender does not affect giving in Risk-G either; the first two columns in Table A.3 show that female givers allocate a little less to B than male givers, but this effect is not statistically significant. Specifications (3)-(8) show that, in both experiments, gender does not have an independent effect on the type of allocations chosen.

These null-results may be attributed to the fact that in our experiment male and female subjects do not differ much in terms of risk preferences. In experiment Risk-B female givers are not significantly more risk averse than male givers (Mann-Whitney rank-sum test, $p = 0.376$, 2-sided) and in experiment Risk-G women are only marginally more risk averse than men (Mann-Whitney rank-sum test, $p = 0.052$, 2-sided).

Table A.2: Regressions Risk-B, gender effects

	(1) Allocation	(2) Allocation	(3) Equal split	(4) Equal split	(5) Selfish	(6) Selfish	(7) Hyperfair	(8) Hyperfair
Female	0.397	0.397	-0.021	-0.023	-0.148	-0.148	0.052	0.053
	(0.789)	(0.790)	(0.070)	(0.070)	(0.099)	(0.099)	(0.045)	(0.045)
Riskiness		-0.183***		-0.043***		-0.009		0.010*
		(0.068)		(0.011)		(0.008)		(0.006)
Constant	3.547***	4.095***						
	(0.520)	(0.595)						
Observations	330	330	330	330	330	330	330	330
R^2	0.003	0.008						

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; standard errors adjusted for 66 clusters on givers level in parentheses; specifications (1) and (2) report OLS regression results, specifications (3)–(8) report Probit marginal effects.

Table A.3: Regressions Risk-G, gender effects

	(1) Allocation	(2) Allocation	(3) Equal split	(4) Equal split	(5) Selfish	(6) Selfish	(7) Hyperfair	(8) Hyperfair
Female	-0.155	-0.155	-0.022	-0.023	-0.071	-0.071	-0.065	-0.065
	(0.737)	(0.738)	(0.065)	(0.065)	(0.089)	(0.089)	(0.0527)	(0.0529)
Riskiness		0.018		-0.026**		0.003		0.014**
		(0.106)		(0.012)		(0.012)		(0.007)
Constant	4.166***	4.111***						
	(0.566)	(0.615)						
Observations	355	355	355	355	355	355	355	355
R^2	0.000	0.000						

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; standard errors adjusted for 66 clusters on givers level in parentheses; specifications (1) and (2) report OLS regression results, specifications (3)–(8) report Probit marginal effects.

B Theoretical Predictions

Based on the model introduced by Saito (2013), the 'Saito' utility of the giver is defined by

$$V(\mathbf{x}) = \delta U(E_p(\mathbf{x})) + (1-\delta)E_p(U(\mathbf{x})),$$

where the term $U(E_p(\mathbf{x}))$ captures the utility of expected payoffs, referred to as 'ex-ante' utility, $E_p(U(\mathbf{x}))$ captures the expected value of utilities, referred to as 'ex-post' utility, and $\delta \in [0,1]$ is the weight the giver puts on ex-ante utility. The function U corresponds to a non-linear generalization of the inequity aversion model of Fehr and Schmidt (1999) proposed by Neilson (2006). Specifically, $U(\mathbf{x}) = u_1(X - x_n) - \alpha u_2(\max\{x_n - (X - x_n), 0\}) - \beta u_2(\max\{(X - x_n) - x_n, 0\})$,[1] where $X - x_n$ is the monetary payoff of the giver, x_n the monetary payoff the giver allocates to the beneficiary, and $\alpha > 0$, $\beta \in [0,1[$ with $\beta < \alpha$ are parameters capturing respectively disadvantageous and advantageous inequity aversion. Both u_1 and u_2 are assumed to be strictly increasing and concave. In the following we use the fact that in our experiments $X = 16$ and denote u_i' $(i = 1,2)$ as the derivative of u_i.

Proposition B.1. *Let x_1^* denote optimal giving in 1-Certainty and define $\beta_1 := \frac{u_1'(16-x_1)}{2u_2'(16-2x_1)}$ then*

$$x_1^* \in \begin{cases} \{0\} & \text{if } \beta \in [0, \beta_1[, \\ ]0,8[& \text{if } \beta = \beta_1, \\ \{8\} & \text{if } \beta \in]\beta_1, 1[, \end{cases}$$

Proof. In 1-Certainty, ex-ante utility equals ex-post utility. Hence,

$$U(E_p(\mathbf{x})) = E_p(U(\mathbf{x})) = V(\mathbf{x}) = \begin{cases} u_1(16 - x_1) - \beta u_2(16 - 2x_1) & \text{if } 0 \leq x_1 \leq 8, \\ u_1(16 - x_1) - \alpha u_2(2x_1 - 16) & \text{if } 8 \leq x_1 \leq 16. \end{cases}$$

Taking the first derivative of $V(X)$ w.r.t. x_1, we obtain:

$$\frac{dV(\mathbf{x})}{dx_1} = \begin{cases} -u_1'(16 - x_1) + 2\beta u_2'(16 - 2x_1) & \text{if } 0 \leq x_1 \leq 8, \\ -u_1'(16 - x_1) - 2\alpha u_2'(2x_1 - 16) & \text{if } 8 \leq x_1 \leq 16. \end{cases}$$

Since $\alpha > 0$, the optimal allocation to the beneficiary is never larger than 8 and depends on the value of β and the shapes of u_1 and u_2 such that:

$$x_1^* \in \begin{cases} \{0\} & \text{if } \beta \in [0, \frac{u_1'(16-x_1)}{2u_2'(16-2x_1)}[\,, \\ ]0,8[& \text{if } \beta = \frac{u_1'(16-x_1)}{2u_2'(16-2x_1)}, \\ \{8\} & \text{if } \beta \in]\frac{u_1'(16-x_1)}{2u_2'(16-2x_1)}, 1[\,. \end{cases}$$

□

[1] An alternative formulation is $U(X) = u_1(X - x_n) - \alpha \max\{u_2(x_n - (X - x_n)), u_2(0)\} - \beta \max\{u_2((X - x_n) - x_n), u_2(0)\}$. These two utility functions are equivalent under the assumption that u_2 is strictly increasing in its argument.

Corollary B.2. *Let x_n^* denote optimal giving for allocation problem n-Risk* ($n = 2,3,4,5$) *in* Risk-B *and* Risk-G *and assume pure ex-ante utility concerns, that is,* $\delta = 1$*. Define* $\beta_1 := \frac{u_1'(16-x_1)}{2u_2'(16-2x_1)}$ *then*

$$x_n^* \in \begin{cases} \{0\} & \text{if } \beta \in [0, \beta_1[, \\ ]0, 8[& \text{if } \beta = \beta_1, \\ \{8\} & \text{if } \beta \in]\beta_1, 1[, \end{cases}$$

Proof. If $\delta = 1$, in both Risk-B and Risk-G, the Saito utility equals the ex-ante utility in all allocation problems. The proof follows directly from Proposition B.1. □

B.1 Ex-post utility in Risk-B

Proposition B.3. *Let x_n^* denote optimal giving for allocation problem n-Risk* ($n = 2,3,4,5$) *in* Risk-B *and assume pure ex-post utility concerns, that is,* $\delta = 0$*.*

Define $\beta_1 := \frac{u_1'(16-x_1)}{2u_2'(16-2x_1)}$ *and* $\beta_2 := \frac{u_1'(16-x_n)+\alpha p(k+1)u_2'((k+1)x_n-16)}{(1-p)(\bar{k}+1)u_2'(16-(\bar{k}+1)x_n)}$ *then*

2-Risk:

$$x_2^* \in \begin{cases} \{0\} & \text{if } \beta \in [0, \beta_1[, \\ ]0, 32/5[& \text{if } \beta = \beta_1, \\ \{32/5\} & \text{if } \beta \in]\beta_1, \beta_2[, \\ ]32/5, 32/3[& \text{if } \beta = \beta_2, \\ \{32/3\} & \text{if } \beta \in]\beta_2, 1[, \end{cases}$$

3-Risk:

$$x_3^* \in \begin{cases} \{0\} & \text{if } \beta \in [0, \beta_1[, \\ ]0, 64/9[& \text{if } \beta = \beta_1, \\ \{64/9\} & \text{if } \beta \in]\beta_1, \beta_2[, \\ ]64/9, 16[& \text{if } \beta \in [\beta_2, 1[, \end{cases}$$

4-Risk:

$$x_4^* \in \begin{cases} \{0\} & \text{if } \beta \in [0, \beta_1[, \\ ]0, 16/3[& \text{if } \beta = \beta_1, \\ \{16/3\} & \text{if } \beta \in]\beta_1, \beta_2[, \\ ]16/3, 16[& \text{if } \beta \in [\beta_2, 1[, \end{cases}$$

5-Risk:

$$x_5^* \in \begin{cases} \{0\} & \text{if } \beta \in [0, \beta_1[, \\ ]0, 8/3[& \text{if } \beta = \beta_1, \\ \{8/3\} & \text{if } \beta \in]\beta_1, \beta_2[, \\ ]8/3, 16[& \text{if } \beta \in [\beta_2, 1[. \end{cases}$$

Proof. In RISK-B the giver's monetary outcome is always $16 - x_n$ and the beneficiary's outcome is kx_n or $\bar{k}x_n$, depending on the realized state of the world. Thus, ex-post, the giver and beneficiary thus have the same monetary outcome when either $16 - x_n = kx_n$ (i.e., $x_n = \frac{16}{k+1}$) or when $16 - x_n = \bar{k}x_n$ (i.e., $x_n = \frac{16}{\bar{k}+1}$). These values represent 'equality' benchmarks, which allow us to distinguish the following cases for $\delta = 0$:

Ranges of x_n	$\frac{dV(X)}{dx_n}$	sign of $\frac{dV(X)}{dx_n}$
$0 \leq x_n \leq \frac{16}{k+1}$	$-u_1'(16 - x_n) + 2\beta u_2'(16 - 2x_n)$	$\geq 0 \Leftrightarrow \beta \geq \beta_1$
$\frac{16}{k+1} \leq x_n \leq \frac{16}{\bar{k}+1}$	$-u_1'(16 - x_n) - \alpha p(k + 1)u_2'((k + 1)x_n - 16)$ $+\beta(1 - p)(\bar{k} + 1)u_2'(16 - (\bar{k} + 1)x_n)$	$\geq 0 \Leftrightarrow \beta \geq \beta_2$
$\frac{16}{\bar{k}+1} \leq x_n \leq 16$	$-u_1'(16 - x_n) - 2\alpha u_2'(2x_n - 16)$	< 0

Inserting the respective values of p, k, and $\bar{k}$ gives the solutions for n-Risk ($n = 2, 3, 4, 5$). □

Remark B.4. *For $\beta_1 \leq \beta_2$ to hold it is sufficient but not necessary that $u_2' \leq u_1'$.*

The effect of individual risk aversion on β_1. We assume that both u_1 and u_2 are CRRA utility functions given by respectively $u_1(x) = x^{1-a}$ and $u_2(x) = x^{1-b}$. It follows that

$$\beta_1 = \frac{(1 - a)(16 - x_n)^{-a}}{2(1 - b)(16 - 2x_n)^{-b}} \quad \text{and} \quad \frac{\partial \beta_1}{\partial a} = -\frac{a(16 - x_n)^{-a}}{2b(16 - 2x_n)^{-b}} \ln(16 - x_n).$$

The latter expression is defined and negative for the relevant values $x_n \in \,]0, 8[$. The threshold β_1 is thus decreasing in the risk aversion of the giver's self-regarding utility component.

B.2 Ex-post utility in Risk-G

Proposition B.5. *Let x_n^* denote optimal giving for allocation problem n-Risk ($n = 2, 3, 4, 5$) in* RISK-G *and assume pure ex-post utility concerns, that is, $\delta = 0$.*

Define $\beta_3 := \frac{pku_1'(16k-kx_n)+(1-p)\bar{k}u_1'(16\bar{k}-\bar{k}x_n)}{p(k+1)u_2'(16k-(k+1)x_n)+(1-p)(\bar{k}+1)u_2'(16\bar{k}-(\bar{k}+1)x_n)}$ *and*

$\beta_4 := \frac{pku_1'(16k-kx_n)+(1-p)\bar{k}u_1'(16\bar{k}-\bar{k}x_n)+(1-p)\alpha(\bar{k}+1)u_2'((\bar{k}+1)x_n-16\bar{k})}{p(k+1)u_2'(16k-(k+1)x_n)}$ *then*

2-Risk:

$$x_2^* \in \begin{cases} \{0\} & \text{if } \beta \in [0, \beta_3[, \\ ]0, 16/3[& \text{if } \beta = \beta_3, \\ \{16/3\} & \text{if } \beta \in \,]\beta_3, \beta_4[, \\ ]16/3, 48/5[& \text{if } \beta = \beta_4, \\ \{48/5\} & \text{if } \beta \in \,]\beta_4, 1[, \end{cases}$$

3-Risk:

$$x_3^* \in \begin{cases} \{0\} & \textit{if } \beta \in [0, \beta_4[, \\ ]0, 80/9[& \textit{if } \beta = \beta_4, \\ \{80/9\} & \textit{if } \beta \in]\beta_4, 1[, \end{cases}$$

4-Risk:

$$x_4^* \in \begin{cases} \{0\} & \textit{if } \beta \in [0, \beta_4[, \\ ]0, 32/3[& \textit{if } \beta = \beta_4, \\ \{32/3\} & \textit{if } \beta \in]\beta_4, 1[, \end{cases}$$

5-Risk:

$$x_5^* \in \begin{cases} \{0\} & \textit{if } \beta \in [0, \beta_4[, \\ ]0, 40/3[& \textit{if } \beta = \beta_4, \\ \{40/3\} & \textit{if } \beta \in]\beta_4, 1[. \end{cases}$$

Proof. In RISK-G the beneficiary's monetary outcome is always x_n and the giver's outcome is is either $k(16 - x_n)$ or $\bar{k}(16 - x_n)$, depending on the realized state of the world. Thus, ex-post, the giver and the beneficiary have the same outcome when $x_n = k(16 - x_n)$ (i.e., $x_n = \frac{16k}{k+1}$) or when $x_n = \bar{k}(16 - x_n)$ (i.e., $x_n = \frac{16\bar{k}}{k+1}$). These values represent 'equality benchmarks', which allow us to distinguish the following cases for $\delta = 0$:

Ranges of x_n	$\frac{dV(X)}{dx_n}$	sign of $\frac{dV(X)}{dx_n}$
$0 \leq x_n \leq \frac{16\bar{k}}{k+1}$	$-pku_1'(16k - kx_n) + p\beta(k+1)u_2'(16k - (k+1)x_n)$ $-(1-p)\bar{k}u_1'(16\bar{k} - \bar{k}x_n) + (1-p)\beta(\bar{k}+1)u_2'(16\bar{k} - (\bar{k}+1)x_n)$	$\geq 0 \Leftrightarrow \beta \geq \beta_3$
$\frac{16\bar{k}}{k+1} \leq x_n \leq \frac{16k}{k+1}$	$-pku_1'(16k - kx_n) + p\beta(k+1)u_2'(16k - (k+1)x_n)$ $-(1-p)\bar{k}u_1'(16\bar{k} - \bar{k}x_n) - (1-p)\alpha(\bar{k}+1)u_2'((\bar{k}+1)x_n - 16\bar{k})$	$\geq 0 \Leftrightarrow \beta \geq \beta_4$
$\frac{16k}{k+1} \leq x_n \leq 16$	$-pku_1'(16k - kx_n) - p\alpha(k+1)u_2'((k+1)x_n - 16k)$ $-(1-p)\bar{k}u_1'(16\bar{k} - \bar{k}x_n) - (1-p)\alpha(\bar{k}+1)u_2'((\bar{k}+1)x_n - 16\bar{k})$	< 0

Inserting the respective values of p, k, and $\bar{k}$ gives the solutions for n-Risk ($n = 2, 3, 4, 5$). $\square$

The effect of riskiness on β_3 and β_4. First, we consider the effect of riskiness on β_4 in allocation problems 3-, 4-, and 5-Risk. In these allocation problems it holds that $\bar{k} = 0$ and $pk = 1$ and we get

$$\beta_4 = \frac{u_1'(k(16 - x_n)) + (1 - \frac{1}{k})\alpha u_2'(x_n)}{(1 + \frac{1}{k})u_2'(k(16 - x_n) - x_n)}.$$

After some tedious calculations it can be shown that $\frac{\partial \beta_4}{\partial k} \geq 0 \Leftrightarrow$

$$\frac{(16 - x_n)u_1''(k(16 - x_n)) + \frac{1}{k^2}\alpha u_2'(x_n)}{u_1'(k(16 - x_n)) + (1 - \frac{1}{k})\alpha u_2'(x_n)} + \frac{1}{k(k+1)} \geq (16 - x_n)\frac{u_2''(k(16 - x_n) - x_n)}{u_2'(k(16 - x_n) - x_n)}.$$

To see when this inequality holds note first that the r.h.s. is non-positive due to the concavity of u_2. Thus, if the l.h.s. is non-negative the inequality holds. By contradiction, assume that the l.h.s. is strictly negative. Note that for $k > 1$, as it is the case in our experiments, the l.h.s. is strictly larger than $(16 - x_n)\frac{u_1''(k(16-x_n))}{u_1'(k(16-x_n))}$. Thus, if

$$\frac{u_1''(k(16 - x_n))}{u_1'(k(16 - x_n))} \geq \frac{u_2''(k(16 - x_n) - x_n)}{u_2'(k(16 - x_n) - x_n)},$$

then the above inequality holds and β_4 is increasing in k and thus increasing with the riskiness of the allocation problem.

Second, we consider the effect of riskiness on β_3 in 2-Risk. Assume that the individual in question believes that the other is at least as risk averse as he himself, in the sense that the absolute risk aversion coefficient of u_1 is at most as large as the absolute risk aversion coefficient of u_2, i.e.,

$$-\frac{u_1''(.)}{u_1'(.)} \leq -\frac{u_2''(.)}{u_2'(.)}.$$

If we assume a CRRA power utility function $U(x) = x^{1-r}$ for own risk preferences and $U(x) = x^{1-\bar{r}}$ for the belief about the other's risk preferences, where $0 < r, \bar{r} < 1$ indicates risk averse, $r, \bar{r} = 0$ risk neutral and $r, \bar{r} < 0$ risk seeking preferences, the inequality above is equivalent to $r \leq \bar{r}$. Under these assumptions, and with the values of p, k, and $\bar{k}$ implemented in the experiment, β_3 in 2-Risk is smaller than β_4 in 3-Risk for all feasible values of the parameters.

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C Experimental Instructions

We report the instructions for experiment Risk-G, the instructions for the experiment Risk-B only differ in Part 1.

Introduction speech

In this experiment you can earn money with the decisions you make. Your earnings may also depend on chance events and the decisions of other participants. At the end of the experiment you will be paid out in cash individually and confidentially. In order to ensure the highest level of anonymity and confidentiality, the payment will be carried out by a person that is not involved in this research project. The experimenters cannot link your earnings and decisions to your identity in any way. During the experiment you are not allowed to communicate in any other way than described in the instructions. If you have any questions please raise your hand. An experimenter will then come to you and answer your questions in private. The experiment consists of 3 parts. You will receive the instructions of a part only after the previous part has ended.

Part 1

In the first part of the experiment you will be randomly matched into groups of two participants, which will be labeled with the letters A and B. The slider task In this part of the experiment every participant is asked to perform a task that involves correctly positioning sliders on a bar. Below you can see the representation of a slider in the initial position a) and in the correct position b), which is always in the middle of the bar. The slider is positioned correctly if the number that shows up to the right of the slider equals 50.

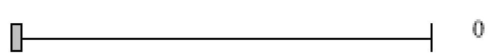


Figure C.1: a)

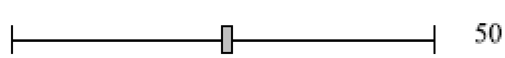


Figure C.2: b)

For each correctly positioned slider 0.25 Euro are credited. There are a total of 32 sliders to be positioned in 6 minutes time, so every participant can credit up to 8 Euro. After the 6 minutes are over, the credit accumulated by A and B, who are in the same group, is deposited in a joint group account. Each member of a group (A and B) is then informed about how much she/he and the other member in the group contributed to the joint account.

Determination of earnings

The task of A is to divide the amount of money in the joint account between him/herself and B. A is asked to make a division in 7 different decision situations. At the end of the experiment one out of the 7 decisions will be randomly selected to determine the earnings of A and B. Each decision situation is equally likely to be the one that determines the earnings of A and B. Therefore, person A should carefully consider each decision and make each decision in isolation. The 7 decision situations differ in the way the amount of money assigned to A and B translates into earnings for A and B. The table below summarizes the 7 decision situations and shows how the earnings of A and B are determined in each decision situation. Notice that during the experiment the 7 decision situations will appear in random order. Please have a look at it.

Decision	Earnings of A	Earnings of B
1	allocation to A	allocation to B
2	20% chance 5 times allocation to A, 80% times 0	allocation to B
3	50% chance 2 times allocation to A, 50% times 0	allocation to B
4	80% chance 1.25 times allocation to A, 20% times 0	allocation to B
5	50% chance 1.5 times allocation to A, 50% times 0.5 times allocation to A	allocation to B
6	unknown chance 2 times allocation to A, unknown chance 0	allocation to B
7	unknown chance 1.5 times allocation to A, unknown chance 0.5 times allocation to A	allocation to B

We will now explain each decision situation in detail. If, at the end of the experiment, decision situation 1 is selected to matter for payment then the earnings of A are equal to the amount A allocated to him/herself and the earnings of B are equal to the allocation to B.

If, at the end of the experiment, decision situation 2 is selected to matter for payment the earnings of A are equal to the allocation to A. The final earnings of B depend on the amount of Euro allocated to B and on a chance event. The chance event will be the public drawing of a card from a stack of 100 cards numbered from 1 to 100. If a card with a number from 1 to 20 will be drawn then the earnings of B will be 5 times the money allocated to B (i.e., 500% of the allocation to B). If a number from 21 to 100 will be drawn then the earnings of B will be 0 Euro. In other words, with 20% chance the earnings of B will be 5 times the allocation to B and with 80% chance the earnings of B will be 0 Euro.

If, at the end of the experiment, decision situation 3 is selected to matter for payment the earnings of A are equal to the allocation to A. The final earnings of B depend on the amount of Euro allocated to B and on a chance event. The chance event will the public drawing of a card from a stack of 100 cards numbered from 1 to 100. If a card with a number from 1 to 50 will be drawn then the earnings of B will be 2 times the allocation to B (i.e. 200% of the allocation to B). If a number from 51 to 100 will be drawn then the earnings of B will be 0 Euro. In other words, with 50% chance the earnings of B will be 2 times the allocation to B and with 50% chance the earnings of B will be 0 Euro.

If, at the end of the experiment, decision situation 4 is selected to matter for payment the earnings of A are equal to the allocation to A. The final earnings of B depend on the amount of Euro allocated to B and on a chance event. The chance event will the public drawing of a card from a stack of 100 cards numbered from 1 to 100. If a card with a number from 1 to 80 will be drawn then the earnings of B will be 1.25 times the allocation to B (i.e. 125% of the allocation to B). If a number from 81 to 100 will be drawn then the earnings of B will be 0 Euro. In other words, with 80% chance the earnings of B will be 1.25 times the allocation to B and with 20% chance the earnings of B will be 0 Euro.

If, at the end of the experiment, decision situation 5 is selected to matter for payment the earnings of A are equal to the allocation to A. The final earnings of B depend on the amount of Euro allocated to B and on a chance event. The chance event will the public drawing of a card from a stack of 100 cards numbered from 1 to 100. If a card with a number from 1 to 50 will be drawn then the earnings of B will be 1.5 times the allocation to B (i.e. 150% of the allocation to B). If a number from 51 to 100 will be drawn then the earnings of B will be 0.5 times the allocation to B (i.e. 50% of the allocation to B). In other words, with 50% chance the earnings of B will be 1.5 times the allocation to B and with 50% chance the earnings of B will be 0.5 times the allocation to B.

If, at the end of the experiment, decision situation 6 is selected to matter for payment the earnings of A are equal to the allocation to A. The final earnings of B depend on the amount of Euro allocated to B and on a chance event. The experimenters will first randomly select black or red to be the winning color. The chance event will then be the public drawing of a card from a stack of 100 cards which are black or red. The total number of red and black cards sums up to 100, but neither A nor B nor the experimenters know how many red cards and how many black cards are in the stack. If a card with the winning color is drawn the earnings of B will be 2 times the allocation to B (i.e. 200% of the allocation to B). If a card with the losing color is drawn then the earnings of B will be 0 Euro. In other words, with an unknown chance the earnings of B will be 2 times the allocation to B and with an unknown chance the earnings of B will be 0 Euro.

If, at the end of the experiment, decision situation 7 is selected to matter for payment the earnings of A are equal to the allocation to A. The final earnings of B depend on the amount of Euro allocated to B and on a chance event. The experimenters will first randomly select black

or red to be the winning color. The chance event will then be the public drawing of a card from a stack of 100 cards which are black or red. The total number of red and black cards sums up to 100, but neither A nor B nor the experimenters know how many red cards and how many black cards are in the stack. If a card with the winning color is drawn the earnings of B will be 1.5 times the allocation to B (i.e. 150% of the allocation to B). If a card with the losing color is drawn then the earnings of B will be 0.5 times the allocation to B (i.e. 50% of the allocation to B). In other words, with an unknown chance the earnings of B will be 1.5 times the allocation to B and with an unknown chance the earnings of B will be 0.5 times the allocation to B.
If you have any question please raise your hand and an experimenter will come to answer your question in private. In the following you are asked a few questions that will help us assessing your understanding of the decision situations described above. Please fill in the missing figures. Note, that in these questions we are not interested in the actual numbers you fill in but only if you fill them in correctly. During the experiment you will have the possibility to use a calculator by clicking on the icon in the bottom right corner of the screen. When you are ready please raise your hand and an experimenter will come to you to check your answers. Once you are ready please wait quietly.

Consider decision situation 3 and assume that the total in the joint account is 16 Euro. If A assigns... Euro to him/herself and ... Euro to B, then this means that with... % chance B earns ... Euro and with... % chance ... Euro. A earns ... Euro.

Consider decision situation 5 and assume that the total in the joint account is 15 Euro. If A assigns ... Euro to him/herself and... Euro to B, then this means that with ... % chance B earns ... Euro and with... % chance ... Euro. A earns ... Euro.

Consider decision situation 7 and assume that the total in the joint account is 12 Euro. If A assigns ... Euro to him/herself and ... Euro to B, then this means that with ... % chance B earns ... Euro and with ... % chance ... Euro. A earns... Euro.

Part 2

You are now going to make a series of decisions. These decisions will not influence your earnings from the first part of the experiment, nor will the decisions you made in the first part of the experiment influence the earnings from this part. Furthermore, the decisions you are going to make will only influence your own earnings.
You will be confronted with 12 decision situations. All these decision situations are completely independent of each other. A choice you made in one decision situation does not affect any of the other following decision situations.
Each decision situation is displayed on a screen. The screen consists of 20 rows. You have to

decide for every row whether you prefer option A or option B. Option A is the same for every row in a given decision situation, while option B takes 20 different values, one for each row. Note that within a decision situation you can only switch once from option B to option A: if you switch more than once a warning message will appear on the screen and you will be asked to change your decisions. By clicking on NEXT you will see some examples screens of decision situations.

This is a screen shot of a typical decision situation that you are going to face. You are not asked to make choices now! Please have a careful look. Thereafter click on NEXT to proceed.

	OPTION A LOTTERY	YOUR CHOICE	OPTION B SURE AMOUNT
choice 1		A ○ ○ B	16.-
choice 2		A ○ ○ B	15.40
choice 3		A ○ ○ B	14.80
choice 4		A ○ ○ B	14.20
choice 5		A ○ ○ B	13.60
choice 6		A ○ ○ B	13.-
choice 7	With 25% chance you receive 16.- Euro, with 75% chance you receive 4.- Euro.	A ○ ○ B	12.40
choice 8		A ○ ○ B	11.80
choice 9		A ○ ○ B	11.20
choice 10		A ○ ○ B	10.6
choice 11		A ○ ○ B	10.-
choice 12		A ○ ○ B	9.40
choice 13		A ○ ○ B	8.80
choice 14		A ○ ○ B	8.20
choice 15		A ○ ○ B	7.60
choice 16		A ○ ○ B	7.-
choice 17		A ○ ○ B	6.40
choice 18		A ○ ○ B	5.80
choice 19		A ○ ○ B	5.20
choice 20		A ○ ○ B	4.60

This is another screen shot of a typical decision situation that you are going to face. If you want to review the previous example click on BACK, otherwise click on NEXT to proceed.

	OPTION A LOTTERY	YOUR CHOICE	OPTION B LOTTERY
choice 1		A ○ ○ B	12.- Euro for sure
choice 2		A ○ ○ B	12.- Euro with 95% chance, 4.- Euro with 5% chance
choice 3		A ○ ○ B	12.- Euro with 90% chance, 4.- Euro with 10% chance
choice 4		A ○ ○ B	12.- Euro with 85% chance, 4.- Euro with 15% chance
choice 5		A ○ ○ B	12.- Euro with 80% chance, 4.- Euro with 20% chance
choice 6		A ○ ○ B	12.- Euro with 75% chance, 4.- Euro with 25% chance
choice 7	With unknown chance you either receive 12.- Euro or 4.- Euro	A ○ ○ B	12.- Euro with 70% chance, 4.- Euro with 30% chance
choice 8		A ○ ○ B	12.- Euro with 65% chance, 4.- Euro with 35% chance
choice 9		A ○ ○ B	12.- Euro with 60% chance, 4.- Euro with 40% chance
choice 10		A ○ ○ B	12.- Euro with 55% chance, 4.- Euro with 45% chance
choice 11		A ○ ○ B	12.- Euro with 50% chance, 4.- Euro with 50% chance
choice 12		A ○ ○ B	12.- Euro with 45% chance, 4.- Euro with 55% chance
choice 13		A ○ ○ B	12.- Euro with 40% chance, 4.- Euro with 60% chance
choice 14		A ○ ○ B	12.- Euro with 35% chance, 4.- Euro with 65% chance
choice 15		A ○ ○ B	12.- Euro with 30% chance, 4.- Euro with 70% chance
choice 16		A ○ ○ B	12.- Euro with 25% chance, 4.- Euro with 75% chance
choice 17		A ○ ○ B	12.- Euro with 20% chance, 4.- Euro with 80% chance
choice 18		A ○ ○ B	12.- Euro with 15% chance, 4.- Euro with 85% chance
choice 19		A ○ ○ B	12.- Euro with 10% chance, 4.- Euro with 90% chance
choice 20		A ○ ○ B	12.- Euro with 5% chance, 4.- Euro with 95% chance

Determination of earnings At the end of the experiment one of the 12 decision situations will be randomly selected with equal probability. Once the decision situation is selected, one of the 20 rows in this decision situation will be randomly selected with equal probability. The choice you have made in this specific row will determine your earnings.

Consider, for instance, the first screen shot that you have seen. Option A gives you a 25% chance to earn 16.- Euro and a 75% chance to earn 4.- Euro. Option B is always a sure amount that ranges from 16.- Euro in the first row, to 4.60 Euro in the 20th row. Suppose that the 12th row is randomly selected. If you would have selected option B, you would receive 9.40 Euro. If, instead, you would have selected option A, the outcome of the lottery determines your earnings. At the end of the experiment the lottery outcome will be publicly determined by randomly drawing a card from a stack of numbered cards.

Consider now the second screen shot that you have seen. Option A gives you an unknown chance to earn 12.- Euro and an unknown chance to earn 4.- Euro. Option B is always a lottery that gives you different chances to earn 12.- Euro or 4.- Euro. Suppose that the 10th row is randomly selected. If you would have selected option B, you would receive 12.- Euro with 55% chance and 4.- Euro with 45% chance. If, instead, you would have selected option A, a stack of red and black cards would be used at the end of the experiment to determine whether you earn 12.- Euro or 4.- Euro. This stack of cards will be the same that has been described in part 1: recall that the exact number of black cards and the exact number of red cards in the stack are unknown to you and to us as well. You would earn 12.- Euro if a card of the winning color is drawn and 4.- Euro otherwise.

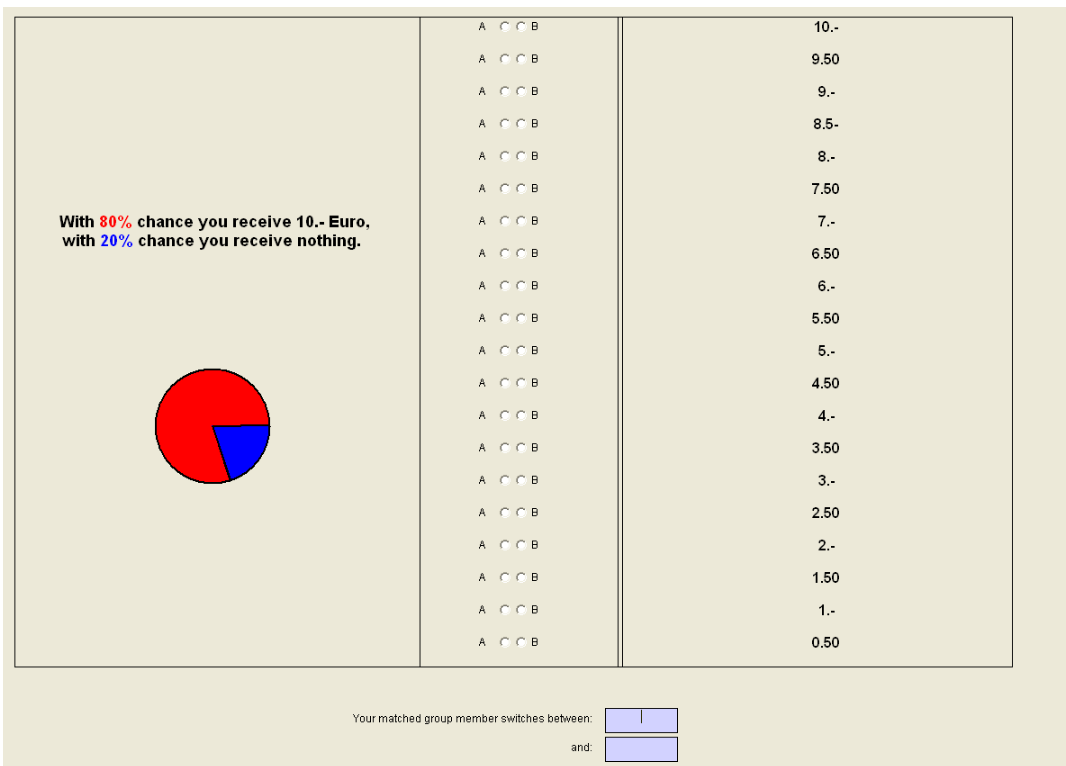
Please note that each decision situation has the same likelihood to be the one that is relevant for your earnings. Therefore, you should view each decision independently and consider all your choices carefully. If you like to, you can review the examples screens once more by clicking on BACK. If you have any questions please raise your hand. When you are ready, please press the BEGIN button below.

Part 3

In the following you are asked to estimate the choices made by the other member in your group in 6 decision situations of the second part of the experiment. After having made these estimates you will answer a questionnaire and then the experiment will be over.

For a certain decision situation you are asked to indicate which is the last row where you believe your matched group member chooses option B before switching to option A. You earn 1 Euro if you correctly indicate the switching point of your matched group member in a certain decision situation. Therefore, you can earn up to 6 Euro in total. If the true switching point of your matched group member is different from the point you indicated you earn nothing.

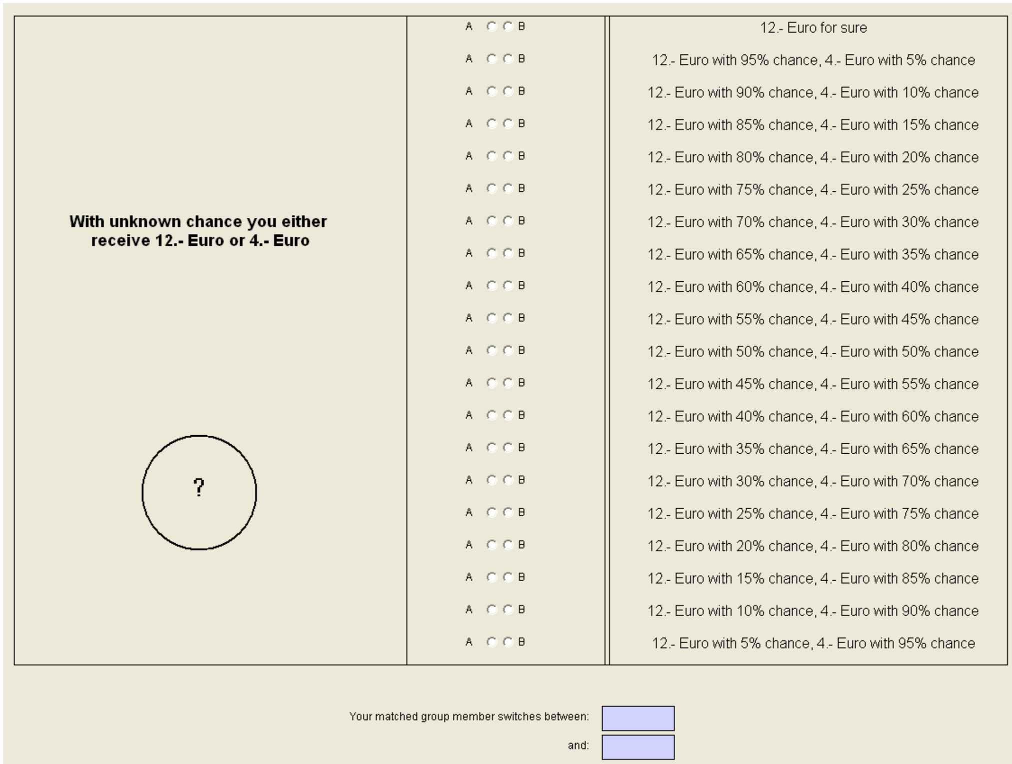
If you do not want to indicate a single switching point you can indicate a range of values where you think the switching point of your matched group member lies. If the true switching point lies in this range of values you will earn a positive amount smaller than 1 Euro. The exact amount you earn is calculated according to a formula. The formula captures the idea that earnings are inversely related to the length of the interval you indicate. This means that the larger the interval you indicate the smaller your potential earnings are. This formula also guarantees that your earnings are maximized if you truthfully indicate your estimate. If the true switching point of your counterpart lies outside the interval you indicate you earn nothing. Please click on NEXT to view an example.



This is a screen shot of a typical screen that you are going to see. Assume, for instance, that you believe that your matched group member chooses option B for the last time when option B is equal to 6.- Euro. In such a case, you would type the number 6 in both boxes at the bottom of the screen.

Assume now that you believe that your matched group member may switch from option B to option A when option B takes any value between 8.- Euro and 4.50 Euro. In such a case, you would type the number 8 in the first box and the number 4.50 in the second box. Notice that you earn nothing if you type in two values that cover all possible switching points, in this case if you type in 10 and 0.50.

If you have any question please raise your hand. Otherwise click on NEXT to proceed.



This is another screen shot of a typical screen that you are going to face. Assume, for instance, that you believe that your matched group member chooses option B for the last time when option B gives a chance of 40% to win 12.- Euro. In such a case, you would type the number 40 in both boxes at the bottom of the screen.

Assume now that you believe that your matched group member switches from option B to option A when the winning chance of option B is between 70% and 25%. In such a case, you would type the number 70 in the first box and the number 25 in the second box. Notice that you earn nothing if you type in two values that cover all possible switching points, that is if you type in 100 and 5.

If you have any question please raise your hand. If you want to review the previous examples once more click on BACK. Otherwise, click on BEGIN to start the third part of the experiment.