

Brosig, Jeannette; Helbach, Christoph; Ockenfels, Axel; Weimann, Joachim

Conference Paper

Still different after all these years: Solidarity in East and West Germany

Beiträge zur Jahrestagung des Vereins für Socialpolitik 2010: Ökonomie der Familie - Session: Cultural Influences on Economic Behaviour, No. C13-V2

Provided in Cooperation with:

Verein für Socialpolitik / German Economic Association

Suggested Citation: Brosig, Jeannette; Helbach, Christoph; Ockenfels, Axel; Weimann, Joachim (2010) : Still different after all these years: Solidarity in East and West Germany, Beiträge zur Jahrestagung des Vereins für Socialpolitik 2010: Ökonomie der Familie - Session: Cultural Influences on Economic Behaviour, No. C13-V2, Verein für Socialpolitik, Frankfurt a. M.

This Version is available at:

<https://hdl.handle.net/10419/37296>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Still different after all these years

Solidarity in East and West Germany

Jeannette Brosig*, Christoph Helbach*, Axel Ockenfels⁺, Joachim Weimann**

*University of Duisburg-Essen, ⁺University of Cologne, ** University of Magdeburg

February 2010

Abstract

Motivated by recent research on survey data, we test the influence of the political regime on social norms under controlled laboratory conditions. Comparing solidarity behavior revealed by East and West Germans in 1995 and 2009, we find that East Germans persistently show much less solidarity than West Germans. Twenty years after the fall of the Berlin Wall, social norms of solidarity have not converged. This suggests that norms of social behavior change much more slowly than the political environment.

Keywords: Experimental Economics, Solidarity, Norms, Cross-culture study

JEL classification: C91, D63, P51

1. Introduction

How strong does a change of the political regime affect individual preferences for fairness, solidarity, and the willingness to cooperate? The German reunification has prepared the ground for natural experiments dealing with this question. Most evidence comes from survey data, and is mixed. Torgler (2003), for instance, reports that the tax morale of East Germans was higher in the early nineties, but then converged rather quickly to the lower western level. His analysis was based on World Value Survey data for the years 1990 and 1997. Rainer and Siedler (2009) find that shortly after the reunification East Germans, in general, reveal less trust in institutions and in other people than West Germans. Combining this result from the German Socio-Economic Panel (SOEP) with an analysis of the German General Social Survey (ALLBUS), they infer that those East Germans who happened to be economically successful after the reunification displayed more social trust in 2002 than in 1990, but those who suffered economically did not. Most notably, using the 2002 data of the German Socio-Economic Panel (SOEP), Alesina and Fuchs-Schündeln [2007] observe that the different political regimes in former East and West Germany significantly affected preferences for public social policies that entail redistribution. In particular, East Germans appeared to be more pro-state than Germans born in the western part of the country. They conclude from their data that it will take one to two generations for the differences to disappear and that the difference between East and West is due in large part to the direct effect of Communism like indoctrination or the long lasting experience of a very large public sector (p.1523). Ockenfels and Weimann (1999) tested behavioral differences between East and West Germans in a controlled laboratory experiment run in 1995. It turned out that East German students displayed significantly less solidarity and significantly less cooperation than West German students.

Motivated by the mixed evidence from survey data studies and the conclusions drawn by Alesina and Fuchs-Schündeln, we compare data from parallel experiments measuring people's preferences for fairness and willingness to cooperate in the solidarity game (Selten and Ockenfels, 1998). One solidarity experiment was conducted a few years after Germany's reunification in 1995 (as described in Ockenfels and Weimann, 1999), and the other one exactly 20 years after the fall of the Berlin Wall. Comparability of the experimental data is ensured by

using basically the same experimental procedures.¹ There is one major difference, though: in contrast to the subject sample invited in 1995, East German students recruited in 2009 had only very limited experiences and nearly no direct contact with the previous political regime as they are aged, on average, 22.6 years. That is, if behavioral differences between East and West Germans are due to indoctrination and/or customization to a large public sector as suggested by Alesina and Fuchs-Schündeln (2007), the differences should be much lower (or should no longer exist at all) in 2009. This is not what we observe, however. Social behavior, as revealed by our solidarity game, did not change. We conclude that social norms – that evolved in given political regimes – appear to be passed on to next generations and so might change much more slowly than the regime itself (and as hypothesized by Alesina and Fuchs-Schündeln).

2. Experimental method

The solidarity game

The solidarity game randomly and anonymously matches our subjects in groups of three. Each subject throws a dice and can win 7.50 € with a probability of 2/3. To align incentives with the 1995 experiment, we calculated the earnings on the basis of the earnings in Ockenfels and Weimann (10.00 Deutsche Mark) accounting for inflation. Before the dice is thrown, each player decides, conditional on winning, how much of the 7.50 € she would be willing to hand over to one (decision 1), or each of two (decision 2) potential losers in the same group. Furthermore, subjects are asked about their expectations regarding other players' decisions, their gender, field and semester of study. The experiment was carried out as a paper and pencil experiment. The layout and text of the instructions and the decision form were the same as used by Ockenfels and Weimann (see Appendix A).

Sample selection

In East Germany, the solidarity experiment was conducted at the University of Magdeburg with students born and raised in East Germany, and in West Germany, the experiment was conducted at the University of Duisburg-Essen with students born and raised in West Germany. At the University of Magdeburg, we could additionally recruit students born and raised in West Germany (whereas we could not recruit a meaningful number of East Germans studying in Essen).

¹ E.g., as 1995, we rule out several problems, including language, currency and experimenter problems that typically occur in cross-cultural research, as observed by Roth et al. (1991) and Roth (1995).

Before selecting subjects for participation, we invited 600 (527) potential participants in East (West) Germany with the online recruiting software ORSEE (Greiner, 2004) to take part in a survey. The survey asked – among several other questions – “Where did you live in the year 1995?” (the year in which the experiments were run by Ockenfels and Weimann). This information was used to invite subjects to the experiments in Magdeburg or Essen. 36 West Germans and 54 East Germans participated in Magdeburg, and 54 West Germans took part in Essen. Participants were not informed about the composition of the sample or the purpose of the experiment.

Experimental procedures

We ran the experiments in the Magdeburg Laboratory for Experimental Economics and in the Essen Laboratory for Experimental Economics. Parallel to the 1995 experiment, we employed the following procedure to ensure double-blindness: Upon arrival, subjects drew an envelope containing a private code name, the instructions and the decision form from one box and a booth number from another box. After taking a seat in the assigned booth, subjects read the instructions and were given the opportunity to ask questions. When all questions were answered, subjects filled in the decision form, put it into the envelope and signaled to the experimenters that they were ready. Then the experimenter entered the booth and asked the participant to throw a dice. The result was noted on the envelope, and the envelope was dropped through a slit into a closed box. After all envelopes were collected, the experimenter calculated the payoffs, put them into new envelopes and marked the envelopes with the corresponding code names. The box with the payoff envelopes was carried outside the laboratory, where the envelopes were distributed by a third person who had not been present in the laboratory.

While the payoffs were being calculated, subjects were given the opportunity to fill out a questionnaire asking for different personal characteristics like risk and fairness preferences. Completing this questionnaire was rewarded with another 5 €, but this was not announced beforehand in order to keep the experimental procedures as close as possible to the ones implemented by Ockenfels and Weimann. All subjects answered the questionnaire. The experiments lasted in total about 20 minutes and the questionnaire and the payoff procedure an additional 15 minutes. The average payoff resulting from the solidarity game was 5.05 €.

3. Results

We first compare the results of our new experiment with the original data from 1995. As a comparable measure of solidarity we use the fraction of the winnings subjects handed over conditional on winning. Table 1 shows the respective average fraction for East and West German subjects.

		Decision 1 (one loser)	Decision 2 (each of two losers)	Expectation 1 (one loser)	Expectation 2 (each of two losers)
East	1995	0.181	0.115	0.181	0.137
	2009	0.095	0.066	0.125	0.083
West	1995	0.258	0.161	0.250	0.154
	2009	0.226	0.141	0.213	0.135
Total	1995	0.233	0.146	0.227	0.149
	2009	0.161	0.104	0.170	0.109

Table 1: Average fraction of the winnings subjects decided to hand over conditional on winning, and expectations

Both, in 1995 and in 2009, the average solidarity measured by decisions 1 and 2 is significantly higher for West Germans than for East Germans ($p < 0.01$ in all four cases).² Moreover, solidarity behavior of both East and West Germans is not significantly different in 1995 compared to 2009 ($p > 0.20$ in all four cases). Only expectations – except for expectation 1 in West Germany – tend to be somewhat lower in 2009 than in 1995 ($0.08 < p < 0.10$), but are still significantly different between the East and the West subsample ($p < 0.01$). We interpret this as a first sign that the patterns observed 1995 remained stable.

Another indicator for the stability of behavior is the number of subjects who decide not to give anything to potential losers. In 1995, 47 (48) percent of East Germans decided not to hand over anything to one (two) potential loser(s). In West Germany, the corresponding fractions equaled 21 percent. Figures 1A and 1B show that, in 2009, these ratios are not significantly different for either of the decisions within the East or the West German subsample (χ^2 -test, $p > 0.5$). However, significantly more East than West Germans behave selfishly in both decisions (χ^2 -test, $p = 0.003$).

² If not indicated otherwise, we employed two-tailed exact Mann-Whitney-*U* tests.

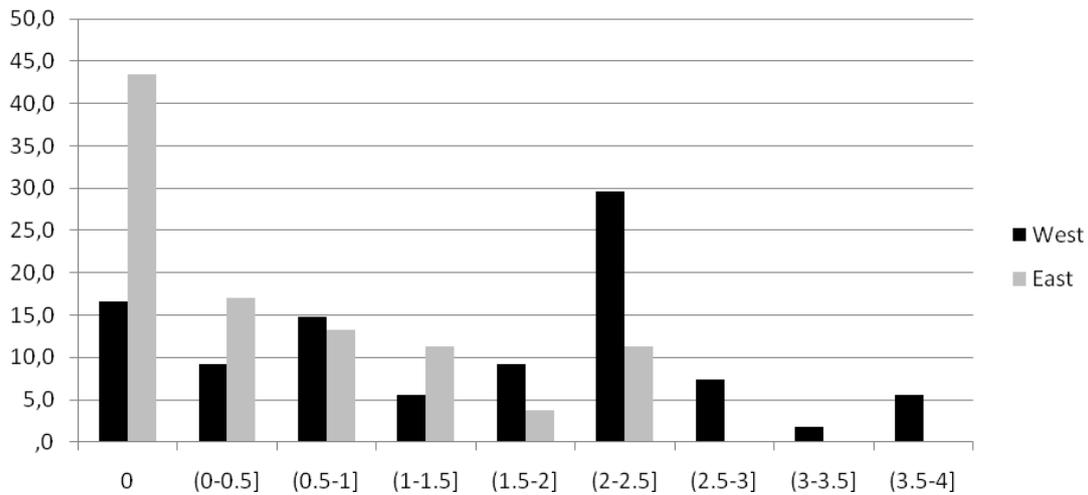


Figure 1A: Relative frequencies of choices for decision 1, 2009.

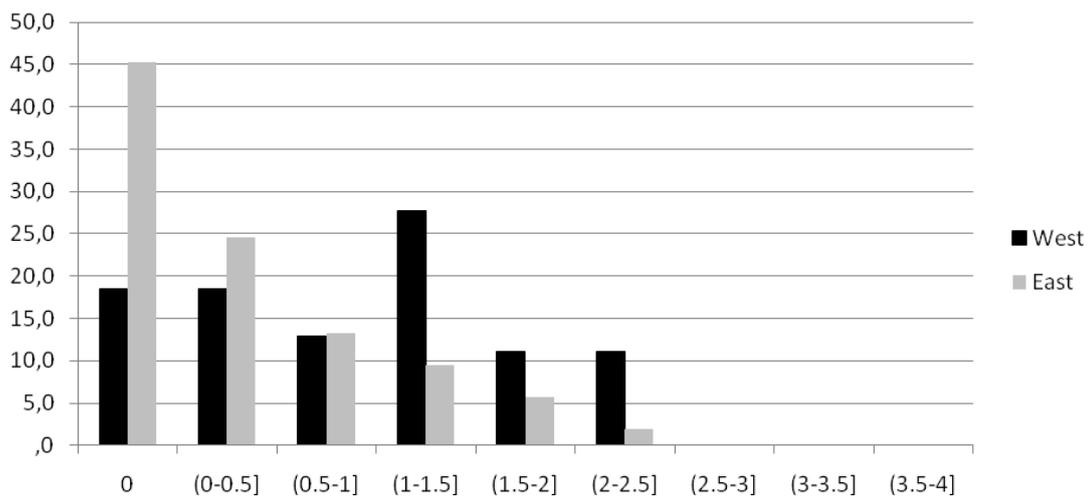


Figure 1B: Relative frequencies of choices for decision 2, 2009.

The observation that West Germans behave less selfish is also (weakly) suggested if we look at subjects who are studying (and participating in our experiments) in Magdeburg but who were born and raised in West Germany. Figure 2 shows that those subjects tend to hand over and expect more money for losers in the solidarity game. This is, however, not statistically significant ($p > 0.186$) for either of the variables, indicating that West Germans' behavior in the East moves towards the 'local' norm in East Germany (see Section 4).

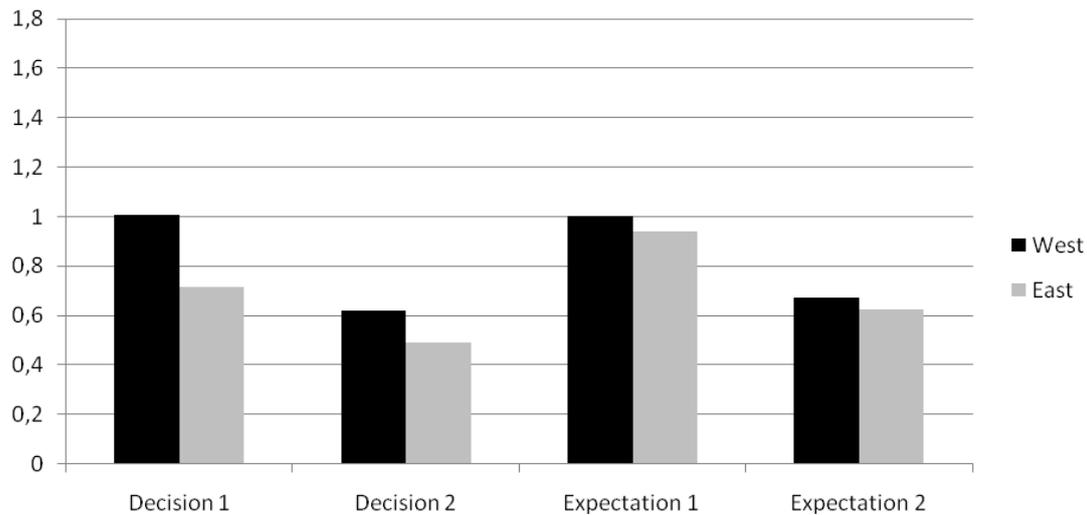


Figure 2: Average values of decisions and expectations, only Magdeburg, 2009.

In order to control for confounding factors, we conducted an OLS-regression with decision 1 and decision 2, respectively, as dependent variables, that include proxies for economic standing like monthly income³ and perceived relative family income as well as other potential determinants of observed decisions that could confound our East-West effect. The data were taken from our ex post questionnaire whose design was guided by recent experimental and empirical research on the determinants of giving behavior. According to this research, giving decisions seem to be positively influenced by income, age, and education (e.g., Kingma, 1989, Pharoa and Tanner, 1997, Andreoni and Scholz, 1998, Yen, 2002, Andreoni, Brown and Rischall, 2003, Rooney, Mesch, Chen, and Steinberg, 2005). Also gender might influence average gifts, though the evidence is mixed and seems to depend on the costs of giving (Andreoni and Vesterlund, 2001) and the subject's economic education (Ockenfels and Weimann, 1999). In addition, we included questions on preferences for risk and fairness similar to those employed by the German Socio-Economic Panel. Tables 2A and 2B show the results of our regressions. The estimates reveal that, first, when controlling for other potential determinants of solidarity decisions the dummy variable indicating the subject to be an East German participating in East Germany is still strongly significant and, second, this effect outweighs the impact of the economic and personal variables by far. As indicated by the regression framework, East Germans hand over 1.32 € less than West

³ The validity of survey questions on income was investigated by, e.g., Krueger and Bound (1991), Pischke (1995), and Bollinger (1998). For a general discussion of measurement error in survey data see, e.g., Bound, Brown, and Mathiowetz (2001) or Bertrand and Mullainathan (2001).

Germans in the case of one loser, and 0.77 € less in the case of two losers. As these observations remain robust in regressions of other model specifications as well, we conclude that the “East-West-effect” is robust and that solidarity as measured by the solidarity game persists even 20 years after the fall of the Berlin Wall.

Dependent variable	Decision 1			Decision 2		
	Coefficient	SE	p-value	Coefficient	SE	p-value
Constant	6.090	1.144	.000	4.091	.782	.000
Relative family income	-.126	.075	.096	-.072	.051	.160
Role of money	-.182	.074	.015	-.138	.050	.007
Equality of opportunities	-.061	.063	.332	-.004	.043	.924
Fairness preference	.198	.071	.007	.138	.049	.006
East	-1.251	.200	.000	-.725	.137	.000
Economist	-.465	.191	.017	-.347	.131	.009
Gender	-.443	.195	.026	-.290	.134	.033
Age	-.137	.038	.001	-.109	.026	.000
Parent higher education	.016	.232	.946	.034	.158	.831
Risk preference	-.044	.078	.577	-.033	.053	.542
Monthly income	4.705E-5	.000	.882	.000	.000	.062

Table 2: OLS-regression. $R_{D1}^2 = 0.46$, $R_{D2}^2 = 0.43$, p (F-stat) < 0.001, $n = 105$.

4. Discussion

Our experiment shows that the solidarity gap between East and West Germany did not close in twenty years. Because the average age of East German subjects is 22.6 years, their own experience with the socialist system is, at best, rather limited. We conclude that, while fairness norms are affected by the political regime (as forcefully argued by Alesina and Fuchs-Schündeln), they change much more slowly than the regime itself. Moreover, West Germans in East Germany either seem to have partly accommodated to the East German fairness norms, or they are more likely to move to East Germany because they can align themselves better to the social norm system in East Germany. Both potential explanations reinforce our conclusion that social behavior changes more slowly than the political regime. Overall, 20 years after the reunification, there seems to be rather little support for the hypothesis that it will take only 20 to 40 years for the differences to disappear.

References

- Alesina, Alberto, Nicola Fuchs-Schündeln: Good-Bye Lenin (or Not?): The Effect of Communism on People's Preferences, *American Economic Review*, 97, 2007, 1507-1528.
- Andreoni, James, John K. Scholz: An Econometric Analysis of Charitable Giving with Interdependent Preferences, *Economic Inquiry*, 36, 1998, 410-428.
- Andreoni, James, Lise Vesterlund: Which is the Fair Sex? Gender Differences in Altruism, *Quarterly Journal of Economics*, 116, 2001, 293-312.
- Andreoni, James, Eleanor Brown, Isaac Rischall: Charitable Giving by Married Couples: Who Decides and Why Does it Matter?, *Journal of Human Resources*, 38, 2003, 111-133.
- Bertrand, Marianne, Sendhil Mullainathan: Do People Mean What They Say? Implications for Subjective Survey Data, *American Economic Review*, 91, 2001, 67-72.
- Bollinger, Christopher R.: Measurement Error in the Current Population Survey: A Nonparametric Look, *Journal of Labor Economics*, 16, 1998, 576-594.
- Bound, John, Charles Brown, Nancy Mathiowetz: Measurement Error in Survey Data, *Handbook of Econometrics*, 5, 2001, 3705-3843.
- Greiner, Ben: An Online Recruitment System for Economic Experiments. In: Kremer, Kurt, Macho, Volker (Eds.): *Forschung und wissenschaftliches Rechnen*, GWDG Bericht 63. Gesellschaft für Wissenschaftliche Datenverarbeitung, Göttingen, 2004, pp. 79.
- Kingma, Bruce R.: An Accurate Measurement of the Crowd-out Effect, Income Effect, and Price Effect for Charitable Contributions, *Journal of Political Economy*, 97, 1989, 1197-1207.
- Bound, John, Alan B. Krueger: The Extent of Measurement Error in Longitudinal Earnings Data: Do Two Wrongs Make a Right?, *Journal of Labor Economics*, 9, 1991, 1-24.
- Ockenfels, Axel, Joachim Weimann: Types and Patterns: An Experimental East-West Comparison of Cooperation and Solidarity, *Journal of Public Economics*, 71, 1999, 275-287.
- Pharoa, Cathy, Sarah Tanner: Trends in Charitable Giving, *Fiscal Studies*, 18, 1997, 427-443.
- Pischke, Jorn-Steffen: Measurement Error and Earnings Dynamics: Some Estimates from the PSID Validation Study, *Journal of Business and Economic Statistics*, 13, 1995, 305-314.

- Rainer, Helmut, Thomas Siedler: Does Democracy Foster Trust? Evidence from the German reunification, *Journal of Comparative Economics*, 37, 2009, 251 – 269.
- Rooney, Patrick M., Debra J. Mesch, William Chin, Kathryn S. Steinberg: The Effects of Race, Gender and Survey Methodologies on Giving in the US, *Economics Letters*, 86, 2005, 173-180.
- Roth, Al E.; Prasnikar, Vesna; Okuno-Fujiwara, Masahiro; Zamir, Shmuel: Bargaining and Market behavior in Jerusalem, Ljubljana, Pittsburgh, and Tokyo: an experimental study, *American Economic Review*, 81, 1991, 1068–1095.
- Roth, Al E.: Bargaining experiments. In: Kagel, John H., Roth, Al E. (Eds.): *Handbook of Experimental Economics*. Princeton University Press, 1995.
- Selten, Reinhard, Axel Ockenfels: An Experimental Solidarity Game, *Journal of Economic Behavior and Organization*, 34, 1998, 517-539.
- Torgler, Benno: Does Culture Matter? Tax Morale in an East-West-German Comparison, *Finanz Archiv*, 59, 2003, 504 – 528.
- Yen, Steven T.: An Econometric Analysis of Household Donations in the USA, *Applied Economics Letters*, 9, 2002, 837-841.

Appendix A. Instructions and decision form (translated from German)

Welcome to the experiment!

In the context of experimental economics we today will conduct an experiment. All participants just have to do two decisions. The answers are given anonymously and mapping the answers to a particular person is not possible.

As a participant you can receive a payment without own investment. This payment is on average Euro 5.00. The real payment can be above or below this average. It can as well be zero.

If you have questions during the experiment, please raise your hand. A member of the staff of the Laboratory will then come to you. **Any communication with other participants during the experiment is prohibited; violation of this rule results in immediate exclusion of the experiment.**

Instructions

The decisions

Each participant of our experiment is a member of a three-person-group which is formed randomly. Nobody knows or gets to know the identity of the other members in his or her group. Each subject has to throw a dice once. If one of the numbers 1, 2, 3, or 4 appears, he or she wins Euro 7.50. If one of the numbers 5 or 6 appears he or she loses and receives nothing.

Your decision is as follows:

Prior to throwing the dice you have to decide how much you are willing to hand over voluntarily from your Euro 7.50 to the losers in your group in the case of your winning.

Here you have to distinguish two cases. You have to decide on your transfer for the loser in the case that only one of the other members loses and you have to decide on the transfer for each of the losers if both other members lose and you win. The other members in your group have to take the same decisions.

Payoff

If you win, you receive DM 10 possibly minus your voluntarily gifts to the losers in your group. If you lose, you receive the gifts of the members in your group who win.

The process

In the envelope you can find an identification card carrying a name. This name is your codename. Please preserve this card carefully because you will need it to collect your payoff. Fill in your code name on the decision form and answer the questions. Then put the decision form in the envelope (without the identification card). Please do not seal the envelope.

Then please raise your hand. A member of the staff of the laboratory will bring you a dice that you throw. The result is noted on the envelope and the envelope is collected in a ballot box.

The envelopes are divided in groups of three by the staff of the Laboratory and the payoffs of every participant are calculated.

As soon as this is done, the cash register in the corridor in front of the Laboratory opens. Now you can collect your payoff with your identification card. You receive a sealed envelope with your payoff. The cashier does not know the content of the envelope. Please collect your payoff right after the experiment.

Please keep in mind that – as in secret elections – no decision form can be assigned to a certain person during or after the experiment. The data will be analyzed absolutely anonymously.

Decision form

Code name: _____

(As on the identification card)

Gender: m f

I am studying in the _____ semester in the field of _____.

If I win Euro 7.50, I hand over to every loser in my group:

1. in case of one loser: Euro

--

2. in case of two losers (per *person*): Euro

--

How much of the Euro 7.50 do you think the other participants are willing to hand over on average?

1. in case of one loser: Euro

--

2. in case of two losers (per *person*): Euro

--