The Impact of Voting on Tax Payments

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I. INTRODUCTION

Switzerland is often considered as being the country with the highest tax morale within Europe (Alm and Torgler 2006, Muehlbacher et al. 2008). Perhaps the most obvious difference from other nations is that Switzerland's political system is a direct democracy, whereas most countries in the European Union are representative democracies. Therefore, one explanation for Switzerland's high degree of tax morale might be that the opportunity to participate in political decisions enhances the cooperativeness of Swiss citizens. By proposing topics for the government's agenda and by placing their vote in referenda the Swiss are more involved in the development of (tax) laws than citizens in representative democracies. Consequently, citizens feel that the government seriously considers their preferences in a fair decision process (Frey, Benz and Stutzer 2004, Stutzer and Frey 2006). With increasing perceived procedural fairness of the political system, an increase of trust in the government is also likely (Kirchler 2007, Kirchler, Hoelzl and Wahl 2008). The paper at hand studies the effect of voting as the most basic form of political participation on cooperation (experiment 1) and the effect of voting on perceived procedural fairness as well as the mediating effect that trust in the government has on the relation between perceived procedural fairness and tax payments (experiment 2).

II. VOTING AND COOPERATION

Several studies in social dilemma research have varied whether participants were able to vote for or against specific modifications of the experiments' rules.

For instance, in a common-pool resource experiment, it was manipulated whether participants could decide by majority vote if the members of their coalition or all the present participants would benefit from payoffs. When voting was possible, cooperation was higher than when voting was not possible (Walker, Gardner, Herr and Ostrom 2000). Cinyabuguma, Page, and Putterman (2005) conducted a public good game and varied whether a majority vote could expel uncooperative group members. Almost full cooperation was achieved when participants could vote.

Similar results are reported by experimental research on tax behavior. Feld and Tyran (2002) manipulated in a tax simulation experiment whether participants decided by majority vote on implementing a penalty for uncooperative behavior or whether the penalty was exogenously imposed. Participants who could vote contributed more taxes. It is interesting to note that even the mere possibility to vote seems to increase the level of cooperation, regardless of the congruence between one's preference and the majority's decision (Feld and Tyran 2002). When the participants were allowed to discuss prior to voting for harsher enforcement in a tax simulation experiment, tax compliance was higher than before voting (Alm, McClelland and Schulze 1999). Increased tax compliance was also observed when participants were allowed to vote on which public sector expenditure program would be supported by their tax money in a tax simulation experiment than when the support of the same program was imposed on them (Alm, Jackson and McKee 1993). Furthermore, tax compliance was also higher when participants were aware that the chosen program had a considerably higher level of approval than the rejected program (Alm, Jackson and McKee 1993).

A critique on previous experiments, however, concerns the offered alternatives being subject to the voting. Though the alternatives were meant to be equally attractive, one option was often considerably preferred to the others. Hence, the increase in compliance can also be attributed to the attractiveness of the chosen alternative and might not be a consequence of the voting process itself. Therefore, in experiment 1, we try to replicate previous findings on the impact of voting on cooperation by offering our participants two equally attractive alternatives.

III. EXPERIMENT 1

1. Method and data

Participants

A total of 78 women and 24 men (average age = 24.28 years, SD = 4.14; median income = 501 to 1000 euro) participated in the experiment. Of the

participants, 5 failed to complete the example tasks described below and were therefore omitted from all further data analysis.

Material

The experimental software z-Tree (Fischbacher 2007) was used to program a public good game. In public good games, participants have to divide an endowment into a private and a group account. The sum of the contributions to the group account is multiplied by an efficiency factor and redistributed to the members in equal shares.

In the present experiment, the efficiency factor was drawn from one of two different probability distributions. Probability distribution A yielded an efficiency factor of 6 by a chance of 20% and an efficiency factor of 1 by a chance of 80%. Probability distribution B offered a 50:50 chance that the efficiency factor was either 3 or 1. Note that both distributions have equal expected values (i.e., 2.00) and should therefore be equally attractive.

Procedure

A show-up fee of 3.00 euro was provided and the participants were informed that they could increase this amount depending on their performance in the experiment. In each session, 6 to 12 participants played a public good game in groups of 3. The instructions for the public good game were given on computers and the participants were told that their endowment was 100 Experimental Currency Units (ECU; 100 ECU = 3.30 euro) in each period.

From which probability distribution (i.e., A or B) the efficiency factor was drawn was either determined by majority vote in a ballot (voting condition) or by the experimenter (no voting condition). The probability distribution was chosen at the beginning of the experiment; the actual efficiency factor was drawn in each period after the participants had indicated their contributions to the group account.

To ensure that the participants understood the instructions, two example tasks had to be completed before the start of the experiment. For this purpose, the participants had to calculate their own and others' profit for given contributions and efficiency factors. If they were unable to solve these problems by themselves, the experimenter explained the examples orally and in private. Five participants facing such problems proceeded to the next stage of the experiment, but were excluded from the data analysis.

Afterwards, the participants played a public good game for 10 periods. However, they were not informed about the exact number of periods. Each period closed with feedback on the drawn efficiency factor, the sum of contributions to the group account, and the individual profit in the actual period.

After the experiment, the participants were debriefed and received their average profit over all 10 periods (M = 5.01 euro, SD = 1.02) plus the show-up fee.

IV. RESULTS

1. Attractiveness of alternatives

As expected, the two probability distributions for the efficiency factor were chosen equally often by the 49 participants in the voting condition: 20 participants voted for distribution A and 29 participants voted for distribution B, $\chi^2(1) = 1.65$, p = .20. Therefore, both alternatives that participants voted on seem to be equally attractive.

2. Cooperation

Previous experiments have revealed that participants' gender, age, and income affect cooperation (Andreoni, Erard and Feinstein 1998, Kopelman, Weber and Messick 2002). Therefore, in the first step of our analysis, we checked whether gender, age, and income are correlated with participants' average contribution over all periods. Only gender was related to participants' cooperation (Spearman's Rho = .30, p < .01). Age and income, which varied little, have no effect on cooperation (Spearman's Rho = − .16, p = .13 and Spearman's Rho = .03, p = .79, respectively). Based on these results, we control for gender effects in our main analysis.

A repeated measures analysis of covariance confirmed the effect of gender on contributions to the group account, $F(1, 94) = 9.71$, p < .01; $\eta^2 = .09$. The estimated marginal means of participants' contributions in each period and for both experimental conditions are depicted in Figure 1. Contributions were slightly higher in the voting condition (estimated marginal mean = 51.85, SE = 2.85) than in the no voting condition (estimated marginal mean = 45.10, SE = 2.88), though the main effect of the experimental conditions was only marginally significant, $F(1, 94) = 2.77$, p = .10; $\eta^2 = .03$. No interaction between gender and the experimental conditions and no interaction between gender and periods was observed, $F(5.99, 563.20) = 0.58$, p = .75 and $F(5.99, 563.20) = 1.58$, p = .15, respectively; however, contributions decreased over the 10 experimental periods, $F(5.99, 563.20) = 5.86$, p < .01; $\eta^2 = .06$.

V. DISCUSSION

In experiment 1, a tendency for stronger cooperation was observed if participants had the chance to vote for one of two alternative rules in a game

Figure 1

Contributions in 10 periods as a function of voting
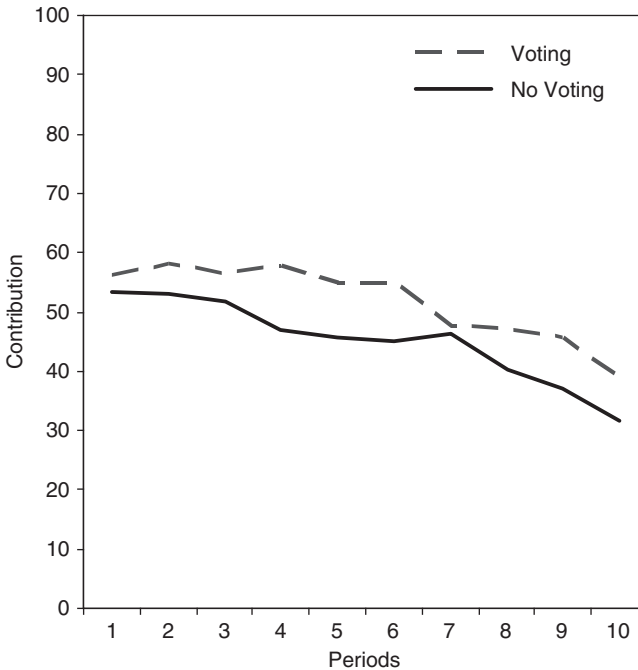
Note: Means are controlled for gender.

they played. Although the effect of the experimental manipulation was in the expected direction, the difference was statistically only marginally significant.

One explanation for this finding could lie in the operationalization of voting. The voting procedure was quite complex to follow. To choose one of the two different probability distributions for drawing the efficiency factor might have been too abstract a task to simulate participation in the decision-making process. Therefore, we decided to repeat the experiment in a more realistic setting. Cooperation in experiment 2 is defined as tax compliance and the degree of participation is operationalized as the opportunity to vote for the use of collected tax money.

The idea of studying whether tax compliance depends on how democratically a political system is organized is not entirely new. Several field studies compared cantons in Switzerland with different rights of participation for their citizens (Pommerehne and Weck-Hannemann 1996, Weck-Hannemann and Pommerehne 1989). We aim to replicate these previous findings in a laboratory setting and extend this line of research by two aspects.

First, in addition to manipulating whether participants can vote on different alternatives for the use of their taxes, we introduced as the second independent variable whether participants are beneficiaries from the outcome of the vote or not. We expect that voting upon different public goods or other projects that should be financed by one's taxes has only positive effects on tax compliance if one profits from the outcome of this decision. For instance, for taxpayers living in the countryside, it may be of little importance whether the capital's subway will be extended or the city's bus system will be improved. Offering these taxpayers the choice between these two alternatives should have a smaller effect on their tax compliance than for taxpayers who live in the city, where the public transport system will be improved by their tax money.

Second, in experiment 2, we will explore the underlying mechanisms of the relation between voting and cooperation. Explanations for the positive effect of voting on cooperation could be that voting can be regarded as a form of mutual communication that could increase cooperation (Kopelman et al. 2002). Also, increasing subjective responsibility for one's community was proposed as an explanation for the positive effects direct democracy has on compliance (Kirchgässner, Feld and Savioz 1999). A different approach suggests that voting improves the relationship between citizens and authorities, because the quality of this relationship depends on the perceived trade-off between rights and duties (Feld and Kirchgässner 2000). The importance of the interaction between taxpayers and authorities was also emphasized by several other authors, who argue that fair and respectful treatment of taxpayers is necessary to maintain compliance (e.g., Braithwaite 2007, Frey, Benz and Stutzer 2004, Feld and Frey 2002, Wenzel 2003). One major determinant of how taxpayers feel treated by authorities concerns perceived procedural fairness when tax laws are enacted. Voting increases perceived procedural fairness and with it also tax morale (Feld and Tyran 2002).

Procedures are perceived as fair if they are consistent over time and people, unbiased, accurate, correctable, representative, and ethical (Leventhal 1980). Furthermore, procedures are perceived as fair if one has the possibility to influence the outcomes of decisions (Leventhal 1976). Even the mere possibility of commenting on decisions' outcomes and other forms of communicating with each other seem to have positive effects on perceived procedural fairness and, in the long run, on cooperation (Bohnet and Frey 1994, Dawes, van de Kragt and Orbell 1990, De Cremer 2007, De Cremer and van Knippenberg 2003, De Cremer and Van Vugt 2002, Frey and Bohnet 1997). Hence, in a first step, we will analyze whether voting increases perceived procedural fairness.

When considering tax compliance, taxpayers cooperate with each other; however, they also cooperate with tax authorities and the government. Additionally to perceiving decision procedures as fair, taxpayers have to trust that authorities will correctly execute and administrate what has been decided

Tax payments in 20 periods as a function of voting and of who benefits (i.e., self or others) from tax payments
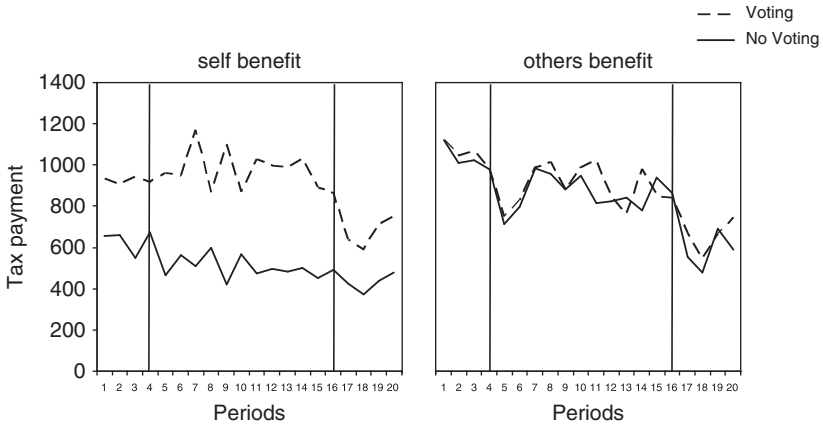
Note: The vertical lines indicate periods after which an audit occurred (period 4 and period 16). Means are controlled for gender.

(Hammar, Jagers and Nordblom 2009). According to the 'slippery slope framework' for tax compliance (Kirchler 2007, Kirchler et al. 2008), trust in authorities depends on the perceived fairness of the tax system. Hence, in a second step, we will examine whether trust mediates the effect of perceived procedural fairness on cooperation (in terms of tax compliance). Charting this mediation hypothesis results in the model depicted in Figure 3. The following hypotheses can be derived from this model: (i) perceived procedural fairness increases tax payments; (ii) higher perceived procedural fairness increases trust; (iii) higher trust increases tax payments; (iv) trust mediates the effect of perceived procedural fairness on tax payments.
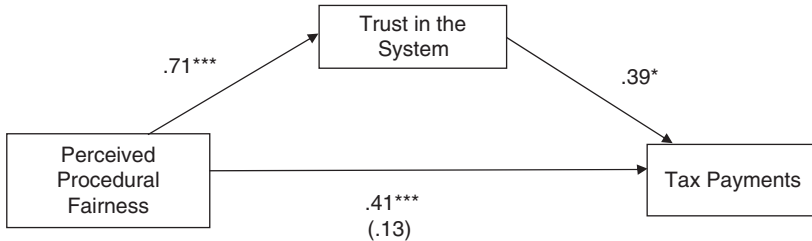
VI. EXPERIMENT 2

1. Method and data

Participants

A total of 77 women and 42 men (average age = 22.72 years, SD = 3.89; median income = 0 to 500 euro) participated in the experiment.

Figure 3

Relation between perceived procedural fairness and tax payments mediated by trust

Note: *** $p < .001$, * $p < .05$; the number in parentheses indicates the regression coefficient when the mediating variable is included in the analysis.

Material

A tax simulation experiment was programmed with the software z-Tree (Fischbacher 2007). In tax simulation experiments, participants learn about their income, their tax due, and the probability that their tax file will be audited. Participants are also told that it is up to them whether to pay the full tax liability. In the case of an audit, however, they would have to pay the missing tax due plus they would be charged a fine.

In the present experiment, a scenario described tax payments being used to finance different projects. In total, a decision had to be made three times between two projects, which supported similar issues (e.g., installation of soundproof windows in the city vs. installation of sound-absorbing asphalt in the city). Which projects would be supported had yet to be decided.

Furthermore, a post-experimental questionnaire was used to measure the procedural fairness of the decision process in five items (e.g., 'Everyone was treated the same, when it came to the decision between the projects,' 1 – strongly disagree to 5 – strongly agree; Cronbach's α = .93), and trust in the political system in three items (e.g., 'I trust in the political system of my new country,' 1 – strongly disagree to 5 – strongly agree; Cronbach's α = .93).

Procedure

The participants were informed that they were attending a tax simulation experiment, and that they were able to earn money depending on their

performance in the experiment (700 ECU = 1.00 euro). To ensure clear decisions by a majority vote in the voting condition, each session consisted of an uneven number of participants, i.e., 3, 5, 7, or 9. The participants were asked to imagine that they had moved to a new country, where from now on they would live, work, and pay taxes.

Instructions for the tax simulation experiment were given on computer screens. The participants learned that they would earn 3,500 ECU in each period and that the tax rate is 40% (1,400 ECU) of their income. The audit probability was 10%[1] and the fine in the case of evasion was one time the evaded amount. Furthermore, the participants learned about the decision that should be made between the different tax financed projects.

In the voting condition, the country's political system was described as a direct democracy. Consequently, the participants themselves voted three times between two projects. Majority rule decided which of the projects would be realized in each session. The participants received feedback on the chosen projects and about the percentage of participants supporting the chosen alternative. By contrast, in the no voting condition, the country's political system was described as a monarchy. Therefore, the participants had no choices to make, but received feedback on the authority's decision upon the projects financed by tax money.

Before the three projects were chosen, however, the participants in the self-benefit condition were told they themselves would profit from the tax-financed projects (e.g., because they live in the city and therefore they would profit from the soundproof windows as well as from the sound-absorbing asphalt). By contrast, participants in the others benefit condition learned that the tax-financed projects would serve none of their purposes (e.g., because they live in the countryside and therefore both the soundproof windows and the sound-absorbing asphalt are useless to them).

After reading the scenarios, the participants completed example tasks on calculating the consequences of different tax compliance decisions. For this purpose, they should calculate the outcomes of a given amount of evasion in the case that the respective tax file would be audited and in the case that tax evasion would remain undetected because no audit occurred. The experimenter explained the correct solution to participants with problems in solving these tasks.

After the choices between the projects had been made and the example task had been successfully completed, the participants indicated how much tax they pay in the respective period. At the end of each period, the participants learned

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[1]In fact, to balance the effect of audits on tax compliance in consecutive periods (cf., Kastlunger, Kirchler, Mittone and Pitters 2009), audits were randomly chosen before the experiment and occurred in the fourth and in the sixteenth periods in all the experimental conditions.

whether an audit had occurred, whether a fine had to be paid, and how much individual profit they had made in this period. This stage of the experiment lasted for 20 periods; however, the participants were not informed for how many periods the experiment would last.

Afterwards, the participants answered the post-experimental questionnaire measuring the procedural fairness of the decision process and trust in the political system. At the end of the experiment, the participants were debriefed and received their average profit over the 20 periods (M = 3.71 euro, SD = 0.47).

VII. RESULTS

1. Attractiveness of alternatives

In two out of the three decisions on tax-financed projects, the 60 participants in the voting condition found the projects to be equally attractive. Regarding the projects of the first decision, 24 participants chose to build parking garages and 36 participants chose to reduce parking charges, $\chi^2(1) = 2.40$, p = .12. Concerning the second decision, 30 participants chose to install soundproof windows in the city and 30 participants chose to install sound-absorbing asphalt in the city, $\chi^2(1) = 0.00$, p = 1.00. For the third pair of projects, however, one option was significantly preferred to the other. Only 18 participants chose to build an information center for start-up entrepreneurs whereas 42 participants chose to finance job training for start-up entrepreneurs, $\chi^2(1) = 9.60$, p < .01.

2. Tax payments

The first step of our analysis was again to check for potential covariates of cooperation in terms of tax payments. As in experiment 1, the average tax payments over all the periods were correlated with gender, although the correlation is only marginally significant (Spearman's Rho = − .17, p = .07). Age and income were not correlated with mean tax payments (Spearman's Rho = .11, p = .22 and Spearman's Rho = − .08, p = .40, respectively). Thus, we control for gender in our further analyses.

A repeated measures analysis of covariance could not confirm the effect of gender as a covariate on tax payments in the 20 periods, $F(1, 114) = 1.14$, p = .29. The estimated marginal means for tax payments in each period are shown in Figure 2.

Both the main effects of the experimental conditions were significant (voting vs. no voting: $F(1, 114) = 9.80$, p < .01; $\eta^2 = .08$; self benefit vs. others benefit: $F(1, 114) = 4.60$, p < .05; $\eta^2 = .04$).

However, these main effects should not be interpreted because of the observed significant interaction of the experimental conditions, $F(1, 114) = 6.37$, $p < .05$; $\eta^2 = .05$. A simple contrast analysis (cf., Page, Braver and MacKinnon 2003) revealed that, compared with the three other conditions, tax payments were lower when the participants themselves were the beneficiaries of the projects, but the country's authority had chosen for them which project will be financed by their taxes (estimated marginal mean = 513.10, SE = 73.68; voting and self-benefit condition contrast estimate = 392.20, $p < .01$; no voting and others benefit condition contrast estimate = 326.65, $p < .01$; voting and others benefit condition contrast estimate = 366.24, $p < .01$). Surprisingly, the remaining experimental conditions seem not to differ (cf., Figure 2). Tax payments were about the same, regardless of whether the participants benefited from the projects themselves and had the chance to vote between different alternatives (estimated marginal mean = 905.29, SE = 69.60), whether others were the beneficiaries of the tax-financed projects and an authority decided between the options (estimated marginal mean = 839.74, SE = 67.00), or whether others were the beneficiaries, but the participants voted upon the options (estimated marginal mean = 879.34, SE = 67.35).

The development of tax payments over time differed between the self-benefit condition and the others benefit condition, $F(11.96, 1362.90) = 1.77$, $p < .05$; $\eta^2 = .02$. As shown in Figure 2, tax payments decreased more strongly over the 20 periods of the experiment when the participants did not benefit from their tax money themselves than when they were the beneficiaries of collected taxes.

An interaction of the voting condition and the periods of the experiments as well as between the voting condition, the benefit condition, and the periods could not be observed, $F(11.96, 1362.90) = 1.46$, $p = .13$ and $F(11.96, 1362.90) = 1.53$, $p = .11$, respectively.

3. Procedural fairness

The previous analysis revealed that voting only has an effect when people themselves benefit from the taxes contributed; therefore, all further analysis will solely use the data of the self-benefit condition (n = 56).

It was proposed that voting increases perceived procedural fairness. Accordingly, in the voting condition (M = 5.11, SD = 1.25), higher perceived procedural fairness was reported than in the no voting condition (M = 2.10, SD = 1.17), $t(54) = 9.30$, $p < .01$.

4. Mediating effect of trust

It was suggested that the relation of perceived procedural fairness and tax payments is mediated by trust in the system. This mediation effect is depicted

in Figure 3 and will be analyzed as suggested by Baron and Kenny (1986). When the mediator variable trust is excluded from the analysis, procedural fairness is related to tax payments, $\beta = .41$, p $< .01$. Furthermore, the relation of procedural fairness and trust is significant, $\beta = .71$, p $< .01$. Also, trust and tax payments are positively related, $\beta = .39$, p $= .02$. However, when the mediator is included in the analysis, the relation between procedural fairness and tax payments is no longer significant, $\beta = .13$, p $= .44$. Also, a calculation of the Sobel test supports the assumption that trust mediates the relation between procedural fairness and tax payments, z $= 2.22$, p $= .03$.

VIII. GENERAL DISCUSSION

The findings from both our studies are quite consistent. In experiment 1, we observed a strong tendency for higher cooperation when participants had the opportunity to vote, and in experiment 2, a similar and even more pronounced effect was observed. We attribute the clearer results in the latter study to the fact that we provided participants with an enriched, more realistic context of the social dilemma situation. Presumably, the tax compliance scenarios were understood more easily and were less complex than the abstract decision tasks in experiment 1. Our observations are in line with previous research on the impact of voting or other forms of participation on cooperation and tax compliance (Alm et al. 1993, Cinyabuguma et al. 2005, Feld and Frey 2002, Pommerehne and Weck-Hannemann 1996, Torgler 2005, Weck-Hannemann and Pommerehne 1989).

Based on the aforementioned findings, it seems quite reasonable to expect higher cooperation among citizens in direct democracies than in other, less participative political systems. However, the results from our second experiment suggest that it is important to take into account who benefits from the outcomes of a referendum or a vote. Differences in tax payments arose from voting only if the offered alternatives were relevant to the voters. Unexpected was the direction of the effect voting had on tax compliance when the participants were the beneficiaries of the tax money. It seems that denying citizens the opportunity to participate in decisions has negative effects rather than the opposite – a positive effect of participation rights on cooperation. An explanation for the interaction we observed is provided by reactance theory (Brehm 1966). If subjectively important agendas are decided by someone else, citizens may experience a constraint of freedom and engage in reactance. Higher tax evasion could be a reaction to one's 'oppression' by the authorities. The behavioral consequence should be especially pronounced if the outcomes of the decision are of high personal relevance.

The mediating effect of trust is in accordance with theory in the tax literature (Kirchler 2007, Kirchler et al. 2008) and with more general organizational theory (Likert 1961). Trust in tax authorities seems to be an important precondition for voluntary tax compliance, and partly depends on the perceived fairness of the tax system. Since trust cannot be directly influenced, tax policy would be well advised to aim at improving fairness for taxpayers. (Procedural) fairness can be enhanced by increasing taxpayers' participation, but merely making tax authorities' decision procedures more transparent might help, too.

REFERENCES

Alm, James, Betty R. Jackson and Michael McKee (1993). Fiscal Exchange, Collective Decision Institutions, and Tax Compliance, *Journal of Economic Behavior and Organization*. 22: 285–303.

Alm, James, Gary H. McClelland and William D. Schulze (1999). Changing the Social Norm of Tax Compliance by Voting, *Kyklos*. 52: 141–171.

Alm, James and Benno Torgler (2006). Culture Differences and Tax Morale in the United States and in Europe, *Journal of Economic Psychology*. 27: 224–246.

Andreoni, James, Brian Erard and Jonathan Feinstein (1998). Tax Compliance, *Journal of Economic Literature*. 36: 818.

Baron, Reuben M. and David A. Kenny (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations, *Journal of Personality and Social Psychology*. 51: 1173–1182.

Bohnet, Iris and Bruno S. Frey (1994). Direct-Democratic Rules: The Role of Discussion, *Kyklos*. 47: 341–354.

Braithwaite, Valerie (2007). Responsive Regulation and Taxation: Introduction, *Law & Policy*. 29: 3–10.

Brehm, Jack W. (1966). *A Theory of Psychological Reactance*. New York: Academic Press.

Cinyabuguma, Matthias, Talbot Page and Louis Putterman (2005). Cooperation under the Threat of Expulsion in a Public Goods Experiment, *Journal of Public Economics*. 89: 1421–1435.

Dawes, Robyn M., Alphons J.C. van de Kragt and John M. Orbell (1990). Cooperation for the Benefit of Us - Not Me, or my Conscience, in: Jane J. Mansbridge (ed.), *Beyond Self Interest*. Chicago: University of Chicago Press: 97–110.

De Cremer, David (2007). When the Rich Contribute more in Public Good Dilemmas: The Role of Provision Point Level, *European Journal of Social Psychology*. 37: 536–546.

De Cremer, David and Daan van Knippenberg (2003). Cooperation with Leaders in Social Dilemmas: On the Effects of Procedural Fairness and Outcome Favorability in Structural Cooperation, *Organizational Behavior and Human Decision Processes*. 91: 1–11.

De Cremer, David and Mark Van Vugt (2002). Intergroup and Intragroup Aspects of Leadership in Social Dilemmas: A Relational Model of Cooperation, *Journal of Experimental Social Psychology*. 38: 126–136.

Feld, Lars P. and Bruno S. Frey (2002). Trust Breeds Trust: How Taxpayers are Treated, *Economics of Governance*. 3: 87–99.

Feld, Lars P. and Gebhard Kirchgässner (2000). Direct Democracy, Political Culture, and the Outcome of Economic Policy: A Report on the Swiss Experience, *European Journal of Political Economy*. 16: 287–306.

Feld, Lars P. and Jean-Robert Tyran (2002). Tax Evasion and Voting: An Experimental Analysis, *Kyklos*. 55: 197–221.

Fischbacher, Urs (2007). Z-Tree: Zurich Toolbox for Ready-made Economic Experiments, *Experimental Economics*. 10: 171–178.

Frey, Bruno S., Matthias Benz and Alois Stutzer (2004). Introducing Procedural Utility: Not Only What, but Also How Matters, *Journal of Institutional and Theoretical Economics*. 160: 377–401.

Frey, Bruno S. and Iris Bohnet (1997). Identification in Democratic Society, *Journal of Socio-Economics*. 26: 25–38.

Hammar, Henrik, Sverker C. Jagers and Katarina Nordblom (2009). Perceived Tax Evasion and the Importance of Trust, *Journal of Socio-Economics*. 38: 238–245.

Kastlunger, Barbara, Erich Kirchler, Luigi Mittone and Julia Pitters (2009). Sequences of Audits, Tax Compliance, and Taxpaying Strategies, *Journal of Economic Psychology*. 30: 405–418.

Kirchgässner, Gebhard, Lars P. Feld and Marcel R. Savioz (1999). *Die direkte Demokratie: Modern, erfolgreich, entwicklungs- und exportfähig*. Basel: Vahlen.

Kirchler, Erich (2007). *The Economic Psychology of Tax Behaviour*. Cambridge: Cambridge University Press.

Kirchler, Erich, Erik Hoelzl and Ingrid Wahl (2008). Enforced Versus Voluntary Tax Compliance: The 'Slippery Slope' Framework, *Journal of Economic Psychology*. 29: 210–225.

Kopelman, Shirli, J. Mark Weber and David M. Messick (2002). Factors Influencing Cooperation in Commons Dilemmas: A Review of Experimental Psychological Research, in: Elinor Ostrom, Thomas Dietz, Nives Dolšak, Paul C. Stern, Susan Stonich and Elke U. Weber (eds.), *The Drama of the Commons*. Washington (D. C.): National Academy Press: 113–156.

Leventhal, Gerald S. (1976). Fairness in Social Relationships, in: John W. Thibaut, Janet T. Spence and Robert C. Carson (eds.), *Contemporary Topics in Social Psychology*. Morristown (N. J.): General Learning Press: 212–239.

Leventhal, Gerald S. (1980). What Should be Done with Equity Theory?, in: Kenneth J. Gergen, Martin S. Greenberg and Richard H. Willis (eds.), *Social Exchange. Advances in Theory and Research*. New York: Plenum: 27–55.

Likert, Rensis (1961). *New Patterns of Management*. New York: McGraw-Hill.

Muehlbacher, Stephan, Erich Kirchler, Erik Hoelzl, Julie Ashby, Chiara Berti, Jenny Job, Simon Kemp, Ursula Peterlik, Christine Roland-Lévy and Karin Waldherr (2008). Hard-Earned Income and Tax Compliance: A Survey in Eight Nations, *European Psychologist*. 13: 298–304.

Page, Melanie C., Sanford L. Braver and David P. MacKinnon (2003). *Levine's Guide to SPSS for Analysis of Variance*. London: Lawrence Erlbaum Associates.

Pommerehne, Werner W. and Hannelore Weck-Hannemann (1996). Tax Rates, Tax Administration and Income Tax Evasion in Switzerland, *Public Choice*. 88: 161–170.

Stutzer, Alois and Bruno S. Frey (2006). Political Participation and Procedural Utility: An Empirical Study, *European Journal of Political Research*. 45: 391–418.

Torgler, Benno (2005). Tax Morale and Direct Democracy, *European Journal of Political Economy*. 21: 525–531.

Walker, James M., Roy Gardner, Andrew Herr and Elinor Ostrom (2000). Collective Choice in the Commons: Experimental Results on Proposed Allocation Rules and Votes, *The Economic Journal*. 110: 212–234.

Weck-Hannemann, Hannelore and Werner W. Pommerehne (1989). Einkommensteuerhinterziehung in der Schweiz: Eine empirische Analyse, *Schweizerische Zeitschrift für Volkswirtschaft und Statistik*. 4: 517–556.

Wenzel, Michael (2003). Tax Compliance and the Psychology of Justice: Mapping the Field, in: Valerie Braithwaite (ed.), *Taxing Democracy: Understanding Tax Avoidance and Evasion.* Aldershot: Ashgate Publishing: 41–69.

SUMMARY

It is hypothesized that allowing taxpayers to participate in governmental decisions on the use of tax money would increase their cooperation and willingness to pay the tax due. In experiment 1 (N = 97), participants voted between different rules for a public good game and cooperated with their group by contributing to the group account. Cooperation in experiment 2 (N = 119) was defined as the participants' tax payments. The participants were allowed to vote on the use of their tax money. Additionally to the voting manipulation, the participants learned that either they themselves or others would benefit from tax-financed projects. The results from both experiments suggest that voting, i.e., participation, increases cooperation. Whether participants benefited themselves from tax-financed projects or whether others benefited from the projects did matter for participants' tax compliance. Furthermore, the results indicate that more procedural fairness was perceived when allowing for voting and that participants' trust in the governmental system mediates the relation of procedural fairness and tax payments.