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The Impact of Direct Democracy and Local Autonomy
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by

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Abstract

This paper analyses the impact of direct democracy and local autonomy on tax morale and the size of the shadow economy. We use two different data sets on tax morale at the individual level (World Values Survey and International Social Survey Programme) and the macro data of the size of the shadow economy to systematically analyse the effects of institutions in Switzerland, a country where participation rights and the degree of federalism vary across different cantons. The findings suggest that direct democratic rights and local autonomy, have a significantly positive effect on tax morale and the size of the shadow economy.

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1. Introduction

Why do people pay taxes? This question has attracted increased attention in the tax compliance literature over the last few years. It can be supposed that nobody likes to pay taxes. One possibility is to "enforce" people to pay their taxes establishing a deterrence policy. In line with the economic-of-crime approach based on the expected utility maximisation calculus, Allingham and Sandmo (1972) presented a formal model with the insight that the extent of tax evasion is negatively correlated with the probability of detection and the degree of punishment. However, this pathbreaking model has been criticised by many authors (see, e.g., Graetz and Wilde, 1985; Alm, McClelland and Schulze, 1992; Frey and Feld, 2002). A main point, which is connected to the empirical and experimental findings, is that these deterrence models predict too little tax evasion. In many countries the level of deterrence is too low to explain the high degree of tax compliance. Furthermore, there is a big gap between the amount of risk aversion that is required to guarantee such a compliance and the effectively reported degree of risk aversion. For the United States, the estimated Arrow-Pratt measure of risk aversion is between one and two, but only a value of 30 would explain the observed compliance rate (see Graetz and Wilde, 1985, Alm, McClelland and Schulze, 1992). Similarly, in Switzerland the relative risk aversion varies between 1 and 2, but a value of 30.75 would be necessary to reach the observed level of tax compliance of 76.52 percent (see Frey and Feld, 2002). Furthermore, tax compliance experiments mostly report a higher level of income declaration than the expected utility model would predict (for a survey see Torgler, 2002a).

To resolve this puzzle of tax compliance, many researchers have argued that tax morale[1] can help explain the high degree of tax compliance (for empirical and experimental papers see, e.g., Schwartz and Orleans, 1967; Lewis, 1982; Roth, Scholz and Witte, 1989; Alm, McClelland and Schulze, 1992, 1999; Pommerehne, Hart and Frey, 1994; Frey, 1997, 2003; Frey and Feld, 2002; Feld and Tyran, 2002; for a survey see Torgler, 2001). Erard and Feinstein (1994) in their theoretical paper stress the relevance of integrating moral sentiments into the models to provide a reasonable explanation of actual compliance behaviour. Moreover, Andreoni, Erard and Feinstein (1998) point out in their tax compliance survey that

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[1] First important findings in the tax morale literature date from the 60s and 70s by German scholars around Günter Schmölders (1951/1952, 1960, 1962, 1970) known as the 'Cologne school of tax psychology'. They have emphasised that economic phenomena should not only be analysed from the traditional point of view. They saw tax morale as an attitude regarding tax (non-) compliance (see, e.g., Schmölders, 1960).

"adding moral and social dynamics to models of tax compliance is as yet a largely undeveloped area of research" (p. 852). Many researchers stress that a considerable portion of taxpayers are always honest. Some taxpayers are "simply predisposed not to evade" (Long and Swinger, 1991, p. 130) and thus do not even search for ways to cheat at taxes (see Frey, 1999; Torgler, 2003a). More and more papers go beyond treating tax morale as a black box, a residuum, analysing which factors shape or maintain tax morale (for an overview see Torgler 2007). The propose of the first part of this paper is to investigate in detail the impact of direct democracy and local autonomy on tax morale.

The second part of the paper explores the same question but using the size of the shadow economy instead of tax morale.

The purpose of this paper is to fill out this gap identifying which factors have an impact on tax morale. It can be supposed that the extent of tax morale depends on the type of constitution. In general, there are not many studies which systematically analyse the influence of institutions on tax morale or tax compliance. Thus, we are going to analyse if institutions as direct democracy and federalism have an influence on tax morale, controlling for additional variables. It is essential to analyse under which institutional conditions citizens are more willing to pay their taxes. For this, the study analyses a cross-section of individuals throughout Switzerland using the World Values Survey (WVS) data 1995-1997 and the International Social Survey Programme (ISSP) data set "Religion II". Switzerland is chosen because it allows to observe the influence of institutional factors as direct democracy (via initiatives and referenda) and federalism (local autonomy). In Switzerland, there are various cantons with different degrees of political participation possibilities and fiscal decentralisation (see *Table A1* in the Appendix).

We can observe that economists show an increasing interest in survey analyses (see, e.g., Frey and Stutzer 2002, Knack and Keefer 1997, Slemrod 2003). The Swiss WVS survey has been conducted in 1996 and the ISSP survey in 1999. Both data sets allow us to control for many factors that are unrelated to institutional variables. Working with two data sets allows to check the robustness of our main variables. The findings suggest that institutional factors in the form of direct democratic participation rights and federalism raise tax morale. Furthermore, trust in government and trust in the court and the legal system have a positive effect on tax morale. In Section 2 theoretical considerations on tax morale and previous empirical studies are presented focusing on direct democracy, local autonomy, and trust in institutions. Section 3 presents the empirical findings and Section 4 finishes with some concluding remarks.

2. Theoretical considerations

2.1. Political participation

Tax morale might depend on the type of institutional settings. Institutions that respect the preferences of the citizens will have more support by the people than a state that acts as a Leviathan (see Prinz, 2002). Levi (1988) points out that a possibility to create or maintain compliance is to provide reassurance by the government. A government that precommits itself with direct democratic rules imposes itself restraints on its own power and thus sends a signal that taxpayers are seen as responsible persons. Furthermore, direct democratic rules signalise that citizens are not ignorant or uncomprehending voters, which might create or maintain a certain social capital stock. The government signalises thus that taxpayers' preferences are taken into account in the political process. Estimating a cross section/time series multiple regression using Swiss data, Pommerehne and Weck-Hannemann (1996) found that in cantons with a high degree of direct political control tax evasion is – ceteris paribus – about SFr 1500 lower as compared to the average of the cantons without such direct influence. Feld and Frey (2002b) analysed how tax authorities treat taxpayers in Switzerland and found that tax authorities of cantons with more direct participation rights, compared to cantons with less direct democracy, treat taxpayers more respectfully and are less suspicious if taxpayers report too low incomes. On the other hand, not submitted tax declarations are more heavily fined. Looking at the experimental evidence. Looking at the experimental evidence, Alm, McClelland and Schulze (1999), Feld and Tyran (2002) and Torgler, Schaltegger and Schaffner (2003) found that voting on tax issues has a positive effect on tax compliance.

The more taxpayers can participate in political decision making by popular rights, the more the tax contract is based on trust and the higher is tax morale. Taxpayers are treated as "citizens" with extensive rights *and* obligations (Frey, 2003). They are in the position to better monitor and control politicians via referenda. Furthermore, they can set rules via initiative and are thus able to renegotiate the tax contract with the government influencing, e.g., the tax laws and the tax rates, which enhances civic virtue. Thus, the possibility for taxpayers to vote on fiscal issues positively influences tax morale. Being involved in the political decision process enhances taxpayers' sense of civic duty (Feld and Frey, 2002a) and thus tax morale. The instrument of direct democracy helps spend taxes according to their preferences, the motivation to contribute paying their taxes increases. Thus, the following hypothesis can be developed:

Hypothesis 1: The more extensive the citizens' direct political participation possibilities, the higher the intrinsic motivation to comply in the form of tax morale

2.2. Tax morale and trust in the government, the court and the legal system

In a general way, it can be argued that positive actions by the state are intended to increase taxpayers' positive attitudes and commitment to the tax system and tax-payment and thus compliant behaviour (e.g., Smith, 1992; Smith and Stalans, 1991). If the state acts trustworthily, taxpayers might be more willing to comply with the taxes. On the other hand, perceived unfairness increases the incentive to act against the tax law as psychological costs are reduced. With data from Switzerland (Zurich), Kucher and Götte (1998) found that trust, measured as the ratio of concurrence between the city government's recommendation for an issue put to a vote and the actual outcome at the ballot, significantly raised the ratio of submitted tax declarations between 1964 and 1996

The relationship between taxpayers and state can be seen as a relational or psychological contract, which involves strong emotional ties and loyalties. Such a psychological tax contract can be maintained by positive actions. Thus, one of the most important social psychological reasons for expecting co-operation is reciprocity (see Gouldner, 1960; Axelrod, 1984; Cialdini, 1984; Regan, 1971). Trust especially plays an important role where detection and punishment are stamped by high cost. Tax authority can not achieve total compliance; they would have to place a tax administrator under every bed. This might indicate that trust is an important institution which influences citizen's incentive to commit themselves to obedience. And this trust can only be created if government's commitment acts in line with citizens' needs and desires (see Hardin, 1998). Not only trust in the government but also trust in the court and the legal system and thus the way how the relationship between the state and its citizens is established might have an effect on tax morale. The cost of tax raising and government running is lower if taxpayers are more willing to pay their taxes voluntarily (Slemrod, 2003).

In this light, the following hypothesis is going to be tested:

Hypothesis 2: The more extensive the citizens' trust in the government and the legal system, the higher the intrinsic motivation to comply in the form of tax morale.

Frey and Feld (2002) argue that tax morale is supported or even raised when tax officials treat taxpayers with respect and on the other hand is reduced when the administration considers taxpayers as individuals who have to be *forced* to pay the taxes: "The feeling of being controlled in a negative way, and being suspected of tax cheating, tends to crowd out the intrinsic motivation to act as an honourable taxpayer and, as a consequence, tax morale will fall. In contrast, if the tax official makes an effort to find out the reason for the error by contacting the taxpayer in an informal way (e.g. by phoning him or her), the taxpayer will appreciate this respectful treatment and tax morale will be upheld"(p. 12).

They divide respectful treatment into two components (p. 5): (i) transparent and clear procedure by the tax administration, (ii) as a direct personal component, how the taxpayers' character is respected by tax administrators. Their empirical analysis shows that a respectful treatment of taxpayers by the tax administration reduces tax evasion.

2.3. Tax morale and decentralisation

A second institution is federalism. Small structures have the advantage that citizens' preferences can be met better. There is an intensive every-day interaction between taxpayers and local politicians and bureaucrats. This closeness between taxpayers, the tax administration and the local government may induce trust and thus enhance tax morale. Politicians and members of the administration are better informed about the preferences of the local population. Furthermore, if politicians are elected at the local level, they have an incentive to put citizens' preferences into account (see Frey and Eichenberger, 1999) and thus to spend the tax revenues according to their preferences. Decentralisation moves the government closer to the people. Many economists point out the relevance of giving sub-national governments the taxing power (see, e.g., Bahl, 1999). The strength of decentralised systems is a better transparency of this input-output relationship. The tax system must be visible to the local taxpayers. The income tax is a good instrument for a local structure. It is easy to administrate and always under individuals' test, who have the opportunity to use the instruments of exit and voice (see Hirschman, 1970). The mechanism of entry and exit in federal states provides a strong incentive to produce public services in accordance to taxpayers' preferences. Thus, the third hypothesis states:

Hypothesis 3: The more extensive the local autonomy, the higher the intrinsic motivation to comply in the form of tax morale[2].

3. Empirical results

3.1. Model

In order to examine our hypotheses derived in section 2, the following estimation equation is postulated:

$$TM_i = \beta_0 + \beta_1 \cdot p_c + \beta_2 \cdot f_c + \beta_3 \cdot t_i + \beta_4 \cdot y_i + \beta_5 \cdot CTL_i + \beta_6 \cdot TR_i + \beta_7 \cdot INST_C + \varepsilon_i$$

where TM_i denotes the individual degree of tax morale. The general question to assess the level of tax morale from the World Values Survey in Switzerland for the year 1996 is:

> Please tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between: (...) Cheating on tax if you have the chance (% "never justified" – code 1 from a ten-point scale where 1=never and 10=always).

The dependent variable TAX MORALE[3] is developed by recoding the ten-point scale into a four-point scale, with the value 4 standing for "never justifiable". The value one is an aggregation of the last 7 points, which were rarely chosen.

Similarly, the question in the ISSP (year 1999) was:

> Do you feel it is wrong or not wrong if a taxpayer does not report all of his or her income in order to pay less income taxes? (1= not wrong, 2= a bit wrong, 3= wrong, 4=seriously wrong).

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[2] However, it should be noticed that in Switzerland local authorities administer the largest part of income taxpayers. The cantonal level, which is the focus in this paper, copes only a smaller share of taxpayers directly.

[3] The way tax morale is defined here can be criticised as only one question is used to assess tax morale. On the other hand, such a definition reduces the problems which are connected to an index.

Thus, in both data sets we have the same tax morale scale. The independent variables are specified as follows:

1. p_c: As an approximation for the probability of detection, the number of tax auditors per taxpayer (in ‰) in each canton c is used.

2. f_c: The penalty tax rate is approximated by the standard legal fine as a multiple of the evaded tax amount (in percent) in a canton c[4].

3. t_i: Individual tax rate.

4. y_i: The individual income class of a taxpayer (see *Appendix*)

5. CTL_i: a panel of control variables at the individual level covering: age, gender, education, marital status, employment status.

6. TR_i : measures in the WVS data set the trust in the government[5] and in the ISSP data set the confidence in the courts and the legal system[6].

7. $INST_c$: Institutional factors at the cantonal level c. For the degree of direct democracy the six point scale index developed by Stutzer (1999) and applied, e.g., by Frey and Stutzer (2000, 2002), Frey and Feld (2002), Feld and Frey (2002a, 2002b) has been used. The index reflects the extent of direct democratic participation (1= lowest and 6 highest degree of participation) at the cantonal level.[7] As indexes do not tell as much as a single instrument, we are going to measure the degree of direct democratic participation with a dummy on legislative referendum and degree of signature requirements for legislative initiatives. Local autonomy is measured with an index developed by Ladner (1994) based on survey results where chief local administrators in 1865 Swiss municipalities were asked to report how they perceive their local autonomy on a 10 point scale. (1= no autonomy, 10 = very high communal autonomy, see Appendix *Table A2*).

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[4] The information about the probability of detection and the fine for tax evasion has been collected by Lars P. Feld and Bruno S. Frey with a questionnaire. The following contributions are based upon this data set: Feld and Frey (2002a), (2002b) and Frey and Feld (2002).

[5] Could you tell me how much confidence you have in the government in your capital: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? (4= a great deal to 1=none at all).

[6] How much confidence do you have in courts and the legal system (5=complete confidence to 1=no confidence at all).

[7] The index includes the four legal instruments : the popular initiative to change the canton's constitution, the popular initiative to change the canton's law, the compulsory and optional referendum to prevent new law or changing of a law and the compulsory and optional referendum to prevent new state expenditure. The index is based on the degree of restrictions in form of the necessary signatures to use an instrument, the time span to collect the signatures and the level of new expenditure which allows to use the financial referendum (for a detailed discussion see Stutzer, 1999).

But how can tax morale be defined? In this paper we define tax morale as the *intrinsic motivation to pay taxes*. It is the *willingness* to pay taxes by the individuals. Contrary to tax evasion, tax morale does not measure individual's behaviour, but individuals' attitude. It can be seen as the moral obligation to pay taxes, the belief in contributing to the society by paying taxes. On the other hand, it also catches the moral regret or guilt over cheating on taxes. If a taxpayer's regret or feeling of guilt is strong, she/he will be more willing to pay the taxes. The approximation of tax morale in our empirical analysis is the *justifiability* of cheating on taxes and the *belief* to which extent it is *wrong not to report all of the income* in order to pay less income taxes. Based on this definition it should be noted that such measurements are not free of biases. It could be that a taxpayer who has incurred in tax evasion in the past will tend to excuse this kind of behaviour reporting a higher tax morale.

The economics-of-crime approach would predict that the extent of tax *evasion* depends negatively on the probability of being caught and the size of punishment in case of being caught. Some empirical findings indicate that a higher probability of being caught discourages evasion (see, e.g., Crane and Nourzad, 1987; Witte and Woodbury, 1985; Dubin and Wilde, 1988; Joulfaien and Rider, 1996). In experiments there is also the tendency that a higher audit rate leads to more compliance (see, e.g., Friedland et al., 1978; Beck et al., 1991; Alm, Jackson and McKee, 1992a, 1992b, Alm, Cronshaw, and McKee, 1993; for a survey see Torgler, 2002a). However, the pooled cross section time series estimation for Swiss cantons over the years 1970, 1978, 1985, 1990, and 1995 done by Frey and Feld (2002) using tax evasion as dependent variable indicates that the probability of detection has a theoretically unexpected positive sign being not statistically significant, while the size of the fine is statistically significant at the 5 percent level. Beron, Tauchen and Witte (1992) found with tax return data from 1969 a weak deterrent effect from audits on tax compliance. Pommerehne and Weck-Hannemann (1996) found that the coefficients of the probability of detection and the penalty tax rate have a negative sign, but none of them was statistically significant. Slemrod, Blumenthal and Christian (2001) used a controlled field experiment in Minnesota to analyse taxpayer response to an increased probability of audit. While low and middle income taxpayers increased their reported tax between 1993 and 1994 relative to the control group, the reported income of high income taxpayers fell sharply in relation to the control group.

It is difficult to predict the effects of deterrence factors on tax morale. Deterrence imposed by the tax authority might crowd out taxpayers' intrinsic motivation to pay their taxes and thus crowd out tax morale. On the other hand, deterrence factors might prevent taxpayers with a low tax morale exploiting the more honest taxpayers. Tax morale is therefore

not expected to be crowded out if the honest taxpayers perceive the stricter policy to be directed against dishonest taxpayers. Regulations which prevent free riding by others, reducing the possibility to escape from their tax payments may help preserve tax morale (see Frey, 1997).

The effects of the tax rate and the income on tax evasion are difficult to assess theoretically. It depends on the individual's risk preference and the progression of the income tax schedule (see Andreoni, Erard and Feinstein, 1998). A higher marginal tax rate makes tax evasion marginally more profitable, but a contrary effect works depending on the risk aversion of taxpayers. The results are influenced by the tax schedule (proportional, progressive, regressive) (see Frey and Feld, 2002). Furthermore, the relationship between tax evasion and tax rate depends also on the penalty structure. In case the penalties are proportional to the amount of evaded income and taking into consideration a decreasing absolute risk aversion and constant tax rates than the sign is ambiguous (Allingham and Sandmo, 1972). On the other hand, an increase in the tax rate will encourage individuals to declare more income, if fines are proportional to the amount of evaded taxes (Yitzhaki, 1974).

Regarding the control variables it might be worthwhile to point out that older people can be expected to have a higher tax morale than the younger. Over the years they have acquired greater social stakes, as material goods, statuses, a stronger dependency on the reactions from others (Tittle, 1980), as they mostly have lived for a certain time in the same place and thus are more attached to the community (see Pommerehne and Weck-Hannemann, 1996). In the tax compliance literature evidence concerning the variable gender indicates the tendency that men are less compliant than women (see, e.g., Vogel, 1974; Tittle, 1980, Spicer and Becker, 1980). Looking at the marital status it can be argued that married people might be more constrained by their social network and thus more compliant, but on the other hand in Switzerland they are taxed in a higher bracket than two separate incomes which might have a negative impact on tax morale. Better educated taxpayers are supposed to know more about tax law and fiscal connections and thus would be in a better position to assess the degree of compliance, being better aware of the benefits and services the state provides for the citizens from the revenues (see Lewis, 1982). On the other hand, they may be less compliant because they better understand the opportunities for evasion and avoidance and might be more critical about and better aware of how the state uses tax revenues. Self-employed persons do not per se have a lower tax morale than other taxpayers, but they have better possibilities to evade taxes. Most empirical results, which indicate that self-employed have a lower tax compliance, are from other countries than Switzerland, where labour income earners pay taxes at source.

3.2. Results

3.2.1. Deterrence factors

Our estimations start with analysing the effects the traditional variables of an economics of crime approach have on tax morale. Thus, our first estimations are going to consider three basic variables of this approach: the fine rate of tax evasion, the probability of detection and the individual tax rate. Therefore, weighted least squares models and weighted ordered probit models are estimated in *Table 1*. Some groups might be over-sampled. A weighted variable helps to correct the samples and thus to reflect national distribution. The weighted ordered probit models help analyse the ranking information of the scaled dependent variable tax morale. As in the ordered probit estimation, the equation has a non-linear form; only the sign of the coefficient can be directly interpreted and not its size. Calculating the marginal effects is therefore a method to find the quantitative effect a variable has on tax morale. The marginal effect indicates the change in the share of taxpayers (or the probability of) belonging to a specific tax morale level, when the independent variable increases by one unit. In the weighted ordered probit estimation, only the marginal effects for the highest value "tax evasion is never justified" (WVS 1996) and "seriously wrong not to report all the income" (ISSP 1999) are shown.

Table 1 presents the results. As we can see most results are robust regarding the estimation methods. The weighted least squares estimations using tax morale as a cardinal variable offer qualitatively quite similar results as the weighted ordered probit model. Looking at the variables FINE RATE, AUDIT PROBABILITY and INDIVIDUAL INCOME TAX RATE we observe similar values for both data sets. The results indicate that the basic tax evasion model does not perform in a satisfactory way. The coefficients are mostly not significant. Only in one estimation the coefficient of the variable AUDIT PROBABILITY is significant at the 10 percent level showing a positive sign. On the other hand, the coefficient of the variable FINE RATE is statistically not significant with a negative tendency. In further estimations we are going to see that these coefficients are often not significant. In those estimations where the coefficient is significant, we find a tendency for a higher audit probability to be correlated with a higher tax morale, and a higher fine rate with a lower tax morale. One reason might be that stronger controls help to catch tax evaders and thus honest taxpayers perceive the audit probability to be directed against dishonest taxpayers. On the other hand, however, a higher fine rate might crowd out more the intrinsic motivation to

comply with taxes, as it is settled in the laws and more evident for the taxpayers, signalising thus stronger external interventions.

Only in the weighted ordered probit estimation with the WVS data set the individual tax rate has a negative effect on tax morale, significant at the 10 percent level. The negative sign is consistent with many empirical papers analysing the correlation between tax rates and tax evasion (see, e.g., Clotfelter, 1983; Crane and Nourzad 1992). However, it should be noticed that Feinstein (1991) does not find a positive correlation between tax rates and non-compliance, trying to better separate the effects of marginal tax rates from those of income.

It is difficult to get a clear picture of the effects of the control variables on tax morale. There is the tendency that women have a higher tax morale than men. The marginal effects in the WVS survey estimation indicate for example that being a woman rather than a man increases the probability of a person stating that tax evasion is never justified by 27.5 percentage points. Furthermore, married people seem to have a higher tax morale than the reference group (singles). In the ISSP data set, which does not differentiate between married people and people living together, the coefficient is positive, but without being significant. A higher education correlates with a higher tax morale, at a statistically significant rate in the ISSP data set.

Different results can be observed regarding the effects of income and the employment status on tax morale. Only the coefficients of the ISSP estimations are statistically significant indicating a positive correlation between tax morale and income. Part time employees have a higher tax morale than full time employees in the WVS, but a lower one in the ISSP data set.

Table 1 Determinants of tax morale in Switzerland in 1996 and 1996

Dependent Variable: Tax Morale	World Value Survey 1996					ISSP 1999				
	weighted least squares		weighted ordered probit			weighted least squares		weighted ordered probit		
Independent Variables	*Coeff.*	*t-Stat.*	*Coeff.*	*z-Stat.*	*Marg.*	*Coeff.*	*t-Stat.*	*Coeff.*	*z-Stat.*	*Marg.*
a) Deterrence Factors										
FINE RATE	-0.001	-1.187	-0.001	-1.615	-0.001	-0.001	-0.682	-0.001	-0.834	0.000
AUDIT PROBABILITY	0.001	1.121	0.002*	1.856	0.001	0.001	1.073	0.001	1.074	0.000
b) Tax Rate										
INDIVIDUAL INC. TAX RATE	-0.008	-1.327	-0.009*	-1.916	-0.004	-0.019	-1.568	-0.022	-1.772	-0.006
c) Demographic Factors										
AGE 30-49	0.028	0.211	0.025	0.249	0.010	-0.041	-0.447	-0.032	-0.332	-0.009
AGE 50-64	0.403**	2.553	0.396***	3.163	0.157	-0.020	-0.191	-0.020	-0.167	-0.006
AGE 65+	0.348	1.380	0.347	1.554	0.138	0.013	0.082	-0.002	-0.011	-0.001
WOMAN	0.284***	2.882	0.275***	3.397	0.109	0.064	0.930	0.082	1.066	0.024
EDUCATION	0.013	0.510	0.013	0.617	0.005	0.033*	1.870	0.040**	2.042	0.012
d) Marital Status										
MARRIED	0.319**	2.296	0.317***	2.963	0.126	0.001	0.015	0.005	0.063	0.002
LIVING TOGETHER	0.071	0.400	0.070	0.528	0.028					
DIVORCED	0.183	0.941	0.174	1.135	0.069	-0.292**	-2.189	-0.334**	-2.120	-0.098
SEPARATED	0.292	0.819	0.190	0.693	0.075	0.158	0.844	0.232	1.290	0.068
WIDOWED	0.013	0.059	-0.133	-0.736	-0.053	-0.021	-0.149	-0.026	-0.147	-0.008
e) Economic Variable										
INCOME	-0.007	-0.398	-0.007	-0.490	-0.003	0.000*	1.706	0.000*	1.853	0.000
f) Employment Status										
PART TIME EMPLOYED	0.286**	2.103	0.283***	2.581	0.112	-0.176*	-1.786	-0.225**	-2.046	-0.066
LESS THAN PART TIME						0.047	0.351	0.038	0.253	0.011
SELFEMPLOYED	0.150	0.865	0.139	0.934	0.055					
UNEMPLOYED	-0.051	-0.173	-0.047	-0.223	-0.019	-0.041	-0.167	-0.076	-0.270	-0.022
AT HOME	0.237	1.488	0.240*	1.862	0.095	0.132	1.003	0.142	0.931	0.041
STUDENT	0.030	0.125	0.012	0.066	0.005	0.177	1.285	0.228	1.627	0.066
RETIRED	0.514**	2.288	0.590***	2.728	0.234	0.207	1.377	0.252	1.475	0.074
OTHER	0.432	1.235	0.468	1.628	0.186					
SICK						0.244	1.003	0.245	0.483	0.071
Observations	922		922			1130		1130		
R-squared	0.114					0.034				
Prob(F-statistic)	0.000					0.000				
Prob(LM-statistic)			0.000					0.000		

Notes: Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED. In the ISSP data married and people living together are added into one group. Furthermore, they include people working less than part time and sick persons, omitting instead self-employed persons. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$. Marginal effect = highest tax morale score (4).

In general, the main finding in these estimations is the fact that the standard model of tax evasion does not work well. The findings do not indicate that coercion does not play any role, but it reduces the emphasis of the significance of such an instrument for resolving the social dilemma of tax payments. Monitoring and penalties for non-compliance might have the effect that individuals crowd out intrinsic motivation to comply with taxes (see Frey, 1997). Empirical findings in Switzerland also indicate that the expected utility maximisation approach does not work well. The pooled cross section time series estimations for Swiss cantons over the years 1970, 1978, 1985, 1990, and 1995 done by Frey and Feld (2002), using tax evasion as a dependent variable, indicate that probability of detection has a positive sign being statistically significant in some equations, while the size of the fine is statistically significant with a negative sign. Torgler, Schaltegger and Schaffner (2003) in a tax compliance experiment done in Switzerland and Costa Rica even found a negative effect of deterrence factors on tax compliance.

These findings indicate that the basic evasion model has to be extended with additional factors. Thus, the paper analyses to which extent important insights can be obtained by including formal and informal institutions to evaluate what shapes tax morale. Switzerland's constitution combines direct democracy elements as initiative and referenda with a high degree of federalism, which means that cantons and local authorities have extensive competences. The degree of institutionalised rights of political participation strongly varies between the 26 Swiss cantons.

3.2.2. Direct democratic participation rights and trust in the government and the legal system

First, we are going to analyse the effect of direct democracy and trust in the government, the court and the legal system on tax morale[8]. The degree of direct democratic participation rights of taxpayers is measured with an index developed by Stutzer (1999). The results for both data sets are presented in Table 2 and 3. The index of direct democratic rights has a highly significant positive effect on tax morale with high marginal effects. Thus, the first hypothesis cannot be rejected. Eq. 2a (Eq. 2b) indicates that an increase in the index of direct democracy by one point raises the share of persons indicating the highest tax morale by

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[8] It should be noticed that the Swiss World Value Survey was not random-random but quota-random, based on a random sample of communes and then on quotas in terms of sex, age, etc. in the selected communes. Thus, the smallest cantons are not necessarily represented (not represented are: Appenzell a. Rh., Glarus, Jura, Nidwalden, Uri, and Zug). On the other hand, the ISSP data set contains all 26 cantons.

6.4 (2.9) percentage points. Thus, the results show that the institution direct democracy raises individual's tax morale[9].

In a next step we are going to analyse whether trust in the government and the legal system have a positive effect on tax morale. The effects of trust on tax morale can be analysed on two different levels: i) at the *constitutional level* and ii) at the *current politico-economic level*. With the WVS question we focus more closely on the current politico-economic level. On the other hand with the ISSP data set we focus on how the relationship between the state and its citizens is established. As democracy works as an institution that enhances the psychological tax contract between citizens and the state and thus induces trust, we first analyse the trust variables in separate estimations (see Eq. 3a and 3b). The results indicate that hypothesis 2 cannot be rejected either. Both trust coefficients are highly significant showing a statistically significant positive effect on tax morale. An increase in the trust in government scale (trust in court and the legal system) by one unit increases the share of subjects indicating the highest tax morale by 8.9 (3.4) percentage points. To investigate whether the positive correlation between direct democracy and tax morale is largely driven by a higher trust, we include them together into the same equations (see Eq. 4a and 5b). Furthermore, in order to test for alternative explanations we include additional variables (religiosity and individuals' financial satisfaction in the WVS and religiosity in the ISSP data set). Religiosity might influence people's habits and might be a restriction to engage in tax evasion. Kirchgässner (1999) argues that in the Northern States of Europe, in contrast to the majority of Catholic countries in the south, state and religious authority were held by one person. Offenses against the state were therefore also religious offenses and consequently components of a sin. Thus, traditionally, people in Northern States have a stronger restriction to evade taxes (for empirical evidence see Torgler, 2002b). As religious variable we take the variable frequency of church attendance (CHURCH ATTENDANCE). This approximately shows how much time individuals devote to religion. It says more about behaviour than, e.g., religious attitudes. To the author's knowledge there are only three papers which examine the effect of religiosity on tax cheating (Tittle, 1980; Grasmick et al., 1991; Torgler, 2002c). All three studies indicate that religiosity affects the degree of rule breaking, tax compliance and tax morale. Our

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[9] **What about the causality between direct democracy and tax morale? Do taxpayers with a higher tax morale choose direct democratic institutions? In line with Frey (2001) and Frey and Stutzer (2000) it could be argued that direct democratic institutions have a long tradition in Switzerland and are quite stable over time, which suggests that the causality runs from direct democratic rights to tax morale and not the other way round. However, based on this kind of data set it is not possible to fully rule out the causality problem.**

findings in *Table 2* and *3* are in line with these results, showing a positive correlation between tax morale and the degree of church attendance.

Table 2 The effects of direct democracy and trust on tax morale (WVS 1996)

WVS 1996 *weighted ordered probit* *Dependent variable: tax morale*	*Eq. 2a*			*Eq.3a*			*Eq.4a*		
Variable	*Coeff.*	*z-Stat.*	*Marg.*	*Coeff.*	*z-Stat.*	*Marg.*	*Coeff.*	*z-Stat.*	*Marg.*
a) Deterrence Factors									
FINE RATE	-0.002***	-2.591	-0.001	-0.001	-1.037	-0.098	-0.002**	-2.096	-0.001
AUDIT PROBABILITY	0.001	0.809	0.000	0.002*	1.822	0.000	0.001	1.176	0.001
b) Tax Rate									
INDIVIDUAL INC. TAX RATE	-0.008	-1.544	-0.003	-0.008*	-1.691	0.001	-0.007	-1.404	-0.003
c) Institutional Variable									
DIRECT DEMOCRATIC RIGHTS	0.162***	4.517	0.064				0.184***	5.033	0.073
d) Trust									
TRUST IN GOVERNMENT				0.225***	5.214	0.089	0.170***	3.810	0.067
e) Demographic Factors									
AGE 30-49	0.055	0.562	0.022	0.038	0.372	0.015	0.014	0.137	0.006
AGE 50-64	0.427***	3.440	0.170	0.407***	3.143	0.162	0.310**	2.355	0.123
AGE 65+	0.385*	1.739	0.153	0.277	1.297	0.110	0.215	0.951	0.086
WOMAN	0.286***	3.485	0.114	0.259***	3.117	0.103	0.261***	3.108	0.104
EDUCATION	0.010	0.468	0.004	-0.009	-0.433	-0.004	-0.013	-0.595	-0.005
f) Marital Status									
MARRIED	0.320***	3.012	0.127	0.314***	2.784	0.125	0.346***	3.047	0.137
LIVING TOGETHER	0.051	0.378	0.020	0.098	0.701	0.039	0.089	0.600	0.035
DIVORCED	0.139	0.893	0.055	0.164	1.055	0.065	0.210	1.288	0.083
SEPARATED	0.197	0.697	0.078	0.206	0.725	0.082	0.242	0.834	0.096
WIDOWED	-0.140	-0.755	-0.056	-0.144	-0.807	-0.057	-0.139	-0.759	-0.055
g) Economic Variable									
INCOME	-0.014	-1.006	-0.006	-0.013	-0.861	-0.005	-0.026*	-1.666	-0.010
FINANCIAL SATISFACTION							0.050***	2.894	0.020
h) Employment Status									
PART TIME EMPLOYED	0.276**	2.502	0.110	0.270**	2.377	0.107	0.238	2.090	0.094
SELFEMPLOYED	0.160	1.060	0.064	0.102	0.701	0.041	0.139	0.921	0.055
UNEMPLOYED	-0.061	-0.292	-0.024	-0.024	-0.108	-0.010	0.072	0.331	0.029
AT HOME	0.244*	1.896	0.097	0.208	1.594	0.083	0.214*	1.658	0.085
STUDENT	0.039	0.216	0.015	-0.084	-0.463	-0.033	-0.065	-0.336	-0.026
RETIRED	0.582***	2.729	0.231	0.599***	2.933	0.238	0.503**	2.372	0.200
OTHER	0.496*	1.755	0.197	0.549*	1.762	0.218	0.607	1.910	0.241
i) Religiosity									
CHURCH ATTENDANCE							0.078***	3.623	0.031
Observations	922			891			879		
Prob(LM-statistic)	0.000			0.000			0.000		

Notes: Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$. Marginal effect = highest tax morale score (4).

Table 3 The effects of direct democracy and trust on tax morale (ISSP 1999)

ISSP 1999
weighted ordered probit

Eq. 2b

Dependent variable: tax morale

Eq.3b

Eq.4b

Variable	Coeff.	z-Stat.	Marg.	Coeff.	z-Stat.	Marg.	Coeff.	z-Stat.	Marg.
a) Deterrence Factors									
FINE RATE	-0.001	-1.207	0.000	-0.001	-0.677	0.000	-0.001	-0.663	0.000
AUDIT PROBABILITY	0.38E-03	0.418	0.000	0.001	0.677	0.000	-0.47E-04	-0.051	0.000
b) Tax Rate									
INDIVIDUAL INC. TAX RATE	-0.010	-0.779	-0.003	-0.021*	-1.681	-0.006	-0.010	-0.770	-0.003
c) Institutional Variable									
DIRECT DEMOCRATIC RIGHTS	0.100***	3.346	0.029				0.104***	3.410	0.030
d) Trust									
TRUST IN COURT AND LEGAL SYSTEM				0.116***	3.782	0.034	0.093***	2.936	0.027
e) Demographic Factors									
AGE 30-49	-0.027	-0.287	-0.008	0.047	0.482	0.014	0.064	0.640	0.018
AGE 50-64	-0.017	-0.145	-0.005	0.049	0.411	0.014	0.050	0.401	0.014
AGE 65+	-0.008	-0.043	-0.002	0.053	0.270	0.016	0.005	0.027	0.002
WOMAN	0.090	1.162	0.026	0.075	0.948	0.022	0.076	0.950	0.022
EDUCATION	0.044**	2.273	0.013	0.034*	1.676	0.010	0.038*	1.861	0.011
f) Marital Status									
MARRIED/LIVING TOGETHER	0.011	0.131	0.003	-0.019	-0.237	-0.006	-0.061	-0.723	-0.018
DIVORCED	-0.314*	-1.941	-0.091	-0.344*	-2.157	-0.100	-0.300*	-1.816	-0.087
SEPARATED	0.236	1.307	0.069	0.193	1.063	0.057	0.178	0.961	0.051
WIDOWED	-0.038	-0.221	-0.011	-0.029	-0.161	-0.008	-0.103	-0.565	-0.030
g) Economic Variables									
INCOME	0.23E-04	0.997	0.000	0.37E-04*	1.708	0.000	0.21E-04	0.957	0.000
h) Employment Status									
PART TIME EMPLOYED	-0.203*	-1.828	-0.059	-0.214	-1.902	-0.062	-0.172	-1.489	-0.050
LESS THAN PART TIME	0.049	0.331	0.014	0.020	0.131	0.006	-0.002	-0.014	-0.001
UNEMPLOYED	0.006	0.020	0.002	0.011	0.037	0.003	-0.039	-0.116	-0.011
STUDENT	0.283**	2.020	0.082	0.255*	1.741	0.075	0.366**	2.457	0.106
RETIRED	0.302*	1.751	0.088	0.257	1.453	0.075	0.319*	1.751	0.092
AT HOME	0.172	1.130	0.050	0.142	0.917	0.042	0.151	0.952	0.044
SICK	0.290	0.549	0.084	0.215	0.390	0.063	0.250	0.379	0.072
i) Religiosity									
CHURCH ATTENDANCE							0.085***	4.750	0.025
Observations	1130			1083			1068		
Prob(LM-statistic)	0.000						0.000		

Notes: Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$. Marginal effect = highest tax morale score (4).

Financial dissatisfaction might negatively influence tax morale. Such dissatisfaction might create a sense of distress, especially when taxes have to be paid and there is a discrepancy between the actual and the aspired financial situation[10]. Thus, taxes might be perceived as a strong restriction, which increases the incentives to reduce tax honesty. As the income variable is integrated into the equation, we can analyse the "stress" component of the financial dissatisfaction. The result in Table 2 shows that an increase in the financial satisfaction level by one unit increases the share of individuals arguing that tax morale is never justifiable by 2 percentage points. The coefficients of the direct democracy and trust in government and trust in the court and the legal system remain statistically highly significant. In general, the main results remain robust. Thus, it can be concluded that both variables have a robust influence on tax morale.

However, it can be argued that the index of direct democratic participation possibilities disregards substitutive and complementary relationships between the single components as it is a nonweighted composite index (Frey and Stutzer, 2002). Furthermore, factors in closer relation to the taxation might have a stronger impact on tax morale than other factors. Thus, equations 8 to 11 evaluate each single component of the direct democratic participation index (see Table 4 and 5). For both data sets, all the coefficients for the single components are highly significant and it is interesting to notice that the index with the strongest direct connection to taxes (financial referendum) has the highest coefficient value and strongest marginal effects. An increase in the index of legislative financial referendum by one point raises the proportion of taxpayers with the highest tax morale by 6.2 (2.6) percentage points in the WVS (ISSP) data set.

Including the single items separately into the equations disregards the fact that the instruments of initiative and referendum have different rationales. The referendum is a strong restriction for the politicians or the legislature to act in their personal interest (see Feld and Kirchgässner, 2000). As a consequence, tax revenues might be spent more in accordance with the preferences of the taxpayers, restricting a possible politicians' cartel. Furthermore, the referendum possibility leads the politicians to adopt a relatively consensual position in order to avoid policy rejections. Contrary to a referendum, with an initiative taxpayers are in the position of "agenda setters" (see Feld and Kirchgässner, 2000). It allows submitting undesired issues to the voters. An initiative helps express the taxpayers' preferences on what should be done with the taxes and thus opens the door for new and innovative ideas. As indexes do not tell as much as a single instrument, in Eq. 12a and 12b we include a dummy on legislative

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[10] For the theory of aspiration see e.g., Frank, 1941; Simon, 1955; Siegel, 1957)

referenda (mandatory) and the degree of signature requirements for legislative initiatives to assess the (marginal) impact of both instruments (see Table A3 in the Appendix)[11]. Furthermore, such a procedure reduces the problems of multicorrelation as the correlation between the subindex for legislative referendum and legislative initiative is very high (0.772). For both data sets the coefficient of the dummy LEGISLATIVE REFERENDUM is highly significant with high marginal effects (9.7 percentage points in WVS, 6.8 in the ISSP data set). Similarly, higher signature requirements lead to a lower tax morale, but without being statistically significant. The mandatory referendum seems to be a stronger instrument to enhance tax morale than the initiative. A possible reason for the differences between both instruments might be that it entails less costs than an initiative to force a vote on a given issue. In Switzerland there is evidence that the interest of the political elite does not always correspond to taxpayers' preferences. Frey and Eichenberger (1999, p. 20) report an interesting example from Switzerland in 1992, where taxpayers were not ready to pay additional expenses rejecting in an optional referendum the proposal to increase the salaries and the staff of Swiss Members of Parliament. In general, between 1848 and 1997 in 36% of the 316 referenda voters had a different opinion than the Parliament (see also Frey and Eichenberger, 1999).

In order to account for different cultural backgrounds and thus to better isolate the institutional effect from the cultural one, a language dummy variable (German speaking individuals) has been integrated[12]. Culture can be seen as a kind of language, based on rule systems, as ideas, values, and internal institutions as customs and conventions (see Heinrich et al., 1999). An essential question in the tax compliance context is whether culture influences co-operation, solidarity, or in our analysis tax morale. We can see in the last equation that the coefficients for the direct democratic participation rights remain highly significant. On the other hand, the language factor does not show a statistically significant effect on tax morale. Thus, it can be concluded that the extent of direct democracy remains robust, controlling for cross-regional differences.

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[11] The dummy of the legislative referendum indicates whether a canton has the possibility of a legislative referendum (mandatory). The signature requirement for legislative initiatives is the major parameter in this form of direct democracy and an indicator of the costs of using the initiative instrument. The higher the number of signatures, the more difficult and costly it is to realise the initiative. This was measured as a relative value (signature requirements/total number of voters).

[12] In order to save degrees of freedom, only the index of direct democracy has been integrated the in the WVS estimation and not both single direct democratic participation instruments as in the estimation with the ISSP data set which covers more observations at the cantonal level.

Table 4 Sensitivity analysis for the effects of direct democracy on tax morale (WVS 1996)

WVS 1996
weighted ordered probit
Dependent variable: tax morale

Independent variables	8a	9a	10a	11a	12a	13a
a) Deterrence Factors						
FINE RATE	-0.003***	-0.003***	-0.001	0.001	-0.001	-0.002*
	(-0.001)	*(-0.001)*	*(-0.001)*	*(0.000)*	*(0.000)*	*(0.001)*
AUDIT PROBABILITY	0.002*	0.002**	0.002*	-0.5E-03	0.002**	0.001
	(0.001)	*(0.001)*	*(0.001)*	*(0.000)*	*(0.001)*	*(0.000)*
b) Tax Rate						
INDIVIDUAL INCOME TAX RATE	-0.008	-0.008	-0.007	-0.007	-0.007	-0.007
	(-0.003)	*(-0.003)*	*(-0.003)*	*(-0.003)*	*(-0.003)*	*(-0.003)*
c) Direct Democracy						
INDEX DIRECT DEMOCRACY						0.161***
						(0.064)
Subindices						
CONSTITUTIONAL INITIATIVE	0.148***					
	(0.059)					
LEGISLATIVE INITIATIVE		0.154***				
		(0.061)				
LEGISLATIVE REFERENDUM			0.099***			
			(0.040)			
FINANCIAL REFERENDUM				0.157***		
				(0.062)		
Single Instruments						
DUMMY LEGISLATIVE REFERENDUM					0.244***	
					(0.097)	
SIGNATURE REQUIREMENT					-0.067	
LEGISLATIVE INITIATIVE					*(-0.026)*	
d) Trust						
TRUST IN GOVERNMENT	0.179***	0.180***	0.158***	0.168***	0.152***	0.169***
	(0.071)	*(0.072)*	*(0.063)*	*(0.067)*	*(0.060)*	*(0.067)*
e) Language						
GERMAN SPEAKING						0.081
						(0.032)
f) Further variables	yes	yes	yes	yes	yes	yes

Notes: Marginal effects for the highest tax morale score are given in parentheses. Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$.

Table 5 Sensitivity analysis for the effects of direct democracy on tax morale (ISSP 1999)

ISSP 1999
weighted ordered probit
Dependent variable: tax morale

Independent variables	8b	9b	10b	11b	12b	13b
a) Deterrence Factors						
FINE RATE	-0.001	-0.001	-0.001	0.001	-0.50E-03	0.42E-03
	(0.000)	*(0.000)*	*(0.000)*	*(0.000)*	*(0.000)*	*(0.000)*
AUDIT PROBABILITY	0.4E-03	0.4E-03	0.31E-03	-0.001	0.001	0.17E-03
	(0.000)	*(0.000)*	*(0.000)*	*(0.000)*	*(0.000)*	*(0.000)*
b) Tax Rate						
INDIVIDUAL INCOME TAX RATE	-0.018	-0.017	-0.004	-0.013	-0.20E-03	-0.001
	(-0.005)	*(-0.005)*	*(-0.005)*	*(-0.004)*	*(0.000)*	*(0.000)*
c) Direct Democracy						
Subindices						
CONSTITUTIONAL INITIATIVE	0.051*					
	(0.015)					
LEGISLATIVE INITIATIVE		0.064**				
		(0.018)				
LEGISLATIVE REFERENDUM			0.088***			
			(0.026)			
FINANCIAL REFERENDUM				0.090***		
				(0.026)		
Single Instruments						
DUMMY LEGISLATIVE REFERENDUM					0.237***	0.226***
					(0.068)	*(0.065)*
SIGNATURE REQUIREMENT					-0.043	-0.002
LEGISLATIVE INITIATIVE					*(-0.012)*	*(-0.001)*
d) Trust						
TRUST IN COURT AND LEGAL	0.095***	0.096***	0.097***	0.084***	0.094***	0.090***
SYSTEM	*(0.028)*	*(0.028)*	*(0.028)*	*(0.024)*	*(0.027)*	
e) Language						
GERMAN SPEAKING						0.168
						(0.049)
f) Further variables	yes	yes	yes	yes	yes	yes

Notes: Marginal effects for the highest tax morale score are given in parentheses. Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED, FRENCH AND ITALIAN SPEAKING. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$.

3.2.3. Local autonomy

Federalism is a second important political institution in Switzerland. Table 6 and 7 present the estimations. First we integrate the variable LOCAL AUTONOMY into the equation without the variables TRUST IN GOVERNMENT (COURT AND THE LEGAL SYSTEM) and INDEX OF DIRECT DEMOCRACY. The coefficients show in both data sets a statistically significant positive effect on tax morale. The share of individuals indicating the highest tax morale increases in the WVS data set (ISSP) by 6.2 (5.4) percentage points with an increase in one index point of autonomy. The introduction of the trust variables does not affect the size and the significance of the variable. The last equation jointly includes local autonomy and direct democracy. Both determinants help citizens express their demands and control the government. As we can see*,* the coefficient for local autonomy loses its significance and its size in the WVS, while the direct democracy index remains robust. On the other hand, the ISSP data indicates that the variable LOCAL AUTONOMY remains highly significant with a slightly lower coefficient and a smaller marginal effect. On the other hand, the index of direct democracy is still significant but at a lower significance level and with lower coefficient and marginal effect values.

Frey and Stutzer (2000) argue that direct democracy and local autonomy are interdependent. Direct democracy and federal structures foster each other because individuals are interested in a strong federalism. They are bearing the costs and benefits of governments' activities, which help taxpayers get a better identification. In general, Feld and Kirchgässner (2001) point out that: "The more important regional and local jurisdictions are in the internal organization of a nation-state, the more important is the question of the proper decision-making procedures at the different government levels. The assignment of competencies to different government levels is linked to decision-making procedures" (p. 333). The two variables are significantly correlated at the 0.01 level (WVS, $r = 0.392$; ISSP, $r = 0.574$). Thus, it is difficult to separate the effects of the two variables in one model.

In general it could be criticised that including aggregated variables as direct democracy or local autonomy might produce downward biased standard errors (see, e.g., Frey and Stutzer, 2000). To check whether a correction regarding the standard errors has an effect on the significance level of the aggregated variables, we present in *Table A3* and *A4* a summary of the main estimations with standard errors adjusted to clustering in 20 cantons (WVS), respectively 26 cantons (ISSP). Table A3 and A4 indicate that no changes are

observable regarding our main aggregated variables: direct democracy and federalism have a significant positive effect on tax morale.

Table 6 Tax morale and local autonomy (WVS 1996)

WVS 1996 weighted ordered probit Dependent variable: tax morale	*Eq. 5a*		*Eq. 6a*		*Eq. 7a*	
Independent variables	*Coeff.*	*Marg.*	*Coeff.*	*Marg.*	*Coeff.*	*Marg.*
a) Deterrence Factors						
FINE RATE	-0.001	0.000	-0.39E-03	0.000	-0.002	-0.001
AUDIT PROBABILITY	0.002**	0.001	0.002**	0.001	0.001**	0.001
b) Tax Rate						
INDIVIDUAL INCOME TAX RATE	-0.009*	-0.003	-0.008	-0.003	-0.007	-0.003
c) Local Autonomy						
INDEX LOCAL AUTONOMY	0.156**	0.062	0.165***	0.066	0.015	0.006
d) Trust						
TRUST IN GOVERNMENT			0.165***	0.066	0.169***	0.067
e) Direct Democracy						
INDEX DIRECT DEMOCRACY					0.180***	0.072
f) Further variables	yes		yes		yes	
Number of observations	910		879		879	
Prob(LM-statistic)	0.000		0.000		0.000	

Notes: Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$.

Table 7 Tax morale and local autonomy (ISSP 1999)

ISSP 1999 weighted ordered probit Dependent variable: tax morale	Eq. 5b		Eq. 6b		Eq. 7b	
Independent variables	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.
a) Deterrence Factors						
FINE RATE	0.85E-04	0.000	0.28E-03	0.000	-0.10E-03	0.000
AUDIT PROBABILITY	0.001	0.000	0.24E-03	0.000	-0.34E-04	0.000
b) Tax Rate						
INDIVIDUAL INCOME TAX RATE	-0.006	-0.002	-0.005	-0.001	-0.002	-0.001
c) Local Autonomy						
INDEX LOCAL AUTONOMY	0.187***	0.054	0.197***	0.057	0.142**	0.041
d) Trust						
TRUST IN COURT AND THE LEGAL SYSTEM			0.094***	0.027	0.093***	0.027
e) Direct Democracy						
INDEX DIRECT DEMOCRACY					0.061*	0.018
f) Further variables	yes		yes		yes	
Number of observations	1114		1068		1068	
Prob(LM-statistic)	0.000		0.000		0.000	

Notes: Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$.

4. Conclusions

The basic intention of this paper is to analyse how formal and informal institutions affect tax morale. Empirical and experimental findings in the tax compliance literature have shown that the standard model of tax evasion based on an expected utility maximisation approach predicts a higher degree of tax evasion than observed. Thus, the tax compliance puzzle is why people pay taxes. It has been argued that tax morale might explain such a high compliance. However, hardly any empirical study has analysed what shapes tax morale. This paper tries to fill out this gap analysing tax morale as dependent variables working with two different data sets from Switzerland: the WVS and the ISSP. Special attention has been given

to two constitutional determinants, which are rarely analysed in the empirical tax compliance literature: direct democracy and local autonomy. Institutions that respect the preferences of the citizens will have more support by the people than a state that acts as a Leviathan, and thus enhance tax morale. Both instruments help spend taxes according to the citizens' preferences, which increases the motivation to pay the taxes. The results obtained in this paper with tax morale as a dependent variable are fully in line with previous studies, which analysed the impact of direct democracy on tax evasion in Switzerland (see Frey and Feld, 2002; Feld and Frey, 2002b; Weck-Hannemann and Pommerehne, 1989; Pommerehne and Weck-Hannemann, 1996; and Frey, 1997). Furthermore, our study shows that trust in government and trust in the court and the legal system correlates with a higher tax morale.

With these two data sets, strong evidence has been found that formal and informal institutions significantly influence tax morale. This effect tends to persist even after controlling for the basic variables from the traditional tax evasion models (probability of detection, the fine for tax evasion and individuals' tax rates) and socio-demographic and socio-economic factors (age, income, education, gender, marital status, employment status) and doing sensitivity tests. In line with a recent empirical study done by Feld and Frey (2002b) in Switzerland, in pooled cross section time series estimations for Swiss cantons the traditional deterrence factors are not performing in a satisfactory way. In many estimations done with our two data sets the coefficients were not significant.

APPENDIX

Table A1 **Direct democratic rights in Swiss cantons**

Canton	Index for Constitutional Initiative	Index for Legislative Initiative	Index for Legislative Referendum	Index for Financial Referendum	Composite Index for Direct Democratic Rights	Dummy Legislative Referendum (Mandatory)	*Signature Requirement Legislative Initiative*[a]	Local Autonomy
Aargau	5.67	5.67	6	4.5	5.46	1	0.88	4.9
Appenzell I. Rh.	6	6	6	3	5.25	1	0.00	5
Appenzell A. Rh.	6	6	6	4	5.5	1	0.00	5.8
Bern	2.67	2.67	3.67	5	3.5	0	2.22	4.6
Basel-Landschaft	6	6	6	4.75	5.69	1	0.87	4.3
Basel-Stadt	4.67	4.67	4	4.25	4.4	0	3.20	5.5
Fribourg	2.67	2.67	2.33	2	2.42	0	3.98	4.2
Genève	2	2	2	1	1.75	0	4.84	3.2
Glarus	6	6	6	4	5.5	1	0.00	5.6
Graubünden	4	5	6	4	4.75	1	2.42	5.8
Jura	4.67	4.67	3	2.5	3.71	0	3.92	4
Luzern	4.67	5.33	3.67	4.25	4.48	0	1.77	4.1
Neuchâtel	2.67	2.67	1.67	1.5	2.13	0	5.86	3.7
Nidwalden	2.67	6	6	5	4.92	1	0.00	5.5
Obwalden	5.33	6	6	5	5.58	1	0.00	6
Sankt Gallen	3.33	4	3	3.25	3.4	0	1.44	4.9
Schaffhausen	5.33	5.33	5.17	4.5	5.08	1	2.09	6.1
Solothurn	5.33	5.33	6	5	5.42	1	1.84	4.9
Schwyz	5.33	5.33	4.67	4.38	4.93	1	2.50	4.6
Thurgau	3.67	3.67	4.33	4.5	4.04	0	2.93	5.9
Ticino	1.33	2.67	1.67	2.75	2.1	0	3.66	4.3
Uri	5.67	5.67	5.33	5	5.42	1	1.19	5.4
Vaud	2.33	2.33	2	3	2.42	0	3.37	4.7
Valais	3	3.67	6	1	3.42	0	2.28	5.5
Zug	5	5	3.67	4	4.42	0	3.30	6
Zürich	3.33	3.33	6	4	4.17	1	1.31	5.4

Source: Index Direct Democracy, Frey and Stutzer (2000, p. 937); Dummy Legislative Referendum and Signature Requirement Legislative Initiative, Stutzer (1999, pp. 18-19). Local Autonomy, Ladner (1994), Frey and Stutzer (1999, p. 27). See also Trechsel and Serdült (1999).

Notes: [a] Relative value (signature requirements/total number of voters). The cantons which have or had until recently the 'Landsgemeinde' (town meeting) (Appenzell I. Rh., Obwalden, Glarus, Appenzell A. Rh. and Nidwalden), have been coded with the value 1 for the dummy of legislative referendum and the value 0 for the signature requirements (absolute value=1).

Table A2 **Derivation of variables WVS**

Variable	Derivation
Tax Morale (dependent variable)	**Please tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between: Cheating on tax if you have the chance (% "never justified" – code 1 from a ten-point scale where 1=never and 10=always).** The ten-point scale has been recoded into a four-point scale, with the value 4 standing for "never justifiable". 4-10 has been integrated in group 1 because of a lack of variance.
Fine Rate	Standard legal fine (in percent) as a multiple of the evaded tax amount based on questionnaire data of Frey and Feld (2002) and Feld and Frey (2002a, 2002b)
Probability of Detection	Number of tax auditors per taxpayer (in ‰) based on questionnaire data of Frey and Feld (2002) and Feld and Frey (2002a, 2002b).
Individual Tax Rate	Own calculations based on the average weighted value (in percentage) using the WVS income groups. From the tax table (Steuerbelastung in der Schweiz 1996, p. 48) the value closest to the average found in the WVS groups is used, groups 6 and 7 being pooled. For the highest value an average income of 300'000 Swiss francs has been assumed (midpoint). For simplicity, no differentiation between singles and married people has been made, working with the individual tax rate table for singles.
Trust in Government	Could you tell me how much confidence you have in the government in your capital: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? (4= a great deal to 1=none at all)
Church Attendance	Apart from weddings, funerals and christenings, about how often do you attend religious services these days? More than once a week, once a week, once a month, only on special holydays, once a year, less often, never practically never. (7= more than once a week to 1=never, practically never)
Income	Here is a scale of incomes (1-10). We would like to know in what group your household is, counting all wages, salaries, pensions and other incomes that come in. Just give the letter of the group your household falls into, before taxes and other deductions. 1. Less then 20'000 Swiss Francs 2. 20'000-26'999 3. 27'000-31'999 4. 32'000-37'999 5. 38'000-44'999 6. 45'000-51'999 7. 52'000-59'999 8. 60'000-69'999 9. 70'000-89'999 10. More than 90'000
Education	What is the highest educational level that you have attained? 1. Never went to school 2. Incomplete primary school 3. Primary school (up to 12 years of age) 4. Apprenticeship 5. Lower secondary school (up to 16 years of age) 6. Secondary school without diploma (16-19 years) 7. Technical school 8. Secondary school with diploma 9. University or Federal Polytechnical School without degree 10. University or Federal Polytechnical School with degree
Individual Financial Satisfaction	How satisfied are you with the financial situation of your household? (scale 1 = dissatisfied to 10=satisfied)

Source: Inglehart et al. (2000).

Table A3 **Derivation of variables ISSP**

Variable	Derivation
Tax Morale (dependent variable)	Do you feel it is wrong or not wrong if a taxpayer does not report all of his or her income in order to pay less income taxes? (1. not wrong, 2. a bit wrong, 3. wrong, 4. seriously wrong).
Trust in Court an the Legal System	How much confidence do you have in courts and the legal system (5=complete confidence to 1=no confidence at all)
Fine Rate	Standard legal fine (in percent) as a multiple of the evaded tax amount based on questionnaire data of Frey and Feld (2002) and Feld and Frey (2002a, 2002b)
Probability of Detection	Number of tax auditors per taxpayer (in ‰) based on questionnaire data of Frey and Feld (2002) and Feld and Frey (2002a, 2002b)
Individual Tax Rate	Own calculations based on the average weighted value (in percentage) working with the income information done by the ISSP. From the tax table (Steuerbelastung in der Schweiz 1999, p. 48) the value closest to the ISSP income values (midpoint) is used. For simplicity, no differentiation between singles and married people has been made, working with the individual tax rate table for singles.
Church Attendance	How often do you take part in the activities or organisations of a church or a place of worship, other than attending services? Never (1), less than once a year, about once or twice a year, several times a year, about once a month, 2-3 times a month, nearly every week, every week, several times a week (9)
Income	Monthly earnings from employment in Swiss francs (midpoints)
Education	What is the highest educational level that you have attained? 1. Incomplete primary school 2. Primary school (up to 12 years of age) 3. Incomplete secondary 4. Secondary completed 5. Incomplete + complete semi-higher qualification, incomplete university, others 6. University completed

Source: ISSP (1998)

Table A4 Determinants of tax morale WVS 1996 (std. err. adjusted to clustering in 20 cantons)

WVS 1996 *weighted ordered probit* *Dependent variable: tax morale*					
Independent variables	*14a*	*15a*	*16a*	*17a*	*18a*
a) Deterrence Factors					
FINE RATE	-0.002**	-0.002*	-0.001*	-0.39E-03	-0.002*
	(-2.206)	*(-1.680)*	*(-1.943)*	*(0.810)*	*(-1.794)*
AUDIT PROBABILITY	0.001	0.001	0.002	0.002	0.001
	(0.749)	*(0.631)*	*(1.294)*	*(1.146)*	*(0.773)*
b) Tax Rate					
INDIVIDUAL INCOME TAX RATE	-0.007*	-0.007	-0.007	-0.008*	-0.007*
	(-1.714)	*(-1.646)*	*(-1.512)*	*(-1.909)*	*(-1.710)*
c) Institutions					
INDEX DIRECT DEMOCRACY	0.184***	0.161***			0.180***
	(3.929)	*(3.036)*			*(3.371)*
Single Instruments					
DUMMY LEGISLATIVE REFERENDUM			0.244***		
			(2.638)		
SIGNATURE REQUIREMENT LEGISLATIVE INITIATIVE			-0.067		
			(-1.315)		
INDEX LOCAL AUTONOMY				0.165	0.015
				(1.611)	*(0.092)*
d) Trust					
TRUST IN GOVERNMENT	0.170***	0.169***	0.152***	0.165***	0.169***
	(3.125)	*(3.153)*	*(2.976)*	*(3.262)*	*(3.159)*
e) Language					
GERMAN SPEAKING		0.081			
		(0.453)			
f) Further variables	yes	yes	yes	yes	yes

Notes: z-values are given in parentheses. Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED, FRENCH AND ITALIAN SPEAKING. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$.

Table A5 Determinants of tax morale ISSP 1999 (std. err. adjusted to clustering in 26 cantons)

ISSP 1999
weighted ordered probit
Dependent variable: tax morale

Independent variables	14b	15b	16b	17b	18b
a) Deterrence Factors					
FINE RATE	-0.001	-0.50E-03	-0.42E-03	0.28E-03	-0.15E-03
	(-0.686)	*(-0.570)*	*(-0.487)*	*(0.255)*	*(-0.201)*
AUDIT PROBABILITY	-0.47E-04	0.001	0.17E-03	0.24E-03	0.49E-03
	(-0.047)	*(0.671)*	*(0.162)*	*(0.253)*	*(0.559)*
b) Tax Rate					
INDIVIDUAL INCOME TAX RATE	-0.010	-0.20E-03	-0.001	-0.005	0.004
	(-0.461)	*(-0.010)*	*(-0.034)*	*(-0.212)*	*(0.184)*
c) Institutions					
INDEX DIRECT DEMOCRACY	0.104***				
	(2.736)				
Single Instruments					
DUMMY LEGISLATIVE REFERENDUM		0.237***	0.226**		0.219**
		(2.674)	*(2.398)*		*(2.533)*
SIGNATURE REQUIREMENT		-0.043	-0.002		-0.015
LEGISLATIVE INITIATIVE		*(-0.945)*	*(-0.028)*		*(-0.339)*
INDEX LOCAL AUTONOMY				0.197***	0.111*
				(2.742)	*(1.833)*
d) Trust					
TRUST IN COURT AND LEGAL	0.093***	0.094***	0.090***	0.094***	0.096***
SYSTEM	*(3.159)*	*(3.261)*	*(2.996)*	*(3.190)*	*(3.311)*
e) Language					
GERMAN SPEAKING			0.168		
			(1.165)		
f) Further variables	yes	yes	yes	yes	yes

Notes: z-values are given in parentheses. Dependent variable: tax morale on a four point scale. In the reference group are AGE 16-29, MAN, SINGLE, FULL TIME EMPLOYED, FRENCH AND ITALIAN SPEAKING. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$.

References

Allingham, M. G., Sandmo, A. 1972. Income Tax Evasion: A Theoretical Analysis. Journal of Public Economics 1, 323-338.

Alm, J., Cronshaw, M. B., McKee, M. 1993. Tax Compliance with Endogenous Audit Selection Rules. KYKLOS 1, 27-45.

Alm, J., Jackson, B., and McKee, M. 1992a. Deterrence and Beyond: Toward a Kinder, Gentler IRS. In: J. Slemrod (ed.), Why People Pay Taxes. The University of Michigan Press, Ann Arbor, pp. 311-329.

Alm, J., Jackson, B. R., McKee, M. 1992b. Estimating the Determinants of Taxpayer Compliance with Experimental Data. National Tax Journal 45, 107-115.

Alm, J., McClelland, G. H., Schulze, W. D. 1992. Why do people pay taxes?. Journal of Public Economics 48, 21-48.

Alm, J., McClelland, G. H., Schulze, W. D. 1999. Changing the Social Norm of Tax Compliance by Voting. KYKLOS 48, 141-171.

Andreoni, J., Erard, B., Feinstein, J. 1998. Tax Compliance. Journal of Economic Literature 36, 818-860.

Axelrod, R. 1984. The Evolution of Cooperation. Basic Books, New York.

Bahl, R. 1999. Implementation Rules For Fiscal Decentralization, Working Paper, International Studies Program, School of Policy Studies, Georgia State University, Atlanta.

Beck, P. J., Davis, J. S., and Jung, W. 1991. Experimental Evidence on Taxpayer Reporting Behavior. The Accounting Review 66, 535-558.

Beron, K. J., Tauchen, H. V., Witte, A. D. 1992. The Effect of Audits and Socioeconomic Variables on Compliance. In: Slemrod, J. (Ed.), Why People Pay Taxes. Tax Compliance and Enforcement. The University of Michigan Press, Ann Arbor, pp. 67-89.

Cialdini, R. B. 1984. Influence: The Psychology of Modern Persuasion. Quill, New York.

Clotfelter, C. T. 1983. Tax Evasion and Tax Rates: An Analysis of Individual Returns. 65, 363-373.

Crane, S., Nourzad, F. 1987. On the Treatment of Income Tax Rates in Empirical Analysis of Tax Evasion. KYKLOS 40, 338-348.

Crane, S. E., Nourzad, F. 1992. Analyzing Income Tax Evasion Using Amnesty Data with Self-Selection Correction: The Case of the Michigan Tax Amnesty Program. In: Slemrod, J. (Ed.), Why People Pay Taxes. Tax Compliance and Enforcement. The University of Michigan Press, Ann Arbor, pp. 167-189.

Dubin, J. A., Wilde, L. L. 1988. An Empirical Analysis of Federal Income Tax Auditing and Compliance, National Tax Journal 41, 61-74.

Erard, B., Feinstein, J. S. 1994. The Role of Moral Sentiments and Audit Perceptions in Tax Compliance. Public Finance 49, 70-89.

Feinstein, J. 1991. An Econometric Analysis of Income Tax Evasion and Its Detection. RAND Journal of Economics 22, 15-35.

Feld, L. P., Frey, B. S. 2002a. Trust Breeds Trust: How Taxpayers are Treated. Economics of Governance 3, 87-99.

Feld, L. P., Frey, B. S. 2002b. The Tax Authority and the Taxpayer. An Exploratory Analysis, paper presented the 2002 Annual Meeting of the European Public Choice Society Belgirate.

Feld, L. P., Kirchgässner, G. 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, L. P., Kirchgässner, G. 2001. The Political Economy of Direct Legislation: Direct Democracy and Local Decision-Making. Economic Policy 16, 331-367.

Feld L. P., Tyran, J.-R. 2002. Tax Evasion and Voting: An Experimental Analysis. KYKLOS 55, 197-222.

Frank, J. D. 1941. Recent Studies of the Level of Aspiration. Psychological Bulletin 28, 218-226.

Frey, B. S. 1997. Not Just for the Money. An Economic Theory of Personal Motivation. Edward Elgar Publishing, Cheltenham, UK.

Frey, B. S. 1999. Economics as a Science of Human Behaviour. Kluwer Academic Publishers, Boston/Dordrecht/London.

Frey, B. S. 2001. Inspiring Economics. Human Motivation in Political Economy. Edward Elgar, Cheltenham, UK.

Frey, B. S. 2003. The Role of Deterrence and Tax Morale in Taxation in the European Union, Jelle Zijlstra Lecture, Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS).

Frey, B. S., Eichenberger, R. 1999. The New Democratic Federalism for Europe. Edward Elgar, Cheltenham, UK.

Frey, B. S., Feld, L. P. 2002. Deterrence and Morale in Taxation: An Empirical Analysis, CESifo Working Paper No. 760, August 2002.

Frey, B. S., Stutzer, A. 2000. Happiness, Economy and Institutions. Economic Journal 110, 918-938.

Frey, B. S., Stutzer, A. 2002. Happiness and Economics. Princeton University Press, Princeton.

Friedland, N., Maital, S. and Rutenberg, A. 1978. A Simulation Study of Income Tax Evasion. Journal of Public Economics 10, 107-116.

Gouldner, A. W. 1960. The Norm of Reciprocity: A Preliminary Statement. American Sociological Review 25, 161-178.

Graetz, M. J., Wilde, L. L. 1985. The Economics of Tax Compliance: Facts and Fantasy. National Tax Journal 38, 355-363.

Grasmick, H. G., Bursik, R. J., J. K. Cochran 1991. "Render Unto Caesar What Is Caesar's": Religiosity and Taxpayers' Inclinations to Cheat. Sociological Quarterly 32, 251-266.

Hardin, R. 1998. Trust in Government. In: Braithwaite, V. and Levi M. (Eds.), Trust and Governance. Russell Sage Foundation, New York, pp. 9-27.

Heinrich, J., Young, P., Boyd, R., McCabe, K., Albers, W., Ockenfels, A., Gigerenzer, G. 1999. What Is the Role of Culture in Bounded Rationality?, unpublished manuscript.

Hirschman, A. O. 1970. Exit, Voice, and Loyalty. Harvard University Press, Cambridge (Mass.).

Inglehart, R. et al. 2000. Codebook for World Values Survey. Institute for Social Research, Ann Arbor:

ISSP 1998. Codebook, Religion II, ZA Study 3190, Zentralarchiv für Empirische Sozialforschung, Köln.

Joulfaian, D., M. Rider 1996. Tax Evasion in the Presence of Negative Income Tax Rates. National Tax Journal 49, 553-570.

Kirchgässner, G. 1999. Schattenwirtschaft und Moral: Anmerkungen aus ökonomischer Perspektive. In: Lamnek, S. und Luedtke, J. (Eds.), Der Sozialstaat zwischen "Markt" und "Hedonismus"? Westdeutscher Verlag, Opladen, pp. 425-445.

Knack, S., Keefer, P. 1997. Does Social Capital Have an Economic Payoff: A Cross-Country Investigation. Quarterly Journal of Economics 112, 1251-1288.

Kucher, M., Götte, L. 1998. Trust Me: An Empirical Analysis of Taxpayer Honesty. FinanzArchiv 55, 429-444.

Ladner, A. 1994. Finanzkompetenzen der Gemeinden – ein Überblick über die Praxis. In: Eng, F., Glatthard, A., Koenig, B. H. (Eds.), Finanzföderalismus. Bern: Emissionszentrale der Schweizer Gemeinden, pp. 64-85.

Levi, M. 1988. Rules and Revenue. University of California Press, Berkeley.

Lewis, A. 1982. The Psychology of Taxation, Martin Robertson, Oxford.

Long, S. Swingen, J. 1991. The Conduct of Tax-Evasion Experiments: Validation, Analytical Methods, and Experimental Realism. In: Webley, P., Robben, H., Elffers, H., Hessing, D., Tax Evasion: An Experimental Approach. Cambridge, Cambridge University Press, pp. 128-138.

Orviska, M., J. Hudson, J. 2002. Tax Evasion, Civic Duty and the Law Abiding Citizen. *European Journal of Political Economy 19, 83-102.*

Pommerehne, W. W., Weck-Hannemann, H. 1996. Tax Rates, Tax Administration and Income Tax Evasion in Switzerland. *Public Choice 88, 161-170.*

Pommerehne, W. W. , Hart, A., Frey, B. S. 1994. Tax Morale, Tax Evasion and the Choice of Policy Instruments in Different Political Systems. Public Finance 49 (Supplement), 52-69.

Prinz, A. 2002. A Moral Theory of Tax Evasion, unpublished manuscript, Westfälische Wilhelms-Universität Münster.

Regan, D. T. 1971. Effects of a Favor and Liking on Compliance. Journal of Experimental Social Psychology 7, 627-639.

Roth, J. A., Scholz, J. T., Witte, A. D. (Eds.) 1989. Taxpayer Compliance, Vol. 1 and Vol. 2. University of Pennsylvania Press, Philadelphia.

Schmölders, G. 1951/1952. Finanzpsychologie. FinanzArchiv 13, 1-36.

Schmölders, G. 1960. Das Irrationale in der öffentlichen Finanzwissenschaft. Rowolt, Hamburg.

Schmölders, G. 1962. Volkswirtschaftslehre und Psychologie. Reinbek, Berlin.

Schmölders, G. 1970. Survey Research in Public Finance: A Behavioral Approach to Fiscal Theory. Public Finance 25, 300-306.

Schwartz, R., Orleans, S. 1967. On Legal Sanctions. University of Chicago Law Review 34, 282-300.

Siegel, S. 1957. Level of Aspiration and Decision Making. Psychological Review 64, 253-262.

Simon, H. A. 1955. A Behavioral Model of Rational Choice. Quarterly Journal of Economics 69, 174-183.

Slemrod, J. 2003. Trust in Public Finance. In: Cnossen, S. and H.-W. Sinn (Eds.), Public Finance and Public Policy in the New Century. MIT Press, Cambridge, pp. 49-88.

Slemrod, J., M. Blumenthal, Christian, C. 2001. Taxpayer Response to an Increase Probability of Audit: Evidence from a Controlled Experiment in Minnesota. Journal of Public Economics, 79, 455-483.

Smith, K. W. 1992. Reciprocity and Fairness: Positive Incentives for Tax Compliance. In: Slemrod, J. (Ed.), Why People Pay Taxes. Tax Compliance and Enforcement. University of Michigan Press, Ann Arbor, pp. 223-258.

Smith, K. W., Stalans, L. J. 1991. Encouraging Tax Compliance with Positive Incentives: A Conceptual Framework and Research Directions. Law and Society Review 13, 35-53.

Spicer, M. W., Becker, L. A. 1980. Fiscal Inequity and Tax Evasion: An Experimental Approach. National Tax Journal 33, 171-175.

Stutzer, A. 1999. Demokratieindizes für die Kantone der Schweiz. Working Paper No. 23. Institute for Empirical Research in Economics, University of Zurich.

Tittle, C. 1980. Sanctions and Social Deviance: The Question of Deterrence. Praeger, New York.

Torgler, B. 2001. What Do We Know about Tax Morale and Tax Compliance?. International Review of Economics and Business (RISEC) 48, 395-419.

Torgler, B. 2002a. Speaking to Theorists and Searching for Facts: Tax Morale and Tax Compliance in Experiments, Journal of Economic Surveys 16, 657-684.

Torgler, B. 2002b. Does Culture Influence Tax Morale? Evidence from Different European Countries, WWZ-Discussion Paper 02/08, WWZ, Basel.

Torgler, B. 2002c. Preaching Matters: Tax Morale and Religiosity, WWZ-Discussion Paper 02/03, WWZ, Basel.

Torgler, B. 2003a. Tax Morale, Rule Governed Behaviour and Trust. Constitutional Political Economy 14, 119-140.

Torgler, B. 2003b. Tax Morale and Tax Evasion: Evidence from the United States, WWZ-Discussion Paper 03/01, WWZ, Basel.

Torgler, B., C. A. Schaltegger, M. Schaffner 2003. Is Forgiveness Divine? A Cross-Culture Comparison of Tax Amnesties. Swiss Journal of Economics and Statistics 139, 375-396.

Trechsel, A., Serdült U. 1999. Kaleidoskop Volksrechte: Die Institutionen der direkten Demokratie in den schweizerischen Kantonen 1970-1996. Helbing&Lichtenhahn, Basel.

Vogel, J. 1974. Taxation and public opinion in Sweden; an interpretation of recent survey data. National Tax Journal 27, 499-513.

Weck, H. 1983. Schattenwirtschaft: Eine Möglichkeit zur Einschränkung der öffentlichen Verwaltung? Eine ökonomische Analyse. Finanzwissenschaftliche Schriften 22, Bern.

Weck-Hannemann, H., Pommerehne, W. W. 1989. Einkommensteuerhinterziehung in der Schweiz: Eine empirische Analyse, Swiss Journal of Economics and Statistics 125: 515 – 556.

Witte, A. D., Woodbury, D. F. 1985. The Effect of Tax Laws and Tax Administration on Tax Compliance. National Tax Journal 38, 1-13.

Yitzhaki, S. 1974. A Note on Income Tax Evasion: A Theoretical Analysis. Journal of Public Economics 3, 201-202.