

 Open access • Journal Article • DOI:10.2139/SSRN.900366

## **Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation** — [Source link](#)

Lars P. Feld, Lars P. Feld, Bruno S. Frey

**Institutions:** Center for Economic Studies, University of Freiburg, University of Basel

**Published on:** 01 Apr 2006 - Social Science Research Network

**Topics:** Tax avoidance, Indirect tax, Value-added tax, Ad valorem tax and Tax reform

Related papers:

- [Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation](#)
- [Income tax evasion: a theoretical analysis](#)
- [Tax Evasion, Tax Amnesties and the Psychological Tax Contract](#)
- [The Economic Psychology of Tax Behaviour](#)
- [The Informal Sector, the “implicit” Social Contract, the Willingness to Pay Taxes and Tax Compliance in Zimbabwe](#)

Share this paper:    

View more about this paper here: <https://typeset.io/papers/tax-compliance-as-the-result-of-a-psychological-tax-contract-34m0i0153m>



University of Zurich  
Zurich Open Repository and Archive

Winterthurerstr. 190  
CH-8057 Zurich  
<http://www.zora.uzh.ch>

---

*Year: 2007*

---

## Tax compliance as the result of a psychological tax contract: the role of incentives and responsive regulation

Feld, L P; Frey, B S

Feld, L P; Frey, B S (2007). Tax compliance as the result of a psychological tax contract: the role of incentives and responsive regulation. *Law and Policy*, 29(1):102-120.

Postprint available at:  
<http://www.zora.uzh.ch>

Posted at the Zurich Open Repository and Archive, University of Zurich.  
<http://www.zora.uzh.ch>

Originally published at:  
*Law and Policy* 2007, 29(1):102-120.

# Tax compliance as the result of a psychological tax contract: the role of incentives and responsive regulation

## **Abstract**

A psychological tax contract goes beyond the traditional deterrence model and explains tax morale as a complicated interaction between taxpayers and the government. As a contractual relationship implies duties and rights for each contract party, tax compliance is increased by sticking to the fiscal exchange paradigm between citizens and the state. Citizens are willing to honestly declare income even if they do not receive a full public good equivalent to tax payments as long as the political process is perceived to be fair and legitimate. Moreover, friendly treatment of taxpayers by the tax office in auditing processes increases tax compliance.

# **Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation**

by

**Lars P. Feld**  
**University of Marburg**  
and  
**Bruno S. Frey\***  
**University of Zurich**

## **Abstract**

In this paper, we develop the concept of a psychological tax contract that goes beyond the traditional deterrence model and explains tax morale as a complicated interaction between taxpayers and the government. Based on crowding theory, the impact of deterrence and rewards on tax morale is discussed. As a contractual relationship implies duties and rights for each contract partner, sticking to the fiscal exchange paradigm between citizens and the state increases tax compliance. Citizens are willing to honestly declare income even if they do not receive a full public good equivalent to their tax payments as long as the political process is perceived to be fair and legitimate. At the procedural level, a friendly treatment of taxpayers by the tax office in auditing processes increases tax compliance.

Keywords: Tax Compliance, Positive and Negative Incentives, Responsive Regulation.

JEL Classification: H26, H73, D73, D78.

This version: March 31, 2006.

---

\* Lars P. Feld (corresponding author) is Professor of Public Finance at the University of Marburg, Department of Public Finance, Am Plan 2, D-35037 Marburg (Lahn), Germany, Tel.: +49 6421 28 21702, E-mail: [Feld@wiwi.uni-marburg.de](mailto:Feld@wiwi.uni-marburg.de); Bruno S. Frey is Professor of Economics at the Institute of Empirical Research in Economics, University of Zurich, Bluemlisalpstrasse 10, CH-8006 Zurich, Switzerland, Tel.: +41 634 3730, Fax.: +41 634 4907, E-mail: [bsfrey@iew.unizh.ch](mailto:bsfrey@iew.unizh.ch). – We would like to thank four anonymous referees and the editor of this special issue Val Braithwaite for very useful suggestions for revision.

## **1 Introduction**

*The puzzle of the economic theory of tax compliance is why people pay taxes. According to Allingham & Sandmo (1972), based on Becker's (1968) economic theory of crime, the extent of deterrence, as the product of the probability of being detected and the size of the fine imposed, determines the amount of income evaded. However, in view of the low deterrence applied in most countries, either because of a low intensity of control or small penalties, taxpayers should evade more than they actually do, i.e. compliance is too high (Alm, McClelland & Schulze 1992). In defense of the deterrence model, some scholars contend that the gap between theory and evidence might be closed by assuming sufficiently high risk aversion of taxpayers. This is not convincing as the risk aversion that is needed in order to raise compatibility with actual compliance rates is not supported by evidence from the U.S. (Graetz & Wilde 1985; Alm, McClelland & Schulze 1992) and Switzerland (Pommerehne & Frey 1992).*

Two strands of arguments are brought forward in order to close the gap between theory and facts (see the surveys by Andreoni, Erard & Feinstein 1998; Slemrod & Yitzhaki 2002; Torgler 2003). One line of thought extends on the risk aversion theme and argues that the probability of being detected is subjective such that individual perceptions of being caught when cheating on the tax code are much higher than objective probabilities of detection. While individual misperception of risk is unsustainable over a longer time horizon as people can infer control intensities from friends and relatives, subjective probabilities of being caught exist in the sense that the individual ability to evade taxes varies among subgroups of the population. For example, withholding taxes strongly reduce auditing costs of tax administrations because auditing of firms suffices to obtain information on employees' labor incomes. It can also be conjectured that incomes generated in the industrial sector can be less easily evaded than those in the services sector, that capital income is more easily evaded than labor income and so on. Adding socio-demographic structure is fully in line with the traditional tax compliance

model that only abstracts from such variables for analytical convenience in order to focus on the main economic arguments. Empirical analyses necessarily have to control for socio-demographic variables in order to be more realistic. However, the empirical evidence implies that the standard economic model augmented by socio-demographic control variables is not able to explain the extent of tax compliance in a satisfactory way (Frey & Feld 2002).

A much more fundamental critique of the standard economic approach is provided by another line of research according to which tax morale serves as an explanation for compliance rates.<sup>1</sup> Frey & Feld (2002) argue that tax compliance is driven by a psychological tax contract between citizens and tax authorities. For that contract to be upheld, incentives like rewards or punishment need to be provided, but loyalties and emotional ties that go well beyond transactional exchanges must be considered additionally. These bonds between taxpayers and the state provide for the core of individual tax morale and thus positively affect tax compliance. However, as tax morale interacts with incentives, no simple tax policy guidelines can be proposed. In the approach of Allingham & Sandmo (1972), tax morale explains the level of tax compliance only residually and independent from tax policy and the behavior of state authorities which is consistent with the view that fundamental social norms, like religion or civic duty, but also individual attitudes, beliefs and intents to act shape tax morale. In contrast to these supposedly policy-independent norms, the psychological tax contract is influenced by government policy, tax authorities' behavior and state institutions. Tax morale becomes endogenous instead of serving as a residual explanation.

In this paper, we undertake first steps to develop the notion of a psychological tax contract as a concept that, first, goes beyond the traditional deterrence model (fear in Scholz' and Pinney's 1995 terms) and, second, explains tax morale (duty in their terms) as a complicated interaction between taxpayers and the government establishing a fair, reciprocal exchange that involves giving and taking of both parties. In *Section 2*, the theoretical basis of the psycho-

logical tax contract is provided by discussing the interactions between incentives and the intrinsic motivation to pay taxes (Frey 1997). Positive (rewards) or negative incentives (deterrence) play a role, but it cannot be taken for granted that they induce tax compliance because they may also crowd out tax morale. Thoughts on the impact of deterrence (*Section 3*) and rewards (*Section 4*) on tax compliance highlights the importance of a differentiated approach.

A contractual relationship implies duties and rights for each contract partner. This is looked at from an exchange perspective (*Section 5*) according to which the government should provide public services to citizens in exchange for their tax payments. If the benefit principle of taxation, that implies a fiscal equivalence between public goods and tax prices, is violated by setting those prices too high, citizens think they have a justification for evading taxes.<sup>2</sup> However, citizens may perceive their tax payments as contributions to the ‘*bonum commune*’ such that they are willing to honestly declare their income even if they do not receive a full public good equivalent to their tax payments. Income redistribution is the more accepted by affluent citizens the more the political process is perceived to be fair and the more policy outcomes are legitimate: The psychological tax contract has elements of gain (or distributive justice) and participation (or procedural justice).<sup>3</sup>

The contractual relationship has additional implications at the procedural level (*Section 6*): the way the tax office treats taxpayers in auditing processes plays a role. As Frey & Feld (2002) and Feld & Frey (2002, 2002a) argue, the psychological tax contract presupposes that taxpayers and the tax authority treat each other like partners, i.e. with mutual respect and honesty. If tax administrations instead treat taxpayers as inferiors in a hierarchical relationship, the psychological tax contract is violated and citizens have good reason not to stick to their part of the contract and evade taxes. The psychological tax contract has thus also elements of respect (or interactional justice). In *Section 7*, we draw some conclusions as to the policy implications of such a contractual view of tax compliance. It implies that simple policy proposals are in-

adequate to shape the psychological tax contract successfully. The right mixture of incentives and a respectful treatment of taxpayers by tax officials needs to be found.

## 2 The Psychological Tax Contract

Nobody likes paying taxes, not least because it involves a public good and there are incentives to free ride. Therefore, incentives are needed to enforce taxation. This is the central insight of Allingham and Sandmo's (1972) deterrence approach to tax evasion. However, several scholars have established that selfish individuals would be rational not to pay taxes, because the probability of being detected and the size of the fines in many countries are so low that it is advantageous to evade.<sup>4</sup> Tax payment is taken to be a 'quasi-voluntary' act (see Levi 1988) and the tax authority must acknowledge that external interventions in the form of rewards or sanctions may crowd out that intrinsic motivation to pay taxes. The idea of intrinsic motivation is largely attached to psychology. A group of cognitive social psychologists have identified that, under particular conditions, monetary (external) rewards undermine intrinsic motivation.<sup>5</sup> Giving of rewards for undertaking an activity has indirect negative consequences as rewards lead to the expectation of future rewards such that desired behavior is undertaken only if rewards are provided. Frey (1997) generalizes this basic idea in three ways:

- (a) All types of external interventions may negatively affect intrinsic motivation, i.e. not only offering rewards but also issuing commands, imposing rules and regulations as well as punishments. Thus, *deterrence* imposed by the tax authority, may undermine individuals' intrinsic willingness to conform to tax laws.
- (b) The intrinsic motivation affected by external intervention is broadly conceived. It comprises actions undertaken for their own sake, i.e. without expectation of external reward, as well as *internalized norm guided behavior*. The latter is the relevant concept as far as taxpaying is concerned.



- (c) External interventions undermine intrinsic motivation when they are perceived to be intrusive by the individuals concerned ('crowding out effect'), and they maintain or raise intrinsic motivation when they are perceived to be supportive. The underlying psychological processes depend on how self-determination and self-esteem are affected (Deci & Ryan 1985; Deci & Flaste 1995). Tax audits as intrusion by tax authorities can undermine tax morale more strongly if the taxpayers' sense of self-determination is high.

Tax officials are assumed to be aware of the effects on taxpayers' behavior suggested by crowding theory. They know that a disrespectful treatment of taxpayers undermines their tax morale and therewith increases the cost of raising taxes. Tax authorities will only behave in a respectful way towards taxpayers when there is a substantial extent of tax morale to begin with. Tax officials are at the same time well aware that tax payments do not solely depend on tax morale but that extrinsic incentives play a major role. In particular, incentives are used to prevent taxpayers with low or lacking tax morale from exploiting the more honest taxpayers and to escape paying their due share. A combination of respectful treatment and incentives is possible and widely practiced. The sole reliance on incentives, as suggested by a large part of the tax compliance literature based on subjective expected utility maximization, represents a special case which only applies under restrictive conditions. Such a special case occurs when the tax officials are convinced that individuals' tax morale is low or does not exist at all. In general, however, it is optimal to simultaneously use both respectful treatment as well as incentives. The higher the initial level of tax morale, and the stronger the crowding effect, the less weight is put on incentives, and the more respectfully taxpayers are treated.

This relationship between taxpayers and tax authorities can be modeled as an implicit or relational contract (Akerlof 1982) which involves strong emotional ties and loyalties. Social psychologists (Schein 1965; Rousseau & McLean Parks 1993) have been using this concept for a long time, calling it a 'psychological' contract to set it clearly apart from formal contracts,

which are obeyed because the parties respond to the explicit and material sanctions previously agreed upon. Osterloh & Frey (2000), e.g., use psychological contracts to successfully analyze the organization of firms. They could also be used in tax compliance analysis suggesting that incentives and respectful treatment are important determinants of tax compliance.

In the psychological tax contract, punishment still plays a role in order to provide deterrence. But the satisfaction of taxpayers with what they get from the other contract party, i.e. the government, mainly influences their tax morale. Taxpayers' reward from that contract must be understood in a broad sense going beyond pure exchanges of goods and services for the payment of a tax price. In addition to such direct exchange components, the fairness of the procedures leading to particular political outcomes as well as the way the government and the taxpayers treat each other are part of the contractual relationship. A genuine reward is therefore obtained only if taxpayers as citizens have an inclusive, respectful relationship with the community. Both sides of the contract perceive each other as contract partners and treat each other with mutual respect. As deterrence and tax morale interact, it would be counterproductive to solely rely on punishment or monetary (non-authentic) rewards because tax morale can be undermined. A dynamic relationship results in which deterrence, monetary rewards, fiscal exchange, but also decision-making procedures and the treatment of taxpayers play a role.

The contractual metaphor has many advantages over traditional theoretical approaches. It first underlines that paying taxes is a quasi-voluntary act. Each party has to agree to the contents of the contract. In practice, it is seldom the case that each public good is individually contracted with each taxpayer for a certain tax price. However, a steady reduction in tax compliance need not only be interpreted as a violation of the law, but also as taxpayers' discontent with what they receive for their taxes. Second the contractual approach emphasizes the role of fair procedures decided upon at a constitutional stage. Tyler (1990) argues that people comply with the law in general if they perceive the process as fair that leads to this law. Most obviously, it

will be difficult to think of a psychological tax contract in autocratic regimes. The inclusiveness of political decision-making could however also be very different in democratic regimes depending on the extent of citizens' involvement in political decision-making. This second advantage of the contractual metaphor stems from its potential to include notions of procedural fairness almost by construction. Third, the way people are treated by the tax authorities affects cooperation levels. Again the analogy to private contracts is useful. If you can purchase a product from two different suppliers, would you choose that who is more friendly and respectfully treating his customers? For sure, if the price differential is not too high. In a similar fashion, the way the tax office treats taxpayers plays a role.

At this procedural level, respectful treatment can be split into two different components. First, the procedures used by auditors in their contact with taxpayers are to be transparent and clear. In the case of arbitrary procedures, taxpayers feel helpless and get the impression that they are not taken seriously. Such behavior reduces their perception of being obliged to pay taxes. Second, respectful treatment has a direct personal component in the sense of how the personality of taxpayers is respected by tax officials. If they treat taxpayers as partners in a psychological tax contract, instead of inferiors in a hierarchical relationship, taxpayers have incentives to pay taxes honestly. In addition, respectful treatment of taxpayers enforces the effects of emotions on compliance behavior. Grasmick & Bursik (1990) show for example that shame affects tax compliance. Makkai & Braithwaite (1994) report similar evidence on the impact of avoidance of humiliation on compliance with nursing home regulation.

Two opposite cases of treating taxpayers can be distinguished: (1) a respectful treatment supporting, and possibly raising, tax morale; (2) an authoritarian treatment undermining tax morale. The tax officials can choose between these extremes in many different ways. For instance, when they detect an error in the tax declaration, they can suspect an intent to cheat, and impose legal sanctions. Alternatively, the tax officials may give the taxpayers the benefit

of a doubt and inquire about the reason for the error. If the taxpayer in question indeed did not intend to cheat but simply made a mistake, he or she will most likely be offended by the disrespectful treatment of the tax authority. 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 honorable taxpayer and, as a consequence, tax morale will fall. In contrast, if the tax official makes an effort to locate the reason for the error by contacting the taxpayer in a friendly way, the taxpayer will appreciate this respectful treatment and tax morale will be upheld.

### **3 The Impact of Deterrence on Tax Compliance**

Given the requirements of a psychological tax contract, what role does deterrence play? According to the surveys by Andreoni, Erard & Feinstein (1998) and Slemrod & Yitzhaki (2002), an overwhelming majority of theoretical studies predicts a positive impact of deterrence on tax evasion. The higher the fines, the lower is tax evasion – *ceteris paribus*; the higher is the intensity of control, the lower is tax evasion – *ceteris paribus*. However, the empirical evidence looks less convincing. For example, Dubin, Graetz & Wilde (1987), Dubin & Wilde (1988), Beron, Tauchen & Witte (1992) and Slemrod, Blumenthal & Christian (2001) find a significant positive impact of the probability of detection on tax evasion at least for some income groups. While Schwartz & Orleans (1967), Friedland, Maital & Rutenberg (1978), Klepper & Nagin (1989), De Juan, Lasheras & Mayo (1994), Alm, Sanchez & De Juan (1995), Blackwell (2002) report a positive impact of fines on tax compliance, Spicer & Lundstedt (1976), Friedland (1982), Elffers, Weigel & Hessing (1987) and Varma & Doob (1998) present ambiguous evidence. Scholz & Lubell (2001) even find a crowding out of tax compliance when penalties are introduced. Feld & Frey (2002) provide support for the ambiguous impact of deterrence on tax compliance. For a panel of Swiss cantons, they find that a higher intensity of control increases tax evasion while fines and penalties reduce tax evasion. Similar contradictory evidence is found in other fields of regulation. Makkai and Braithwaite

(1994) provide an evaluation of nursing home regulation and inspection and report that inspection teams that used purely negative and punitive approaches increased non-compliance. The results provided by Sirakaya and Uysal (1997) on compliance with eco-tourism guidelines and by He (2005) on compliance with a discriminatory license requirement in Beijing indicate that deterrence plays little role.

This mixed evidence can occur for many different reasons starting from measurements errors in the empirical analysis, to a social sanctions approach of deterrence (Ekland-Olson, Lieb and Zurcher 1984) and the impact of personal and social norms as moderators of deterrence (Wenzel 2004). It can however also be explained on the basis of crowding theory. Higher control intensities increase deterrence and thus tax compliance on the one hand, but may be perceived as intrusive by taxpayers and thus reduce tax compliance on the other hand (Scholz and Pinney 1995; Kirchler 1999). Feld and Frey (2002) provide evidence that fines and penalties are part of a non-linear punishment schedule that allows for low levels of fines in the case of minor offenses against the tax code, even a standing tax amnesty in the case of self-denunciation, in order to reduce taxpayers perception of intrusiveness, but requires high penalties in cases of tax fraud or major convictions in order to make clear that the psychological tax contract is at stake. Put differently, nobody is perfect, and to cheat a little bit on taxes is a common and minor human weakness, and should be considered as such, while basic violations of the tax code undermine the basic contractual relationship between citizens and the state and must therefore be punished more heavily. Minor and major offenses could thereby be distinguished with respect to the amount evaded, but also to procedural categories, for example by differentiating between active tax fraud by manipulation of the balance sheet and passive tax evasion when taxpayers forget to report particular income components.

Deterrence has thus two different aspects. On the one hand, in order to keep up a psychological tax contract between the tax office and the taxpayers, honest taxpayers must be confident

that they are not exploited by dishonest tax cheaters. Thus, deterrence for major violations of the tax code reduces tax evasion. On the other hand, each taxpayer may make a mistake, so that minor offenses can be penalized less without undermining the psychological tax contract. A non-linear punishment schedule with low fines for minor tax evasion and high penalties for tax fraud, will serve the purpose of shaping tax morale. All in all, the evidence suggests that an exclusive reliance on deterrence is not a reasonable strategy to increase tax compliance.

#### **4 Rewarding Taxpayers**

In contrast to the standard model of tax evasion which raises the relative cost of *not paying* taxes, rewards raise the benefits of *paying* taxes. A reward given to taxpayers for correctly fulfilling their duties changes the relative prices in favor of paying taxes, and against evading them (Falkinger & Walther 1991). For this result to obtain, two conditions must be met:

- (1) The income effect induced by the higher wealth position must not work in the opposite direction. But this is unlikely if the reward is small compared to the tax liability so that the income effect also tends to be small. Moreover, there is little reason to expect that higher wealth should induce more, rather than less, tax evasion.
- (2) The reward may induce strategic behavior by the taxpayers if it depends on the reduction of evasive behavior. In that case it may be rational to first increase tax evasion and thereafter reduce it in order to benefit from the rewards offered. As the rewards considered here depend on *being* a “good” taxpayer, strategic behavior is not a rational option.

It is crucial to consider effects of rewards on behavior going beyond those analyzed by standard theory. From the perspective of crowding theory, receiving certain types of rewards may undermine the intrinsic motivation to pay taxes. The more rewards are perceived as an acknowledgment for being a good taxpayer, the more they are perceived as supporting and tend to bolster and raise tax morale quite in contrast to deterrence. This motivational effect then

works in the same direction as the relative price effect, and strengthens the attractiveness of giving rewards to “good” taxpayers. In the case of the normally applied punishment for failing to pay the taxes due, the relative price effect and the motivational crowding-out effect work in opposite directions. The way rewards are handed out to “good” taxpayers is thus essential for its effects on taxpayer behavior.

The reward may take the form of a *direct monetary* payment. It may be proportional to the size of the tax payment (i.e. a percentage rebate), or in the other extreme may take the same size for all “good” taxpayers. The relative price effect is larger in the first case, but this beneficial effect may easily be overcompensated by a crowding-out effect. A reward received in the same monetary dimension as the tax payments is likely to be discounted by the taxpayers as a “right”, and then does not positively influence tax morale. In contrast, a reward on purpose distinguished from the taxes due tends to be perceived as a sign of acknowledgment. If this is indeed the case, it is even better to give the reward in *non-monetary* form. To provide “good” taxpayers with better and less costly access to public services is likely to raise tax morale more strongly than money. Such a “gift” also emphasizes the exchange relationship between the taxpayer and the state based on reciprocity (Fehr, Gächter & Kirchsteiger 1997). There are many possibilities to reward “good” taxpayers in these terms. For instance, they can be offered free entry to museums, exhibitions and other cultural activities undertaken by the state. Or they can be given a reduction (say, 50%) on all public transport. Most taxpayers receiving a reward in these terms take it as a sign of appreciation rather than simply a reduction in taxes (which would quickly be taken as a matter of course).

It is well known from psychological research that punishment and rewards lead to different behavioral outcomes. Indeed, it appears to be common knowledge among psychologists that rewards lead to better outcomes than punishment. Already Skinner (1948, 1953) emphasized the importance of positive incentives. In the literature on social loafing (see Diehl & Stroebe

1987; Witte 1989), the impact of reward and punishment are emphasized and it is shown that rewards particularly help to solve the problem of “hiding in the crowd” (Davis 1969). George (1995) provides additional quasi-experimental evidence that rewards and punishment differently affect social loafing and significantly so. In addition, research on the effects of leader reward and punishment behavior in organizational psychology suggests asymmetrical behavioral responses to rewards and punishments (Sims 1980).

## **5 Tax Compliance and Social Exchange**

From the perspective of a standard economic theory, a much more direct incentive for tax compliance than deterrence or rewards consists in the goods and services that the state provides to citizens in exchange for their tax payments (Mackscheidt 1984, Smith and Stalans 1991). If the analogy to private contracts is considered, the goods or services purchased provide the foremost incentives to pay the price for these goods and services. The incentives from private law to stick to the duties fixed by the contract mainly serve as an insurance if the individuals’ desire to get a product is insufficient or the conditions for a *do ut des* are unfavorable. Similarly, rewards in the form of gifts for loyal customers serve as a positive means to bind them. Because the state supposedly provides public goods, services and infrastructure, which are not necessarily traded in private markets, or redistributes income and wealth, the fiscal exchange relationship poses additional difficulties.

From the perspective of a psychological tax contract, respectful treatment occurs at two different levels of action, the fiscal exchange and the procedural level. The fiscal exchange between the state and its citizens requires that citizens’ tax payments are met by public services provided by the government. According to the benefit principle of taxation, taxes are prices for certain public goods. However, the benefit principle does not necessarily imply that income redistribution becomes impossible and only infrastructural goods as well as public consumption goods are provided by the state. Citizens may perceive their tax payments as contri-



butions to the *'bonum commune'* such that they are willing to honestly declare their income even if they do not receive a full public good equivalent to their tax payments. Income redistribution is the more accepted by affluent citizens the more the political process is perceived to be fair and the more policy outcomes are legitimate.

### **5.1 Establishing Social Exchange between Citizens and the Government**

Empirically, the more governments follow the benefit principle of taxation and provide public services according to the preferences of taxpayers in exchange for a reasonable tax price, the more taxpayers indeed comply with the tax laws. Spicer & Lundstedt (1976), Porcano (1988), Alm, McClelland & Schulze (1992) and Alm, Jackson & McKee (1992, 1992a, 1993) present experimental evidence that governments which stick to the principle of fiscal exchange achieve more tax compliance. Pommerehne, Hart & Frey (1994) use a simulation study design to analyze the impact of fiscal exchange on tax compliance. They show that the more the citizens' optimal choice of a public good and the actual provision level and quality deviate from each other, the higher is tax evasion. Tax compliance also increases with reductions in government waste. In the experimental papers, the proposed fiscal exchange relationship is based on the provision of a public good financed by taxes. Several authors have used this analogy to public good games in order to analyze additional variables that influence tax evasion (see e.g. Feld & Tyran 2002). According to the benefit principle of taxation such a restricted view of government action could be rationalized.

However, in real world settings the state undertakes many activities that cannot be subsumed under the heading of a public consumption good or public infrastructure. In particular, any kind of pure redistribution is not covered by such a design. Whenever redistribution of income is at stake, problems of tax evasion are however pertinent. There are only a few studies that consider the relationship between tax evasion and redistribution in a fiscal exchange setting. In their experiments, Güth & Mackscheidt (1985) chose a simple tax-transfer-scheme to come

as close as possible to the principle of vertical equity, i.e. take from the rich and give it to the poor. They found that subjects had a compliance rate of 93 percent. Becker, Büchner & Slesking (1987) report however that evasion rises if taxpayers believe to lose from redistribution.

Obviously, the satisfaction with what the government provides in exchange for tax payments strongly depends on the experimental setting or, in the real world, on the environmental conditions. It appears that notions of fairness or justice shape the extent to which the fiscal exchange paradigm increases tax compliance in particular. Kinsey & Grasmick (1993) report evidence that horizontal equity plays a role. If an individual's tax burden is of about the same magnitude as that of comparable others, tax compliance increases (see also Spicer & Becker 1980; De Juan, Lasheras & Mayo 1994). Kinsey & Grasmick (1993) and Roberts & Hite (1994) report that vertical unfairness of the tax schedule (the progressivity of the income tax) increases tax evasion. This is in line with the results by Scott & Grasmick (1981) who report evidence that deterrence was more effective for taxpayers who perceived the tax system to be unfair. Moreover, Scholz & Lubell (1998) emphasize the importance of trust in government for tax compliance. In contrast to their definition (1998: 411), trust in government is more than a "rough measure of the net benefits from governing institutions". It also involves the effectiveness of the government to conduct the policies and programs promised to citizens. In particular, trust in government can be eroded if government waste is high. Braithwaite (1998, 2003) underlines the delicate nature of a loss of trust when taxpayers are not confident that the tax authority is able to regain its trustworthiness. Ahmed & Braithwaite (2004) report empirical evidence on a significantly higher non-compliance among those that have lost hope, i.e. who believe that trustworthiness of the government is low.

## **5.2 Establishing Fiscal Exchange by Political Decision-Making Procedures**

The fiscal exchange relationship between taxpayers and the state therefore depends on the politico-economic framework within which the government acts. According to Alm, McClell-

land & Schulze (1999: 149), rational egoists should vote for the lowest control intensities and fines that are necessary to ensure compliance. However, the possibility for voters to vote directly on matters of content increases the legitimacy of policies and serves as an insurance against exaggerated government waste. Direct political participation particularly activates public spiritedness of taxpayers (Feld and Kirchgässner 2000).

In an experimental study, Feld & Tyran (2002) find that tax compliance is higher on average in an endogenous fine treatment in which subjects are allowed to approve or reject the proposal of a fine as compared to an exogenous fine treatment where the fine is imposed by the experimenter (Alm, McClelland & Schulze 1999). The main explanation why people show a higher tax morale if they are allowed to vote on a fine is legitimacy. Not only do subjects who approve the fine in the endogenous fine treatment have a considerably higher tax compliance than subjects in the exogenous fine treatment. Compliance rates are higher if the fine is accepted than in the case the fine is rejected. Subjects who reject the proposal of the fine show a higher compliance rate than subjects in the exogenous fine treatment even if they know that the dominant strategy under the existence of the low fine is non-compliance. Finally, individuals who vote against the fine contribute effectively more if the fine is adopted than individuals voting for the fine contribute in the case the symbolic fine is rejected.

Field studies by Pommerehne & Weck-Hannemann (1996), Pommerehne & Frey (1992) and Frey (1997a) provide additional support for the experimental findings. Focusing on tax evasion in the Swiss cantons between 1965 and 1978, they find that the more direct democratic the political decision-making procedures of a canton are, the lower is tax evasion according to those studies. These results are replicated by Feld & Frey (2002) and Frey & Feld (2002) by extending the sample to period 1985 to 1995. Torgler (2005) uses an alternative approach to study tax morale in the Swiss cantons by investigating two micro data sets, the World Value Survey and the International Survey Programme, that contain questions about tax morale of

respondents. His results provide evidence that direct democracy shapes tax morale. According to his estimates, tax morale is significantly higher in direct democratic cantons. Distinguishing between different instruments of direct democracy, he finds that the fiscal referendum has the highest positive influence on tax morale. Moreover, tax morale of respondents is higher if they have a higher trust in government, or in the courts and the legal system. Since studies for the U.S. (Gerber 1999) and Switzerland (Pommerehne 1978) show that policies in direct democratic jurisdiction are more strongly in line with citizens' preferences, institutions of direct democracy can be seen as a means to establish a relationship of fiscal exchange between taxpayers and the government.

In addition, Torgler (2005) reports evidence that local autonomy as an indicator of fiscal federalism has a marginally significant positive impact on tax morale. Güth, Levati & Sausgruber (2005) find a stronger effect of fiscal decentralization on tax compliance in an experimental setting. Subjects show a higher tax morale if public goods are provided and financed regionally or locally because their taxes are spent on their own regional or local public goods. The fiscal equivalence of the theory of fiscal federalism then holds more strongly.

## **6 The Treatment of Taxpayers**

The psychological tax contract is also supported by interactional justice, in particular a respectful treatment of taxpayers by tax authorities. In order to investigate the relationship between taxpayers and tax authorities, Feld and Frey (2002) have sent a survey to the tax authorities of the 26 Swiss cantons which asked detailed questions about the legal background of tax evasion, but also included questions on the treatment of taxpayers by tax authorities in day-to-day audits, in particular when a taxpayer is suspected of not declaring his or her true taxable income. According to this survey, the extent of *respectful treatment* of the taxpayers is captured by (1) Fully observing procedures based on formal and informal rules, i.e. what happens typically if a taxpayer does not declare taxable income at all (procedures, fines), if a tax

declaration is mistakenly filled out or, in a second stage, if taxpayers do not react?; (2) Acknowledgment of individual citizens' rights and personality, i.e. what does the tax administration do if taxpayers declared taxable income by mistake too high? Are there attempts to find out whether taxpayers intentionally or mistakenly declare too low a taxable income? Are mistakes in the tax declaration to the advantage or to the disadvantage of *taxpayers*?

The way taxpayers are treated by tax authorities reveals interesting differences between the Swiss cantons. Only 58 percent of Swiss cantonal tax authorities believe that mistakes in reported incomes are, on average, in favor of taxpayers. 31 percent believe that mistakes are neither to the advantage nor to the disadvantage of taxpayers, and 12 percent believe that mistakes are to the disadvantage of taxpayers. These answers indicate that distrust towards taxpayers is not universal. If a taxpayer does not report his or her true taxable income, tax authorities contact her in several ways. 54 percent of the cantons phone the person concerned and ask how the mistake(s) occurred in the tax declaration and how it can be explained. All of the cantons send a letter to the taxpayer, half of them with a standard formulation. Nearly 85 percent ask the taxpayer to visit the tax office, but only half of the cantons mention the possibility of punishment. Thus, while one half of the tax authorities rarely adopt the strategy of explicit deterrence, the other rather seeks to gain additional information. 96 percent of the cantonal tax authorities correct reported incomes that are too high, i.e. reduce taxable incomes when taxpayers commit mistakes that are to their disadvantage. 27 percent of the tax authorities correct reported taxable income even if taxpayers fail to profit from legal tax savings.

The impact of the treatment of taxpayers on tax evasion is studied more thoroughly in a regression analysis by Frey and Feld (2002) and Feld and Frey (2002). With a sample of 26 Swiss cantons in the years 1970-1995, they show that the tax authorities in Switzerland do indeed behave *as if* they were aware of the reaction of taxpayers to being treated with respect or not. According to the empirical findings, tax evasion is lower, the more fully the tax office

observes formal and informal procedural rules. The observation of procedural rules is indicated by a distinction between friendly treatments, for example a respectful procedure, and unfriendly treatments, like an authoritarian procedure or the tax authorities' direct deterrence to fine. It can be shown that the friendly treatment has a stronger dampening effect on tax evasion particularly in cantons using referendums and initiatives in political decision-making, while the authoritarian procedure, the threat of deterrence, is particularly reducing tax evasion in representative democracies, but counter-productive in direct democracy. Moreover, Swiss citizens are the more respectfully treated by the tax authority the more strongly developed citizens' participation rights (Feld and Frey 2002a). In addition, tax authorities in more direct democratic cantons appear to give taxpayers more frequently the benefit of a doubt. Feld and Frey (2002a) report evidence that tax authorities in more direct democratic cantons believe to a significantly lesser extent that mistakes in the tax declaration are in favor of taxpayers.

## **7 Conclusions**

A fundamental result of the tax evasion literature is that it is still not fully resolved why people actually pay taxes, given the rather low levels of fines and auditing probabilities. The deterrence model of tax evasion cannot explain the high tax compliance rates without referring to an exogenously given tax morale. In this paper, we have argued that tax compliance results from a complicated interaction of deterrence measures and responsive regulation. Citizens and the state develop their fiscal relationships according to a psychological tax contract that establishes fiscal exchange between taxpayers and tax authorities. It reaches however beyond pure exchanges and involves loyalties and ties between the contract partners. Tax morale is therefore a function of (1) the fiscal exchange where taxpayers get public services for the tax prices they pay, (2) the political procedures that lead to this exchange and (3) the personal relationship between the taxpayers and the tax administrators.

In particular the empirical evidence on Switzerland summarized in this paper underlines these arguments by showing a family of tax jurisdictions where something like a psychological tax contract appears to be in place. There, the tax authorities take into account that the way they treat the taxpayers systematically affects the latter's tax morale, and therefore their willingness to pay taxes, which in turn affects the costs of raising taxes. In addition, tax compliance in Switzerland is shaped by direct democracy establishing a fiscal exchange relationship between taxpayers and the state. Although the empirical evidence provided relates to Switzerland (and the U.S.), we are confident that the issues here considered are valid more generally.

The contractual view adopted in this paper allows for a coherent consideration of the impact of emotions and personal attitudes on tax compliance behavior as it is emphasized in the psychological literature. It also goes beyond the arguments for responsive regulation provided by Ayres & Braithwaite (1992) by suggesting that *genuinely* rewarding taxpayers in an exchange relationship will increase tax compliance. It should thus be considered as the dominant strategy to approach taxpayers in order to enhance their tax compliance, while it is still able to resort to punishment if that strategy fails. The theoretical argument of a psychological tax contract thus has the ability to bridge economics, law and policy.

## References

- Ahmed, Eliza and Valerie Braithwaite (2004) "When Tax Collectors Become Collectors for Child Support and Student Loans: Jeopardizing the Revenue Base", *Kyklos* 57: 303–26.
- Akerlof, George A. (1982) "Labor Contracts as Partial Gift Exchange", *Quarterly Journal of Economics* 84: 488–500.
- Allingham, Michael G. and Agnar Sandmo (1972) "Income Tax Evasion: A Theoretical Analysis", *Journal of Public Economics* 1: 323–38.
- Alm, James, Betty R. Jackson and Michael McKee (1992) "Estimating the Determinants of Taxpayer Compliance with Experimental Data", *National Tax Journal* 45: 107–14.

- Alm, James, Betty R. Jackson and Michael McKee (1992a) “Institutional Uncertainty and Taxpayer Compliance”, *American Economic Review* 82: 1018–26.
- 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 (1992) “Why Do People Pay Taxes? ”, *Journal of Public Economics* 48: 21–38.
- Alm, James, Gary H. McClelland and William D. Schulze (1999) “Changing the Social Norm of Tax Compliance by Voting”, *Kyklos* 52: 141–71.
- Alm, James, Isabel Sanchez and Ana De Juan (1995) “Economic and Non-Economic Factors in Tax Compliance”, *Kyklos* 48: 3–18.
- Andreoni, James, Brian Erard and Jonathan Feinstein (1998) “Tax Compliance”, *Journal of Economic Literature* 36: 818–60.
- Ayres, Ian and John Braithwaite (1992) *Responsive Regulation: Transcending the Deregulation Debate*. New York: Oxford University Press.
- Becker, Gary S. (1968) “Crime and Punishment: An Economic Approach”, *Journal of Political Economy* 76: 169–17.
- Becker, Winfried, Hans-Jürgen Büchner and Simon Sleeking (1987) “The Impact of Public Transfer Expenditures on Tax Evasion: An Experimental Approach”, *Journal of Public Economics* 34: 243–52.
- Beron, Kurt J., Helen V. Tauchen and Anne D. Witte (1992) “The Effect of Audits and Socio-economic Variables on Compliance”. In: Joel Slemrod (ed.) *Why People Pay Taxes*. Ann Arbor: University of Michigan Press, 67–89.
- Blackwell, Calvin (2002) A Meta-Analysis of Tax Compliance Experiments. Working Paper, Charleston College.



- Braithwaite, Valerie (1998) “Communal and Exchange Trust Norms: Their Value Base and Relevance to Institutional Trust”. In: Valerie Braithwaite and Margaret Levi (eds.) *Trust and Governance*. New York: Russel Sage Foundation, 46–74.
- Braithwaite, Valerie (ed.) (2003) *Taxing Democracy*, London: Ashgate.
- Cameron, Judy A., Katherine M. Banko and W. David Pierce (2001) “Pervasive Negative Effects of Rewards on Intrinsic Motivation: The Myth Continues”, *Behavioral Analyst* 24: 1–44.
- Cullis, John G. and Alan Lewis (1997) “Why People Pay Taxes: From a Conventional Economic Model to a Model of Social Convention”, *Journal of Economic Psychology* 18: 305–21.
- Davis, James H. (1969) *Group Performance*. Reading, MA.: Addison-Wesley.
- De Juan, Ana, Miguel A. Lasheras and Rafaela Mayo (1994) “Voluntary Tax Compliant Behavior of Spanish Income Taxpayers”, *Public Finance* 49: 90–105.
- Deci, Edward L. (1971) “Effects of Externally Mediated Rewards on Intrinsic Motivation”, *Journal of Personality and Social Psychology* 18: 105–15.
- Deci, Edward L. and Richard Flaste (1995) *Why We Do What We Do. The Dynamics of Personal Autonomy*. New York: Putnam.
- Deci, Edward L. and Richard M. Ryan (1985) *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum Press.
- Deci, Edward L., Richard Koestner and Richard M. Ryan (1999) “A Meta-Analytic Review of Experiments Examining the Effects of Extrinsic Rewards on Intrinsic Motivation”, *Psychological Bulletin* 125: 627–68.
- Diehl, Michael and Wolfgang Stroebe (1987) “Productivity Loss in Brainstorming Groups: Towards the Solution of a Riddle”, *Journal of Personality and Social Psychology* 53: 497–509.

- Dubin, Jeffrey A. and Louis L. Wilde (1988) “An Empirical Analysis of Federal Income Tax Auditing and Compliance”, *National Tax Journal* 41: 61–74.
- Dubin, Jeffrey A., Michael J. Graetz and Louis L. Wilde (1987) “Are We a Nation of Tax Cheaters? New Econometric Evidence on Tax Compliance”, *American Economic Review* 77: 240–45.
- Ekland-Olson, Sheldon, John Lieb and Louis Zurcher (1984) “The Paradoxical Impact of Criminal Sanctions: Some Microstructural Findings”, *Law and Society Review* 18: 159–78.
- Elffers, Hank, Russel H. Weigel and Dick J. Hessing (1987) “The Consequences of Different Strategies for Measuring Tax Evasion Behavior”, *Journal of Economic Psychology* 8: 311–37.
- Falkinger, Josef and Herbert Walther (1991) “Rewards versus Penalties: On a New Policy against Tax Evasion”, *Public Finance Quarterly* 19: 67-79.
- Fehr, Ernst, Simon Gächter and Georg Kirchsteiger (1997) “Reciprocity as a Contract Enforcement Device”, *Econometrica* 65: 833–60.
- Feld, Lars P. and Bruno S. Frey (2002) The Tax Authority and the Taxpayer: An Exploratory Analysis. Unpublished Manuscript, University of Zurich.
- Feld, Lars P. and Bruno S. Frey (2002a) “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: 197–22.
- Frey, Bruno S. (1997) *Not Just for The Money. An Economic Theory of Personal Motivation*. Cheltenham: Edward Elgar.

- Frey, Bruno S. (1997a) “A Constitution for Knaves Crowds Out Civic Virtues”, *Economic Journal* 107: 1043–53.
- Frey, Bruno S. and Lars P. Feld (2002) Deterrence and Morale in Taxation: An Empirical Analysis, CESifo Working Paper No. 760, August 2002
- Frey, Bruno S. and Reto Jegen (2001) “Motivation Crowding Theory: A Survey of Empirical Evidence”, *Journal of Economic Surveys* 15: 589–611.
- Frey, Bruno S., Matthias Benz and Alois Stutzer (2004) “Introducing Procedural Utility: Not Only What but also How Matters”, *Journal of Theoretical and Institutional Economics* 160: 377-401.
- Friedland, Nehemiah (1982) “A Note on Tax Evasion as a Function of the Quality of Information about the Magnitude and Credibility of Threatened Fines: Some Preliminary Research”, *Journal of Applied Social Psychology* 12: 54–59.
- Friedland, Nehemiah, Shlomo Maital and Aryeh Rutenberg (1978) “A Simulation Study of Income Tax Evasion”, *Journal of Public Economics* 10: 107–16.
- Gerber, Elisabeth R. (1999) *The Populist Paradox: Interest Group Influence and the Promise of Direct Legislation*, Princeton: Princeton University Press.
- Graetz, Michael J. and Louis L. Wilde (1985) “The Economics of Tax Compliance: Facts and Fantasy”, *National Tax Journal* 38: 355–63.
- Grasmick, Harold G. and Robert J. Bursick (1990) “Conscience, Significant Others, and Rational Choice: Extending the Deterrence Model”, *Law and Society Review* 24: 837–61.
- Güth, Werner and Klaus Mackscheidt (1985) Die Erforschung der Steuermoral. Working Paper, University of Cologne.
- Güth, Werner, Vittoria Levati and Rupert Sausgruber (2005) “Tax Morale and (De-)Centralization: An Experimental Study”, *Public Choice* 125: 171–88.

- He, Xin (2005) “Why Do They Not Comply with the Law? Illegality and Semi-Legality among Rural-Urban Migrant Entrepreneurs in Beijing”, *Law and Society Review* 39: 527–62.
- Kinsey, Karyl A. and Howard G. Grasmick (1993) “Did the Tax Reform Act of 1986 Improve Compliance? Three Studies of Pre- and Post-TRA Compliance Attitudes”, *Law and Policy* 15: 239–325.
- Kirchler, Erich (1999) “Reactance to Taxation: Employers’ Attitudes towards Taxes”, *Journal of Socio-Economics* 28: 131–38.
- Klepper, Steven and Daniel Nagin (1989) “Tax Compliance and Perceptions of the Risks of Detection and Criminal Prosecution”, *Law and Society Review* 23: 209–40.
- Lane, Robert E. (1991) *The Market Experience*. Cambridge: Cambridge University Press.
- Le Grand, Julian (2003) *Motivation, Agency, and Public Policy. Of Knights & Knaves, Pawns and Queens*. Oxford: Oxford University Press.
- Lepper, Mark R. and David Greene (eds.) (1978) *The Hidden Costs of Reward: New Perspectives on Psychology of Human Motivation*. Hillsdale, NY: Erlbaum.
- Levi, Margaret (1988) *Of Rule and Revenue*. Berkeley: University of California Press.
- Mackscheidt, Klaus (1984) “Konsolidierung durch Erhöhung von Steuern und Abgaben?”. In: Hans Herbert von Arnim and Konrad Littmann (eds.) *Finanzpolitik im Umbruch: Zur Konsolidierung öffentlicher Haushalte*. Berlin: Duncker and Humblot, 145–61.
- Makkai, Toni and John Braithwaite (1994) “Reintegrative Shaming and Regulatory Compliance”, *Criminology* 32: 361–85.
- Osterloh, Margit and Bruno S. Frey (2000) “Motivation, Knowledge Transfer and Organizational Forms”, *Organization Science* 11: 538–50.
- Pittman, Thane S. and Jack F. Heller (1987) “Social Motivation”, *Annual Review of Psychology* 38: 461–89.

- Pommerehne, Werner W. (1978) “Institutional Approaches to Public Expenditure: Empirical Evidence from Swiss Municipalities”, *Journal of Public Economics* 9: 255–80.
- Pommerehne, Werner W. and Bruno S. Frey (1992) The Effects of Tax Administration on Tax Morale. Unpublished Manuscript, University of Zurich.
- Pommerehne, Werner W. and Hannelore Weck-Hannemann (1996) “Tax Rates, Tax Administration and Income Tax Evasion in Switzerland”, *Public Choice* 88: 161-70.
- Pommerehne, Werner W., Albert Hart and Bruno S. Frey (1994) “Tax Morale, Tax Evasion and the Choice of Policy Instruments in Different Political Systems”, *Public Finance* 49 (Supplement: *Public Finance and Irregular Activities*): 52–69.
- Porcano, Thomas M. (1988) “Correlates of Tax Evasion”, *Journal of Economic Psychology* 9: 47–67.
- Roberts, Michael L. and Peggy A. Hite (1994) “Progressive Taxation, Fairness and Compliance”, *Law and Policy* 16: 27–47.
- Roth Jeffrey A., John T. Scholz and Ann D. Witte (1989) (eds.) *Taxpayer Compliance: An Agenda for Research*. University of Pennsylvania Press, Philadelphia.
- Rousseau, Denise M. and Judi McLean Parks (1993) “The Contracts of Individuals and Organizations”, *Research in Organizational Behavior* 15: 1–43.
- Schein, Edgar H. (1965) *Organization Psychology*. Englewood Cliffs: Prentice-Hall.
- Scholz, John T. and Mark Lubell (1998) “Trust and Taxpayers: Testing the Heuristic Approach to Collective Action”, *American Journal of Political Science* 42: 398–17.
- Scholz, John T. and Mark Lubell (2001) “Cooperation, Reciprocity and the Collective Action Heuristic”, *American Journal of Political Science* 45: 160–78.
- Scholz, John T. and Neil Pinney (1995) “Duty, Fear, and Tax Compliance: The Heuristic Basis of Citizenship Behavior”, *American Journal of Political Science* 39: 490–512.
- Schwartz, Richard D. and Sonya Orleans (1967) “On Legal Sanctions”, *University of Chicago Law Review* 34: 282–300.

- Scott, Wilbur J. and Harold G. Grasmick (1981) “Deterrence and Income Tax Cheating: Testing Interaction Hypotheses in Utilitarian Theories”, *Journal of Applied Behavioral Science* 17: 395–408.
- Sirakaya, Ercan and Muzaffer Uysal (1997) “Can Sanctions and Rewards Explain Conformance Behavior of Tour Operators with Ecotourism Guidelines?”, *Journal of Sustainable Tourism* 5: 322–32.
- Skinner, Burrhus F. (1948) *Walden Two*. New York: MacMillan.
- Skinner, Burrhus F. (1953) *Science and Human Behavior*. New York: MacMillan.
- Skinner, Jonathan S. and Joel Slemrod (1985) “An Economic Perspective on Tax Evasion”, *National Tax Journal* 38: 345–53.
- Slemrod, Joel and Shlomo Yitzhaki (2002) “Tax Avoidance, Evasion and Administration”. In: Alan J. Auerbach and Martin Feldstein (ed.) *Handbook of Public Economics Vol. 3*. North-Holland, Amsterdam: 1423-70.
- Slemrod, Joel, Marsha Blumenthal and Charles W. Christian (2001) “Taxpayer Response to an Increased Probability of Audit: Evidence from a Controlled Experiment in Minnesota”, *Journal of Public Economics* 79: 455-83.
- Smith, Kent W. and Loretta J. Stalans (1991) “Encouraging Tax Compliance with Positive Incentives: A Conceptual Framework and Research Directions”, *Law and Policy* 13: 35–53.
- Spicer, Michael W. and Lee A. Becker (1980) “Fiscal Inequity and Tax Evasion: An Experimental Approach”, *National Tax Journal* 33: 171–75.
- Spicer, Michael W. and Scott B. Lundstedt (1976) “Understanding Tax Evasion”, *Public Finance* 31: 295–305.
- Torgler, Benno (2003) *Tax Morale: Theory and Empirical Analysis of Tax Compliance*. Ph.D. Thesis, University of Basel.
- Torgler, Benno (2005) “Tax Morale and Direct Democracy”, *European Journal of Political Economy* 21: 525–31.

Tyler, Tom R. (1990) *Why People Obey the Law*. New Haven: Yale University Press.

Varma, Kimberley N. and Anthony N. Doob (1998) “Deterring Economic Crimes: The Case of Tax Evasion”, *Canadian Journal of Criminology* 40: 165–84.

Wenzel, Michael (2004) “The Social Side of Sanctions: Personal and Social Norms as Moderators or Deterrence”, *Law and Human Behavior* 28: 547–67.

Witte, Erich H. (1989) “Köhler Rediscovered: The Anti-Ringelmann Effect”, *European Journal of Social Psychology* 19: 147-54.

- 
1. See e.g. Schwartz & Orleans (1967), Roth, Scholz & Witte (1989), Alm, McClelland & Schulze (1992), Cullis & Lewis (1997), Torgler (2003).
  2. See Spicer & Lundstedt (1976), Spicer & Becker (1980) and Becker, Büchner & Slesking (1987). Alm, McClelland & Schulze (1992) and Alm, Jackson & McKee (1993) find that the introduction of a public good in exchange for the taxes paid increases compliance rates in experiments.
  3. Tyler (1990) analyzes procedural fairness in an experimental context. A broader survey is given by Frey, Benz & Stutzer (2004).
  4. See again Alm, McClelland & Schulze (1992), Graetz & Wilde (1985), Skinner & Slemrod (1985) or Pommerhne & Frey (1992).
  5. Headed by Deci (1971). Extensive surveys are given e.g. in Pittman & Heller (1987), and Lane (1991). The effect is also known as ‘*The Hidden Cost of Reward*’ (see Lepper & Greene 1978). For meta-analyses see Deci, Koestner & Ryan (1999) and Cameron, Banko & Pierce (2001). That external interventions may crowd out intrinsic motivation is introduced into economics as ‘*Crowding Theory*’ (Frey 1997; Le Grand 2003) and is supported by much empirical evidence (Frey & Jegen 2001).