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COMMITMENT TO PAY TAXES: RESULTS FROM FIELD AND LABORATORY EXPERIMENTS

Ann-Kathrin Koessler¹, Benno Torgler², Lars P. Feld³ and Bruno S. Frey⁴

ABSTRACT

The ability of a tax authority to collect taxes successfully depends on both its relationship with taxpayers and how strongly these taxpayers are committed to contributing to the common good. We present field and laboratory experimental evidence on a new non-intrusive approach aimed at fostering the commitment to pay taxes. Using a between-subject design in a unique field setting, we analyze whether tax compliance changes if taxpayers receive an offer to promise paying their taxes on time. Taxpayers who complied with the promise entered into a lottery with the chance of winning either a financial or a non-financial reward. Rewards were also offered in response to compliance only (i.e., without being asked to make a formal promise) allowing us to disentangle a pure reward effect from the commitment effect. As potential legal obstacles prevented us from developing a treatment that allowed for identifying whether the promise itself changes behavior, we designed and conducted a laboratory experiment to test this proposition. In the field experiment, taxpayers with a history of being compliant are more likely to make a promise. Similarly, the laboratory experiment indicates that individuals with higher tax morale are more compliant and more likely to make the promise. In addition, for all promise schemes, compliance is significantly higher for the promise-makers as compared to subjects in the control group and to those who did not make a promise. The field experiment indicates that commitment can improve payment behavior. This effect, however, is strongly dependent on the type of reward to which the promise is linked. Compliance increases only if the reward is non-financial. A no compliance effect is observed if cash is offered in return for promise fulfilment. A strong compliance effect for pure non-financial rewards was also obtained in the laboratory experiment.

Keywords: Tax compliance, field experiment, commitment, promise, supportive incentives, psychological contract

JEL classification: H26, C93, C91, A13.

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1. INTRODUCTION

Research in the area of tax compliance has convincingly argued that successful tax collection is not only the exercise of power (Alm et al. 2010, Kirchler 2007 Torgler 2007). Tax compliance is comprised of a mixture of “carrot” and “stick” approaches. Early models of tax compliance rely on Becker’s (1968) theory of crime, which emphasizes the element of fear elicited via deterrence (stick), including the probability of detection and the punishment for non-compliance (Allingham and Sandmo 1972). More recently, however, researchers and tax administrations have placed more emphasis on integrating the “carrot” quality, moving towards a “service” paradigm rather than an “enforcement” paradigm, and therefore towards a more “kinder and gentler” approach (Alm and Torgler 2011, p. 635). In particular, a citizen’s consent to pay taxes seems to reflect an identification with the tax authority’s objectives (Boulding 1981). Braithwaite (2001) characterizes this taxpayer-authority relation in terms of five motivational postures or sets of beliefs and values: (a) commitment, (b) capitulation, (c) resistance, (d) disengagement and (e) game playing. Our study will take a closer look at the first motivational posture, namely commitment.

The literature provides a solid basis for believing that loyalty is sensitive to external influences (Feld 1997, Torgler 2007, 2006, 2005). For instance, non-compliance is often explained by the perception of being disrespectfully treated by the tax administration (Kirchler 2007, Feld and Frey 2002). Thus, there is substantial evidence that taxpayers *react* to tax administrations’ behavior. Exchange relationships and reciprocity matter. As commitment “reflects beliefs about the desirability of a tax system and feelings of moral obligation to act in the interest of the collective and pay one’s tax with good will” (Braithwaite 2001, p. 6), it has different dimensions. Yet too little is known about how to enhance a *pro-active* commitment to pay taxes.

We employ a field experiment to explore whether pre-commitment in the form of a specific promise can increase tax compliance. According to psychological commitment theory (Cialdini

1989, Kiesler 1971, Festinger 1957), a promise has a binding function because of an individual's need to behave consistently. In our setting, we assume that the promise strengthens the psychological contract between the taxpayer and the tax authority (Feld and Frey 2007, Feld et al. 2006) and emphasizes the moral obligation to comply with tax obligations. Thanks to the support of a Swiss tax authority, we were able to conduct this experimental research project in a field setting, which offers a different perspective to laboratory experiments. In our treatment groups, taxpayers have the option of promising to pay their taxes on time. Those who make a promise and subsequently comply are entered into a lottery with the chance of winning either a financial or a non-financial reward. In additional treatments, the rewards are offered in response to compliance only (i.e., without the possibility of the formal promise) allowing us to disentangle a pure reward effect from the commitment effect.

The experiment took place during the 2013 financial year in a Swiss municipality whose taxpayers must pay pre-taxes.⁵ The analysis identifies behavioral changes in the pre-tax payments of more than 2,000 taxpayers before and during the year 2013, in which the field experiment took place. A letter to all taxpayers manipulates the treatments including a reminder about the due dates for the three instalments of the pre-tax. In the treatment groups, the letter stipulated that those who paid their pre-taxes on time would receive a reward. In the promise treatments, a postcard accompanied the letter, on which the taxpayer could promise to pay all rates on time. This inclusion introduced a novel element whereby we could observe the consequences of holding participants to

⁵ The total of tax payments to the municipality include the local income and wealth tax (Gemeindesteuer) plus the church tax (Kirchensteuer) plus the fire brigade tax (Feuerwehrsteuer). The tax amount for the municipality is based on the cantonal income and wealth taxes. The municipality levies 104% of the amount charged by the canton, although this rate can vary according to the municipality's outlays for the following year (e.g., infrastructure projects). The tax is progressive. For example, in 2013 a person who has a taxable income of 50,000 CHF and wealth of 150,000 CHF will have to pay a total of 8,036 CHF in taxes (without church taxes). 4,124 CHF of this amount is paid as municipality tax to the local community. In mid-February (around the 15th), taxpayers receive an invoice declaring their tax liability for the current year, which is estimated based on previous years. This tax amount must be paid in three instalments throughout the year (at the end of March, June, and November 2013). For the Swiss tax system see also Feld (2000) or Feld and Kirchgässner (2003).

a moral commitment, in this case, the promise to be compliant. However, as the field experiment does not allow identification of the pure effect of promises we also conducted a laboratory experiment. As Levitt and List (2009) point out “applying the full spectrum of approaches in trying to answer a single question can yield extra insights” (p. 10).

The article proceeds as follows: Section 2 offers a brief overview of psychological commitment theory and its applications. Section 3 summarizes our general findings on the effect of offering rewards and links them to recent developments in the literature on intrinsic motivation to pay taxes. Section 4 describes the experimental setting and design, and outlines the treatment selection. Section 5 reports results and reflects on them critically. Section 6 presents the laboratory experiment and its findings indicating that main findings from the field are partly replicated. Section 7 concludes the paper by summarizing the main insights, discussing the differences between the laboratory and field experiments and suggesting directions for future research.

2. PROMISES AS A COMMITMENT DEVICE

Economists are increasingly interested in the relevance of promises, which are usually made with the intent of influencing the beliefs of an interaction partner and creating trust so that an exchange can be relied upon. Empirical studies confirm the efficiency of such messages, especially in settings characterized by anonymous one shot interactions. In particular, promises change the expectations of interaction partners and thus improve coordination between actors. The promise-makers assume that their message will be taken for granted by the receivers and live up to their word, even when the promisor has to forego material benefits in order to keep the promise (Hurkens and Kartik 2009, Bicchieri and Lev-On 2007, Charness and Dufwenberg 2006, Ellingsen and Johannesson 2004, Kerr and Kaufman-Gilliland 1994, Ostrom et al. 1992). Hence, the second effect of promises is through changed beliefs. A related concept is expectation-based guilt aversion (Charness and

Dufwenberg 2006), the fact that individuals feel guilty when letting others down. Because a promise raises others' expectations, promise-makers want to live up to their word in order to avoid inner conflict. On the other hand, cognitive dissonance theory (Festinger 1957) interprets promise keeping in terms of an inner urge for consistency: behaving against stated intentions creates a feeling of discomfort. Behavioral economists, in contrast, suggest that individuals keep promises because of a preference for keeping one's word (Ismayilov and Potters 2016, Ellingsen et al. 2010, Vanberg 2008, Ellingsen and Johannesson 2004) or the desire to conform to the social norm of truth-telling (Binmore 2006). Thus, in general, once a promise is made, the probability of its being fulfilled increases. Most of these findings, however, have been generated in the laboratory, raising the question as to what extent they apply in the real world.⁶ Our field experiment examines how promises work in a natural setting by observing real citizens in their actual routine of paying taxes. The fact that the taxpayers are unaware of their participation reduces the risk of an experimental demand effect.⁷

In general, tax compliance can be characterized as a principal-agent problem (Andreoni et al. 1998). This setting is analogous to the relationship between employers and employees and thus relates to the question of how to maintain employee motivation. Nevertheless, to avoid undermining self-determination and intrinsic motivation, it is essential in any principal-agent relationship that the rewards are perceived as acknowledgment for good work and not in any way as compensation (Frey 1997a, Deci 1971). In our setting, the willingness to make a promise is rewarded by the possibility of winning a prize when full compliance is achieved. This situation is compared to a treatment that offers a reward with no promise required. In this case, the function of

⁶ Belot et al. (2010) is an exception to this generalization. Using data from a television game show, the authors provide evidence for the external validity of promises as an effective coordination device. In their study, 50% of the players were more willing to cooperate when the interaction partner voluntarily made a promise to share. When the promise was elicited by the show's presenter, however, the promise had no effect.

⁷ See Feld et al. (2006) for a discussion of field experiments in the area of tax compliance. There is an increasing trend towards using this method to better understand tax compliance (for an overview, see Hallsworth 2014).

the reward is to recognize that a good job has been done. We communicate the possibility of a reward *ex ante* to see whether rewards help to promote loyal compliance.

The underlying aim of such an incentive is to be supportive and improve citizens' attitudes towards tax payment by acknowledging compliance. According to anecdotal evidence, some tax agencies are seriously considering the implementation of such supportive incentives. For example, in 2005, Uganda's Revenue Authority introduced a Taxpayers' Appreciation Day, on which it presents the so-called Vantage Award to compliant taxpayers from different regions, dubbed Taxations Rising Star.⁸ Asian countries have also implemented reward systems, with Japan offering the opportunity to have a picture taken with the Emperor and the Philippines placing the names of compliant taxpayers into a lottery (Feld et al. 2006). Experimental studies have taken up these ideas and in the controlled setting of the laboratory have examined how (*ex ante* announced) rewards affect compliance (Brockmann et al. 2016, Fochmann and Kroll 2016, Bazart and Pickhard 2011, Torgler 2003, Alm et al. 1992). Findings are, however, ambiguous. When a reward is at stake, extreme compliance behavior (evading all or nothing) becomes dominant (Kastlunger et al. 2011, Alm et al. 1992) and the effect on overall compliance is difficult to predict. How individuals perceive the reward, which is on offer for compliance, also plays an important role. In a recent field experiment in Germany, Dwenger et al. (2016) demonstrate that the effect of a reward varies strongly between intrinsically and extrinsically motivated taxpayers. Extrinsically motivated taxpayers, who evaded the examined local church tax before the experiment, interpret the introduction of the rewards to indicate that paying this tax is voluntary and/or only weakly enforced.

⁸ See <http://www.observer.ug/component/content/article?id=27845:kenyas-chris-kirubi-to-grace-ura-taxpayers-awards>.

3. FIELD EXPERIMENT

BACKGROUND

Of the three aspects of tax compliance – accurate reporting, timely filing and timely payment (Slemrod et al. 2001) – our field study focuses on the third, thereby avoiding measurement errors as, e.g., the quality of the auditing process is hard to control. The payment data are gathered from the tax administration database, which records the total tax amount owed, and the amount and date of all payments. Although the information in the data set is anonymous, individual taxpayers can be matched over the years by their addresses and identification numbers. We do therefore not only know the payments in the treatment year but also those from the five previous years (2008–2012). This allows us to measure the extent of taxpayer compliance in previous years.

The field experiment took place during the 2013 financial year in collaboration with one of Switzerland’s municipalities, i.e., Trimbach. Switzerland provides for an interesting setting for field experiments on tax compliance, as municipalities are fully responsible for the tax collection process. Our field experiment considers the local tax regulated and collected by this municipality. Because Swiss taxes are collected as pre-taxes, in mid-February of each year, taxpayers receive an invoice asking them to declare their tax liability for the current year, based on taxes in the previous year. These taxes must be paid at the end of March, June, and November. In the past, Trimbach had to deal with missing pre-taxes of around 20% of the taxes owed.⁹ As a result, the municipality found it difficult to budget its expenses over the course of the year. To better predict pre-tax funds,

⁹ Around 2.5 million CHF were missing in 2012. When taxpayers missed their payment of pre-taxes during the current year, a default interest rate was charged when the tax debt was defrayed in the final accounting process. The default interest rate is based on what the canton charges for default: in 2013 this was 3%. Interest on an ordinary Swiss savings account was around 2% in 2013. Thus, it was not rational, nor financially beneficial to delay the payment of the pre-taxes. This is particularly the case since the additional dunning costs were introduced in 2013. Torgler (2013) explored under-reporting and over-declaration in the same municipality based on 2001 data. The share of noncompliance was small, namely only 2.3% of the mean net taxable income. For wealth the compliance share was 78% and for deduction 94%. The frequency of corrections done by the tax administration was, however, higher (56% of cases for income, 65% for deductions, and 20% for wealth reporting).

the local administrations announced at the end of 2012 that from 2013 onward, those who miss pre-tax payments will be dunned (see Appendix Figure A1 for the timeline). All taxpayers were informed about this institutional change with the invoice sent in mid-February.

METHODOLOGICAL DESIGN

Our sample comprises 2,201 taxpayers (excluding firms) randomly assigned to four treatment groups and one control group. Taxpayers not owing taxes in the previous year were excluded, as were two additional taxpayers with exceptionally high tax debts.¹⁰ By the end of the experiment, further 244 taxpayers had been lost because of either migration or a change in civil status. Shortly *before* receiving the tax invoice for the current year all private taxpayers received a letter reminding them about the due date to pay the taxes,¹¹ and the incentive was introduced in the treatment groups¹². This letter was easy to read and to comprehend (see the Appendix) and sent out by the tax authority a week before tax invoices were dispatched.¹³ All tax administration employees and local council members were given a list of standardized answers in the case of taxpayer queries.

The promise treatments introduce a moral commitment by asking taxpayers to return a pre-paid postcard to the tax administration promising to pay all rates on time. Promise-making was thus voluntary, and 32% of the sample decided to make the commitment. The text of the promise, illustrated in Figure 1, is as follows; the taxpayers confirmed their pledge with a signature:

“I, (first name, last name), tax identification number XXX, promise as an honest taxpayer of the Trimbach municipality to pay all instalments of the pre-tax on time during 2013”.

¹⁰ These two observations had tax debts of CHF 85,400 and 90,000, respectively, twice the amount of the next highest tax debts (see *Table A1*).

¹¹ The variation between the CONTROL and treatment groups can be seen in the second paragraph of the reminder letter, which introduces the reward and promise option. Figure A2 and A3 in the Appendix show the respective letters for the CONTROL and WELL PRO group.

¹² Figure A1 in the Appendix offers a timeline of the events.

¹³ Treatment letters and tax invoices had to be sent out separately since the dispatch of the tax invoices is standardized and it was not possible to realize the randomized allocation in treatment groups within this procedure.

The promise commitment was a pre-requisite for entry into a lottery to win either a cash prize of 1,000 CHF (cash promise treatment, CASH PRO) or a wellness weekend for two valued at 1,000 CHF (wellness promise treatment, WELL PRO).¹⁴ While cash payments allow for more flexible spending than a wellness weekend, the latter may rather be perceived as a prize (Frey 2007). In the two other reward treatments (CASH and WELLNESS) the same rewards were offered without the promise. In all treatment groups, only the compliant taxpayers were eligible for the lottery at the end of the year. The average tax debt in 2013 was 4,459 CHF, but no significant between-treatment group differences are observable in the distribution of tax amounts owed. Tables A1 to A4 in the Appendix offer an overview of the average tax debt, past compliance and demographic characteristics in all treatment groups. Based on these criteria, no significant between-treatment group differences could be found.

Figure 1: Declaration of Promise

The image shows two sides of a white paper form. The left side is the front, featuring the Trimbach coat of arms and the text 'Einwohnergemeinde Trimbach'. It contains a declaration form where a taxpayer promises to pay their 2013 taxes on time. The right side is the back, showing a return address for the 'Einwohnergemeinde Trimbach, Finanzverwaltung' and a postage-paid stamp with a barcode and the letter 'B'.

Note: These pictures show the cards with which taxpayers declared their promise. Dispatched with the treatment letters, taxpayers interested in making the compliance promise were asked to fill in their name and tax identification number, sign the card and sent it back to the tax authority within the given time¹⁵.

¹⁴ One thousand Swiss francs are roughly equal to 1,000 USD. This is equal to one-fourth of the average tax debt owed to the municipality and is seen as a reasonable amount for a wellness weekend for two in Switzerland.

¹⁵ The postage fees for returning the card to the tax office were covered.

4. RESULTS

INTENTION TO TREAT EFFECT

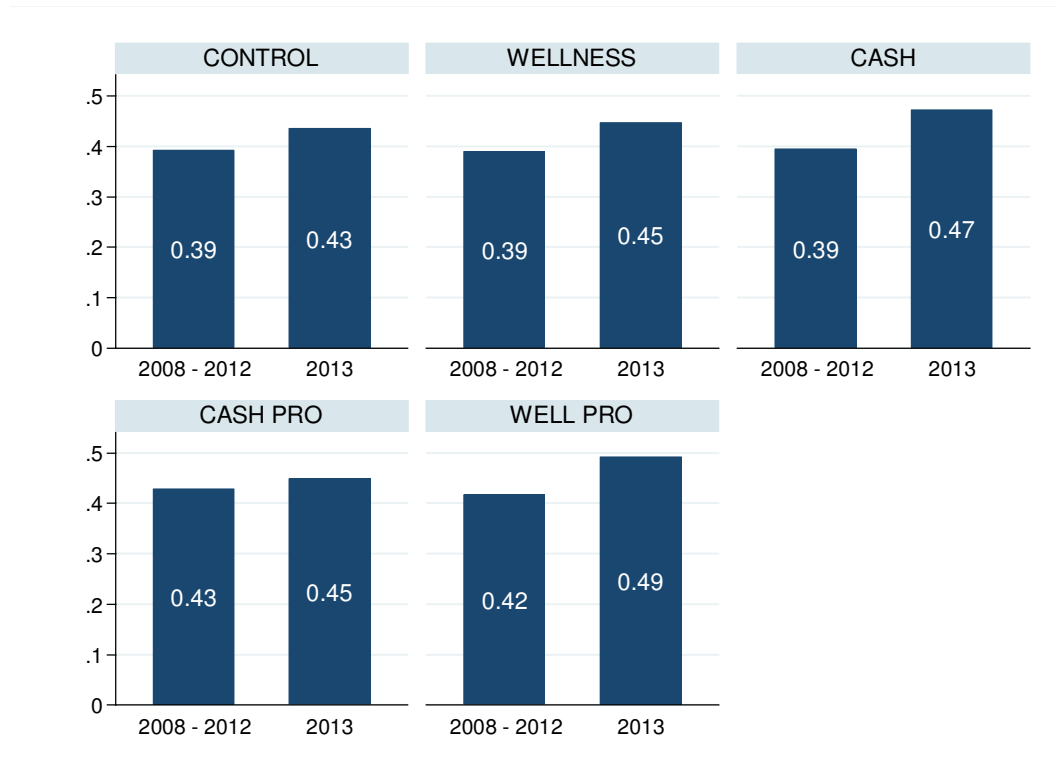
At first, we compare compliance rates along the original assignment of treatments and ignore whether an individual has taken up a promise. In other words, we identify the impact of the intention to treat (ITT). Figure 2 shows the average compliance frequencies for the random treatment groups, both before and after the intervention.¹⁶

Comparing the payment behavior in 2013, the treatment year, reveals that average compliance rates do not differ statistically significantly *between* the control group and the respective treatment groups, such that the interventions do not significantly improve payment behavior. For the promise treatments, it can be expected that the effect is diluted, since only 31% of taxpayers in the CASH Pro and 33 % in the WELLNESS PRO made the promise. Contrasting compliance before the experiment (2008-2012) with the payment behavior in the experimental year reveals a positive compliance trend. Comparisons *within* a treatment group show strong payment improvements when the Wellness reward is offered (WELLNESS, Pr-test: $z = -2.2515$, $p = 0.0244$) or combined with the promise (WELL PRO, Pr-test: $z = -2.8506$, $p = 0.0044$). In the cash reward group, payment behavior is significantly higher than in the past (CASH, Pr-test: $z = -3.0027$, $p = 0.0027$). In the CONTROL group, we find a weakly significant improvement in payment behavior (Pr-test: $z = -1.6829$, $p = 0.0924$). We attribute this change to the introduction of the new dunning system for unpaid pre-taxes in 2013. This new deterrence thus produces a slight increase in payment morale, but only the combination with rewards leads to powerful improvement. After all, the change of payment behavior in the CASH PRO group is smaller than in the other groups and not statistically significant (Pr-test: $z = -0.7517$, $p = 0.4523$).

¹⁶ For the following analysis, the requirements for compliance are met when an individual pays all three instalments on time. This is consistent with the way the tax authority controls tax payment compliance.

Result 1: Comparisons within a treatment group show compliance improvements when the wellness reward is offered or when it is combined with the promise. For the treatment year, average compliance rates do not demonstrate a statistically significant difference between the control group and the respective treatment groups.

Figure 2: Compliance Rates ITT



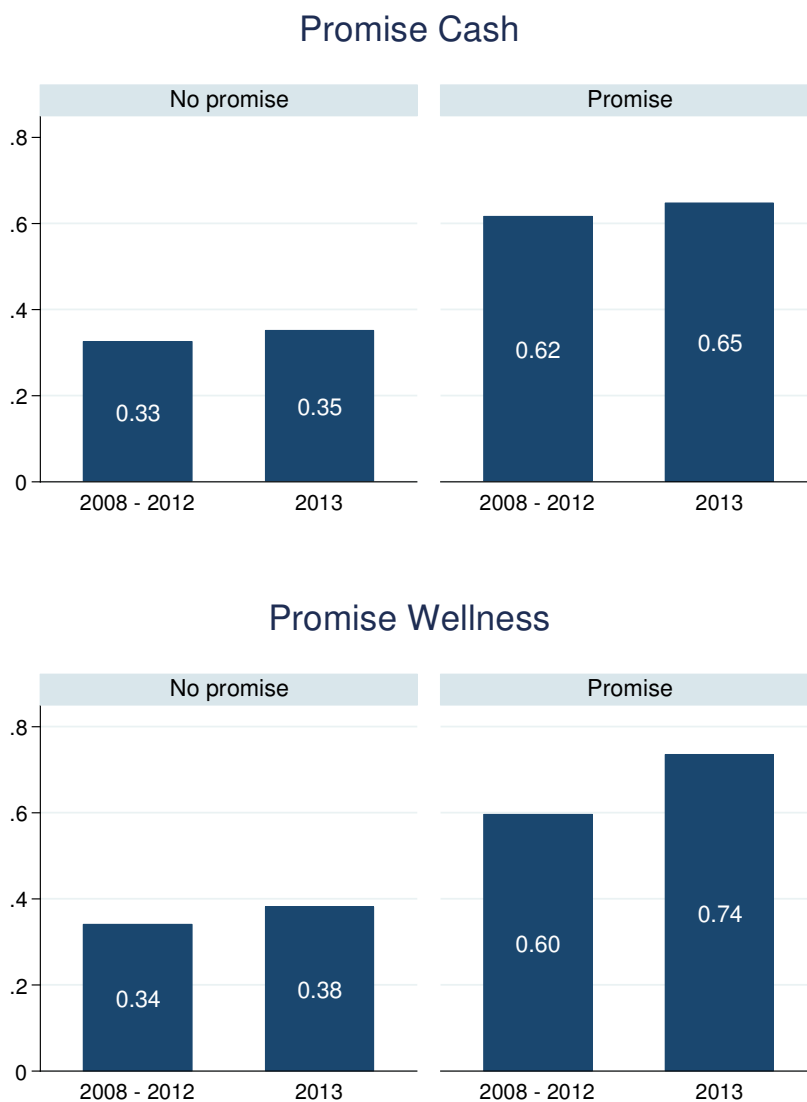
Note: This graph shows the average compliance rate of the treatment groups in the years before the experiment (2008-2012) and in the year when the experiment took place (2013).

TREATMENT EFFECT ON THE TREATED

In a next step, we examine the effect of the treatment on taxpayers who decided to make a compliance promise. Taxpayers in the promise treatment groups who made the promise are more likely to have complied and paid all three rates on time than those who did not make the promise. As Figure 2 indicates, the compliance rates for promise-makers are 65% in the cash treatment (CASH PRO) and 74% in the wellness treatment (WELL PRO), while compliance rates for non-

promise-makers are 35% and 38%, respectively. Both differences are statistically significant at the 1% level in a two-sample test of proportions (Prtest) or a chi-square test (Chi2). However, we recognize the possible effect of a selection process among those willing to make a promise. The first step to cope with this is to examine pre-intervention compliance behavior by analysing a five-year average of tax compliance (2008–2012).

Figure 3: Compliance Rates Promise-Makers



Note: This graph shows the average compliance for taxpayers who made the compliance promise in 2013 and those who did not. The left bars depict the average past compliance and show the strong selection effect in promise making.

The differences identified between taxpayers who made a promise in 2013 and those who did not are statistically significant at the 1% level in both treatments (CASH PRO and WELL PRO). Our results thus provide evidence for a strong selection effect:

Result 2: Taxpayers who paid taxes punctually in the past are more likely to promise future compliance (selection effect).

Having identified the selection effect, we also observe a notable increase in compliance for the promise-makers in the WELL PRO treatment, with a non-parametric test comparing the average compliance rates from the past (2008–2012) with those of 2013 (Prtest: $z=-2.9878$, $p=0.028$ / Chi2: Pearson $\chi^2=8.9271$, $p=0.003$). In the CASH PRO treatment, however, compliance increases only slightly without being statistically significant (Prtest: $z=-0.667$, $p=0.5048$ Chi2: $\chi^2=0.445$, $p=0.505$). Koessler et al. (2017) report similar evidence of a selection and commitment effect in a laboratory experiment on public goods, though in the present study the strength of the commitment effect differs with the incentive provided for commitment making.

RESULTS BASED ON PROBIT MODELS

We further control for both individual differences and the policy change that took place in 2013 by conducting an additional multivariate analysis (Table 2), while also probing for a potential reward effect of the promise itself. We first estimate the difference in compliance behavior between promise- and non-promise-makers in 2013, pooled over the two available treatment groups (column (1)). Being a promise-maker as opposed to a non-promise-maker (reference group) increases the probability of being compliant by 33.4 percent ($p<0.001$). We then increase the number of observations, adding in a no-intervention control group as the reference group (column (2)). Compared to those in the control group, promise-makers are 26.3 percent more likely to comply ($p<0.001$), while non-promise-makers have a 7 percent lower compliance probability. In column (3), we distinguish between the two types of promise-makers and measure the behavioral

changes in comparison to the control group. Relative to the latter, promise-makers in the wellness treatment have a higher probability of compliance than promise-makers in the cash treatment (31.5 percent as opposed to 21.4 percent). However, non-promise-makers in the wellness treatment report on average lower compliance rates than the reference group, although the difference is not statistically significant, while non-promise-makers in the cash treatment have an 8.7 percent lower probability of compliance than those in the control group.

To explore and control for a selection effect, as well as for the 2013 policy change, we include the data from the three pre-experimental years in column (4), with standard errors clustered on the individual level to take into account taxpayers' heterogeneity. The 2013 coefficient extracts the effect of the new dunning policy and records a significant increase of 4.25 percent ($p=0.042$). In particular, taxpayers who make the promise in 2013 were 22.1 percent (CASH PRO) or 20.1 percent (WELL PRO) more likely, respectively, to have paid their tax bill on time in the past (both $p<0.001$). Individuals who decided not to pledge had a history of paying their taxes 7.0 percent and 5.5 percent less frequently ($p=0.03$ for CASH PRO and $p=0.07$ for WELL PRO).

For the promise-makers in the WELL PRO treatment, compliance improves by an additional 10.8 percentage points when all the previous factors are considered ($p=0.02$). This behavioral change is significantly different from the behavior of the non-promise-makers within the same group ($p=0.003$ for compliance of promise-makers in 2013 vs. non-promise-makers in 2013) and significantly different from the behavioral change of promise-makers in the CASH PRO group ($p=0.0448$ for WELL PRO promise-makers in 2013 vs. CASH promise-makers in 2013). Finally, in column (5), demographic characteristics are included as explanatory variables for robustness check.¹⁷ The results do not change.

¹⁷ Specifically, we control for level of tax debt; gender; marital status; children; age (65 + dummy) and for how many years the taxpayer has lived in the municipality, whether the registered taxpayer owns a property in the municipality, is registered as a church member of one of the three local churches and holds Swiss citizenship (dummy).

Table 2: Probit Models – Commitment and Selection

	(1)	(2)	(3)	(4)	(5)
	Compliance 2013			Compliance 2008-2013	
	Promise	Promise vs. Control	Promise vs. Control	Promise vs. Control	Promise vs. Control
	<i>pooled</i>	<i>pooled</i>	<i>individual</i>	<i>individual</i>	<i>individual</i>
Promise-makers	0.334***	0.263***			
	(0.0384)	(0.0393)			
No Promise		-0.0700**			
		(0.0314)			
Promise-makers Cash			0.214***	-0.0103	-0.0230
			(0.0499)	(0.0484)	(0.0539)
Promise-makers Well			0.315***	0.108**	0.108**
			(0.0514)	(0.0448)	(0.0510)
No Promise Cash			-0.0871**	-0.0158	0.0239
			(0.0388)	(0.0351)	(0.0397)
No Promise Well			-0.0549	0.000576	-0.000121
			(0.0373)	(0.0351)	(0.0393)
2013				0.0425**	0.0718***
				(0.0209)	(0.0232)
Promise-makers Cash (past)				0.221***	0.190***
				(0.0366)	(0.0383)
Promise-makers Well (past)				0.201***	0.181***
				(0.0370)	(0.0393)
No Promise Cash (past)				-0.0699**	-0.0820**
				(0.0325)	(0.0353)
No Promise Well (past)				-0.0546*	-0.0659**
				(0.0305)	(0.0319)
Demographics	no	no	no	no	yes
Observations	836	1,305	1,305	6,698	5,734
<i>Robust s.e. clustered on ind. Level</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>yes</i>	<i>yes</i>

Marginal effects, Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Note: The models controlling for demographics include gender; marital status; children; age (65 + dummy) (***), for how many years the taxpayer has lived in the municipality(**) and whether the registered taxpayer owns a property in the municipality, is registered as a church member of one of the three local churches and holds Swiss citizenship (dummy)(***) as explanatory variables.

Table 3: Probit Models – Promise Reward vs. Reward

	(6)	(7)	(8)	(9)	(10)	(11)
	Compliance 2013		Compliance 2008-2013		Compliance 2008-2013	
	Cash vs. Cash Pro		Well vs. Well Pro		Control vs. Treat	
Cash Promise	-0.0234					
	(0.0342)					
Cash Promise-maker		0.172***			-0.0102	-0.0225
		(0.0475)			(0.0482)	(0.0538)
Cash No Promise		-0.121***			-0.0158	0.0237
		(0.0372)			(0.0350)	(0.0396)
Reward cash					0.0157	0.0248
					(0.0298)	(0.0330)
Wellness Promise			0.0447			
			(0.0335)			
Well Promise-maker				0.289***	0.108**	0.109**
				(0.0464)	(0.0447)	(0.0511)
Well No promise				-0.0644*	0.000574	0.000145
				(0.0358)	(0.0349)	(0.0393)
Reward Wellness					0.0343	0.0251
					(0.0296)	(0.0327)
2013					0.0424**	0.0727***
					(0.0209)	(0.0231)
Cash Promise-maker (past)					0.220***	0.182***
					(0.0365)	(0.0379)
Cash No Promise (past)					-0.0697**	-0.0814**
					(0.0324)	(0.0355)
Reward Cash (past)					-0.00362	-0.0149
					(0.0272)	(0.0289)
Well Promise-maker(past)					0.201***	0.175***
					(0.0369)	(0.0393)
Well No Promise (past)					-0.0544*	-0.0658**
					(0.0304)	(0.0319)
Reward Wellness (past)					0.00239	-0.00515
					(0.0270)	(0.0286)
Demographics	no	no	no	no	no	yes
Observations	852	852	880	880	11,382	9,832
<i>Robust s.e., clustered on ind. level</i>	no	no	no	no	yes	yes

Marginal effects, Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Note: The models controlling for demographics include gender; marital status; children; age (65 + dummy) (***), for how many years the taxpayer has lived in the municipality (***), and whether the taxpayer owns a property, is registered as a church member of one of the three local churches (**) and holds Swiss citizenship (dummy) (***), as explanatory variables.

Result 3: Promises are associated with distinct selection and commitment effects.

Result 4: Promise effects differ depending on the reward offered for compliance.

To investigate this reward-dependent difference in more detail and control for the pure incentive effect of rewards, we conduct an additional analysis using only the pure reward treatment

groups (Table 3). First, we compare the behavioral changes of the CASH PRO group in 2013 with the CASH only group as the reference group (columns (6) and (7)). On an aggregate level, the CASH PRO and CASH treatments show no significant differences ($p=0.50$) (column 6). However, promise-makers have a 17.2 percent higher probability of being compliant than those in the CASH reward treatment ($p<0.001$), while non-promise-makers have a 12 percent lower probability ($p=0.001$).

Similarly, in columns (8) and (9), we explore the difference between the WELLNESS PRO and WELLNESS only treatment. Again, no differences emerge between the two treatment groups on an aggregate level ($p=0.18$), but promise-makers and non-promise-makers demonstrate significantly different compliance behaviors than taxpayers in the reward only group. More specifically, promise-makers have a 28.9 percent higher probability of paying on time ($p<0.001$), while non-promise-makers are 6.4 percent less likely to pay on time than the reward only group ($p=0.072$).

Columns (10) and (11) adjust for selection effects, policy change and individual characteristics. In line with the previous results, the coefficients of past compliance indicate a selection effect: the past compliance behavior in the reward only groups (reward CASH and reward WELLNESS) is not significantly different from past compliance in the control group. According to the 2013 coefficient, which extracts the behavioral changes triggered by the policy change, there is no significant change in payment behavior between taxpayers in the CASH only group and taxpayers who made a promise in the CASH PRO group ($p=0.356$). While for the CASH only group, the payment behavior improves slightly, the change for the CASH promise makers is in fact negative. Offering cash rewards for compliance had a positive incentive effect, but the combination of a promise and a cash reward is less powerful than the cash reward alone. The incentive effect of cash may be crowded out by the additional request. However, the difference is not statistically significant ($p=0.356$).

In the wellness groups, the promise-makers improve their payment behavior by an additional 11 percent ($p=0.016$). This commitment effect is robust and persists when demographic factors are taken into account (specification (11); $p=0.033$). We compare the behavior of the promise-makers in WELL PRO with the behavior of taxpayers who were only exposed to the reward in WELLNESS, finding that the difference in significance remains ($p=0.040$ for specification (10) and $p=0.102$ for specification (11)).

Result 5: Eliciting the intention for compliance when combined with a non-financial reward leads to an improvement in payment behavior. With a financial reward only a selection effect is present, but no change in payment behavior.

Result 5 is in line with previous research on crowding effects: offering financial rewards can backfire when the recipient perceives them as compensation rather than acknowledgment (Frey and Jegen 2001, Deci 1971). These results provide a valuable insight into promises as a commitment device by road-testing the scheme in the field.

RESULTS BASED ON IV REGRESSIONS

To evaluate the promise effect, while recognizing the associated endogeneity, we analyse the effect of our interventions in an instrumental variable analysis. Table 4 corresponds to the standard Probit model in Table 2. Given the divergence between the assignment to and the receipt of treatment, we distinguish between subjects to whom the promise has been offered (Promise offer) and subjects who decided voluntarily to make the promise (Promise-makers). Since the exposure to the Promise offer is randomized over all taxpayers, we will use the exposure to the Promise offer (treatment groups CASH PRO and WELL PRO) as an instrument in the following estimations.

Column (1) contrasts payment behavior in the two promise treatment groups (CASH PRO and WELL PRO) with the CONTROL group and estimates the likelihood with which a taxpayer pays all 2013 rates on time. A Durbin-Wu Hausman test is performed to test for endogeneity. The null hypothesis that OLS and TSLS estimates are identical can be rejected (Hausman $F = 5.096$,

$p=0.024$) providing statistical support for the IV approach. Following the first stage regression, 32% of the subjects decide to make a promise when offered. For this subgroup of promise-makers, timely payments are 11 percentage points more likely than for the remaining taxpayers. This behavioral difference is not statistically significant for the aggregated promise-makers ($p=0.198$).

Columns (2) and (3) capture the incentive scheme for which the taxpayer opted when making the promise. In Column (2), the estimations are performed on promise-makers to whom a financial reward has been held out in prospect. Payment behavior in 2013 is slightly, but not statistically significantly, better than for taxpayers to which no promise and reward was offered (CONTROL group). This observation changes when looking at the payment behavior of promise-makers to whom an in-kind reward was offered for fulfilling the promise. In Column (3), promise-makers in WELL PRO are significantly more compliant than subjects in the control group ($p=0.079$). Timely payments are 18% more likely for this sub-group. The effect of a promise varies significantly with the reward offered for compliance. The CASH promise leads to a pure selection effect, while the wellness reward leads to an additional improvement in payment behavior of the promise-makers. Promise take up is similar in the two treatment groups, being 33% in CASH PRO and 31% in WELL PRO. In Columns (4) to (6), we offer additional robustness checks. These estimations take the average past compliance of the individuals into account. Past compliance is coded as the sum of compliant years from 2008-2012 and is evidently a strong predictor for compliance in 2013 ($p<0.001$) as well as for promise take up ($p<0.001$). While the additional improvement for the promise-makers in WELL PRO is robust, the Hausman-tests in columns (4) and (5) indicate that the IV regressions do not solve the endogeneity problem.

To distinguish between the incentive effect of the rewards and the promise's commitment effect we estimate the behavioral changes in CASH PRO and WELL PRO in contrast to the pure reward treatment groups (Table 5). In CASH and WELLNESS, taxpayers only needed to be

compliant in 2013 to be eligible for the reward lottery. Estimations are structured in the same way as those in Table 4 using an IV approach.

Column (7) offers estimation results contrasting the payment behavior of promise-makers (pooled from both promise treatment groups) with the payments of taxpayers in the pure reward treatment groups. For promise-makers, timely payments are more frequent, although the result is not statistically significant ($p = 0.631$). We should keep in mind that a specific group in the PRO treatments, i.e., the promise-makers, are compared with the entire population in the REWARD ONLY treatments, for which compliance was the only requirement to be eligible for a reward.

Columns (8) and (9) distinguish between the kinds of incentives offered. Starting from the pure reward situation, behavioral reactions differ when a promise is additionally required in order to be eligible for a financial or non-financial reward. Column (8) contrasts payment behavior of promise-makers in CASH PRO with payments in the CASH treatment group, in which all compliant taxpayers were eligible for the cash reward. Requesting a promise did not lead to an additional improvement in payment behavior ($p = 0.498$). In Column (9), timely payments of promise-makers in WELL PRO, to whom a wellness weekend was offered for fulfilling the promise, are respectively compared with the payments of all taxpayers in WELLNESS, who could receive the wellness reward for pure compliance. Contrary to Column (8), in which a negative coefficient was observed, it seems that the promise leads to an additional improvement in payment behavior. This behavioral change is however not statistically significant ($p = 0.175$).

Result 6: The results only partly survive after applying an instrumental variable approach. Still, the effect of a promise varies significantly with the reward offered for compliance.

Table 4: Instrumental Variable Regressions- Selection and Commitment

	(1)		(2)		(3)		(4)		(5)		(6)	
VARIABLES $Y_i =$			Compliance 2013				Compliance 2013					
	Promise vs. Control		Cash Pro vs. Control		Well Pro vs. Control		Promise vs. Control		Cash Pro vs. Control		Well Pro vs. Control	
	Compliance	Promise	Compliance	Promise	Compliance	Promise	Compliance	Promise	Compliance	Promise	Compliance	Promise
Promise-makers	0.113 (0.088)		0.042 (0.101)		0.182* (0.104)		0.139* (0.077)		0.100 (0.085)		0.178* (0.093)	
Promise offer		0.322***		0.332***		0.313***		0.326***		0.345***		0.310***
(Instrument)		(0.023)		(0.022)		(0.022)		(0.022)		(0.022)		(0.022)
Past compliance							0.141*** (0.008)	0.052*** (0.006)	0.146*** (0.009)	0.043*** (0.006)	0.143*** (0.009)	0.034*** (0.006)
Constant	0.435 (0.088)		0.435 (0.023)		0.435 (0.023)		0.187 (0.019)		0.179 (0.022)		0.184 (0.022)	
<u>Test of endogeneity</u>	<i>Hausman</i>		<i>Hausman</i>		<i>Hausman</i>		<i>Hausman</i>		<i>Hausman</i>		<i>Hausman</i>	
<i>p-value</i>		0.024		0.025		0.135		0.931		0.862		0.821
<i>F-stat</i>		5.096		5.074		2.345		0.007		0.03		0.051
Observations	1,305		870		904		1,192		797		823	

Standard errors are in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Note: In Column (1) – (3) the 'Promise offer' (being in a treatment group in which a promise can be made) serves as an instrument. In Column (4) to (6) the 'Promise offer' and an individual's 'Past compliance' serve as instruments.

Table 5: Instrumental Variable Regressions - Reward only vs Reward Pro

	(1)		(2)		(3)	
			Compliance 2013			
VARIABLES	Promise vs. Reward		Cash Pro vs. Cash		Well Pro vs. Well	
$Y_i =$	Compliance	Promise	Compliance	Promise	Compliance	Promise
Promise-makers	0.036		-0.071		0.143	
	0.0742		0.104		0.106	
Promise offer (Instrument)		0.322***		0.332***		0.313***
		0.156		0.022		0.022
Constant	0.46		0.472		0.447	
	0.017		0.024		0.023	
<i>Test of endogeneity</i>	<i>Hausman</i>		<i>Hausman</i>		<i>Hausman</i>	
<i>p-value</i>		<0.001		0.001		0.07
<i>F-stat</i>		12.609		10.343		3.291
Observations	1,732		852		880	

Standard errors are in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Note: In Column (1) – (3) the 'Promise offer' (being in a treatment group in which a promise can be made) serves as an instrument. In Column (4) to (6) the 'Promise offer' and an individual's 'Past compliance' serve as instruments.

REFLECTING ON THE RESULTS FROM THE FIELD EXPERIMENT

The field experiment allowed us to test for the effect of a compliance promise in the natural environment of tax payments. We made two key observations. First, a strong selection effect exists, wherein more compliant taxpayers are more likely to make a pledge. Second, the type of reward affects the impact of a promise after it has been made: the option of a non-financial reward is more likely to generate a positive commitment effect than a financial reward.

However, we also face limitations in our endeavors to analyze the potential effects of a tax compliance promise. Even if it is unlikely,¹⁸ we cannot rule out that taxpayers within the community may have discussed aspects of the intervention.¹⁹ However, given that a major study

¹⁸ In Switzerland, it is culturally discourteous to talk about income or taxes.

¹⁹ The intervention by our field experiment has apparently not been perceived as problematic. Official institutions were seldom approached by concerned citizens. The tax administration received only 7 written reactions and 12 phone inquiries. Nor was there any media or social media coverage that could have contaminated the field experiment.

objective was to compare different types of incentives, any possible communication (if randomly distributed among treatments) is not necessarily a major shortcoming.

Another limitation is that we do not have a ‘promise only’ treatment in which taxpayers could promise to pay in a timely way but without the offer of a reward. Such a treatment would have enabled us to measure the pure commitment effect of the promise. However, we were not able to run this treatment. The tax authority and the municipality council both rejected the implementation of such a treatment and requested that the taxpayers gain an additional benefit when making a promise. Thus, responses from the key decision-makers may provide insights on the feasibility and necessary design characteristics of a potential voluntary commitment device for the real world. But also as a consequence, we are only able to draw conclusions on the commitment effect by comparing the promise treatments with the pure reward treatments without knowing what the pure promise effect was. It is possible that the commitment effect of the pure promise was strong, e.g., due to a moral norm of promise-keeping (see, e.g., Ellingsen and Johannesson 2004, Vanberg 2008), and the attached rewards only supported or weakened this effect.

To address this shortcoming and to test for the robustness of our results in a setting, in which we can control for the external influences, we decided to run an additional laboratory experiment. We replicate the treatment schemes from the field experiment, and extend the testing schemes by a compulsory and voluntary promise treatment group, in which only the promise was in place and no additional reward was offered for promise fulfillment.

5. LABORATORY EXPERIMENT

To simulate the setting of tax payments, we designed a real effort experiment in which subjects could earn income from counting the amount of zeroes in matrices (Abeler et al. 2011).²⁰ Over

²⁰ This task is rather boring, so that subjects’ productivity and resulting earnings are based on effort and not on a specific skill set.

five rounds subjects could accumulate earnings, while at the end of each round they had to declare their income in the respective round.²¹ The tax rate was 20 percent and the query to report income was framed as a tax declaration setting, using the terms *income*, *income declaration* and *tax*. A weak deterrence mechanism was in place with an audit probability of 5 percent. At the end of the experiment, each subject faces a 5 percent probability that the income declarations from the previous rounds were checked. When the audit revealed that the income declarations were incorrect, then the real total income after tax was used as payment and a fine in the amount of the evaded income was imposed.

Overall, three compliance promoting schemes were tested: the rewarding scheme, the promising scheme, and the combination of the former two. In the rewarding scheme, subjects could obtain a reward when audited and found to be compliant. Depending on the treatment group, the reward was either financial (CASH), i.e., additional 10 Euros were given, which corresponds with the average earning in the experiment; or an in-kind reward, i.e., a cinema voucher of the same amount (INKIND) was added to the earnings from the real effort task.

The promising scheme consisted of a voluntary or compulsory moral commitment. Subjects could or had to make a promise at the beginning of the experiment (COM PRO and PROMISE), giving their word that they will always report their income truthfully.²² In the next compliance promoting schemes, the two former approaches were combined and subjects could obtain the financial or in-kind reward when they previously made the voluntary promise and fulfilled it (CASH PRO and INKIND PRO).

Treatments were randomized within 13 sessions, with 40 observations for the control group and the promise schemes and 30 observations for the pure reward schemes. The experiment was run in January 2018 with help of the experimental software SOPHIE

²¹ After the working phase in each round, subjects were informed how many matrices they counted correctly and the resulting ‘round income’. Then they had to report their income so that the tax debt and corresponding ‘round income after tax’ could be calculated. By design and instructions, subjects could only underreport.

²² The promise was “I promise to give truthful information in this experiment about my income”.

(Hendricks 2012) at the LaER laboratory of the University Osnabrück, Germany. Instructions can be found in the appendix. The majority of the 260 participants were students (94%)²³, with an average age of 23.7 years.²⁴

RESULTS FROM THE LABORATORY EXPERIMENT

Without a compliance promoting scheme, 35% of the subjects reported their income truthfully in the laboratory experiment. 37% of the total income remained undeclared. In all intervention groups, a higher proportion of subjects reported their income truthfully (see Figure 4). The higher compliance rates in the CASH PRO and INKIND PRO treatment groups report statistical significance (Pearson $\chi^2=2.489$, $p=0.115$ for both groups in comparisons to compliance in the control group). This resembles what we have observed in the field experiment. On the treatment group level, positive trends from the compliance promoting schemes are recognizable, but they are not statistically significant. In line with the findings in the field, we find that the in-kind reward leads to the highest average compliance rate (Pearson $\chi^2=11.944$, $p=0.001$ for comparison with CONTROL and $p<0.05$ for the comparison with all other treatment groups). We attribute this to the form of reward we have chosen as an in-kind reward in the laboratory experiment. Students perceived the cinema voucher as a very attractive reward and were hence strongly motivated to comply.²⁵ Considering the strong positive incentive effect of the in-kind reward, it also becomes apparent that linking this reward with a promise reduces the positive incentive effect significantly (Pearson $\chi^2=4.288$, $p=0.038$), at least on the average treatment level. We assume that adding a second condition (making the promise) to the reward that needed

²³ This is evidence that the population from the laboratory study is very different from the sample observed in the field experiment. Choo et al. (2016) show in this context, that when the compliance behavior of student and non-student samples are compared in tax evasion experiments, the student sample is significantly less compliant, but at the same time most receptive to treatment changes. The authors argue that the difference originates from the fact that non-student participants are also paying taxes in reality and thus enter the laboratory with a pre-existing compliance norm.

²⁴ A detailed description of the demographic distribution among treatment groups can be found in Table A5 in the appendix.

²⁵ This impression is confirmed by the comments participants made in the post experimental questionnaire. Several subjects stated how much they like to go to the movies.

to be fulfilled, made the scheme less attractive to the subjects. Also, this can be understood as a crowding out effect, similar to the one we observed in the field experiment.

Result 7: Compliance promoting schemes increase the likelihood of truthful income reporting. The pure in-kind reward motivates the highest full compliance rate.

Figure 4: LAB - Average Treatment effect on compliance



In this laboratory experiment, compliance is measured in terms of honest income declarations (no cheating). This allows us to test for a second dimension of the effect the compliance promoting interventions. Table 6 shows the average proportion of income that remained undeclared (left panel). This number is particularly interesting for those subjects who were not compliant (right panel). As expected, the ratio of undeclared income is lowest in the INKIND treatment group. In the CASH treatment, however, the ratio of undeclared income is highest and this result is driven by subjects who are non-compliant; 81% of their income remains undeclared. This constitutes a statistically significant difference from the reporting behavior of non-compliant subjects in the CONTROL treatment (Wilcoxon rank sum test: $z = -2.196$, $p = 0.0281$).²⁶ We interpret this finding as a crowding out effect. When a cash reward for

²⁶ The difference in the evasion rate of non-compliant rates to subjects in COM-PRO and PROMISE is also statistically significant with $z = -2.288$, $p = 0.022$ and $z = -1.920$, $p = 0.055$.

compliance is offered and subjects decide not to follow the offer, moral concerns may no longer constrain subjects from maximizing their earnings. This effect is not observed when no reward or in-kind reward is offered for compliance

Result 8: In-kind contributions promote compliance while providing a purely financial reward reduces compliance rates relative to the control group and other treatments.

Table 6: Ratio of undeclared income

Treatment	Average ratio	Sd	N	Average ratio	Sd	n	n/N
<i>All subjects</i>				<i>Non-compliant subjects</i>			
CONTROL	0.37	0.40	40	0.57	0.37	26	65%
COM-PRO	0.32	0.39	40	0.56	0.36	23	58%
PROMISE	0.27	0.38	40	0.54	0.38	20	50%
CASH PRO	0.32	0.44	40	0.67	0.42	19	48%
INKIND PRO	0.29	0.40	40	0.61	0.38	19	48%
CASH	0.48	0.45	30	0.81	0.27	18	60%
INKIND	0.13	0.30	30	0.55	0.42	7	23%

These two detrimental findings in the pure rewarding schemes set interesting grounds for further examination of how the promises affect the behavior of subjects.

PROMISE-MAKERS (TREATMENT EFFECT ON THE TREATED)

When subjects could obtain a reward for fulfilling the promise, significantly more subjects were willing to make the promise than when only the pure promise was on offer. In CASH PRO 82.5% of the subjects made the promise, in INKIND PRO 72.5 % while in PROMISE the rate was 55% (Pearson chi2 test against the two former: $p < 0.001$). In a post-experimental questionnaire, we elicited an individual's attitude towards tax payments (tax morale), using the 'commitment' subscale of Braithwaite's (2003) tax compliance measure. This scale aims at eliciting an individual's "belief(s) about the desirability of tax systems and feelings of moral obligation to act in the interest of the collective and pay one's tax with good will" (ibid, p. 18).²⁷

²⁷ We used the German translation from Kirchler and Wahl (2010).

Linking an individual's moral predisposition with the decision to make a promise shows that tax morale has a strong, statistically significant effect on making a promise ($p=0.01$, Column 1 in Table 7). Between the promise treatment groups, the impact of tax morale is strongest in the pure promise treatment ($p=0.142$, Column 2), and weaker, but not statistically significant in the promise+reward treatment groups. This effect remains robust to the inclusion of other demographic characteristics that potentially interact with an individual's tax morale (Column 3). The finding can be read as confirmation of the selection effect found in the field experiment. Subjects who understand paying taxes as a moral/civic obligation, and consequently pay on time without an enforcement or incentive scheme in place, are more likely to make a promise about their future compliance.

It is a robust finding in laboratory experiments that economics students behave more selfishly and are output-oriented in experiments (Marwell and Ames 1981). Hence, we also control for the treatment specific in this subgroup (Column 5). The specification shows that a large amount of general treatment effects can be explained by this treatment ($p=0.656$ for CASH PRO coefficient and $p=0.178$ for INKIND PRO). Having economics as a major significantly reduces the likelihood of making a promise in the pure promise treatment ($p=0.030$), but significantly increases the likelihood when an additional financial reward is offered ($p=0.015$).

Result 9: Subjects with a higher tax morale are more likely to make a compliance promise.

Result 10: When a financial reward is offered, economists are attracted to promise.

In the following, the behavioral effects of the promise treatments are analyzed with the help of a multivariate regression analysis. Treatment groups are randomized within one session and session fixed effects are included to control for heterogeneity between individual sessions. On the average treatment level, the earlier results derived on non-parametric tests can be replicated (see Table 8).

Table 7: LAB - Probit models on the Likelihood of making a promise

VARIABLES	(1)	(2)	(3)	(4)
	Likelihood of making a promise			
CASH PRO	0.242** (0.111)	0.236** (0.112)	0.228* (0.118)	0.061 (0.137)
INKIND PRO	0.316*** (0.106)	0.317*** (0.107)	0.293** (0.114)	0.178 (0.132)
Taxmorale	0.145** (0.058)	0.204 (0.141)	0.227 (0.143)	0.191 (0.141)
Taxmorale \times CASH PRO		-0.096 (0.175)	-0.120 (0.177)	-0.060 (0.177)
Taxmorale \times INKIND PRO		-0.044 (0.182)	-0.079 (0.187)	-0.054 (0.189)
Female			0.053 (0.103)	0.037 (0.104)
Student			0.198 (0.244)	0.265 (0.238)
Econ major			-0.082 (0.114)	-0.402** (0.186)
Econ major \times CASH PRO				0.736** (0.302)
Econ major \times INKIND PRO				0.301 (0.270)
Age			-0.018 (0.015)	-0.020 (0.015)
Willingness to take risk			0.001 (0.038)	0.003 (0.038)
Observations	120	120	120	120

Marginal effects, Standard errors are in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Note: 'Taxmorale' measures an individual's motivational postures towards paying taxes, based on the subscale 'Commitment' from Braithwaite (2003)'s tax compliance measure. Standardized mean scores are taken as a basis for the estimations. 'Willingness to take risks' is a self-reported measure on the individual's willingness to take risks, as used in the German Socio-Economic Panel (R-1 scale). All models include session fixed effects.

Compliance rates in CASH PRO and INKIND PRO are weakly statistically significantly higher than in the CONTROL group ($p=0.077$ and 0.095). The pure INKIND reward motivates by far the highest compliance rate ($p=0.001$). When the promise alone was offered, the treatment group reports improved compliance approaching statistical significance ($p=0.146$ in Column 1 and $p=0.117$ in Column 3 of Table 8). The compulsory promise, in contrast, has a small and non-significant effect on compliance ($p=0.536$ in Column 1 and 0.779 in Column 3).

The results remain robust when an individual's demographic characteristics (Column 2), the willingness to take risk²⁸ and tax morale are considered in the estimation (Column 3).

Result 11: When a voluntary or compulsory compliance promise is offered on its own, average compliance improves (stronger for voluntary), but the coefficients are not statistically significant. Offering a reward for fulfillment of the promise strengthens compliance.

As with the field experiment, we can assume that the promise predominantly affects compliance decisions of the subjects who agreed to make the promise. For this reason, the results of promise-makers and subjects who decided against the promise are listed separately in Columns 4 to 6. For all promise schemes it is true that the compliance rate is significantly higher for the promise-makers than for subjects in the CONTROL group or for subjects who decided against the promise (Chi2 test: $p < 0.001$ in PROMISE and CASH PRO, $p = 0.034$ in INKIND PRO, Column 4). This effect is stronger in all voluntary promise schemes than in the compulsory setting ($p < 0.01$ for PROMISE and CASH PRO, $p = 0.096$ for INKIND PRO). Comparing the compliance of promise-makers among the three voluntary promise schemes (PROMISE, CASH PRO and INKIND PRO) no significant difference can be found.

Result 12: Subjects, who decide to make a promise, are exhibiting more compliant behavior. No difference can be found between the schemes under which the voluntary promise has been made.

²⁸ We used the question from the German Socio-Economic Panel, asking subjects to state their willingness to take risks on a scale from 1 to 7; a higher value is associated with a higher willingness to take risks.

Table 8: Compliance in the LAB

VARIABLES	(1)	(2)	(3)		(4)	(5)	(6)
	Total Compliance						
	Intention to Treat effect				Effect on Treated and Non-treated		
<i>PROMISE</i>	0.180	0.193	0.203	No Promise	-0.224	-0.222	-0.219
	(0.124)	(0.126)	(0.130)		(0.172)	(0.176)	(0.184)
<i>CASH PRO</i>	0.216*	0.218*	0.281**		-0.378	-0.420*	-0.357
	(0.122)	(0.124)	(0.128)		(0.233)	(0.246)	(0.254)
<i>INKIND PRO</i>	0.207*	0.209*	0.272**	Promise-Maker	-0.256	-0.200	-0.116
	(0.124)	(0.126)	(0.131)		(0.269)	(0.266)	(0.260)
<i>COMPULSORY PROMISE</i>	0.072	0.095	0.034		0.069	0.103	0.045
	(0.116)	(0.119)	(0.122)		(0.116)	(0.119)	(0.122)
Promise-Maker × <i>PROMISE</i>				Promise-Maker	0.507***	0.521***	0.508***
					(0.155)	(0.157)	(0.159)
Promise-Maker × <i>CASH PRO</i>					0.410***	0.436***	0.484***
					(0.136)	(0.140)	(0.143)
Promise-Maker × <i>INKIND PRO</i>				Promise-Maker	0.302**	0.310**	0.374***
					(0.132)	(0.135)	(0.141)
<i>CASH</i>	0.087	0.111	0.120		0.083	0.121	0.127
	(0.136)	(0.139)	(0.142)		(0.136)	(0.141)	(0.144)
<i>INKIND</i>	0.468***	0.456***	0.484***	Promise-Maker	0.460***	0.457***	0.481***
	(0.139)	(0.142)	(0.148)		(0.139)	(0.142)	(0.147)
Female		0.111	0.056			0.108	0.046
		(0.071)	(0.076)			(0.075)	(0.080)
Age		0.009	0.001	Promise-Maker		0.016	0.008
		(0.009)	(0.010)			(0.010)	(0.010)
Student		0.375**	0.362**			0.398**	0.371**
		(0.164)	(0.170)			(0.172)	(0.178)
Econ major		-0.040	-0.009	Promise-Maker		-0.010	0.024
		(0.079)	(0.081)			(0.084)	(0.086)
Productivity		0.006	0.010			0.009	0.012
		(0.015)	(0.016)			(0.016)	(0.017)
Taxmorale			0.145***	Promise-Maker			0.123**
			(0.051)				(0.056)
Willingness to take risk			-0.085***				-0.089***
			(0.027)				(0.028)
Observations	260	260	260		260	260	260

Marginal effects, Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: 'Productivity' indicates how many matrices the individual solved correctly. 'Taxmorale' is measuring an individual's motivational postures towards paying taxes, based on the subscale 'Commitment' from Braithwaite (2003)'s tax compliance measure. Standardized mean scores are taken as a basis for the estimations. 'Willingness to take risk' is a self-reported measure on the individual's willingness to take risks, as used in the German Socio-Economic Panel (R-1 scale). All models include session fixed effects.

Estimations in Columns 5 and 6 additionally control for an individuals' demographic characteristics (Column 5) and an individual's willingness to take risks as well as for the motivational posture toward paying taxes (Column 6). The core findings do not change. Tax morale is positively correlated with tax compliance, which is consistent with the literature (Torgler, 2007; Torgler et al. 2008; Torgler and Schneider, 2009; Dulleck et al., 2016²⁹), and is negatively correlated with a subject's willingness to take risks.

Result 13: A higher tax morale is correlated with a higher tax compliance.

6. CONCLUSIONS

Our understanding of the relevance of promise-making for subsequent behavior is quite preliminary. The limited evidence available stems mostly from laboratory experiments, which struggle with problems of external validity. In a novel approach, we conduct a field experiment on the importance of promise referring to a commitment to tax compliance. This issue lies at the core of any country's system of government. Exploring the relevance of a promise is a challenging problem. Fortunately, because of the highly decentralized and autonomous structure of tax administration in Switzerland, we were able to convince a tax administration to implement such an experiment. This field experiment draws on the tax compliance literature as its conceptual framework. It does not only stress the importance of commitment, but also focuses its attention on reciprocity and on rewards of positive actions by government and tax authorities leading to a higher level of taxpayer compliance. Taxpayers thus *react* to a perceived situation in their experience. Yet, politicians and tax administrators remain unsure as to how to promote a pro-active commitment to pay taxes. We complement the analysis using a laboratory experiment, as we were not able to implement a pure promise treatment in the field experiment.

²⁹ The results of this study imply that tax compliance due to tax morale may be channelled through the imposition of psychic costs, which were measured with a physiological marker.

A first key observation from our results in the field and the lab is a strong selection effect: compliant taxpayers or taxpayers with a high tax morale are more likely to make a pledge. Promise-makers have about 24 percent more past compliance than those in the control group, while taxpayers uninterested in pledging are significantly less compliant than the reference group. An increase in tax morale by one unit also leads to an increase in the probability of making a promise by more than 12 percent. In addition, for all promise schemes, compliance is significantly higher for the promise-makers as compared to subjects in the control group and to those who did not commit with a promise.

A second key observation is that the type of reward affects the impact of a given promise: both in the lab and in the field, the option of a non-financial reward is more likely to generate a positive commitment effect than a financial reward, probably because the willingness to comply is crowded out. One interpretation is that, while the in-kind reward is understood as acknowledgment and supports the promise, financial incentives trigger the perception of an exchange relationship. Moreover, the additional request to make a promise strains the taxpayer's willingness to comply with a new practice.

It should also be noted that Switzerland is highly decentralized and grants its citizens the right to direct democratic participation, which may directly impact the closeness between taxpayers and the tax administration and thus affect tax morale (Pommerehne and Weck-Hannemann 1996, Frey 1997b, Frey und Feld 2002). On the one hand, our experiment took place in an environment of considerable social control and identification with the community, leading to a high level of general compliance and a particularly high tax compliance rate. As a result, there could be a ceiling effect, in which additional supportive incentives have less impact. On the other hand, encouraging individuals to pro-actively pledge to be compliant can be problematic if government institutions work poorly. Thus, a certain level of reciprocity or government quality may be required when introducing an oath or pledge. Further research is

needed to determine how such instruments shape tax compliance in other countries where tax compliance is generally lower and the setting is more anonymous.

Finally, there may be an issue with the tax administration offering rewards for fulfilling a civic duty and statutory obligation. To tackle this concern and strengthen the tax administration's credibility, future field experiments might offer local community rewards such as free access to public swimming pools or other public infrastructure, which carry no additional costs and are directly related to pre-tax revenues.

The instrument of promise is an interesting avenue to consider because it aims to strengthen the psychological contract between taxpayers and the tax authority. Moreover, our society is already familiar with many professional examples of compulsory promise statements, including the Hippocratic Oath taken by physicians. Indeed, following the financial crisis, there have been calls for similar ethical declarations by managers or bankers (Boatright 2013, DeMartino 2010). The question is whether it makes sense to require compulsory promises or whether individuals can choose to make or not to make a promise. Our study suggests that tax administrations can rely to some extent on promises made voluntarily by its citizens.

REFERENCES

- Abeler, J., Falk, A., Goette, L. & Huffman, D. (2011). Reference points and effort provision. *American Economic Review*, 101(2): 470-492.
- Allingham, M. G. & Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 1(3): 323-338.
- Alm, J. & Torgler, B. (2011). Do ethics matter? Tax compliance and morality. *Journal of Business Ethics*, 101(4): 635-651.
- Alm, J., Jackson, B. & McKee, M. (1992). Deterrence and beyond: Toward a kinder, gentler IRS, in: J. Slemrod (ed.), *Why People Pay Taxes*. Ann Arbor: University of Michigan Press, 311-332.
- Alm, J., Martinez-Vazquez, J. & Torgler, B. (eds.) (2010). *Developing Alternative Frameworks for Explaining Tax Compliance*. London: Routledge.
- Andreoni, J., Erard, B. & Feinstein, J. (1998). Tax compliance. *Journal of Economic Literature*, 36(2): 818-860.
- Bazart, C. & Pickhardt, M. (2011). Fighting income tax evasion with positive rewards. *Public Finance Review*, 39(1): 124-149.
- Becker, C. (1968). Punishment: An economic approach. *Journal of Political Economy*, 76(2): 169-217.
- Belot, M., Bhaskar, V. & van de Ven, J. (2010). Promises and cooperation: Evidence from a TV game show. *Journal of Economic Behavior & Organization*, 73(3): 396-405.
- Binmore, K. (2006). Why do people cooperate? *Politics, Philosophy & Economics*, 5(1): 81-96.
- Bicchieri, C. & Lev-On, A. (2007). Computer-mediated communication and cooperation in social dilemmas: An experimental analysis. *Politics, Philosophy & Economics*, 6(2): 139-168.
- Boatright, J. R. (2013). Swearing to be virtuous: The prospects of a banker's oath. *Review of Social Economy*, 71(2): 140-165.
- Boulding, K. E. (1981). *A Preface to Grant Economics: The Economy of Love and Fear*. Praeger
- Braithwaite, V. (2001). Tensions between the Citizen Taxpaying Role and Compliance Practices, Regulatory Institutions Network (RegNet) Working Paper 12, July, ANU, Canberra.
- Braithwaite, V. (2003). Dancing with tax authorities: Motivational postures and non-compliant actions. *Taxing democracy*, 15-39.
- Brockmann, H., Genschel, P. & Seelkopf, L. (2016). Happy taxation: Increasing tax compliance through positive rewards? *Journal of Public Policy*, 36(3), 381-406.
- Charness, G. & Dufwenberg, M. (2006). Promises and partnership. *Econometrica*, 74(6): 1579-1601.
- Choo, C. L., Fonseca, M. A. & Myles, G. D. (2016). Do students behave like real taxpayers in the lab? Evidence from a real effort tax compliance experiment. *Journal of Economic Behavior & Organization*, 124: 102-114.
- Cialdini, R. B. (1989). Social motivations to comply: Norms, values and principles, in: J. A. Roth & J. T. Scholz (Eds.), *Taxpayer Compliance, Vol 2*. Philadelphia: University of Pennsylvania Press, 200-227.

- Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 18(1): 105-115.
- DeMartino, G. F. (2010). *The Economist's Oath: On the Need for and Content of Professional Economic Ethics*. Oxford: Oxford University Press.
- Dulleck, U., Fooker, J., Newton, C., Ristl, A., Schaffner, M. & Torgler, B. (2016). Tax compliance and psychic costs: behavioral experimental evidence using a physiological marker. *Journal of Public Economics*, 134, 9-18.
- Dwenger, N., Kleven, H., Rasul, I. & Rincke, J. (2016). Extrinsic and intrinsic motivations for tax compliance: Evidence from a field experiment in Germany. *American Economic Journal: Economic Policy*, 8(3), 203-232.
- Ellingsen, T. & Johannesson, M. (2004). Promises, threats and fairness. *Economic Journal*, 114(495): 397-420.
- Ellingsen, T., Johannesson, M., Tjøtta, S. & Torsvik, G. (2010). Testing guilt aversion. *Games and Economic Behavior*, 68(1): 95-107.
- Feld, L. P. (1997). Exit, voice and income taxes: The loyalty of voters. *European Journal of Political Economy*, 13(3): 455-478.
- Feld, L. P. (2000). Tax competition and income redistribution: An empirical analysis for Switzerland. *Public Choice*, 105(1-2): 125-164
- Feld, L. P. & Frey, B. S. (2002). Trust breeds trust: How taxpayers are treated. *Economics of Governance*, 3(2): 87-99.
- 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.
- Feld, L. P. & Kirchgässner, G. (2003). The impact of corporate and personal income taxes on the location of firms and on employment: Some panel evidence for the Swiss cantons. *Journal of Public Economics*, 87(1): 129-155.
- Feld, L. P., Frey, B. S. & Torgler, B. (2006). Rewarding honest taxpayers, in: H. Elffers, P. Verboon & W. Huisman (Eds.), *Managing and Maintaining Compliance*. The Hague: Boom Legal Publishers, 45-61.
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford University Press.
- Fochmann, M. & Kroll, E. B. (2016). The effects of rewards on tax compliance decisions. *Journal of Economic Psychology*, 52, 38-55.
- Frey, B. S. (1997a). *Not Just for Money. An Economic Theory of Personal Motivation*. Edward Elgar.
- Frey, B. S. (1997b). A constitution for knaves crowds out civic virtues. *Economic Journal* 107: 1043-1053.
- 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. & Jegen, R. (2001). Motivation crowding theory. *Journal of Economic Surveys*, 15(5): 589-611.
- Hallsworth, M. (2014). The use of field experiments to increase tax compliance. *Oxford Review of Economic Policy*, 30(4): 658-679.
- Hendriks, A. (2012). SoPHIE-Software Platform for Human Interaction Experiments. University of Osnabrück, Osnabrück.
- Hurkens, S. & Kartik, N. (2009). Would I lie to you? On social preferences and lying aversion. *Experimental Economics*, 12(2): 180-192.
- Ismayilov, H. & Potters, J. (2016). Why do promises affect trustworthiness, or do they?. *Experimental Economics*, 19(2), 382-393.
- Kastlunger, B., Muehlbacher, S., Kirchler, E. & Mittone, L. (2011). What goes around comes around? Experimental evidence of the effect of rewards on tax compliance. *Public Finance Review*, 39(1), 150-167.
- Kerr, N. L. & Kaufman-Gilliland, C. M. (1994). Communication, commitment, and cooperation in social dilemma. *Journal of Personality and Social Psychology*, 66(3): 513-529.
- Kiesler, C. A. (1971). *The Psychology of Commitment: Experiments Linking Behavior to Belief*. Academic Press New York.
- Kirchler, E. (2007). *The Economic Psychology of Tax Behavior*. Cambridge: Cambridge University Press.
- Kirchler, E. & Wahl, I. (2010). Tax compliance inventory TAX-I: Designing an inventory for surveys of tax compliance. *Journal of Economic Psychology*, 31(3), 331-346.
- Koessler, A. K., Page, L. & Dulleck, U. (2017). Promoting pro-social behavior with public statements of good intent (No. 80072). University Library of Munich, Germany.
- Levitt, S. D. & List, J. A. (2009). Field experiments in economics: The past, the present, and the future. *European Economic Review*, 53(1), 1-18.
- Marwell, G. & Ames, R. E. (1981). Economists free ride, does anyone else?: Experiments on the provision of public goods, IV. *Journal of Public Economics*, 15(3), 295-310.
- Ostrom, E., Walker, J. & Gardner, R. (1992). Covenants with and without a sword: Self-governance is possible. *American Political Science Review*, 86(02): 404-417.
- Pommerehne, W. W. & Weck-Hannemann, H. (1996). Tax rates, tax administration and income tax evasion in Switzerland. *Public Choice* 88: 161-170.
- Slemrod, J., Blumenthal, M. & Christian, C. (2001). Taxpayer response to an increased probability of audit: Evidence from a controlled experiment in Minnesota. *Journal of Public Economics*, 79(3): 455-483.
- Torgler, B. (2003). Beyond punishment: A tax compliance experiment with taxpayers in Costa Rica. *Revista de Analisis Economico-Economic Analysis Review*, 18(1): 27-56.

- Torgler, B. (2005). Tax morale and direct democracy. *European Journal of Political Economy*, 21(2): 525-531.
- Torgler, B. (2006). The importance of faith: Tax morale and religiosity. *Journal of Economic Behavior & Organization*, 61(1): 81-109.
- Torgler, B. (2007). *Tax compliance and tax morale: A theoretical and empirical analysis*. Edward Elgar.
- Torgler, B. (2013). A field experiment in moral suasion and tax compliance focusing on underdeclaration and overdeduction. *Finanzarchiv/ Public Finance Analysis*, 69(4): 393-411.
- Torgler, B. & Schneider, F. (2009). The impact of tax morale and institutional quality on the shadow economy. *Journal of Economic Psychology*, 30(2), 228-245.
- Torgler, B., Schneider, F. & Schaltegger, C. A. (2010). Local autonomy, tax morale, and the shadow economy. *Public Choice*, 144(1-2): 293-321.
- Torgler, B., Demir, I. C., Macintyre, A. & Schaffner, M. (2008). Causes and consequences of tax morale: An empirical investigation. *Economic Analysis and Policy*, 38(2), 313-339.
- Vanberg, C. (2008). Why do people keep their promises? An experimental test of two explanations. *Econometrica*, 76(6): 1467-1480.

APPENDIX

Table A1: Average Tax Debt in 2013

Treatment	Mean	Sd	Min	Max	N
CONTROL	4,553	4,591	91	57,011	469
WELLNESS	4,553	4,054	111	47,937	445
CASH	4,490	4,127	97	51,300	451
CASH PRO	4,346	4,513	95	52,203	401
WELL PRO	4,333	3,909	101	44,203	435
Total	4,459	4,244	91	57,011	2201

Table A2: Pairwise Tax Debt Comparison in 2013

Tax Debt	Tukey Test					
	Contrast	Std. Err.	t	P>t	95% Conf. Interval	
WELLNESS vs CONTROL	0.00	281.04	0.00	1.00	-767.24	767.25
CASH vs CONTROL	-62.70	280.08	-0.22	1.00	-827.33	701.92
CASH PRO vs CONTROL	-207.12	288.84	-0.72	0.95	-995.67	581.43
WELL PRO vs CONTROL	-219.70	282.69	-0.78	0.94	-991.46	552.06
CASH vs WELLNESS	-62.70	283.76	-0.22	1.00	-837.37	711.96
CASH PRO vs WELLNESS	-207.12	292.41	-0.71	0.96	-1005.41	591.17
WELL PRO vs WELLNESS	-219.70	286.34	-0.77	0.94	-1001.41	562.01
CASH PRO vs CASH	-144.42	291.49	-0.50	0.99	-940.19	651.35
WELL PRO vs CASH	-157.00	285.39	-0.55	0.98	-936.13	622.14
WELL PRO vs CASH PRO	-12.58	294.00	-0.04	1.00	-815.21	790.05
Observations	CONTROL	WELLNESS	CASH	CASH PRO	WELL PRO	
	469	445	451	401	435	

Notes: The Tukey test performs all pairwise comparisons between the means in tax debt across all treatment groups in one step. The results show that in the year 2013 no statistically significant difference existed in the average tax debt owed between the treatment groups.

Table A3: Summary statistics of observables

Treatment group		age	female	married	family	house-owner	Swiss citizen	church member
CONTROL	mean	55.39	0.29	0.50	0.19	0.28	0.77	0.59
	N	395	445	395	445	405	411	395
WELLNESS	mean	56.78	0.32	0.47	0.19	0.33	0.77	0.58
	N	386	432	386	432	392	400	386
CASH	mean	57.70	0.31	0.48	0.16	0.36	0.76	0.61
	N	387	437	387	437	396	398	387
CASH PRO	mean	56.84	0.29	0.50	0.18	0.32	0.78	0.63
	N	331	382	330	382	337	347	330
WELL PRO	mean	56.93	0.28	0.50	0.15	0.34	0.78	0.64
	N	364	398	363	398	368	376	363
Total	mean	56.71	0.30	0.49	0.17	0.33	0.77	0.61
	N	1863	2094	1861	2094	1898	1932	1861

Notes: The demographic information is based on the year 2012, the year before the field experiment took place and the information above was retrieved from a separate registry after the experiment was conducted. Observation numbers are lower since not all taxpayers could be matched with help of their identification number across the two registries, because they for example moved or changed their civil status.

Table A4: Pairwise Comparison of Mean Compliance in Past

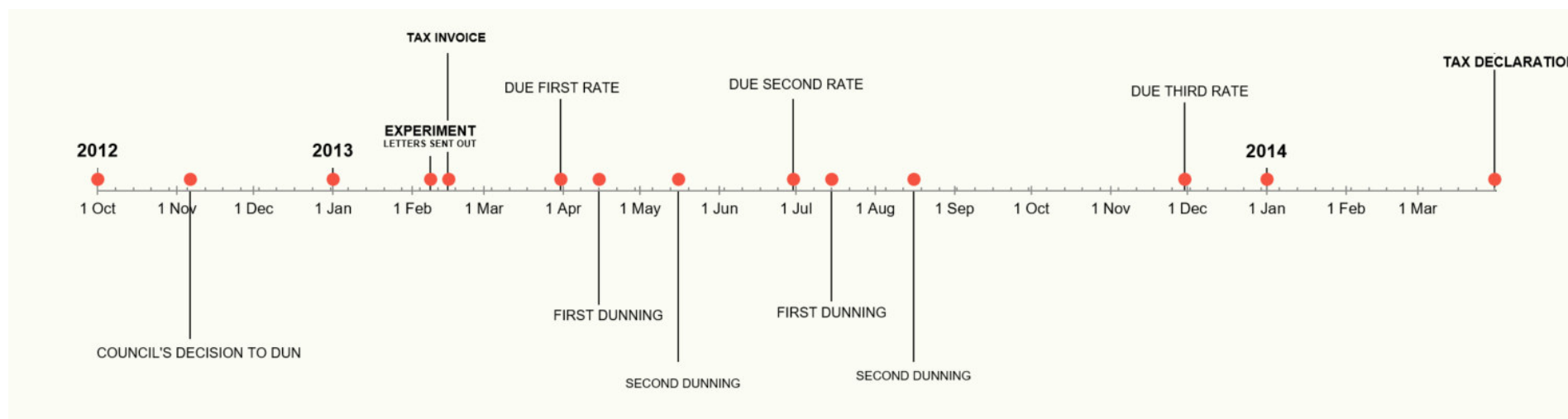
Mean Compliance in Past	Tukey Test					
	Contrast	Std. Err.	t	P>t	95% Conf. Interval	
WELLNESS vs CONTROL	-0.004	0.016	-0.23	1	-0.047	0.04
CASH vs CONTROL	0.002	0.016	0.15	1	-0.041	0.045
CASH PRO vs CONTROL	0.036	0.016	2.17	0.19	-0.009	0.08
WELL PRO vs CONTROL	0.024	0.016	1.49	0.57	-0.02	0.068
CASH vs WELLNESS	0.006	0.016	0.37	1	-0.038	0.049
CASH PRO vs WELLNESS	0.039	0.017	2.36	0.13	-0.006	0.084
WELL PRO vs WELLNESS	0.027	0.016	1.69	0.44	-0.017	0.072
CASH PRO vs CASH	0.033	0.017	2.01	0.26	-0.012	0.078
WELL PRO vs CASH	0.021	0.016	1.33	0.67	-0.023	0.066
WELL PRO vs CASH PRO	-0.012	0.016	-0.7	0.96	-0.058	0.034

Notes: The Tukey test performs all pairwise comparisons between the means in past compliance across all treatment groups. No statistically significant difference exists between the treatment groups, and only the difference in mean past compliance between CASH PRO and WELLNESS is close to statistical significance at the 10% level. This cross comparison is, however, not relevant for our study since we never compare treatment groups with a pure incentive from one kind (cash) with the promise combination of another kind (wellness).

Table A5: LAB Summary Statistics - Demographics

Treatment group	age	female	student	econ major	productivity
<i>CONTROL</i>	23.85	0.50	1.00	0.35	9.69 (2.29)
<i>COMPRO</i>	23.53	0.64	0.88	0.25	10.04 (2.18)
<i>PROMISE</i>	24.58	0.58	0.90	0.23	10.02 (2.46)
<i>CASH PRO</i>	23.83	0.53	0.98	0.20	9.55 (1.57)
<i>INKIND PRO</i>	23.15	0.48	1.00	0.25	10.16 (2.57)
<i>CASH</i>	22.63	0.60	0.90	0.33	9.74 (2.34)
<i>INKIND</i>	24.20	0.73	0.93	0.17	9.76 (2.70)
Total	23.70	0.57	0.94	0.25	9.86 (2.29)

Figure A1: FIELD - Timeline



Notes: Although the payment of pre-taxes is a legal obligation in Switzerland, in our study 30-40% of the taxpayers failed to make the pre-tax payments on time, and 18% did not make any payment during the corresponding year. Prior to 2013, no enforcement took place: the missing amount was simply charged a default interest rate when the final tax calculation was made in the following year. In November 2012, however, in a public council meeting, the tax administration proposed its plan to implement a dunning system to highlight the statutory tax obligation. All taxpayers were informed about the change in practice by the following announcement: “Non-paid pre-taxes will be dunned after expiration of the payment deadline. This new practice was adopted by the Council because of diminishing payments”. According to this new policy, non-compliant taxpayers receive a first dunning letter two weeks after the payment due date. If the tax administration receives no pre-tax payment after four weeks, it sends out a second letter notifying the taxpayer that a penalty of 50 CHF has been added to the current tax debt. As in previous years, owed amounts are also charged default interest of 3% once the final tax calculation has been made. The moral cost of non-compliance were raised by justifying the penalty as follows: “Reason: The municipality is paying current expenditures with tax revenues. If the necessary money has not been received, it must borrow money, incurring interest and fees” (see Figure A4 and its translation).

FIELD - ANNOUNCEMENT LETTERS

FIGURE A2: CONTROL GROUP



Einwohnergemeinde
Trimbach

Finanzverwaltung
Baslerstrasse 122, 4632 Trimbach
Telefon 062 289 23 10 / Fax 062 289 23 30
E-Mail finanzverwaltung@trimbach.ch

4632 Trimbach im Februar 2013

Provisorische Steuern 2013, Vorbezugsraten

Sehr geehrte Damen und Herren,

Die provisorischen Steuern sind innerhalb der Steuerperiode in 3 Raten zu je einem Drittel fällig. In den nächsten Tagen erhalten Sie die Rechnung für die erste Rate der provisorischen Steuern 2013. Bitte überweisen Sie die Vorbezugsraten fristgerecht mit dem Einzahlungsschein an der Rechnung.

Die erste Rate muss wie gewohnt bis am 31. März, die zweite Rate bis am 30. Juni und die dritte bis am 30. November 2013 bezahlt sein.

Mit freundlichen Grüssen
Einwohnergemeinde Trimbach
Finanzverwalter

A. Müller

FIGURE A3: WELLNESS PRO TREATMENT



Einwohnergemeinde
Trimbach

Finanzverwaltung
Baslerstrasse 122, 4632 Trimbach
Telefon 062 289 23 10 / Fax 062 289 23 30
E-Mail finanzverwaltung@trimbach.ch

4632 Trimbach im Februar 2013

Provisorische Steuern 2013, Vorbezugsraten

Sehr geehrte Damen und Herren,

Die provisorischen Steuern sind innerhalb der Steuerperiode in 3 Raten zu je einem Drittel fällig. In den nächsten Tagen erhalten Sie die Rechnung für die erste Rate der provisorischen Steuern 2013. Bitte überweisen Sie die Vorbezugsraten fristgerecht mit dem Zahlungsschein an der Rechnung.

Die erste Rate muss wie gewohnt bis am 31. März, die zweite Rate bis am 30. Juni und die dritte bis am 30. November 2013 bezahlt sein.

Als Dank für Ihre wertvolle Mitarbeit, möchten wir dieses Jahr diejenigen Steuerzahler auszeichnen, die als gutes Beispiel vorangehen.

So werden wir unter denjenigen Steuerpflichtigen, die alle drei Raten fristgerecht bezahlt haben, ein Wellness- Wochenende für 2 Personen im Wert von Fr. 1'000.00 verlosen und haben eine Teilnahmekarte beigelegt.

Mit dem Ausfüllen und dem Abschicken der unterschriebenen Karte bis zum 30. März 2013 können Sie an dieser Verlosung teilnehmen.

Mit freundlichen Grüßen
Einwohnergemeinde Trimbach
Finanzverwalter

A. Müller

Note: In the WELLNESS treatment the last sentence was deleted.

TRANSLATION

Provisional Taxes 2013, pre tax rates

Dear Sir or Madam,

The provisory taxes are due during the tax period in three instalments, with a third of the tax liability each. In the next few days, you will receive an invoice for the first pre-tax instalment. Please transfer the pre-tax amount on time using the form attached to the invoice.

As usual, the first instalment must be paid by March 31, the second by June 30, and the last by November 30.

To thank you for your valuable help, this year we will honour those tax payers who lead by good example.

As a reward for their valuable collaboration, all taxpayers that pay all three pre-tax instalments on time will

[be entered into a lottery to win a cash prize of 1,000 CHF.]³⁰

[be entered into a lottery to win a wellness weekend for two valued at 1,000 CHF.]

Addendum for the promise treatments:

To be eligible for the lottery, please also sign the attached card and return it to the tax administration by March 31.

Yours sincerely

Tax administrator

³⁰ Original text: "So werden wir unter denjenigen Steuerpflichtigen, die alle drei Raten fristgerecht bezahlt haben, eine Bargeld-Prämie von Fr. 1'000.00 verlosen".

FIELD - INFORMATION ON PRE-TAX BILL

Important Amendment:

Non-paid pre-taxes will get dunned after expiration of the payment deadline.

This new procedure was determined by the local council due to the diminishing payments as of November 6, 2012.

Reason:

The municipality is paying current expenditures with the tax revenues. If the needed money is missing, the municipality has to borrow money and needs to pay interest and fees. Hence, in the municipal assembly, the citizens set the following regulations and gave the tax administration the following instructions:

Extract from the tax regulation, 2010, 01.01.2008:

§ 11, Passage 2:

As a general rule, taxes are paid in 3 instalments at a third of the pre-tax liability.

The due dates are

- *First instalment: March 1, payable up until March 31*
- *Second rate: May 31. payable up until June 30*
- *Third rate: October 31, payable up until November 30*

§ 12, Passage 1:

Tax payments must be made within 30 days of the due date.

Missed payments will be dunned. *For each dunning, a fee will be charged based on the fee regulations.*

Payment problems:

At the explicit request of the taxpayer, the tax administration can split the annual tax liability into monthly instalments. Nevertheless, interest may be owed as a default penalty according to tax regulation § 12, Passage 1.

Figure A4: Original Text

Wichtige Änderung:	Nicht bezahlte Vorbezugsrechnungen werden nach Ablauf der Zahlungsfrist gemahnt ! Dies hat der Gemeinderat aufgrund einer schlechter werdenden Zahlungsdisziplin am 6.11.2012 beschlossen.						
Warum:	<p>Mit den Steuereinnahmen werden die laufenden Ausgaben der Gemeinde bezahlt. Fehlt das benötigte Geld, müssen Kredite aufgenommen und dafür Zinsen und Gebühren bezahlt werden. Die Einwohner haben deshalb an der Gemeindeversammlung das Steuerreglement beschlossen und damit der Verwaltung den Auftrag wie folgt erteilt:</p> <p>Auszug aus dem Steuerreglement 2001, Stand 01.01.2008:</p> <p>§ 11, Abs. 2 Die Steuern sind in der Regel in der Steuerperiode in 3 Raten zu je einem Drittel fällig (Vorbezug).</p> <p>Die Fälligkeiten sind:</p> <table><tr><td>1. Rate: 1. März,</td><td>zahlbar bis 31. März</td></tr><tr><td>2. Rate: 31. Mai,</td><td>zahlbar bis 30. Juni</td></tr><tr><td>3. Rate: 31. Oktober,</td><td>zahlbar bis 30. November</td></tr></table> <p>§ 12, Abs 1 Die Steuer muss innert 30 Tage seit der Fälligkeit entrichtet werden. Säumige Steuerpflichtige sind zu mahnen. Für jede Mahnung wird eine Gebühr gemäss Gebührenreglement erhoben.</p>	1. Rate: 1. März,	zahlbar bis 31. März	2. Rate: 31. Mai,	zahlbar bis 30. Juni	3. Rate: 31. Oktober,	zahlbar bis 30. November
1. Rate: 1. März,	zahlbar bis 31. März						
2. Rate: 31. Mai,	zahlbar bis 30. Juni						
3. Rate: 31. Oktober,	zahlbar bis 30. November						
Bei Zahlungsproblemen:	Auf ausdrücklichen Wunsch einer steuerpflichtigen Person kann die Finanzverwaltung die Jahressteuer auf Monatsraten aufteilen. Ein allfällig daraus entstehender Verzugszins bleibt gemäss Steuerreglement § 12 Abs. 2, geschuldet.						

ONLINE APPENDIX:

LAB – INSTRUCTIONS (ENGLISH TRANSLATION)

Instructions

Welcome to this experiment. Now that the experiment has started, please do not communicate with other participants in the room. Please turn off your mobile phone and keep it in your bag. Failure to comply with these instructions means that you will be asked to leave the experiment and all your earnings will be forfeited.

If you have any questions at any time, please raise your hand.

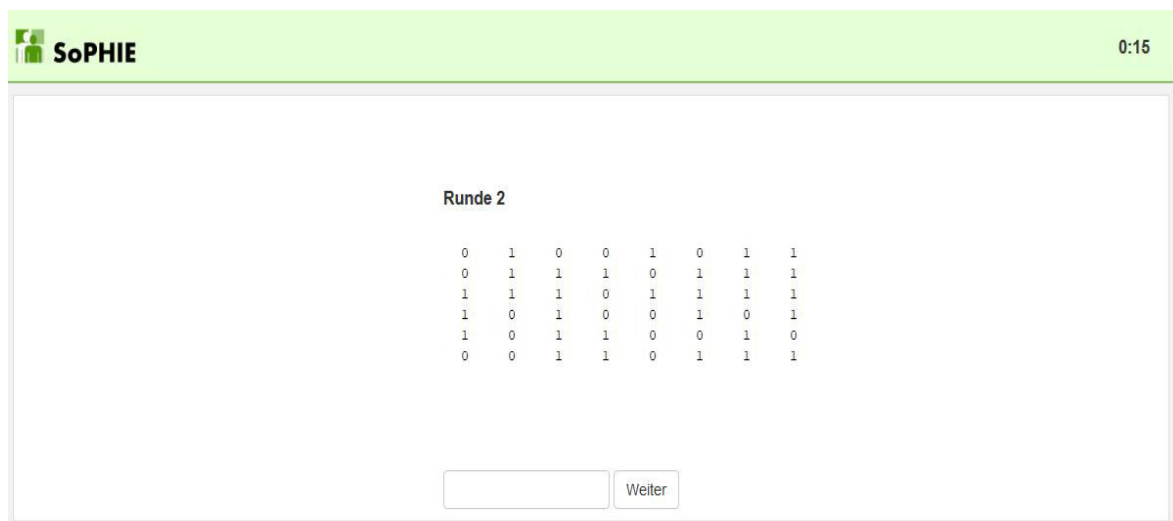
For participating in the experiment, you will be awarded a 3 euro ‘show-up fee’. You will earn additional money during the experiment. The additional amount you earn will depend on your decisions. At the end of the experiment, you will receive your payment in a sealed envelope in exchange for your participant code.

The experiment will last about 40 minutes.

All information given by you during the experiment is anonymous and will be treated confidentially. Neither the other participants nor the researchers can relate your decisions to your identity.

Course of the experiment

Today’s experiment has 5 rounds. In each round, you have 2 minutes to count the zeros in a matrix similar to the one below.



The screenshot shows the SoPHIE experiment interface. At the top, there is a green header bar with the SoPHIE logo on the left and a timer showing '0:15' on the right. Below the header, the main area is white. In the center, it says 'Runde 2'. Below this, there is a 7x7 matrix of numbers (0s and 1s). At the bottom of the matrix area, there is a text input box and a button labeled 'Weiter'.

Runde 2						
0	1	0	0	1	0	1
0	1	1	1	0	1	1
1	1	1	0	1	1	1
1	0	1	0	0	1	0
1	0	1	1	0	0	1
0	0	1	1	0	1	1

Example: Displayed on the screen

In the time given, you can solve as many tasks as you like to

For each matrix that you counted correctly, you receive 0.25 Euro cents.

Please type the total number of zeros in each single matrix in the box below the matrix.

Please be aware that a new matrix will be generated as soon as you have entered a number and clicked “Continue”. Around each new matrix a grey frame will appear for a short period of time. It will not be possible to go back to any previous matrix.

The remaining time is displayed in the upper right corner of your screen.

Income

At the end of each round, you will be informed about the number of matrices you have solved in this round and your respective earnings.

Since an income tax of 20% is levied, you have to declare your income. The income you report can be smaller than or equal to your actual income in this round, but not larger.

Based on the declaration of income, the computer calculates the amount of taxes and your resulting net income.

Your net income is calculated as follows:

Net income = earnings in a round – (your declared income * 0.20)

In the following, the resulting net income is being added to your assets.

Payout

At the end of the experiment, your total payout consists of your total assets and, additionally, the show-up fee.

Audit

Before you receive your final payout, there is a 5% chance that you will be subject to a tax audit. In this tax inspection, the accuracy of your income declarations will be controlled.

- In case your income declarations contain false information at any point, the tax obligation is recalculated. The tax amount not yet paid is then multiplied by 2 and deducted from your total assets.
- In case all information in your income declarations is correct, the total assets are paid out.

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- 2005**
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Eine Aufstellung über weitere Diskussionspapiere ist auf der Homepage des Walter Eucken Instituts erhältlich.