

“How can I help you?” Perceived Service Orientation of Tax Authorities and Tax Compliance

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Research on tax behavior has recognized the necessity of changing tax authorities' approach from an enforcement to a service orientation. However, empirical investigations of the effect of perceived service orientation on tax compliance are scarce. The present study draws conclusions from survey data of representative samples of 807 Dutch private taxpayers and 1377 entrepreneurs. Perceived service orientation was found significantly related to tax compliance. Furthermore, the link between perceived service orientation and tax compliance is mediated by perceived trustworthiness of authorities. We are confident that taxpayers who perceive a greater service orientation will be more willing to pay their taxes.

Keywords: service orientation, good governance, tax administration, trust tax compliance

JEL classification: H 21, H 26, H 3

1. Introduction

The paradigm for approaching taxpayers is changing. Tax authorities are treating taxpayers no longer as potential criminals but as clients (Alm et al., 2010; Frey, 1997; Kirchler, 2007; Rainey and Thompson, 2006). Instead of

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creating a climate of deterrence and distrust that causes negative attitudes towards paying taxes, tax authorities should treat taxpayers with respect, provide services, and allow participation (Alm and Torgler, 2011; Braithwaite, 2003b; Kirchler et al., 2008; Rainey and Bozeman, 2000). However, does a change of approach by tax authorities really increase tax compliance intentions?

A shift towards greater service orientation is also recommended in several approaches to reforming public administration in general, for instance in “new public management” (Lane, 2000; Osborne, 1993) and in “good governance” (Bovaird and Löffler, 2003; Gemma Martinez, 2011; Graham et al., 2003; Job and Honaker, 2002; Lane, 2000; Osborne, 1993). Whereas “new public management” implies customer-friendly services as part of a market-oriented business strategy (Job and Honaker, 2002; Lane, 2000; Osborne, 1993), the “good governance” approach seeks to empower citizens, invites them to participate in public decision processes, and, more generally, aims at improving the quality of citizens’ life (Bovaird and Löffler, 2003; Graham et al., 2003). Perceived service orientation is seen not only as a possibility to facilitate cooperation with citizens, but also as a chance to increase trust and confidence in public administration, politicians, and governance (Bouckaert and van de Walle, 2003; Heintzman and Marson, 2005). This aspect seems crucial, as levels of trust and confidence in the government are steadily decreasing in Western democracies (Putnam, 1995). As with other areas of public administration, tax administration in many countries has also undergone changes towards a more service-oriented approach, for instance in Australia (Job and Honaker, 2002), Singapore (Alm et al., 2010), and the U.S. (Rainey and Bozeman, 2000).

Although service orientation has gained a great deal of attention and reception in tax administration (OECD, 2010), research on its actual effects is rare. It has focused mainly on cost efficiency (Bird, 2004; Harris et al., 1987; Pieterse, 2009), the usage rates of services (OECD, 2010), and satisfaction with the services provided (Smith and Stalans, 1991; Stalans and Lind, 1997). Surprisingly, the effects of service-oriented administration on citizens’ behavior, such as tax compliance, have hardly been studied empirically. One exception is an experiment conducted by Alm et al. (2010). However, additional studies are needed to show the ecological validity and robustness of the proposed positive relation between service orientation and tax compliance and to shed light on possible psychological mechanisms determining this relation (Hasseldine and Zhuhong, 1999). Therefore, in the present paper we pursue two aims. The first aim is to gain ecologically valid and robust evidence for the positive relation between perceived service orientation and tax compliance intentions. Accordingly, we test our assumptions with a representative sample (private taxpayers and entrepreneurs) of the Dutch Fiscal

Monitor and examine whether perceived service orientation still explains a significant portion of the variance in tax compliance when controlling for several well-known sociodemographic, economic, and psychological factors. The second aim is to propose a mechanism whereby service orientation affects tax compliance, by analyzing whether trust is a mediator of this effect.

In the following, the theoretical background and the hypotheses of the study are outlined. First, conceptual frameworks for tax behavior, incorporating perceived service orientation as a tool to achieve compliance, are reviewed, and hypothesis 1, regarding the effect of perceived service orientation on tax compliance intentions, is derived. Second, the role of trust in the predicted relation of compliance intentions and authorities' perceived service orientation is discussed, resulting in hypothesis 2, which proposes perceptions of authorities' trustworthiness as a potential mediator in this relation.

2. Theoretical Background and Hypotheses

In research about tax behavior various conceptual frameworks that emphasize the importance of a service-oriented tax administration have been proposed. The responsive regulation approach (Braithwaite, 2003a, 2003b; Braithwaite and Braithwaite, 2001), the multifaceted approach (Alm and Torgler, 2011), and the slippery slope framework (Kirchler et al., 2008) suggest service orientation as a promising strategy for tax authorities to increase tax compliance. Although all three frameworks share the main idea of strengthening tax compliance by supporting those taxpayers who are willing to pay their fair share, they also differ in particular respects. In the following each framework is briefly discussed with an emphasis on its assumptions about tax authorities' service orientation.

The responsive regulation approach (Braithwaite, 2003b, 2007, 2009; Braithwaite and Braithwaite, 2001) focuses on taxpayers' individual differences and proposes to adapt tax authorities' compliance strategies accordingly. According to Braithwaite (2003a), taxpayers differ in their motivational postures towards the tax system and its authorities. Motivational postures are conglomerates of beliefs, feelings, or preferences and describe either negative or positive attitudes towards paying taxes (Braithwaite et al., 2007). Taxpayers with the motivational postures of commitment and capitulation in general have a positive attitude towards paying taxes, whereas the postures of resistance, disengagement, and game-playing reflect a negative attitude (Braithwaite, 2003a, 2009; Braithwaite et al., 2007). Responsive regulation requires tax authorities to assess the motivational posture of an individual taxpayer before choosing an appropriate compliance strategy. Tax

compliance should be enforced with the full rigor of the law when dealing with intended and repeated tax evasion, but on the other hand, tax authorities should educate, assist, and support compliance-minded taxpayers (Braithwaite, 2009). As most taxpayers hold motivational postures reflecting a rather positive attitude (Braithwaite, 2003a), the tax authorities' major task is to be perceived as service-oriented through, e.g., educating their clients, assisting them in record keeping, enhancing convenience in tax reporting, giving access to information, and explaining choice options (Braithwaite, 2009).

The multifaceted approach (Alm and Torgler, 2011) distinguishes three different paradigms in tax administration: the traditional enforcement paradigm, the trust paradigm, and the service paradigm. In the enforcement paradigm the "classical" tools of deterrence, such as frequent audits, high penalties, and the use of third-party information, are applied. The trust paradigm suggests addressing taxpayers' norms through mass-media communication or highlighting the link between tax payments and public goods and services. The trust paradigm should be applied together with the other two paradigms to take into account those taxpayers who pay their taxes for moral reasons and to promote this kind of moral taxpaying. In the service paradigm Alm and Torgler (2011) propose to educate taxpayers by providing services to assist them, e.g., by a phone advice service or a Web site, and to simplify the tax law and tax procedures. This paradigm should be effective for taxpayers who are willing to pay the tax due but have difficulties acting in accordance with the law. It is suggested that such a service-oriented approach would reduce the administrative burden for taxpayers and in turn would reduce their costs of complying with the tax law (Alm et al., 2010; Eichfelder and Kegels, 2010).

The slippery slope framework (Kirchler, 2007; Kirchler et al., 2008) postulates that the power of authorities and the trust in authorities determine the interaction climate between the tax authority and the taxpayers and in turn lead to enforced or voluntary compliance. The empirical evidence supports the notion that tax authorities' power and trustworthiness affect the different forms of compliance (Muehlbacher and Kirchler, 2010; Muehlbacher et al., 2011; Wahl et al., 2010). On a macro level the specific mix of power instruments and trust-building measures applied by tax authorities can be summarized as a cooperative climate between citizens and their authorities. In an extension of the original slippery slope framework (Gangl et al., 2012), three different climates are distinguished: a service climate, an antagonistic climate, and a confidence climate. It is hypothesized that a service climate requires legitimate power of tax authorities (i.e., power based on expertise and the communication of valuable standards and information), which leads to reason-based trust on the part of taxpayers (i.e., the reason-based belief

that authorities pursue important goals with competence, motivation, and benevolence) and in turn increases voluntary tax compliance (Gangl et al., 2012). The service climate is characterized by a general positive atmosphere of mutual respect and cooperation between authorities and taxpayers. By contrast, in an antagonistic climate the coercive power of tax authorities (i.e., power based on coercion through strict controls and fining) prevails, leading to the enforced form of compliance and an atmosphere in which tax authorities and taxpayers seem to work against each other. Finally, the confidence climate is characterized by implicit trust between tax authorities and taxpayers (i.e., an unintentional and automatic form of trust), which should result in the perception of tax compliance as a moral obligation and, again, the voluntary cooperation of taxpayers (Gangl et al., 2012). To summarize, the slippery slope framework implies that authorities that are perceived as service-oriented would yield a higher degree of voluntary compliance among taxpayers, and suggests cooperating with taxpayers rather than forcing them to comply.

Besides these conceptual frameworks, an experiment conducted by Alm et al. (2010) provides evidence that information provision on tax-related issues, as one aspect of perceived service orientation, increases tax compliance. The participants in this experiment earned taxable income and were offered the opportunity to claim an allowable deduction to reduce their tax liability. The exact level of the deduction, however, was uncertain to them. In one experimental treatment the participants were offered the possibility to resolve this uncertainty and to receive information on the true level of the deduction. They were more honest in reporting their income than the participants in a second experimental treatment, who were not provided with information about their true tax liability. In this experiment the introduction of a simple information service increased participants' compliance.

On the basis of the propositions in the tax compliance frameworks mentioned above, as well as the sparse empirical evidence for a positive effect of a perceived service-oriented tax administration, we derive our first prediction:

Hypothesis 1 Perceived service orientation is positively related to tax compliance intentions.

Hypothesis 1 will be tested twice. First we will look for a simple correlation between the two variables, and second we will test for the potential influence of perceived service orientation on compliance intentions under more restrictive conditions, i.e., we will control for several sociodemographic, economic, and psychological variables, which are frequently found to affect tax behavior. We aim to analyze whether perceived service orientation is important enough to explain some variance in addition to these well-known factors.

The sociodemographic control variables are the sex and age of the respondents, because females (e.g., Kastlunger et al., 2010; Webley et al., 1991) and older taxpayers (e.g., Clotfelter, 1983; Torgler, 2006) are reported in the literature to be more compliant. To capture the potential effects of economic variables (Allingham and Sandmo, 1972), we will control for the perceived audit probability and the perceived severity of fines in our analyses. From a standard economic point of view, high audit probabilities and severe fines are the most effective measures to combat tax evasion (for a review of the inconsistent effects of these variables see Kirchler et al., 2010). Regarding the psychological factors of tax compliance, taxpayers' norms are among the variables that have been studied most (e.g., Cialdini and Goldstein, 2003; Cialdini et al., 1991; Cialdini and Trost, 1998; Torgler, 2002; Wenzel, 2003, 2004b). Our analysis includes the personal norms of respondents, which refer to internalized values, morals, or ethics and constitute a stable personality factor (cf. Antonides and Robben, 1995; Schmolders, 1966; Wenzel, 2004a), social norms, which refer to the perceived frequency or acceptability of tax evasion in the social group to which the taxpayer feels attached (cf. Frey and Torgler, 2007; Wenzel, 2004a), and societal norms, which refer to tax compliance on the collective level and are commonly termed the tax morale of a particular society (cf. Kirchler, 2007). These sociodemographic, economic, and psychological factors of tax compliance will be included in our analysis to determine whether perceived service orientation is able to explain a significant additional portion of the variance when including the control variables.

It could be argued that a sufficient compliance strategy for tax authorities would be to focus on strict audits and fines and to address taxpayers' norms, so an improvement in services would be an unnecessary waste of resources. By contrast, Alm and Torgler's (2011) multifaceted approach suggests that service orientation is one of three important approaches in regulation, and should therefore be of equal value to the other two in combating tax evasion.

In the second hypothesis to be tested in this paper, a mechanism is proposed that explains *how* perceived service orientation in tax administration could affect tax compliance intentions. In terms of the slippery slope framework (Kirchler, 2007; Kirchler et al., 2008), services provided by tax authorities are meant to support voluntarily compliant taxpayers in paying their dues, and the degree of voluntary compliance depends mainly on taxpayers' trust in the authorities. Many scholars argue that, among other variables, trust in an authority depends on its expertise and benevolence (e.g., Tyler, 2003) and that valid information, protection, assistance, and support provide reasons for the followers to trust their authority (e.g., Bijlsma-Frankema and van de Bunt, 2002; Das and Teng, 1998; Mulder et al., 2006). Hence, it is reasonable to assume that service-oriented authorities are also perceived to be more trustworthy than authorities that are perceived to talk down to their

clients and try to regulate by coercion. Furthermore, it seems obvious that taxpayers are willing to follow an authority that is considered as trustworthy (Castelfranchi and Falcone, 2010; Feld and Frey, 2002, 2007; Kirchler et al., 2008; Nootboom, 2002; Tyler, 2006).

Since, to the best of our knowledge, the effect of service orientation on citizens' behavior has rarely been studied before, empirical testing of the postulated mediation by citizens' perceived trustworthiness of their authorities has not been performed yet. However, trust has been shown to mediate another effect, which is argued to be related to the issue of service orientation (e.g., Sparks and McColl-Kennedy, 2001): the effect of procedural fairness on tax compliance. Procedural fairness refers to the procedures, ways, and modes for reaching a decision (Leventhal, 1980; Lind and Tyler, 1988; Thibaut and Walker, 1975; Wenzel, 2003). A decision procedure is perceived to be fair when the parties involved are treated equally, consistently, and accurately, and when they have opportunities for participation or for correcting the decisions made (Leventhal, 1980; Wenzel, 2003). Procedural justice can therefore be seen as one specific aspect of perceived service orientation in tax administration, and has attracted a relatively large amount of attention in the literature (Alm et al., 1993; Feld and Tyran, 2002; Hartner et al., 2008; Murphy, 2004; Tyler and Huo, 2002; Wahl et al., 2010; Wenzel, 2002). Research indicates that procedural fairness in an organization increases the acceptance of decisions and the compliance with rules (Grimes, 2006; Lind and Tyler, 1988; Murphy and Tyler, 2008; Tyler, 2000; Tyler and Huo 2002). Regarding tax compliance, survey data and experimental findings show that the opportunity to participate in governmental decisions by casting a vote – as one important aspect of procedural fairness – increases compliance (Feld and Frey, 2002; Feld and Tyran, 2002; Wahl et al., 2010). Similarly, the perception of being treated fairly by the authorities results in higher tax compliance (Murphy, 2004). Because procedural fairness has also been found to be positively related to trust (Murphy, 2004; Wahl et al., 2010), and trust is known to determine tax compliance (Muehlbacher et al., 2011; Scholz and Lubell, 1998; Wahl et al., 2010), it stands to reason that trust is a mediator of the effect of procedural fairness on tax compliance. The latter has also been demonstrated empirically with survey data and with experiments (Murphy, 2004; Wahl et al., 2010). Based on the assumptions of the slippery slope framework and the positive relations between tax compliance, trust, and procedural fairness reported in the literature, we generalize the mediating role of perceived trustworthiness in the effect of procedural fairness to the broader concept of perceived service orientation and its potential effects on compliance intentions. Therefore the second prediction to be tested here is:

Hypothesis 2 The perceived trustworthiness of tax authorities mediates the effect of the perceived service orientation on tax compliance intentions.

3. Method

3.1. Sample

Two samples of taxpayers were drawn from a research panel of a marketing agency, which is representative of the Dutch population. A sample of 807 private taxpayers was drawn, stratified with respect to sex and age (50.4% men, 49.6% women; average age was 50.45 years, $SD = 16.88$). A sample of 1,377 entrepreneurs was drawn, stratified with respect to number of employees and startups versus existing companies (68.3% men, 31.7% women; average age was 48.67 years, $SD = 11.22$). Detailed sample descriptions regarding the respondents' education, occupation (for private taxpayers), income (for private taxpayers), number of employees (for entrepreneurs), and turnover (for entrepreneurs) are provided in table 1. Table 1 also shows the frequency of respondents' usage of the various services provided by the Netherlands Tax and Customs Administration (NTCA). The majority of private taxpayers (58.9%) and the majority of entrepreneurs (83.5%) indicated that they had used at least one type of service in the 12 months preceding data collection, e.g., the Web site, the general tax telephone line, or the open hours at the tax office. The service that has been used most is the NTCA's Web site, with a usage level of 41.5% among private taxpayers and 62.8% among entrepreneurs. All the participants had filed a tax return in the past 12 months, indicating that both samples have experience with taxpaying and the NTCA.

3.2. Material

The NTCA developed a questionnaire for the Dutch Fiscal Monitor 2010, consisting of a total of 263 items addressing various tax-related issues. These items were screened by the authors, and items relevant to the research question were selected to form scales measuring the following concepts: the perceived service orientation of tax authorities; trustworthiness of tax authorities; tax compliance intentions; perceived audit probability; perceived severity of fines; personal, social, and societal norms regarding taxes; and several sociodemographic characteristics of the respondents. After selecting and grouping the items into scales, factor analysis and reliability analysis were run for each scale and each sample separately. The final scales were constructed by taking the average answers to the constituting scale items. Next, each measure is described in detail, including the factor loadings and measures of internal validity for both samples.

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Table 1
Descriptives for Private Taxpayers and Entrepreneurs and Their Usage of Different Services

Services Used	N	n (%)		Web site		General Tax Line		Tax Office		Objection		Mail Contact		Other		No Contact	
				%	%	%	%	%	%	%	%	%	%	%	%	%	%
Private Taxpayers																	
Sex	Male	407	(50.4)	47.7	24.1	3.9	5.7	6.9	2.5	38.1	4.7	2.2	2.5	2.0	44.3		
	Female	400	(49.6)	35.3	26.5	1.3	4.3	2.5	2.0	27.6	4.7	1.8	3.1	3.6	55.5		
Age	18-34 years	170	(21.1)	62.9	24.1	2.9	7.1	4.7	1.8	27.6	4.7	1.8	3.1	3.6	55.5		
	35-54 years	310	(38.4)	17.7	29.7	1.6	2.2	3.5	1.6	27.6	4.7	1.8	3.1	3.6	55.5		
	55+ years	327	(40.5)	24.5	21.7	3.4	3.3	3.8	3.1	27.6	4.7	1.8	3.1	3.6	55.5		
Education	Low	107	(13.3)	25.2	25.2	1.9	2.8	0.9	0.0	55.1	2.8	0.0	0.0	0.0	55.1		
	Medium	439	(54.4)	38.3	26.0	3.0	4.6	3.2	3.0	42.8	3.2	1.8	3.8	3.8	42.8		
	High	261	(32.3)	53.6	24.1	2.3	6.5	8.8	3.8	32.6	8.8	3.8	3.8	3.8	32.6		
Occupation	Part-time self-employed	29	(3.6)	65.5	37.9	6.9	17.2	13.8	6.9	20.7	13.8	6.9	2.2	2.2	20.7		
	Employed	402	(49.8)	50.2	23.1	1.7	5.2	5.2	2.2	36.6	5.2	2.2	2.2	2.2	36.6		
	Fully disabled	40	(5.0)	55.0	42.5	7.5	7.5	2.5	0.0	22.5	7.5	0.0	0.0	0.0	22.5		
	Unemployed	14	(1.7)	42.9	50.0	0.0	21.4	0.0	0.0	21.4	0.0	0.0	0.0	0.0	21.4		
	Retired	217	(26.9)	21.7	21.2	3.2	2.3	4.6	1.4	56.7	4.6	1.4	1.4	1.4	56.7		
	Studying	23	(2.9)	47.8	8.7	0.0	0.0	0.0	0.0	52.2	0.0	0.0	0.0	0.0	52.2		
	Housewife/husband	62	(7.7)	29.0	32.3	3.2	29.0	3.2	3.2	43.5	3.2	3.2	3.2	3.2	43.5		
	Other	20	(2.5)	50.0	40.0	0.0	10.0	0.0	10.0	25.0	0.0	10.0	10.0	10.0	25.0		
Income (€/month)	0-1,500	292	(36.2)	37.7	32.2	2.7	2.7	1.7	2.1	40.8	2.7	2.1	2.1	2.1	40.8		
	1,501-3,000	316	(39.2)	46.5	46.5	3.5	5.7	5.4	1.9	39.7	3.5	1.9	1.9	1.9	39.7		
	3,001+	49	(6.1)	46.9	20.4	2.0	14.3	18.4	6.1	34.7	2.0	6.1	6.1	6.1	34.7		
	No answer	150	(18.6)	36.7	21.3	0.7	6.0	4.7	2.0	47.3	0.7	2.0	2.0	2.0	47.3		
Entrepreneurs																	
Sex	Male	940	(68.3)	60.5	38.3	3.7	22.4	21.4	7.2	18.0	21.4	7.2	8.0	8.0	18.0		
	Female	437	(31.7)	67.7	40.7	2.3	19.7	19.9	8.0	13.3	19.9	8.0	6.4	6.4	13.3		
Age	18-34 years	141	(10.3)	75.2	51.8	5.7	18.4	23.4	6.4	13.5	23.4	6.4	8.4	8.4	13.5		
	35-54 years	808	(58.7)	65.5	39.7	2.6	21.3	21.2	8.4	13.7	21.2	8.4	6.1	6.1	13.7		
	55+ years	428	(31.1)	53.7	33.6	3.7	23.1	19.6	6.1	22.7	19.6	6.1	6.1	6.1	22.7		
Education	Low	105	(7.6)	34.3	34.3	4.8	12.4	15.2	16.2	28.6	15.2	16.2	6.9	6.9	28.6		
	Medium	576	(41.8)	57.3	36.8	2.4	20.1	17.9	6.6	20.0	17.9	6.6	6.6	6.6	20.0		
	High	696	(50.5)	71.7	41.7	3.7	24.1	24.3	6.9	11.8	24.1	6.9	6.9	6.9	11.8		
Employees including oneself	1	714	(51.9)	62.7	36.1	3.6	16.4	17.6	5.6	18.8	17.6	5.6	7.2	7.2	18.8		
	2-4	363	(26.4)	57.3	38.6	3.0	24.2	19.3	7.2	17.1	19.3	7.2	11.8	11.8	17.1		
	5-49	263	(19.1)	68.8	45.6	3.0	30.8	28.5	11.8	11.4	28.5	11.8	16.2	16.2	11.4		
	50+	37	(2.7)	75.7	54.1	0.0	29.7	45.9	2.7	2.7	45.9	2.7	6.4	6.4	2.7		
Turnover (€/year)	0-25,000	392	(28.5)	63.5	37.5	5.4	17.1	18.1	6.4	17.1	18.1	6.4	17.1	17.1	17.1		
	25,001-100,000	322	(23.4)	36.0	36.0	3.1	17.3	28.3	8.7	15.0	28.3	8.7	8.7	8.7	15.0		
	100,001-1,000,000	402	(29.4)	58.7	41.5	1.3	24.5	32.2	10.7	11.4	32.2	10.7	10.7	10.7	11.4		
	1,000,000+	149	(10.8)	72.5	45.0	1.3	33.6	32.2	10.7	11.4	32.2	10.7	10.7	10.7	11.4		
	Missing	107	(7.8)	66.4	36.4	1.9	15.0	18.7	11.2	13.1	18.7	11.2	11.2	11.2	13.1		

Notes: Sociodemographic characteristics were summarized into fewer categories for presentation in this table.

Perceived service orientation. The respondents assessed the service orientation of tax authorities on five items overall: *The Tax Administration (1) does everything possible to serve people, (2) treats people with respect, (3) keeps its promises, (4) treats everybody fairly, and (5) takes people's circumstances sufficiently into account (1 – completely disagree; 5 – completely agree)*. All items loaded on one single factor with an eigenvalue of 3.03 for private taxpayers and 2.84 for entrepreneurs. All factor loadings were higher than 0.73 and 0.68, respectively. The reliability analysis suggested good internal consistency with $\alpha = 0.83$ and $\alpha = 0.81$, respectively.

Perceived trustworthiness. According to various theoretical concepts, reason-based trust is based on the evaluation of such attributes as the consistency, plausibility, transparency, or competence of the trusted party (Castelfranchi and Falcone, 2010; Gärling et al., 2009; Pirson and Malhotra, 2008). Six items in the questionnaire captured similar attributes of tax authorities and formed a scale to measure the perceived trustworthiness of authorities: *To what extent do you think the following feature applies to the Tax Administration: (1) reliable, (2) careful, (3) credible, (4) responsible, (5) transparent, and (6) competent (1 – absolutely not; 5 – absolutely)*. The factor analysis revealed one single factor with an eigenvalue of 4.08 in the sample of private taxpayers and 3.79 in the sample of entrepreneurs. All the factor loadings were higher than 0.67 and 0.68, respectively. Reliability was high: $\alpha = 0.90$ and $\alpha = 0.88$.

Tax compliance intention. The tax compliance intentions of the respondents were assessed according to the OECD (2001) definition, differentiating two aspects of tax compliance: administrative compliance (e.g., paying on time) and technical compliance (e.g., paying the correct amount). The scale for tax compliance intentions consisted of five items; an additional sixth item was answered only by entrepreneurs. The five items to which both samples responded were: (1) *To what extent do you think it is important that the Tax Administration receives the tax return (for entrepreneurs: the tax return of your company) in time?* (2) *To what extent do you think it is important that the Tax Administration receives an accurate as possible tax return from you (for entrepreneurs: correct and complete tax returns)?* (3) *To what extent do you think it is important that in case you must pay extra money (for entrepreneurs: in case money has to be paid) the Tax Administration receives the money before the deadline?* (4) *To what extent can you imagine that there are circumstances in which you will enter too many or nonexistent deductions in your tax return (reverse coding)?* (5) *To what extent can you imagine that there are circumstances in which you will not state all earnings in your tax return (reverse coding; 1 – very important or*

absolutely not; 5 – very unimportant or absolutely)? The additional item for the sample of entrepreneurs was: *To what extent can you imagine that you keep cash payments out of records* (reverse coding; 1 – absolutely not; 5 – absolutely)? As suggested by the OECD definition of tax compliance, the factor analysis resulted in a two-factor solution with one factor corresponding to administrative compliance ($\lambda = 1.78$ for private taxpayers and $\lambda = 2.00$ for entrepreneurs) and the second to technical compliance ($\lambda = 1.66$ and $\lambda = 2.34$, respectively). All factor loadings on the administrative compliance factor were higher than 0.65 and 0.76, respectively; all factor loadings on the technical compliance factor were higher than 0.88 and 0.84. Despite the two underlying factors, all items were combined into one single scale indicating respondents' tax compliance intentions. The reliability of the scale was $\alpha = 0.69$ for private taxpayers and $\alpha = 0.74$ for entrepreneurs.

Perceived audit probability. The respondents indicated their subjective probability of being audited by authorities on two items; the scale for the sample of entrepreneurs included one additional item. The two items to which both samples responded were: *According to you, what is the chance that the Tax Administration discovers that someone (for entrepreneurs: a company) has entered too many or nonexistent deductions in a tax return?* *According to you, what is the chance that the Tax Administration discovers that someone (for entrepreneurs: a company) has not stated all revenues in a tax return* (1 – very small; 5 – very large)? The additional item for entrepreneurs was: *According to you, what is the chance that the Tax Administration discovers that a company has kept cash payments out of the records* (1 – very small; 5 – very large)? The factor analysis revealed a single underlying factor with eigenvalues of 1.62 for private taxpayers and 2.48 for entrepreneurs. All the factor loadings were above 0.90 and 0.88, respectively. The reliabilities of the perceived audit probability scales were $\alpha = 0.77$ and $\alpha = 0.89$.

Perceived severity of fines. How severe respondents consider the legal consequences of evading taxes to be was captured by one item: *When the Tax Administration discovers that someone (for entrepreneurs: a company) has deliberately filled out his (for entrepreneurs: its) tax return incorrectly, how severe do you think the consequences are for that person (for entrepreneurs: company)* (1 – absolutely not severe; 5 – very severe)?

Personal norms. Personal norms were assessed by one item: *I would feel guilty if I did not pay my full share of taxes* (1 – completely disagree; 5 – completely agree).

Social norms. Social norms were assessed by one item: *People in my environment would strongly disapprove if I did not meet my tax obligations* (1 – completely disagree; 5 – completely agree).

Societal norms. Societal norms were also assessed by one item: *Generally, the Dutch do not accept tax evasion* (1 – completely disagree; 5 – completely agree).

Sociodemographic characteristics. In both samples information about the respondents' sex, age, and education (categorized into three levels: (1) low – no education, comprehensive school, lower vocational training; (2) intermediate – lower general secondary education, intermediate vocational training, higher general secondary education, pre-university education; (3) high – higher vocational education, bachelor's degree, master's degree) was collected. In addition, private taxpayers indicated their occupation and income, and entrepreneurs indicated their number of employees and annual turnover.

The means, standard deviations, and intercorrelations for all scales and the sociodemographic variables are depicted in table 2.

3.3. Procedure

The data was collected in 2010 by a market research agency on behalf of the NTCA. The data was collected online, via telephone interviews, and through paper-and-pencil questionnaires. A representative sample of private taxpayers was selected from a research panel consisting of 125,000 respondents. The panel was screened regarding whether each taxpayer had submitted a tax return in the last 12 months. The selected private taxpayers with Internet access were invited to participate via an e-mail containing a link to the online questionnaire. Private taxpayers without Internet access received a letter of invitation and the paper version of the questionnaire. Of the 807 private taxpayers, 710 (88%) participated via the online questionnaire, and 97 (12%) participated via the paper-and-pencil questionnaire.¹ Companies with up to five employees received a letter with a link to the online version of the questionnaire. Those respondents who had not filled out the online questionnaire received a reminder letter after two weeks. Companies with five or more employees were contacted by telephone and asked to be directed to the person responsible for tax issues in the enterprise. This person was asked to participate in the survey via the Internet. In the case that a potential study participant did not respond online, the respondents were contacted again with the aim of conducting a telephone interview. Of the

¹ The different data collection modes were included in all analyses as a dummy variable and did not change the results significantly.

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Table 2
Descriptives and Intercorrelations of Scales and Sociodemographic Variables

	N	M	SD	1 ¹	2	3 ²	4 ²	5	6	7	8	9	10	11
Private Taxpayers														
1. Sex ¹ (0 = male; 1 = female)	807													
2. Age	807	50.45	16.88	-.04										
3. Education ² (1 = low; 2 = medium; 3 = high)	807			-.11**	-.14***									
4. Income ² (1 = 0-1,500; 2 = 1,501-3,000; 3 = 3,001+)	807			-.45***	.08	.30***								
5. Perceived severity of fines	807	3.76	0.84	.03	.09*	-.08*	.02							
6. Perceived audit probability	807	3.43	0.88	-.00	.09*	-.08*	-.03	.31**						
7. Personal norms	807	3.40	1.15	.11**	.08	-.04	.01	.07	.10**					
8. Societal norms	807	3.42	1.06	.04	-.08*	.04	.01	.00	.05	.37***				
9. Perceived service orientation	807	3.97	1.01	.10**	-.06	-.05	-.07	.05	.07	.31***	.32***			
10. Perceived trustworthiness	807	3.22	0.68	-.07	.10*	-.10**	.08	.02	.09**	.23***	.10*	.06		
11. Perceived intentions	807	3.37	0.69	-.11**	.05	-.09*	.13**	.04	.13**	.23***	.17***	.09*	.76***	
12. Tax compliance intentions	807	3.87	0.64	-.09*	.10*	.01	.05	.09*	.12**	.35***	.23***	.22***	.24***	.26***
Entrepreneurs														
1. Sex ¹ (0 = male; 1 = female)	1377													
2. Age	1377	48.67	11.22	-.17***										
3. Education ² (1 = low; 2 = medium; 3 = high)	1377			-.08**	.05									
4. Employees ² (1 = 1; 2 = 2-4; 3 = 5-9; 4 = 50+)	1377			.11***	-.20***	-.14***								
5. Turnover ² (1 = 0-25,000; 2 = 25,000-100,000; 3 = 100,001-1,000,000; 4 = 1,000,000+)	1377			-.03	-.14***	-.10***	.70***							
6. Perceived severity of fines	1377	4.10	0.80	.04	-.02	-.02	.03	-.01						
7. Perceived audit probability	1377	3.54	0.92	-.03	.01	-.10***	.03	.03	.25***					
8. Personal norms	1377	3.82	1.04	.02	.02	.02	-.06*	-.04	.10***	.11***				
9. Societal norms	1377	3.82	1.02	.03	-.02	-.01	-.00	-.02	.18***	.16***	.44***			
10. Perceived service orientation	1377	4.12	0.98	.04	.00	-.01	.01	.02	.15***	.13***	.35***	.42***		
11. Perceived trustworthiness	1377	3.18	0.67	-.03	.09**	.00	-.06*	-.09**	.05*	.07*	.12***	.08**	.08**	
12. Perceived intentions	1377	3.37	0.69	-.08**	.07**	.02	-.05	-.06	.09**	.14***	.12***	.17***	.11***	.73***
13. Tax compliance intentions	1377	4.07	0.60	-.01	.06*	.04	.01	.00	.24***	.18***	.40***	.33***	.28***	.22***

Notes: Asterisks denote significance at the 0.1% (***), 1% (**), and 5% (*) levels. The superscript 1 refers to a point-biserial correlation, the superscript 2 refers to a Spearman correlation, and no superscript refers to a Pearson correlation.

1377 entrepreneurs, 1347 (97.8%) participated via the online questionnaire, and 30 (2.2%) participated via the telephone interview. Finally, the response rate of the contacted taxpayers was between 88% (Internet) and 90% (letter) for the sample of private taxpayers, and between 7% (letter) and 11% (telephone) for the sample of entrepreneurs. The much higher response rate among private taxpayers was due to the fact that all private taxpayers were part of a research panel (for which the members had agreed to participate in research). In other words, the private taxpayers had committed themselves to participation.

4. Results

To test hypothesis 1, tax compliance intentions were regressed on perceived service orientation. Since we use factor scores that are normally distributed, we performed OLS regression analyses. As expected, perceived service orientation predicted tax compliance intentions in both samples ($\beta = 0.22$, $SE = 0.03$, $t(805) = 6.31$, $p < 0.001$ for private taxpayers; $\beta = 0.22$, $SE = 0.03$, $t(1375) = 8.20$, $p < 0.001$ for entrepreneurs).

The next step was to analyze whether the perceived service orientation of tax authorities adds a significant portion of explained variance in tax compliance intentions when controlling for several sociodemographic variables (sex, age), economic factors (perceived severity of fines, perceived audit probability), and psychological factors (personal norms, social norms, societal norms). For this purpose a hierarchical multiple regression model was estimated, in which sociodemographic variables and economic and psychological factors were consecutively included as predictor variables in blocks 1 to 3. In block 4 perceived service orientation was added to the regression model to test whether it accounted for additional variance in the tax compliance intentions. All variables were standardized for the regression analysis, except for sex, which was dummy-coded. Table 3 shows the results of the hierarchical regression analysis separately for the sample of private taxpayers and for the sample of entrepreneurs. Sociodemographic variables (block 1) accounted for about 2% of the variance in the sample of private taxpayers, with older and female taxpayers being more compliant. The explained variance in the sample of entrepreneurs was only 0.3% (block 1), with a similar age effect but no effect of sex. Including economic factors (block 2) in the regression model increased the explained variance to about 4% for private taxpayers and 8% for entrepreneurs. Whereas in the sample of private taxpayers only the subjective audit probability affected compliance intentions, among the entrepreneurs the perceived severity of fines also had an effect. Regarding the psychological factors (block 3), all three types of norms

affected compliance in both samples, and further increased the variance explained by the regression model to about 16% and 24%, respectively. Finally, including perceived service orientation into the model (block 4) added about 2% of explained variance in both samples, summing up to 18% of explained variance in the sample of private taxpayers and 26% in the sample of entrepreneurs. The regression coefficient for perceived service orientation was the second highest (following personal norms as the highest) regression coefficient, pointing out the importance of this variable.

To test hypothesis 2 on the mediation effect of the perceived trustworthiness of authorities on the relationship of service orientation and tax compliance, we followed the traditional approach of Baron and Kenny (1986). Accordingly, three regression models were estimated to test for mediation: (i) tax compliance intentions were regressed on perceived service orientation, (ii) the perceived trustworthiness of authorities was regressed on perceived service orientation, and (iii) tax compliance intentions were regressed on both the perceived service orientation and perceived trustworthiness of authorities. Mediation is shown when the effect of perceived service orientation is weaker (or nonsignificant) in the third equation than in the first. Additionally, the indirect effect was tested by means of a Sobel test. Again, all variables were standardized for the regression analyses, and all regressions were estimated separately for the sample of private taxpayers and the sample of entrepreneurs.

As shown before when testing hypothesis 1, perceived service orientation predicted tax compliance intentions in both samples ($\beta = 0.22$, $SE = 0.03$, $t(805) = 6.31$, $p < 0.001$ for private taxpayers; $\beta = 0.22$, $SE = 0.03$, $t(1375) = 8.20$, $p < 0.001$ for entrepreneurs). Also, the second condition for establishing mediation holds, i.e., the perceived trustworthiness of authorities was predicted by perceived service orientation ($\beta = 0.74$, $SE = 0.02$, $t(805) = 30.91$, $p < 0.001$ for private taxpayers; $\beta = 0.73$, $SE = 0.02$, $t(1375) = 39.23$, $p < 0.001$ for entrepreneurs). Finally, in the third equation, the perceived service orientation ($\beta = 0.12$, $SE = 0.05$, $t(804) = 2.36$, $p < 0.05$ for private taxpayers; $\beta = 0.11$, $SE = 0.04$, $t(1374) = 2.95$, $p < 0.01$ for entrepreneurs) and trustworthiness of authorities ($\beta = 0.13$, $SE = 0.05$, $t(804) = 2.61$, $p < 0.01$ for private taxpayers; $\beta = 0.14$, $SE = 0.04$, $t(1374) = 3.73$, $p < 0.001$ for entrepreneurs) both predicted tax compliance intentions. As required in Baron and Kenny's (1986) approach, the effect of service orientation on compliance was weaker in the third equation, when the potential mediator trustworthiness was included in the model, than in the first equation, although it did not completely disappear. A Sobel test further confirmed the mediational effect of authorities' trustworthiness on the effect of perceived service orientation and compliance intentions (Sobel test statistic = 2.57, $p < 0.01$ for private taxpayers; Sobel test statistic = 3.72, $p < 0.001$ for entrepreneurs).

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Table 3

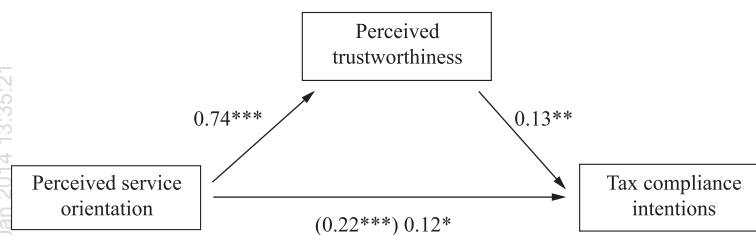
Hierarchical Multiple Regression Analysis with Tax Compliance Intentions as Criterion

	Block 1		Block 2		Block 3		Block 4		<i>r</i>
	β	SE	β	SE	β	SE	β	SE	
Private taxpayers									
Sex (0 = male; 1 = female)	.09**	.07	.09*	.07	.04	.07	.06	.07	.09**
Age	.09**	.03	.08*	.03	.07*	.03	.06	.03	.09**
Perceived severity of fines			.06	.04	.04	.03	.04	.03	.11**
Perceived audit probability			.11**	.04	.08*	.03	.07*	.03	.14***
Personal norms					.26***	.04	.23***	.04	.35***
Social norms					.09*	.04	.09*	.04	.23***
Societal norms					.11**	.03	.11**	.03	.22***
Perceived service orientation					.11**	.03	.14***	.03	.22***
R^2	.017		.037		.164		.181		
ΔR^2			.020		.127		.017		
F	6.92**		7.70***		22.35***		21.98***		
ΔF			8.36***		40.38***		16.37***		
max. VIF	1.00		1.11		1.26		1.32		
Entrepreneurs									
Sex (0 = male; 1 = female)	-.00	.06	.01	.06	-.02	.05	-.02	.05	-.01
Age	.06*	.03	.06*	.03	.05*	.03	.04	.03	.06*
Perceived severity of fines			.21***	.03	.15***	.03	.15***	.02	.24***
Perceived audit probability			.13***	.03	.08**	.03	.07**	.02	.18***
Personal norms					.29***	.03	.28***	.03	.40***
Social norms					.13***	.03	.12***	.03	.33***
Societal norms					.09**	.03	.09**	.03	.28***
Perceived service orientation					.15***	.03	.15***	.02	.22***
R^2	.003		.077		.237		.257		
ΔR^2			.073		.160		.020		
F	2.31		28.46***		60.65***		59.16***		
ΔF			54.43***		95.70***		37.44***		
max. VIF	1.03		1.07		1.40		1.41		

Note: All variables were standardized except sex, which was dummy-coded (0 = male; 1 = female). The *r*-values refer to a zero-order (Pearson) correlation; ΔR^2 and ΔF refer to a change in R^2 and F statistics; max. VIF refers to the largest variance inflation factor; asterisks denote significance at the 0.1% (***), 1% (**), and 5% (*) level.

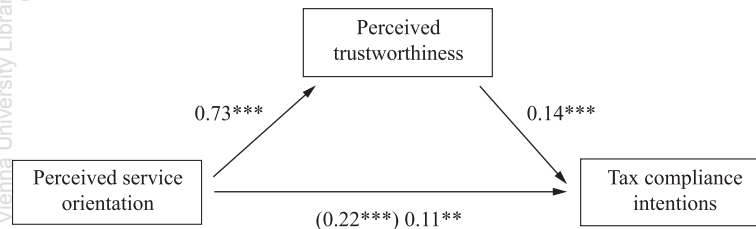
Furthermore, the mediation effect of trustworthiness can still be observed when controlling for sociodemographic variables and economic and psychological factors in all equations (Sobel test statistic = 2.20, $p < 0.05$ for private taxpayers; Sobel test statistic = 1.80, $p < 0.05$ for entrepreneurs). The results from our mediation analyses are summarized in figure 1 for private taxpayers and figure 2 for entrepreneurs.

Figure 1
Mediation of the Effect of Perceived Service Orientation on Tax Compliance Intentions by Perceived Trustworthiness of Authorities for Private Taxpayers



Note: Numbers indicate standardized regression coefficients. The number between brackets is the coefficient excluding the mediator variable. Asterisks denote significance at the 0.1% (***), 1% (**), and 5% (*) levels.

Figure 2
Mediation of the Effect of Perceived Service Orientation on Tax Compliance Intentions by Perceived Trustworthiness of Authorities for Entrepreneurs



Note: Numbers indicate standardized regression coefficients. The number between brackets is the coefficient excluding the mediator variable. Asterisks denote significance at the 0.1% (***), 1% (**), and 5% (*) levels.

5. Discussion

The importance of providing good services and of a customer-oriented self-concept of tax authorities has been emphasized in several theoretical frameworks, and tax offices around the world have extended their range of ser-

vices and support for taxpayers. The results from the present survey with representative samples of private taxpayers and entrepreneurs show that the services offered by the tax office are accepted and employed by a majority of taxpayers, and suggest that their perceptions about authorities' service orientation are related to their tax compliance intentions. We have proposed trust as a mechanism to explain the observed relation and demonstrated that authorities' perceived service orientation is indeed positively related to judgments of their trustworthiness, which in turn are crucial for taxpayers' compliance intentions. Besides the mediated effect by trust, service orientation still has direct influence on compliance. This indicates that service orientation facilitates tax compliance and is also a relevant means for trust building, which also strengthens compliance. Our findings are in line with the propositions made in the slippery slope framework (Kirchler et al., 2008), the multifaceted approach (Alm and Torgler, 2011), and the notion of responsive regulation (Braithwaite, 2007). Related findings are reported in an experiment by Alm et al. (2010), in which computer assistance for taxpayers increased their compliance. Hence, it seems that the relation between taxpayers' perceived service orientation and tax compliance intentions is a robust and ecologically valid phenomenon.

The effect of perceived service orientation on compliance intentions still prevailed when we controlled for an array of variables that are known to affect taxpayers' behavior. Perceived service orientation was the second-strongest predictor of tax compliance intentions. The control variables affected compliance intentions as described in the literature, i.e., females and older taxpayers were more compliant; a higher perceived audit probability and perceived severity of fines resulted in more compliance; and perceptions of personal, social, and societal norms were positively related to behavioral intentions. The observations regarding the control variables are not new, but indicate the validity of the survey and its scales. It seems, however, that gender is not relevant to tax compliance intentions of entrepreneurs, which may be grounded in less stereotypical gender roles among female entrepreneurs. In fact, psychological gender is frequently measured by occupational preferences (cf. Kastlunger et al., 2010; Lippa, 2002). In contrast, the perceived severity of fines was nonsignificant among private taxpayers. It is likely that this group of taxpayers has fewer experiences of being fined, or has less to fear due to restricted opportunities for evasion. Another explanation could be that entrepreneurs are trained in economic thinking and therefore are more likely to base their behavior on the expected value of evasion, which, in part, depends on the level of fines. The present study also confirms research on the importance of tax norms for tax compliance. In particular, the personal norm to cooperate was the most important predictor of tax compliance intentions in both samples.

Although the data from the Dutch Fiscal Monitor are undoubtedly of high value – being representative of Dutch taxpayers and covering a whole array of important tax-related issues – they bear several constraints, which somewhat limit our findings.

First of all, the cross-sectional nature of the data allows no clear identification of causality for the relation of perceived service orientation and tax compliance intentions. Nonetheless, we would like to emphasize that the causal relation between service orientation and tax compliance was shown in the laboratory experiment conducted by Alm et al. (2010) and in laboratory experiments on procedural fairness, which is related to perceived service orientation (e.g., Wahl et al., 2010). However, laboratory experiments have the limitation of not being representative of real taxpayers and real tax decisions (Elffers et al., 1987). Therefore, the present survey study adds to our understanding, as it suggests that the causal relation found in the experiments is applicable to real taxpayers. Moreover, the relation is robust, as perceived service orientation is positively related to tax compliance intentions over and above the variance explained by other determinants. We believe that to understand tax compliance it is necessary to apply a multimethod approach balancing the disadvantages and advantages of each approach (Hasseldine and Zhuhong, 1999). Nonetheless, future research should replicate our findings on the basis of variations in real rather than laboratory-induced or perceived service orientation, for instance by comparing the behavior of clients from tax offices that differ in the number of services provided or whose degree of service orientation has been judged by an external group of experts.

Second, the present data is based on a non-incentivized survey, which is subject to criticism in that self-reporting might imply little or nothing about real tax behavior (Elffers et al., 1987; Elffers et al., 1992). Answers in surveys might only reflect respondents' efforts to gain social approval, might be biased due to respondents' lack of awareness of their actual behavior, or might be used by respondents as a tool to communicate suggestions to the researchers or the tax authorities (Elffers et al., 1987; Elffers et al., 1992). In the present study we tried to circumvent these problems through several measures. Questions assessing tax compliance were not related to actual behavior, but to hypothetical statements concerning the importance or likelihood of specific tax behavior (Orviska and Hudson, 2002). The data collection was not administered by the tax authorities themselves or the researchers, but by an independent research agency. Both measures are argued to increase the probability that participants will make correct statements about their behavior and to reduce participant suspicion (Orviska and Hudson, 2002).

Third, the survey questions were not initially designed for the purpose of our research. Hence, all scales applied in our analyses were built *ad hoc* without any possibility for pretesting or validating our measures in different

data sets. For example, the perceived trustworthiness scale is a combination of different existing definitions of reason-based trust, not perfectly reflecting a unique trust definition (e.g., Castelfranchi and Falcone, 2010; Gärling et al., 2009; Pirson and Malthotra, 2008). As such, the scale is based on a conscious evaluation of a number of specific trust-related qualities of the trusted party such as reliability or competence. However, the scale has a reliability of $\alpha = 0.88$, and thus it can be argued that the concept of perceived trustworthiness was consistently assessed. Also, the other scale reliabilities ranged from $\alpha = 0.69$ to $\alpha = 0.90$, indicating their acceptable to good psychometric quality. Finally, effects of well-studied variables such as personal and social norms, perceived audit probabilities, etc., were replicated, confirming the validity of the scales to some degree.

For the practice of tax administration our findings suggest that, besides the traditional enforcement tools of deterrence, providing high-quality services and treating taxpayers as clients rather than as criminals is a promising compliance enhancement strategy. The majority of respondents indicated that they had contacted tax authorities at least once in the year before the survey. The most frequently used services were the tax office's Web site and the general tax telephone line. Hence these seem to be the most important communication channels and should be improved first if a tax administration wants to move towards greater service orientation. By sharing expertise with their clients, tax authorities will be perceived as supportive and trustworthy partners, inducing compliance-minded taxpayers to cooperate.

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