VŠE / FACULTY OF INTERNATIONAL RELATIONS

Working Paper Series

Indirect effects of simplified tax communications on compliance

Working Paper 2025 - 03

Dagmara Celik Katreniak

Lubomír Cingl

Matej Lorko

ISSN 2695-0820

Indirect effects of simplified tax communications on compliance

Dagmara Celik Katreniak,[a] Lubomír Cingl, [b] and Matej Lorko [c]

Abstract: This study investigates how simplified tax communications influence compliance through direct cognitive effects and via indirect emotional and moral pathways. We conduct a controlled laboratory experiment in which we expose subjects to stylized letters from a tax authority. The letters vary in terms of their language complexity and visual salience. We find that simplification improves understanding of tax obligations and expected compliance but does not directly increase tax declarations in the lab. However, mediation analysis reveals a significant indirect effect: simplified communication intensifies personal feelings of guilt associated with evasion, which in turn increases both actual compliance withing the experiment and expected compliance outside of the laboratory. Other potential mediators, such as perceived fairness, deterrence, and social norms, do not play a significant role. Our findings suggest that simplification can act as a low-cost moral nudge which may enhance intrinsic motivation to comply. Policymakers can employ simplification as a tool to reinforce voluntary compliance, especially if paired with complementary interventions.

Keywords: simplification, tax compliance, emotions, experiment, salience

JEL codes: H26; L38; C90

---

[a] Corresponding author, Dagmara Celik Katreniak, City St George's, University of London, UK. dagmara.celik@city.ac.uk

[b] Lubomír Cingl, Prague University of Economics and Business, Czech Republic. lubomir.cingl@vse.cz

[c] Matej Lorko, University of Economics in Bratislava, Slovakia, and Prague University of Economics and Business, Czech Republic. matej.lorko@gmail.com

Acknowledgements: This project was funded by the Czech Science Foundation (GAČR, project no. GA23-07136S) and by the Scientific Grant Agency of the Ministry of Education of the Slovak Republic (VEGA Project No. 1/0167/21). The project has been reviewed and approved by the Ethics Committee of the University of Economics in Bratislava (no. EKEUBA-VEGA1/0167/21-2/2022) and by the Research Ethics Committee of the Prague University of Economics and Business (no. 10b/2023). The study design was pre-registered at https://www.socialscienceregistry.org/trials/12574 under the RCT ID AEARCTR-0012574. The authors declare no relevant material or financial conflict of interests related to the research described in this document.

1. Introduction

Tax systems in most countries are judged by professional tax advisors to be overly complex (Hoppe, Schanz, Sturm, & Sureth-Sloane, 2023), which hinders compliance (Slemrod, 2019). Blesse, Buhlmann, & Dörrenberg (2020) show that 90% of Germans believe that their tax system needs to be substantially simplified, and Benzarti & Wallossek (2024) find that US taxpayers would even be willing to pay for a simpler tax system. Reducing frictions and simplifying complex situations has delivered increased compliance in many domains, including taxpaying (Abeler & Jäger, 2015; Yogama, Gray, & Rablen, 2024). Still, in most cases, administrative processes and tax systems in general are rigidly constrained and resistant to change.

Unlike tax systems, communications with the public can often be easily altered at relatively low cost and can deliver meaningful impacts. Simplification of communications typically includes shortening the message, reducing the information content, creating a coherent structure, replacing complex words with simpler alternatives, and highlighting action-relevant information to make it more salient (De Neve, Imbert, Spinnewijn, Tsankova, & Luts, 2021), while keeping the message sufficiently formal (Linos, Lasky-Fink, Larkin, Moore, & Kirkman, 2023). Indeed, recent literature focusing on tax and fee compliance nudges demonstrates that simplified communications can be as effective as well-known deterrence nudges (Cahlíková, Cingl, Chadimová, & Zajíček, 2021; De Neve et al., 2021; Dušek, Pardo, & Traxler, 2022; Dwenger, Kleven, Rasul, & Rincke, 2016). In some contexts, simpler communication may even motivate recipients to tackle the problem sooner (Dušek et al., 2022; Migchelbrink & Raymaekers, 2023). However, existing literature has not established behavioral channels through which simpler communications impact taxpayer behavior. Typically, only the overall effect is observable.

In this paper, we study both direct and indirect effects of simplified communications on tax compliance in a unified setting of an incentivized controlled laboratory experiment. We exogenously manipulate the degree of simplicity of communication by exposing our subjects to one of four stylized letters from a tax authority. The letters inform the recipient about their possible tax obligations. While the letters convey the same information, they differ markedly in terms of language complexity, measured by the Flesch Reading Ease Score (Flesch, 1948). Importantly, our treatment variations employ naturally occurring letter contents: (i) a verbatim excerpt from the Slovak Income Tax Act (595/2003 Z.z.), (ii) a verbatim excerpt from the website of the official tax authority – the Financial Administration of the Slovak Republic, (iii) a verbatim excerpt from the official letter the tax authority sent to some taxpayers, and (iv) the same verbatim as in (iii), but in a structured visual presentation aimed to increase the salience of important information (Hilchey, Osborne, & Soman, 2023).

We first assess whether simplified communications affect subjects' decision to declare the tax within the experiment. We then investigate how different degrees of communication simplicity influence expected compliance outside of the lab, improve general understanding of tax obligations, and decrease information overload and transaction costs. We find that simplification decreases the time subjects need to assess the tax obligations, improves their understanding of the tax obligations, and increases their expected tax compliance. However, simplification does not increase tax declarations in the lab.

Next, we investigate the effects of simplified communications on *intermediary outcomes* that have been shown to be related to tax compliance and, thus, could trigger indirect effects of simpler communications on tax compliance. These intermediary outcomes include changes in social norms and moral sentiments associated with the tax payment, e.g., feelings of guilt (Bobek, Hageman, & Kelliher, 2011; Castro & Scartascini, 2015); positive and negative emotions (Brockmann, Genschel, & Seelkopf, 2016), changes in the perceived competence of the tax authority and its enforcement credibility (Kastlunger, Lozza, Kirchler, & Schabmann, 2013; Kirchler, Hoelzl, & Wahl, 2008), and changes in the relationship with the tax authority in the spirit of procedural justice theory (Tyler, 2003, 2006), such as when the authority is perceived as more fair (Kim & Wan, 2022) or trusted (Batrancea et al., 2019). We observe that simplified communication impacts most of the intermediary outcomes in a predictable manner. Compared to the control letter, which contains the excerpt from the body of laws, simpler letters are evaluated as more competent, clearer, and easier to understand, but also less deterrent. The financial administration is perceived as fairer, but not more competent or respectful. Subjects feel more positive and less negative emotions, and anticipate feeling more personal guilt if they evade the tax.

Finally, we use Causal Mediation Analysis (CMA) to separate the *direct* and *indirect effects* (i.e., effects operating through intermediary channels) of simplification on tax declarations in the lab and expected compliance outside of the lab. We select intermediary channels using several settings of Least-Absolute Shrinkage and Selection Operator (LASSO). We consistently find only one significant indirect driver of tax compliance influenced by simplification: anticipated personal feelings of guilt arising from evading the tax. This mediator accounts for 48 to 56.8 percent of the total effect of simplification. Other potential mediators, such as perceived deterrence, fairness, clarity, and social norms did not play a significant mediating role.

Our results suggest that communication simplification can influence compliance-relevant attitudes by making personal moral responsibility more salient, even without explicit moral appeals. These findings speak to the literature on social-norms nudges in tax compliance, where the evidence remains inconclusive: some studies report that nudges improve tax compliance (e.g., Bott, Cappelen, Sørensen, & Tungodden, 2020), while others find null results (Antinyan & Asatryan, 2025). Our results indicate that social-norm nudges can be impactful, but only if they target personal moral sentiments, while nudges that remind taxpayers of generic social norms may be ineffective. Beyond strengthening intrinsic motivations to comply, simplification also improves taxpayer understanding of the tax code and reduces the cognitive costs of fulfilling their obligations. Policymakers may, therefore, view simplified tax communications as a low-cost tool to foster compliance, though in practice such interventions may need to be complemented with other measures, such as reminders or deterrence signals.

2. Literature and hypotheses

In this study, we test the following sets of hypotheses:

- Simpler descriptions of a tax obligation increase the likelihood of correct tax assessment, and reduce transaction costs, measured by the time subjects need to assess the obligation and to decide whether to declare the tax or not.
- Simpler descriptions of a tax obligation increase the perceived competence, respectfulness, and fairness of the tax authority. In addition, simplification triggers more positive and less negative emotions, and less feelings of intimidation.
- Simpler descriptions of a tax obligation lead to greater anticipated feelings of guilt arising from tax evasion.
- More salient visual representation of tax-relevant information decreases transaction costs more than simpler descriptions, and increases the perceived competence of the letter and of the tax authority.

We base our hypotheses on extant research, which hints that simplified communication from authorities may affect various sentiments. To that effect, Bholat et al., (2019) show in a large online experiment that simplifying key messages from the central bank increases the comprehension, and importantly, also increases trust in and the reputation of the central bank. Tyler (2004) argues that the quality of interactions with a government, including triggered emotions, might matter more for tax compliance than the actual outcomes of such interactions. Batrancea et al., (2019) find that increased trust in a tax authority is associated with less intense negative emotions and improved tax compliance. Enhanced compliance can also be the result of a more positive perception of a tax authority's competence and of enforcement credibility (Kastlunger et al., 2013; Kirchler et al., 2008). This raises questions about the indirect effects of simplified communication on tax compliance via increased trust and perceptions of the legitimacy of tax-enforcing institutions.

In line with procedural justice theory (Tyler, 2003), simplified communications can also emphasize respect and alter perceptions of fairness, which can indirectly promote voluntary compliance. Indeed, taxpayers who perceive government behavior as fair are more likely to pay taxes (Kim & Wan, 2022). Thus, moral sentiments and social norms can act as supplements to enforcement (Dulleck et al., 2016). To that effect, Bobek, Hageman, & Kelliher (2013) find that individual personal norms (i.e., one's own behavioral and ethical standards or beliefs), and subjective norms (i.e., beliefs about the behavioral and ethical standards of others), can influence tax compliance directly, while societal expectations can influence tax compliance indirectly. It is, however, unclear whether feelings of guilt can be influenced by simplified communications.

Given that institutions have been developing both language simplification and visual innovations in communications, we also develop and test a version of a simplified letter that increases visual saliency of important information. This follows up on recent literature examining the impact of saliency on decision-making (Bordalo, Gennaioli, & Shleifer, 2016; Li & Camerer, 2022). Hilchey et al. (2023) find that, even among highly skilled decision-makers, making a product feature salient increases the likelihood of choosing the product. This suggests that a letter delivering the same information in a more salient manner could have a stronger impact. However, novel visual elements may affect the way respondents feel about the institutions; e.g., Linos et al. (2023) find that making a letter look informal decreases the efficiency of communication due to a lowered perception of competency and trustworthiness.

While simplified communications can affect tax compliance both positively (e.g., due to a greater likelihood of correct obligation assessment, lower information overload, increased perception of fairness, stronger feelings of guilt from evasion) and negatively (e.g., due to lower degree of intimidation and deterrence), we anticipate that the positive effects will outweigh the negative ones. Thus, in line with De Neve et al. (2021), we establish our behavioral conjecture that simplified communications will lead to higher levels of tax compliance.

3. Experimental design

We test our hypotheses in an incentivized controlled laboratory experiment. To mitigate possible confounds related to various degrees of experience with the respective tax, we opted to use a student sample.[1] Across treatments, we vary the language complexity of a letter from the Financial Administration of the Slovak Republic sent to potential tax non-compliers. In two incentivized tasks, we measure the degree of subject's understanding of the tax code and decision to declare the tax in the experiment. Using a questionnaire, we measure expected compliance outside of the lab, attitudes towards the letter and the Financial Administration, and related emotions and moral sentiments. English translations of the instructions and questionnaires used in the experiment appear in Appendices A and D.

3.1 Treatments

Each subject receives one of four stylized letters from the Financial Administration of the Slovak Republic. The letter indicates that, given a change in the ownership of a real estate property, registered at the Cadaster Portal of Slovak Republic, the recipient of the letter may be legally obliged to declare income and pay relevant Capital Gains Tax on the property sale. The letter also defines exemption criteria and invites the recipient to file the tax declaration and pay the tax. The four different letters (shown in Appendix B) provide the same information but differ in terms of language complexity, as measured by the Flesch Reading Ease Scores.

[1] The experiment focuses on Capital Gains Tax levied on real estate property sales that occur within five years after acquisition of the property. While we do not expect many (if any) of our students to have relevant personal experience with re-sale of a real estate property, we do ask about their knowledge of the respective Tax Act and control for it in our analysis. Given that our sample is arguably more educated than a representative national sample, our study presents a conservative test designed to detect the lower bound of the effect of simplification on some outcomes, mostly on understanding the tax obligations.

The Flesch Reading Ease Score (FRES) is a readability metric that rates text on a 0–100 scale, with higher scores indicating easier-to-read content, based on sentence length and word syllable count (Flesch, 1948). Values between 0 and 30, where our T0 treatment belongs, require a college graduate level of reading abilities for full understanding. Values between 50 and 60, as our T1 treatment has, indicate a medium level difficulty in reading and understanding, and requires high school reading abilities. Finally, values between 70 and 80, as our T2 and T3 variants have, indicate that the text is fairly easy to read, and a person with the reading abilities of a 7th grade student should have no problem fully understanding.

- **T0_Law** -- The baseline "Law" letter (FRES = 18.2) contains a verbatim copy of the definition of the Tax obligation under the Income Tax Act, taken from the Slovak Tax Code.
- **T1_Website** -- The "Website" letter (FRES = 57.4) contains a verbatim copy of the simplified definition of the Tax obligation taken from the Financial Administration (FA) website.
- **T2_Simplified** -- The "Simplified" letter (FRES = 71.6) contains a more simplified definition of the Tax obligation. This letter was prepared in cooperation with the FA for the purposes of this study.
- **T3_Visual** -- The "Visual" letter (FRES = 71.6) contains essentially the same text content as the "Simplified" letter, but it is presented in a more visually salient manner, in a table-style format. The FA used this letter in communications with taxpayers who sold a property but did not declare the Tax in 2021.

3.2 Main tasks

To examine how different levels of language complexity influence our subject's understanding of the tax code and tax compliance, we design two main incentivized tasks. In both tasks, subjects earn experimental tokens that are converted to cash earnings at the end of the experimental session, with an exchange rate of EUR 1 for each 1,000 tokens earned. Subjects are informed that one of the two main tasks would be randomly chosen for payment, with each having an equal probability of being selected.

In Task 1, subjects are presented with a stylized scenario in which they recently received 215,000 tokens for selling a real estate property they had bought four years earlier for 200,000 tokens. Thus, according to the Income Tax Act, subjects are obliged to declare and pay a tax. Subjects are asked to consult the letter provided to them to assess their obligation, and to indicate their finding regarding their obligation to pay a tax (yes/no), and their confidence in the correctness of their assessment, using an 11-point scale.

Next, subjects decide whether to declare and pay the tax, or not.[2] The amount is set to 2,500 tokens, which accounts for 17 % of their 15,000 token profit, comparable to the actual Capital Gains Tax in Slovakia (19 %, unless the gains exceed around EUR 50,000, in which case it is 25 %). Evading the tax may result in the obligation to pay the tax of 2,500 tokens owed, plus an additional fine of 2,500 tokens if the subject is audited. The probability of being audited is 20 %. Note that, given our parametrization, in which the expected payoff from evading (14,000 tokens) is higher than the certain payoff from complying (12,500 tokens), a risk-neutral subject should not declare the tax in our experiment. All possible combinations of tax declaration and audit and respective earnings are summarized in Table 1.

Table 1: Token earnings by tax declaration and audit

	Audit (20 % probability)	No audit (80 % probability)
Tax declared	Profit – Tax = 12,500 tokens	Profit – Tax = 12,500 tokens
Tax not declared	Profit – Tax – Fine = 10,000 tokens	Profit = 15,000 tokens

In Task 2, subjects are presented with six stylized scenarios (described in Appendix C), concerning different individuals who recently sold or donated their real-estate property. Subjects are asked to assess whether these individuals are obliged to pay the tax or not, and to indicate their subjective confidence in the correctness of each assessment on an 11-point scale. In three of the scenarios, the individuals should pay the tax, while in the other three scenarios they are not required to pay a tax. For each correct assessment subjects earn 2,500 tokens. In total, a subject can earn up to 15,000 tokens in Task 2, which makes the expected earnings comparable to expected earnings in Task 1.

3.3 Procedures

The sessions were conducted in the Behavioral and Experimental Economics Research Lab at the University of Economics in Bratislava, and in the Laboratory of Experimental Economics at the Prague University of Economics and Business between November 2023 and February

[2] We reduce the tax declaration into a binary decision (i.e., to declare and pay all taxes or none) to make the incentive structure more straightforward. Alm & Malézieux (2021) show that a majority (64% percent) of subjects with the option to report any share of their income choose to report either all or no income. The third most frequently occurring decision - to report half of the income - occurs less than 5% of the time.

2024. The experiment used a computerized interface programmed in zTree (Fischbacher, 2007). Subjects were recruited using the Online Recruitment System for Economic Experiments (ORSEE; Greiner, 2015) from subject databases maintained by the two labs. On average, an experimental session lasted approximately 60 minutes, including the initial instructional period and payment of subjects. The subjects earned 15.7 EUR on average.[3]

At the beginning of each experimental session, the same experimenter handed out printed instructions to subjects and read them aloud. Any questions were answered in private. After reading the instructions, subjects were required to complete a set of eleven non-incentivized comprehension questions. Subjects were allowed to use the printed instructions and could privately ask for help from the experimenter. If a comprehension question was answered incorrectly, a message window identifying the question with an incorrect answer appeared. Task 1 started only after all subjects in the session correctly answered all eleven questions.

After completing Task 2, subjects filled in a PANAS questionnaire (Positive and Negative Affect Schedule; Watson, Clark, & Tellegen, 1988), eliciting whether the letter from the Financial Administration influenced their emotions. Subsequent questions elicited subjects' attitudes towards the letter, including information overload, clarity, credibility, reading ease, competence, and deterrence; attitudes towards the Financial Administration, including perceived competence, respectfulness, and fairness; subject's expected compliance outside of the lab, and anticipated feelings of guilt associated with non-declaration of the tax; in particular their own guilt, the anticipated degree of disapproval by peers of non-declaration of the tax, and the anticipated guilt that would be felt by other evaders.

Next, subjects participated in an incentivized risk-elicitation task in which they made 11 choices between a lottery, which resembled the payoffs and probability used in Task 1 (1,500 tokens with 80% probability or 1,000 tokens with 20% probability) and a sure payoff ranging from 1,000 to 1,500 tokens in 50 token increments. Subjects were informed that one of their choices would be randomly chosen and the resulting payoff would be added to their experimental earnings. Subjects then completed a three-item modified Cognitive Reflection Test (CRT; Primi, Morsanyi, Chiesi, Donati, & Hamilton, 2016), in which they earned 500

[3] For comparison, the hourly wage that students could earn at the time of the experiment as a research assistant or in manual jobs typically ranged from EUR 5 to EUR 7.

tokens for each correctly answered question. The CRT was followed by a set of basic demographics questions and an open-ended question that allowed them to leave comments about the experiment. The final screen showed which of the two main tasks was randomly selected for their payoff, the resulting main task earnings, risk-elicitation earnings, and CRT earnings. At the end of the experiment, the sum of experimental earnings was converted from tokens to cash and paid privately.

Table 2: Selected individual characteristics, by treatment conditions

	Treatment				ANOVA p-value
	T0_Law	T1_Website	T2_Simplified	T3_Visual	
Female	0.53 (0.50)	0.54 (0.50)	0.61 (0.49)	0.56 (0.50)	0.46
Age	21.79 (1.86)	21.57 (2.53)	21.69 (2.56)	21.69 (2.13)	0.88
Completed years of uni.	2.32 (1.66)	2.02 (1.48)	2.27 (1.47)	2.03 (1.55)	0.18
Net monthly income (in EUR)	434.12 (431.58)	378.64 (347.43)	446.48 (371.24)	370.06 (360.89)	0.19
Cognitive reflection (0-3)	1.94 (0.91)	1.88 (0.90)	1.82 (0.91)	1.88 (0.98)	0.78
Risk aversion (0-11)	5.55 (2.07)	5.60 (2.18)	5.53 (2.10)	5.73 (2.14)	0.85
Dyslexic	0.05 (0.21)	0.04 (0.19)	0.05 (0.22)	0.03 (0.18)	0.85
Admin language exp.	0.48 (0.26)	0.55 (0.27)	0.53 (0.26)	0.48 (0.23)	0.04
Familiar with the Tax	0.28 (0.28)	0.36 (0.28)	0.37 (0.31)	0.35 (0.29)	0.03
N	154	154	154	154	

Notes: The table shows the means, standard deviations (in parentheses), and p-values of the joint ANOVA test. Descriptive statistics of all variables are included in the Appendix, Table E4.

3.4 Subjects

A total of 617 subjects, with a mean age of 21.7 years and 56% female, all students at the University of Economics in Bratislava or the Prague University of Economics and Business, participated in the experiment. All subjects were either Slovak native speakers or foreigners studying in the Slovak language, for which they had to pass the state language examination. One of the subjects left due to poor comprehension and was excluded from the analysis, which uses the answers of 616 subjects. They were randomly assigned to our four treatments, with each treatment including 154 subjects. Table 2 summarizes randomization checks on individual subject characteristics by treatments, and shows only a few significant differences across treatments, consistent with a random chance given the number of tests.

4. Results

4.1 Total treatment effects

We begin our analysis by examining the effects of our treatment manipulation on the correctness of tax obligation assessments in Task 1 and Task 2, the tax declaration rate in Task 1, transaction costs measured by the time needed to complete the task, and perceived costs measured by reported information overload. For Task 2, we report both the correct assessment rate calculated using the binary indications over the six scenarios, and the correct assessment rate adjusted by subjective confidence in those indications.[4] Table 3 presents outcomes of OLS regressions in which we regress the respective outcome variables on treatment dummies, with the T0_Law letter serving as the baseline. All results are qualitatively robust to the inclusion of control variables, as presented in the Appendix, Table E1.

Table 3: Tax obligation assessments, tax declarations, and transaction costs

	(1) Tax declaration Task 1	(2) Correct assessment Task 1	(3) Correct assessment Task 2	(4) Correct Task 2 adjusted	(5) Overload	(6) Time to complete T1 (sec)	(7) Time to complete T2 (sec)
T1_Website	0.013	0.045	0.024	0.032**	-0.056**	-32.714***	2.636
	(0.056)	(0.038)	(0.018)	(0.016)	(0.003)	(12.032)	(17.181)
	[1.000]	[0.883]	[0.779]	[0.346]	[0.284]	[0.042]	[1.000]
T2_Simplified	0.032	0.045	0.085***	0.079***	-0.039*	-56.604***	-53.058***
	(0.056)	(0.038)	(0.017)	(0.015)	(0.026)	(10.991)	(15.672)
	[0.870]	[0.659]	[0.001]	[0.001]	[0.562]	[0.001]	[0.008]
T3_Visual	-0.045	0.000	0.077***	0.081***	-0.056**	-91.162***	-58.247***
	(0.057)	(0.041)	(0.016)	(0.015)	(0.025)	(11.184)	(15.975)
	[0.851]	[0.998]	[0.001]	[0.001]	[0.236]	[0.001]	[0.002]
Constant	0.578***	0.851***	0.819***	0.762***	0.545***	330.59***	345.91***
	(0.040)	(0.029)	(0.013)	(0.012)	(0.020)	(9.24)	(52.76)
N	616	616	616	616	616	616	616
R^2	0.003	0.005	0.059	0.063	0.011	0.117	0.045
	Post-estimation tests p-values						
T1 = T2	0.728	1.000	<.001	0.001	0.479	0.015	<.001
T1 = T3	0.303	0.231	0.001	0.001	1.000	<.001	<.001
T2 = T3	0.168	0.231	0.555	0.927	0.469	<.001	0.677

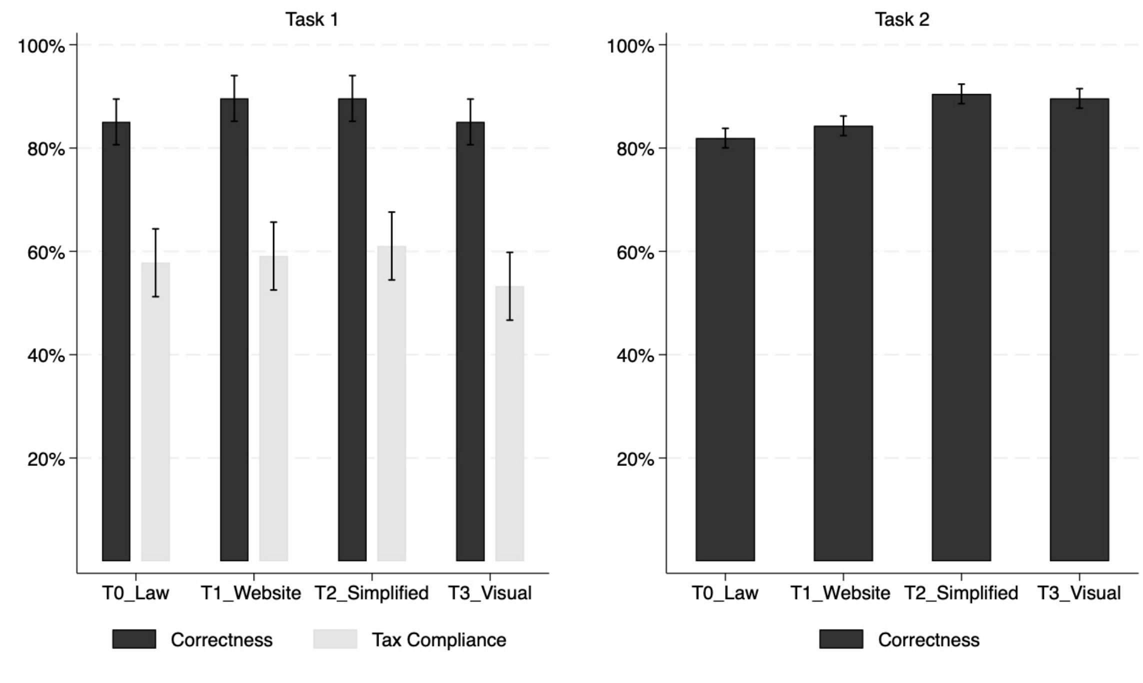
Notes: OLS. Standard errors are reported in parentheses. The dependent variables are: (1) decision to declare the tax in Task 1; (2) and (3) correct tax assessment rates in Tasks 1 and 2; (4) the correct assessment rate in Task 2 adjusted by subjective confidence in the assessment (5) the perception of information overload; (6) and (7) the time to complete Tasks 1 and 2, respectively. The bottommost panel shows p-values of post-estimation pairwise comparisons across the treatments T1-T3. Regression outcomes controlling for other covariates are provided in the Appendix, Table E1. P-values after the Romano-Wolf correction with 1,000 replications are in squared brackets (Clarke, Romano, & Wolf, 2020). *, **, and *** indicate significance at the 10%, 5%, and 1%-levels, respectively.

[4] For example, if a subject indicated that there is a tax obligation and was 100% confident, we weigh her response as 100% yes and 0% no. By the same token, if the subject was 0% confident, we weigh her response as a random guess, i.e., 50% yes and 50% no.

Column 1 shows no impact of any treatment on tax declaration rates. Thus, we find no support for our behavioral conjecture that simple letters would lead to higher tax compliance. This holds even after we condition the analysis to the subjects who correctly assessed that they should pay the tax in Task 1, and also when we include control variables. No impact on the decision to declare the tax could stem from the binary nature of the task, as standard tax non-compliance is usually a matter of incompleteness rather than 0 or 100%. Another reason could be the specific nature of our laboratory experiment with a student sample, in which the consequences of tax non-compliance are purely financial and not at all reputational; reputation could play a role with real taxpayers.

Columns 2, 3, and 4 show that simplified communications generally improve taxpayers' understanding of their duties, as the simplest letters lead to more accurate tax obligations assessments, by around 8 percentage points (p.p.) in Task 2. Figure 1 visualizes the means of correct assessment rates and compliance across treatments.

Figure 1: Tax obligation assessments and compliance



Note: means; error bars represent the standard error of the mean.

Column 5 shows that, compared to the baseline Law letter, all simpler letters reduced reported information overload at a similar magnitude (between 4 and 5.6 p.p.), but this result is not robust to multiple hypothesis testing correction. Columns 6 and 7 present evidence that the simpler the letter is, the less time subjects spend assessing tax obligations in both tasks, almost in a linear fashion: in Task 1, subjects spend around 33, 57, and 91 seconds less assessing their obligations when provided with T1_Website, T2_Simplified and T3_Visual letter compared to T0_Law (adjusted p-values: $p_{T1} = 0.042$, p_{T2} and $p_{T3} < .001$). These differences account for a decrease in transaction costs of 10, 17 and 27 percent, respectively. In Task 2, T2_Simplified and T3_Visual lead to a similar reduction of time needed to complete the task, by 53 and 58 seconds (adjusted $p_{T2} = 0.008$, $p_{T3} = 0.002$), which corresponds to 15% and 17% reductions. However, the T1_Website letter does not seem to reduce the transaction costs in Task 2. We conclude that simplified communications decrease both perceived costs (represented by reported information overload) and actual costs (represented by time spent on the tasks). Interestingly, while the visual representation of the same information at the same level of simplicity in T3_Visual was more effective than the T2_Simplified in time to complete Task 1, it was on par with the T2_Simplified in time to complete Task 2 and all other outcomes examined in Table 3.

Result 1: *Simpler communication of the tax obligation leads to shorter time needed to assess the obligation and to better understanding, but does not significantly affect tax compliance.*

4.2 Intermediary outcomes I: Perceptions of the letters and attitudes towards the Financial Administration

In Table 4, we summarize the effect of simplified communication on perception of the letters (Columns 1-5) and on subjective attitudes towards the FA (Columns 6-8). Compared to the baseline T0_Law letter, subjects generally perceive simpler letters as being significantly more competent (between 6 p.p. for T3 and 9 p.p. for T1), clearer (between 22 p.p. for T1 and 28 p.p. for T3), and easier to understand (between 31 p.p. for T1 and 52 p.p. for T3). However, subjects also find simpler letters significantly less deterrent: between 9 p.p. for T1 and 16 p.p. for T2, and the T2_Simplified was found to be 7 p.p. less credible. When it comes to attitudes towards the Financial Administration, treatments T2 and T3 yield significantly higher beliefs (7 p.p.) that FA treats taxpayers fairly compared to both T0_Law and T1_Website letters. We do not find significant differences in the ratings of the Financial Administration's competency and respectfulness towards taxpayers.

Result 2: *Simpler communication of the tax obligation is perceived as more competent, clear and easy to understand, but also less deterrent. Recipients of the simplest letters perceived the Financial Administration as fairer, but not more competent or respectful of taxpayers.*

Table 4: Letter perception, and attitudes toward the Financial Administration

	Perception: Letter					Perception: Financial Administration		
	(1) Competent	(2) Credible	(3) Clear	(4) Easy	(5) Deterrent	(6) Competent	(7) Respectful	(8) Fair
T1_Website	0.091***	0.017	0.218***	0.309***	-0.092***	0.021	0.025	-0.007
	(0.028)	(0.028)	(0.028)	(0.029)	(0.032)	(0.027)	(0.029)	(0.030)
	[0.038]	[0.993]	[0.001]	[0.001]	[0.071]	[0.972]	[0.972]	[1.000]
T2_Simplified	0.039	-0.065**	0.256***	0.494***	-0.164***	0.055	0.056	0.077**
	(0.030)	(0.031)	(0.028)	(0.029)	(0.032)	(0.028)	(0.029)	(0.030)
	[0.622]	[0.269]	[0.001]	[0.001]	[0.001]	[0.317]	[0.346]	[0.101]
T3_Visual	0.066**	-0.008	0.279***	0.523***	-0.132***	0.053	0.032	0.081**
	(0.029)	(0.029)	(0.027)	(0.028)	(0.033)	(0.028)	(0.029)	(0.029)
	[0.236]	[0.965]	[0.001]	[0.001]	[0.002]	[0.375]	[0.833]	[0.078]
Constant	0.627***	0.716***	0.479***	0.218**	0.421**	0.701***	0.701***	0.559**
	(0.021)	(0.021)	(0.021)	(0.019)	(0.024)	(0.021)	(0.022)	(0.022)
N	616	616	616	616	616	616	616	616
R^2	0.018	0.014	0.183	0.396	0.048	0.009	0.006	0.026
	Post-estimation tests p-values					Post-estimation tests p-values		
T1 = T2	0.067	0.006	0.156	<0.001	0.017	0.200	0.262	0.004
T1 = T3	0.347	0.381	0.018	<0.001	0.195	0.212	0.813	0.001
T2 = T3	0.373	0.067	0.363	0.317	0.291	0.961	0.379	0.869

Notes: OLS. Standard errors are reported in parentheses. All regression coefficients are expressed in percentage points. Regression outcomes controlling for other covariates are provided in the Appendix, Table E2. P-values after the Romano-Wolf correction with 1,000 replications are in brackets (Clarke et al., 2020). *, **, and *** indicate significance at the 10%, 5%, and 1%-levels, respectively.

4.3 Intermediary outcomes II: Emotions, feelings of guilt, and intentions

Columns 1 and 2 in Table 5 show that our treatments induce different emotions as measured by a PANAS scale. We find that, compared to the T0_Law letter, simpler letters induce more positive (between 5 p.p. for T3 and 7 p.p. for T2), and less negative emotions (4-6 p.p.). Simple letters also induce higher anticipated feelings of one's own guilt from not declaring tax owed (Column 3, 9-10 p.p.) but have no impact on anticipated disapproval of peers or on the guilt of others (Columns 4 and 5). Column 6 shows a positive impact of T1_Website and T2_Simplified on expected compliance outside of the lab, but the effect is not robust to multiple hypothesis testing correction. Post-estimation tests show no significant differences across the three simpler letters in any of the dimensions.

Result 3: *Simpler communication of the tax obligation leads to higher degrees of positive emotions, lower negative emotions, higher anticipated feelings of guilt from not declaring the tax owed, and a higher degree of intentions to pay the tax outside of the lab.*

Table 5: Emotions, feelings of guilt, and intentions

	Emotions		Moral sentiments			Intentions
	(1) Positive emotions (PANAS)	(2) Negative emotions (PANAS)	(3) Guilt – personal	(4) Disapproval - peers	(5) Guilt – others	(6) Expected compliance
T1_Website	0.045	-0.059***	0.104**	0.051	0.004	0.046*
	(0.019)	(0.022)	(0.041)	(0.038)	(0.033)	(0.026)
	[0.249]	[0.147]	[0.147]	[0.832]	[1.000]	[0.491]
T2_Simplified	0.071***	-0.067***	0.091**	0.009	0.023	0.052**
	(0.019)	(0.023)	(0.042)	(0.040)	(0.035)	(0.026)
	[0.003]	[0.051]	[0.229]	[0.870]	[0.870]	[0.277]
T3_Visual	0.054***	-0.039*	0.104**	0.038	0.032	0.034
	(0.019)	(0.023)	(0.040)	(0.038)	(0.033)	(0.026)
	[0.078]	[0.495]	[0.126]	[0.851]	[0.851]	[0.707]
Constant	0.350***	0.313***	0.625***	0.497***	0.475***	0.818***
	(0.014)	(0.016)	(0.031)	(0.028)	(0.024)	(0.021)
N	616	616	616	616	616	616
R^2	0.024	0.017	0.015	0.004	0.002	0.009
	Post-estimation tests p-values					
T1 = T2	0.174	0.726	0.738	0.293	0.572	0.793
T1 = T3	0.651	0.376	1.000	0.724	0.359	0.605
T2 = T3	0.365	0.235	0.736	0.476	0.769	0.415

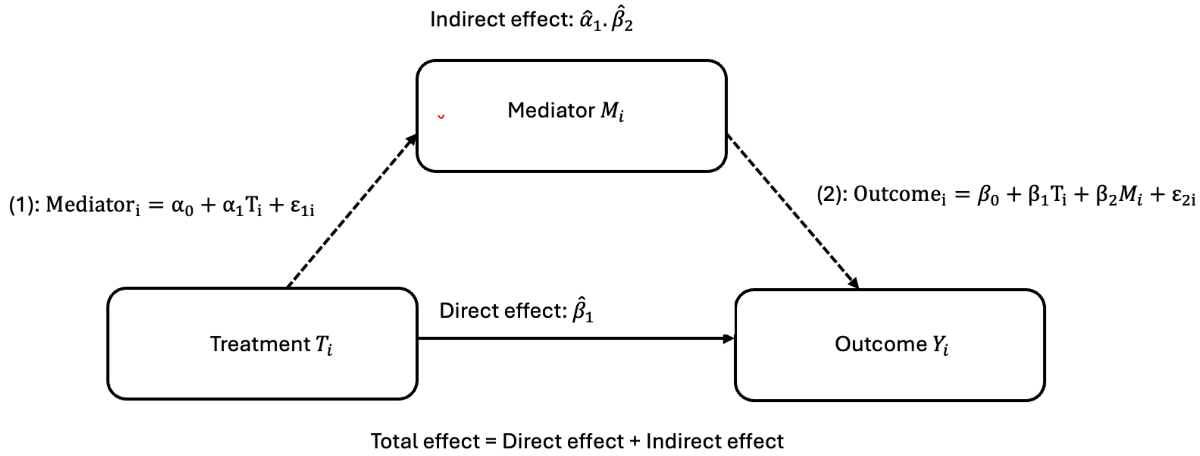
Notes: OLS. Standard errors are reported in parentheses. All regression coefficients are expressed in percentage points. Regression results including the control variables are provided in the Appendix, Table E3.
P-values after the Romano-Wolf correction with 1,000 replications are in brackets (Clarke et al., 2020).
*, **, and *** indicate significance at the 10%, 5%, and 1%-levels, respectively.

5. Path analysis

In the previous section, we present evidence on the causal impact of simplification on tax declarations and expected tax compliance, and identify a set of intermediary outcomes through which simplification may plausibly affect tax compliance indirectly (dashed path in Figure 2). Existing studies have discussed these mechanisms in isolation. What remains unclear is whether these pathways are significantly associated with tax compliance if studied simultaneously, and if so, which ones dominate.

We use Least Absolute Shrinkage and Selection Operator (LASSO) regression methods of model selection to identify the relevant mediators from the full set (i.e., intermediary outcomes in Tables 4 and 5). One variable – personal guilt – was consistently selected across common-value, adaptive, and plug-in specifications. We therefore present results using personal guilt as the sole mediator in this section. In the Appendix, Tables E8-E11, we extend the analysis to other mediators selected by LASSO.

Figure 2: Direct and indirect effects on tax declaration and expected compliance



Note: Equations (2) and (3) from Carpena and Zia (2020, p.150) are adapted to our setting and displayed as (1) and (2). T_i is a dummy equal to one for any simplified letter, leaving T0_Law as the control treatment.

We employ Causal Mediation Analysis (CMA), as described in Carpena & Zia (2020).[5] The CMA analysis decomposes the average treatment effect into an indirect effect, i.e., the treatment effect via specific mediator, and a direct effect that aggregates all other pathways. To do so, we run two separate regressions (Carpena & Zia, 2020, p.150). In the first regression, we regress the mediator on the treatment dummy (to obtain $\hat{\alpha}_1$, Figure 2), and in the second regression we regress the outcome variable on the treatment dummy (to obtain $\hat{\beta}_1$, Figure 2) and the mediator (to obtain $\hat{\beta}_2$, Figure 2). The direct treatment is then represented by $\hat{\beta}_1$ and the indirect effect is the product of $\hat{\alpha}_1.\hat{\beta}_2$ (Carpena & Zia, 2020, p.150). For the sake of simplicity, and due to the results from the previous section showing non-linear results of different versions of our treatment conditions, we merge T1, T2, and T3 into one dummy variable, Simpler Letter (Ti), which indicates any simplified version of the letter. T0_Law remains the baseline.

Our estimation of the average causal mediation effect relies on two assumptions: sequential *ignorability* and no omitted unobserved variables, both pre- and post-treatment (Imai, Keele, Tingley, & Yamamoto, 2011). The first assumption relies on the treatment being *ignorable*, which means that the treatment is independent of potential outcomes and mediators. Our

[5] An alternative method to study mediation paths is (Generalized) Structural Equation Models (GSEM), widely accepted in psychology and sociology. GSEM and CMA rely on the same set of regressions, but differ in terms of how the indirect effect is calculated and the results are interpreted. If we employ GSEM, the results presented in Appendix Table E12 do not change.

experiment satisfies the first assumption by design, given that the treatment was assigned randomly.

The second assumption requires that there are no omitted unobserved pre-treatment and no omitted (un)observed post-treatment variables that would influence our outcome and mediator(s) after we control for the assignment to treatment and covariates, which is essentially non-testable. In our case, estimation of the mediation paths via subjects' personal feelings of guilt would not be correctly identified if we omit a pre-treatment variable that influences the mediator variable and our outcome variable. However, our results do not change if we control for individual characteristics, including age, gender, region of origin, experience with administrative language, net income, cognitive reflection, and risk aversion (Column 2 in Tables 6 and 7), which increases our confidence in the results. On the other hand, we cannot guarantee that there is no other possible pre-treatment confounder. The estimation of the mediation paths would also be violated if there are post-treatment (un)observable confounders affected by the treatment, which would influence both mediation and the outcome variables. Our results hold even if we control for all possible observed post-treatment confounders, but we are aware that this is a strong assumption.

The results are presented in Tables 6 and 7. In Columns 1 and 2, we use an indicator of any version of a simpler letter as the treatment variable, and compare it to the baseline T0_Law.[6] Columns 3, 4, and 5 present the treatment effects of each type of letter separately (T1_Website, T2_Simplified, and T3_Visual). If the sequential ignorability assumption holds, our results show significant average causal mediation effect (ACMA) of personal guilt on the probability of declaring the tax in the experiment (from 3.9 to 5.6 p.p.), and on expected compliance outside of the lab (from 2.5 to 3.1 p.p.). The proportion of the total effect of a simpler letter on expected compliance mediated via guilt ranges between 48 and 56%, on average. Results presented in Columns 3 to 5 show that, in all three treatment conditions, simpler letters produce similar effects and, therefore, the aggregated effects are not driven by any specific letter. Moreover, none of the other mediators proved to be significant in the extended CMA analysis (Appendix Tables E8-E11).

[6] Corresponding regressions using one aggregated treatment variable (T_i) are in the Appendix, Tables E5-E7.

Result 4: *Simpler letters indirectly impact declaration rates in the experiment and expected compliance outside of the lab by increasing personal feelings of guilt from evading the tax.*

Table 6: Causal mediation analysis – mediation on tax declaration via personal guilt

Dependent variable: **Tax declaration**	(1) Simpler Letter	(2) Simpler Letter	(3) T1_Website	(4) T2_Simplified	(5) T3_Visual
Average mediation effect	0.044**	0.039**	0.049**	0.040*	0.056**
	(0.017)	(0.014)	(0.021)	(0.021)	(0.023)
Average direct effect	-0.044	-0.058	-0.036	-0.008	-0.101*
	(0.043)	(0.041)	(0.053)	(0.053)	(0.053)
Total effect	<0.001	-0.019	0.013	0.032	-0.045
	(0.046)	(0.044)	(0.056)	(0.056)	(0.057)
Controls#	No	Yes	No	No	No
% Moderated##	N/A	N/A	N/A	N/A	N/A
N	616	616	308	308	308

Table 7: Causal mediation analysis – mediation on expected compliance via personal guilt

Dependent variable: **Expected compliance**	(1) Simpler Letter	(2) Simpler Letter	(3) T1_Website	(4) T2_Simplified	(5) T3_Visual
Average mediation effect	0.025***	0.025***	0.029**	0.025*	0.031**
	(0.009)	(0.009)	(0.013)	(0.013)	(0.013)
Average direct effect	0.019	0.013	0.016	0.027	0.003
	(0.019)	(0.019)	(0.023)	(0.022)	(0.022)
Total effect	0.044*	0.038*	0.046*	0.052**	0.034
	(0.023)	(0.022)	(0.026)	(0.026)	(0.026)
Controls#	No	Yes	No	No	No
% Moderated##	56.6%	65.9%	68.7%	47.4%	91.1%
N	616	616	308	308	308

Notes: Standard errors are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1%-levels, respectively. # We control for gender, age, region of origin, net income, cognitive reflection, risk aversion, and experience with administrative language. ## The interpretation of the percentage of the moderated effect is limited if the total effect is close to zero, or if the direct and indirect effects have opposite signs.

6. Concluding Discussion

Although governments, bureaucrats, and economists worldwide have expended enormous effort on reducing tax evasion, it remains a serious issue (e.g., Kukk, Paulus, & Staehr, 2020; US Internal Revenue Service, 2022). In recent years, governments have continuously tested not only advances in traditional instruments, such as enforcement tools (Slemrod, 2019; Slemrod & Yitzhaki, 2002), but also inconspicuous and cost-efficient interventions, such as nudges, which can significantly increase revenues even when they produce only modest improvements in compliance. One promising concept in this area is simplification of communications about tax obligations.

We conduct a controlled laboratory experiment in which we manipulate the language complexity of a description of a tax obligation, and examine whether this influences tax compliance in a stylized tax game. We also examine the effects on intermediary outcomes that may mediate the impact of simplification on tax compliance, including perceptions of fairness and competence of the tax authority, emotions, and moral sentiments, such as personal feelings of guilt from evading taxes. Although we expected simpler communication to increase tax declarations, we did not find any relevant effect in this respect, but we did find an increase in expected compliance outside of the lab. We also find almost no impact of increasing the saliency of tax-relevant information, in contrast to Hilchey et al. (2023) and Linos et al. (2023).

While we find that communication simplification impacts a range of the aspects of respondents' perceptions that can influence tax compliance, the mediation analysis helped us to uncover whether and how these mediators further drive the impact of the treatment on subjects' actual and expected decisions to pay taxes. Among ten potential mediation paths, we find only one mediator, subjects' personal feelings of guilt, measured as agreement with the statement "I would feel guilty if I did not pay this tax" that played a statistically significant role. This suggests that internalized moral obligation, rather than perceived enforcement, clarity of information, or the perceived fairness of the financial institution, was the pathway through which simplification influenced compliance in our study.

The indirect effect of simplification via guilt was significant for both expected compliance and actual declarations, but the total treatment effect was statistically significant only for expected compliance. The results are broadly consistent with behavioral tax compliance models that emphasize the role of intrinsic motivation and personal norms alongside deterrence, and they extend evidence from moral suasion studies by showing that simplified communications can operate through moral channels even when they do not feature explicitly moralizing messages. Other social norms such as disapproval of peers or perceptions of guilt prevalence in the society did not mediate the impact on subjects' decision to comply in our experiment. In this respect, we shed new light on the inconsistency of the effects of tax morale nudges on tax compliance, which are often framed around social norms of the entire society and only sometimes appeal to personal responsibility (Antinyan & Asatryan, 2025).

Although our study used a student sample in a stylized laboratory task, the findings suggest several potential implications for tax communication design. Simplified communication may not only lower cognitive barriers, but also enhance the salience of personal responsibility, and can thereby increase the moral costs of non-compliance. Tax authorities could approach simplification not merely as an accessibility measure, but also as a subtle moral intervention. Because only personal guilt and not perceived social norms mediated the effect, messages that encourage taxpayers to reflect on their own moral standards may be more effective than appeals to what most people think or do. The absence of a significant overall effect on actual compliance in our controlled setting underscores the challenge of translating attitudinal shifts into costly behavior, which suggests that field implementation may require combining simplification with complementary levers such as reminders, deterrence signals, or easier payment processes. Ultimately, simplification is inexpensive to implement and can be systematically embedded in official correspondence. If scaled, the indirect effect via moral sentiment, even if modest in size, could yield meaningful aggregate gains in voluntary compliance.

We note a caveat when interpreting the results, as our study was conducted with university students in a laboratory environment. The magnitude of effects should certainly not be directly generalized to the broader taxpayer population without further evidence, and it is possible that real taxpayers may react differently. Field trials with diverse taxpayer segments are needed to validate whether the guilt pathway operates similarly in real-world tax compliance.

References

Abeler, J., & Jäger, S. (2015). Complex Tax Incentives. *American Economic Journal: Economic Policy*, *7*(3), 238–257. https://doi.org/10.I257/pol.20l30l37

Alm, J., & Malézieux, A. (2020). *40 Years of Tax Evasion Games: a Meta-Analysis*. *Experimental Economics*. Springer US. https://doi.org/10.1007/s10683-020-09679-3

Antinyan, A., & Asatryan, Z. (2025). Nudging for Tax Compliance: A Meta-Analysis. *The Economic Journal*, *135*(668), 1033–1068. https://doi.org/10.1093/ej/ueae088

Batrancea, L., Nichita, A., Olsen, J., Kogler, C., Kirchler, E., Hoelzl, E., … Zukauskas, S. (2019). Trust and power as determinants of tax compliance across 44 nations. *Journal of Economic Psychology*, *74*(July), 102191. https://doi.org/10.1016/j.joep.2019.102191

Benzarti, Y., & Wallossek, L. (2024). Rising Income Tax Complexity. *National Tax Journal*, *77*(1), 143–173. https://doi.org/10.1086/728586

Bholat, D., Broughton, N., Ter Meer, J., & Walczak, E. (2019). Enhancing central bank communications using simple and relatable information. *Journal of Monetary Economics*, *108*, 1–15. https://doi.org/10.1016/j.jmoneco.2019.08.007

Blesse, S., Buhlmann, F., & Dörrenberg, P. (2020). Do People Really Want a Simple Tax System? Evidence on Preferences Towards Income Tax Simplification. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3515915

Bobek, D. D., Hageman, A. M., & Kelliher, C. F. (2011). The social norms of tax compliance: Scale development, social desirability, and presentation effects. *Advances in Accounting Behavioral Research*.

https://doi.org/10.1108/S1475-1488(2011)0000014005

Bobek, D. D., Hageman, A. M., & Kelliher, C. F. (2013). Analyzing the Role of Social Norms in Tax Compliance Behavior, 451–468. https://doi.org/10.1007/s10551-012-1390-7

Bordalo, P., Gennaioli, N., & Shleifer, A. (2016). Competition for Attention. *Review of Economic Studies*, *83*(2), 481–513. https://doi.org/10.1093/restud/rdv048

Bott, K. M., Cappelen, A. W., Sørensen, E. Ø., & Tungodden, B. (2020). You've Got Mail: A Randomized Field Experiment on Tax Evasion. *Management Science*, *66*(7), 2801–2819. https://doi.org/10.1287/mnsc.2019.3390

Brockmann, H., Genschel, P., & Seelkopf, L. (2016). Happy taxation: increasing tax compliance through positive rewards? *Journal of Public Policy*, *36*(3), 381–406. https://doi.org/doi.org/10.1017/S0143814X15000331

Cahlíková, J., Cingl, L., Chadimová, K., & Zajíček, M. (2021). Carrots , Sticks , or Simplicity ? Field Evidence on What Makes People Pay TV Fees. *MPI for Tax Law and Public Finance WP*, *12*.

Carpena, F., & Zia, B. (2020). The causal mechanism of financial education: Evidence from mediation analysis. *Journal of Economic Behavior and Organization*, *177*, 143–184. https://doi.org/10.1016/j.jebo.2020.05.001

Castro, L., & Scartascini, C. (2015). Tax compliance and enforcement in the pampas evidence from a field experiment. *Journal of Economic Behavior and Organization*, *116*, 65–82. https://doi.org/10.1016/j.jebo.2015.04.002

Clarke, D., Romano, J. P., & Wolf, M. (2020). The Romano–Wolf multiple-hypothesis correction in Stata. *Stata Journal*, *20*(4), 812–843. https://doi.org/10.1177/1536867X20976314

De Neve, J.-E., Imbert, C., Spinnewijn, J., Tsankova, T., & Luts, M. (2021). How to Improve Tax Compliance? Evidence from Population-Wide Experiments in Belgium. *Journal of Political Economy*, *129*(5), 1425–1463. https://doi.org/10.1086/713096

Dulleck, U., Fooken, 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*. https://doi.org/10.1016/j.jpubeco.2015.12.007

Dušek, L., Pardo, N., & Traxler, C. (2022). Salience and Timely Compliance: Evidence from Speeding Tickets. *Journal of Policy Analysis and Management*, *41*(2), 426–449. https://doi.org/10.1002/pam.22387

Dwenger, N., Kleven, H. J., 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. https://doi.org/10.1257/pol.20150083

Fischbacher, U. (2007). Z-TREE: Zurich toolbox for ready-made economic experiments. *Experimental Economics*, *10*(2), 171–178. https://doi.org/10.1007/s10683-006-9159-4

Flesch, R. (1948). A new readability yardstick. *Journal of Applied Psychology*. https://doi.org/10.1037/h0057532

Greiner, B. (2015). Subject pool recruitment procedures: organizing experiments with ORSEE. *Journal of the Economic Science Association*, *1*(1), 114–125. https://doi.org/10.1007/s40881-015-0004-4

Hilchey, M. D., Osborne, M., & Soman, D. (2023). Does the visual salience of credit card features affect choice? *Behavioural Public Policy*, *7*(2), 291–308. https://doi.org/10.1017/bpp.2021.14

Hoppe, T., Schanz, D., Sturm, S., & Sureth-Sloane, C. (2023). The Tax Complexity Index–A Survey-Based Country Measure of Tax Code and Framework Complexity. *European Accounting Review*. https://doi.org/10.1080/09638180.2021.1951316

Imai, K., Keele, L., Tingley, D., & Yamamoto, T. (2011). Unpacking the black box of causality: Learning about causal mechanisms from experimental and observational studies. *American Political Science Review*, *105*(4), 765–789. https://doi.org/10.1017/S0003055411000414

Kastlunger, B., Lozza, E., Kirchler, E., & Schabmann, A. (2013). Powerful authorities and trusting citizens: The Slippery Slope Framework and tax compliance in Italy. *Journal of Economic Psychology*. https://doi.org/10.1016/j.joep.2012.11.007

Kim, Y. R., & Wan, H. (2022). The effect of fairness on tax morale in South Korea: a framed question approach. *International Review of Economics*. https://doi.org/10.1007/s12232-022-00387-3

Kirchler, E., Hoelzl, E., & Wahl, I. (2008). Enforced versus voluntary tax compliance: The “slippery slope” framework. *Journal of Economic Psychology*, *29*(2), 210–225. https://doi.org/10.1016/j.joep.2007.05.004

Kukk, M., Paulus, A., & Staehr, K. (2020). Cheating in Europe: underreporting of self-employment income in comparative perspective. *International Tax and Public Finance*, *27*(2), 363–390. https://doi.org/10.1007/s10797-019-09562-9

Li, X., & Camerer, C. F. (2022). Predictable Effects of Visual Salience in Experimental Decisions and Games. *The Quarterly Journal of Economics*, *137*(3), 1849–1900. https://doi.org/10.1093/qje/qjac025

Linos, E., Lasky-Fink, J., Larkin, C., Moore, L., & Kirkman, E. (2023). The formality effect. *Nature Human Behaviour*, *8*(2), 300–310. https://doi.org/10.1038/s41562-023-01761-z

Migchelbrink, K., & Raymaekers, P. (2023). Nudging people to pay their parking fines on time. Evidence from a cluster-randomized field experiment. *Journal of Behavioral and Experimental Economics* , *105*(April), 102033. https://doi.org/10.1016/j.socec.2023.102033

Primi, C., Morsanyi, K., Chiesi, F., Donati, M. A., & Hamilton, J. (2016). The Development and Testing of a New Version of the Cognitive Reflection Test Applying Item Response Theory (IRT). *Journal of Behavioral Decision Making*, *29*(5), 453–469. https://doi.org/10.1002/bdm.1883

Service, I. R. (2022). Internal Revenue Service. (2022). Federal Tax Compliance Research: Tax Gap Estimates for Tax Years 2014-2016. www.irs.gov.

Slemrod, J. (2019). Tax Compliance and Enforcement. *Journal of Economic Literature*, *57*(4), 904–954. https://doi.org/10.1257/jel.20181437

Slemrod, J., & Yitzhaki, S. (2002). Tax avoidance, evasion, and administration. In *Handbook of Public Economics* (Vol. 3, pp. 1423–1470). https://doi.org/10.1016/S1573-4420(02)80026-X

Tyler, T. R. (2003). Procedural Justice, Legitimacy, and the Effective Rule of Law. *Crime and Justice*, *30*, 283–357.

Tyler, T. R. (2004). Enhancing Police Legitimacy. *Annals of the American Academy of Political and Social Science*. https://doi.org/10.1177/0002716203262627

Tyler, T. R. (2006). Psychological perspectives on legitimacy and legitimation. *Annual Review of Psychology*. https://doi.org/10.1146/annurev.psych.57.102904.190038

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology*. https://doi.org/10.1037/0022-3514.54.6.1063

Yogama, E. A., Gray, D. J., & Rablen, M. D. (2024). Nudging for prompt tax penalty payment: Evidence from a field experiment in Indonesia. *Journal of Economic Behavior and Organization*, *224*(June), 548–579. https://doi.org/10.1016/j.jebo.2024.06.003