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# How Does Trust Affect Concessionary Behavior in Tax Bargaining?

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#### **Abstract**

We study the bargaining behavior between auditor and auditee in a tax setting and scrutinize the effect of interpersonal trust and trust in government on both parties' concessions. We find evidence that both kinds of trust affect the concessionary behavior, albeit in different ways. While trust in government affects concessionary behavior in line with intuitive predictions, we find that interpersonal trust only affects tax auditors. For high interpersonal trust, the alleviating effect of high trust in government on tax auditors' concessions is less pronounced. Our findings help tax authorities to shape programs to enhance compliance in an atmosphere of trust.

**Keywords**: behavioral taxation, concessionary behavior, interpersonal trust, tax audit, trust in government

**JEL Classification:** C 92, D 91, M 40, H 20, H 25, H 83

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#### 1. Introduction

This study analyzes how interpersonal trust between taxpayer and tax auditor, and both parties' trust in government, affect their concessionary behavior, when discussing tax payments on ambiguous tax issues. We exploit the relationship between the taxpayer and the tax auditor in a trustworthy or non-trustworthy government setting to examine the multi-stage bargaining process and the resulting tax payments in an experimental research design.

Taxpayers — in particular, firms and their representatives — regularly find themselves in a position of "knowing that the resolution of the ultimate tax liability is often a long process of negotiation" (Slemrod, 2007). Tax-related bargaining in a lawful environment typically occurs for at least one of three reasons. First, it may occur where the rule of law, especially tax law, is only weakly pronounced (Egger et al., 2020) or is ambiguous. For instance, the discussion regarding appropriate transfer prices or hybrid finance leaves room for interpretation and affects the amount of tax due. Second, bargaining may apply both formally and informally during a tax audit to avoid litigation. In fact, tax settlements are preferred over litigation in most countries (Franzoni, 2004). Third, bargaining situations may also arise in a cooperative compliance relationship, where tax auditor and taxpayer discuss potential disagreements in an early stage (OECD, 2008, 2013; Stojanovic, 2016). Several countries have established such programs, including Austria, Australia, the Netherlands, and the United Kingdom.

There is no uniform expectation on whether and how a trust-based relationship affects the outcome of a tax bargaining process. For example, cooperative compliance programs consistently emphasize the importance of trust as a compliance-enhancing measure. Sweden has decided not to further pursue its cooperative compliance project, partly because of the perceived danger of cronyism and sweetheart deals, which would result in unequal treatment and unfair competition (Freedman et al., 2009; Björklund Larsen, 2016). Similarly, under a permanent tax audit, the interpersonal relationship between the taxpayer and the tax auditor might evolve and affect tax bargaining decisions. For example, in some

<sup>&</sup>lt;sup>1</sup> For example, in the United States and Brazil (Viana and Alves, 2020), it is used as a formal path to avoid court proceeding.

countries, Australia, Japan, and the Netherlands, tax auditors are rotated regularly to prevent them from developing relationships with taxpayers (OECD, 2006).

In such bargaining situations, it is not only institutions (the firm and the government authority) that are involved, but ultimately always individuals (in our case: the taxpayer and the tax auditor) who bargain and make decisions. While the effect of interpersonal trust on bargaining among two players is examined in extant psychology and decision analysis literature, the tax bargaining process has distinct features that have not been explicitly addressed in prior literature. First, bargaining partners are not on equal footing. Instead, taxpayers are usually subordinate to powers granted to the authority and its representatives by law. Second, a tax auditor acts as a representative of the government. Hence trust works in two ways: trust in government — i.e., the opinion that tax system and tax authorities are fair and add to the common good — and interpersonal trust between bargaining partners both apply, and the effect is ex-ante unclear. Third, while these features also apply to other bargaining situations between government representatives and citizens, for instance, in the health, energy, or finance sector, a tax setting is special because cash implications of bargaining outcomes are immediately obvious.

Accordingly, we differentiate between two kinds of trust, *interpersonal trust* and *trust in government*. It is important to distinguish between these two forms of trust, as they may have different effects. Prior literature suggests that interpersonal trust makes one person favorably interpret another's intentions and actions (Uzzi, 2000). Higher levels of interpersonal trust in negotiations under ambiguity may foster a willingness to accept less favorable bargaining outcomes (Gargiulo and Ertug, 2006). In a tax bargaining situation between trusted individuals, the taxpayer may be more willing to pay higher tax, and the tax auditor may be more inclined to collect less tax. The latter may even result in wrongful preferential treatment of the taxpayer, i.e., a sweetheart deal. This expectation is in line with psychology theory that suggests that social interaction leads to unwarranted affect-based trust by auditors and that trust can compromise auditor skepticism (Hobson et al., 2020).

Moreover, trust in government, i.e., the opinion that tax authorities are benevolent and add to the common good, is likely to influence tax bargaining. A tax auditor's low trust in her government may

negatively affect her efforts to negotiate higher tax payments effectively. The lack of goal congruence (e.g., tax auditors and tax authorities not sharing values or goals) and the lack of psychological capital (e.g., a government perceived as unfair or intransparent, and thus harming tax auditors' internal motivation) lead to low employee performance (Bouckenooghe et al., 2015).<sup>2</sup> In addition, building on the slippery slope framework in Kirchler et al. (2008), we expect low levels of trust in government to impair the taxpayer's willingness to pay higher taxes. To summarize, while trust in government may lead to a higher willingness to collect/pay taxes for both tax auditors and taxpayers to serve the country, interpersonal trust can have opposing effects on tax auditors. From the perspective of a taxpayer, high (low) trust in government should lead to higher (lower) willingness to pay taxes and high (low) interpersonal trust in a tax auditor, the auditor who has high (low) trust in the government should be more (less) willing to collect tax and the auditor who has high (low) interpersonal trust in the audited taxpayer should be less (more) willing to collect tax.

Accordingly, we expect potentially opposing effects of trust on concessionary behavior. For the taxpayer, we define concessionary behavior as the willingness to pay more taxes than the lowest (still) lawful amount; more concessionary behavior, therefore, leads to more taxes collected for the state. By contrast, for the tax auditor, we define concessionary behavior as the willingness to collect less taxes than the highest (still) lawful amount. Consequently, the more concessions are made by the tax auditor the less taxes are collected.

To capture these potentially opposing influences in our incentivized laboratory experiment, we generate a 2×2 design with 304 participants. After generating variation in interpersonal trust between the participants and variation in their trust in government, we randomly assign participants the role of either

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<sup>&</sup>lt;sup>2</sup> We acknowledge that the government's goal is not maximizing tax payments, but rather collecting the right amount of taxes at the right time. However, we only look at an ambiguous amount of tax payments, which is considered "right" in any case regardless of the bargained amount. We assume that maximizing tax payments can be optimal for tax authorities, conditional on the fact that the full range is the "right" amount.

taxpayer or tax auditor and let them bargain about an ambiguous (yet legal) tax payment.<sup>3</sup> We use three measures for participants' concessionary behavior reflecting different stages of the bargaining process: the non-binding *initial demand/offer* before bargaining, the concessions made during bargaining, and the *final demand/offer* after bargaining.<sup>4</sup> Accordingly, concessions made reflect the difference between initial and final demand/offer of tax auditor/taxpayer.

Overall, we observe that interpersonal trust between taxpayers and tax auditors, and their trust in government affect the tax bargaining of taxpayers and tax auditors, but in different ways. For the taxpayer, we find evidence that trust in government increases concessionary behavior, but no significant results for interpersonal trust. Taxpayers with high levels of trust in government offer higher tax payments than taxpayers with a low level of trust in government, in line with theory (Kirchler et al., 2008).

For the tax auditor, results are more nuanced. First, auditors with high trust in government and a low level of interpersonal trust in the taxpayer ask for higher initial tax payments, compared to auditors with high interpersonal trust. Second, we find an interaction effect of trust in government and interpersonal trust for tax auditors' concessionary behavior. Their initial demand for tax payments from high-trusted taxpayers is lower under a high-trusted government, i.e., tax auditors show concessionary behavior when their interpersonal trust is high. However, in a high-trusted government, tax auditors' subsequent concessions made during bargaining are comparatively small (large) for high-(low-)trusted taxpayers. By contrast, in a low-trusted government we find concessionary behavior is opposite, i.e. concessions made are comparatively large (small) for high-(low-)trusted taxpayers. In other words, in a low-trusted government tax auditors are willing to concede more during bargaining if they trust the taxpayer, and in a high-trusted government tax auditors are prepared to concede less if they distrust the taxpayer.

<sup>&</sup>lt;sup>3</sup> We consider only situations in line with the law. We do not consider wrongdoing scenarios such as corruption or tax evasion. For simplicity, we assume the bargaining is directly about tax payments. The outcome would be isomorphic for all types of bargaining, such as tax base, tax rate, or special treatment, as they all correspond to tax payments eventually.

<sup>&</sup>lt;sup>4</sup> Note that, while still informative in itself, the amount at which the deal is reached in the end is not a measure for concessionary behavior in our research design.

Ultimately, our results indicate that while taxpayers are largely unaffected by interpersonal trust, tax auditors' concessionary behavior is affected by different kinds of trust which may create tension. Under a high-trusted government, tax auditors are more willing to collect tax when their interpersonal trust is high. By contrast, we find that tax auditors are willing to concede if their trust in government is low even if interpersonal trust is high.

Our study contributes to the literature in three ways. First, we contribute to the literature on tax bargaining between taxpayers and tax authorities by adding the behavioral aspect of trust and showing how different kinds of trust affect tax bargaining behavior. Previous literature has only considered situations where multinational firms bargain with host country governments about tax rules (Markle and Robinson 2021), tax rates (Bond and Samuelson, 1989; Doyle and van Wijnbergen, 1994), or tax deductions (Egger et al., 2020), and where taxpayers and tax authorities bargain for a pre-trial settlement (Franzoni, 2004).

Second, we contribute to the audit literature (Nelson and Tan, 2005; Bame-Aldred and Kida, 2007; Kachelmeier, 2020), especially the literature on tax auditor behavior (Toma and Toma, 1992; Roberts, 1995; Alissa et al., 2014; Khan et al., 2016; Blaufus et al., 2020; Blaufus et al., 2021). We show that not only auditors of financial statements (from private auditing firms) but also auditors as representatives of a government agency are likely to compromise under specific forms of trust. Although psychological factors have been considered for financial statement auditors (King, 2002; Quadackers et al., 2014; Aschauer et al., 2017; Koch and Salterio, 2017; Kadous and Zhou, 2019; Hobson et al., 2020), they are not yet well-researched in the case of tax auditors. Tax auditor behavior may differ from that of financial statement auditors, as the personal liability and intrinsic motivation are different: tax auditors are not personally liable for auditing errors and collecting more taxes may be regarded as beneficial for the greater good. Additionally, while financial statement auditors are hired by clients, tax auditors are instead employed by the government; thus, the power dynamics between the two parties may be different. Prior research exploring taxpayer and tax auditor interaction is limited and primarily uses standard game theory in a principal-agent framework (Alm and McKee, 1998), or interviews (Smith and Stalans, 1994).

We complement their results by empirically investigating the effect of one informal factor (trust) on the interaction between taxpayer and tax auditor.<sup>5</sup> We interpret tax auditors' trust in government as goal congruence between tax auditors and tax authorities, thereby providing a new perspective on goal congruence problems. Also, we provide evidence that the interaction between taxpayer and tax auditor is important for the willingness to collect taxes. We complement Kachelmeier and Van Landuyt (2017) by showing that financial statement auditors, and also tax auditors, are more likely to compromise in cases of pleasant social interaction. Overall, as we isolate the role of tax auditors as distinct from the tax authority they represent, our study highlights the role of the individual tax auditor in tax collection and how auditor discretion affects tax assessment decisions depending on her specific relationship with the taxpayer. Our findings suggest that tax authorities should be aware of interpersonal trust because, under specific conditions, it can potentially undermine the tax collection process.

Third, we contribute to tax psychology literature (Feld and Frey, 2002; Blackwell, 2007; Hofmann et al., 2008; Mendoza et al., 2017; Mascagni, 2018; Alm, 2019; Farrar et al., 2020), which focuses on trust between taxpayers and tax authorities but omits the role of tax auditors. Here we contribute by extending the application of the trust concept of the slippery slope framework by Kirchler et al. (2008) in two ways. First, we show that trust is relevant not only for taxpayers' decision on non-/compliance but also for bargaining situations. Second, not only do we consider the taxpayer's trust in government, but we also add the tax auditor as an additional player in the tax game. More specifically, we introduce the concept of interpersonal trust between tax auditors and taxpayers and extend this body of research to examine the effect of interpersonal trust on tax bargaining and, thus, tax payments.

The results of our study are relevant for the design of governance in the public sector, as trust is a governance mechanism (Bradach and Eccles, 1989). Governance possibly aligns the interest of citizens with the government, tax auditor/taxpayer with the tax authority, and government agents with their government. We provide evidence of the importance of governance in a tax authority: without good

<sup>5</sup> Murakami and Taguchi (2015) establish the role of individual trustworthiness for tax payments. We extend their experimental findings by adding how variations of different types of trust influence the behavior of taxpayers and tax auditors.

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governance, recent tax policy programs such as cooperative compliance, aimed at increasing trust between taxpayers and tax authorities, may suffer from unintended consequences arising from interpersonal trust between tax auditors and taxpayers. Based on our results, tax authorities may consider implementing policy measures that foster trust in government while reducing interpersonal trust. More specifically, the implementation of cooperative compliance could include auditor rotation or automated audit processes. Also, rotation seems important in traditional tax audits because recurring audits by the same tax auditor might lead to situations of interpersonal trust and undermine the tax-collection process. Our findings may extend to non-tax settings, such as bargaining situations in the financial, energy, or health industries. In these settings, representatives of government and non-government supervisory authorities encounter bargaining processes with subjected persons and representatives, leading to direct or indirect cash effects. Their bargaining behavior may also be affected by trust in the government and by interpersonal trust.

#### 2. Theory and Hypotheses Development

Most research on trust in the fields of psychology, sociology, management, and auditing emphasize the positive effects of trust on economic and/or social outcomes (Lewis and Weigert, 1985; Anderson and Weitz, 1989; Berg et al., 1995; McAllister, 1995; La Porta et al., 1997; Rousseau et al., 1998). One part of the trust literature is concerned with behavioral aspects of trust and its potentially detrimental consequences. We draw on this literature to predict how trust may influence the taxpayer and the tax auditor's bargaining behavior and finally translate into tax payments.

#### **2.1. Trust**

Our study differentiates between interpersonal trust and trust in government. <sup>6</sup> While a large part of the trust literature focuses on the consequences of interpersonal trust (e.g., Doney and Cannon, 1997),

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<sup>&</sup>lt;sup>6</sup> Please also note that our paper focuses on legal behavior only. Hence, our study does not cover illegal behavior such as corruption. Unlike corrupted auditors, in our setting the tax auditors are not exposed to monetary incentives (bribes) to lower the tax they demand. For studies on the effect of corruption on tax payments, see, e. g., Trivedi and Mawani (2020), Mawani and Trivedi (2021).

another stream highlights the importance of individuals' trust in public institutions (e.g., Lewis and Weigert, 1985). We define trust as "the willingness of a party to take a risk" (Lewis and Weigert, 1985) and "to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Schoorman et al., 2007). In our study, this concept of trust applies to both interpersonal trust and trust in government, both at the auditor and taxpayer level.

We follow Rousseau et al. (1998) and define interpersonal trust as "the intention to accept vulnerability based upon positive demands of the intentions or behavior of another." To define trust in government, we refer to Kirchler et al. (2008). We describe trust in government as a general opinion of individuals and social groups that the tax authorities are fair and work beneficially for the common good. From an ex-ante perspective, the two kinds of trust are expected to influence bargaining behavior differently, as discussed in Sections 2.2 to 2.4.8

#### 2.2. Interpersonal Trust and Bargaining

Using a meta-analytic model, Kong et al. (2014) recognize three types of consequences that trust has on negotiation: behavior, extrinsic outcomes, and outcome satisfaction. We focus on the behavior and extrinsic outcomes and examine how interpersonal trust affects concessionary behavior in bargaining, including the non-binding initial demand/offer before bargaining that serves as an anchor, the concessions made during the bargaining process, and the final demand/offer after bargaining.

Theory suggests that interpersonal trust leads one person to positively interpret another person's

<sup>7</sup> We focus on relationship-based trust, i.e., trust that arises from affect (affect-based trust). It is also called affect-based trust, identification-based trust, emotional trust, relational trust, or personal trust. In other words, we look at the social perspective of trust, rather than the rational perspective.

<sup>&</sup>lt;sup>8</sup> Enachescu and Kirchler (2019) introduce the dual notion of reason-based trust and implicit trust. Our interpersonal trust is related to implicit trust that emerges from interpersonal encounters. Correspondingly, our trust in government is related to Enachescu and Kirchler's reason-based trust arising from experiences and reasoning. Relatedly, Zucker (1986) introduced three central modes of trust production: process-based (past or expected exchange); characteristic-based (social characteristics); and institutional-based (formal societal structures). These can be linked to our two kinds of trust with characteristic-based trust being similar to our interpersonal trust and process-based trust to our trust in government. Finally, Zucker's institution-based trust is related to the overall trust in tax administration as a combination of interpersonal trust and trust in government.

intentions and actions (Uzzi, 2000). A higher degree of interpersonal trust during bargaining under ambiguity could lead to a willingness to accept less favorable bargaining outcomes. In other words, trust can be interpreted as the intention of the trusting person to adjust her behavior to satisfy the demands and needs of the trusted person (Anderson and Weitz, 1989; Anderson and Narus, 1990). In bargaining, parties with trust are more likely to exhibit a sense of empathy and concern for the outcomes of the other (Naquin and Paulson, 2003), behave less competitively, and make concessions towards an agreement (Pruitt, 1983; Ross and Wieland, 1996; Ross and Chen, 2004). Gargiulo and Gokhan Ertug (2006) argue that people are more likely to be complacent and accept less satisfactory outcomes in a relationship with trust. It is thus likely that higher levels of interpersonal trust lead to a more concessionary bargaining behavior for the taxpayer as well as the tax auditor.

Moreover, bargaining behavior can be generally differentiated into integrative and distributive behaviors. Integrative bargaining strategies include more cooperative behaviors and aim to reach agreements of high joint benefits (Kimmel et al., 1980). In contrast, individuals who follow distributive bargaining strategies seek to purely maximize their own outcomes (De Dreu et al., 2000; Coleman and Fraser, 2005). In a meta-study, Kong et al. (2014) report a negative relationship between interpersonal trust and distributive bargaining behavior, suggesting that lower levels of interpersonal trust lead to more competitive bargaining to maximize one's own "piece of the pie."

Consistent with this view, Hobson et al. (2020) and Quadackers et al. (2014) suggest that trust in clients impairs the professional skepticism of financial statements auditors. Bamber and Iyer (2007) find that close ties between auditor and client may lead to preferential audit treatment regarding materiality issues. In the same vein, tax auditors with high levels of trust in taxpayers may also be more likely to show concessionary behaviors. Unlike financial statement auditors, tax auditors are not personally liable for the audit result and, as agents of a government, are likely to operate based on a different set of values and incentives compared to corporate auditors. Moreover, we only consider the range of bargaining outcomes within which tax payments are legal. The association between interpersonal trust and concessionary behaviors may be stronger in the relationship between tax auditor and taxpayer than in

relationships between a client and a professional service provider.

We, therefore, predict the following hypotheses on the effects of interpersonal trust on taxpayer and tax auditor bargaining behavior in a setting where both sides aspire to a deal.

Hypothesis 1a: High interpersonal trust leads to more concessionary behavior in bargaining a tax payment for the tax auditor.

Hypothesis 1b: High interpersonal trust leads to more concessionary behavior in bargaining a tax payment for the taxpayer.

It is worth noting that our hypotheses on taxpayers and on tax auditors work in opposite directions regarding tax collected as the outcome of concessionary behavior. We hypothesize that high interpersonal trust implies more concessions. However, more taxpayer concessions imply more taxes collected while more tax auditor concessions imply less taxes collected.

# 2.3. Trust in Government and Tax Bargaining

We expect that taxpayer trust in government matters for tax bargaining behavior. Extensive tax research has investigated the relationship between a taxpayer's trust in the tax authority and tax compliance behaviors (Braithwaite and Braithwaite, 2001; Feld and Frey, 2002; Torgler, 2007; James and Edwards, 2008; Alm and Torgler, 2011; Farrar et al., 2020). Kirchler et al. (2008) suggest in the slippery slope framework that trust in tax authorities plays a fundamental role in tax compliance. Their study predicts that a trustworthy climate will lead to more voluntary tax compliance and increase the likelihood that taxpayers contribute their tax share out of a sense of obligation. Tax experiments on tax compliance support this view and reveal that trust and low tax audit probabilities have a similar effect on voluntary taxation (Blackwell, 2007; Alm, 2012, 2019). We draw on the slippery slope framework to predict how

trust in government influences taxpayer bargaining behavior. Thus, we expect that the relevance of taxpayer trust in government applies not only to non-/compliance decisions but extends to bargaining behavior.

For tax auditors, organizational theory suggests that employee trust in the organization leads to higher goal congruence (Edwards and Cable, 2009), or shared values and goals between tax auditors and the tax authorities, which in turn leads to high employee performance (Bouckenooghe et al., 2015). In this setting, tax auditors' trust in the government can be viewed as a form of goal congruence (i.e., support for how tax revenues are spent). Goal congruence affects psychological capital and can enhance internal motivation, positive organizational behavior (Bouckenooghe et al., 2015), and employees' organizational commitment (Reichers, 1985). Wright (2007) finds evidence that employees' importance on mission is related to their work motivation in public sectors. As such, we expect that tax auditors' trust in government affects their bargaining behavior.

We therefore predict the following hypotheses on the effects of trust in government on taxpayer and tax auditor bargaining behavior.

Hypothesis 2a: High trust in government leads to less concessionary behavior in bargaining a tax payment for the tax auditor.

Hypothesis 2b: High trust in government leads to more concessionary behavior in bargaining a tax payment for the taxpayer.

Unlike Hypotheses 1a and 1b, our Hypotheses 2a and 2b work in the same direction if we regard taxes collected. For a trusted government, the tax auditor is less willing to concede (i.e., is willing to demand more), and the taxpayer is willing to pay more. Ultimately, a trusted government may expect to collect more tax.

#### 2.4. Interactive Effect of Interpersonal Trust and Trust in Government

Next, we explore possible interaction effects. We argue that interpersonal trust is context-specific and affects bargaining behavior differently depending on high or low trust in government.

As trust is a governance mechanism (Bradach and Eccles, 1989), it should discourage behaviors that are not in the organization's best interest. In general, trust in government incentivizes more tax collection/payments. Simply put, trust aligns the interests of the tax auditor and the tax authority and requires tax auditors to regulate themselves to act in the best societal interest of their principal (Carnahan et al., 2010). More broadly, trust aligns the interest of citizens and government and serves as social control (Dekker, 2004; Gangl et al., 2015).

For the tax auditor, high trust in government should affect tax collection positively and reduce her concessions. Yet, high interpersonal trust between tax auditor and taxpayer can lead to more concessionary behavior by the tax auditor. Accordingly, in scenarios, where trust in government and interpersonal trust are both high (low), the combined effect on auditors' concessionary behavior is unclear. We expect that interpersonal trust moderates the effect of trust in government on concessionary behavior. Tax auditors' willingness to collect tax in a high-trusted government. i.e., with a government that acts for the common good, is expected to be mitigated by an interpersonal encounter of the tax auditor with a high-trusted taxpayer, compared to a low-trusted taxpayer.

For the taxpayer, high trust in government can lead to more concessionary behavior, which positively affects tax payments, and taxpayers' high interpersonal trust in tax auditors is expected to promote higher tax payments further. In other words, scenarios for taxpayers, where trust in government and interpersonal trust are both high (low), work in the same direction and lead to more (less) concessionary behavior. Accordingly, in a trusted government, taxpayers' concessionary behavior is even more pronounced when bargaining with a trusted tax-auditor, compared to a less-trusted tax-auditor.

Based on this discussion, we hypothesize on the interaction of interpersonal trust and trust in government:

Hypothesis 3a: With high interpersonal trust, the effect of trust in government on tax auditors' concessionary behavior is less pronounced, compared to low interpersonal trust.

Hypothesis 3b: With high interpersonal trust, the effect of trust in government on taxpayers' concessionary behavior is more pronounced, compared to low interpersonal trust.

#### 3. Experimental Design

#### 3.1. Setting

We implement four treatments in a 2×2 between-subjects design. To investigate how both interpersonal trust and trust in government influence the bargaining of tax payments, we require a total of four groups of participants with different levels of trust. <sup>9</sup> We apply a three-step approach following Kachelmeier and Van Landuyt (2017). Figure 1 illustrates our setting for Steps 1 to 3.

We generate independent variables in the first and second steps, and we use them as indirect inputs for the third step, where we test the dependent variable. In the first step, we exogenously induce different levels of interpersonal trust in pairs. In the second step, we exogenously induce different levels of trust in government. We include a manipulation check in both treatments, respectively. We do not use tax framing in the first and second steps, and participants do not know that the third step is a tax game.

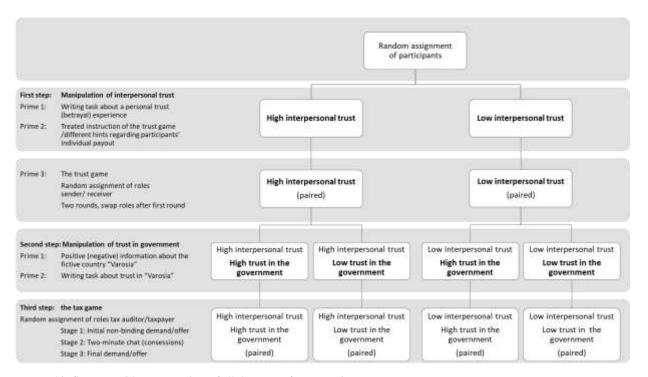
In the third step, participant pairs from the first step (with high or low interpersonal trust) enter the tax game in one of the four groups, depending on their prior priming in the first and second steps. In each pair, one takes the role of a taxpayer, while the other takes the role of a tax auditor. The roles are randomly assigned and do not swap later in the game. In our third step, the tax game, we test for three measures of our dependent variable concessionary behavior, each for the tax auditor and the taxpayer separately: the initial tax payment offer/demand (before bargaining, disclosed only to the experimenter, but not to their

<sup>9</sup> Group 1: High interpersonal trust; high trust in government. Group 2: High interpersonal trust; low trust in government. Group 3: Low interpersonal trust, high trust in government. Group 4: Low interpersonal trust, low trust in government.

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respective partner, and not binding), the final tax payment offer/demand (after bargaining and thus binding), and the concessions made while bargaining (i.e., the difference between initial and final offer/demand).<sup>10</sup> After the tax game, we collect information on demographics and remuneration payout.

**Figure 1** *Experimental Design* 



Note: This figure provides an overview of all the steps of our experiment

Our design allows us to observe the tax payment as the outcome of the bargaining game, where the two parties need to cooperate to avoid an impasse and also compete to achieve the best outcomes for themselves (Komorita and Parks, 1995). Participants in both roles (taxpayer, tax auditor) are provided with extrinsic incentives and information supporting intrinsic motivation. In our tax game, we ask for the taxpayer's offers and tax auditor's demands simultaneously to analyze the effect of trust separately.

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<sup>&</sup>lt;sup>10</sup> The outcome (i.e., the amount due after bargaining) is not our main variable of interest.

Simultaneous moves of taxpayers and tax auditors also help us ascertain that trust and not a reaction to the other party's demand/offer drives the result. We simulate real-life situations within a laboratory setting by incorporating tax language and donating collected tax payments to tax-funded institutions.<sup>11</sup>

# 3.2. Participants, Procedures, and Experimental Manipulation

The laboratory sessions took place in November 2019 in a university facility. We recruited 304 student volunteers through ORSEE (Greiner, 2015). Student participants are appropriate for our research question because the tasks are simple, and there is no need for contextual realism or expertise (Libby et al., 2002). We implement the experiment using z-Tree software (Fischbacher, 2007). Instructions were given on the laboratory computer on the screen. Participants in the laboratory do not see each other and remain anonymous throughout the whole experiment to rule out the effect of trust before the experiment. The experiment, including all steps, took on average 30 minutes per participant.

# 3.2.1. Step 1: Manipulation of Interpersonal Trust

The first step of the experiment aims to generate different levels of interpersonal trust among participants. Therefore, we randomly assign participants into a high trust (low trust) group and treat each group with information about trust (distrust) in three ways. The first treatment consists of a writing task in which participants are asked to write about a personal trust (betrayal) experience. In this stage, participants can write three minutes about their personal experience on computers in the laboratory. Second, the two groups are provided with treated instructions about the trust game, as described below. Both groups receive instructions with the same wording except that the high (low) trust group's instructions contain the word partner (opponent), following Burnham et al. (2000). Third, before entering into the trust game, we provide the two groups with different previous results of the game: high (low) levels of trust and

<sup>11</sup> Österreichische Nationalbibliothek (Austrian National Library), Universitätsklinik für Kinder- und Jugendheilkunde (University Hospital for Children and Youth), Kunsthistorisches Museum Wien (Vienna Museum

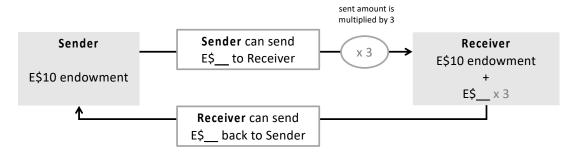
of Art History), Kinderbüro Universität Wien (Children's Office of the University of Vienna), and Volkshilfe Österreich (Austrian Social Service NGO).

trustworthiness in settings like this. Further, we give them hints for their individual payout to prime for trust to make the most money (prime for distrust to not end up empty-handed). The detailed treatment methods are provided in the Online Appendix.

We use a well-established game based on Berg et al. (1995) after treating the participants with information about trust (distrust). We randomly match two participants from within the same manipulation group (i.e., both high-trust or both low-trust, respectively) as pairs to play this game. In this game, participants start with an initial virtual endowment of E\$10. Participants are assigned the role of either "Sender" or "Receiver." In Round 1 of this game, the Sender can send any amount X of her endowment to the Receiver, keeping E\$10-X. The amount sent to the Receiver is tripled, such that if the Sender sends E\$4, a total of E\$12 is passed on to the Receiver, who will now have E\$22 (E\$10 endowment + amount received from the Sender). The Receiver then decides how much E\$ she sends back to the original Sender.

Figure 2

Trust Game



Note: This figure presents the process of the trust game (adapted from OECD trustlab) based on Berg, Dickhaut, and McCabe (1995). Both roles, sender and receiver, are randomly assigned and participants start with an endowment of E\$10. In Round 1 of the trust game, the sender can send any amount of her initial endowment (E\$0-10) to the receiver. The amount sent to the receiver is multiplied by 3. The receiver then decides how much of this (tripled) amount she sends back to the original sender. Round 2 of this game applies identical rules, but now the participants swap roles, i.e., participants with the sender's role in Round 1 now become the receiver in Round 2.

In Round 2 of this game, we apply identical rules, but now the participants swap roles, such that participants taking the role of Sender in Round 1 now become the Receiver in Round 2. Figure 2 presents the rules of the game. The amount first passed by the Sender captures trust (Camerer, 2003), which is

relevant for our study. 12 Thus, this game aims to generate an exogenous variation in interpersonal trust among the participants measured as the amount sent by the Sender. We use the amount that is sent for our manipulation check for interpersonal trust. We let the participants play two rounds (one round as Sender and one round as Receiver) because participants are more reluctant to trust in later stages, and thus playing more rounds would reduce our variation in interpersonal trust level (Ho and Weigelt, 2005).

# 3.2.2. Step 2: Manipulation of Trust in Government

Next, we seek to generate an exogenous variation in trust in government. We divide participants from the previous high-trust (low-trust) group further into two random groups to have four groups in a 2x2 design. We then present each group with positive (negative) information about the fictitious country of "Varosia" (Wahl et al., 2010). Details about the description of Varosia are provided in the Online Appendix. The purpose of this step is to generate exogenous levels of trust in government among the participants. After this priming, we ask how much participants trust Varosia's government, including its tax authority, on a scale of 0 to 10 (0 being not at all and 10 being very much) and let them justify their answer as reinforcing priming and manipulation check.

# 3.2.3. Step 3: The Tax Game

Our priming from the first and second step leads to random allocation of our participants to one of the four groups in a 2x2 design (table 1).

We use a one-shot tax game, which provides a clean setting that limits the potential for alternative interpretations. The tax game consists of two rounds. In Round 1, we randomly assign participants, within their respective group, and in their matched pairs, the role of either taxpayer (resident of Varosia) or tax auditor (employed by the tax authority of Varosia) and let them bargain about an ambiguous tax

<sup>&</sup>lt;sup>12</sup> The amount returned to the "Sender" by the "Receiver" captures trustworthiness and is not relevant for our study.

payment to be made by the taxpayer. The ambiguous amount of tax payment ranges between E\$100 and E\$130. Any amount between E\$100 and E\$130 is considered legal under the tax law of Varosia.<sup>13</sup>

**Table 1**Participants Groups

	High interpersonal trust	Low interpersonal trust
High trust in government	76 participants (38 pairs)	76 participants (38 pairs)
Low trust in government	76 participants (38 pairs)	76 participants (38 pairs)

The economic utility-maximizing outcome for the taxpayer would be a tax payment of E\$100. The tax auditor is informed that the government expects a tax collection of E\$120, thereby setting a reference point. Both are informed that any amount above E\$100 is equally donated to tax-funded institutions. This information serves as intrinsic motivation for the tax auditor to collect money for "a good cause"; for a low-trusted government, the "cause" will be perceived as impaired.

In Round 1, we pair participants with the same person they interacted within the trust game to build on their interpersonal trust (distrust) in pairs. After the instruction, the taxpayer (tax auditor) is asked about the amount she wants to offer (demand) if the demand (offer) by the other party is not binding. They know that this decision (initial offer/demand) will not be disclosed to the other party. Before the taxpayer (auditor) can make her decision, i.e., the final offer (demand), both have the possibility to bargain the tax payment by using a text chat function. After the two-minute chat is closed, the taxpayer (auditor) makes her final offer (demand). If the tax offer is greater than or equal to the demand, the final tax payment amounts to the offer made by the taxpayer. Otherwise, if the tax auditor's demands are not met, negotiations fail automatically, without further explicit decision. Implicitly, the tax auditor has the final say on whether or not a deal is reached. In line with our research question, both players are

<sup>&</sup>lt;sup>13</sup> We did not use a range starting from zero, for instance from 0 to 30, to avoid the impression that not paying tax was negotiable.

incentivized to avoid confrontation and reach a deal. The taxpayer is further incentivized to pay little.

In Round 2, participants retain the same roles and negotiate with participants with whom there was no interaction in Task 1 but within the same treatment group. The rules remain unchanged, i.e., the taxpayer (auditor) makes her initial offer (demand), then enters a chat function where the tax payment can be bargained, and then makes her actual offer (demand). This round serves the purpose of a manipulation check because it examines the effect of general trust, not interpersonal trust.

Our dependent variable is concessionary behavior which we measure in three different ways for tax auditors/taxpayers: the non-binding initial demand/offer before bargaining; the concessions made during bargaining; and the actual final demand/offer after bargaining. Tax auditors' concessionary behavior increases the propensity for favorable deals (in favor of the taxpayer), i.e., lower initial demand, higher concessions made, lower final demand. Taxpayers' concessionary behavior reduces the propensity for favorable deals (in her favor), i.e., higher initial offer, higher concessions made, higher final offer.

#### **3.2.4**. Incentive Structure

Participants in both roles (taxpayer, tax auditor) are incentivized or motivated on different levels. First, they receive E\$5 as a participation fee in experimental currency.

Second, the interpersonal trust game is incentivized so that Sender and Receiver have a payout of their respective E\$ for one round of the game (i.e., the Sender's payout is the sum of her endowment, minus her transfer to the Receiver, plus the retransfer from the Receiver; the Receiver's payout is the sum of her endowment, plus the tripled transfer from the Sender, minus the retransfer to the Sender).

Third, the incentive structure for the tax game differs between the tax auditor's role and the taxpayer's role. Unlike Khan et al. (2016), in our setting, the tax auditor receives a fixed salary of E\$15 if a deal is reached. She receives zero if no deal is reached. She is informed that she is expected to collect a certain amount of tax (reference point, E\$120). She is provided with intrinsic motivation (it is her job; it is used for the public good; donation to tax-funded organizations). We do not offer variable monetary incentives

to tax auditors for several reasons. Operationally, pairs with high levels of trust would reach a deal in the middle if both were incentivized in monetary terms. Moreover, our setting caters to the external validity, as anecdotal evidence from many European countries suggests that tax authorities refrain from tax revenue-related bonus schemes for tax auditors to prevent overly aggressive audit behavior. The incentive for tax auditors to go for the deal (or otherwise receive zero) represents the implicit benefit of making a deal for the tax auditor's future career. Tax auditors have a trade-off between demanding low tax payments to increase the probability of a deal and thus securing the fixed salary and bargaining for a higher tax payment to benefit the government due to intrinsic motivation.

The taxpayer's incentive structure also incentivizes a deal: she also receives zero if no deal is reached. Further, the better the deal for the taxpayer (i.e., the closer the deal is to E\$100), the higher taxpayer's remuneration. Her payout is based on E\$130 minus the deal amount.

The taxpayer and tax auditor are both fully informed about their own, and each other's financial incentives.

For the actual payout at the end of the experiment, in addition to the show-up fee, the computer randomly chooses between the possible payout from the trust game and the possible payout from the tax game. This randomization of actual payout is important to avoid that the conscious payment bias from the previous trust game (participants in the high-trust group earn more than in the low-trust group) affects the tax game. At the beginning of the experiment, participants are informed about the show-up fee and that they will engage in two tasks from which only one round of one task will be selected randomly for payout. Experimental currency is translated into Euro, and on average, participants received a cash payment of  $\in 11.96$ . Table 2 summarizes the incentive structure of the experiment.

<sup>15</sup> This includes € 2 extra for overtime for some participants.

<sup>&</sup>lt;sup>14</sup> We acknowledge that tax auditors may be rewarded indirectly for the tax they collect (for example, future promotion or reputational gains). However, bonus payout is a different game and we choose to approximate the effect by fixed salary.

Table 2

#### Incentive Structure

# 1. Show up fee

All participants

E\$ 5

#### 2. Income from tasks:

Randomly choose one round of one task to pay (currency E\$, E\$ 1.8 =€ 1)

Task 1: Trust Game: if sender sends X and receiver sends back Y

Sender E\$ 10-X+Y

Receiver E\$ 10+3X-Y

Task 2: Tax Game

**Deal**: If taxpayer's offer  $\geq$  auditor's demand, consensus amount is X

Taxpayer E\$ 130-X

Tax auditor fixed salary of E\$ 15

No deal: If taxpayer's offer < auditor's demand

Taxpayer 0

Tax auditor 0

Note: This table provides an overview of the incentive for participants. Only one round of one task will be selected randomly for variable payout. The final payout also includes E\$ 5 show-up fee. X-E\$100 in case of a deal is equally donated to five tax-funded institutions.

#### 4. Results

# 4.1. Manipulation Checks

The first priming treatment aims to achieve variation in interpersonal trust among the participants, and we test the priming results by one-way ANOVA. In the first round of the game, participants in the high-trust group sent significantly higher amounts of E\$ to their partner than participants in the low-trust group (round 1: low interpersonal trust, mean 5.16 vs. high interpersonal trust, mean 6.29, p = 0.0195), which confirms that our manipulation was successful. In the second round, the effect is more significant (round 2: low interpersonal trust, mean 5.17 vs. high interpersonal trust, mean 7.05, p = 0.0003), showing

that the trust game itself reinforces priming. These, and the result of both rounds together (round 1+2: low interpersonal trust, mean 5.16 vs. high interpersonal trust, mean 6.67, p=0.0000), indicate a successful first manipulation that created different levels of interpersonal trust, which are exogenous to the later stages of the experiment. In an untabulated test, participants in the high-trust group also return significantly higher amounts of E\$ to their partner than participants in the low-trust group, suggesting that the high-trust group shows higher trustworthiness, as well.

In the second priming treatment, we present participants with positive (negative) information about the fictitious government of Varosia. The second priming is supposed to create variation in trust in government among the participants. After participants read the positively (negatively) manipulated information, we conduct a manipulation check by asking the participants how much they trust Varosia's government on a scale from 0 (low trust) to 10 (high trust). Additionally, we asked participants to explain their decision by writing approximately 50 words. Our manipulation check indicates a successful second manipulation (low trust in government mean 1.13 vs. high trust in government mean 7.75, p = 0.0000) that created different levels of trust in government that are exogenous to the later stages of the experiment.

We allocated participants into the four groups randomly. Untabulated tests show that this randomization is successful. The means of the different demographic variables (which we collected in the post-experiment survey) do not differ significantly across the four groups. Thus, we conjecture that these demographic variables are not driving our results.

# 4.2. Summary of Descriptive Statistics and Efficiency Figures

After two rounds of successful manipulations, we let the primed participants bargain about an ambiguous amount of taxes to be paid by the taxpayer, as explained above. We follow Kachelmeier and Van Landuyt's (2017) approach and use analysis of variance (ANOVA)<sup>16</sup>. Table 3, panel B shows the

<sup>16</sup> Results from regression analysis with a reduced number of observations (due to data limitations) support our results from the main test.

descriptive statistics of the measures of the dependent variable, i.e., initial offer (demand), final offer (demand) and the concessions of the taxpayer (tax auditor) during bargaining. On average, taxpayers make slightly higher concessions compared to tax auditors. Table 3 panel A suggests that, on average,

**Table 3** *Efficiency Figures and Descriptive Statistics Panel A: Efficiency Figures* 

	High	High	Low	Low
	interpersonal	interpersonal	interpersonal	interpersonal
	trust, High	trust, Low	trust, High	trust, Low
	trust in	trust in	trust in	trust in
	government	government	government	government
Deal	0.8421	0.8158	0.8684	0.6316
Average tax payment	116.13	113.19	115.24	112.29
Average offer	114.97	112.58	115.05	110.97
Average demand	115.34	112.61	115.05	114.26
Average initial offer	109.92	109.84	110.63	108.53
Average initial demand	116.74	117.37	119.89	116.16

Panel B: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Tax auditor					
Final demand	152	114,31	6,98	100	130
Initial demand	152	117,54	7,31	100	130
Concessions made during bargaining	152	-3,22	7,12	-30	20
Taxpayer					
Final offer	152	113,40	7,17	100	130
Initial offer	152	109,73	7,20	100	130
Concessions made during bargaining	152	3,66	6,49	-15	25

Note: Panel A shows the mean efficiency figures of our four manipulation groups: high interpersonal trust & high trust in government; high interpersonal trust & low trust in government; low interpersonal trust & high trust in government; and low interpersonal trust & low trust in government. Deal is the percentage of deals reached in the tax game. Average tax payment is the mean of the deal amount of tax payments after bargaining (exclude no deals). Average offer is the mean of taxpayers' offers after bargaining made by taxpayers regardless of deal or no deal. Average demand is the mean of tax auditors' demand after bargaining regardless of deal or no deal. Average initial offer would-be if the auditor had to accept any offer and is non-binding. Taxpayers provide this amount before bargaining. Average initial demand is the demand would-be if the taxpayer had to pay any demand and is non-binding. Tax auditors provide this amount before bargaining. Panel B shows the descriptive statistics for the measures of the dependent variable concessionary behavior of the tax game, i.e., initial offer (demand), final offer (demand) and the concessions made by the taxpayer (tax auditor).

trust in government seems to affect the possibilities of reaching a deal between tax auditors and taxpayers, as high trust in government leads to more deals.<sup>17</sup> The percentage of deals reached is the lowest when both interpersonal trust and trust in government are low (63.16%), while offers from taxpayers are also the lowest. The low possibility of reaching a deal when trust in government is low is mainly driven by low offers from taxpayers.

Average tax payments and average offers from taxpayers are higher when trust in government is high. The demands from tax auditors are the lowest with high interpersonal trust and low trust in government. Average initial offers do not display considerable variation across groups, while the average initial demand is the highest in the group with low interpersonal trust and high trust in government. The average offer is lower when there is low trust in government. Table 3 presents these results.

# 4.3. Primary Findings

#### 4.3.1. Tax auditors

Figure 3 and table 4 board 1 show tax auditors' initial demands of tax payments. Panel A of table 4 board 1 indicates that tax auditors with low interpersonal trust and high trust in government initially demand the highest tax payments (Average = 119.89). Interpersonal trust and trust in government together affect initial demand from tax auditors, and the interaction is moderately significant (p = 0.0648, two-tailed).

Figure 3 and table 4 board 3 show tax auditors' final demands of tax payments after bargaining. Tax auditors with high interpersonal trust and low trust in government demand the least tax payments (Average = 112.61). However, we do not observe statistical significance for interpersonal trust, trust in government, and the interaction of the two variables.

Figure 3 and table 4 board 2 summarize tax auditors' difference between initial and final demand (concessions made)<sup>18</sup> during bargaining. The interaction between interpersonal trust and trust in

24

<sup>&</sup>lt;sup>17</sup> The relationship between trust in government and the likelihood of reaching a deal is statistically significant (table 7).

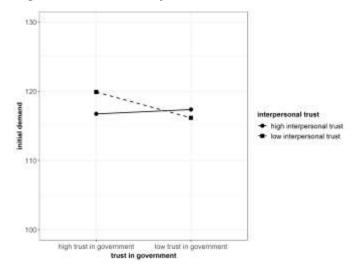
<sup>&</sup>lt;sup>18</sup> We define our measure for concessions made as the amount by which the initial demand is reduced (negative sign) or increased (positive sign) in the final demand.

government significantly affects tax auditors' change in demand during bargaining. We take a closer look at the subgroups (table 4 board 1, panel A) and find that in the group with high trust in government, high interpersonal trust leads to low initial demand from tax auditors (116.74, p = 0.0490, two-tailed).

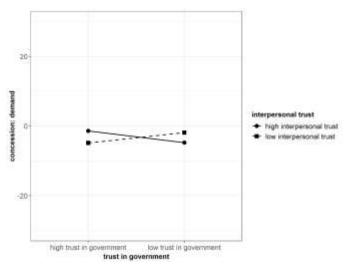
Figure 3

Demands of Tax Auditors

Stage 1 Initial Demands of Tax Auditors



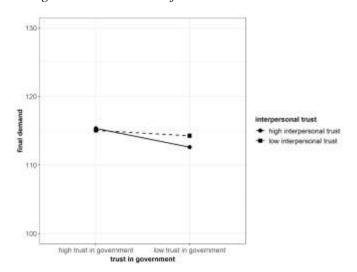
Stage 2 Concessions Made by Tax Auditors During Bargaining



**Figure 3** (continued)

Demands of Tax Auditors

Stage 3 Final Demands of Tax Auditors



Note: This figure presents a graph of the interaction of interpersonal trust (high or low) and trust in government (high or low) on tax auditor's stage 1 non-binding initial demand (the demand would-be if the taxpayer had to pay any demand); stage 2 tax auditor's concessions made during bargaining (the difference between initial demand and final demand); and stage 3 final demand (the demand after bargaining). The demand ranges from E\$ 100-130 and is shown on the vertical. The horizontal shows tax auditors with high trust or low trust in government.

However, this effect disappears after bargaining (table 4 board 3, panel A). At first glance (table 4 board 2, panel A), it is counterintuitive that tax auditors with low interpersonal trust, compared to tax auditors with high interpersonal trust, decrease their demands more (p = 0.0427, two-tailed). However, we observe that after bargaining, tax auditors and taxpayers mostly reach a deal at E\$115 (the average of tax auditors' actual demands and the average of taxpayers' actual offers after bargaining are all approximately E\$115). Despite the initial belief, we interpret this result as both parties in the high trust-in-government group regard E\$115 as the fair amount after bargaining. <sup>19</sup> In the low trust-in-government group (table 4 board 2, panel B), high interpersonal trust leads to greater decreases in the demand from tax auditors during bargaining (p = 0.0672, two-tailed). We interpret this result as tax auditors with low trust in government having less intrinsic motivation to bargain a more beneficial deal for the tax authority.

<sup>19</sup> This interpretation is supported by evidence is the chat and in the post-experiment questionnaire.

Table 4

Demands of Tax Auditors

Board 1: Stage 1 Initial Demands of Tax Auditors

Panel A: Mean (Std. De	v.)				
	high trust in government		low trust in	government	row means
high interpersonal trust	116.74		117.37		117.05
	(7.36)		(7.48)		(7.38)
	n=38		n=38		n=76
low interpersonal trust	119.89		116.16		118.02
	(6.35)		(7.67)		(7.24)
	n=38		n=38		n=76
column means	118.32		116.76		
	(7.01)		(7.55)		
	n=76		n=76		
Panel B: Analysis of Var	riance				
source		df	M.S.	F-statistic	p-value
interpersonal trust		1	36.03	0.69	0.4082
trust in the government		1	91.61	1.75	0.1880
interpersonal trust * trust	in government	1	181.29	3.46	0.0648
error		148	52.36		

Board 2: Stage 2 Concessions Made by Tax Auditors During Bargaining

	high trust in gover	nment	low trust in	government	row mean
high interpersonal trust	-1.39		-4.76		-3.08
	(6.88)		(7.96)		(7.58)
	n=38		n=38		n=76
low interpersonal trust	-4.84		-1.89		-3.37
	(7.67)		(5.21)		(6.68)
	n=38		n=38		n=76
column means	-3.12		-3.33		
	(7.44)		(6.84)		
	n=76		n=76		
Panel B: Analysis of Va	riance				
source		df	M.S.	F-statistic	p-value
interpersonal trust		1	3.18	0.06	0.7995
trust in the government		1	1.68	0.03	0.8535
interpersonal trust * trust	in the government	1	378.95	7.70	0.0062
error		148	49.19		

Table 4 (continued)

Demands of Tax Auditors

Board 3: Stage 3 Final Demands of Tax Auditors

Panel A: Mea	an (Std. Dev.)
--------------	----------------

trust in the government

error

interpersonal trust \* trust in the government

high trust in government	low trust in government	row means
mgn trust in government	low trust in government	row means
115.34	112.61	113.97
(6.77)	(6.56)	(6.76)
n=38	n=38	n=76
115.05	114.26	114.66
(6.92)	(7.59)	(7.23)
n=38	n=38	n=76
115.20	113.43	
(6.80)	(7.10)	
n=76	n=76	
riance		
df	M.S. F-statistic	p-value
1	17.79 1.18	0.5462
	(6.77) n=38 115.05 (6.92) n=38 115.20 (6.80) n=76  riance	115.34

Note: Panel A of table reports the means (standard deviation) of tax auditor's stage 1 non-binding initial demand (the demand would-be if the taxpayer had to pay any demand); stage 2 tax auditor's concessions made during bargaining (the difference between initial demands and final demands); and stage 3 final demand (the demands after bargaining) across four manipulation groups. Panel B reports the result of 2×2 ANOVA, with interpersonal trust (high or low) and trust in government (high or low) as the independent variables and tax auditor's initial demand, concessions made, and final demand as the measures of the dependent variable concessionary behavior.

1

1

147

118.13

36.03

48.61

2.43

0.74

0.1212

0.3907

In general, these results are partially consistent with the notion that high interpersonal trust leads to more concessionary behaviors of tax auditors (H1a), but in varying ways depending on the stage. In the initial demand stage before bargaining, when trust in government is high, tax auditors have a higher initial demand before bargaining when their level of interpersonal trust is low (table 5, board 1). Once we take a closer look into the subgroups of tax auditors with high trust in government, we find less concessionary behavior during bargaining when their interpersonal trust is high (table 5, board 2, panel A, p = 0.0490, two-tailed)). On the contrary, panel B of table 5, board 2 reports more concessionary behavior of tax auditors under a low trust government when their interpersonal trust is high (p = 0.0672, two-tailed). Taken together, we view both results in table 5, boards 1 and 2 as support for H3a.

In other words, low interpersonal trust between tax auditors and taxpayers may affect tax auditors' behavior and decrease their propensity to favorable deals, while we do not find consistent evidence for the effect of trust in government for tax auditors (H2a).<sup>20</sup>

Table 5

Split Sample, Demands of Tax Auditors

Board 1: Split Sample, Stage 1 Initial Demands of Tax Auditors

Panel A: High Trust in Government							
	Mean	Std. Dev.	n	df	F	p-value	
high interpersonal trust	116.74	7.36	38				
low interpersonal trust	119.89	6.35	38	75	4.01	0.0490	
total	118.32	7.01	76				
Panel B: Low Trust in Gov	vernment						
	Mean	Std. Dev.	n	df	F	p-value	
high interpersonal trust	117.37	7.48	38				
low interpersonal trust	116.16	7.67	38	75	0.48	0.4884	
total	116.76	7.55	76				

Board 2: Split Sample, Stage 2 Concessions Made by Tax Auditors During Bargaining

Panel A: High Trust in Government							
	Mean	Std. Dev.	n	df	F	p-value	
high interpersonal trust	-1.39	6.88	38				
low interpersonal trust	-4.84	7.67	38	75	4.25	0.0427	
total	-3.12	7.44	76				
Panel B: Low Trust in Go	vernment						
	Mean	Std. Dev.	n	df	F	p-value	
high interpersonal trust	-4.76	7.96	38				
low interpersonal trust	-1.89	5.21	38	75	3.45	0.0672	
total	-3.33	6.83	76				
·	·		· ·	·	·	· ·	

29

<sup>&</sup>lt;sup>20</sup> In untabulated tests, we follow Hirst et al., (1999) and perform an ANCOVA on Final Offer/Demand using the Initial Offer/Initial Demand as a covariate. The result is similar to our results regarding concessionary behaviour of taxpayers/tax auditors.

Table 5 (continued)

Split Sample, Demands of Tax Auditors

Board 3: Split Sample, Stage 3 Final Demands of Tax Auditors

Panel A: High Trust in Government							
	Mean	Std. Dev.	n	df	F	p-value	
high interpersonal trust	115.34	6.56	38				
low interpersonal trust	115.05	7.59	38	75	1.04	0.3117	
total	115.20	7.10	76				
Panel B: Low Trust in Go	vernment						
	Mean	Std. Dev.	n	df	F	p-value	
high interpersonal trust	112.61	7.48	38				
low interpersonal trust	114.26	7.67	38	75	0.48	0.4884	
total	113.43	7.55	76				

Note: This table reports the results of one-way ANOVA. The table compares tax auditor's stage 1 non-binding initial demand (the demand would-be if the taxpayer had to pay any demand); stage 2 tax auditor's concessions made during bargaining (the difference between initial demand and final demand); and stage 3 final demand (the demand after bargaining) between high and low interpersonal trust group within two subgroups: high trust in government group and low trust in government group. Panel A and Panel B report the means (standard deviation) of tax auditor's final demand of high trust in government group and low trust in government group respectively.

#### 4.3.2. Taxpayers

Figure 4 and table 6 board 1 show initial tax payment offers of the taxpayers. We do not observe substantial differences between the four treatment groups.

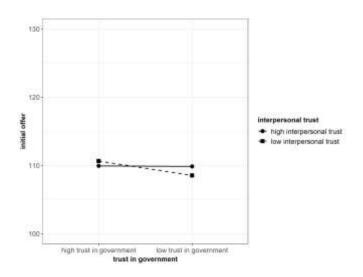
However, as shown in figure 4 and table 6 board 3, final offers after bargaining indicate that high trust in government is related to higher offers from taxpayers (p = 0.0052, two-tailed).

Figure 4 and table 6 board 2 show that during tax bargaining, high trust in government leads to a greater increase from the initial offer (p = 0.0424, two-tailed), suggesting that taxpayers show higher concessionary behaviors during tax bargaining when their trust in government is high. We do not find significant effects for the interaction of trust in government and interpersonal trust.

Figure 4

Offers of Taxpayers

Stage 1 Initial Offers of Taxpayers



Stage 2 Concessions Made by Taxpayers During Bargaining

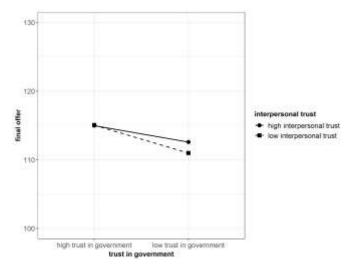
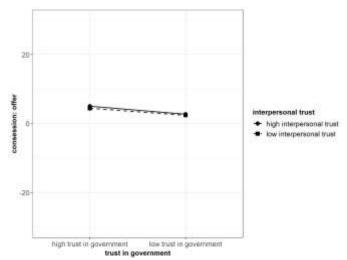


Figure 4 (continued)
Offers of Tax Taxpayers
Stage 3 Final Offers of Taxpayers



Note: This figure presents a graph of the interaction of interpersonal trust (high or low) and trust in government (high or low) on the taxpayer's stage 1 non-binding initial offer (the offer would-be if the auditor had to accept any offer); stage 2 taxpayer's concessions made during bargaining (the difference between the initial offer and final offer); and stage 3 taxpayer's final offer (the offer after bargaining. The initial offer ranges from E\$ 100-130 and is shown on the vertical. The horizontal shows taxpayers with high trust or low trust in government.

Collectively, we observe that taxpayers with high trust in government make more concessions during bargaining and make higher final offers, consistent with H2b. However, we neither observe a significant effect of interpersonal trust on taxpayers' bargaining behavior (H1b) nor show the interaction of interpersonal trust and trust in government has any statistical significance (H3b). On average, interpersonal trust seems more important during tax bargaining if trust in government is low. This finding is consistent with the literature that weak institutions make personal ties more significant (Lin et al., 2013).

**Table 6**Offers of Taxpayers
Board 1: Stage 1 Initial Offers of Taxpayers

Panel A: Mean (Std. Dev.)						
	high trust in govern	ment	low trust in gov	vernment	row means	
high interpersonal trust	109.92		109.84		109.88	
	(6.68) $(6.29)$			(6.44)		
	n=38		n=38		n=76	
low interpersonal trust	110.63		108.53		109.58	
	(7.87)		(7.97)		(7.94)	
	n=38		n=38		n=76	
column means	110.28		109.18			
	(7.25)		(7.16)			
	n=76		n=76			
Panel B: Analysis of var	iance					
source		df	M.S.	F-statistic	p-value	
interpersonal trust		1	3.48	0.07	0.7969	
trust in the government		1	45.32	0.87	0.3536	
interpersonal trust * trust :	in the government	1	39.01	0.75	0.3894	
error		148	52.34			

Board 2: Stage 2 Concessions Made by Taxpayers During Bargaining

Panel A: Mean (Std. Dev.)						
	high trust in government		low trust in	n government	row means	
high interpersonal trust	5.05		2.74		3.89	
	(5.40)		(6.15)		(7.23)	
	n=38		n=38		n=76	
low interpersonal trust	4.42		2.45		3.43	
	(5.87)		(8.09)		(5.69)	
	n=38		n=38		n=76	
column means	4.74		2.59			
	(7.03)		(5.75)			
	n=76		n=76			
Panel B: Analysis of var	riance					
source		df	M.S.	F-statistic	p-value	
interpersonal trust		1	8.06	0.19	0.6609	
trust in the government		1	174.80	4.19	0.0424	
interpersonal trust * trust	in the government	1	1.11	0.03	0.8705	
error		148	41.72			

Table 6 (continued)

Offers of Taxpayers

Board 3: Stage 3 Final Offers of Taxpayers

Panel A: Mean (Std. Dev.)

`	<u>′</u>		
	high trust in government	low trust in government	row means
high interpersonal trust	114.97	112.58	113.78
	(7.39)	(6.54)	(7.04)
	n=38	n=38	n=76
low interpersonal trust	115.05	110.97	113.01
	(6.30)	(7.80)	(7.33)
	n=38	n=38	n=76
column means	115.01	111.78	
	(6.82)	(7.20)	
	n=76	n=76	
Panel B: Analysis of Va	riance		
source	df	M.S. F-statistic	p-value
interpersonal trust	1	22.13 0.45	0.5047

interpersonal trust 1 22.13 0.45 0.5047 trust in the government 1 398.13 8.05 0.0052 interpersonal trust \* trust in the government 1 26.95 0.54 0.4617 error 148 49.48

Note: Panel A reports the means (standard deviation) of taxpayer's stage 1 non-binding initial offer (the offer would-be if the auditor had to accept any offer); stage 2 taxpayer's concessions made during bargaining (the difference between initial offer and final offer); and stage 3 taxpayer's final offer (the offer after bargaining across four manipulation groups. Panel B reports the result of 2×2 ANOVA, with interpersonal trust (high or low) and trust in government (high or low) as the independent variables and taxpayer's final offer, concessions made, and final offer as the measures of the dependent variable concessionary behavior.

# 4.4. Supplementary Analysis

Table 7 reports the results for the deals reached. Both high trust in government and high interpersonal trust are associated with a higher propensity to reach a deal, which is statistically significant for trust in government.

The untabulated results show that these relationships do not occur when pairs lack an interpersonal trust (distrust) relationship. This manipulation check alleviates the concern that general trust, not interpersonal trust, is driving the result.

Further analyses on the resulting tax payments, provided a deal exists, show that trust in government results in significantly higher tax payments (table 8).<sup>21</sup> This is in line with our prior analysis, showing that trust in government increases both taxpayers' willingness to pay and tax auditors' willingness to collect.

**Table 7**Deal Reached

Panel A: Mean (Std. Dev.)							
	high trust in government		low trust in government		row means		
high interpersonal trust	0.84		0.82		0.83		
	(0.37)		(0.39)		(0.38)		
	n=38		n=38		n=76		
low interpersonal trust	0.87		0.63		0.75		
	(0.34)		(0.49)		(0.44)		
	n=38		n=38		n=76		
column means	0.86		0.72				
	(0.35)		(0.45)				
	n=76		n=76				
Panel B: Analysis of Va	riance						
source		df	M.S.	F-statistic	p-value		
interpersonal trust		1	0.23684211	1.46	0.2283		
trust in the government		1	0.65789474	4.07	0.0456		
interpersonal trust * trust in the government		1	0.42105263	2.60	0.1088		
error		148	0.16180654				

Note: Panel A reports the means (standard deviation) of the deal reached across four manipulation groups. Panel B reports the result of  $2\times2$  ANOVA, with interpersonal trust (high or low) and trust in government (high or low) as the independent variables and the deal reached as the dependent variable.

<sup>&</sup>lt;sup>21</sup> Please note that this result needs to be interpreted with caution in our setting as participants bargain arbitrary numbers.

Table 8

Tax Payments (Conditional on Deal Reached)

Panel A: Mean (Std. Dev.)									
	high trust in government		low trust in government		row means				
high interpersonal trust	116.1	3	113.19		114.6825				
	(7.01)		(7.48)		(6.76)				
	n=32		n=31		N=63				
low interpersonal trust	115.24		112.29		114				
	(6.60)		(8.47)		(7.51)				
	n=33		n=2	24	n=57				
column means	115.68		112.8						
	(6.86)	)	(7.25)						
	n=65		n=55						
Panel B: Analysis of Variance									
source		df	M.S.	F-statistic	p-value				
interpersonal trust		1	23.504142	0.48	0.4920				
trust in the government		1	255.39531	5.16	0.0249				
interpersonal trust * trust in government		1	.00275115	0.00	0.9941				
error		116	49.477221						

Note: Panel A reports the means (standard deviation) of tax payment across four manipulation groups. Panel B reports the result of  $2\times2$  ANOVA, with interpersonal trust (high or low) and trust in government (high or low) as the independent variables and tax payment as the dependent variable

## 5. Conclusion

Building on behavioral theory, we conduct an incentivized laboratory experiment to test how trust influences bargained tax payments. We explore two kinds of trust: interpersonal trust between taxpayers and tax auditors, and trust of taxpayers and tax auditors in government. Therefore, we induce different levels of interpersonal trust (through a trust game after priming) and trust in government (through positive or negative information) among the participants. We generate four groups according to the level (high/low) of interpersonal trust and trust in government and compare the different responses in a tax bargaining game.

Our main conclusion is that trust in government and interpersonal trust influence the bargaining behavior of taxpayers and tax auditors. Taxpayers seem to be influenced more by trust in government:

high levels of trust in government lead to more concessions during bargaining and higher actual offers of tax payment after bargaining. The patterns of tax auditors' behavior are more complex. With a high level of trust in government, a low level of interpersonal trust leads to higher initial demand from tax auditors. Notably, when trust in government is high, tax auditors with both high and low levels of interpersonal trust adjust their actual demand to reach a deal in the middle with the taxpayer after bargaining, although their monetary incentives differ from those of taxpayers. Conversely, when there is a low level of trust in government, tax auditors with a high level of interpersonal trust make more concessions (greater decrease in demands) during bargaining. Therefore, while we find some evidence of an interaction effect of the different trust kinds for tax auditors, this is not the case for taxpayers. These results together indicate that a low level of interpersonal trust decreases the propensity to favorable deals from tax auditor behavior. In contrast, a high level of trust in government decreases the propensity to favorable deals through taxpayer behavior.

Our results also have implications for tax revenue which a state may collect. In a government that enjoys high trust from taxpayers and tax auditors alike, their respective willingness to pay and collect more tax is reflected in the final tax payments, thus in tax revenue.

Our study is subject to some limitations. First, we test the bargaining behavior of taxpayers/tax auditors through the dependent variable concessionary behavior which we measure at three stages: initial offer/demand before bargaining; actual offer/demand after bargaining; and the concessions made during bargaining. Further research is needed to explore what, in detail, drives the initial non-binding offer/demand before the bargaining process, and what the drivers of the change of offer/demand in the bargaining process are, both of which are fundamental for a deal to form. In addition, our research design allows for separate analyses of the tax auditor and taxpayer, but the combined effect of mutual trust on bargaining outcome needs further analysis. Second, for experimental control, the scenarios used were simpler than situations in practice and abstract from some aspects that could affect tax bargaining, such as the taxpayer's tax history. Future research could incorporate such aspects. Third, we let participants bargain only through a text chat. Future research could expand the setting accordingly and further explore

whether other ways of bargaining affect our findings. Fourth, the role of intermediaries such as tax advisors could be included in the dynamic, as they play a vital role in all tax systems (OECD, 2008). A four-party relationship could be explored in the future, namely involving taxpayer, government, tax auditor, and tax advisor. Despite these limitations, our experiment offers valuable insights by contributing to the literature in several ways. First, we add the perspective of interpersonal trust and trust in government to the tax bargaining literature (Bond and Samuelson, 1989; Doyle and van Wijnbergen, 1994; Franzoni, 2004; Mills et al., 2013; Egger et al., 2020), and thus complement the economic factors in previous studies. Second, we enrich the audit literature, as the behavior of tax auditors is underresearched (Toma and Toma, 1992; Roberts, 1995; Alissa et al., 2014; Khan et al., 2016; Blaufus et al., 2020; Blaufus et al., 2021). We contribute to the literature by examining how trust (both interpersonal trust and trust in government) affects tax auditors' concessionary behaviors in bargaining. Third, our study contributes to the scarce literature on the interaction between taxpayers and tax auditors (Pentland and Carlile, 1996) by providing evidence on how variations in different kinds of trust affect the interactive behavior of taxpayers and tax auditors. Fourth, we contribute to the tax psychology literature (e.g., Kirchler et al. 2008) by extending the application of the trust concept to a three-party relationship between the taxpayer, the tax auditor, and the government, and do so in a tax bargaining context.

Our findings are relevant to policymakers as they indicate that less trusted governments may experience more concessionary deals than more trusted governments, which underscores the importance of good governance within tax authorities, as discussed by the OECD. Recent tax policy programs, such as permanent audit and cooperative compliance, may suffer from unintended effects without good governance by tax authorities. Especially in cooperative compliance programs, a trustful relationship between taxpayer and tax auditor is key. Our results suggest that trust of both tax auditor and taxpayer in the government is essential for the program's functioning High interpersonal trust, however, may result in concessionary behavior from the tax auditor and impede (perceived) fairness. Policy implications of our study may also extend to non-tax settings, where a government agency and its representatives encounter bargaining situations with citizens, firms, and their representatives, such as the health, energy,

or financial sectors.

**Appendix: Experiment Instructions** 

Introduction

Welcome to this experiment. Please read these instructions carefully. You can earn a significant amount

of money in this experiment which depends on your decisions and the decisions of other participants. All

tasks are carried out on the computer. Please do not use the computer for any other activities and follow

the instructions. The instructions for this experiment should be self-explanatory. However, if you have a

question, please raise your hand, and one of the experimenters will come to your place and answer your

question privately.

During this experiment you will have to complete several tasks. In **two** of these **tasks**, with **two rounds** 

in each task you will earn Experiment-Dollars (E\$). At the end of the experiment, the computer will

randomly select one round in one of the tasks for payoff. The earnings of that round in E\$ will be

converted to Euros at the exchange rate of E\$1.8 = £1.00, and will be paid to you in cash. In addition,

you receive a fixed show-up fee of E\$ 5.00.

Please note that in all parts of this experiment, your identity (under which you make your decisions) will

not be revealed to any other participant, and no other participant's identity will be revealed to you. Also,

the experimenter cannot connect your decisions to your identity. In this sense, your decisions are

anonymous.

**Priming Trust – Writing task** 

High Interpersonal Trust Group

Below, please describe in detail one situation that has made you experience trust in another person. This

could be something you are currently experiencing or something from the past. Begin by writing down

what you remember from the trust event, and continue by writing a description of the event as detailed

as possible. If you can, please write your description in a way that someone reading this might even feel the trust you experienced just from learning about the situation. Please note that your writings will be treated anonymously and will be deleted after the experiment. Write about 50 words.

### Low Interpersonal Trust Group

Below, please describe in detail one situation that has made you experience betrayal from another person. This could be something you are currently experiencing or something from the past. Begin by writing down what you remember from the betrayal event, and continue by writing a description of the event as detailed as possible. If you can, please write your description in a way that someone reading this might even feel the betrayal you experienced just from learning about the situation. Please note that your writings will be treated anonymously and will be deleted after the experiment. Write about 50 words.

#### Task 1: Sender-Receiver-Task

Trust Game Instructions (based on Berg, Dickhaut and McCabe 1995; Burnham, McCabe and Smith 2000)

### High Interpersonal Trust Group

In this sender-receiver task, you will be randomly paired with a partner in the room. You will not be told who this person is. You will interact with that same person in both rounds of this sender-receiver task. In this task, you will be randomly assigned to either the role sender or the role receiver. Both the receiver and sender will receive an upfront endowment of 10 E\$. Persons with the role sender will have the opportunity to send some, all, or none of their endowment of 10 E\$ to their partner (receiver). The amount sent to the receiver will be tripled.

For instance, if the sender sends 5 E\$ of his/her 10 E\$ endowment, the receiver will receive 15 E\$. The receiver will then decide how much money to send back to their partner (sender). For example, when the receiver sends back 10 E\$, the sender will end up with 10 5 + 10 = 15 E\$; and the receiver will end up

with 10 + 15 - 10 = 15 E\$.

In the first round of this task, you will be the sender/receiver, and your partner will be the receiver/sender. In the second round, you will then be the receiver/sender, and your partner (the same person as in the first round) will be the sender/receiver.

Note that you can make the most money when you trust your partner and your partner trust you. Some previous experimental research studies have found high levels of trust and trustworthiness in settings like this.

Low Interpersonal Trust Group

In this sender-receiver task, you will be randomly paired with an opponent in the room. You will not be told who this person is. You will interact with that same person in both rounds of this sender-receiver task.

In this task, you will be randomly assigned to either the role sender or the role receiver. Both the receiver and sender will receive an upfront endowment of 10 E\$. Persons with the role sender will have the opportunity to send some, all, or none of their endowment of 10 E\$ to their opponent (receiver). The amount sent to the receiver will be tripled.

For instance, if the sender sends 5 E\$ of his/her 10 E\$ endowment, the receiver will receive 15 E\$. The receiver will then decide how much money to send back to their opponent (sender). For example, when the receiver sends back 10 E\$, the sender will end up with 10 - 5 + 10 = 15 E\$; and the receiver will end up with 10 + 15 - 10 = 15 E\$.

In the first round of this task, you will be the sender/receiver, and your opponent will be the receiver/sender. In the second round, you will then be the receiver/sender, and your opponent (the same person as in the first round) will be the sender/receiver.

Note that the receiver does not have to send back any money, so the sender might not send anything in order not to end up with nothing. Some previous experimental research studies have found low levels of trust and trustworthiness in settings like this.

# **Priming Trust in Government**

Description of fictitious country Varosia (based on Kirchler and Wahl 2010)

High Trust in the Government Group

Please read the following description of a country. Imagine yourself to be a citizen of this country.

Varosia is located in Europe and the territory of Varosia occupies approximately 83,000 km<sup>2</sup>. According to the last census, conducted in August 2018, Varosia had approximately 16,000,000 inhabitants. There are no large differences in income across the citizens of Varosia. Since Varosia's autonomy in 1949, it has been characterized by high political stability and a democratic government. Referenda are regularly held, in which the citizens of Varosia can co-decide on legislation.

The government enjoys a good reputation among the population. Opinion polls indicate that 70% of the citizens are satisfied with the current government. The tax burden is equitably distributed among the different occupational groups and income groups. Varosia's citizens believe that everyone has to contribute his/her share of taxes. Varosia's legislation is transparent and the government offers the opportunity of free counsel on judicial participants and tax issues in information centers. Furthermore, Varosia's public authorities are very service-oriented and interested in supporting Varosia's citizens. The budget expenditures of the state are traceable for Varosia's citizens, because they are regularly informed by means of a clear official gazette about the use of their tax money. In an opinion poll in October 2018, 78% of Varosia's citizens reported having the impression that their tax money is used reasonably. In addition, little tax money is embezzled by politicians. According to an international corruption index (CPI) Varosia is one of the European countries with the lowest perceived corruption. Because of all these factors, the citizens of Varosia trust their country a lot.

How much would you trust Varosia's government including its tax authority on a scale from 0 to 10 (0 is not at all and 10 is very much)?

Please justify you answer briefly. Write about 50 words.

Low Trust in the Government Group

Please read the following description of a country. Imagine yourself to be a citizen of this country.

Varosia is located in Europe and the territory of Varosia occupies approximately 83,000 km<sup>2</sup>. According to the last census, conducted in August 2018, Varosia had approximately 16,000,000 inhabitants. There are no large differences in income across the citizens of Varosia. Since Varosia's autonomy in 1949 it has been characterized by low political stability and an oligarchic (authority of few) government.

Referenda are seldom held and, thus, the citizens of Varosia cannot co-decide on legislation.

The government has a bad reputation among the population. Opinion polls indicate that 70% of the citizens are not satisfied with the current government. The tax burden is not equitably distributed among the different occupational groups and income groups. Varosia's citizens do not believe that everyone has to contribute his/her share of taxes. Varosia's legislation is not transparent and the government does not offer any opportunity for free counsel on judicial participants and tax issues in information centers. Furthermore, Varosia's public authorities are not service-oriented and are not interested in supporting Varosia's citizens. The budget expenditures of the state are not traceable for Varosia's citizens, because they are not regularly informed by means of a clear official gazette about the use of their tax money. In an opinion poll in October 2018, 78% of Varosia's citizens reported having the impression that their tax money is not used reasonably. In addition, a lot of tax money is embezzled by politicians. According to an international corruption index (CPI) Varosia is one of the European countries with the highest perceived corruption. Because of all these factors, the citizens of Varosia have little trust in their country. How much would you trust Varosia's government including its tax authority on a scale from 0 to 10 (0 is not at all and 10 is very much)?

Please justify your answer briefly. Write about 50 words.

### Task 2: Tax Game

Tax Game Instructions (Assign roles)

First round – taxpayer

This tax bargaining task has two rounds. In the first round you will be paired with the same person with whom you interacted in the two rounds of the sender-receiver-task.

You have been randomly assigned to the role taxpayer (resident in Varosia), while the other person has been assigned to the role of tax auditor (employed by Varosia's tax authority).

The taxpayer and the tax auditor bargain about the tax payment of the taxpayer. The legally determined total tax owed by the taxpayer is somewhere between 100 E\$ and 130 E\$ under Varosia's tax law. Tax payments lower than 100 E\$ are not allowed. The exact amount within the interval of 100 E\$ and 130 E\$ however will have to be bargained with the tax auditor.

You will receive an endowment of 30 E\$. Any tax that you pay above 100 E\$ will be deducted from your personal endowment of 30 E\$. For example, if you make a tax payment of 115 E\$, your personal payoff will be 30 - 15 E\$= 15 E\$. If you do not reach a deal with the tax auditor, then you will lose your endowment and your personal payoff will be 0 E\$.

The tax auditor is paid a fixed salary of 15 E\$ if he/she reaches a deal with you (no matter how high the actual tax payments are). If he/she does not reach a deal with you, his/her payoff will be 0 E\$.

In addition to your personal payoff described above, WULABS will donate (we will really donate!) the deal amount reached in excess of 100 E\$ to the following five Austrian, tax-funded institutions, in equal shares: Österreichische Nationalbibliothek, Universitätsklinik für Kinder- und Jugendheilkunde, Kunsthistorisches Museum Wien, Kinderbüro Universität Wien, Volkshilfe Österreich.

The taxpayer and the tax auditor can bargain the tax payment using a computer chat for two minutes.

(separate screen, when participants enter the number)

Procedure and payment:

When bargaining, the taxpayer will make an offer of the total tax payment to the tax auditor ("Offer").

This offer can take any value between 100 E\$ and 130 E\$. At the same time, the tax auditor sets his/her

minimum expected tax payment from the taxpayer ("Demand").

• If the "Offer" is larger or equal to the "Demand", then the tax payment will equal the amount as proposed

by the "taxpayer".

• If the "Offer" is smaller than the "Demand", then there is no deal.

The legal amount of the total tax payment ranges from 100 E\$ to 130 E\$. You (taxpayer) and the tax

auditor bargain about the amount to be paid by the taxpayer.

Before the chat starts, please indicate what your offer would be if the auditor had to accept any offer you

make. Please note this is non-binding, will not be disclosed to the tax auditor and does not influence your

personal payoff.

(chat screen)

(separate screen, when participants enter the number)

Procedure and payment:

When bargaining, the taxpayer will make an offer of the total tax payment to the tax auditor ("Offer").

This offer can take any value between 100 E\$ and 130 E\$. At the same time, the tax auditor sets his/her

minimum expected tax payment from the taxpayer ("Demand").

• If the "Offer" is larger or equal to the "Demand", then the tax payment will equal the amount as proposed

by the "taxpayer".

• If the "Offer" is smaller than the "Demand", then there is no deal.

The legal amount of the total tax payment ranges from 100 E\$ to 130 E\$. You (taxpayer) and the tax auditor bargain about the amount to be paid by the taxpayer.

What is your offer of tax payment?

First round – tax auditor

In the first round you will be paired with the same person with whom you interacted in the two rounds of the sender-receiver-task.

You have been randomly assigned to the role tax auditor (employed by Varosia's tax authority), while the other person has been assigned to the role of taxpayer (resident in Varosia).

The taxpayer and the tax auditor bargain about the tax payment of the taxpayer. The legally determined total tax owed by the taxpayer is somewhere between 100 E\$ and 130 E\$ under Varosia's tax law. Tax payments lower than 100 E\$ are not allowed. The exact amount within the interval of 100 E\$ and 130 E\$ however will have to be bargained with the taxpayer.

It is your job to collect as much tax as you can in order to fund public goods, such as education and health care. Your employer, Varosia's tax authority, expects you to collect at least 120 E\$ as a tax payment from the taxpayer.

You are paid a fixed salary of 15 E\$ if you reach a deal with the taxpayer (no matter how high the actual tax payments are). If you do not reach a deal with the taxpayer, your personal payoff will be 0 E\$.

The taxpayer receives an endowment of 30 E\$. Any tax that the taxpayer pays above 100E\$ will be deducted from his/her personal endowment of 30 E\$. For example, if he/she makes a tax payment of 115 E\$, his/her personal payoff will be 30 - 15 E\$= 15 E\$. If he/she does not reach a deal with you, then he/she will lose his/her endowment and his/her personal payoff will be 0 E\$.

In addition to your personal payoff described above, WULABS will donate (we will really donate!) the deal amount reached in excess of 100 E\$ to the following five Austrian, tax-funded institutions, in equal shares: Österreichische Nationalbibliothek, Universitätsklinik für Kinder- und Jugendheilkunde, Kunsthistorisches Museum Wien, Kinderbüro Universität Wien, Volkshilfe

## Österreich.

The taxpayer and the tax auditor can bargain the tax payment using a computer chat for two minutes.

(separate screen, when participants enter the number)

Procedure and payment:

When bargaining, the taxpayer will make an offer of the total tax payment to the tax auditor ("Offer").

This offer can take any value between 100 E\$ and 130 E\$. At the same time, the tax auditor sets his/her

minimum expected tax payment from the taxpayer ("Demand").

• If the "Offer" is larger or equal to the "Demand", then the tax payment will equal the amount as proposed

by the "taxpayer".

• If the "Offer" is smaller than the "Demand", then there is no deal.

The legal amount of the total tax payment ranges from 100 E\$ to 130 E\$. You (tax auditor) and the

taxpayer bargain about the amount to be paid by the taxpayer.

Before the chat starts, please indicate what your demand would be if the taxpayer had to pay any demand

you make. Please note this is non-binding, will not be disclosed to the taxpayer and does not influence

your personal payoff.

(chat screen)

(separate screen, when participants enter the number)

Procedure and payment:

When bargaining, the taxpayer will make an offer of the total tax payment to the tax auditor ("Offer").

This offer can take any value between 100 E\$ and 130 E\$. At the same time, the tax auditor sets his/her

minimum expected tax payment from the taxpayer ("Demand").

• If the "Offer" is larger or equal to the "Demand", then the tax payment will equal the amount as proposed by the "taxpayer".

• If the "Offer" is smaller than the "Demand", then there is no deal.

The legal amount of the total tax payment ranges from 100 E\$ to 130 E\$. You (tax auditor) and the taxpayer bargain about the amount to be paid by the taxpayer.

What is your demand of tax payment?

**Tax Game Instructions (Assign partner)** 

Second round

You will now engage in a second round of the same task, with the same rules. However, in this round you will be randomly paired with a new person with whom you did not interact in any previous stage of the experiment.

<Repeat other instructions from first round>

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