

Abstract

We explored the moderating roles of legitimate and coercive power held by the tax authority in the relationship between procedural justice, trust in the tax authority, and voluntary tax compliance. Drawing from fairness heuristic theory and the slippery slope framework of tax compliance, we predicted that procedural justice fosters voluntary tax compliance, particularly when legitimate power of the tax authority is *low* and when coercive power of the authority is *high*. Moreover, we predicted that these interactive effects are mediated by (cognition-based) trust. Finally, we predicted that coercive power of the tax authority is positively related with enforced tax compliance. The results of a field study among Ethiopian business owners supported most predictions. This research is among the first to integrate social-psychological and deterrence-related factors to understand tax compliance behavior in a developing country.

Keywords: Procedural justice; trust; legitimate power; coercive power; voluntary tax compliance.

PsycINFO Classification code: 3040

JEL Classification code: Z

1. Introduction

Ideally, taxation is the most reliable source for financing government expenditure (Blöchliger & Petzold, 2009; Dziobek, Alves, El Rayess, Mangas, & Kufa, 2011). While other sources for financing government expenditure have various constraining conditions attached to them, the government is free to spend the proceeds from taxation in ways it deems necessary (Blöchliger & Petzold, 2009). A worrying fact in this respect is that while the government budget in many countries is overwhelmed by deficit financing, many citizens continually evade taxes (Alm, Kirchler, & Muehlbacher, 2012; Asaminew, 2010; Waud, 1986). Consequently, taxpayers' adherence to applicable taxation laws is something all governments throughout the world aim to secure (Bobek, Roberts, & Sweeney, 2007). Therefore, understanding what drives tax compliance is an important topic for scientific study.

Nevertheless, the literature on tax compliance of the past 50 years or so suffers from two important limitations. First, research has revealed that tax compliance is attributable to a range of factors that are economic or social-psychological in nature (Muehlbacher, Kirchler, & Schwarzenberger, 2011). Yet these various factors are usually studied separately. The economic model or deterrence approach to tax compliance (Allingham & Sandmo, 1972) assumes that the threat of sanctions (i.e., the probability of detection and subsequent penalties) shapes taxpayers' behavior. Many empirical studies support this claim (for a review, see Fischer, Wartick, & Mark, 1992), although some studies do not (Alm, Kirchler, & Muehlbacher, 2012; Andreoni, Erard, & Feinstein, 1998; Torgler, 2003a, 2003b). Social psychologists, on the other hand, attribute tax compliance to an array of noneconomic factors such as taxpayers' trust in authorities (Feld & Frey, 2002; Scholz & Lubell, 1998; Van Dijke & Verboon, 2010) and in other taxpayers (Alm, Kirchler, & Muehlbacher, 2012; Frey & Torgler, 2007), how taxpayers perceive the legitimacy of authorities

(Kogler et al., 2013; Wahl, Kastlunger, & Kirchler, 2010; Wenzel & Jobling, 2006), the manner in which tax authorities treat taxpayers (Feld & Frey, 2002, 2007), and personal and social norms (Edling, Herbert, & Nguyen-Thanh, 2006; Lederman, 2003; Wenzel, 2004). Regretfully, there is at present little integration of deterrence-based and social-psychological perspectives, and hence we lack a clear understanding of factors that drive tax compliance (Kirchler, 2007; Kirchler, Hoelzl, & Wahl, 2008). One reason for this lack of integration may be that deterrence-based perspectives have usually focused on enforced tax compliance, whereas social psychological perspectives focused on voluntary compliance (Alm, Kirchler, & Muehlbacher, 2012; Alm, Kirchler, Muehlbacher et al., 2012).

A second limitation of the current tax compliance literature is that the vast majority of studies have been conducted in developed nations in Europe, Australia, and the United States (for reviews see Doyle, Gallery, Coyle, & Commissioners, 2009; Palil, 2010). Tax compliance has been studied far less often in developing countries (for exceptions see Abdul-Razak & Adafula, 2013; Smulders & Naidoo, 2013), and no research in developing countries has integrated deterrence-based and social-psychological perspectives on tax compliance. Yet the tax environment in many developing countries differs in important ways from those in Europe and the US. In developing countries, taxpayers usually do not see paying taxes as a contribution towards building common public goods, but rather as a burden imposed on them by government (Asaminew, 2010). Moreover, tax authorities often show little trust in taxpayers and seem to believe that deterrent actions can solve all problems related to tax (non-)compliance. Therefore, taxation environments in developing countries often feature so-called “cops and robbers” relationships between taxpayers and the tax authority (Kirchler et al., 2008).

In this article, we will address the two above-mentioned limitations of the tax compliance

literature. We will integrate the role of the most relevant deterrence factor – that is, the power of the tax authority – with a core social psychological antecedent of voluntary tax compliance, namely, the procedural justice of the authority. Drawing from the slippery slope framework of tax compliance (Kirchler, 2007; Kirchler et al., 2008), we distinguish between legitimate and coercive power on the part of the tax authority. Based on fairness heuristic theory (Lind, 2001), we argue that procedural justice influences voluntary tax compliance particularly when legitimate power of the tax authority is *low* (vs. high) and when coercive power is high (vs. low). To explicitly ground our argument in relevant theory, we will also argue that the interaction effects of procedural justice with both types of power wielded by the tax authority on voluntary tax compliance are mediated by trust in the tax authority. Figure 1 visually represents our proposed model. We test our model among business owners in Ethiopia — a country that is characterized by the type of strained relationship between citizens and the tax authorities sketched above (Asaminew, 2010; Vadde & Gundarapu, 2012).

2. Theoretical Background

2.1 Procedural Justice and Tax Compliance

Procedural justice (i.e., the perceived fairness of decision-making processes and procedures) results from a variety of factors (Leventhal, 1980). Typically, procedures are perceived as fairer when they are applied consistently over time and across the individuals or groups affected (Van den Bos, Vermunt, & Wilke, 1996); when they are applied accurately and are not motivated by authorities' self-interest (De Cremer, 2004; Saad, 2011); and when they allow those affected to voice their opinions (Lamberton, De Neve, & Norton, 2014; Tyler, Rasinski, & Spodick, 1985; Van den Bos, 1999).

Empirical studies show that authorities who enact procedures in a fair manner gain more

positive responses from members of the collective than authorities who enact procedures in an unfair manner (Van Dijke, De Cremer, & Mayer, 2010; Walker, 1989). One form that responses to procedural justice may take is voluntary compliance of the members of the collective with the authority. In the context of tax administration, tax authorities that are viewed by taxpayers as enacting decision-making procedures in a fair way have been shown to enjoy more voluntary tax compliance than authorities that are perceived to be unfair (Feld & Frey, 2007; Feld & Tyran, 2002; Van Dijke & Verboon, 2010).

One influential theory that explains why citizens respond to high procedural justice with tax compliance is fairness heuristic theory (Lind, 2001). Fairness heuristic theory notes that people, in their relations with authorities, are faced with a fundamental social dilemma. This results because contributing to a collective (such as by voluntarily paying one's taxes) offers a sense of identity and belonging and opportunities for improved outcomes (e.g., a better functioning country), but also possible exploitation and identity damage due to abusive or rejecting authorities (Lind, 2001; Van Dijk, Parks, & Van Lange, 2013). Procedural justice communicates that authorities can be trusted not to abuse their power. Consequently, it stimulates a willingness to contribute to the collective, such as by voluntarily complying with the authorities representing the collective (Kugler & Bornstein, 2013; Lind, 2001).

Fairness heuristic theory proposes an episodic sequence of justice judgments. During the "judgmental phase," individuals observe fairness information (e.g., of procedures) in order to assess whether authorities are high in integrity and can thus be trusted not to exploit them. In the "use phase," they use their fairness judgment as input in their decision to respond with positive behavior like compliance (Bordignon, 1993; Kugler & Bornstein, 2013; Lind, 2001; Saad, 2011; Van den Bos, Wilke, & Lind, 1998; Van Dijke & Verboon, 2010). In support of fairness

heuristic theory, research shows that procedural information (e.g., receiving versus not receiving voice in the decisions of an authority) influences perceptions of procedural justice, particularly when it is unclear whether an authority can be trusted (versus when it is clear that an authority either can or cannot be trusted) (Van den Bos et al., 1998). Studies also show that procedural justice increases trust in the enacting authority (Aryee, Budhwar, & Chen, 2002; Hough, Jackson, Bradford, Myhill, & Quinton, 2010). Finally, the effect of procedural justice on outcome variables, including voluntary tax compliance, has been shown to be mediated by trust (Murphy, 2004).

Another framework that is useful to understand the effects of trust and procedural justice on tax compliance is the “slippery slope framework,” which was developed within the tax compliance literature (Kirchler et al., 2008). This framework notes that the tax environment can vary on a continuum between an antagonistic climate (i.e., where taxpayers and the tax authority work against each other) and a synergistic climate (i.e., where taxpayers and the tax authority work together). In antagonistic climates the tax authorities believe that taxpayers evade taxes whenever they can and they should be closely followed up; taxpayers, for their part, believe that they are persecuted by the tax authority and it is right to hide. In synergistic climates taxpayers perceive tax authorities as performing a service for the community, and as being part of the same community the individual taxpayers belong to. The framework considers tax compliance as being influenced by two major dimensions: trust in authorities and power of authorities. Trust (and presumably also its antecedent, procedural justice) begets voluntary tax compliance, while power secures enforced compliance.

2.2 Legitimate and Coercive Power, Procedural Justice, and Tax Compliance

Power is often defined as the ability to realize one’s goals through others (Van Dijke &

Poppe, 2006). Broadly, there are two possible reasons why people comply with power holders. First, they may want to avoid the punishment that power holders can inflict upon them (Ariel, 2012). Second, there may be a role division between power holders and subordinates that is accepted by both parties. In the second scenario, people perceive the authority's power as legitimate, and hence that power is grounded in a shared reality (Kastlunger, Lozza, Kirchler, & Schabmann, 2013; Muehlbacher et al., 2011). The distinction between legitimate and coercive power is arguably relevant for our understanding of tax compliance and, more specifically, our understanding of how power interacts with the procedural justice of the tax authority to shape taxpayers' voluntary compliance.

In its original formulation, the slippery slope framework distinguished legitimate from coercive power on the part of the tax authority, but without offering a clear explanation of the effect of each type of power on either voluntary or enforced tax compliance. Studies have found inconsistent results with regard to the effect of legitimate power on tax compliance, some reporting a positive effect on enforced compliance and a negative effect on voluntary compliance (Kastlunger et al., 2013), and others finding no effect on enforced compliance and a positive effect on voluntary compliance (Gangl, Hofmann, & Kirchler, 2015; Hofmann, Gangl, Kirchler, & Stark, 2014). In this paper, we do therefore not predict any effect of legitimate power on voluntary or enforced compliance.

However, as noted, legitimate power may be relevant as a boundary condition to the relationship between procedural justice and voluntary tax compliance. Tyler (1997) notes that legitimate power is the power of an accepted authority to which individuals voluntarily defer. A high level of legitimate power thus implies that the tax authority is perceived as deserving compliance. In terms of fairness heuristic theory (Lind, 2001) this means that when authorities are

seen as having legitimate power, they ought to be complied with regardless of the tax authority's level of procedural justice. As a consequence, high levels of legitimate power on the part of the tax authority should make procedural justice less relevant in shaping citizens' decisions on whether or not to voluntarily comply with the tax authority. This argument culminates in the following hypothesis:

Hypothesis 1. *Procedural justice is related to voluntary tax compliance, but this effect should be found only when the tax authority wields low (vs. high) legitimate power.*

Coercive power, on the other hand, is the power on the part of tax authorities that compels taxpayers to pay taxes not out of the belief that taxes help to finance common public goods, but out of fear of tax audits and consequent punishments (Feld & Frey, 2002, 2007; Kastlunger et al., 2013; Kirchler et al., 2008). In other words, coercive power is power that directs individuals against their will (Kirchler et al., 2008: 213). This form of power is needed to enforce tax laws in a hostile tax climate where there is no mutual understanding between the tax authority and taxpayers. Prior research has consistently found a positive relationship between coercive power and enforced tax compliance, but no relationship between coercive power and voluntary compliance (Gangl et al., 2015; Hofmann et al., 2014; Kastlunger et al., 2013). In line with this prior work, we argue:

Hypothesis 2. *Coercive power of the tax authority is associated with an increase in enforced tax compliance.*

Important for the present purposes, we argue that coercive power also plays a role in the relationship between procedural justice and voluntary tax compliance. Specifically, coercive power implies a lack of reciprocal respect and sympathy between taxpayers and tax authorities (Font & Blanco, 2007; Muehlbacher et al., 2011). Therefore, from the perspective of fairness heuristic theory, a high level of coercive power of the tax authority may lead to the fear that the authority

may abuse its power. In this situation, citizens are likely to consider the fairness of organizational procedures to assess whether they should comply with the authority or not. This should lead to relatively strong effects of procedural justice on voluntary compliance when authorities have high (vs. low) coercive power. This argument leads to the following hypothesis:

Hypothesis 3. *Procedural justice is related to voluntary tax compliance, but this effect is pronounced particularly when the tax authority has high (vs. low) coercive power.*

2.3 Trust as a Mediator of the Effect of Procedural Justice on Voluntary Tax Compliance, Moderated by Power of Tax Authority

To better ground our predictions in relevant theory, i.e., fairness heuristic theory and the slippery slope framework, we address the role of trust in the tax authority in mediating the proposed unique interaction effects of coercive power and legitimate power with procedural justice on voluntary tax compliance. Trust is defined as the “willingness 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” (Mayer, Davis, & Schoorman, 1995, p. 712). Taxpayers who perceive the tax authority as being high in procedural justice are more likely to trust the authority, and this increases compliance (Murphy, 2004).

The slippery slope framework considers trust as one of the major factors that shape voluntary tax compliance (Kirchler et al., 2008). Recent refinements of the framework, however, distinguish between reason-based and implicit trust (Gangl et al., 2015; Gangl, Hofmann, Pollai, & Kirchler, 2012). Reason-based trust results from a deliberate decision grounded in goal achievement (i.e., the trustor evaluates whether the trustee pursues a goal that is important to him/her), dependency (i.e., the trustor is dependent, in some way, on the trustee), internal factors (e.g., the trustor evaluates the trustee as competent, willing, and harmless), and external factors

(e.g., perceived opportunities and dangers of the trustor in the relationship). Implicit trust is an automatic, unintentional, and unconscious reaction to stimuli originating from associative and conditioned learning processes in which shared social identities are likely to arise. These two types of trust, respectively, mirror the established distinction in the trust literature between cognition- and affect-based trust (McAllister, 1995; Ng & Chua, 2006).

Whereas cognition-based trust involves a rational and conscious assessment of the trustee's track record and reputation for dependability, reliability, and professionalism (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012), affect-based trust is a feeling towards another party that goes beyond rational assessments and consequently entails emotional investments and genuine care and concern (Johnson & Grayson, 2005; Schaubroeck, Lam, & Peng, 2011). Because validated scales are readily available to measure cognition- and affect-based trust, we will focus on these types of trust in this paper. We argue that affect-based trust is unlikely to be relevant in explaining compliance in the context of the relationship between governments and their citizens in a developing country such as Ethiopia with a "cops and robbers" relationship between authorities and taxpayers (Kastlunger et al., 2013; Muehlbacher et al., 2011). Even in developed nations, taxation continues to be perceived as a burden rather than a contribution to societal welfare, as it increases costs and lowers business profits or individual income (Alm, Kirchler, & Muehlbacher, 2012; Alm & McClellan, 2012; Torgler, 2011). However, cognition-based trust may play a clear role in the relationship between governments and taxpayer citizens in situations where the track records of government performance convince the taxpayers to view their government as competent and concerned about their welfare.

As noted, fairness heuristic theory predicts that taxpayers will attend to the fairness of decisions enacted by the tax authority in order to assess whether this authority can be trusted not to

take advantage of them (Murphy & Tyler, 2008; Van Dijke & Verboon, 2010). This assessment of the authority's trustworthiness is then used as information in deciding whether or not to comply with the authority. In line with this argument, Gangl et al. (2015) and Hofmann et al. (2014) found that reason-based trust leads to voluntary tax compliance. We articulated this proposed relationship into an effect of procedural justice on voluntary tax compliance mediated by cognition-based trust and moderated by legitimate power, as prior studies focused only on the main effects of these variables. More specifically, in line with the dynamics proposed by Gangl et al. (2015) and Gangl et al. (2012), we argue that (cognition-based) trust in the tax authority (resulting from procedural justice) should lead to voluntary tax compliance; but this effect of trust on voluntary tax compliance will be found only when the tax authority is perceived to wield low (vs. high) legitimate power. When authorities are seen as being high in legitimate power, they ought to be complied with regardless of the level of cognition-based trust one has in this authority. The above arguments result in the following hypothesis:

Hypothesis 4. Procedural justice is related to voluntary tax compliance via the mediating mechanism of (cognition-based) trust in the tax authority. Yet cognition-based trust is related to voluntary tax compliance only when the tax authority wields low (vs. high) legitimate power.

We also predict that trust is relevant as a mediator in the effect of procedural justice of the tax authority on voluntary tax compliance, moderated by coercive power. Drawing on fairness heuristic theory (Lind, 2001) we argue that citizens will observe procedural justice information to assess whether the tax authority can be trusted not to abuse its power, particularly when this authority has high coercive power. This is because high coercive power makes it more likely that the authority actually can damage the interests and identity of citizens (Gangl et al., 2015; Kastlunger et al., 2013). This argument culminates in the following hypothesis:

Hypothesis 5. *Procedural justice is related to voluntary tax compliance via the mediating mechanism of trust in the tax authority. Yet the relationship between procedural justice and trust should be pronounced particularly when the tax authority has high (vs. low) coercive power.*

3. Method

3.1 Respondents

We gathered data from 231 small and large business owners and/or their accountants in the Ethiopian capital, Addis Ababa.

Of the respondents, 134 reported their gender as male, 83 as female, and 14 did not indicate their gender. With regard to age, 47% were between 20 and 30 years old; 31% between 31 and 40; 14% between 41 and 50; 1% between 51 and 60; 1% above 60 years old; and 6% did not indicate their age. Two percent of the respondents had completed an elementary education only, 7% had completed a high school education, 28% had a (2-year) college diploma, 50% had a bachelor's degree, and 9% had completed a master's degree. With respect to their annual company earnings, 33.5% of the respondents reported to have had an annual earnings of 50,000–100,000 Ethiopian Birr (1 Birr = approximately USD .55); 13.7% had earned 100,000–300,000 Birr; 13.3% had earned 300,000–500,000 Birr; 3.8% had earned 500,000–700,000 Birr; 10.4% had earned 700,000–1,000,000 Birr; 25.3% had earned more than 1,000,000 Birr. Sixteen percent of the respondents reported to have had less than 2 years of experience with the tax authority; 46.4% had 2–6 years; 19.6% had 6–10 years; 12.4% had 10–20 years; 5.6% had greater than 20 years of experience.

3.2 Procedure

A printed questionnaire was used to collect data for this study. The items were translated into the Amharic language to enhance ease of understanding by our respondents using a

translation-back-translation procedure. A total of 300 questionnaires were distributed to business owners and/or their accountants on a random selection basis (i.e., a questionnaire was given to every fourth taxpayer who came to four different branches of the tax authority to pay business income tax, while awaiting their turns). Of these, 241 questionnaires were returned by the respondents. Some respondents skipped a few questions, and those unanswered questions were considered as missing data. Accordingly, a total of 231 usable questionnaires could be included in the analyses.

3.3 Measures

We measured *procedural justice* with an 11-item scale from [Murphy \(2004\)](#). Item examples are “The tax authority gives equal consideration to the views of all Ethiopians” and “The tax authority considers the concerns of average citizens when making decisions” ($1 = \text{completely disagree}$, $5 = \text{completely agree}$). We averaged these items into a procedural justice scale.

We included cognition- as well as affect-based trust as a strong test of our prediction that coercive power and legitimate power moderate the effect of procedural justice on voluntary tax compliance as mediated by cognition- rather than affect-based trust. We measured *cognition-based trust* with the 6-item scale developed by [McAllister \(1995\)](#). We slightly adapted the items to fit the context of trust in the tax authority. Item examples are “The tax officials approach their job with professionalism and dedication” and “Given these officials’ track record, I see no reason to doubt their competence and preparation for their job” ($1 = \text{completely disagree}$, $5 = \text{completely agree}$). Based on the results of a reliability analysis, we removed the item “If people knew more about these officials and their background, they would be more concerned and monitor their performance more closely.” (Doing this resulted in α improving from .67 to .72.) We averaged the remaining five items into one scale. We measured *affect-based trust* with the 5-item scale from

[McAllister \(1995\)](#). We slightly adapted the items to fit the context of trust in the tax authority.

Item examples are “The tax officials and I have a sharing relationship; we can both freely share our ideas, feelings, and hopes” and “I can talk freely to these officials about difficulties I am having regarding tax and know that they will want to listen” ($1 = \textit{completely disagree}$, $5 = \textit{completely agree}$). We averaged the items into one scale.

We measured *voluntary tax compliance* with the 10-item scale from [Kirchler and Wahl \(2010\)](#). Item examples (preceded by the stem “When I pay my taxes as required by the Ethiopian tax laws and regulations, I do so...”) are “...because to me it’s obvious that this is what you do” and “...to support the state and other citizens” ($1 = \textit{completely disagree}$, $5 = \textit{completely agree}$). We averaged the items to create a voluntary tax compliance index.

We measured *enforced tax compliance* with the 8-item scale from [Kirchler and Wahl \(2010\)](#). Item examples (preceded by the stem “When I pay my taxes as required by the Ethiopian tax laws and regulations, I do so...”) are “...because a great many tax audits are carried out” and “...because the tax office often carries out audits” ($1 = \textit{completely disagree}$, $5 = \textit{completely agree}$). We averaged the items to create an enforced tax compliance index.

We measured the tax authority’s *legitimate power* with a 5-item scale from [Kastlunger et al. \(2013\)](#). Item examples are “Tax evasion is detected in a high percentage of the cases” and “Tax authorities combat tax crimes in an efficient way” ($1 = \textit{completely disagree}$, $5 = \textit{completely agree}$). Based on the results of a reliability analysis, we decided to drop the following item: “Tax authorities control frequently and profoundly.” (Doing this resulted in α improving from .44 to .67). We averaged the items into a legitimate power scale.

We measured the tax authority’s *coercive power* with a 5-item scale taken from [Kastlunger et al. \(2013\)](#). Item examples are “Tax authorities primarily aim to punish” and “Tax authorities’

interventions are too severe” ($1 = \text{completely disagree}$, $5 = \text{completely agree}$). We averaged the items into a coercive power scale.

4. Results

Table 1 presents the correlations between the study variables.

Insert Table 1 about here

We tested Hypotheses 1, 2, and 3 with hierarchical regression analyses. In step 1, we entered the main effects of procedural justice, legitimate power, and coercive power. In step 2, we entered the Procedural Justice x Legitimate Power interaction and the Procedural Justice x Coercive Power interaction. (We standardized procedural justice, legitimate power, and coercive power before calculating the interaction terms.) Table 2 presents the results of the analysis.

Insert Table 2 about here

The Procedural Justice x Legitimate Power interaction significantly predicted voluntary tax compliance. Figure 2 visually depicts this effect. We further probed this interaction effect with simple slopes analyses (Aiken & West, 1991). In support of Hypothesis 1, these analyses showed that the relation between procedural justice and voluntary tax compliance was significant when legitimate power was low (at 1 *SD* below the mean), $\beta = -1.01$, $F(1, 209) = 4.76$, $p = .04$. However, the relationship between procedural justice and voluntary tax compliance was not significant when legitimate power was high (at 1 *SD* above the mean), $\beta = -.01$, $F(1, 209) = 4.76$, $p = .26$.

Furthermore, as predicted in Hypothesis 2, coercive power of the tax authority is associated with enhanced enforced tax compliance. However, legitimate power of the tax authority did not significantly influence enforced tax compliance.

The Procedural Justice x Coercive Power interaction also significantly predicted voluntary tax compliance. Figure 3 visually depicts this effect. Subsequent simple slopes analyses showed that the relation between procedural justice and voluntary tax compliance was significant when coercive power was high (at 1 *SD* above the mean), $\beta = .99$, $F(5, 209) = 1.93$, $p = .05$. However, the relationship between procedural justice and voluntary tax compliance was not significant when coercive power was low (at 1 *SD* below the mean), $\beta = .003$, $F(5, 209) = 1.93$, $p = .27$.

We used the PROCESS macro (Hayes, 2010; model 21) to test our moderated mediation model implied in Hypotheses 4 and 5 (see Figure 1). We included procedural justice as independent variable and voluntary tax compliance as a dependent variable. We included both cognition- and affect-based trust as potential mediators of the relationship between procedural justice and voluntary tax compliance. We included coercive power as a moderator of the path from procedural justice to cognition- and affect-based trust and legitimate power as a moderator of the path from cognition- and affect-based trust to the voluntary tax compliance in the model. Table 3 provides these results.

Insert Table 3 about here

As can be seen in Table 3, procedural justice affected both cognition-based trust and affect-based trust. Coercive power did not moderate the effect of procedural justice on cognition- and affect-based trust. However, in support of our prediction, legitimate power moderated the path

from cognition-based (but not affect-based) trust to voluntary tax compliance.

A bootstrapped 95% confidence interval (CI) confirmed that the indirect effect of procedural justice on voluntary tax compliance via cognition-based trust was significant when the legitimate power of the tax authorities was low (at 1 *SD* below the mean), but not when it was high (at 1 *SD* above the mean). This supports Hypothesis 4. As can be seen in Table 3, we found no evidence that coercive power moderates the path from procedural justice to either of the two types of trust. Hence, Hypothesis 5 was not supported.

5. Discussion

In this study we investigated the unique moderating roles of two types of power of the tax authority and the mediating mechanism of trust in the tax authority in the relationship between the procedural justice of the authority and voluntary tax compliance. We also examined the effects of the power of the tax authority (i.e., legitimate and coercive power) on enforced tax compliance. We tested our hypotheses in a unique sample of Ethiopian business owners. We showed that procedural justice was associated with voluntary tax compliance only when legitimate power of the tax authority was low and when coercive power of the authority was high. We also showed that the moderating role of legitimate (but not coercive) power of the tax authority on voluntary tax compliance occurs because procedural justice leads to voluntary compliance via the mediating mechanism of cognition- (but not affect-) based trust, and the relationship between cognition-based trust and voluntary tax compliance is moderated by legitimate power. Finally, we showed that only coercive power predicts enforced tax compliance. In the following sections, we discuss the implications and limitations of this research.

5.1 Theoretical Implications

Our research is, first of all, relevant to the slippery slope framework of tax compliance.

This framework and subsequent empirical studies claim that trust in authorities generally affects voluntary tax compliance, whereas the power of the tax authority affects enforced compliance (Alm, Kirchler, & Muehlbacher, 2012; Kastlunger et al., 2013; Kirchler et al., 2008; Muehlbacher et al., 2011). The framework also posits that power and trust moderate each other's effect on compliance. Trust should matter most when power is low; when power is at its maximum trust is less relevant because authorities can enforce maximum compliance. Conversely, power should matter most when trust is low; when trust is at its maximum, variations in power are less relevant because citizens contribute their share voluntarily, regardless of the level of power. Independent from this claim, scholars have distinguished legitimate from coercive power. These studies have found that coercive power predicts enforced compliance (Hofmann et al., 2014; Kastlunger et al., 2013). Yet results for legitimate power have been inconsistent, with some studies reporting a positive effect on enforced compliance and a negative effect on voluntary compliance (Kastlunger et al., 2013), and others finding no effect on enforced compliance and a positive effect on voluntary compliance (Gangl et al., 2015; Hofmann et al., 2014). Our research connects these various claims in a theoretically meaningful way. We show that coercive and legitimate power both have a role to play in shaping voluntary compliance by oppositely moderating the effect of an established antecedent of trust, procedural justice, on this type of compliance.

Our research is also relevant to fairness heuristic theory. This theory has found broad application outside of the tax compliance literature (mostly in organizational psychology). As noted, Lind (2001) argued that in the judgment phase, fairness judgments and the resulting trustworthiness assessments are formed. Subsequently, in the use phase, these assessments are used to decide whether or not to cooperate with the authority. Prior studies that tested fairness

heuristic theory focused on the judgment phase (e.g., [Van den Bos et al., 1998](#)), including studies that applied fairness heuristic theory to tax compliance ([Van Dijke & Verboon, 2010](#)). However, unlike our work, prior work did not focus on the use phase in fairness heuristic theory. Showing that trust (as resulting from procedural justice) interacts with legitimate power to relate to voluntary tax compliance thus clearly extends the scope of application and testing of fairness heuristic theory.

More generally, this research contributes to integrating the deterrence and social psychological approaches to tax compliance by testing our prediction that the main deterrence tool (i.e., power of tax authority) and a pervasive element of justice (i.e., procedural justice) interact with each other in shaping voluntary tax compliance. Procedural justice has been studied previously as an antecedent of voluntary tax compliance ([Murphy, 2004](#); [Murphy & Tyler, 2008](#)). The unique moderating roles of legitimate and coercive power on the part of the tax authority in the relationship of procedural justice with voluntary tax compliance, however, present a nuanced perspective on integration between the two literatures.

Finally, unlike most of the tax compliance literature, which has usually addressed developed nations ([Doyle et al., 2009](#); [Palil, 2010](#)), we conducted this study in a developing country. It is, in this respect, worth noting that the mechanisms proposed in fairness heuristic theory (e.g., the fundamental social dilemma in which procedural justice is used as heuristic information) are framed as culturally invariant, as are the prime mechanisms in the slippery slope framework. We are the first to show that the workings of some of these proposed mechanisms do generalize to a developing nation.

5.2 Practical Implications

Developing countries in general and Sub-Saharan African countries in particular are

characterized by weak tax administration, extensive tax evasion, corruption, and coercion (Fjeldstad & Therkildsen, 2008; McKerchar & Evans, 2009). Ethiopia is one of the Sub-Saharan African countries that are characterized by coercive authorities (including tax authorities) and citizens with low tax morale (Bahl & Bird, 2008). The country secures the lowest tax to GDP ratio (about 10%) in the region (Daba, 2014). The size of the underground economy, which most often is taken as a proxy for the level of tax morale of citizens (Torgler & Schneider, 2007), has been estimated to be about 36% of the country's GDP in the year 2010 (Asaminew, 2010). One thing that is likely to make tax evasion even worse in Ethiopia is the fact that most business transactions are effected in cash, leaving no evidence for an audit trail. Cash economies are known to make enforcement of tax laws more difficult compared to those where transactions can be traced electronically after they have occurred (Benshalom, 2012; Devos, 2014). Therefore, taxation environments in developing countries like Ethiopia often feature so-called "cops and robbers" relationships between taxpayers and the tax authority (Kirchler et al., 2008).

In the context of these characteristics of the taxation climate in Ethiopia, we believe that our research has distinct practical implications. First, we found that justice plays a pivotal role in nurturing voluntary tax compliance specifically when the tax authority's legitimacy is low. In developing nations such as Ethiopia, authorities usually are low in legitimate power (Van de Walle, 2011). Therefore, our findings highlight the need for tax authorities to be procedurally just, especially in those developing countries where legitimacy is known to be low.

Furthermore, prior work identified the limitations of a repressive approach (i.e., based on coercive power). Trying to stimulate tax compliance by means of coercion is costly (Kirchler et al., 2008; Murphy, 2004; Scott & Grasmick, 1981), as the majority of the taxpayers will look for all possible loopholes for evasion. Moreover, taking legal actions against a large number of tax

evaders drains government revenue. This is probably especially the case in countries such as Ethiopia. Interestingly, our research shows that a strong focus on coercive power in fact makes procedural justice more effective in stimulating voluntary tax compliance (and injustice more effective in undermining voluntary compliance). It is therefore advisable for tax authorities to invest in creating a procedurally just tax environment; this is particularly true for authorities in developing nations, which tend to focus on coercion in their relationship with their citizens.

Finally, a more general observation is that most of the predictions of both fairness heuristic theory and the slippery slope framework were supported in the context of a developing country. Therefore, policy makers in developing countries may take account of the relationships that are proposed in and the assumptions underlying fairness heuristic theory and the slippery slope framework in their policy design.

5.3 Limitations and Suggestions for Future Research

As with all research, the present study is not without limitations: First, the design of the study was cross-sectional. Therefore, the results should be interpreted cautiously. Future research is warranted to clarify the causal links between the variables using experimental or longitudinal designs. Yet it should be noted that experimental (e.g. [Doyle et al., 2009](#); [Van Dijke & Verboon, 2010](#)) and longitudinal ([Murphy & Tyler, 2008](#)) studies already revealed the causal effect of procedural justice on voluntary tax compliance.

Another limitation is that we did not measure characteristics of the company that the respondents owned, such as their size (e.g., the number of employees). Owning (and being responsible for) a large company may be a different experience psychologically than owning a small company (in which tax compliance at least is based more on the owner's own intentions and behavior). Future research should include more extensive measures of the taxpayers'

background, including company characteristics.

We learned only during the process of getting back the filled-out questionnaires that a small minority of questionnaires were filled out by accountants of the firms. Yet we did not measure this and thus could not analyze the differences in results when the questionnaires were completed by owners and accountants. We therefore suggest for future research to focus on addressing the need to analyze what differences could arise as a result of owners vs. accountants filling out surveys of our type.

It was impossible to randomly sample taxpayers from a list of income taxpayers owing to refusal of the tax authority to share taxpayers' records with us. We therefore resorted to systematic sampling of taxpayers, who were in the queue for paying their income taxes at four different branches of the tax authority over three months (January-March, 2013). The fact that those taxpayers filled out the questionnaire while at the tax authority for tax payment does not imply that they are more honest taxpayers than those who were not in this queue, as a majority of the taxpayers pay their taxes in fear of perceived subsequent measures taken by the tax authority (Abdella & Clifford, 2010). We admit, though, that our sampling strategy may limit the external validity of our results.

Finally, our findings are based only on data from a developing country. Hence, we suggest that future research test hypotheses *both* in developing and developed nations, in order to arrive at a more complete understanding of cross-cultural dynamics underlying tax compliance. We also suggest specific cultural variables that may be included in this research to understand the potential difference between countries, such as power distance and individualism-collectivism (Hofstede, 2011; Schwartz, 1994).

5.4 Concluding Remarks

The current study is the first to find that coercive and legitimate power may play unique and even opposite moderating roles in the relationship between procedural justice and voluntary tax compliance. In taking this approach, our findings contribute to integrating economic and social-psychological approaches to the study of tax compliance. Furthermore, testing our proposed moderated mediation model in a developing country, rather than — as most prior work has done — among taxpayers in Western countries, contributes to developing literature on tax compliance that is more ecologically valid.

Acknowledgements

This research was financed by the Netherlands organization for international cooperation in higher education (Nuffic), under grant no. NICHE/ETH/020, and coordinated by Dr. Bertha Vallejo of Tilburg University.

Notes

1. Using the abridged 5-item scales for voluntary and enforced tax compliance ([Kirchler & Wahl, 2010](#)) revealed results that were essentially the same to the results presented in the main text.
2. We did not include demographic variables as controls in our analyses following [Carlson and Wu's \(2012\)](#) guide that suggests excluding control variables when a clear argument cannot be offered as to why including these controls would improve the estimation of effects of theoretical interest (“when in doubt, leave them out”), such as is the case when they are not significantly correlated with the independent variables. Analyses in which we included the demographic variables as controls revealed results that are essentially the same as those reported in the main text.

Appendix

Below is a complete list of the measures used in this paper. All responses were on a Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neither*, 4 = *agree*, 5 = *strongly agree*).

Procedural Justice (Murphy, 2004)

Neutrality (Bias Suppression)

1. The tax authority gives equal consideration to the views of all Ethiopians.
2. The tax authority gets the kind of information it needs to make informed decisions.
3. The tax authority is generally honest in the way it deals with people.

Fairness of Tax Authority

1. The tax authority considers the concerns of average citizens when making decisions.
2. The tax authority cares about the position of taxpayers.
3. The tax authority tries to be fair when making their decisions.

Respect

1. The tax authority respects the individual's rights as a citizen.
2. The tax authority is concerned about protecting the average citizen's rights.

Trustworthy Treatment from the Tax Authority

1. The tax authority treats people as if they can be trusted to do the right thing.

Consultation

1. The tax authority consults widely about how they might change things to make it easier for taxpayers to meet their obligations.
2. The tax authority goes to great lengths to consult with the community over changes to their system.

Affect-based Trust (McAllister, 1995)

1. The tax officials and I have a sharing relationship; we can both freely share our ideas, feelings, and hopes.
2. I can talk freely to these officials about difficulties I am having regarding tax and know that they will want to listen.
3. We would both feel a sense of loss if we could no longer work together.
4. If I shared my problems with these officials, I know they would respond constructively and caringly.
5. I would have to say that we have both made considerable emotional investments in our working relationship.

Cognition-based Trust (McAllister, 1995)

1. The tax officials approach their job with professionalism and dedication.
2. Given these officials' track record, I see no reason to doubt their competence and preparation for their job.
3. I can rely on these persons not to endanger my business by careless work.
4. Most taxpayers, even those who aren't close friends of these officials, trust and respect them as officials.
5. Other taxpayers I know who must interact with these officials consider them to be trustworthy.
6. If people knew more about these officials and their background, they would be more concerned and monitor their performance more closely.

Legitimate Power of Tax Authority (Kastlunger et al., 2013)

1. Tax evasion is detected in a high percentage of the cases.

2. Tax authorities combat tax crimes in an efficient way.
3. Tax evasion is likely to be detected.
4. Tax authorities control frequently and profoundly.
5. Due to their knowledge and competence, tax authorities are able to detect quite every act of tax evasion.

Coercive Power of Tax Authority (Kastlunger et al., 2013)

1. Tax authorities primarily aim to punish.
2. Tax authorities investigate as long as they find something.
3. Tax authorities' interventions are too severe.
4. Tax authorities nurture hostile feelings towards taxpayers.
5. Tax authorities interpret tax laws in order to punish the highest number of taxpayers.

Voluntary Tax Compliance (Kirchler & Wahl, 2010)

When I pay my taxes as required by the Ethiopian tax laws and regulations, I do so...

1. ... because I pay my taxes voluntarily.
2. ... without spending a long time thinking how I could reduce them.
3. ... because to me it's obvious that this is what you do.
4. ... even if tax audits did not exist.
5. ... to support the state and other citizens.
6. ... because I like to contribute to everyone's good.
7. ... because for me it's the natural thing to do.
8. ... because I regard it as my duty as a citizen.
9. ... even though I know that others do not.
10. ... because I am sure I am doing the right thing.

Enforced Tax Compliance (Kirchler & Wahl, 2010)

When I pay my taxes as required by the Ethiopian tax laws and regulations, I do so....

- 1.... because I feel forced to pay my taxes.
- 2.... because a great many tax audits are carried out.
- 3.... although I would really prefer not to pay any taxes.
- 4.... because the tax authority often carries out audits.
- 5.... because I know that I will be audited.
- 6.... because the punishments for tax evasion are very severe.
- 7.... because I do not know exactly how to evade taxes without attracting attention.
- 8.... after putting a lot of thought into how I could legally save taxes.

References

- Abdella, A., & Clifford, J. (2010). The impact of tax reform on private sector development. Addis Ababa: Addis Ababa Chamber of Commerce and Sectoral Associations.
- Abdul-Razak, A., & Adafula, C. J. (2013). Evaluating taxpayers' attitude and its influence on tax compliance decisions in Tamale, Ghana. *Journal of Accounting and Taxation*, 5(3), 48-57. doi: 10.5897/JAT2013.0120
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Allingham, M. G., & Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 1(3-4), 323-338.
- Alm, J., Kirchler, E., & Muehlbacher, S. (2012). Combining psychology and economics in the analysis of compliance: From enforcement to cooperation. *Economic Analysis and Policy*, 42(2), 133-151.
- Alm, J., Kirchler, E., Muehlbacher, S., Gangl, K., Hofmann, E., Kogler, C., & Pollai, M. (2012). *Rethinking the research paradigms for analyzing tax compliance behavior*. Paper presented at the CESifo forum.
- Alm, J., & McClellan, C. (2012). Tax morale and tax compliance from the firm's perspective. *Kyklos*, 65(1), 1-17. doi: 10.1111/j.1467-6435.2011.00524.x
- Andreoni, J., Erard, B., & Feinstein, J. (1998). Tax compliance. *Journal of Economic Literature*, 36(2), 818-860.
- Ariel, B. (2012). Deterrence and moral persuasion effects on corporate tax compliance: Findings from a randomized controlled trial. *Criminology*, 50(1), 27-69. doi: 10.1111/j.1745-9125.2011.00256.x

- Aryee, S., Budhwar, P. S., & Chen, Z. X. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes: Test of a social exchange model. *Journal of Organizational Behavior*, 23(3), 267-285. doi: 10.1002/job.138
- Asaminew, E. (2010). The underground economy and tax evasion in Ethiopia: Implications for tax policy. *Journal of Ethiopian Economic Policy Research*.
- Bahl, R. W., & Bird, R. M. (2008). Tax policy in developing countries: Looking back – and forward. *National Tax Journal*, 61(2), 279-301. doi: 10.2307/41790445
- Benshalom, I. (2012). Taxing cash. *Columbia Journal of Tax Law*, 4(1), 65-93.
- Blöchliger, H., & Petzold, O. (2009). *Taxes and grants: On the revenue mix of sub-central governments*. OECD Working Papers on Fiscal Federalism. Paris: OECD Publishing.
- Bobek, D. D., Roberts, R. W., & Sweeney, J. T. (2007). The social norms of tax compliance: Evidence from Australia, Singapore, and the United States. *Journal of Business Ethics*, 74(1), 49-64. doi: 10.1007/s10551-006-9219-x
- Bordignon, M. (1993). A fairness approach to income tax evasion. *Journal of Public Economics*, 52(3), 345-362. doi: 10.1016/0047-2727(93)90039-v
- Carlson, K. D., & Wu, J. (2012). The illusion of statistical control: Control variable practice in management research. *Organizational Research Methods*, 15(3), 413-435. doi: 10.1177/1094428111428817
- Colquitt, J. A., LePine, J. A., Piccolo, R. F., Zapata, C. P., & Rich, B. L. (2012). Explaining the justice–performance relationship: Trust as exchange deepener or trust as uncertainty reducer? *Journal of Applied Psychology*, 97(1), 1-15. doi: 10.1037/a0025208
- Daba, D. (2014). Tax reforms and tax revenues performance in Ethiopia. *Journal of Economics and Sustainable Development*, 5(13), 11-19.

- De Cremer, D. (2004). The influence of accuracy as a function of leaders bias: The role of trustworthiness in the psychology of procedural justice. *Personality and Social Psychology Bulletin*, 30(3), 293-304. doi: 10.1177/0146167203256969
- Devos, K. (2014). Do penalties and enforcement measures make taxpayers more compliant?—The view of Australian tax evaders. *Journal of Business and Economics [E]*, 5(2), 265-284.
- Doyle, E., Gallery, K., Coyle, M., & Commissioners, I. R. (2009). Procedural justice principles and tax compliance in Ireland: A preliminary exploration in the context of reminder letters. *Journal of Finance and Management in Public Services*, 8(1), 49-62.
- Dziobek, C. H., Alves, M., El Rayess, M., Mangas, C. G., & Kufa, P. (2011). The IMF's government finance statistics yearbook: Maps of government for 74 countries. *The IMF's Government Finance Statistics Yearbook* (Vol. WP/11/127). Washington, D.C.: International Monetary Fund.
- Edling, Herbert, & Nguyen-Thanh, D. (2006). *Taxes and culture – Tax reforms for sustainable development*. Fiscal Studies No. 5, Public Finance and Administrative Reform Studies. GTZ: Eschborn.
- Feld, L. P., & Frey, B. S. (2002). Trust breeds trust: How taxpayers are treated. *Economics of Governance*, 3(2), 87-99. doi: 10.1007/s101010100032
- Feld, L. P., & Frey, B. S. (2007). Tax compliance as the result of a psychological tax contract: The role of incentives and responsive regulation. *Law & Policy*, 29(1), 102-120. doi: 10.1111/j.1467-9930.2007.00248.x
- Feld, L. P., & Tyran, J.-R. (2002). Tax evasion and voting: An experimental analysis. *Kyklos*, 55(2), 197-221. doi: 10.1111/1467-6435.00183

- Fischer, C. M., Wartick, M., & Mark, M. M. (1992). Detection probability and taxpayer compliance: A review of the literature. *Journal of Accounting Literature*, 11(1), 1-46.
- Fjeldstad, O.-H., & Therkildsen, O. (2008). Mass taxation and state-society relations in East Africa. In O.-H. Fjeldstad, M. Moore, & D. Braütigam (Ed.), *Taxation and state-building in developing countries: Capacity and consent* (pp. 114-134). Cambridge: Cambridge University Press.
- Font, J., & Blanco, I. (2007). Procedural legitimacy and political trust: The case of citizen juries in Spain. *European Journal of Political Research*, 46(4), 557-589. doi: 10.1111/j.1475-6765.2007.00701.x
- Frey, B. S., & Torgler, B. (2007). Tax morale and conditional cooperation. *Journal of Comparative Economics*, 35(1), 136-159. doi: 10.1016/j.jce.2006.10.006
- Gangl, K., Hofmann, E., & Kirchler, E. (2015). Tax authorities' interaction with taxpayers: A conception of compliance in social dilemmas by power and trust. *New Ideas in Psychology*, 37(0), 13-23. doi: <http://dx.doi.org/10.1016/j.newideapsych.2014.12.001>
- Gangl, K., Hofmann, E. B., Pollai, M., & Kirchler, E. (2012). The dynamics of power and trust in the 'slippery slope framework' and its impact on the tax climate. *Available at SSRN 2024946*.
- Hayes, A. F. (2010). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hofmann, E., Gangl, K., Kirchler, E., & Stark, J. (2014). Enhancing tax compliance through coercive and legitimate power of tax authorities by concurrently diminishing or facilitating trust in tax authorities. *Law and Policy*, 36(3). doi: 10.1111/lapo.12021

- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in Psychology and Culture*, 2(1), 8. doi: 10.9707/2307-0919.1014
- Hough, M., Jackson, J., Bradford, B., Myhill, A., & Quinton, P. (2010). Procedural justice, trust, and institutional legitimacy. *Policing*, 4(3), 203–210. doi: 10.1093/police/paq027
- Johnson, D., & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of Business Research*, 58(4), 500-507. doi: 10.1016/S0148-2963(03)00140-1
- Kastlunger, B., Lozza, E., Kirchler, E., & Schabmann, A. (2013). Powerful authorities and trusting citizens: The slippery slope framework and tax compliance in Italy. *Journal of Economic Psychology*, 34(2013), 36–45. doi: 10.1016/j.joep.2012.11.007
- Kirchler, E. (2007). *The economic psychology of tax behaviour*. Cambridge: Cambridge University Press.
- Kirchler, E., Hoelzl, E., & Wahl, I. (2008). Enforced versus voluntary tax compliance: The “slippery slope” framework. *Journal of Economic Psychology*, 29(2), 210-225. doi: 10.1016/j.joep.2007.05.004
- Kirchler, E., & Wahl, I. (2010). Tax compliance inventory tax-I: Designing an inventory for surveys of tax compliance. *Journal of Economic Psychology*, 31(3), 331-346. doi: 10.1016/j.joep.2010.01.002
- Kogler, C., Batrancea, L., Nichita, A., Pantya, J., Belianin, A., & Kirchler, E. (2013). Trust and power as determinants of tax compliance: Testing the assumptions of the slippery slope framework in Austria, Hungary, Romania and Russia. *Journal of Economic Psychology*, 34(0), 169-180. doi: <http://dx.doi.org/10.1016/j.joep.2012.09.010>

- Kugler, T., & Bornstein, G. (2013). Social dilemmas between individuals and groups. *Organizational Behavior and Human Decision Processes*, 120(2), 191-205. doi: <http://dx.doi.org/10.1016/j.obhdp.2012.07.007>
- Lamberton, C. P., De Neve, J., & Norton, M. I. (2014). Eliciting taxpayer preferences increases tax compliance. Available at SSRN 2365751. doi: <http://dx.doi.org/10.2139/ssrn.2365751>
- Lederman, L. (2003). The interplay between norms and enforcement in tax compliance. *Public Law Research Paper*, 64(6), 1453-1514.
- Leventhal, G. S. (1980). *What should be done with equity theory?* New York: Springer.
- Lind, E. A. (2001). Fairness heuristic theory: Justice judgments as pivotal cognitions in organizational relations. *Advances in Organizational Justice*, 56, 88.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *The Academy of Management Review*, 20(3), 709-734.
- McAllister, D. J. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *The Academy of Management Journal*, 38(1), 24-59. doi: [10.2307/256727](https://doi.org/10.2307/256727)
- McKerchar, M. A., & Evans, C. C. (2009). Sustaining growth in developing economies through improved taxpayer compliance: Challenges for policy makers and revenue authorities. *SSRN eLibrary*. doi: [10.2139/ssrn.1415164](https://doi.org/10.2139/ssrn.1415164)
- Muehlbacher, S., & Kirchler, E. (2010). Tax compliance by trust and power of authorities. *International Economic Journal*, 24(4), 607-610. doi: [10.1080/10168737.2010.526005](https://doi.org/10.1080/10168737.2010.526005)
- Muehlbacher, S., Kirchler, E., & Schwarzenberger, H. (2011). Voluntary versus enforced tax compliance: Empirical evidence for the “slippery slope” framework. *European Journal of Law and Economics*, 32(1), 89-97. doi: [10.1007/s10657-011-9236-9](https://doi.org/10.1007/s10657-011-9236-9)

- Murphy, K. (2004). The role of trust in nurturing compliance: A study of accused tax avoiders. *Law and Human Behavior*, 28(2), 187-209. doi: 10.1023/B:LAHU.0000022322.94776.ca
- Murphy, K., & Tyler, T. (2008). Procedural justice and compliance behaviour: The mediating role of emotions. *European Journal of Social Psychology*, 38(4), 652-668. doi: 10.1002/ejsp.502
- Ng, K.-Y., & Chua, R. Y. J. (2006). Do I contribute more when I trust more? Differential effects of cognition- and affect-based trust. *Management and Organization Review*, 2(1), 43-66. doi: 10.1111/j.1740-8784.2006.00028.x
- Palil, M. R. (2010). *Tax knowledge and tax compliance determinants in self assessment system in Malaysia*. (PhD Dissertation), University of Birmingham, Birmingham.
- Saad, N. (2011). *Fairness perceptions and compliance behaviour: Taxpayers' judgments in self-assessment environments*. (PhD Dissertation), University of Canterbury, Canterbury. Retrieved from <http://hdl.handle.net/10092/5065>
- Schaubroeck, J., Lam, S. S. K., & Peng, A. C. (2011). Cognition-based and affect-based trust as mediators of leader behavior influences on team performance. *Journal of Applied Psychology*, 96(4), 863-871. doi: 10.1037/a0022625
- Scholz, J. T., & Lubell, M. (1998). Trust and taxpaying: Testing the heuristic approach to collective action. *American Journal of Political Science*, 42(2), 398-417.
- Schwartz, S. H. (1994). *Beyond individualism/collectivism: New cultural dimensions of values*. Thousand Oaks, CA: Sage Publications, Inc.
- Scott, W. J., & Grasmick, H. G. (1981). Deterrence and income tax cheating: Testing interaction hypothesis in utilitarian theories. *The Journal of Applied Behavioral Science* 17(3), 395-408.

- Smulders, S., & Naidoo, G. (2013). Addressing the small business tax compliance burden—evidence from South Africa. *Journal of Economic and Financial Sciences*, 6(1), 33-53.
- Torgler, B. (2003a). Beyond punishment: A tax compliance experiment with taxpayers in Costa Rica. *Revista de Analisis Economico*, 18(1), 27-56.
- Torgler, B. (2003b). Tax morale in transition countries. *Post-Communist Economies*, 15(3), 357-381. doi: 10.1080/1463137032000139052
- Torgler, B. (2011). *Tax morale and compliance: Review of evidence and case studies for Europe*. World Bank Policy Research Working Paper. SSRN eLibrary.
- Torgler, B., & Schneider, F. (2007). Shadow economy, tax morale, governance and institutional quality: A panel analysis. Center for Research in Economics, Management and the Arts (CREMA).
- Tyler, T. R. (1997). The psychology of legitimacy: A relational perspective on voluntary deference to authorities. *Personality and Social Psychology Review*, 1(4), 323-345. doi: 10.1207/s15327957pspr0104_4
- Tyler, T. R., Rasinski, K. A., & Spodick, N. (1985). Influence of voice on satisfaction with leaders: Exploring the meaning of process control. *Journal of Personality and Social Psychology / The American Psychological Association*, 48(1), 72-81.
- Vadde, S., & Gundarapu, S. (2012). Factors that influence rental tax payers' compliance with tax system: An empirical study of Mekelle city, Ethiopia. *Development Policy Review*, 29(1), 5-21.
- Van de Walle, S. (2011). The political role of service delivery in statebuilding: Exploring the relevance of European history for developing countries. *Development Policy Review*, 29(1), 5-21.

- Van den Bos, K. (1999). What are we talking about when we talk about no-voice procedures? On the psychology of the fair outcome effect. *Journal of Experimental Social Psychology*, 35(6), 560–577.
- Van den Bos, K., Vermunt, & Wilke. (1996). The consistency rule and the voice effect: The influence of expectations on procedural fairness judgments and performance. *European Journal of Social Psychology*, 26(3), 411-428.
- Van den Bos, K., Wilke, H. A. M., & Lind, E. A. (1998). When do we need procedural fairness? The role of trust in authority. *Journal of Personality and Social Psychology*, 75(6), 1449-1458. doi: 10.1037/0022-3514.75.6.1449
- Van Dijk, E., Parks, C. D., & Van Lange, P. A. M. (2013). Social dilemmas: The challenge of human cooperation. *Organizational Behavior and Human Decision Processes*, 120(2), 123-124. doi: <http://dx.doi.org/10.1016/j.obhdp.2012.12.005>
- Van Dijke, M., De Cremer, D., & Mayer, D. M. (2010). The role of authority power in explaining procedural fairness effects. *Journal of Applied Psychology*, 95(3), 488-502. doi: 10.1037/a0018921
- Van Dijke, M., & Poppe, M. (2006). Striving for personal power as a basis for social power dynamics. *European Journal of Social Psychology*, 36(4), 537-556. doi: 10.1002/ejsp.351
- Van Dijke, M., & Verboon, P. (2010). Trust in authorities as a boundary condition to procedural fairness effects on tax compliance. *Journal of Economic Psychology*, 31(1), 80-91. doi: 10.1016/j.joep.2009.10.005
- Wahl, Kastlunger, B., & Kirchler, E. (2010). Trust in authorities and power to enforce tax compliance: An empirical analysis of the “slippery slope framework.” *Law & Policy*, 32(4), 383-406. doi: 10.1111/j.1467-9930.2010.00327.x

- Walker, H. A. (1989). The social psychology of procedural justice. *American Journal of Sociology*, 95(1), 250-252. doi: 10.2307/2780447
- Waud, R. N. (1986). *Tax aversion, deficits and the tax rate-tax revenue relationship*. NBER Working Paper. National Bureau of Economic Research Cambridge, Mass.
- Wenzel, M. (2004). An analysis of norm processes in tax compliance. *Journal of Economic Psychology*, 25(2), 213-228. doi: 10.1016/s0167-4870(02)00168-x
- Wenzel, M., & Jobling, P. (2006). Legitimacy of regulatory authorities as a function of inclusive identification and power over ingroups and outgroups. *European Journal of Social Psychology*, 36(2), 239-258.