

**The Slippery Slope Frame-  
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# The Slippery Slope Framework: Extending the Analysis by Investigating Factors Affecting Trust and Power

## Abstract

Many empirical studies have been conducted to test the Slippery Slope Framework (SSF) assumptions. Yet, only a few studies focus their attention on tax compliance factors associated with trust and power. Therefore, this study is dedicated to fully exploring these factors. The results show that most factors had a significant influence on trust and power. The results also confirm that trust leads to voluntary compliance and voluntary compliance in turn positively affects overall tax compliance. However, the study fails to find evidence of the relationship of power with enforced compliance, although enforced compliance is found to negatively affect overall tax compliance.

JEL-Codes: H260.

Keywords: trust, power, tax compliance, voluntary compliance, enforced compliance.

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## 1. INTRODUCTION

Broadly, there are two main theoretical approaches to understanding tax compliance: an economic approach and a behavioural approach. The economic approach assumes that individuals rationally wish to maximize their personal income and wealth. Thus they will choose to comply with tax only when the benefits of compliance exceed the costs of non-compliance (James and Alley 2002). On the other hand, other academic disciplines suggest that behavioural factors, such as sociological and psychological factors, might also motivate taxpayers' compliance. Incentives and punishments could be effectively applied to some taxpayers, but most others rely on social and psychological values in their decisions about tax (non-) compliance, and for whom softer and kinder approaches are preferred. Therefore, a combination of economic and behavioural approaches has been suggested to enhance tax compliance.

The Slippery Slope Framework (SSF) has been introduced to address the need for combining the use of economic and behavioural factors associated with tax compliance (Kirchler, Hoelzl and Wahl 2008). This framework includes a number of economic and behavioural factors – perception of audit probabilities, tax penalties, tax knowledge, attitudes, norms, distributive fairness, procedural fairness, and retributive fairness – that shape the level of taxpayers' trust in tax authorities and/or their perception of the power of tax authorities. All these factors are then considered in the framework and linked to trust and power in a relationship, as suggested by Kirchler, Hoelzl and Wahl (2008).

This paper aims to investigate factors affecting trust and power in the context of the SSF, using Indonesia as a case study. The tax environment in many developing countries (including issues such as leakage of power of tax authorities, low levels of public trust, and high levels of corruption)

is in contrast with that of developed countries where the SSF theory has been developed and where most analysis of the theory has been based. It is therefore particularly interesting to investigate tax compliance using this framework in the context of developing countries. This study fills an empirical gap in terms of exploring this topic in developing countries, by providing new insights into and better understanding of tax compliance and its determinants in Indonesia. The remaining sections of this paper are organised as follows. In Section 2, we present a literature review. Section 3 discusses the conceptual framework which aims to extend the analysis of the SSF model. Section 4 presents data and methodology while in Section 5 we discuss the results. The paper concludes with a discussion of some policy implications.

## 2. LITERATURE REVIEW

### 2.1 Factors of Tax Compliance

Many studies have been conducted to provide tax authorities with formulas and techniques to enhance compliance. Mostly, these studies have based their research on either an economic approach or a behavioural approach.

The economic approach is based on two economic theories: expected utility theory and deterrence theory. In expected utility theory, an expected utility underlies a person's actions in committing undesired behaviours. If the expected utility in conducting an offence exceeds the utility in conducting other activities, a person will choose to commit the offence (Becker 1968). Furthermore, Becker (1968) argues that crimes occur because of cost–benefit considerations and not because of malicious motivation. Regarding tax compliance issues, followers of the expected utility theory view taxpayers as utility maximizers, who choose to evade tax when they get more

benefits than costs from doing so (Allingham and Sandmo 1972). The second economic theory in understanding tax compliance is the deterrence theory. In deterrence theory, detected and convicted offenders are penalized. Therefore, to reduce the rate of offences, either probability of detection or penalty rates should be increased (Becker 1968) because the increase in the severity of penalties and the probability of audit detection will result in fewer cases of tax non-compliance (Pate and Hamilton 1992). Accordingly, taxpayers will comply more when there are sanction threats for non-compliance (Cuccia 1994).

Doran (2009) contends that tax penalties do not solely serve as an instrumental function of promoting tax compliance, but they also serve a definitional function of defining tax compliance. This means that tax penalties determine the standards of conduct of taxpayers' obligations to the government where the penalties distinguish compliant taxpayers from non-compliant taxpayers. Nevertheless, as Doran (2009) further states, tax penalties that reflect the wrong conception of tax compliance will not increase the level of tax compliance. Previous literature shows that severe penalties increase tax compliance (Allingham and Sandmo 1972; Witte and Woodbury 1985; Hasseldine et al. 2007). Moreover, an increase in tax penalties leads to a decrease in tax-evading behaviour (Andreoni, Erard and Feinstein 1998; Cummings et al. 2009). Although taxpayers may know a number of ways to evade tax, they are not likely to do so if they know that non-compliant behaviour results in penalties (Tittle 1980). Yet, several studies show that there is no significant relationship between the penalty rate and tax evasion (Spicer and Lundstedt 1976; Alm, Jackson and McKee 1992).

Bordignon (1993) argues that individuals tend to avoid tax unless there is some probability of detection. The probability of detection increases tax compliance, and audit is an effective tool to measure it (Alm 1991). Similarly, Cummings et al. (2009) find that the threat of detection is clearly

a factor in compliance. Moreover, Alm, Jackson and McKee (2004) argue that tax audits are considered to have a direct deterrent effect on the audited taxpayers and an indirect deterrent effect on the other taxpayers. Andreoni, Erard and Feinstein (1998) put forward a similar argument that audit probabilities discourage cheating. Furthermore, there is a significant positive relationship between the risk of tax audit and the rate of voluntary tax compliance (Witte and Woodbury 1985) where tax audits are important in increasing voluntary compliance especially in a self-assessment system (Dubin 2007). However, some studies find that tax audit, in fact, has a negative correlation with tax compliance behaviour. For example, Slemrod, Blumenthal and Christian (2001) find that the probability of being audited correlates negatively with compliance behaviour. Moreover, Snow and Warren (2005) find that an increase in tax audits and tax penalties leads to an increase in tax evasion.

In addition to classical expected utility theory and deterrence theory, tax compliance can be more comprehensively understood by incorporating non-economic factors. In a non-economic approach, behavioural factors, which consist of sociological and psychological factors such as perception of fairness, tax morale, and tax knowledge, are believed to affect taxpayers' compliance.

There is a relationship between fairness and tax compliance (Wenzel 2002; Tyler 2006; Murphy and Tyler 2008). Feld and Frey (2007) argue that tax authority's treatment plays a significant role in influencing taxpayers' compliance behaviour. If tax authorities trust taxpayers, they further argue, taxpayers reciprocate the trust by being compliant. Therefore, the effectiveness of tax service delivery and mutual respect between taxpayers and tax authorities will affect tax compliance. Moreover, Saad (2014) argues that the perception of unfairness in the tax system might lead taxpayers to evade tax. Meanwhile, a study by Faizal et al. (2017) in Malaysia shows that only procedural fairness (not distributive or retributive fairness) has a significant relationship

with trust and tax compliance. However, the study indicates that trust does not mediate the relationship between procedural fairness and tax compliance.

A positive tax mentality and tax morale are likely to reduce the probability of tax evasion (Kirchler 2007). Moreover, there is a positive relationship between psychological cost (feelings of guilt) and tax compliance (Andreoni, Erard and Feinstein 1998). Meanwhile, Dell'Anno (2009) argues that a decrease in reputational cost (social stigma) tends to increase tax evasion. Finally, when tax officials are respectful toward taxpayers, tax morale increases (Feld and Frey 2007).

Tax literature shows that tax knowledge is positively linked to taxpayer attitudes and is the prime factor in tax compliance (Song and Yarbrough 1978; Palil and Mustapha 2011). This is because tax attitudes can be enhanced with tax knowledge, which in turn will increase tax compliance (Eriksen and Fallan 1996).

The tax literature suggests that tax authorities should use a combination of these economic and behavioural approaches in enhancing tax compliance (James and Alley 2002; Alm and Torgler 2011). A compliance strategy based on enforcement may be a reasonable starting point for increasing detection and punishment to make taxpayers aware that they are supervised by the authorities. Next, there is a need for improving the strategy by developing a kinder and softer tax administration which focuses on improving services towards taxpayers to make them feel respected and heard. Lastly, a consistently and continuously service-oriented culture in tax administration leads to trustworthiness in tax authorities.

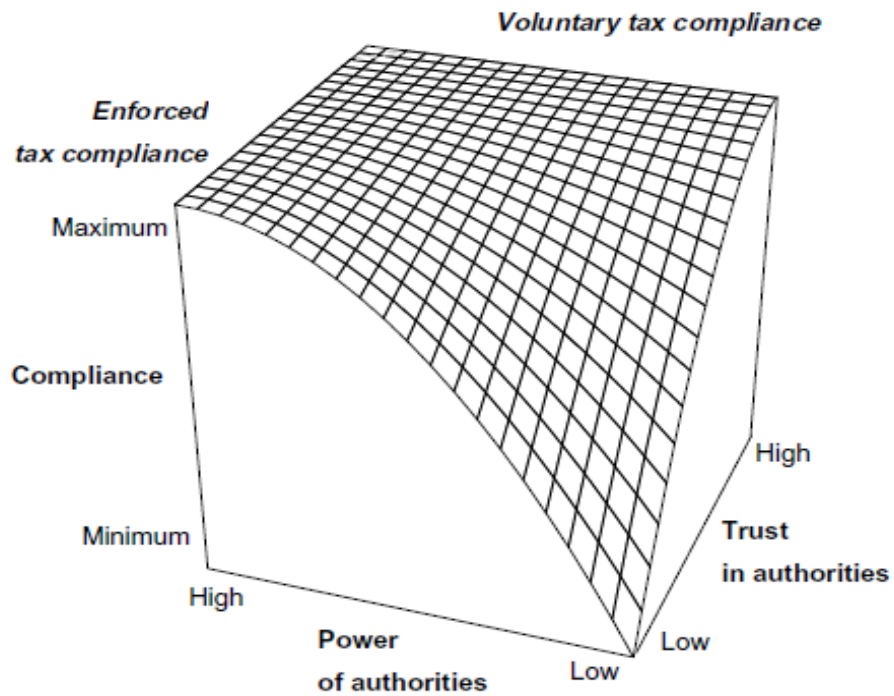


## 2.2. The Slippery Slope Framework

A new framework for understanding tax compliance called the Slippery Slope framework (SSF) has been introduced by Kirchler, Hoelzl and Wahl (2008). The framework uses a combination of economic and behavioural approaches and proposes that the existing tax climate in a society lies between a synergistic climate and an antagonistic climate. In a synergistic climate, the relationship between tax administration and the taxpayer is in more of a service-and-client form, where tax administration provides a transparent and respectful service to taxpayers (Kirchler, Hoelzl and Wahl 2008). Here, public trust towards tax administration is generally high, and this trust leads to voluntary compliance. On the other hand, in an antagonistic climate, tax authorities and taxpayers act with a cops-and-robbers attitude. Tax authorities see taxpayers as robbers trying to evade tax if they get the chance, while taxpayers, feeling persecuted, feel that they have a right to hide (Braithwaite 2003). Since both tax authorities and taxpayers have a low level of trust, tax authorities use their power to check and investigate taxpayers' compliance while taxpayers will rationalize the costs and benefits of evading tax. This situation is more likely to build enforced compliance rather than voluntary compliance. Therefore, trust in tax authorities is believed to be a significant predictor of voluntary compliance while the power of tax authorities leads to enforced tax compliance.

Briefly, the SSF investigates tax compliance by identifying the taxpayer's motivation in paying tax, whether voluntarily or enforced. The framework suggests that economic factors such as audit probabilities and tax penalties as well as behavioural factors (tax knowledge, attitudes, norms, distributive fairness, procedural fairness, and retributive fairness) measure trust and power. Based on the framework, the relationships between the power of tax authorities, trust in tax authorities, voluntary compliance, and enforced compliance are indicated in the Figure 1 below.

**Figure 1. The Slippery Slope Framework**



Source: Kirchler, Hoelzl and Wahl (2008)

According to the framework, trust in tax authorities is believed to be a significant predictor of voluntary compliance while the power of tax authorities leads to enforced tax compliance. Furthermore, the SSF theory expands to accommodate the interactions between power and trust (Muehlbacher and Kirchler 2010; Gangl, Hofmann and Kirchler 2015), to recognize the different types of trust and power (Gangl et al. 2012), and to provide alternative theoretical approaches for understanding the framework (Lisi 2012; Prinz, Muehlbacher and Kirchler 2014). A study by Kirchler, Kogler and Muehlbacher (2014) examining tax compliance factors mentioned in the first SSF study re-emphasized that tax knowledge, attitudes, norms, and perceived fairness are dominant drivers of tax compliance.

### 2.3. Empirical Research on the Slippery Slope Framework

Following the development of the SSF theory, several empirical studies have been conducted to prove the assumptions of the SSF, and these have generally confirmed the theory. However, while the SSF theory initially introduced several tax compliance factors that are believed to have associations with trust and power, only a few studies pay attention to these factors. Instead, most of the empirical research focuses more on trust and power and their interactions with voluntary compliance and enforced compliance. Some existing empirical studies on the SSF are presented below.

Using 120 students and 127 self-employed taxpayers as participants, Wahl, Kastlunger and Kirchler (2010) analysed the Slippery Slope Framework through a computer-aided laboratory and an online experiment. Situating participants in four experimental conditions (low versus high trust in authorities, and low versus high power of authorities), both experiments show consistent evidence that trust has a positive effect on voluntary compliance. Both experiments also show that high power and low trust encourage the highest enforced compliance. The study suggests that a combination of high trust and power leads to a maximum level of voluntary compliance. Moreover, in the case of low trust, voluntary compliance is the lowest. The lowest level of voluntary compliance is also found in a combination of low trust and high power.

Adopting scenarios from the experiments conducted by Wahl, Kastlunger and Kirchler (2010), another study conducted by Kogler et al. (2013) tests the primary assumptions of the SSF in four European countries: Austria, Hungary, Romania, and Russia. Their findings support the main assumptions of the SSF, with the highest level of tax compliance and the lowest level of tax evasion being found in high trust and power conditions. However, in this study, high trust leads to more

voluntary tax compliance and high power indicates more enforced tax compliance. The study also shows that the condition of low trust and low power leads to the lowest intention to comply and the highest intention to evade taxes.

Working with a larger dataset, Fischer and Schneider (2009) used survey data on the tax morale of 83,000 individuals from 73 countries, obtained from the combined third and fourth waves of the World Values Survey (WVS). The study supports the SSF regarding the interplay between the trust and power dimensions of tax authorities. The study focuses on tax morale, education, and political rights, which are believed to have an association with the interplay between trust and power. The findings show that tax morale affects this interplay. However, the study finds that there is not enough convincing evidence showing that better education and more democratic rights significantly affect the interplay of trust and power.

In their study, Kastlunger et al. (2013) used a paper and online survey of 389 self-employed Italian taxpayers and entrepreneurs to investigate how powerful authorities and trusting citizens affect tax compliance behaviour. They differentiate power into legitimate and coercive power and then correlate these two types of power with trust in an SSF model. The findings show that legitimate power is positively associated with trust. Meanwhile, they find that both trust and coercive power are positively related to legitimate power. The study also shows that enforced compliance positively influences tax evasion, which means that the more compliance is enforced, the more taxpayers try to evade. On the other hand, the study indicates negative relationships between voluntary compliance and enforced compliance, as well as between trust and coercive power.

Also focusing on the dynamics of trust and power, Hofmann et al. (2014) differentiated trust into reason-based trust and implicit trust, in addition to the power differentiation. Using 261 taxpayers

in their experiment, they find that even though coercive power did not reduce implicit trust, it affects reason-based trust, the interaction climate, and intended tax compliance. However, when coercive power is combined with legitimate power, it does not affect intended tax compliance.

Using four experiments, Hofmann et al. (2017) conducted a study on the dynamics of trust and power and they reveal that coercive power is associated with an antagonistic climate and enforced compliance. Meanwhile, legitimate power increases reason-based trust, a service climate, and voluntary cooperation. Moreover, they find that legitimate power also negatively influences an antagonistic climate but positively affects enforced compliance.

While most of the SSF literature focuses on the interaction between trust, power, voluntary compliance, and enforced compliance, there are limited studies that pay attention to tax compliance factors that are associated with trust and power. However, none of these comprehensively investigate these factors. Almost all of them pick up just a few of these factors and then elaborate on the relationships of the factors with either trust or power.

Among the limited number of studies discussing factors affecting trust and power, research conducted by Kogler, Muehlbacher and Kirchler (2013) represents the most comprehensive approach. Through a survey of 476 self-employed Austrian taxpayers, they tested the SSF assumptions by considering several factors such as the perception of fairness, deterrence (penalty), and social norms. As expected, their findings support the assumptions of the SSF. Regarding the factors, they find that procedural fairness and distributive fairness relate to voluntary compliance mediated by trust. Retributive fairness and penalty are related to voluntary compliance (mediated by trust) and enforced compliance (mediated by power). The study also shows that social norms

strongly correlate with voluntary and enforced compliance but, contrary to the SSF assumptions, they seem to be unrelated to trust and power.

In addition, Kasper, Kogler and Kirchler (2015) offer a different approach in elaborating the relationship between trust and power by examining the influence of mass media. They suggest that exposure to tax issues in the mass media has significant and positive effects on trust, power, and tax compliance. They also find a strong positive effect of education on trust in tax authorities.

### 3. CONCEPTUAL FRAMEWORK: EXTENDING THE SSF ANALYSIS

Since only a limited number of empirical SSF studies focus on exploring tax compliance factors that have associations with trust and/or power, this study extends the analysis of the SSF framework in order to fully elaborate these factors. Moreover, knowing what factors affect either trust or power is important for tax authorities in determining factors they may need to focus on more to enhance tax compliance.

The SSF assumptions argue that the relationships of economic and behavioural factors with trust and power are mixed, with some factors being associated with either trust or power, and some with both trust and power. Therefore, to examine these factors, two hypotheses are developed:

*Hypothesis 1: These factors significantly influence trust in tax authorities.*

*Hypothesis 2: These factors significantly influence power of tax authorities.*

To accommodate the SSF assumptions proposed by Kirchler, Hoelzl and Wahl (2008), these two hypotheses are then developed into several sub-hypotheses as follows:

*Hypothesis 1a: Tax penalties significantly influence trust in tax authorities.*

*Hypothesis 1b: Tax knowledge significantly influences trust in tax authorities.*

*Hypothesis 1c: Attitudes significantly influence trust in tax authorities.*

*Hypothesis 1d: Norms significantly influence trust in tax authorities.*

*Hypothesis 1e: Distributive fairness significantly influences trust in tax authorities.*

*Hypothesis 1f: Procedural fairness significantly influences trust in tax authorities.*

*Hypothesis 1g: Retributive fairness significantly influences trust in tax authorities.*

*Hypothesis 2a: Perception of audit probabilities significantly influences power of tax authorities.*

*Hypothesis 2b: Tax penalties significantly influence power of tax authorities.*

*Hypothesis 2c: Attitudes significantly influence power of tax authorities.*

*Hypothesis 2d: Norms significantly influence power of tax authorities.*

*Hypothesis 2e: Retributive fairness significantly influences power of tax authorities.*

The main assumptions of the SSF indicate that trust in tax authorities promotes voluntary compliance while power of tax authorities leads to enforced compliance. Therefore, the relationship between these is proposed as follows:

*Hypothesis 3: Trust in tax authorities leads to voluntary compliance.*

*Hypothesis 4: Power of tax authorities leads to enforced compliance.*

According to the SSF literature, higher trust in and greater power of tax authorities lead to higher tax compliance. Nevertheless, the application of either trust or power results in different types of

compliance, where trust enhances voluntary compliance while power induces enforced compliance. Yet, voluntary and enforced compliance are believed to end in overall tax compliance.

Therefore, this study proposes two further hypotheses as follows:

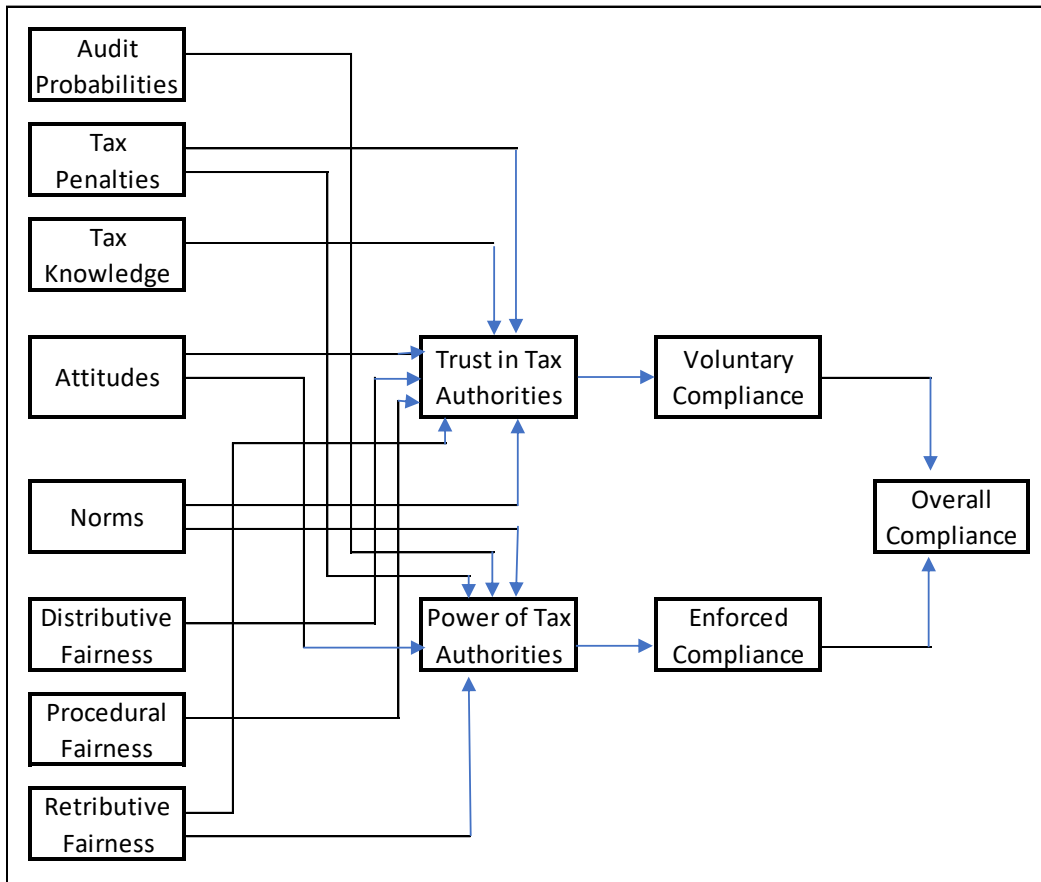
*Hypothesis 5: Voluntary compliance significantly influences overall tax compliance.*

*Hypothesis 6: Enforced compliance significantly influences overall tax compliance.*

The research model developed to test these hypotheses can be seen in Figure 2. Each factor is linked to trust and/or power as suggested by Kirchler, Hoelzl and Wahl (2008), the pioneers of the SSF. The model used in this study is simplified by disregarding the interplay between trust and power, the relationships between trust and coercive power, and the relationships between power and voluntary compliance. The decision to simplify the model was based on several considerations. First, this simple model is adopted from the initial framework proposed by Kirchler, Hoelzl and Wahl (2008). While these authors consider the dynamics between power and trust, they do not provide further explanation about this. Second, the focus of the study is on tax compliance factors believed to have associations with trust and power. Therefore, to keep the model focused on the main topic of the study and to get the most robust results, simplicity is required and thus unnecessary paths in the model are eliminated. Future research could explore the relationships not captured in this study.



**Figure 2. The Research Model**



Source: Kirchler, Hoelzl and Wahl (2008)

#### 4. DATA AND METHODOLOGY

Data collection for this study was conducted through a face-to-face survey of 500 randomly selected individual taxpayers in Jakarta, Indonesia. Therefore, this section's discussion of the study's data and methodology includes presentation of data about the survey respondents, questionnaire design, measurement, and data analysis.

#### 4.1. Respondents and Preliminary Data Analysis

The population for this study was individual taxpayers residing in Jakarta, Indonesia. Jakarta was chosen as the location for the study as it is the capital city as well as the most populous city in Indonesia. This city is a centre of economic development, a melting pot of many cultures with a population of more than 10 million in 2015 (Statistics Indonesia, 2015). Cluster random sampling was applied to select five tax offices representing five municipalities in Jakarta as survey locations. From 500 questionnaires distributed, 453 were completed (a 90.6% response rate).

The demographic and key socio-economic characteristics of these respondents varied. Amongst the respondents, 54 percent reported their gender as male and 43 percent as female, while 3 percent did not reveal their gender. Regarding age, two percent of the respondents were under 20 years old, 31 percent were between 20 and 29 years old, 27 percent between 30 and 39, 19 percent between 40 and 49, 14 percent between 50 and 59, 4 percent over 60 years old, and 3 percent did not indicate their age. Regarding their marital status, 28.5 percent of the respondents were single, 65 percent married, 3.5 percent divorced or widowed, and 3 percent did not indicate their status. In terms of education, one respondent had primary school as the highest level of educational attainment, 37 percent had a high school level of education, 18 percent had a diploma, 36 percent had a bachelor's degree, and 6 percent had completed a master or doctorate degree, and the other 3 percent did not reveal their educational attainment.

#### 4.2. Questionnaire Design

Initially, the questionnaire was developed in English. Questions were then translated into the Indonesian language, so that it would be easier for the Indonesian taxpayers to understand. The translated questions were then retranslated into English using a translation-back-translation

procedure to ensure the correctness of the translation. To validate the questionnaire and ensure its quality, two pre-tests were conducted. The first pre-test was conducted with taxation and research methodology experts while the second pre-test was conducted with Indonesian postgraduate students and Indonesian taxpayers.

The questionnaire has five sections. Section A consists of questions about respondents' compliance behaviour. Because of the sensitivity of the topic, hypothetical questions were used in this section to maximize openness among respondents, with the aim of having the questions answered more truthfully. Section B investigates perception and opinions about tax compliance factors such as perception of fairness, tax knowledge, attitudes, norms, perception of audit probabilities, and tax penalties. Section C focuses on respondents' perceptions and opinions about trust in and power of tax authorities. Section D investigates perceptions and opinions about voluntary and enforced tax compliance. And finally, Section E collects data on the respondents' demographic background.

#### 4.3. Variable Measurement and the Use of Partial Least Squares (PLS) Estimation

Based on the framework shown in Figure 2, eight factors of tax compliance act as independent variables in the model. These are perception of audit probabilities, tax penalties, tax knowledge, attitudes, norms, distributive fairness, procedural fairness, and retributive fairness. These independent variables contribute to either trust or power. Next, trust leads to voluntary compliance and power leads to enforced compliance. Finally, voluntary compliance and enforced compliance lead to overall tax compliance. In total, 43 indicators used in previous literature were used to measure the constructs. Based on the type of indicator, constructs used in the study were distinguished into formative constructs and reflective constructs. This differentiation is needed as each type of construct had its own validity measurement.

Trust and power are each presented as a single latent variable in the framework. However, to gain a deeper understanding of taxpayers' perceptions of trust and power, the questions used in the survey cover different types of trust (implicit trust and reason-based trust) and different types of power (legitimate power and coercive power) as suggested by the previous literature. Therefore, the SSF framework is then modified to accommodate the inclusion of implicit trust, reason-based trust, legitimate power, and coercive power into the model. In the modified model, trust and power stand as second-order factors with implicit trust and reason-based trust, legitimate power, and coercive power as their first-order factors.

In this study, the measurement model (used to measure the validity and reliability of observed indicators) and structural model (which shows the relationship between constructs used in the model) were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). PLS-SEM was adopted for several reasons. First, the goal of this study was to predict the tax compliance behaviour of individual taxpayers by adopting the Slippery Slope Framework (SSF). Second, constructs used in the study were developed in a formative and reflective way, which can be best accommodated in PLS. Third, the data distributional assumptions in this study do not follow a multivariate normal data distribution, and this is not an issue in PLS. Therefore, to perform the analysis in this study, SmartPLS software (Ringle, Wende and Will 2005; Ringle, Wende and Becker 2015) was used.

#### 4.4. Validity and Reliability of Measures and Constructs

To guarantee the quality of measures and constructs used in the study, their validity and reliability were established. Content validity was assured by conducting a literature review, as suggested by Petter, Straub and Rai (2007), and confirmation of the validity of the survey questions was

achieved through feedback from tax experts and pilot testing of the questionnaire. In addition, to establish the construct validity of formative indicators, PLS weights and t-statistics were used (Petter, Straub and Rai 2007). A bootstrapping routine was also conducted as suggested by Hair et al. (2014) to determine the significance level of each formative indicator, as this parameter can be interpreted as a validity coefficient.

Meanwhile, convergent validity and discriminant validity were examined to measure the validity of the reflective indicators. Construct loadings, t-statistics, and AVE (Average Variance Extracted) were used to measure convergent validity (Fornell and Larcker 1981; Chin 1998b; Gefen and Straub 2005). To calculate discriminant validity, following Chin (1998b), correlation matrices were generated between all indicators and constructs in the model to show that the underlying indicators correlated more strongly with their construct than with any other constructs. The next step taken to calculate discriminant validity was comparing the square root of AVE with the correlation of all constructs (Fornell and Larcker 1981). Validity is indicated when the square roots of AVE values are larger than the correlations (Fornell and Larcker 1981; Chin 1998a), and this result was achieved. To sum up, validity tests for both formative and reflective indicators resulted in the deletion of seven indicators out of the original 43 indicators, including three from the formative indicators group and six from the reflective indicators group. Deletion of these indicators was shown to improve construct validity.

To test reliability, a different approach was applied for formative and reflective constructs. Reliability of formative constructs was measured using a multicollinearity test. In this test, a VIF (Variance Inflation Factor) value greater than 3.3 indicates that there is high multicollinearity amongst the indicators which suggests instability of the model (Diamantopoulos and Sigauw 2006). The results for this study showed there was no multicollinearity problem in the variables

employed in the model. Meanwhile, to measure the reliability of the reflective constructs, internal consistency scores (Petter, Straub and Rai 2007) and AVE scores (Fornell and Larcker 1981; Chin 1998b) were used. Using composite reliability (CR) from the PLS quality criteria report to measure internal consistency, the results showed that all constructs met the minimum requirement for AVE scores and composite reliability (CR). These results indicate that the constructs are reliable. Details of the reliability and validity tests can be seen in the Appendix.

## 5. RESULTS AND DISCUSSION

Table 1 presents the R-squared values of all dependent constructs used in the structural model. The trust construct had an  $R^2$  value of 0.294 which indicated that the model accounted for 29.4 percent of the construct variance. This was the largest  $R^2$  value in the model, with the power construct having the next largest value of 0.254. The enforced compliance construct had the smallest  $R^2$  value of 0.005.

**Table 1. R-Squared Values of the Dependent Constructs**

Construct	R-Square
Trust	0.2942
Power	0.2540
Voluntary Compliance	0.0590
Enforced Compliance	0.0049
Overall Compliance	0.1201

Source: Authors' calculations

The moderately low  $R^2$  value for some constructs could have several causes. It might be because this is a social study and the data collected relies on the perception of respondents. Another possible reason is that there may be other variables that have not been captured. This is possible, as the study only includes potential factors that are mentioned in the SSF theory as predictors of trust in tax authorities and power of tax authorities. In regard to voluntary compliance and enforced compliance, this study limits its examination to the effect of trust and power on these constructs, even though there are many possible factors that might affect them, or there may be other potential pathways between indicators and constructs that could be explored.

In the structural model, path coefficients, which demonstrate the possible relationship between constructs, were also generated. Further, a bootstrapping analysis was conducted to ascertain the statistical significance of the path coefficients (Henseler, Ringle and Sinkovics 2009; Chin 2010; Hair et al. 2012). Table 2 shows the path coefficients, t-statistics and significance level of the model.

**Table 2. Path Coefficients, T-statistics and Significance Level of the Model**

<b>Propositions</b>	<b>Path Coefficient</b>	<b>T-Statistics</b>	<b>Sig. Level</b>
<u>Effects on Trust</u>			
Penalty	0.112	2.253	0.025
Knowledge	0.054	1.178	Not sig.
Attitudes	0.032	0.603	Not sig.
Norms	0.270	4.544	0.000
Distributive Fairness	0.125	2.185	0.029
Procedural Fairness	0.080	1.544	Not sig.
Retributive Fairness	0.123	2.254	0.025
<u>Effects on Power</u>			
Audit	0.122	2.006	0.045
Penalty	0.171	2.832	0.005
Attitudes	0.096	1.713	0.087
Norms	0.188	3.671	0.000
Retributive Fairness	0.137	2.551	0.011
<u>Effect on Voluntary Compliance</u>			
Trust	0.243	4.884	0.000
<u>Effect on Enforced Compliance</u>			
Power	-0.070	1.315	Not sig.
<u>Effects on Overall Compliance</u>			
Voluntary Compliance	0.259	5.607	0.000
Enforced Compliance	-0.180	3.908	0.000

Source: Authors' calculations

Note: Significance level is measured at the minimum of 10%

The results show that tax penalties had a significant influence on trust in tax authorities, which indicates the acceptance of hypothesis 1a. On the other hand, responses show that tax knowledge and attitudes seem to have no significant influence on trust in tax authorities. Hence, hypotheses 1b and 1c were not supported. A significant influence on trust in tax authorities was shown for the norms construct, with a path coefficient of 0.270, suggesting the acceptance of hypothesis 1d.



Next, the perception of the three types of fairness appear to have differing influences on trust in tax authorities. Distributive fairness and retributive fairness had path coefficients of 0.125 and 0.123 respectively and appeared as significant factors affecting trust of taxpayers in tax authorities. These results lead to acceptance of hypotheses 1e and 1g. On the other hand, hypothesis 1f was not proved as procedural fairness had no significant influence on trust in tax authorities.

It can be seen from Table 2 that the perception of audit probabilities had a moderate influence on the power of tax authorities. The path coefficient was significant at the 0.05 level which results in the acceptance of hypothesis 2a. Tax penalties also had a significant influence on power of tax authorities, with a path coefficient of 0.171 at the 0.01 significance level, resulting in the acceptance of hypothesis 2b. To investigate the effect of attitudes on the power of tax authorities, hypothesis 2c which states that ‘attitudes significantly influence power of tax authorities’ was tested. The result shows that attitudes had a moderate influence on the power of tax authorities with a path coefficient of 0.096 at a 0.10 significance level. Therefore, hypothesis 2c was accepted. Meanwhile, a more strongly significant influence on the power of tax authorities was shown by the norms variable, with a path coefficient of 0.188 at a 0.01 significance level resulting in the acceptance of hypothesis 2d. Also, the results supported the acceptance of hypothesis 2e, as retributive fairness clearly had a significant influence on the power of tax authorities.

In addressing the associations between trust, power, voluntary compliance, and enforced compliance, the results show that trust had a significant influence on voluntary compliance with a path coefficient of 0.243 resulting in acceptance of hypothesis 3 which states that ‘trust in tax authorities leads to voluntary compliance’. In contrast, with a path coefficient of -0.070, power had no significant influence on enforced compliance suggesting rejection of hypothesis 4. Another study by Benk and Budak (2012), based in Turkey, has a fairly similar finding, with results

showing a rather weak relationship between power and enforced compliance. Moreover, Hofmann et al. (2014) argue that the combination of coercive power and legitimate power has no impact on tax compliance. When applied separately, Gobena and Dijke (2016) show that only coercive power predicts enforced tax compliance.

Regarding the associations between voluntary compliance, enforced compliance, and overall tax compliance, both voluntary compliance and enforced compliance have a significant impact on overall tax compliance with path coefficients of 0.259 and -0.180, respectively. From these path coefficients, we can see that voluntary compliance had a positive and significant influence on overall tax compliance, while enforced compliance has a negative and significant influence on overall tax compliance. This result can be understood to mean that the higher the enforced compliance, the lower the overall compliance will be. Therefore, hypothesis 5 and hypothesis 6 were accepted.

## 6. CONCLUSIONS

This study examines tax compliance factors associated with trust in tax authorities and power of tax authorities using a survey questionnaire with individual taxpayers in Jakarta, Indonesia, thus locating the study in a developing country. Structural model results were produced by using a PLS-SEM technique. We extend previous analysis of the SSF framework by focusing on factors which affect trust and power, an approach that has seldom been undertaken in previous SSF research.

Analysis of the structural model results showed that most determinants of trust in and power of tax authorities suggested by SSF theory had a significant influence on trust and power. Tax penalties,

norms, distributive fairness, and retributive fairness have a significant and positive influence on trust. Meanwhile, perception of audit probabilities, tax penalties, attitudes, norms, and retributive fairness have significant and positive correlations with power. The findings also confirm previous literature on the SSF which found that trust leads to voluntary compliance. However, this study did not find a significant correlation between power and enforced compliance. This insignificant association between power and enforced compliance might be because this study presents power as a single factor, whereas it contains two opposite types of power – legitimate power and coercive power. When these two types of power are combined into a single factor of ‘power’, they may neutralise each other and result in a non-significant relationship with enforced compliance.

Regarding overall tax compliance, the findings confirm previous literature which showed that voluntary compliance and enforced compliance significantly influence overall tax compliance. Thus, although tax systems may be different in developed and developing countries, significant associations of voluntary and enforced compliance with overall compliance have been demonstrated in both settings. Interestingly, in this study, we found that enforced compliance has a negative influence on overall tax compliance, meaning that higher enforced compliance is likely to result in a decrease in overall tax compliance. Future research is warranted to investigate this finding further.

The results of this study can be considered by tax authorities in drafting tax compliance policies which are likely to produce the best outcomes given the characteristics of their taxpayers. Deterrence approaches such as audit and penalties can be used with rational taxpayers to raise their awareness of the power of tax authorities. Meanwhile, to nurture long-term compliance, tax authorities need to act professionally and sincerely. Tax evaders need to be fairly punished to show respect for honest taxpayers. Meanwhile, taxpayers expect the government to distribute tax

revenue to support the welfare of society. Taking these factors into account as part of the background for policy making is likely to enhance taxpayers' trust in tax authorities.

However, since this study particularly focuses on factors that have associations with trust in and power of tax authorities, and to further enrich existing SSF literature, future research is suggested to examine the association between legitimate power and coercive power with enforced compliance, or implicit trust and reason-based trust with voluntary compliance. Such an analysis could reveal which type of power or trust has a significant association with enforced or voluntary compliance. We also recommend future studies using taxpayers' data collected by tax authorities, to get a more reliable picture of compliance. The study conducted here could also be replicated in developed countries to further test factors affecting these taxpayers' trust in tax authorities and their perception of power of tax authorities, as taxpayers in these countries are likely to have different characteristics than taxpayers in developing countries.

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## Appendix

**Table A1. Formative Indicators, Weights and T-statistics**

Construct and Indicators	PLS Weight	T-Statistics	Significance Level
Tax Knowledge			
KNO1AD	-0.342	1.239	Not sig.
KNO2AD	0.630	2.823	0.005
KNO3AD	0.514	2.400	0.017
Attitudes			
ATT1	0.981	3.187	0.002
ATT2AD	0.118	0.407	Not sig.
Norms			
NOR1	0.817	9.407	0.000
NOR2AD	0.047	0.369	Not sig.
NOR3	0.348	3.000	0.003

Source: Authors' calculations

Note: Significance level is measured at the minimum of 10%

**Table A2. Reflective Indicators, Loadings, T-statistics, and AVE scores**

Construct and Indicators	PLS Loadings	t-statistics	Significance Level
Tax Audit	AVE = 0.519		
AUD1	0.823	6.227	0.000
AUD2	0.867	5.712	0.000
AUD3AD	-0.357	2.442	0.015
Penalty	AVE = 0.759		
PEN1	0.862	18.493	0.000
PEN2	0.880	14.223	0.000
Procedural Fairness	AVE = 0.409		
PF1	0.672	7.011	0.000
PF2	0.764	9.521	0.000
PF3	0.350	2.349	0.019
PF4	0.692	6.910	0.000
Distributive Fairness	AVE = 0.491		
DF1AD	0.011	0.053	0.958
DF2	0.991	26.616	0.000

Retributive Fairness	AVE = 0.607		
RF1	0.892	17.636	0.000
RF2	0.647	6.142	0.000
Implicit Trust	AVE = 0.855		
ITR1	0.928	87.873	0.000
ITR2	0.921	61.156	0.000
Reason-based Trust	AVE = 0.873		
RBT1	0.9365	120.305	0.000
RBT2	0.9317	103.913	0.000
Coercive Power	AVE = 0.396		
CPW1	0.713	2.073	0.039
CPW2	0.042	0.088	0.930
CPW3	0.824	3.407	0.001
Legitimate Power	AVE = 0.558		
LPW1	0.6199	3.033	0.003
LPW2	0.8054	5.500	0.000
LPW3	0.7998	5.776	0.000
Voluntary Compliance	AVE = 0.561		
VC1	0.802	23.873	0.000
VC2	0.839	30.659	0.000
VC3	0.711	14.097	0.000
VC4	0.626	8.756	0.000
Enforced Compliance	AVE = 0.570		
EC1	0.816	5.083	0.000
EC2	0.707	5.370	0.000
EC3	0.681	5.140	0.000
EC4	0.805	5.910	0.000
Overall Compliance	AVE = 0.717		
OC1	0.794	30.809	0.000
OC2	0.859	49.519	0.000
OC3	0.861	51.599	0.000
OC4	0.871	46.561	0.000

Source: Authors' calculations

Note: Significance level is measured at the minimum of 10%

**Table A3. Correlation Matrices between Indicators and Constructs**

	AUD	PEN	KNO*	ATT*	NOR*	DF	PF	RF	ITR	RBT	CPW	LPW	VC	EC	OC
AUD1	0.85	0.37	0.09	0.18	0.19	0.23	0.19	0.28	0.15	0.20	0.19	0.25	0.10	0.00	0.13
AUD2	0.89	0.46	0.15	0.29	0.18	0.18	0.22	0.37	0.20	0.20	0.17	0.31	0.17	-0.08	0.08
PEN1	0.44	0.86	0.23	0.24	0.10	0.12	0.11	0.25	0.17	0.15	0.20	0.26	0.22	-0.08	0.14
PEN2	0.40	0.89	0.18	0.17	0.12	0.12	0.12	0.26	0.15	0.20	0.31	0.24	0.15	-0.03	0.07
KNO2AD	0.09	0.19	0.85	0.04	0.14	0.16	0.06	0.10	0.10	0.19	0.11	0.17	0.04	-0.02	0.07
KNO3AD	0.14	0.19	0.78	0.16	0.15	0.09	0.08	0.15	0.12	0.14	0.00	0.14	0.07	-0.07	0.11
ATT1	0.28	0.23	0.11	1.00	0.12	0.11	0.20	0.18	0.14	0.12	0.03	0.27	0.30	-0.21	0.22
NOR1	0.21	0.13	0.15	0.15	0.94	0.41	0.25	0.22	0.33	0.38	0.02	0.34	0.16	-0.04	0.09
NOR3	0.12	0.07	0.16	0.01	0.66	0.43	0.05	0.04	0.28	0.30	0.02	0.15	-0.01	0.02	0.07
DF2	0.23	0.14	0.16	0.11	0.49	1.00	0.26	0.19	0.28	0.35	0.10	0.27	0.15	-0.01	0.12
PF1	0.19	0.14	0.06	0.20	0.20	0.22	0.68	0.22	0.14	0.14	-0.03	0.28	0.35	-0.17	0.16
PF2	0.11	0.03	0.07	0.14	0.18	0.17	0.79	0.13	0.18	0.16	0.08	0.15	0.12	-0.02	0.04
PF4	0.22	0.13	0.06	0.09	0.09	0.17	0.71	0.32	0.11	0.18	0.12	0.20	0.15	-0.03	-0.01
RF1	0.34	0.21	0.12	0.16	0.16	0.16	0.25	0.89	0.16	0.23	0.17	0.30	0.21	-0.05	0.10
RF2	0.24	0.28	0.13	0.13	0.14	0.14	0.23	0.64	0.19	0.11	0.05	0.17	0.13	-0.05	0.07
ITR1	0.19	0.19	0.16	0.16	0.37	0.28	0.18	0.20	0.93	0.60	0.10	0.40	0.20	-0.12	0.17
ITR2	0.19	0.15	0.09	0.11	0.31	0.24	0.19	0.19	0.92	0.54	0.04	0.34	0.15	-0.03	0.11
RBT1	0.24	0.19	0.20	0.13	0.41	0.34	0.23	0.23	0.60	0.94	0.14	0.49	0.23	-0.09	0.17
RBT2	0.19	0.18	0.18	0.09	0.36	0.31	0.19	0.20	0.55	0.93	0.10	0.48	0.24	-0.13	0.18
CPW1	0.11	0.25	0.03	-0.03	0.00	0.03	0.06	0.07	-0.02	-0.01	0.77	0.19	0.07	0.17	-0.08
CPW3	0.21	0.23	0.09	0.08	0.04	0.12	0.07	0.17	0.14	0.20	0.81	0.22	0.11	0.07	-0.01
LPW1	0.16	0.08	0.14	0.12	0.36	0.30	0.22	0.18	0.41	0.60	0.06	0.60	0.17	-0.08	0.15

LPW2	0.32	0.31	0.16	0.21	0.20	0.15	0.24	0.27	0.33	0.36	0.19	0.81	0.43	-0.14	0.18
LPW3	0.24	0.21	0.13	0.25	0.23	0.20	0.17	0.25	0.21	0.28	0.28	0.81	0.36	-0.12	0.15
VC1	0.08	0.12	0.09	0.20	0.13	0.14	0.25	0.14	0.14	0.19	0.01	0.34	0.80	-0.06	0.27
VC2	0.12	0.16	0.04	0.25	0.07	0.13	0.17	0.16	0.16	0.23	0.05	0.27	0.84	-0.19	0.25
VC3	0.20	0.23	0.03	0.26	0.14	0.14	0.26	0.24	0.15	0.21	0.20	0.45	0.71	-0.25	0.21
VC4	0.08	0.11	-0.01	0.17	-0.02	0.00	0.12	0.12	0.08	0.05	0.13	0.26	0.63	-0.21	0.10
EC1	-0.10	-0.12	-0.06	-0.18	-0.06	-0.05	-0.11	-0.08	-0.10	-0.16	0.05	-0.22	-0.23	0.80	-0.19
EC2	0.02	0.04	0.06	-0.11	0.02	0.06	-0.03	0.00	-0.05	-0.04	0.19	-0.01	-0.11	0.73	-0.15
EC3	0.08	0.05	0.00	-0.09	0.01	0.04	0.03	0.03	-0.09	-0.03	0.20	-0.02	-0.09	0.71	-0.16
EC4	-0.07	-0.09	-0.10	-0.20	-0.03	-0.02	-0.11	-0.09	-0.03	-0.08	0.08	-0.14	-0.19	0.80	-0.21
OC1	0.12	0.08	0.14	0.16	0.10	0.10	0.09	0.09	0.15	0.19	-0.03	0.16	0.20	-0.20	0.79
OC2	0.10	0.12	0.08	0.26	0.10	0.09	0.08	0.11	0.17	0.20	-0.03	0.19	0.25	-0.23	0.86
OC3	0.10	0.08	0.10	0.14	0.07	0.13	0.06	0.08	0.08	0.10	-0.06	0.16	0.27	-0.21	0.86
OC4	0.09	0.12	0.04	0.19	0.07	0.11	0.06	0.09	0.12	0.15	-0.07	0.20	0.28	-0.16	0.87

Source: Authors' calculations. Note: \* Formative constructs.

**Table A4. Square Root of AVE and Correlation of Constructs**

	AUD	ATT*	CPW	DF	EC	ITR	KNO*	LPW	NOR*	OC	PEN	PF	RBT	RF	VC
Audit (AUD)	<b>0.87#</b>														
Attitudes (ATT)	0.28	-													
Coercive Power (CPW)	0.20	0.03	<b>0.79</b>												
Distributive Fairness (DF)	0.23	0.11	0.10	<b>0.70</b>											
Enforced Compliance (EC)	-0.04	-0.21	0.15	-0.01	<b>0.76</b>										
Implicit Trust (ITR)	0.20	0.14	0.08	0.28	-0.08	<b>0.92</b>									
Knowledge (KNO)	0.14	0.11	0.08	0.16	-0.06	0.14	-								
Legitimate Power (LPW)	0.33	0.27	0.25	0.27	-0.16	0.40	0.19	<b>0.75</b>							
Norms (NOR)	0.21	0.12	0.03	0.49	-0.03	0.37	0.18	0.33	-						
Overall Compliance (OC)	0.12	0.22	-0.06	0.12	-0.24	0.15	0.10	0.21	0.10	<b>0.85</b>					
Penalty (PEN)	0.48	0.23	0.30	0.14	-0.06	0.19	0.23	0.28	0.13	0.12	<b>0.87</b>				
Procedural Fairness (PF)	0.23	0.20	0.08	0.26	-0.09	0.20	0.09	0.28	0.22	0.08	0.13	<b>0.73</b>			
Reason-based Trust (RBT)	0.23	0.12	0.12	0.35	-0.12	0.62	0.20	0.52	0.41	0.19	0.20	0.22	<b>0.93</b>		
Retributive Fairness (RF)	0.37	0.18	0.16	0.19	-0.06	0.21	0.15	0.32	0.19	0.11	0.29	0.30	0.23	<b>0.78</b>	
Voluntary Compliance (VC)	0.16	0.30	0.11	0.15	-0.22	0.19	0.06	0.44	0.13	0.30	0.21	0.28	0.25	0.22	<b>0.75</b>

Source: Authors' calculations. Note: \*Formative construct; # Square root of AVE.

**Table A5. Variance Inflation Factor (VIF) and Condition Index**

Model	Collinearity Statistics		Condition Index
	Tolerance	VIF	
Constant			1.000
Attitudes	.976	1.025	1.131
Knowledge	.960	1.042	1.192
Norms	.958	1.044	1.246

Source: Authors' calculations.

**Table A6. AVE and Composite Reliability Scores of the Constructs**

<b>Name of Construct</b>	<b>Average Variance Extracted (AVE)</b>	<b>Composite Reliability</b>
Audit (AUD)	0.7514	0.8580
Attitudes (ATT)*	0	0
Coercive Power (CPW)	0.6303	0.7731
Distributive Fairness (DF)#	1	1
Enforced Compliance (EC)	0.5755	0.8439
Implicit Trust (ITR)	0.8546	0.9216
Knowledge (KNO)*	0	0
Legitimate Power (LPW)	0.5571	0.7875
Norms (NOR)*	0	0
Overall Compliance (OC)	0.7171	0.9101
Penalty (PEN)	0.7585	0.8626
Procedural Fairness (PF)	0.5281	0.7698
Reason-based Trust (RBT)	0.8725	0.9319
Retributive Fairness (RF)	0.6066	0.7503
Voluntary Compliance (VC)	0.5614	0.8349

Source: Authors' calculations. Note: \*Formative constructs; # Distributive Fairness only has one indicator.