# PRESUMPTIVE INCOME TAXES AND TAX COMPLIANCE COSTS: POLICY IMPLICATIONS FOR SMALL AND MEDIUM-SIZED ENTERPRISES IN EMERGING ECONOMIES

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**Abstract**

It has been suggested that the introduction of presumptive income tax regimes for small and medium-sized enterprises (SMEs) can help to reduce the tax compliance costs that these businesses face. Little evidence, however, is available to help us to evaluate whether this is indeed the case. This article discusses how a presumptive tax regime may impact upon the tax compliance costs of SMEs operated by individuals (individual SMEs) in Indonesia in 2019 and suggests that the use of such regimes can have a beneficial effect on such businesses. It considers all components of tax compliance costs, including explicit, implicit, and psychological costs. By applying a mixed-modes research method, two main findings are highlighted. First, the presumptive tax significantly reduces explicit costs, although it does not appear to influence the implicit and psychological costs incurred by individual SMEs in Indonesia. Secondly, the combination of explicit and implicit costs indirectly affects the psychological costs through the existence of tax disputes and tax stressors. Not only do the results provide us with a new understanding of aspects of tax compliance costs, they show how the components of the costs interact with each other. While the empirical application is country-specific, the conceptual framework developed in the study does not exclusively relate to taxpayers in Indonesia and can be applied to other countries or in other public regulation studies.

**Keywords:** Tax Compliance Costs, Presumptive Taxes, Small and Medium-Sized Enterprises, Mediating Effects, Opportunity Costs, Psychological Costs.

**JEL classification:** H21; H24; H25

## 1. INTRODUCTION

Small and medium-sized enterprises (SMEs) play a vital role in global economies. They comprise roughly 90% of the total number of enterprises and create more than 50% of employment worldwide (The World Bank, n.d.). As a result of their significant contributions, there has been considerable debate as to what may constitute the best policies to support SMEs' growth, with options including easy access to finance, simple entry regulations, and the development of a conducive tax environment (Beck et al., 2005; Engelschalk, 2005). It has been argued that the tax environment is the most challenging policy setting for any government, particularly in developing countries, where the work of tax authorities can be characterised by

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ineffective tax management, weak tax enforcement, large shadow economies,[4] and poor tax compliance (Awasthi & Engelschalk, 2018).

For these reasons, tax administrations in many emerging economies have introduced presumptive tax regimes[5] as an alternative way to tax SMEs (Engelschalk & Loeprick, 2016). In addition, given the practical and convenient nature of such regimes (Haque, 2013), the presumptive tax has often been considered to be a relevant policy measure, as the use of it can lead to reduced tax compliance costs for SMEs (Jaramillo, 2003).

Tax compliance costs are defined as the costs borne by taxpayers or other third parties in complying with their tax obligations (Sandford et al., 1989). These costs typically take various forms and may be explicit, in the form of monetary costs (such as payments made in return for guidance from a tax adviser) or implicit, in the form of time costs (such as those incurred when taxpayers or their unpaid helpers devote their time to comply with tax regulations). There may also be psychological costs, which include the stress, anxiety, and frustration experienced by individual taxpayers when complying with their tax obligations (Sandford et al., 1989).

This study considers the compliance costs incurred by SMEs in Indonesia and whether or not the tax compliance costs that arise from the presumptive tax regime available to SMEs are less than those that arise under the more conventional regimes for the taxation of SMEs.

SMEs in Indonesia contribute 63% to the Gross Domestic Product (GDP) and comprised 99.99% of the country's total enterprises in 2018 (OECD, 2020). To facilitate SMEs' participation in the tax system, a presumptive tax regime based on annual turnover was established in 2013 (The Government of the Republic of Indonesia, 2013). The government imposes a final tax rate limited to businesses that generate income of up to Rp4.8 billion (around US$320,595) per year.[6] Any SME with an annual income that falls below the threshold has the opportunity to select the tax regime they want to use (the presumptive or the conventional tax) whereas those with annual incomes on or above the threshold must apply the conventional tax.

Individual taxpayers, whether operating under the presumptive or the conventional regime, are by far the largest group (91% in 2018) of all taxpayers in Indonesia (Direktorat Jenderal Pajak, 2019), and so SMEs operated by individuals (individual SMEs)[7] in Indonesia have been chosen as the subject of the study.

This article compares the tax compliance costs that arise under the two different tax regimes (presumptive and conventional) for individual SMEs in Indonesia. The comparison considers the various elements of those tax compliance costs (including monetary, time, and psychological components), measures and evaluates those costs, and explores the key factors (e.g. tax law complexity or tax administrative requirements) that give rise to such costs.
To initiate the comparison, it is useful to provide some brief information about the choices faced by SMEs in Indonesia in 2019. The presumptive tax applies a single tax rate at 0.5% of

[4] According to Schneider and Enste (2013), the shadow economy comprises all unreported economic activities that would generally be taxable were they reported to the tax authorities. Other terms for this include the informal, hidden, black, underground, grey, clandestine, illegal, and parallel economy (see Fleming et al., 2000).
[5] A presumptive tax is commonly a proxy for a regular or conventional tax (Pashev, 2006) that involves the use of some convenient alternative basis for estimating tax liability (Thuronyi, 2005).
[6] Exchange rate on 25 January 2023: US$1 = Rp14,972.15.
[7] A more familiar term in Australia and other countries for a business operated by an individual is "sole trader".

the annual turnover and, hence, taxpayers who choose this option are able to easily calculate tax liabilities by multiplying 0.5% of their turnovers. In contrast, the conventional tax applies progressive tax rates with respect to taxable income. As a result, taxpayers who select the conventional tax must complete a series of computations in order to determine their tax liabilities. The calculation involves reducing total income by reference to relevant deductible expenses, together with a tax-free threshold, in order to derive the taxable income. Taxpayers then need to identify the conventional tax rate applied to each income bracket of the taxable income so that the tax liabilities can be determined. For illustration, the tax rates for individual taxpayers are: 5% for those with taxable incomes of up to Rp50 million (around US$3,340); 15% for those with taxable incomes of above Rp50 million and up to Rp250 million; 25% for those with taxable incomes of above Rp250 million and up to Rp500 million; and 30% for those with taxable incomes above Rp500 million (around US$33,395).

The study is motivated by three growing concerns. First, it is evident that the presumptive tax regime has, as an alternative form of taxation, gained the interest of many policymakers and researchers from different tax administrations and various countries. However, efforts to evaluate the tax compliance cost implications of presumptive tax regimes are somewhat limited. Secondly, although considerable research has been undertaken into tax compliance costs, research that specifically examines the tax compliance costs of individual SMEs in Indonesia by reference to the presumptive and conventional tax regimes has not, to our knowledge, been undertaken. Moreover, such research, examining the impact of the alternative tax regimes, could be used as a reference point for the enhancement of the quality of public management and to improve tax policy settings in relation to the implementation of the presumptive tax regime.

Thirdly and finally, this study presents a broader perspective on tax compliance costs than is usually considered, providing a more consistently sustained analysis of the opportunity costs (both explicit and implicit tax compliance costs) and paying closer attention to the psychological costs. In particular, the study attempts to clarify the process by which the opportunity costs inform the psychological costs. This is crucial as the link between those two variables has been the subject of relatively little research.

## 2. THEORETICAL FRAMEWORK AND LITERATURE

### Presumptive Taxes

As noted by Ahmad and Stern (1991), “the term presumptive taxation covers a number of procedures under which the ‘desired’ base for taxation (direct or indirect) is not itself measured but is inferred from some simple indicators which are more easily measured than the base itself” (p. 276). Presumptive taxes have a long history: early examples of the taxes date back to the sixteenth century in the form of hearth and window taxes (Oates & Schwab, 2015). They can, broadly, be classified into four categories: obvious signs of wealth; the value of specific assets or net wealth; estimated assessment methods; and gross turnovers (Tanzi & de Jantscher, 1987). The first three types of presumptive taxes have proved to be problematic in practice and so have not been widely used in recent years (Thomas, 2013). Consequently, only the last type has been widely used, given the obvious advantages such as minimal compliance obligations, relatively straightforward application, and the capacity to be universally recognised by even a small business taxpayer (The World Bank Group, 2007).

Presumptive taxes were designed to help small business taxpayers to meet their tax obligations (Terkper, 2003) and, in particular, to overcome their limitations in maintaining record-keeping practices (Evans et al., 2005). However, weak tax administration and the poor design of the presumptive taxes may cause inefficiency and higher compliance costs, as noted, for example, in Kenya (Ogembo, 2019), Pakistan (Memon, 2013), Ukraine (Serbinenko, 2016), and Zimbabwe (Dube & Casale, 2017). Furthermore, the regime may not necessarily improve SME compliance behaviour to any substantial extent or generate adequate tax revenue (Verberne & Arendsen, 2019).

In response, tax administrations have sought to improve their capacity to detect any non-compliance, for example: through the use of third-party reporting information, particularly when taxpayers use non-cash sales or electronic payment methods (Thomas, 2013);[8] by stipulating a specific period for taxpayers to be able to use the presumptive tax regime before being obliged to switch to the conventional tax regime (Bird & Wallace, 2005);[9] and through the judicious use of exemption thresholds in the implementation of presumptive tax regimes (Rajaraman, 1995).

In the case of Indonesia, individual SMEs are permitted a maximum period of seven years during which they can stay within the presumptive tax regime (The Government of the Republic of Indonesia, 2018).[10] An additional initiative for those who adhere to the presumptive tax was introduced in 2022: exemption from the tax when their annual income falls below Rp500 million or around US$33,395 (The Government of the Republic of Indonesia, 2021).

## Tax Compliance Costs

Taxation inadvertently creates additional costs to the economy, including efficiency and operating costs. Efficiency costs are, broadly, those deadweight losses to society that occur when taxpayers change behaviour because of the tax burden, for example, through evasion, avoidance, and substitution toward other products or activities taxed at lower rates (Slemrod & Yitzhaki, 1996). Operating costs (Stiglitz & Rosenberg, 2015) involve administrative costs (costs incurred by revenue authorities when administering the tax system) and compliance costs (costs incurred by taxpayers in complying with their tax obligations).

This study focusses on compliance costs, which may be opportunity costs or psychological costs. Based on the nature of the costs, opportunity costs can be further classified as either explicit costs, such as payments made to hire tax advisers and remuneration paid to employees for dealing with the tax affairs of the business, or implicit costs, such the value of the time spent by business owners or their family and friends in order to complete the tax activities

[8] It has been argued that developed countries use third-party reporting information effectively to assist them in collecting tax revenues (see Kleven et al., 2016) whereas developing countries have limited capacity to collect such third-party reporting information. Consequently, developing countries have suffered the most as a result of the problems arising from the existence of the shadow economy (Besley & Persson, 2014).

[9] Bird & Wallace (2005) argue that the simplicity of the presumptive tax does not encourage taxpayers to develop effectively because they do not need to adopt appropriate record-keeping and accounting systems, as would normally be required under the conventional tax regime.

[10] The maximum period of seven years has been applied since the enactment of the rule (1 July 2018 - 30 June 2025).

(Tran-Nam et al., 2000).[11] Psychological costs refer to the perceived stress and anxiety that may arise when complying with tax law.

The article now explores the empirical literature related to tax compliance costs by reference to four broad thematic questions: what was the focus of the studies; where was the research conducted; how was the research conducted; and what were the key findings of the research?

Tax compliance costs research has covered a wide range of topics. It has considered not only a variety of taxes, such as personal income taxes (PIT) (Stark & Smulders, 2019), corporate income taxes (CIT) (Ariff et al., 1997), and value-added taxes (VAT) (Yesegat et al., 2017), but also various types of entity such as business taxpayers (Chunhachatrachai & Pope, 2012), non-business taxpayers (Chattopadhyay & Das-Gupta, 2002), employers (Godwin & Lawson, 2009), and tax practitioners (Smulders & Stiglingh, 2008).

In terms of its geographical spread, the study of compliance costs has gradually developed through three stages: first in North America during the 1930s to 1960s (Haig, 1935; Johnston, 1963); second,—the European phase—during the 1960s and early 1970s (Sandford, 1973; Strümpel, 1966); and the final international phase after the 1980s. The latter phase can be further subdivided into two sub-phases: research in developed countries (Diaz & Delgado, 1995) and research in developing countries (Shekidele, 1999). Thus, the spread of empirical applications of tax compliance cost research has become worldwide in scope over the years. Interestingly, international comparative studies have been growing in number (Cordova-Novion & De Young, 2001) despite concerns that international comparison should be conducted cautiously (Sandford, 1994).

Tax compliance costs studies have applied the full range of data collection and analysis methods, including survey studies: either questionnaires or interviews (Susila & Pope, 2012); time motion or case studies (Tran-Nam & Glover, 2002); archival research (Sandford et al., 1981); experimentation (Woellner et al., 2007); and simulations or modelling (Benzarti, 2020).

It is, therefore, a challenging task to summarise the key findings from all of the tax compliance costs literature that has taken place over time. The challenge arises because of the differences in the broad range and coverage of the studies and research designs. Nonetheless, three distinct broad findings of consensus have emerged from the literature: first, that tax compliance costs are significant (Chunhachatrachai, 2013); secondly, that they are regressive (Eragbhe & Modugu, 2014); and finally, that they are not decreasing over time (Slemrod, 2006).

## Research Question and Hypotheses

From this brief analysis of the literature relating to the presumptive tax and tax compliance costs, we hypothesise that individual SMEs who applied the presumptive tax regime would incur, respectively, lower explicit costs (H1), lower implicit costs (H2), and lower psychological costs (H3). To detect the possibility of spurious associations, control variables,[12]

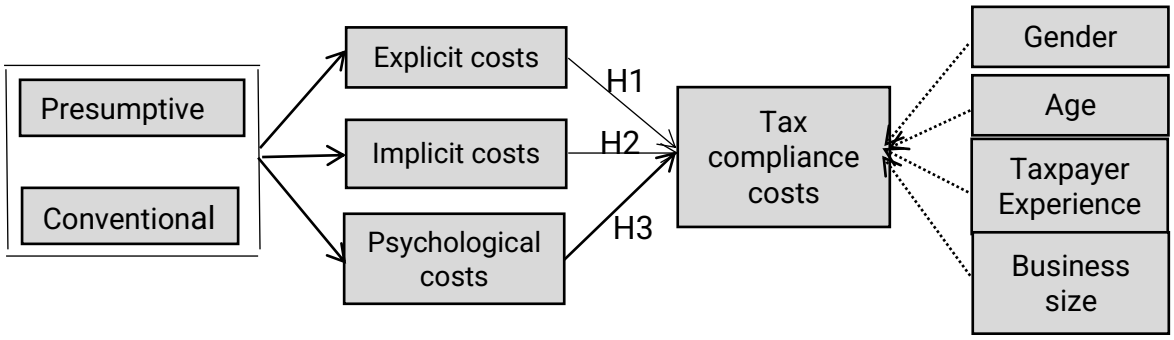
[11] Incidental expenses (non-labour costs for equipment and stationery etc.) are excluded in this study. In small businesses, the exclusion has been argued to be reasonable when the costs might only represent a miniscule portion of the total compliance costs (Allers, 1994).

[12] Aguinis and Vandenberg (2014) argue that control variables must have the following characteristics: robust conceptual explanations of why the variables were selected; robust conceptual explanations of how the variables may affect the predicted outcomes as well as the hypothesised correlations among them; and robust evidence related to the psychometric measurements.

such as gender, age, taxpayer experience, and business size, are included in the analysis (Blaufus et al., 2019).[13]

Figure 1 provides a summary representation of this conceptual model.

*Figure 1: Conceptual Model of the Study*




Source: Ferry (2022. p. 175).

The following additional hypotheses evaluate an underexplored aspect of tax compliance costs in the literature—the psychological costs of tax compliance.

**Opportunity Costs and Psychological Costs**

Estimating the association between opportunity costs and psychological costs, a priori it would appear to be justifiable to argue that the former might be capable of influencing the latter. The measures of opportunity costs and psychological burdens, respectively developed by Evans et al. (1997) and S. Cohen et al. (1983), are revised in this current study. Hence the following hypothesis is derived:

> Opportunity costs are positively correlated with the psychological costs of individual SMEs in Indonesia (H4).

**The Mediating Role of Tax Stressors**

Tax stressors refer to those continuous physical and psychological efforts related to tax compliance which may cause cognitive and emotional disturbance to taxpayers. Like the psychological burdens faced by entrepreneurs that are derived from the demands of the roles that they adopt as businesspersons (Shepherd et al., 2010), the psychological compliance burdens of taxpayers are derived from the tasks imposed upon them by the tax system. Some of the tax stressors are record-keeping for tax purposes and undertaking administration obligations related to tax compliance (Alexander et al., 2005).

[13] While gender has rarely been discussed in compliance costs studies, it has been considered to a far greater extent in the study of psychological burdens in general (Cohen & Janicki-Deverts, 2012).

It is therefore anticipated that opportunity costs give rise to tax stressors, which will eventually increase the psychological costs. Thus, opportunity costs also indirectly affect psychological compliance costs via the mediating variable,[14] tax stressors.

> The effect of opportunity costs on psychological costs of individual SMEs in Indonesia is mediated by tax stressors (H5).

### The Mediating Role of Tax Disputes

The study further considers the role played by tax disputes in tax compliance costs, which represents an often-neglected aspect of tax compliance cost studies. As shown in the literature (Tran-Nam & Walpole, 2016), tax disputes can raise the level of tax compliance costs, including both opportunity and psychological costs, substantially. Given the critical role that tax disputes can play in the interaction between the tax revenue authority and taxpayers (Gangl et al., 2015), there is a possibility that tax disputes mediate the impact of opportunity costs on psychological costs.

Hence, a final hypothesis is posited, based upon the assumption that a tax dispute may mediate the indirect effect of opportunity costs on psychological costs.

> The effect of opportunity costs on psychological costs of individual SMEs in Indonesia is mediated by tax disputes (H6).

## 3. RESEARCH DESIGN AND DATA COLLECTION

In order to analyse tax compliance costs comprehensively and address the formulated hypotheses, the article adopts a positivist research framework and uses a mixed-methods approach (Creswell & Clark, 2017). It also applies two sequential approaches (qualitative —> quantitative) in collecting primary data via focus group discussions (FGDs) and surveys. The former is utilised to explore the psychological costs and to inform the development of the survey instrument (Molina-Azorín, 2011) whereas the latter is adopted to analyse the opportunity cost variables and the proposed multi-mediator model of psychological costs (Marcoulides & Falk, 2018).

Given the complex nature of the subject matter of the study, FGDs were used not only to assess taxpayers' attitudes towards and opinions about tax compliance costs, but also in order to establish a clear understanding of the broader context of the compliance costs burden faced by individual SMEs in Indonesia (Carey & Asbury, 2016).

Nine participants, comprising six tax advisers and three taxpayers, attended two FGDs in January and February 2020. They worked in Surabaya (a major city in East Java Province) and ranged in years of professional experience from 11 to 34 [mean (M) = 20; standard deviation (SD) = 6.9 years].

Based on the analysis from the FGDs, some of the survey questions (see Appendix 1 for a copy of the full questionnaire) were updated in order to better address the research questions—for example: Q52, Q58, Q59, and Q60 (tax enquiries).

[14] Mediation occurs when the effect of a predictor (X) on an outcome (Y) is transferred through a mediator variable (Baron & Kenny, 1986). Specifically, a mediator (M) explains why or how a correlation occurs between a predictor and an outcome (Hayes, 2018).

Prior to running the main survey that comprised the second phase of the study, pilot testing was conducted to establish content validity by evaluating the completion time, ensuring clarity, and enabling necessary improvements to be made to the main survey (de Vaus, 2014). The pilot survey was conducted in March 2020 with a mixed group of tax officers and individual SMEs.[15] The former were asked to respond as if they were managing their own businesses whereas the latter were not provided with any hint of the context in order to check the clarity of the survey.

The pilot survey confirmed that the survey had no problematic issues in relation to its contents and took a reasonable time to complete of between five to twenty minutes (M=9.3; SD=2.8). The internal reliability of the survey was tested using Cronbach's alpha (Cronbach, 1951) with results varying from 0.87 to 0.99 (M=0.95; SD=0.06). The results suggested that the questionnaire had robust reliability and was promising for further utilisation.

Another important consideration in ensuring that the study generated robust data related to sample size planning (MacCallum et al., 1996). Careful reviews revealed that the population under study was approximately two million individual SMEs and a minimum sample of 210 respondents was therefore required (J. Cohen, 1988).[16]

Individual SME owners in four provinces (Jakarta, West Java, Central Java, and East Java) in Indonesia were selected as potential sample respondents. Businesses from these provinces typically contributed more than half of the tax revenue collection from SMEs during the period 2013 to 2019. An equal number of taxpayers from both forms of tax regime (presumptive and conventional), representative of various business sectors of taxpayers, were targeted for the sample.

The questionnaire was administered as an e-survey.[17] To mitigate some of the issues that can be associated with e-surveys (Couper, 2008), the questionnaire had a straightforward design, with clear directions and brief, simple language (Dillman et al., 2014). The survey only allowed single responses and most of the attitudinal questions provided five answer "Likert" options (Likert et al., 1934).

During the three-month distribution period, 491 taxpayers responded to the survey. The questionnaire also informed potential respondents that they could leave the survey at any time and 265 respondents exercised this option, exiting prior to completion. A further 94 respondents did not satisfy the inclusion criteria, yielding a total of 132 complete and useable responses. Due to the limited responses, this paper includes effect size and power analysis (J. Cohen, 2013; Cumming, 2012) in each test of the hypothesis to ensure the validity and reliability of the results.

To analyse the collected data, the programs JASP, Lavaan, and G*Power were applied (Faul et al., 2009; Goss-Sampson, 2022; Rosseel, 2012). Preliminary analyses indicated that the data was free of non-response bias, but exhibited non-normal distribution (Armstrong & Overton,

[15] Ideally, pilot testing would have been undertaken among individual SMEs that were representative of the participants in the main survey. However, this was not feasible as a result of the COVID-19 pandemic.

[16] The study used G*Power (Faul et al., 2009), a versatile program that is available for free (www.gpower.hhu.de/en.html).

[17] The study used the Research Electronic Data Capture (REDCap) application to distribute the e-survey (Wright, 2016) during the period from July to October 2020. The DGT helped us to obtain a random list of individual SMEs' email addresses so that potential respondents could be contacted.

1977; Shapiro & Wilk, 1965). As a result, the study combined parametric and non-parametric approaches (Gibbons & Chakraborti, 2014; Tabachnick & Fidell, 2013).

These approaches included running Student's t-test, a Kruskal-Wallis analysis, and a regression analysis to test H1 to H3 (Kruskal & Wallis, 1952; Legendre, 1805; Student, 1908). The remaining three hypotheses were tested by applying structural equation modeling (SEM) with bootstrapping (Efron & Tibshirani, 1993).[18]

## 4. RESULTS

Key attributes of the 132 respondents, including demographic, business, and tax complexity perception, are presented in Table 1. As noted from the percentages in the right-hand column of the table, which identifies the proportion of any attribute of the respected row, the respondents were dominated by taxpayers who use the presumptive tax, are male, are aged between 36-55, and who completed a university education.

Table 2 shows the construction of the key dependent variables, such as the implicit, explicit, and psychological costs of tax compliance, as well as the definitions of these variables and the range of values recorded.

### Measures

Opportunity costs were assessed using five items developed by Evans et al. (1997). Using a five-point scale ranging from 1 (less costly range of monetary units) to 5 (very costly range of monetary units), participants were asked to indicate the costs that they had incurred in the previous tax year as a result of complying with their tax obligations. A sample item was: "Please estimate the total payment (IDR) for the tax services (tax adviser) during the period January to December 2019." The coefficient alpha was 0.67.

Tax stressors were assessed using nine items motivated by the Job Demands–Resources (JD–R) model (Demerouti et al., 2001). In line with the literature on tax compliance, we combined a series of tax obligation activities, such as preparing and lodging tax returns (Yong, 2011). We then asked respondents to indicate how stressful they found these activities on a five-point scale ranging from 1 (not at all stressful) to 5 (extremely stressful). A sample item was: "Please indicate how stressful you would find lodging tax returns." The coefficient alpha was 0.93.

Tax disputes were assessed using four items informed by the FGD results. Following Eichfelder and Kegels (2014), we developed one item of the incidence of being audited by the tax revenue authority or lodging an objection/appeal, and three items of general interaction between the taxpayer and the tax office. A sample item of the interaction was: "Please indicate how often you have been asked for additional data related to your tax returns." Respondents were then asked to indicate their answers on a five-point scale ranging from 1 (never) to 5 (very often). The coefficient alpha was 0.79.

Psychological costs were assessed using ten items inspired by the Perceived Stress Scale (S. Cohen et al., 1983). Respondents were asked to indicate, on a five-point scale ranging from 1 (never) to 5 (very often), the perceived stress associated with managing their tax affairs. A

[18] Bootstrapping has been considered as a non-parametric technique by repeating the random sample to allow an appropriate estimation of the sampling distribution (Bollen & Stine, 1992).

sample item was: “Please indicate how often you experienced nervousness and stress because of the tax matters.” The coefficient alpha was 0.85.

*Table 1: Demographics, Business, and Tax Compliance Attributes of Respondents*

| | Attribute | Conventional | Presumptive | Percentage |
|---|---|---|---|---|
| Gender | Male | 31 | 55 | 65 |
| | Female | 22 | 24 | 35 |
| Age range | 18 – 25 | 3 | 6 | 7 |
| | 26 – 35 | 8 | 27 | 27 |
| | 36 – 45 | 20 | 27 | 36 |
| | 46 – 55 | 17 | 15 | 24 |
| | 56 and above | 5 | 4 | 7 |
| Education | Primary school | 2 | 1 | 2 |
| | High school | 4 | 12 | 12 |
| | Vocational | 5 | 10 | 11 |
| | University | 42 | 56 | 74 |
| Business turnover | <= 500 million | 21 | 47 | 52 |
| | < 500 million - 1 billion | 7 | 21 | 21 |
| | < 1 billion - 2 billion | 8 | 8 | 12 |
| | < 2 billion - 4.8 billion | 6 | 3 | 7 |
| | > 4.8 billion | 11 | 0 | 8 |
| Financial reports | None | 21 | 44 | 49 |
| | Available | 32 | 35 | 51 |
| Tax experience | Less than a year | 1 | 5 | 5 |
| | 1 - 2 years | 10 | 23 | 25 |
| | 3 - 5 years | 19 | 23 | 32 |
| | 6 - 10 years | 13 | 16 | 22 |
| | > 10 years | 10 | 12 | 17 |
| Tax adviser | None | 32 | 68 | 76 |
| | Available | 21 | 11 | 24 |
| Tax dispute | None | 36 | 60 | 73 |
| | Available | 17 | 19 | 27 |
| Perceived tax complexity | Not at all complicated | 4 | 11 | 11 |
| | Slightly complicated | 16 | 26 | 32 |
| | Moderately complicated | 21 | 22 | 33 |
| | Very complicated | 8 | 17 | 19 |
| | Extremely complicated | 4 | 3 | 5 |

*Table 2: Constructs of Implicit, Explicit, and Psychological Costs of Tax Compliance*

| | Measurement | Items in the Questionnaire° | Range of Value** |
|---|---|---|---|
| Implicit costs | Time costs of business owners, paid employees*, and unpaid helpers | Q29 | 1 to 5 |
| Explicit costs | Tax adviser costs (excluding tax auditing, objection, and appeal) + | Q32 | 1 to 5 |
| | Tax adviser costs when dealing with tax auditing + | Q34 | 1 to 5 |
| | Tax adviser costs when lodging tax objections + | Q36 | 1 to 5 |
| | Tax adviser costs when submitting tax appeals | Q38 | 1 to 5 |
| Opportunity costs/ Gross tax compliance costs | Implicit costs + Explicit costs | Q29 + Q32 + Q34 + Q36 + Q38 | |
| Tax compliance costs (net) | Opportunity costs + | Q29 + Q32 + Q34 + Q36 + Q38 + | |
| | Estimated compensatory payment for tax stressors − | Q56 − | 1 to 5 |
| | Recognised value of managerial benefits | Q46 | 1 to 5 |
| Psychological costs*** | Incidence of perceived psychological burdens when dealing with tax affairs | Q64 + Q65 + Q66 + Q67 + Q68 + Q69 + Q70 + Q71 + Q72 + Q73 | 1 to 5 **** |

Notes:
° See the complete questionnaire in Appendix 1.
* Strictly speaking, the time costs of paid employees are explicit costs. However, for ease of data collection, payments to employees were included in time costs. Thus, the definition of implicit costs in this article was somewhat broader than purely implicit costs.
** Excluding psychological costs, the range of value options of the implicit, explicit, gross tax compliance, and net tax compliance costs are: 1 (0 to IDR50 mil), 2 (above IDR50 mil to 100 mil), 3 (above IDR100 mil to 150 mil), 4 (above IDR150 mil to 200 mil), 5 (above IDR200 mil).
*** Reverse-order points for Q67, Q68, Q70 and Q71 to mitigate response biases: the respondents' tendencies to respond systematically on different bases than the intended measurement designs (Paulhus, 1991).
**** 1 (never), 2 (almost never), 3 (sometimes), 4 (fairly often), 5 (very often).

Table 3 provides summary statistics of the construct measure. It can be seen that the maximum and average values of implicit costs for presumptive regime taxpayers were 3 and 1.23 respectively, whereas the corresponding values for conventional regime taxpayers were 5 and 1.47 respectively. Considering that each unit response in the tax compliance costs survey represents IDR50 million (see Appendix 1), those values indicate that the maximum and average implicit costs of tax compliance by presumptive regime taxpayers were IDR150 million (3 x IDR50 million) and IDR61.5 million (1.23 x IDR50 million) respectively. By way of comparison, the corresponding values for conventional regime taxpayers were IDR25 million (5 x IDR50 million) and 73.5 million (1.47 x IDR50 million) respectively. Similar interpretations apply for the explicit, opportunity, and tax compliance costs.

Respectively, the psychological costs of tax compliance for presumptive and conventional regime taxpayers exhibited a small difference with regard to the average of the psychological disturbance (24.47 compared to 25.47). These numbers indicated that, on average, the psychological costs of presumptive regime taxpayers and those of conventional regime taxpayers were roughly similar.

*Table 3: Summary Statistics of Implicit, Explicit, and Psychological Costs of Tax Compliance*

| | Min | Med | Max | Mean | SD |
|---|---|---|---|---|---|
| Implicit costs = Q29 | | | | | |
| Presumptive | 1 | 1 | 3 | 1.23 | 0.51 |
| Conventional | 1 | 1 | 5 | 1.47 | 0.93 |
| All | 1 | 1 | 5 | 1.33 | 0.72 |
| Explicit costs = Q32 + Q34 + Q36 + 38 | | | | | |
| Presumptive | 0 | 0 | 10 | 0.72 | 1.58 |
| Conventional | 1 | 2 | 10 | 2.15 | 1.57 |
| All | 0 | 1 | 10 | 1.30 | 1.72 |
| Opportunity costs = Q29 + Q32 + Q34 + Q36 + Q38 (Gross tax compliance costs) | | | | | |
| Presumptive | 1 | 1 | 13 | 1.95 | 1.91 |
| Conventional | 2 | 3 | 14 | 3.62 | 2.20 |
| All | 1 | 2 | 14 | 2.62 | 1.89 |
| Tax compliance costs (net) = Q29 + Q32 + Q34 + Q36 + Q38 + Q56 – Q46 | | | | | |
| Presumptive | 0 | 1 | 10 | 2.32 | 2.02 |
| Conventional | 2 | 4 | 14 | 4.47 | 2.69 |
| All | 0 | 2 | 14 | 3.18 | 2.54 |
| Psychological = sum(Q64:Q73)* | | | | | |
| Presumptive | 10 | 26 | 43 | 24.47 | 6.47 |
| Conventional | 10 | 26 | 44 | 25.47 | 7.17 |
| All | 10 | 26 | 44 | 24.87 | 6.75 |

Note: * Reverse-order points for Q67, Q68, Q70, and Q71.

The data was confirmed to be free from extreme multicollinearity, as the correlation coefficients (see Appendix 2) among the potential predictors are less than 0.8 (Benesty, 2009). The internal reliability was also satisfied, as the Cronbach's alpha of the measured constructs is ± 0.7 (Hair et al., 2014).

Focusing on three key variables under study, namely the explicit, implicit, and psychological costs, it is interesting to determine whether the difference in the mean of each of these variables between the two groups of taxpayers (presumptive regime and conventional regime) is

statistically significant. To this end, various t-tests for differences between means were performed and the results are summarised in Table 4.

*Table 4: Student's t-test Results*

| Construct | *t* (df) | p-value | Effect size | Power |
|---|---|---|---|---|
| Explicit (**H1**) | 5.1(130) | <.001*** | 0.907 | 0.99 |
| Implicit (**H2**) | 1.9(130) | 0.027* | 0.345 | 0.49 |
| Psychological (**H3**) | 0.8(130) | 0.202 | 0.148 | – |

Note: * p <.05, ** p <.01, *** p <.001.

The results in Table 3 indicate that, expectedly, the mean values of the explicit, implicit, and psychological costs for conventional regime taxpayers are higher than the respective means for presumptive regime taxpayers. Furthermore, and as shown in Table 4, the differences in the mean values of both explicit and implicit costs between the two types of taxpayer are statistically significant, i.e. on average, conventional regime taxpayers incur significantly higher explicit and implicit tax compliance costs than presumptive taxpayers. However, the difference in the mean value of psychological costs between the two taxpayer groups is not significant, i.e. the overall stress levels appear to be the same for both groups.

Note that, in the above analysis, the control variables are allowed to vary between the two taxpayer groups. To test H1, H2, and H3, it was necessary to determine the partial effect of tax regime selection on tax compliance costs, holding all control variables constant. To that end, three multiple regression analyses were performed, using the explicit, implicit, and psychological costs as dependent variables. Each of these dependent variables was, in turn, regressed on the tax regime choice (as the independent variable), controlling for gender, age, education, experience, and business size where the tax regime choice variable is a binary dummy (0 = presumptive tax regime; 1 = conventional tax regime). The results on the estimated coefficient of the tax regime choice variable are reported in Table 5 (see Appendix 3 for more complete information).

*Table 5: Regression Analysis Results: Tax Regime as the Independent Variable*

| Dependent variable | Estimate | Std. Error | z-value | p-value | CI lower | CI upper |
|---|---|---|---|---|---|---|
| Explicit (**H1**) | 0.984 | 0.197 | 4.982 | 0.000*** | 0.597 | 1.371 |
| Implicit (**H2**) | 0.137 | 0.12 | 1.138 | 0.255 | -0.099 | 0.373 |
| Psychological (**H3**) | -0.265 | 1.154 | -0.23 | 0.818 | -2.526 | 1.996 |

Note: * p <.05, ** p <.01, *** p <.001.

In the case of explicit costs, the estimated coefficient of the tax regime variable has the correct sign and is statistically significant. We thus accept H1, i.e. with all other things being equal, conventional regime taxpayers incur significantly higher explicit tax compliance costs than presumptive regime taxpayers. In the case of implicit costs, the estimated coefficient of the tax regime variable has the correct sign but is statistically insignificant. H2 is therefore not accepted, i.e. with all other things being equal, conventional regime taxpayers incur higher implicit tax compliance costs than presumptive regime taxpayers, but the difference is not statistically significant. In the case of psychological costs, the estimated coefficient of the tax regime variable has the incorrect sign and is statistically insignificant. H3 is therefore rejected, i.e. with all other things being equal, conventional and presumptive regime taxpayers suffer similar psychological costs arising from tax compliance.

Table 6 displays the results of supplementary analysis of the influence of the control variables (gender, age, education, turnover, and experience) upon explicit costs, implicit costs, and psychological costs. The results, overall, summarise whether there is a significant influence of the control variables on the explicit, implicit, and psychological costs. Among these possible factors, only turnover and education have significant effects, as the p-values are smaller than 0.05. While turnover affects both explicit and implicit costs, education influences only the psychological costs. However, the effect size of these factors is relatively small (less than 0.2), and the generated power is far below the threshold of large power values (0.8).

*Table 6: Kruskal-Wallis Analysis Results*

| Factor | Stat(df) | p-value | Effect size[19] | Power |
|---|---|---|---|---|
| Gender —> Explicit | 0.079(1) | 0.779 | 0.00 | — |
| Gender —> Implicit | 0.006(1) | 0.941 | 0.00 | — |
| Gender —> Psychological | 1.531(1) | 0.216 | 0.01 | — |
| Age —> Explicit | 1.773(4) | 0.777 | 0.01 | — |
| Age —> Implicit | – | – | – | — |
| Age —> Psychological | 6.057(4) | 0.195 | 0.05 | — |
| Edu —> Explicit | 3.824(3) | 0.281 | 0.03 | — |
| Edu —> Implicit | 4.352(3) | 0.226 | 0.03 | — |
| Edu —> Psychological | 7.927(3) | 0.048* | 0.06 | 0.08 |
| Turnover —> Explicit | 24.319(4) | <.001*** | 0.19 | 0.37 |
| Turnover —> Implicit | 24.698(4) | <.001*** | 0.19 | 0.37 |
| Turnover —> Psychological | 4.572(4) | 0.334 | 0.03 | — |
| Experience —> Explicit | 4.205(4) | 0.379 | 0.03 | — |
| Experience —> Implicit | 4.31(4) | 0.366 | 0.03 | — |
| Experience —> Psychological | 3.066(4) | 0.547 | 0.02 | — |

Note: * p <.05, ** p <.01, *** p <.001.

To ensure the effect of the hypothesised factors on the psychological costs, a further regression analysis was performed (see Appendix 3). The results confirm the significant effect of education on the psychological costs. The findings are then carried forward to revise the hypothesised factors of the analysis of the psychological costs so that, among those factors, only education will be included to test the next hypotheses.

Table 7 summarises an SEM analysis (see Appendix 4 for the framework), which is performed to test the remaining three hypotheses. It can be seen that the fourth hypothesis about the direct effect of opportunity costs on psychological costs is rejected, as the p-value is bigger than 0.05, and the other (indirect) effects are accepted, as the p-values are smaller than 0.05. The results indicate a full mediation effect, which happens when the direct effect between a predictor (opportunity) and an outcome (psychological) is non-significant while the mediator variables (tax stressors and tax disputes) are present (Zhao et al., 2010).

Further power and confirmatory factor analysis (shown in Table 8) also verified that the proposed model resulted in a robust power effect and provided a good model fit (Miočević et al., 2018; Saris et al., 2009).

[19] An effect size has the range from 0, which means non-effects, to 1, which indicates strong effects (Tomczak & Tomczak, 2014).

*Table 7: Multi-Mediators Analysis Results*

| Parameter | Label | Result | Est | Std. Error | z-value | p-value | CI lower | CI upper |
|---|---|---|---|---|---|---|---|---|
| Stressor —> Psychological | b1 | | 0.396 | 0.063 | 6.262 | 0.000 | 0.269 | 0.515 |
| Dispute —> Psychological | b2 | | 0.532 | 0.166 | 3.197 | 0.001 | 0.206 | 0.862 |
| Opportunity —> Psychological (**H4**) | c1 | Not Supported | -0.089 | 0.207 | -0.429 | 0.668 | -0.521 | 0.306 |
| Edu —> Psychological | c2 | | -1.458 | 0.480 | -3.037 | 0.002 | -2.441 | -0.526 |
| Opportunity —> Stressor | a1 | | 1.321 | 0.341 | 3.869 | 0.000 | 0.771 | 2.131 |
| Opportunity —> Dispute | a2 | | 0.620 | 0.140 | 4.436 | 0.000 | 0.431 | 0.977 |
| Stressor <—> Dispute | | | 9.192 | 1.966 | 4.675 | 0.000 | 5.197 | 12.910 |
| Ind_1 = a1*b1 (**H5**) | | Supported | 0.523 | 0.162 | 3.234 | 0.001** | 0.270 | 0.908 |
| Ind_2 = a2*b2 (**H6**) | | Supported | 0.330 | 0.135 | 2.449 | 0.014* | 0.118 | 0.649 |
| Tot_Ind = Ind_1 + Ind_2 | | | 0.853 | 0.227 | 3.753 | 0.000 | 0.515 | 1.404 |
| Tot_Effects = Tot_Ind + c1 | | | 0.764 | 0.229 | 3.332 | 0.001 | 0.395 | 1.309 |
| Effect size = Tot_Ind/ Tot_Effects = **1.12** | | | | | | | | |
| Power = **1.00** | | | | | | | | |

Note: * p <.05, ** p <.01, *** p <.001.

*Table 8: Confirmatory Factor Analysis Results*

| Fit index | Reference | Threshold | Coefficient |
|---|---|---|---|
| p-value | Kline (2016) | ≥ 0.05 | **0.692** |
| Comparative Fit Index (CFI) | Bentler (1990), Hu and Bentler (1999) | > 0.95 | **1.000** |
| Goodness-of-Fit Index (GFI) | Jöreskog and Sörbom (1981) | > 0.95 | **0.996** |
| Normed Fit Index (NFI) | Bentler and Bonett (1980) | > 0.95 | **0.995** |
| Root-Mean-Square Error of Approximation (RMSEA) | Steiger (1990), Steiger and Lind (1980) | < 0.05 | **0.000** |
| Standardised Root Means Square Residual (SRMR) | Jöreskog and Sörbom (1981) | < 0.05 | **0.020** |

Note: * p <.05, ** p <.01, *** p <.001; Delta method standard errors, bias-corrected percentile (5000) bootstrap confidence intervals, ML estimator.

The empirical results confirm that the presumptive tax regime has a significant impact on the tax compliance costs relative to the conventional tax regime, specifically in relation to the explicit costs. Further analysis reveals that during the period from January to December 2019, on average, an individual SME who applied the presumptive tax spent Rp77.5 million (around US$5,176) whereas a taxpayer who used the conventional tax disbursed Rp154.7 million (around US$10,333). Put simply, an individual SME who uses the conventional tax regime incurs roughly twice the tax compliance costs of one who uses the presumptive tax regime.

The results also confirm that business turnover is a significant factor in opportunity costs and this is consistent with previous studies (Eichfelder & Schorn, 2012) which suggested that business size is positively associated with the tax compliance costs. Similar analyses suggest that being the subject of tax audit (p-value <.001, power = 1.00) and hiring a tax adviser (p-

value <.001, power = 0.99) significantly influence the explicit costs. In addition, the significant effects of tax complexity (p-value <.001, power = 0.40) and the use of a tax adviser (p-value 0.006, power = 0.11) on psychological costs are confirmed despite the likelihoods of detecting such effects correctly being only 40% and 11% respectively.

This article also provides an initial indication of the influence of tax stressors and tax disputes on the psychological burdens of tax compliance. More particularly, it demonstrates that there is no significant direct relationship between opportunity costs and psychological costs. Instead, the former give rise to the latter through the evidence of tax disputes and the presence of tax stressors. This finding emphasises the importance of minimising tax disputes and easing the burdens on taxpayers when they undertake the administration obligations of the tax law. Hence, the DGT may use this information when considering its role in public regulation.

From a public policy perspective, evaluating the impact of the presumptive tax on tax compliance costs provides us with a better understanding of the relationships between taxpayers and a particular advantage of the tax regime. The connection encourages those responsible for fiscal policy to prepare similar helpful initiatives that can improve tax compliance. The practical aspects of the presumptive tax regime also motivate taxpayers to play their roles in tax revenue collection and this helps to create conducive psychological processes that facilitate tax compliance.

## 5. CONCLUSIONS

The major findings of this study support the hypothesis that use of the presumptive tax regime, which is typically associated with a more practical and pragmatic approach to tax system design, leads to lower tax compliance costs. The study also demonstrates the underlying process that links opportunity and psychological costs through the mediation of tax stressors and tax disputes. The results enhance the existing knowledge about tax compliance costs for individual SMEs by examining various factors related to the tax compliance burden.

In this study, the evaluation of the impact of the presumptive tax regime on tax compliance costs is the most significant finding, as this is one of the earliest attempts to integrate opportunity costs and psychological costs based on the direct experience of Indonesian individual taxpayers. The empirical results confirm that the presumptive tax regime significantly reduces explicit costs. However, tax regime choice is not a significant determinant for implicit and psychological costs.

Opportunity costs were observed to indirectly affect psychological costs through two mediators. The results of this study substantiate the view that the psychological burdens of taxpayers can be derived from both administrative obligations (required by the tax law) and interactions with the tax office that lead to tax stressors and tax disputes. The conceptual framework in this paper further identifies the indirect relationships that exist among important tax compliance cost constructs in the public regulation setting.

Interestingly, the psychological costs of tax compliance are more or less identical, despite the alternative tax regimes in place in Indonesia. This may arise as a result of the fact that individual SMEs who use the presumptive tax regime need to prepare for conversion to the conventional tax regime in 2025, when the opportunity to use the presumptive tax expires. Hence, they may need to undertake similar record-keeping practices as those who use the conventional tax. Another factor may have been the timing of the survey, as it was distributed during the COVID-

19 pandemic, when the situation in Indonesia was particularly severe (World Health Organization Indonesia, 2020). As a result, all taxpayers may have experienced similar psychological conditions, notwithstanding their use of differing tax regimes.

However, this study, like all others, has theoretical and practical limitations. For example, the findings of this study are based on a stratified and limited random sample designed to consider the influence of the different tax regimes on the tax compliance costs of individual SMEs whose business premises are located in the four major provinces in Indonesia. Given the limitations, these participants do not represent all individual SMEs in Indonesia. As a result, these findings are considered indicative and must be interpreted with great caution, particularly where individual SMEs who are located outside of the selected provinces are concerned.

A further limitation is that the psychological costs are measured based on the perceived stress burdens. This article did not measure the actual stress, as perception is considered an appropriate predictor of actual anxieties (Lazarus & Folkman, 1984). Nevertheless, a reliable perceived stress might not transpire into an actual stress if taxpayers are otherwise motivated to comply with the tax law, for example, because they are satisfied with the efforts made by the government to provide public facilities (Kogler et al., 2015).

Further studies could replicate the conceptual framework applied in this paper and use it to evaluate the tax compliance costs associated with other public regulations, and in different sectors and various countries. Our understanding of the factors that influence the costs of tax compliance, particularly in the domain of public policy and governance, will also be improved by replicating the conceptual research model. Hence, the theoretical interactions identified in this paper can be applied to other taxpayer settings, such as corporate or large taxpayers, and will enhance the literature on tax compliance costs.

Notwithstanding these limitations and suggested areas for future research, this study has contributed to the literature on tax compliance costs by providing an insight into the underexplored aspects of the tax compliance costs incurred by individual SMEs in Indonesia (Alm, 2019), and by recognising the processes and mechanisms that help to explain the connection and relationship between opportunity costs and the psychological costs of tax compliance.

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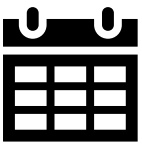
## APPENDIX 1: SURVEY QUESTIONNAIRE

Section 1: **INCLUSION/ EXCLUSION CRITERIA**

| | | |
|---|---|---|
| 1 | What is your age range? | ○ 17 or less<br>○ 18 – 25<br>○ 26 – 35<br>○ 36 – 45<br>○ 46 – 55<br>○ 56 and above |
| 2 | Is your income mainly derived from employment? | ○ yes<br>○ no |
| 3 | What is the legal structure of your business? | ○ sole proprietorship<br>○ other (e.g. firm, corporation, partnership, foundation, organisation, institution) |
| 4 | Please estimate the total gross turnover (IDR) of your business during the period from January to December 2019. | ○ up to 500 million<br>○ more than 500 million and up to 1 billion<br>○ more than 1 billion and up to 2 billion<br>○ more than 2 billion and up to 4.8 billion<br>○ above 4.8 billion |

Section 2: **Participant Information Statement and Consent Form**

| | | |
|---|---|---|
| 5 | Due to the anonymity requirement, instead of your name, please provide the name of the city where your business is located (e.g. Ambon, Bandung, Cirebon, Denpasar, etc). |  |
| 6 | Date<br>(click the icon for today's date) |  |

Section 3: **DEMOGRAPHY AND BUSINESS CHARACTERISTICS**

| | | |
|---|---|---|
| 7 | What is your gender? | ○ female<br>○ male |
| 8 | What is your highest education level? | ○ primary school or less<br>○ high school<br>○ vocational college<br>○ university |

| | | |
|---|---|---|
| 9 | What is your book-keeping knowledge? | o no book-keeping knowledge<br>o basic book-keeping knowledge<br>o intermediate book-keeping knowledge<br>o advanced book-keeping knowledge |
| 10 | What is the main activity of your business? | o agriculture, plantation, forestry, and fishery<br>o mining and extraction<br>o manufacturing<br>o electricity, gas, and water supply<br>o construction<br>o retail and restaurant<br>o transport and communication<br>o finance and leasing<br>o service<br>o other (please describe) |
| 11 | What was the average total number of your full-time employees during the period from January to December 2019? | o none<br>o 1 – 2 persons<br>o 3 – 5 persons<br>o 6 – 10 persons<br>o more than 10 persons |
| 12 | Does your business produce annual financial statements such as a balance sheet and an income statement? | o yes<br>o no |
| 13 | What does your business mostly use the annual financial statements for?<br><br>(applied branching logic for the answer "yes" to Q12) | o to achieve better management<br>o to meet requirements from creditors e.g. banks, lenders<br>o to satisfy business tender requirements<br>o to comply with the tax law<br>o other (please describe) |
| 14 | What type of book-keeping system does your business use? | o no book-keeping system is used<br>o paper based (without using a computer)<br>o simple spreadsheet program e.g. Microsoft Excel<br>o book-keeping software<br>o assistance from an external book-keeper<br>o other (please describe) |

| | | |
|---|---|---|
| 15 | Did your business hire book-keeping employees during the period from January to December 2019?<br>(applied branching logic for any answer **except** for the answer "no book-keeping system is used" to Q14) | o yes<br>o no |
| 16 | Please estimate the total remuneration (IDR) for your own book-keeping employees during the period from January to December 2019.<br><br>(applied branching logic for the answer "yes" to Q15) | o up to 50 million<br>o more than 50 million and up to 100 million<br>o more than 100 million and up to 150 million<br>o more than 150 million and up to 200 million<br>o more than 200 million |

Section 4: **TAX COMPLIANCE COSTS**

| | | |
|---|---|---|
| 17 | How long has your business been registered with a taxpayer identification number? | o less than a year<br>o 1 – 2 years<br>o 3 – 5 years<br>o 6 – 10 years<br>o more than 10 years |
| 18 | How does your business normally submit tax payments? | o electronically payment using e-billing (online)<br>o physical payment through banks or post offices<br>o using the Automatic Teller Machines (ATMs)<br>o assistance from a tax adviser<br>o other (please describe) |
| 19 | How does your business normally lodge the tax returns? | o electronically lodging using e-filing (online)<br>o physically lodge the tax returns at the tax office<br>o using post or courier services<br>o assistance from a tax adviser<br>o other (please describe) |

The next question asks about time spent on tax compliance activities. You should not include normal business activities, only tax compliance activities.

Normal business activities (**NOT** tax compliance activities) include:

1. processing customer invoices or cash received;
2. paying bills and debts;
3. calculating and paying wages;
4. checking stocks and inventories;
5. budgeting and investment planning;
6. other book-keeping activities.

For the next questions about the time spent on tax compliance activities, please exclude such activities.

Please estimate the monthly average of total hours spent on various tax compliance activities by your business during the period from January to December 2019 (include time spent by the business owner, unpaid helpers, and paid employees).

| | | |
|---|---|---|
| 20 | learning the tax law: attending tax workshop, studying tax from the DGT website or other sources | ○ none<br>○ up to 12 hours per month<br>○ more than 12 and up to 24 hours per month<br>○ more than 24 and up to 38 hours per month<br>○ more than 48 and up to 96 hours per month |
| 21 | recording information needed for tax | ○ none<br>○ up to 12 hours per month<br>○ more than 12 and up to 24 hours per month<br>○ more than 24 and up to 38 hours per month<br>○ more than 48 and up to 96 hours per month |
| 22 | determining taxable incomes and paying tax liabilities | ○ none<br>○ up to 12 hours per month<br>○ more than 12 and up to 24 hours per month<br>○ more than 24 and up to 38 hours per month<br>○ more than 48 and up to 96 hours per month |

| | | |
|---|---|---|
| 23 | preparing and lodging tax returns | ○ none<br>○ up to 12 hours per month<br>○ more than 12 and up to 24 hours per month<br>○ more than 24 and up to 38 hours per month<br>○ more than 48 and up to 96 hours per month |
| 24 | dealing with the DGT, phone calls, emails, visits | ○ none<br>○ up to 12 hours per month<br>○ more than 12 and up to 24 hours per month<br>○ more than 24 and up to 38 hours per month<br>○ more than 48 and up to 96 hours per month |
| 25 | dealing with your tax adviser | ○ none<br>○ up to 12 hours per month<br>○ more than 12 and up to 24 hours per month<br>○ more than 24 and up to 38 hours per month<br>○ more than 48 and up to 96 hours per month |
| We would like to allocate those times (in per cent) between the various persons who spent the time on tax compliance activities (the sum of the allocation time must be 100 per cent). | | |
| 26 | business owner | ○ 0<br>○ 20<br>○ 40<br>○ 60<br>○ 80<br>○ 100 |
| 27 | unpaid helpers (spouse, relatives, friends) | ○ 0<br>○ 20<br>○ 40<br>○ 60<br>○ 80<br>○ 100 |
| 28 | paid employees | ○ 0<br>○ 20<br>○ 40<br>○ 60<br>○ 80<br>○ 100 |

| | | |
|---|---|---|
| 29 | If those total hours spent on tax compliance activities are calculated in terms of money (IDR), how much is the equivalent during the period January to December 2019? | o up to 50 million<br>o more than 50 million and up to 100 million<br>o more than 100 million and up to 150 million<br>o more than 150 million and up to 200 million<br>o more than 200 million |
| 30 | Did your business hire an external tax adviser during the period from January to December 2019? | o yes<br>o no |
| 31 | Why did your business go to a tax adviser?<br>(applied branching logic for the answer "yes" to Q30) | o tax return is confusing<br>o busy with the business<br>o could not understand the tax law<br>o tax officials are not helpful<br>o other (please describe) |
| 32 | Please estimate the total payment (IDR) for the tax services (tax adviser) during the period January to December 2019 (exclude payment for services when being audited, lodging an objection, or submitting an appeal to tax court).<br>(applied branching logic for the answer "yes" to Q30) | o up to 50 million<br>o more than 50 million and up to 100 million<br>o more than 100 million and up to 150 million<br>o more than 150 million and up to 200 million<br>o more than 200 million |
| 33 | During the period from January to December 2019, was your business audited by the tax office? | o yes<br>o no |
| 34 | How much were the additional costs (IDR) of tax advisers, lawyers, your own time or that of your staff, or other costs (such as transportation, stationery) related to the tax audit?<br>(applied branching logic for the answer "yes" to Q33) | o up to 50 million<br>o more than 50 million and up to 100 million<br>o more than 100 million and up to 150 million<br>o more than 150 million and up to 200 million<br>o more than 200 million |
| 35 | During the period from January to December 2019, did your business submit a tax objection? | o yes<br>o no |

| | | |
|---|---|---|
| 36 | How much were the additional costs (IDR) of tax advisers, lawyers, your own time or that of your staff, or other costs (such as transportation, stationery) related to the submission of the objection?<br>(applied branching logic for the answer "yes" to Q35) | o up to 50 million<br>o more than 50 million and up to 100 million<br>o more than 100 million and up to 150 million<br>o more than 150 million and up to 200 million<br>o more than 200 million |
| 37 | During the period from January to December 2019, did your business submit a tax appeal? | o yes<br>o no |
| 38 | How much were the additional costs (IDR) of tax advisers, lawyers, your own time or that of your staff, or other costs (such as transportation, stationery) related to the submission of the appeal?<br>(applied branching logic for the answer "yes" to Q37) | o up to 50 million<br>o more than 50 million and up to 100 million<br>o more than 100 million and up to 150 million<br>o more than 150 million and up to 200 million<br>o more than 200 million |

In addition to various costs incurred while complying with the tax law, studies have shown that various benefits may be perceived by taxpayers.

Therefore, in this section, please indicate how often your business perceived various benefits such as:

| | | |
|---|---|---|
| 39 | improving the record-keeping of the business | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 40 | maintaining more accurate records | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 41 | improving the knowledge of the financial/ cash flow position of the business | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |

| | | |
|---|---|---|
| 42 | enabling the business to have some extra cash until tax is remitted to the state treasury account | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |
| 43 | improving the knowledge of the profitability of the business | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |
| 44 | enabling the business to have an accountant who is a good source of advice for the business | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |
| 45 | enabling the business to employ an external tax services/ tax adviser who is a good source of advice for tax matters | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |
| 46 | If those benefits were calculated in terms of money (IDR), how much would be the equivalent amount during the period from January to December 2019? | ○ up to 50 million<br>○ more than 50 million and up to 100 million<br>○ more than 100 million and up to 150 million<br>○ more than 150 million and up to 200 million<br>○ more than 200 million |
| The following questions ask you to indicate the psychological burdens associated with tax compliance activities.<br><br>Please indicate how stressful you would find each of the following tax compliance activities: | | |
| 47 | learning the tax law | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |

| | | |
|---|---|---|
| 48 | maintaining record-keeping for tax purpose | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |
| 49 | calculating tax liabilities | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |
| 50 | submitting tax payments | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |
| 51 | lodging tax returns | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |
| 52 | having been asked for clarifications or additional data by the DGT | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |
| 53 | finding a reliable tax adviser | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |
| 54 | experiencing changes in the tax law | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |
| 55 | having been audited by the DGT | ○ not at all stressful<br>○ slightly stressful<br>○ moderately stressful<br>○ very stressful<br>○ extremely stressful |

| | | |
|---|---|---|
| 56 | If your stress burden were converted into money (IDR), how much would you ask to compensate for your stress burden during the period from January to December 2019? | o up to 50 million<br>o more than 50 million and up to 100 million<br>o more than 100 million and up to 150 million<br>o more than 150 million and up to 200 million<br>o more than 200 million |
| The following questions seek information about the general interaction between your business and the tax office.<br><br>Please indicate how often you found the following situations during the period from January to December 2019: | | |
| 57 | receiving answers to your queries related to your business tax compliance | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 58 | having been asked for clarifications by the tax office | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 59 | receiving notifications related to your business tax compliance (e.g. reminder to lodge the annual tax returns) | o never<br>o almost never<br>o sometimes<br>o fairly often<br>very often |
| 60 | having been asked for additional data related to your tax returns | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 61 | perceiving various benefits from contacting the tax office (e.g. tax disseminations from the DGT) | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 62 | Based on your knowledge, how complicated is the Indonesian tax system? | o not at all complicated<br>o slightly complicated<br>o moderately complicated<br>o very complicated<br>o extremely complicated<br>o |

| | | |
|---|---|---|
| 63 | Are you aware that after seven years of using the presumptive tax rate (0.5% of gross income), you must switch into the conventional tax regime* (based on the Government Ordinance No. 23 Year 2018)?<br>* conventional tax regime is the tax rate based on the calculation of taxable income (gross income – costs of goods sold - operational expenses – tax threshold) | o yes<br>o no |

Finally, this section asks you to let us know how you feel when you are complying with the tax law.

Please indicate how often you experienced the following feelings during the period from January to December 2019.

| | | |
|---|---|---|
| 64 | upset because of the tax obligations and tax matters that happened unexpectedly | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 65 | were unable to control the tax matters in your life | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 66 | nervous and stressed because of the tax matters | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 67 | confident about your ability to handle your tax matters | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |
| 68 | considered that tax matters were going your way | o never<br>o almost never<br>o sometimes<br>o fairly often<br>o very often |

| | | |
|---|---|---|
| 69 | could not cope with all the tax matters that you had to do | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |
| 70 | able to control irritations when complying with the tax law | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |
| 71 | felt that you were on top of the tax matters | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |
| 72 | angered because of tax matters that were outside of your control | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |
| 73 | overwhelmed by the level of difficulty in complying with your tax obligations | ○ never<br>○ almost never<br>○ sometimes<br>○ fairly often<br>○ very often |

## APPENDIX 2: PEARSON'S CORRELATIONS BETWEEN VARIABLES

| Construct | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Gender | — | | | | | | | | | |
| 2. Age | -0.08 | — | | | | | | | | |
| 3. Education | 0.01 | -0.12 | — | | | | | | | |
| 4. Turnover | -0.05 | 0.17 | 0.00 | — | | | | | | |
| 5. Experience | -0.15 | 0.32*** | 0.01 | 0.14 | — | | | | | |
| 6. Explicit | -0.04 | -0.12 | -0.06 | 0.36*** | -0.01 | — | | | | |
| 7. Implicit | -0.07 | -0.07 | -0.02 | 0.35*** | 0.03 | 0.54*** | — | | | |
| 8. Opportunity (α = 0.67) | -0.06 | -0.12 | -0.06 | 0.40*** | 0.00 | 0.96*** | 0.75*** | — | | |
| 9. Stressor (α = 0.93) | 0.07 | -0.14 | -0.09 | 0.18* | -0.02 | 0.32*** | 0.20* | 0.32*** | — | |
| 10. Dispute (α = 0.79) | -0.01 | -0.12 | -0.03 | 0.19* | -0.06 | 0.43*** | 0.36*** | 0.46*** | 0.49*** | — |
| 11. Psychological (α = 0.85) | 0.10 | 0.01 | -0.22* | 0.15 | 0.01 | 0.27** | 0.14 | 0.26** | 0.65*** | 0.49*** |

Note: * p <.05, ** p <.01, *** p <.001; Opportunity = Explicit + Implicit.

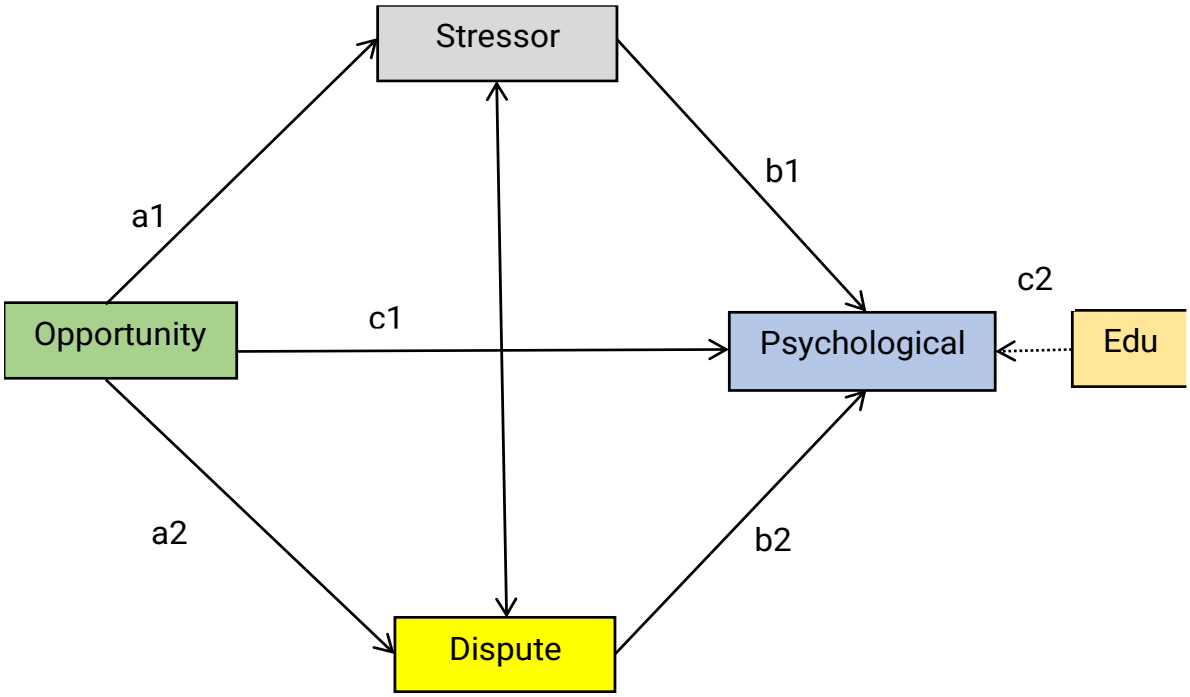
## APPENDIX 3: SUMMARY OF REGRESSION ANALYSIS

| Factor | Implicit | Explicit | Opportunity | Compliance costs | Psychological |
|---|---|---|---|---|---|
| Intercept | 0.571 | 1.107 | 1.677 | 0.796 | 20.622 |
| Gender | -0.072 | -0.333 | -0.405 | -0.667* | 1.432 |
| Regime | 0.137 | 0.984*** | 1.121*** | 1.457*** | -0.265 |
| Audited | 0.152 | 1.573*** | 1.725*** | 1.582*** | 1.406 |
| Adviser | 0.092 | 1.705*** | 1.797*** | 1.815*** | 2.120 |
| Age | -0.119* | -0.339*** | -0.458*** | -0.435** | -0.060 |
| Education | -0.033 | -0.145 | -0.178 | -0.106 | -1.669** |
| Turnover | 0.117* | 0.095 | 0.212 | 0.309* | 0.158 |
| Experience | 0.027 | 0.003* | 0.029 | -0.087 | -0.044 |
| Complexity | -0.005 | -0.114 | -0.119 | 0.296* | 2.454*** |
| Time | 0.073*** | 0.094*** | 0.167*** | 0.164*** | 0.151 |
| R-Square | 0.314 | 0.681 | 0.623 | 0.620 | 0.293 |
| VIF | < 5 | < 5 | < 5 | < 5 | < 5 |
| White's test p-value | 0.108 | 0.0121 | 0.00986 | 0.229 | 0.168 |

Note: * p <.05, ** p <.01, *** p <.001.
VIF < 5 signals that the model is free from extreme multicollinearity.
The White test p-value < 0.05 implies that the regression model violates the homoscedasticity assumption.

## APPENDIX 4: LAVAAN SYNTAX

**Framework**




Source: Adapted from Ferry (2022, p. 305)

```
# dependent regression
Psychological ~ b1*Stressor + b2*Dispute + c1*Opportunity + c2*Edu

# mediator regression
Stressor ~ a1*Opportunity
Dispute ~ a2*Opportunity

# mediator residual covariance
Stressor ~~ Dispute

# effect decomposition
# y1 ~ x1
Ind_1 := a1*b1
Ind_2 := a2*b2
Tot_ind := Ind_1 + Ind_2
Tot_effects := Tot_ind + c1
```