# Do perceptions of corruption influence personal income taxpayer reporting behaviour? Preliminary evidence from Indonesia

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*Paper prepared for the PhD Workshop at the 28th Annual Australasian Tax Teachers Association (ATTA) Conference, School of Taxation and Business Law, UNSW Business School, Sydney, 20-22 January 2016*

## Abstract

The objective of this paper is to address an identified gap in knowledge about whether, and how, perceptions of corruption may influence taxpayer compliance behaviour. Although many studies have explored tax compliance (or non-compliance) behaviour, very little attention has been paid to the impact of perceptions of different forms of corruption on that behaviour, and particularly how those perceptions may impact upon intentional tax underreporting behaviour.

The study has adopted a sequential mixed-methods approach. Initially, a qualitative approach has been employed to identify key elements and the hypothetical relationships to include in the second quantitative—and core—phase of the study. Data collection in the qualitative phase was carried out by conducting semi-structured in-depth interviews with nine participants (three taxpayers, three tax agents and three tax officers). The second phase of the research involved a mixed-modes field survey conducted through 12 tax offices across four Indonesian regions. A total of 397 respondents were surveyed, comprising 196 self-employed and 201 employed taxpayers.

The full data are still in the process of being analysed. However, three principal findings emerge from a preliminary analysis of the data. First, the data from both the qualitative and quantitative phases suggest that a high level of perceived corruption is evident in Indonesia, and this perception appears to positively influence both taxpayers' attitudes and their subjective norms on underreporting tax. Second, the preliminary findings from the quantitative phase indicate that a wide underreporting gap exists in Indonesia. Third, perceptions of corruption affect both taxpayers' attitudes and their subjective norms on tax underreporting, but with mixed results. While high levels of perceived grand corruption (i.e. corruption involving high-level public officials) tend to affect attitude towards tax underreporting, high levels of perceived petty corruption (i.e. extortion of small payments by low-level public officials) seem more influential on subjective norms on tax underreporting.

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## 1 Introduction

As a result of financial or other incentives not to comply, any tax system will inevitably suffer some evasion (Lederman, 2003). As such, history indicates that tax compliance behaviour remains problematic around the globe (Chau and Leung, 2009; McKerchar and Evans, 2009; OECD, 2012b).

Several strategies have been introduced and developed to cope with this ongoing problem (OECD, 2012b). Historically, many tax authorities have adopted traditional enforcement strategies by performing comprehensive audit programs to address compliance issues (OECD, 2004). Despite the fact that empirical findings are inconclusive, the underlying principles of economic deterrence have been traditionally adopted by many tax authorities in formulating enforcement strategies by emphasising the severity of penalties and the prevalence of getting audited (McKerchar and Evans, 2009). It is obvious, however, that there is no silver bullet or quick fix in addressing a complex phenomenon such as tax compliance. Tax compliance issues seem much too complicated to be approached solely by a traditional economic approach (Reeson and Dunstall, 2009; Kirchler et al., 2010; Alm, 2011; Hashimzade et al., 2013; OECD, 2013a; Weber et al., 2014).[2]

With regards to this, recent developments in compliance strategies have emphasised the importance of several behavioural factors (Kirchler, 2007; OECD, 2013a).[3] Central to this is an increasing concern to obtain a deeper understanding of the taxpayers' behavioural drivers rather than their non-compliance symptoms to effectively address non-compliance issues (OECD, 2004). The importance of developing a behavioural approach to improve tax compliance is supported by several authors (see, for example, Kornhauser, 2007; Congdon et al., 2009; Reeson and Dunstall, 2009; James, 2012; Kirchler et al., 2014; Weber et al., 2014).[4]

Reflecting on its multi-dimensionality, several authors have also emphasised the necessity to examine tax compliance behaviour from cross-cultural perspectives (Kogler et al., 2013). Several empirical findings have indicated that cultural differences have significant influences on tax compliance behaviour across countries (see, for example, Richardson, 2006; Cummings et al., 2009). Particularly, revenue authorities in

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[2] Views that criticize a purely economic approach to tax compliance research can be traced back to the 1980s. For example, in the context of tax evasion behaviour, Arrington and Reckers (1985, p. 163) argue that despite the important role of economic consequences in understanding the phenomenon, their presence is not considered to be sufficient to explain and to predict behaviour. Further, Cowell (1990, p. 198) outlines two important aspects which the standard economic model (of crime and the control of crime) fails to cover: tax evasion, as part of compliance issues, is not a common crime; and motivational postures of the malefactor.

[3] In this sense, according to World Bank (2015, p. 5), "the past 30 years of research in decision making across many behavioral and social sciences have led economists to a stage where they measure and formalize the psychological and social aspects of decision making that many of the foundational contributors to economics believed were important".

[4] Congdon et al. (2009, p. 375), for example, explicitly critique that "the implications of behavioural economics for public policy, including tax policy, have yet to be systematically explored, and that this oversight leads to both mistaken policy and missed opportunity".

developing economies face quite different circumstances compared to their counterparts in developed economies due to widespread evasion, coercion, and corruption (McKerchar and Evans, 2009). Accordingly, developing economies are specifically vulnerable to tax compliance problems (Chau and Leung, 2009). To circumvent this problem, many authors recommend that developing countries should prioritise reducing the extent of corruption to improve tax compliance (see, for example, Flatters and Macleod, 1995; Bird, 2003; Picur and Riahi-Belkaoui, 2006; Bird et al., 2008; OECD, 2012a).[5]

While there is no single country that is immune from corruption (Shleifer and Vishny, 1993; Transparency International, 2013a), most of the indicators to assess corruption are based on subjective measurements (León et al., 2012; Campbell, 2013). This measurement is typically known as 'perception of corruption' (Olken and Pande, 2012; Campbell, 2013).[6]

Perceptions of corruption and tax compliance behaviour are distinct and separate problems, but they can be easily intertwined. First, in high corruption countries 'understated' tax revenue that reaches government may be spent in unproductive or inappropriate ways before achieving designated public spending purposes and as a result, public finance may fail to reach its objective (Hillman, 2004). Perceptions of corruption may also erode taxpayers' willingness to contribute their fair shares of tax (Torgler et al., 2008). Moreover, it cultivates a culture of distrust among stakeholders towards related institutions (Melgar et al., 2010), strengthening a damaging public perception that causes taxpayers to disengage from any reciprocal relationship with the government (Fjeldstad and Tungodden, 2003). As a higher level of corruption perceptions crowds out the degree of tax morale, it may then undermine the moral cost of evading tax and further encourage taxpayers to behave opportunistically (Torgler, 2004). Consequently, perceptions of corruption may have a worse effect than the corruption itself (Melgar et al., 2010). On a macro level, a positive correlation between less perceived corruption and higher share of tax revenue in GDP is shown in Figure 1.

Second, perceptions of corruption may influence the way taxpayers comply with their tax obligations. Individuals have an inclination to perceive corruption as "all of a piece" where people tend to fail to recognise the difference between street-level corruption and its opposed type, political or civic institution corruption (Mishler and Rose; 2008). Also, according to Mishler and Rose (2008), individuals' perceived corruption about one

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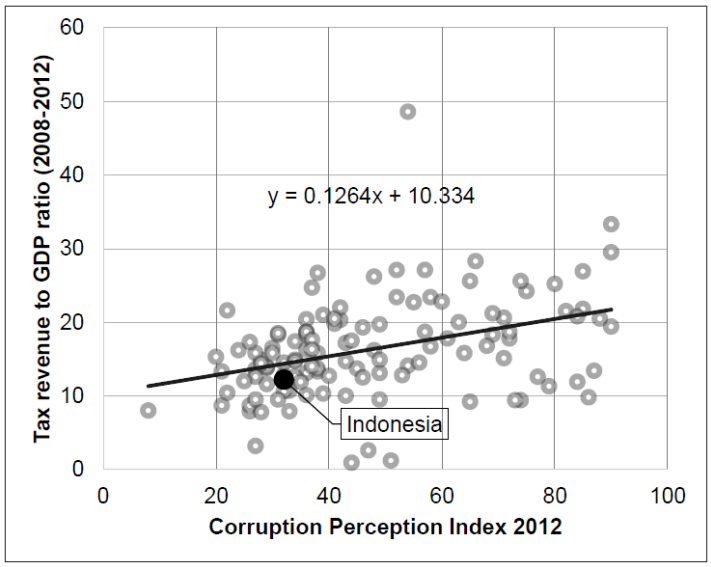
5 In the Indonesian context, for example, OECD (2012a) lists “continue efforts to fight corruption by reforming the tax office and further simplifying business licensing” as one of its key priorities for going for growth.

6 Perception can be referred to as “a belief or opinion, often held by many people and based on how things seem”. Accessed 16 October 2014, < http://dictionary.cambridge.org/dictionary/british/perception>. As is true for the definition of corruption, the definition of perception of corruption also depends on social and cultural factors (Melgar et al., 2010). Several indicators are currently available, but the Corruption Perception Index (CPI) developed and published annually by Transparency International is considered as one of the most powerful and widely used indicators (Urra, 2007). Corruption in this indicator is defined by the Transparency International (TI) as “the abuse of entrusted power for private gain”. Accessed 25 August 2014, <http://www.transparency.org/whoweare/organisation/faqs_on_corruption/2/>.

institution is inherently influenced by their perception of other institutions; a phenomenon called the "echo chamber" effect. Since taxpayers have limited capabilities in processing such information, they are not fully informed, tend to use heuristics, and are therefore vulnerable to biases in their tax decision (Marriott, 2009; Reeson and Dunstall, 2009; OECD, 2010b).

**Figure 1: Perceived corruption and share of tax revenue in GDP**




***Source***: Author's calculation on the Corruption Perception Index (CPI) 2012 data (Transparency International, 2013a) and the World Bank data of tax revenue as percentage of GDP (World Bank, 2013b).

***Note***: This graph illustrates a positive correlation between the score of CPI and the share of tax revenue in GDP—it is worth noting that a higher score of CPI indicates less perceived corruption. This graph is generated from 119 countries data. The share of tax revenue in GDP of each country is based on average of 2008-2012 available data. Tax revenue refers to "compulsory transfers to the central government for public purposes" (World Bank, 2013b).

While personal income taxpayers were chosen because it is only at the level of the individual that perceptions and intentions can be fully addressed (Mendes, 2004), Indonesia is chosen for this study for two major reasons. First, Indonesia has been classified as a major developing country (OECD, 2008a; World Bank, 2013a) with continual compliance issues (Francis, 2012; DGT, 2013; OECD, 2014). Bird and Zolt (2005) point out that the percentage of individual income tax revenue to GDP in Indonesia is the lowest among neighbouring countries, with 1.3 per cent compared to 1.9 per cent in Thailand, 2.1 per cent in Philippines, and 2.7 per cent in Malaysia.[7]

Second, Indonesia is one of the most corrupt of the major countries in Asia-Pacific (Transparency International, 2013a). Based on an international study of Corruption Perception Index (CPI) 2012, Indonesia is ranked 118 out of 174 countries with a score of 32.[8] This is much lower compared to neighbouring countries such as Singapore (5), Australia (7), Malaysia (54) and Thailand (88) (Transparency International, 2013a).[9]

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7 Another study by Araki and Claus (2014) also indicates that the contribution of PIT tax revenue in Indonesia is relatively low—on average at 10 per cent during 2002-2013 (DGT, 2011; 2013). On their comparative analysis of tax administration in several Asia-Pacific countries, they found that while in Australia, Japan, and New Zealand, personal income tax revenue contributes 30–40 per cent of total taxes, the contribution of tax revenue from personal taxpayers is around 17–21 per cent in Malaysia, India, Philippines, Singapore, Hong Kong, China, and the Republic of Korea.

8 The scores indicate the perceived level of corruption in the public sector on a 0-100 scale, where 0 means a country is perceived as very corrupt and 100 means it is perceived as very clean. Globally, this 2012 survey includes 176 countries and territories (Transparency International, 2013a).

9 It is worth noting that corruption perceptions and corruption reality differ in nature. In this case Olken (2009) points out that that due to individual's beliefs or their conditional state, the process individual report

Indonesia also has the highest percentage of respondents—i.e. 54 per cent—who felt that the level of corruption has increased a lot among major countries in Asia and the Pacific over the past two years (Transparency International, 2013b).[10] Additionally, two studies by an Indonesian government entity also indicate the pervasiveness of corruption in Indonesia with more than 94 per cent of respondents conveying the view that corruption is common, has a negative impact on public finance, and erodes government revenue (KPK, 2010; 2011).

This paper intends to fill a gap in the knowledge of tax compliance behaviour and to further develop a deeper understanding as to whether, and how, perceptions of corruption influence taxpayers' compliance behaviour, particularly from a developing country's perspective. The significance of this study can be justified at two levels: the theoretical and practical levels. On a theoretical level, this study attempts to describe the underlying mechanism by which perceptions of corruption influence the way individual taxpayers behave. It is hoped that the outcomes of this study will do more than prove whether perceptions of corruption have an impact on tax compliance behaviour, but also will demonstrate how and in what ways perceptions of corruption affect (non)compliance behaviour. On a practical level, this paper not only aims to contribute to the work of the Indonesian tax authority by examining crucial factors which may have behavioural impact on Indonesian personal income taxpayers, but also aims to provide the Indonesian tax authority with an empirical 'indicator' of the underreporting tax gap of personal income tax.[11]

The structure of this paper is outlined in Figure 2. The theoretical framework and literature are presented in Section 2, and followed by the research proposition in Section 3. The research methods and the results to date are then elaborated in Sections 4 and 5. Finally, brief conclusions are discussed in Section 6.

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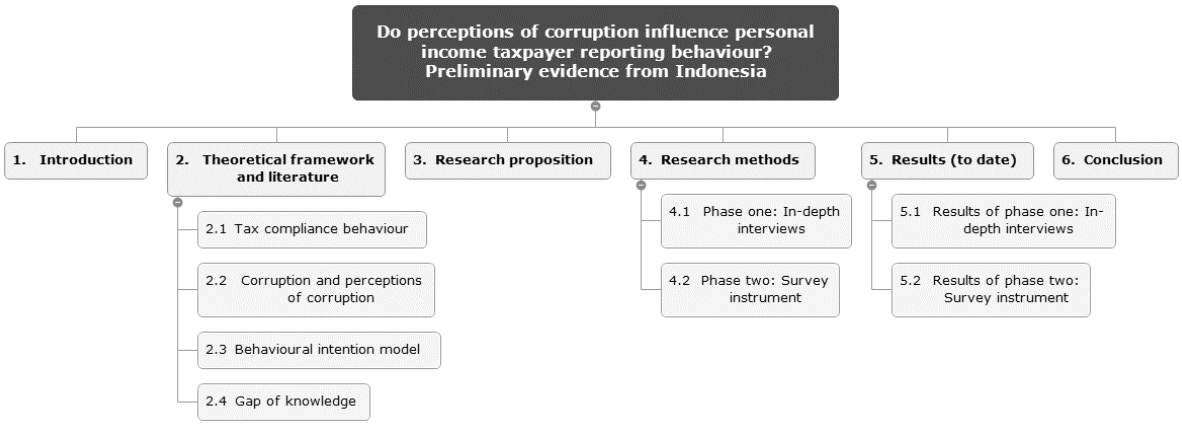
corruption can be biased. As a result, he concludes, reported perceptions have the potential to be systematically biased.

[10] The CPI 2012 survey includes more countries (i.e. 176 countries) than GCB 2013 survey (i.e. 107 countries). In terms of selected Asia-Pacific countries, there are some countries are excluded in the GCB 2013 survey such as: Bhutan, Brunei, China, Hon Kong, Singapore, Timor-Leste (Transparency International, 2013a; 2013b).

[11] The underreporting gap is the most difficult tax gap to estimate (IRS, 2001; NAO, 2008). In this context, the term 'indicator' implies a less direct measure that is optionally used when a 'direct measure' is impractical or unavailable. Accordingly, irrefutable evidence is not necessarily required for an 'indicator' (see, for example, OECD, 2008). The term 'tax gap' in this study refers to "the amount of income taxes not collected due to non-compliance" (Alm and McKee, 2006, p. 3). It is worth noting however that the term 'tax gap' can be defined in various way (see, for example, McKerchar, 2003; Loo et al., 2005; Brondolo et al., 2008; OECD, 2008b; IRS, 2009; HMRC, 2012; Weber et al., 2014).

**Figure 2: Structure of the paper**




## 2 Theoretical framework and literature

### 2.1 Tax compliance behaviour

While there is no consensus of what precisely is meant by compliant behaviour (McKerchar, 2003; Devos, 2014; Weber et al., 2014), definitions of tax compliance can be broadly categorised into two dimensions: conceptual and operational approaches. While the conceptual approach tends to emphasize the taxpayers' willingness to comply (see, for example, James and Alley, 2004; Kirchler, 2007; Weber et al., 2014), the operational approach focuses on the administrative fulfilment of particular tax obligations (see, for example, Jackson and Milliron, 1986; Alm, 1991; OECD, 2004; IRS, 2009).[12]

For practical purposes, the operational approach may offer an advantage. Based on this approach, taxpayers' compliance levels can be easily measured by simply evaluating whether all aspects of their tax requirements have been fulfilled.[13] Nevertheless, this approach is not immune from definitional problems. Tax compliance is a highly context-dependent and dynamic construct as it can change over time (Song and Yarbrough, 1978; McKerchar and Evans, 2009). Consequently, in interpreting the definition, additional preconditions such as ‘at a particular time and place’ obviously do matter.

[12] In the conceptual approach, for example, Kirchler (2007, p. 21) identifies tax compliance as "the most neutral term to describe taxpayers' willingness to pay their taxes” and Weber et al. (2014, p. 5) define tax compliance as "the absence of tax evasion". In the operational approach, for example, OECD (2004, p. 7) outlines four basic requirements to be considered compliant taxpayer: "(i) registration in the system; (ii) timely filing or lodgement of requisite taxation information; (iii) reporting of complete and accurate information (incorporating good record keeping); and (iv) payment of taxation obligations on time". Meanwhile, according to IRS (2009, p.32), taxpayers are categorised as compliant when they meet three primary obligations: "(1) to file timely returns; (2) to make accurate reports on those returns; and (3) to pay the required tax voluntarily and timely."

[13] For instance, data released by the Canadian Revenue Agency suggests that while tax compliance at the most basic level (i.e. filing and lodging on time) is somewhat satisfactory, the more substantive criteria of tax compliance—determined by the share of taxpayers categorised at ‘crucial risk of non-compliance’, shows more issues (Trivedi et al., 2005).

Consequently, tax compliance behaviour is obviously a dynamic concept.[14] This is because tax compliance exists not only in a dynamic environment but also involves differing types of taxpayers, which in turn producing various types of compliance outcome (McKerchar and Evans, 2009).[15] On the one hand, tax reporting is considered as a decision under certainty (Allingham and Sandmo, 1972) and part of social dilemmas (Braak,1983).[16] Also, as the government provides public goods and services in return for taxes, the potential for free-riding behaviour is inevitable (Axelrod, 1984). On the other hand, unintentional actions and indifference can be responsible for some non-compliance behaviour (Smith and Kinsey, 1987; McKerchar, 2003; Langham et al., 2012).[17]

While strictly and legally speaking tax compliance behaviour is an ex-post definition,[18] the diversity of possible outcomes of compliance behaviour has been recognised by several authors. For instance, the OECD (2004), based on their motivational postures, suggested that taxpayers can be sorted into four types: the disengaged, the resisters, the triers, and the supporters.[19] Similar to McKerchar (2003), Langham et al. (2012) observe four major types of compliance behaviour: (i) deliberately or intentionally compliant; (ii) accidentally or unintentionally non-compliant; (iii) accidentally or unintentionally compliant and (iv) deliberately or intentionally non-compliant.[20]

It is apparent that two related aspects need to be taken into account in examining tax compliance behaviour: intention and outcome (see, for example, Long and Swingen, 1991; Antonides and Robben, 1995; McKerchar, 2003; Langham et al., 2012; World Bank, 2015). While the outcomes of compliance behaviour vary, intention can be reasonably considered as the closest and the most accurate proxy for the performed behaviour (Lewis, 1982).[21]

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[14] In its simplistic term, 'behaviour' can be defined as "manner of behaving or acting". See, <http://dictionary.reference.com/browse/behavior>, retrieved 16 May 2015. In this context, tax compliance behaviour refers to how taxpayers behave regarding their tax obligations.

[15] Consequently, measuring comprehensively the diversity of taxpayer compliance behaviour can be complicated and may be impractical (OECD, 2004).

[16] In this case, according to Braak (1983) the incentive for 'free riders' or non-compliant behaviour is at a maximum when most citizens comply with their tax obligation.

[17] Additionally, Erard (1997) suggests that possibly due to tax ambiguity and complexity, a large portion of non-compliant tax returns may be unintentional. Swedish National Tax Agency (2008, p. 16) described it as 'unintentional errors', whereas Lederman (2003) termed it as 'innocent mistakes'.

[18] That is 'actual' tax compliance behaviour can only be gauged once a thorough audit is performed—by the tax authority—and the outcome is obtained.

[19] It should be noted, however, that it is not a permanent classification. An individual taxpayer tends to behave on a contextual basis and therefore is capable of embracing any of the described postures in a given context (OECD, 2004).

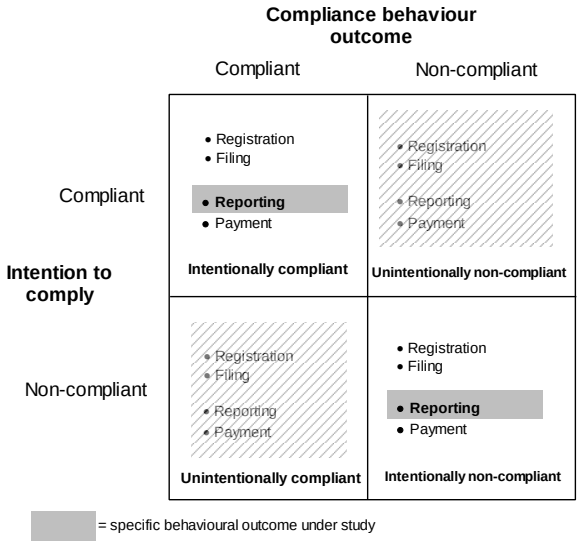
[20] Unintentionally non-compliant can take two forms: (i) unintentionally under-compliant or (ii) unintentionally over-compliant (McKerchar, 2003). Further, in terms of intentional compliance behaviour, McBarnett (2003) identifies three specific categories: (i) committed compliance—i.e. willing to comply with tax obligations without complaint; (ii) capitulative compliance—i.e. comply with tax obligations, but with reluctance; and (iii) creative compliance—i.e. comply with tax obligations, but deliberately pay a minimum share wherever possible (or, as long as lawful)

[21] Supporting this view, OECD (2010b, p. 10) highlights that "influencing taxpayer behaviour is therefore about increasing the willingness to comply and about enforcing the law if necessary". Similarly, Antonides

Generally speaking, the intention to perform is an immediate antecedent of targeted behaviour and captures the motivational factors that determine a given behaviour (Beck and Ajzen, 1991; Fishbein and Ajzen, 2010). Intention evaluates how hard an individual is willing to try and how much effort (s)he would exert to actuate the behaviour (Ajzen, 1991). Accordingly, it is assumed that the greater the behavioural intention to perform, the greater the likelihood an individual will actually perform the intended behaviour.[22]

Taken together, to obtain a greater clarity on the definitional issues and to maintain the specificity of the results, this study sets out two conceptual boundaries. First, tax compliance is defined as 'taxpayers'[23] willingness to accurately report income[24] in accordance with the prevailing tax law' (OECD, 2004; Kirchler, 2007; McKerchar and Evans, 2009).[25] Second, as illustrated in Figure 3, this study focuses on either 'intentional' compliant or non-compliant behaviour. Accordingly, tax compliance behaviour in this study refers to the self-reported outcomes of the taxpayers' intended reporting behaviour.[26]

**Figure 3: Tax compliance behaviour outcomes under review**[27]




and Robben (1995, p. 617) briefly maintain that "taxpayers' willingness and ability to conceal income from the tax authorities are key factors with respect to tax evasion."

22 According to Fishbein and Ajzen (2010, p. 39), behavioural intentions are "indications of a person's readiness to perform a behavior."

23 Given the scope of this study is personal taxpayers, the term 'taxpayers' in this study generally refers to personal taxpayers, otherwise other definition is explained.

24 In Indonesia, for taxation purposes income is defined as "*...any increase in economic capacity, received by or accrued by a taxpayer, from Indonesia as well as from offshore, which may be utilized for consumption or increasing the taxpayer's wealth, in whatever name and form ....*" (Article 4 (1) Consolidation of Law of the Republic of Indonesia Number 7 of 1983 concerning Income Tax as lastly amended by Law Number 36 of 2008).

25 It is worth noting that this definition deliberately excluded the 'registration', 'filing', and 'payment' criteria.

26 Academically speaking, it is hardly possible to identify taxpayers' behavioural outcomes in the case of 'unintentionally compliant' and 'unintentionally non-compliant' as the comprehensive assessment regarding the actual taxpayers' compliance behaviour is beyond the scope of this study. See also fn. 18.

27 Derived from McKerchar's (2003) types of behavioural outcomes and the OECD's (2004) definition of tax compliance behaviour.

## 2.2 Corruption and perceptions of corruption

*Corruption*

No country is immune from corruption (Shleifer and Vishny, 1993). Historically, the problem of corruption is probably as old as the government itself (Campbell, 2013). While by definition it may have various cultural and legal definitions (Melgar et al., 2010), corruption is recognised as a major impediment in preventing economic development in many areas of the world (Wilhelm, 2002; Blackburn et al., 2010).

Despite some exceptions,[28] empirical studies have extensively concluded that there is a negative correlation between corruption and economic growth (see, for example, Mo, 2001; de Vaal and Ebben, 2011). For instance, a panel data study has suggested that the rate of economic growth declines approximately 0.72 per cent as the corruption level increase one per cent (Mo, 2001). Consequently, various initiatives and actions have been developed to cope with this global issue.

As a social phenomenon, the concept of corruption does not operate in a vacuum. Its meaning depends upon the specific social and political context in which it is applied (Brown, 2006).[29] Social rules as well as moral views may also interrelate and vary significantly among different cultures and societies; as a result, an action could be a common courtesy in one society, but in a different context it could be considered as corrupt practice (Philp, 2006; Melgar et al., 2010). Specifically, in the Indonesian context, apart from its political and economic situation, cultural aspects have indicated its significant influence in allowing corruption to flourish (Robertson-Snape, 1999).[30]

As there is no general consensus on the definition of corruption (UNDP, 2008), corruption can be defined in several ways (see, for example, Werlin, 1973; Shleifer and Vishny, 1993; Doig and Theobald, 1999; Blackburn et al., 2010). Most of these definitions, however, are emphasising governmental aspects of corruption by highlighting the abuse of public authority for personal gains.[31]

A popular way of classifying corruption is by using its scale (UNDP, 2008). In this sense, corruption is classified in the sector where it occurs or the amounts of money involved. For example, similar to Doig and Theobald (1999), UNDP (2008) also distinguishes two types of corruption: grand corruption and petty corruption. Grand

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[28] For example, while its corruption rankings were very poor, Bangladesh has surprisingly impressive economic growth (Urra, 2007). Another interesting case is Indonesia under the Soeharto regime when the corruption was massive but apparently compatible with expansive economic growth (Kuncoro, 2006).

[29] Accordingly, Hillman (2004, p. 1067) maintains "the people who can best describe corruption are those themselves engaged in corruption."

[30] In this respect, for example, Donchev and Ujhelyi (2014) have suggested that to appropriately assess corruption, it should be on a country level basis given that each country has diverse characteristics.

[31] It is worth emphasising that the adopted definitions of corruption in this study, for the sake of clarity, only refer to the involvement of public officials. It is crucial to distinguish since, in general terms, corruption may include private sector (UNDP, 2008). For instance, corruption can be defined as "dishonest or illegal behaviour involving a person in a position of power, for example, accepting money for doing something illegal or immoral." See, <http://dictionary.cambridge.org/dictionary/business-english/corruption>, retrieved 2 October 2014. In other words, the focus of this study is "government corruption" (Shleifer and Vishny, 1993, p. 599).

corruption, on the one hand, represents the misuse of public power by high-level public officials such as ministers or senior staff for personal pecuniary gain. On the other hand, pretty corruption refers to the extortion of small payments by low-level public officials in daily interaction to smooth their function, and accordingly it is often called 'grease' money.[32]

Reflecting on its definition, corruption by nature is illegal and obviously a hidden activity (Doig and Theobald, 1999). Consequently, to directly measure the magnitude of this clandestine phenomenon is generally hampered by the lack of objective data (Urra, 2007), implying that to accurately measure corruption is not really possible (Campbell, 2013). Accordingly, how to effectively measure the extent of corruption has drawn a great deal of attention and fostered many studies among scholars and professionals.

Despite the difficulties, existing approaches to assess the extent of corruption can be mainly categorized into two main groups: objective and subjective measurements (Urra, 2007). Nevertheless, due to the scarcity of objective resources, the use of pure objective measurements to assess corruption seems impractical and is extremely rare (Urra, 2007; Campbell, 2013). As a response to the practical difficulties of adopting objective measurements, in contrast, most of the indicators to assess corruption are then based on subjective measurements (Campbell, 2013). In this context, while objective-based indicators generally assess the extent of corruption by using evidence-based quantitative data, the most popular subjective-based proxy to date is the accumulation of a number of opinion polls on corruption (UNDP, 2008; Campbell, 2013). Hence, perception-based measurements attempt to obtain the extent of corruption by typically employing subjective and intuitive questions such as "*how widespread do you think bribe taking and corruption are in this country*?" (Mishler and Rose, 2008, p. 7) or "*generally speaking, what is your opinion of the likelihood of diversion of money or corruption involving...*?" (Olken, 2009, p. 952) This approach, in some cases, may include 'experience-based' model to increase the usefulness of perception-based polls (Urra, 2007).[33]

*Perceptions of corruption*

Due to the secretive nature of corruption, most indicators used to assess corruption are based on subjective measurements (León et al., 2012), which are generally known as 'perception of corruption' indicators (Olken and Pande, 2012; Campbell, 2013). Although several indicators are currently available, the Corruption Perception Index

[32] Although in different names, this classification is also used by other authors. For example, Mishler and Rose (2008) adopt the terms ‘civic’ and ‘street-level’ corruption.

[33] For instance, according to Kaufmann et al. (2007, p. 2), “since corruption usually leaves no paper trail, perceptions of corruption based on individuals' actual experiences are sometimes the best, and the only, information we have.”

(CPI)[34] developed and published annually by Transparency International is considered as one of the most powerful tool in empirical work (Treisman, 2007) and is globally accepted (Urra, 2007). However, despite its popularity, the CPI index has attracted much criticism, particularly in terms of its inaccuracy and inconsistency to assess the extent of corruption in a country (Philp, 2006; Mishler and Rose, 2008; Campbell, 2013).[35]

The extensive use of perception-based indicators to assess corruption can be potentially problematic. First, although there is a positive relationship between reported corruption perceptions and objective measurements of corruption, these two variables cannot be interchangeably used to measure corruption. Consequently, examining perceptions of corruption to measure the extent of corruption may lead to misleading conclusions (Olken, 2009). Second, the elusive phenomena of perception corruption indices have a tendency to mislead the readers into believing they are 'actual' levels of corruption Urra (2007). Third, people are susceptible to being systematically biased in reporting corruption, either because their personal beliefs are biased or because the way individuals report corruption is biased (Kuncoro, 2006; Olken, 2009). Fourth, apart from its advantage of good coverage—it is obviously much easier and simpler to ask about people's belief of corruption than to actually scrutinize it directly—, perception-based measures may not precisely measure corruption (Olken and Pande, 2012).[36] Fifth, as the perception-based data only capture opinion about the prevalence of corruption but do not gauge corruption itself (Treisman, 2007), the perception-based measurement is not accurate and tends to exaggerate (Miller, 2006). Thus, using perception-based indices as a measure of actual corruption may be more problematic than suggested by the current literature (Donchev and Ujhelyi, 2014).

High level of perceived corruption can be destructive both at the social and the individual level. At the social level, Melgar et al. (2010) note that perceptions of corruption may have worse effects than the corruption itself by cultivating a "culture of distrust" towards related institutions. It also generates a cultural tradition that increases the pervasiveness of corruption. This view is supported by Mishler and Rose (2008) who propose the "echo chamber" problem of perceptions of corruption. They outline how the perceptions of national corruption linger as they are shaped by media reports or historical stereotypes and then captured by, for example, the CPI as 'recorded facts'.[37]

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[34] Corruption in this indicator is defined by the Transparency International (TI) as "the abuse of entrusted power for private gain". See, <http://www.transparency.org/whoweare/organisation/faqs_on_corruption/2/>, retrieved 25 August 2014.

[35] In response to the reliability and validity issues regarding perception-based approach, the TI has developed the Global Corruption Barometer (GCB)—firstly published in 2003—as supplemental information for the Corruption Perception Index (CPI)—firstly introduced in 1995. This index consists of a series of individual-level national surveys capturing both individual perceptions of and actual experience with corruption. For a detailed discussion regarding the validity and the precision of CPI, see Lambsdorff (2006)

[36] In the context of Indonesia, Olken and Pande (2012), for example, assert that the discrepancy between actual and perceived corruption in Indonesia post-Soeharto era can be induced by a much freer press which is able to make more corruption cases publicly accessible.

[37] The term 'fact' in this context can be appropriately defined as information that people believe to represent truth and is widely accepted as true (Babbie, 2004).

These data then circulate, reinforcing the prevailing level of perceptions and generating a vicious circle maintaining its reliability without evaluating its validity.

For instance, Dong et al. (2012) performed micro and macro data analysis upon international panel data set of European Values Survey (EVS), World Value Survey (WVS), and the International Country Risk Guide (ICRG) data to understand whether the perception of corruption is contagious.[38] The empirical findings sharply suggest that the perceived activities of peers and other individuals influence the respondents' willingness to engage in corruption—a phenomenon termed as 'reciprocity'. In the corruption context, according to Dong et al. (2012, p. 611), reciprocity means "if corruption within a society is very prevalent, citizens feel less guilt when engaging in extra-legal activities, and are likely to act accordingly." The macro level panel data indicates that the current level of perceived corruption is positively influenced by the past level of perceived corruption.

Analogously, the difference between experienced- and perception-based measurements of corruption may have a downward spiral effect on individuals. Ross et al. (1977, p. 279) highlight, "in a sense, every social observer is an intuitive psychologist who is forced by everyday experience to judge the causes and implications of behaviour." Mishler and Rose (2008) outline that inflated corruption perceptions may have the negative effect of undermining an individual's morality by unconsciously encouraging people to accept that engaging in corruption is normal and socially acceptable in a national context. It is common that to decide on appropriate behaviour in a given situation, individuals attempt to seek relevant information as to how similar others have behaved or are behaving, to be able to evaluate the appropriateness of their own beliefs, attitudes, and behaviour—a notion called as 'social validation' (Cialdini, 1989). In this respect, a significant negative correlation exists among the perceived levels of corruption and tax moral (Torgler, 2004). According to Torgler (2004), as a higher level of corruption perception crowds out the degree of tax morale, it may thereafter undermine the moral cost of evading tax and, as a result, encourage taxpayers to further behave opportunistically.

## 2.3 Behavioural intention model

One established behavioural intention model, particularly capable of explaining and identifying how psychological and behavioural factors can be converted into certain behavioural outcomes, is the Theory of Planned Behaviour (TPB).[39] Despite much criticism (Ajzen, 2011), the TPB has considerable popularity among behavioural researchers and received the highest score of scientific impact among US and Canadian social scientists (Nosek et al., 2010).

[38] The data includes 30 countries and 34 countries for the EVS and the WVS respectively, whereas the ICRG data covers 18 years (1986 to 2003).

[39] It is worth noting while there is plenty of exemplary scholarly work on taxation research that has no reference to theory at all, adopting existing theories in research endeavour can contribute to social science more widely by explaining phenomena and contributing to the development of theories (Oats, 2012a).

The TPB conceptualises that attitudes, subjective norms and perceived behavioural control lead to the formation of behavioural intentions, in which behavioural intention enables the prediction of actual behaviour. Additionally, the TPB also posits that a causal relationship exists between perceived behavioural control and actual behaviour.[40]

In relation to the topic of this study, by definition, perception is closely related to belief.[41] In this context, belief in the TPB model is defined as 'subjective probabilities' (Fishbein and Ajzen, 2010, p. 221). The TPB deals with three beliefs. First, behavioural beliefs represent the subjective probabilities that conducting certain behaviour produces a particular outcome. Second, injunctive normative beliefs are concerned with the subjective probabilities that certain group of referents encourage or discourage performance of a given behaviour, whereas descriptive normative beliefs refer to subjective probabilities that important referents are or are not doing the behaviour. Third, the subjective probabilities that certain factors can support or prevent the performance of a behaviour will occur are elements of control beliefs (Fishbein and Ajzen, 2010). Once beliefs associated with a certain behaviour have been developed, these beliefs then provide the basis for the attitudes, subjective norms, and perceived control which in turn lead to the formation of intention and a given behaviour (Fishbein and Ajzen, 2010).

It is also crucial to note that in the TPB framework, people are not assumed to be rational in their behaviour (Fishbein and Ajzen, 2010).[42] Instead, the TPB accepts that people's behaviour follows reasonably from their salient beliefs. This view is supported by several authors (see, for example, Cialdini, 1989; Eveland and Glynn, 2008; World Bank, 2015).[43] Given that beliefs are often based on information provided by others and on unreliable inference processes, these beliefs (behavioural, normative, and control beliefs) naturally need not to be valid or veridical. As a result, it can be inaccurate, unreliable, biased, or may represent other irrational processes (Fishbein and Ajzen, 2010). This holds true for the perceptions of corruption, as many authors maintain that

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[40] Drawing from the past literature, the TPB has been successful in explaining a variety of psychological and social factors in numerous studies of tax compliance behaviour such as: the impact moral obligation on tax compliance behaviour (Bobek and Hatfield, 2003); the influence of ethics as a representation of moral reasoning on tax compliance behaviour (Trivedi et al., 2005); the identification of the determinants of use-tax compliance decision (Jones, 2009); the role of fairness perceptions on tax compliance behaviour (Saad, 2011); the impact of intention to comply to predict compliance behaviour (Langham et al., 2012); and the accuracy of several social-psychological factors in predicting taxpayers' compliance behaviour (Smart, 2012).

[41] Perception can be referred to as "a belief or opinion, often held by many people and based on how things seem". See, <http://dictionary.cambridge.org/dictionary/british/perception>, retrieved 16 October 2014. As is true for the definition of corruption, the definition of perception of corruption also depends on social and cultural factors (Melgar et al., 2010).

[42] It is worth distinguishing between rational and rationality in this context. While choices are rational, rationality is considered as subjective and influenced by cultural values (Lewis, 1982).

[43] For instance, supporting the view of Cialdini (1989) who argues that individuals have tendency to adopt beliefs, attitudes, and behaviour of others—particularly those of similar others, as a guidance to evaluate their own beliefs, attitudes, and behaviour; Eveland and Glynn (2008, p. 159) maintain that "…perceptions of the beliefs, opinions, or behaviour of others as central determinants of human behaviour."

people are very susceptible to be biased in dealing with perceived levels of corruption (see, for example, Kuncoro, 2006; Miller, 2006; Urra, 2007; Olken, 2009; Olken and Pande, 2012; Donchev and Ujhelyi, 2014).

Referring to the relationship between background factors and beliefs, the formation of beliefs and the possibility of behavioural and psychological biases in the decision making process, it is reasonable to hypothesise that the perceptions of corruption might be capable of influencing the taxpayers' salient beliefs of both their attitudes toward behaviour and their subjective norms, but not their control beliefs to perform tax compliance behaviour.

The rationale for this is, first, given that attitude towards behaviour can be generally defined as an individual's psychological evaluation—i.e. some degree of favourableness or unfavourableness—of performing behaviour (Fishbein and Ajzen, 2010), the perceived corruption may crowds out the degree of tax moral, undermine the moral cost of evading tax, encourage taxpayer's to behave opportunistically (Torgler, 2004), erode taxpayers' willingness to contribute their fair share of tax (Torgler et al., 2008), pay less taxes (Kaufmann et al., 2007), and eventually may change the taxpayers' latent disposition to perform compliance behaviour (Cialdini, 1989).[44]

Second, provided that subjective norms generally deal with the perceived level of social pressure to execute or not to execute the targeted behaviour (Fishbein and Ajzen, 2010), the perceptions of corruption might cultivate a culture of distrust (Melgar et al., 2010), undermine citizen's morality by subtly encouraging people to accept the social reality that engaging in corruption is normal and acceptable in national context (Mishler and Rose, 2008) and consequently may shift the taxpayers' overall perceived social pressure regarding tax compliance behaviour (Cialdini, 1989).[45] On the other hand, in terms of control beliefs, given that perceived behaviour control (PBC) construct was added in the TPB to explain behaviours that are beyond complete volitional control, it can be intuitively assumed that the perceptions of corruption is not related to the taxpayers' salient beliefs on the perceived level of ease or difficulty to perform their behaviour.

## 2.4 Gap in knowledge

It is safe to say that to directly assess tax compliance behaviour—particularly non-compliant behaviour—is arguably impractical.[46] In terms of practicality, the most suitable party in understanding, assessing and influencing taxpayer behaviour would be

[44] Additionally, from a fiscal exchange perspective, it can also be argued that corruption may demotivate compliance as the taxpayers might perceive that, due to corruption, the presence (or benefit) of government expenditure they receive will be reduced (see, for example, Alm et al., 1992; Andreoni et al., 1998).

[45] In this respect, according to Lederman (2003), perceiving that other taxpayers do not comply would undermine one's own tendency to comply. Noticing others' noncompliance might change someone's moral standard, resulting someone might feel less guilty to commit non-compliance. Similarly, Wenzel (2005a) argues that conforming misperceived social norms—i.e. self-other discrepancy regarding the extent of tax evasion—could lead taxpayers to be less compliant.

[46] For instance, Lewis (1982, p. 167) highlights that "the problems of observing actual tax-evasion behaviour are insurmountable."

the tax authority. Also, from a legal perspective, due to the secretive nature of taxpayer data, it is considered that to precisely analyse their actual behaviour for an academic purpose is unlikely to be possible. In addition, the tax authority itself, which has the legitimate position to perform this action, has been hampered by limited resources. Accordingly, taxpayer compliance behaviour can be possibly approached from their closest behavioural proxy. Regarding this, a wealth of literature has emphasised the importance of taxpayers' willingness to comply or their behavioural intention in explaining and predicting their behaviour. This therefore leads to the subject and research problem of the study:

*Do perceptions of corruption affect intentional non-compliance behaviour of personal income taxpayers in Indonesia?*

As a largely unexplored area, this topic deserves closer study for three major reasons. First, it is apparent that as an interesting phenomenon corruption has attracted many researchers and scholars to view this topic from various angles, however, attempts to specifically link it with intentional tax non-compliance behaviour are still in their infancy. Second, there is an intuitive consideration that a causal relationship may exist between perceptions of corruption and tax compliance behaviour, although the nature of this relationship is not yet understood. Research on the behavioural factors such as the impact of perceptions of corruption could reduce the necessity to make assumptions and improve the quality of the predictions. Third, to be able to scrutinise and to contribute to the body of existing knowledge, this study focuses on a single variable rather than several variables. As the literature suggests, limiting the scope of the study to a specific and well-defined variable may enhance its clarity.[47]

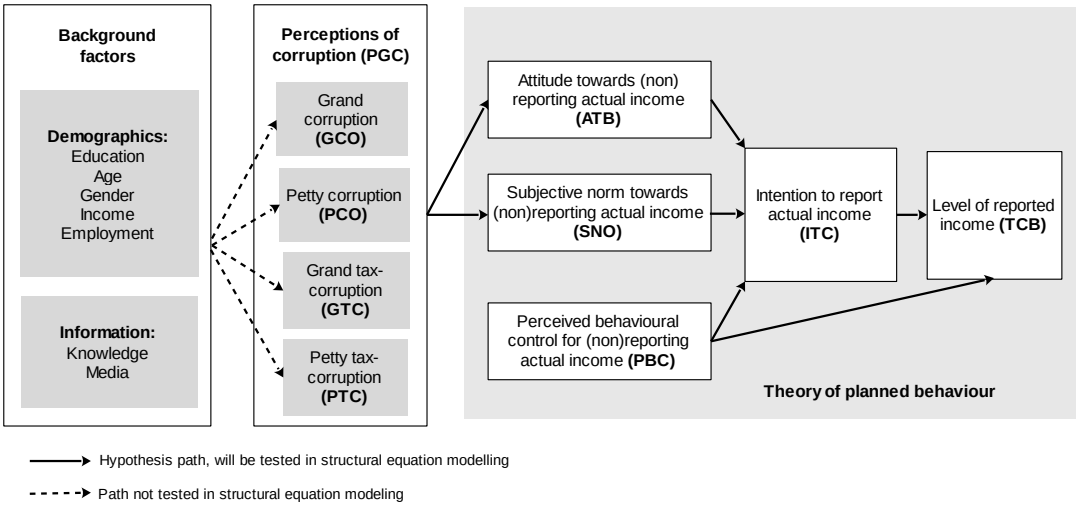
## 3 Research proposition

Based on the theoretical framework and extant literature, the research propositions are considered and illustrated in Figure 4. First, taxpayers' perceived levels of corruption are influenced by their background factors.[48] Second, the extent of perceived levels of corruption will negatively influence taxpayers' attitudes and their subjective norms towards reporting actual income. Coupled with the opportunity for non-compliance, negative attitudes and subjective norms will lead to the formation of behavioural intentions to underreport income. Further, the level of reported income can be predicted from taxpayers' behavioural intentions to report actual income.

[47] In the research process, this prescription refers to what researchers generally term the 'isolation' phase (see, for example, Gefen et al., 2000; Blunch, 2013). This prerequisite is crucial to be able to render a probability of causation between variables under study.

[48] It is worth noting that this proposition, while being elaborated in the author's PhD thesis, is beyond the scope of this paper.

**Figure 4: Conceptual model of the study**




To clearly comprehend the scope of the study, the research propositions are presented in as follows:

**Table 1: Research hypotheses**

| Hypothesis | Prediction |
|---|---|
| Hypothesis 1 | Perceptions of corruption affect taxpayers' attitude towards reporting actual income. |
| Hypothesis 2 | Perceptions of corruption affect taxpayers' subjective norm towards reporting income. |
| Hypothesis 3 | Taxpayers' attitude towards reporting income affect their intention to report their actual income. |
| Hypothesis 4 | Taxpayers' subjective norm towards reporting income affect their intention to report their actual income. |
| Hypothesis 5a | Taxpayers' perceived behavioural control for non-compliance affect their intention to report their actual income |
| Hypothesis 5b | Taxpayers' perceived behavioural control for non-compliance affect their levels of reported income |
| Hypothesis 6 | Taxpayers' intentions to report actual income affect their levels of reported income. |

## 4 Research methods—Population and data collection

This study employs both the qualitative and quantitative paradigms in a sequential priority model of "*qual→ QUANT*" to enhance research method capabilities and to improve the quality of research findings.[49]

In the first phase, in-depth interviews are used to clarify, to modify, and to develop more robust observed independent and dependent variables in the design of the questionnaires from theoretical perspectives. It is then followed by a survey to explain the structural patterns, through numeric measurement, of relationships among the variables of perceptions of corruption and the prescribed variables within the TPB-based on the quantitative data.

[49] This symbol means that qualitative method is employed as a supplementary method whereas quantitative method is adopted as a core method (Morgan, 2014). In other words, the priority method in this study is the quantitative method preceded by the preliminary contribution of the qualitative method.

## 4.1 Phase one: In-depth interviews

*Participants*

Participants in the qualitative phase consist of nine participants: three taxpayers, three tax officers and three tax agents. They reside in two big cities of East Java province (Malang and Surabaya) and range in age from 36 to 54 (M = 44.4 years, SD = 6.7 years). Both the tax agents and tax officers have at least eight years of working experience while the taxpayers have at least five years of working experience.

*Procedures*

The participants were interviewed using 20 semi-structured questions. The interviews were open-ended and interviewees were encouraged to provide their own thoughts and opinions on the questions. The researcher—as the interviewer—metaphorically took a role as 'a miner' instead of 'a traveller' during the interviews.[50] For data analysis, the interview data is transcribed into a verbatim format. Verbatim responses were then inputted into the CDC EZ-Text 4.0 software for further analysis.[51] A deductive and theoretical thematic analysis procedures described by Braun and Clarke (2006) is used.

## 4.2 Phase two: Survey instrument

### 4.2.1 Sample and survey coverage

Based on a careful estimation, it was concluded that the accessible population of this study is around 360,000 respondents. Moreover, as this study adopts structural equation modelling (SEM),[52] it is considered that the minimum samples for this study are 384.[53] The samples share an equal portion of self-employed and employed PITs.[54]

The survey was conducted with personal taxpayer visitors to 12 tax offices across four Indonesian regions (Denpasar, Malang, Surabaya and Yogyakarta). Most of the surveyed tax offices (75 per cent) were located in Java Island. The justification for this was two-fold. First, in terms of economic activity, despite its small size, Java Island accounts for almost 58 per cent of Indonesian GDP (BPS, 2013).[55] Second, the

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[50] According to Kvale and Steinar (2009, p. 48), in doing an interview, the interviewer has two contrasting optional roles, either as 'a miner' or as 'a traveller'. As a miner, "... knowledge is understood as buried metal", whereas as a traveller, knowledge is "... a journey to a distant country that leads to a tale to be told upon returning home."

[51] The software is available at <http://www.cdc.gov/hiv/topics/surveillance/resources/software/ez-text/index.htm>, retrieved 9 February 2015.

[52] According to Kline and Rex (2005), there are three categories for sample size in estimation methods: N < 100 is small, N between 100 and 200 is medium, and N > 200 is large. An appropriate sample size for a very complicated path model should be not less than 200 cases.

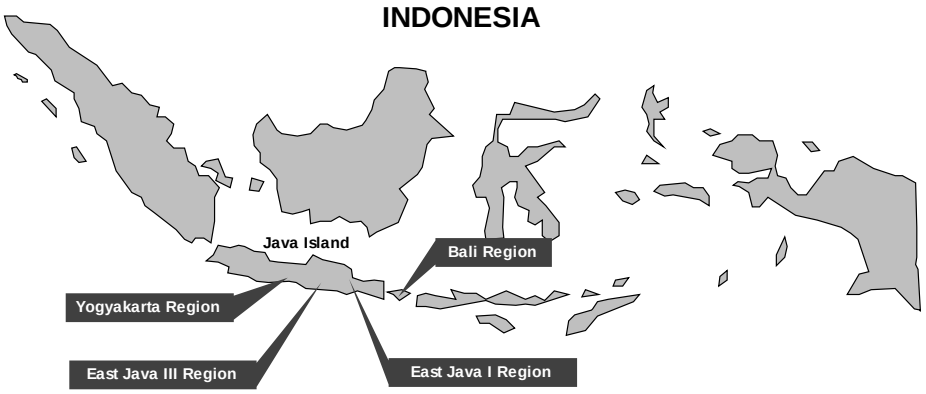
[53] This sample size is based on a calculation provided by Raosoft 'sample size calculator' software <http://www.raosoft.com/samplesize.html?nosurvey>, with 5% margin of error, 95% of confidence level, and the estimated accessible population size of 360,000. Retrieved 19 October 2014.

[54] In particular, surveyed self-employed PITs in this study are categorised as small and medium enterprises (SME) with annual sales turnover of operating business less than IDR 4.8 billion (equivalent to about AUD 466,926 as at 19 March 2014). Bookkeeping is not compulsory for them. Based on Government Regulation Number 46 Year 2013, they are taxed by way of a one per cent presumptive final income tax, which applies to their annual gross sales turnover. This new policy has an effective date of 1 July 2013.

[55] With land area less than 7 per cent of the total land area, Java Island is inhabited by more than 53 per cent of the total population (BPS, 2013).

majority of income taxpayers (60 per cent) are administered by 189 tax offices (57 per cent of the total number of tax offices in Indonesia) in this area.

**Figure 5: Survey location**




4.2.2 Pilot testing

Pilot tests are considered crucial in undertaking this study for two major reasons. First, the study examines taxpayers' attitudes, beliefs and motivations. Consequently, a vast majority of variables involved in this study are psychological constructs. Almost all psychological constructs are latent and, therefore, cannot be measured directly. In this sense, pilot testing can be used to evaluate and to ensure that the working indicators consistently reflect the construct they are measuring. Second, this study has adopted a mixed method approach, with the quantitative phase (survey) serving as its core method. Accordingly, greater attention needs to be directed to ensure that the questionnaire is accurate and reliable for data collection.

This study performed two stages of pilot testing prior to the actual survey conduct. The first stage focused on the development of questions while the second stage emphasised the evaluation of the reliability of the constructs.

*Participants and procedures*

The pilot testing was performed in two stages: declared and undeclared pilot tests.[56] The participants of the two pilot tests in this study are those who enroled in a tax certification programme.[57] In the declared phase, the participants were informed that the researcher was conducting a pilot test.[58] They were explicitly asked to help in

[56] The first and the second pilot testings were conducted on Thursday 12 March 2015 and Monday 16 March 2015 consecutively. The number of participants were almost equal, 29 and 30 respectively.

[57] Commonly known in Indonesia as '*tax brevet*' training. This program is organised by Tax Center Faculty of Administrative Science University of Brawijaya and Indonesian Tax Consultants Association (IKPI).

[58] It is worth noting that the questionnaire was initially reviewed by several individuals prior to the first pilot test. These included a social researcher from the Finance and Education Training Unit Ministry of Finance, a senior tax officer, and several staff members of the Tax Center of the Faculty of Administrative Science University of Brawijaya. Useful feedback was received from this preliminary stage particularly on the layout of the questionnaire, including the text direction and the use of acronyms for '*Strongly Agree—Strongly*

improving the questionnaire by providing comments or feedback whilst completing the questionnaire. In particular, the respondents were required to indicate: (i) questions that seemed to be capable of misinterpration or which have ambiguous meanings and (ii) questions that made the respondent feel uncomfortable.

Based on the feedback from the declared pilot testing, the questionnaire was then fine-tuned and the undeclared stage was carried out. Compared to the declared stage, the differences in the undeclared stage of pilot testing were two-fold. First, the respondents were not requested to provide comments or feedback relating to the questionnaire. Second, the respondents in the second phase were explicitly required to regard themselves as imaginary 'real taxpayers' in completing the questionnaire. They were free to imagine whether they were employed or self-employed taxpayers.

*Completion time*

The completion time in pilot testing can be used to indicate the potential burden on the respondents in responding to the questionnaire. The data from the second pilot test suggest that the time constraints to deal with the completion of the questionnaire are intuitively acceptable. A vast majority of respondents (70 per cent) completed the questionnaire in 10-19 minutes, followed by those who finished in less than 10 minutes (27 per cent) and only one respondent who completed the survey in more than 20 minutes.

*Reliability testing*

Reliability testing was performed in the second pilot test to examine the reliability scale of the questionnaire. The IBM SPSSS v.21 is used to perform the analysis. The reliability analysis conducted on the second pilot test data (summarised in Table 2 below) indicates that the proposed questionnaire has the potential to produce reliable and valid data in the actual survey.

**Table 2: Cronbach's Alpha scores for reliability testing**

| Section | Tested construct | Assigned code | Number of indicators | Cronbach's Alpha score | Reliability status |
|---|---|---|---|---|---|
| **A** | *Perceptions of general corruption* | PGC | 5 ($A_1$-$A_5$) | 0.721 | *Good* |
| **B** | *Perceptions of grand corruption* | GCO | 5 ($B_1$-$B_5$) | 0.779 | *Good* |
| **C** | *Perceptions of petty corruption* | PCO | 5 ($C_1$-$C_5$) | 0.756 | *Good* |
| **D** | *Perceptions of grand tax-corruption* | GTC | 5 ($D_1$-$D_5$) | 0.783 | *Good* |
| **E** | *Perceptions of petty tax-corruption* | PTC | 5 ($E_1$-$E_5$) | 0.685 | *Acceptable* |
| **F** | *Attitude towards paying tax* | ATB | 9 ($F_1$-$F_9$) | 0.784 | *Good* |
| **G** | *Views on paying tax* | SNO | 8 ($G_1$-$G_8$) | 0.772 | *Good* |
| **H** | *Situation towards paying tax* | PBC | 8 ($H_1$-$H_8$) | 0.778 | *Good* |
| **I** | *Intention to comply* | ITC | 4 ($I_1$-$I_4$) | 0.840 | *Very good* |
| **J** | *Compliance behaviour*[1] | TCB | 4 ($J_1$-$J_2$) | 0.636 | *Acceptable* |

*Disagree'* scales, the comfort of the font size, the recommended colour of the letterhead for the coversheet, as well as the solid background colour for the sections title.

### 4.2.3 Survey administration

*Procedures*

Survey administration generally deals with how a survey was conducted, aimed particularly to ensure the accuracy of the survey findings (Weisberg, 2008). This study had taken several steps to deal with survey administration.

First, professional looking questionnaires were produced to make potential respondents feel that a professional and credible study was being undertaken.[59] The sponsoring university was also acknowledged to increase respondents' sense of confidentiality and that no direct link with the tax authority could be expected to exist.[60]

Second, to increase the cooperation rate and optimise the quality of answers, the researcher prepared two informational survey tools: leaflets and a standing banner. Both of these tools—printed in an eye-catching format—similarly disseminated four important pieces of information concerning the survey: (i) a question whether the respondents had approximately ± 10 minutes of spare time; (ii) an offer to join a one-off survey; (iii) an explicit statement that the survey was completely anonymous, and that detailed information such as name, address, or tax file number was not required to participate in the survey; and (iv) a statement that a souvenir would be given for participation. A survey booth was also provided during the conduct of the survey.

Third, to make it easier for the respondents to recall their recent compliance behaviour,[61] the survey commenced in the third week of March with an assumption that a vast majority of the potential respondents would have already lodged, or would be in the process of lodging, their 2014 annual tax returns.[62]

Fourth, given that the researcher was an Indonesian tax officer, and in order to minimise unwanted potential psychological pressure on the respondents' positions as taxpayers, the survey was conducted by two well-trained research assistants. Research intermediaries are considered crucial to assure the potential respondents that the study was an academic project as well as to indicate that the study had no link with the Indonesian tax authority.

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[59] It is believed that visual appeal of questionnaire can impact on response rate (McKerchar, 2012a).

[60] Mentioning sponsorship of a study is viewed as one of the effective ways to increase response rate (Bryman and Bell, 2003). It is also worth noting that to psychologically emphasise the 'anonymous nature' of the survey, the researcher deliberately placed the 'background information' section (Part K) in the last page of the questionnaire. In this case, a suggestion not to start with demographic questions (such as age, marital status, etc.) in designing survey questionnaire has been pointed out by some scholars (see, for example, de Vaus, 2014).

[61] This is because, in recalling past behaviour, it is easier to retrieve actions that were performed recently than those of a long time ago (Podsakoff et al., 2012), particularly due to memory lapses (Van Dijke and Verboon, 2010).

[62] It is worth noting that the potential respondents were voluntarily recruited by research assistants (RA) when they reported their tax affairs in the selected tax offices in person. It is common practice in Indonesia that most taxpayers personally lodge their tax annual returns at various tax offices.

Fifth, the survey was conducted by using mixed-modes: a combination of face-to-face interviews and self-completion survey.[63] Face-to-face interviews were initially used by the research assistants to recruit respondents while self-completion surveys were employed to capture respondents' answers. There are two justifications for adopting this mixed-modes approach. First, face-to-face interviews have had a good reputation for gaining cooperation (de Vaus, 2014). In this respect, the presence of trained research assistants may help to achieve this goal. Second, reflecting on the sensitive nature of the study, self-completion questionnaire surveys were considered as the most suitable mode to particularly capture confidential responses.

In conclusion, this study took two necessary steps to anticipate problems that might undermine the quality of research findings: pilot testing and survey administration. These steps increase the confidence in the conduct and the outcomes of the survey and, therefore, were worth taking.

## 5 Results (to date)

### 5.1 Results of phase one: In-depth interviews

The total length of interviews was 432 minutes, and ranged from 31 to 76 minutes (M = 48 minutes, SD = 13 minutes) for each interview. The deductive thematic analysis resulted in 28 categories being identified, which covered 82 per cent of available pre-existing codes, leaving six pre-existing codes unused.[64] A total of 272 assigned codes were identified from the interview data. The number of assigned codes varied widely from code to code, ranging from one to 41. Details of themes, sub-themes, pre-existing codes and the number of assigned codes are summarised in Table 3.

The semi-structured interviews encouraged the participants to provide their own thoughts and opinions about the topic, and as a result several similar codes were identified in different responses across different questions. For example, as shown in Table 3, a total of 41 assigned codes of negative intention to comply (coded as '*ITCnega*') were found in 15 responses to 19 questions (79%).

Perhaps nothing is surprising when it comes to the level of perceived corruption in Indonesia; a consensus has emerged from the participants that corruption is a 'hallmark' of Indonesia. To come to that view, while few participants have had direct experience towards corruption practices, all participants have suggested that television, mass media, and social media are the primary source of information about corruption, implying that information about corruption primarily relied on indirect source of information.

[63] Mixed-modes survey refers to the adoption of several methods to collect survey data (Dillman et al., 2008).

[64] One of the purposes of coding of open-ended questions in the qualitative approach is to make the data more manageable. By doing so, analytical generalisation can be made (McKerchar, 2012b).

**Table 3: Theme, sub-theme, corresponding question, and its coding**

| No | Theme / variable | | Sub-theme | Pre-existing code | Corresponding question(s) | | | | | | | | | | | | | | | | | | | Assigned code(s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |
| 1 | General information | | Level of tax knowledge | Tknhigh | | 1 | | | | | | 1 | | | | | | | | | | | | 2 |
| | | | | Tknlow | 1 | | | | | | | 1 | 1 | 4 | | 1 | | | 1 | | | | | 9 |
| | | | Opportunity not to comply | EmTaxpa | | 1 | | | | | | | | | | | | | | | | | | 1 |
| | | | | SETaxpa | | 6 | | | | | | | | | 1 | | | | | | | | | 7 |
| 2 | Perception of corruption | | Level of perceived corruption | PoChigh | | | 9 | | 1 | | 1 | 1 | | | 1 | | 1 | 1 | 1 | | 1 | 1 | | 18 |
| | | | | PoClow | | | | | | | | | | | | | | | | | | | | |
| | | | Grand general-corruption | GGChigh | | | 7 | 1 | 2 | | | | | | | | | | | | | | | 10 |
| | | | | GGClow | | | | | | | | | | | | | | | | | | | | |
| | | | Petty general-corruption | PGChigh | | | 5 | 1 | 3 | | | | | | | | | | | | | | | 9 |
| | | | | PGClow | | | | | | | | | | | | | | | | | | | | |
| | | | Grand tax-corruption | GTChigh | | | 1 | | | 1 | | | | | | | | | | | | 1 | | 3 |
| | | | | GTClow | | | 1 | | 1 | | | | | | | | | | | | | | | 2 |
| | | | Petty tax-corruption | PTChigh | | | 1 | | | | | | | | | | | | | | | | 1 | 2 |
| | | | | PTClow | | | | | 1 | | | | | | | | | | | | | | | 1 |
| | | | Potential impact upon compliance | PIPhigh | | | | | | | | | | | | | | | | | | 6 | | 6 |
| | | | | PIPlow | | | | | | | | | | | | | | | | | | 2 | | 2 |
| | | | Source of information | Solindi | | | 1 | | 6 | 7 | | | | | | | | | | | | 1 | | 15 |
| | | | | Soldire | | | 2 | | 4 | 2 | | | | | | | | | | | | | | 8 |
| 3 | Theory of planned behaviour | Attitude towards behaviour | Experiential attitude | ExAnega | 1 | 2 | | | | 1 | 3 | 1 | | 2 | | 7 | 1 | | 1 | | | 3 | 3 | 25 |
| | | | | ExAposi | | | | | | | | | | | | 1 | 4 | | | | | | | 5 |
| | | | Instrumental attitude | InAharm | | | | | | | 1 | | | | 2 | 1 | 4 | | 1 | | | | 1 | 10 |
| | | | | InAbene | | | | | | | 1 | | | | | 2 | 2 | | | | | | | 5 |
| 4 | | Subjective norms | Injunctive norms | InNnega | | | | | | | | | | | | | 1 | 7 | 3 | 1 | | 2 | | 14 |
| | | | | InNposi | | | | | | | | | | | | | | | | | | | | 0 |
| | | | Descriptive norms | DeNnega | | | | | | | | | | | | | 1 | 7 | 1 | 1 | 2 | 1 | 1 | 14 |
| | | | | DeNposi | | | | | | | | | | | | | | | | | | | | |
| 5 | | Perceived behavioural control | | PBChigh | 3 | 4 | | | | | | 2 | 4 | 1 | 3 | | | 2 | 1 | 3 | 2 | | | 25 |
| | | | | PBClow | | | | | | | | | | | | | | | 1 | 1 | | | | 2 |
| 6 | | Intention to comply | | ITCnega | 4 | 3 | | | | | 2 | 3 | 1 | 8 | 6 | 4 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 41 |
| | | | | ITCposi | | | | | | | | | | 1 | | | | | | | | | | 1 |
| 7 | | Tax compliance behaviour | Definition of compliance | TCBfode | | | | | | | | 2 | 2 | | | | | | | | | | | 4 |
| | | | | TCBmade | | | | | | | | 1 | 3 | | | | | | | | | | | 4 |
| | | | Perceived level of compliance | TCBlow | 3 | 2 | | | | | | 8 | 1 | 3 | 6 | 1 | 2 | 1 | | | | | | 27 |
| | | | | TCBhigh | | | | | | | | | | | | | | | | | | | | |
| Total | | | | | 12 | 19 | 27 | 2 | 18 | 11 | 8 | 20 | 12 | 19 | 19 | 17 | 18 | 19 | 11 | 7 | 7 | 19 | 7 | 272 |

Although few participants had different views about the definition of corruption,[65] participants' views towards types of corruption can be mapped. In terms of the amount of money or identification of those involved in corrupt practices, similar to what has been suggested by existing literature (Doig and Theobald, 1999; UNDP, 2008), many participants were able to recognise two main dimensions of corruption: (i) small and big corruption; and (ii) tax and non-tax corruption.

The data also revealed that high levels of perceived corruption are generally assumed to have a negative impact upon compliance behaviour. However, the extent to which perceptions of corruption might be capable of influencing compliance behaviour is viewed differently by the participants. In contrast to the majority of responses, two participants argued that the impact, while negative, is negligible. Further, although views on the potential negative impact of perceived corruption are observable, little is known from the data about the mechanism through which this situation influenced the way PIT behave.

[65] For example, a participant viewed that corrupt practises are not only limited to monetary activities but also deal with (time) punctuality. An Indonesian typical term for this phenomenon is '*korupsi waktu*'. Further, while the majority of participants implied that corruptions generally occur in public sector, another participant expressed his view on potentiality of corrupt practices to occur in private sector.

It is clear from the analysis of qualitative data that several meaningful patterns emerge. Using the TPB as an analytical tool, the patterns are intuitively easy to interpret. First, the data suggests that PIT were perceived by participants as having a high likelihood not to comply with the tax law, indicated by the extent of negative intention to comply score. In this sense, the TPB posits that 'intention to comply' has three antecedents: (i) attitudes towards behaviour; (ii) subjective norms; and (iii) perceived behavioural control (Fishbein and Ajzen, 2010). Generally speaking, people will comply when the attitudes are positive and the subjective norms are to conform (Ajzen, 1991). In this sense, the data indicate the opposite direction. The participants were of the opinion that complying with the tax law is associated with 'bad' feeling and 'disadvantages' which represent overall negative attitudes toward compliance behaviour. The overall negative value on subjective norms also indicates that the perceived level of social pressure to comply with the tax law is completely absent, which in turn might implicitly encourage PIT to become non-compliant. The data also reveal that PIT were generally assumed to have a considerable control over whether or not they want to intentionally engage in tax evasion. Taken together, it seems reasonable to associate these three conditions with the extent of perceived likelihood not to comply with tax.

Second, taxpayers' compliance behaviour can be approached by its closest behavioural proxy (Fishbein and Ajzen, 2010). A wealth of literature has also emphasised the significance of taxpayers' behavioural intentions in explaining and predicting their behavioural outcomes (see, for example, McKerchar, 2003; Langham et al., 2012). In this sense, the data suggests that a hypothetical link comes to exist between negative intention to comply and low levels of compliance behaviour. It should be noted, however, that while negative behavioural intention enables the prediction of actual non-compliance behaviour, the extent to which actual non-compliance behaviour can be performed depends on taxpayers' volitional control to perform the targeted behaviour. As described by some of the participants, in order to do so, some taxpayers might seek assistance from third parties such as tax agents.

Third, the data also demonstrates a correlation between the high level of perceived corruption and low levels of compliance behaviour. However, little is known from the data about how this connection is linked. What the data might suggest is that high levels of perceived corruption can be linked to both situational and motivational factors.

The justifications for these links are two-fold. First, the situational factor is indicated by the extent of negative psychological evaluation towards a high level of perceived corruption and complying with tax. Indeed, 'why should I pay tax if it is just being corrupted?' is a frequently expressed view heard from participants—this sentiment was uttered 18 times in total during the interviews. Also, as two participants have precisely described, to compensate for such a 'non-deductible payment' for tax calculation purposes, certain types of taxpayers might have no choice but to underreport their actual income.[66] Thus, corruption, either perceived or real, might lead to a negative

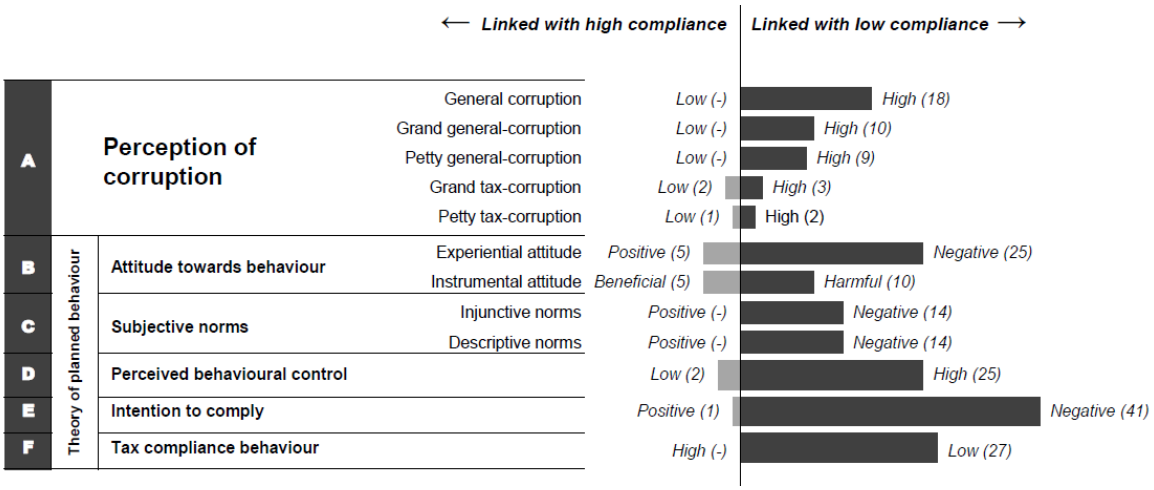
[66] Otherwise, taxpayers may have to pay 'double-taxes' which obviously reduces their financial circumstances.

psychological evaluation towards the completeness and the accuracy of information declared in the annual income tax return of PIT. Second, the motivational factor can be related to a lack of perceived social pressure among PIT to fully comply with the tax law, particularly in providing complete and accurate information declared in the annual income tax returns. Overall negative values on both injunctive and descriptive norms among the participants indicate that the beliefs of certain groups of referents discourage PIT from complying with the tax law and beliefs that PIT's important referents are not fully reporting their income were evident.

Taken together, it is now possible to propose a hypothetical relationship between high levels of perceived corruption with low levels of compliance behaviour. In this sense, this model conceptualises that perceived levels of corruption influence both attitudes and subjective norms of PIT. Further, the affected attitudes and subjective norms, combined with high level of perceived behavioural control for non-compliance, lead to the formation of a negative intention to fully comply with the tax law. Subsequently, this negative behavioural intention can be reasonably used to predict the low level of compliance behaviour. It should be noted that, as the theory posits, high levels of perceived behavioural control not to comply with tax are assumed to have two effects on behavioural outcomes: an indirect effect through negative behavioural intention and a direct effect on behaviour. The diagrammatic interpretation of the data results and the proposed relationships among variables (coded as *A*, *B*, *C*, *D*, *E*, and *F*) is illustrated in Figure 6. [67]

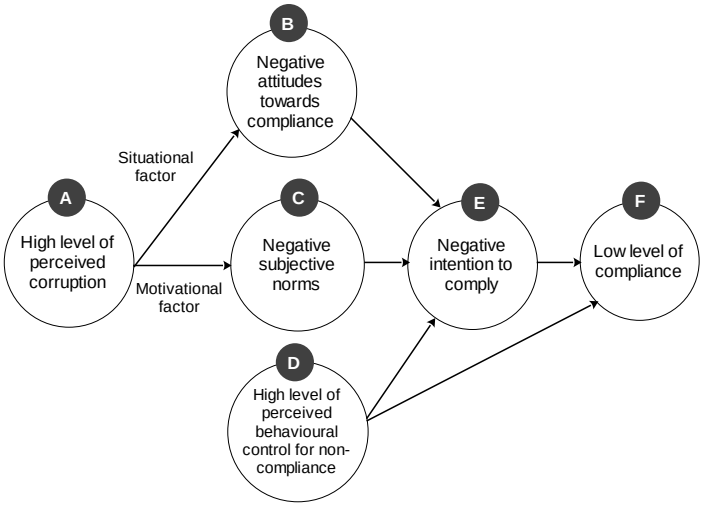
**Figure 6: Diagrammatic interpretation of qualitative findings and hypothetical relationships between perceptions of pervasive corruption and poor level of tax compliance**

**A. Diagrammatic interpretation of qualitative findings**




[67] One of the purposes of the coding of open-ended questions in the qualitative approach is to make the data more manageable. By doing so, analytical generalisations can be made (McKerchar, 2012b).

**B. Diagrammatic interpretation of qualitative findings**




To sum up, the findings from the qualitative phase suggest three important points. First, high levels of perceived corruption in Indonesia are evident, confirming some reports and literature that have placed Indonesia in the top ranks of corrupt countries. Second, using the TPB as a theroetical lens to scrutinise the potential impact of perception of corruption upon how PIT in Indonesia behave is reasonably promising, indicating that a 'green-light' exists to adopt the TPB-based conceptions for the quantitative phase. Third, the emerging key themes and the hypothetical relationships enable the researcher to formulate specific research questions that were quantitatively tested in the second phase.

## 5.2 Results of phase two: Survey instrument

### 5.2.1 Profile of respondents based on their annual income tax return

*By their annual income levels*

The surveyed respondents consist of two groups: 196 self-employed PITs and 201 employed PITs.[68] While self-employed PITs regardless of their income level use 1770 form for their annual tax return, employed PITs use two types of annual tax return: 1770S and 1770SS. The 1770S is used by employed PITs with annual income more than IDR 60 million and the 1770SS is completed by employed PITs with annual income less than or equal to IDR 60 million. As illustrated in Table 4, a majority of respondents (70%) has annual income level less than IDR 60 million with only eight (2%) of respondents have annual income more than IDR 200 million. Further, PITs who have annual income level less than IDR 60 million are the majority for both self-employed (1770) and employed PIT (1770SS) with 63% and 71% respectively.[69]

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[68] For a detailed characteristic of the surveyed self-employed PIT in this paper, see fn. 54.

[69] Respondents' representativeness of the sample frame has been performed by comparing the portion of surveyed employed PITs with the data from the Indonesian tax authority. The official data suggests that the portion of annual tax return lodged by employed PIT shares similar proportion to the surveyed respondents at four levels. The portions of lodged 1770SS tax returns for year 2014 for national level (331 tax offices),

**Table 4: Respondents' types of tax return by their annual income levels**

**Correspondence Table**

| Types of annual tax return | Annual income levels | | | | | |
|---|---|---|---|---|---|---|
| | < IDR 60 million | IDR 60 - 99 million | IDR 100 - 149 million | IDR 150 - 199 million | > IDR 200 million | Active Margin |
| 1770 | 123 | 41 | 16 | 11 | 5 | 196 |
| 1770 S | 10 | 27 | 11 | 7 | 3 | 58 |
| 1770 SS | 143 | 0 | 0 | 0 | 0 | 143 |
| Active Margin | 276 | 68 | 27 | 18 | 8 | 397 |

*By their age groups*

Table 5 presents the age groups of respondents. The respondents are concentrated in two age ranges, 24-34 and 35-44 years old with 35 per cent and 33 per cent respectively. This is followed by 45-54 years old group which comprises of 19 per cent of the total respondents. Unsurprisingly, respondents who have ages exceeding 65 years old are the least proportion of age groups with less than 2 per cent of the total respondents.

**Table 5: Respondents' types of tax return by their age groups**

**Correspondence Table**

| Types of annual tax return | My age group is ... | | | | | | |
|---|---|---|---|---|---|---|---|
| | < 25 years | 25 - 34 years | 35 - 44 years | 45 - 54 years | 55 - 64 years | > 65 years | Total |
| 1770 | 13 | 72 | 69 | 34 | 5 | 3 | 196 |
| 1770 S | 3 | 21 | 17 | 12 | 4 | 1 | 58 |
| 1770 SS | 9 | 46 | 46 | 30 | 9 | 3 | 143 |
| Total | 25 | 139 | 132 | 76 | 18 | 7 | 397 |

*By their levels of education and types of tax handling*

Table 6 shows the details of respondents' levels of education and the way they completed their 2014 annual tax returns. In terms of levels of education, a majority of respondents have finished their undergraduate level (59 per cent). Conversely, postgraduate level is completed by 7 per cent of respondents. In this case, as illustrated in Figure 7, employed PITs with annual income level less than IDR 60 million (1770SS) and self-employed PIT (1770) tend to have lower educational qualifications compared to employed PITs with annual income more than IDR 60 million (1770S).

Most respondents are self-prepared in dealing with the completion of 2014 annual tax returns (51 per cent), with only 2 per cent of them used tax agents to prepare their annual tax return. Moreover, as shown in Figure 7, while employed PITs with annual income less than IDR 60 million (1770 SS) tend to use tax offices' assistance, self-employed PITs (1770) are likely to either self-prepared or sought assistance from their

regional level (39 tax offices) and surveyed tax offices level (12 tax offices) are 74%, 75% and 73 % respectively.

families or friends. Tax agent appears to be used by self-employed PIT and employed PIT with annual income more than IDR 60 million.

**Table 6: Respondents' levels of education and types of tax handling**

**Correspondence Table**

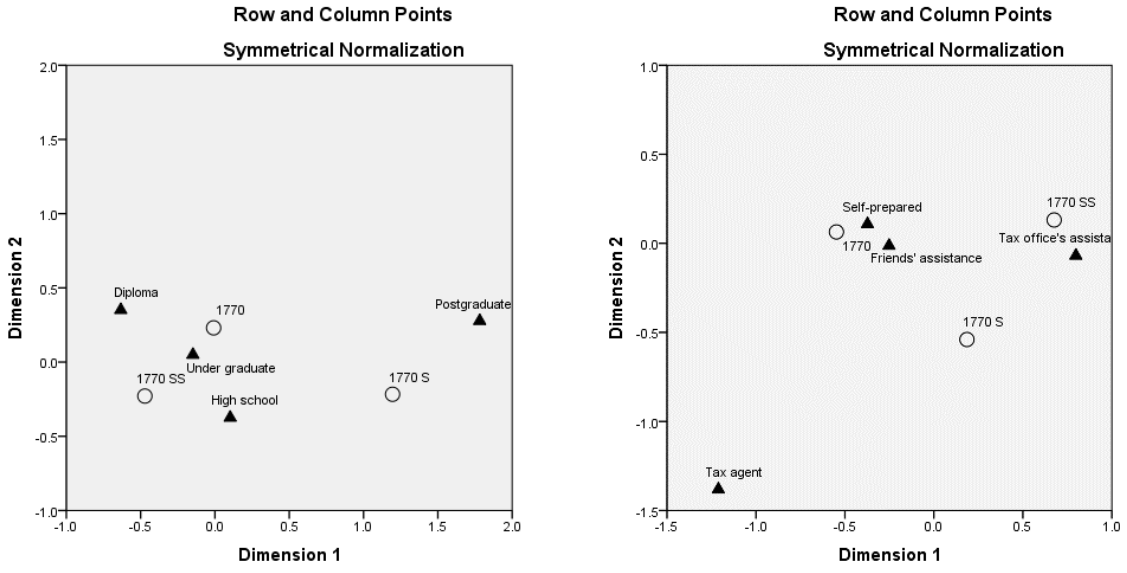
| | Highest levels of education | | | | |
|---|---|---|---|---|---|
| Types of annual tax return | High school | Diploma | Under graduate | Postgraduate | Active Margin |
| 1770 | 41 | 22 | 118 | 15 | 196 |
| 1770 S | 16 | 1 | 28 | 13 | 58 |
| 1770 SS | 34 | 18 | 90 | 1 | 143 |
| Active Margin | 91 | 41 | 236 | 29 | 397 |

**Correspondence Table**

| | Types of tax handling[a] | | | | |
|---|---|---|---|---|---|
| Types of annual tax return | Self-prepared | Tax office's assistance | Friends' assistance | Tax agent | Active Margin |
| 1770 | 122 | 35 | 32 | 7 | 196 |
| 1770 S | 26 | 22 | 8 | 2 | 58 |
| 1770 SS | 56 | 70 | 17 | 0 | 143 |
| Active Margin | 204 | 127 | 57 | 9 | 397 |

a. In relation to annual tax return

**Figure 7: Correspondence analysis of levels of education and types of tax handling by types of tax return**




○ = types of annual income tax return;
▲ = highest levels of education

○ = types of annual income tax return;
▲ = types of tax handling

*By their previous interactions with the tax authority*

Table 7 details the relationships between respondents' previous interaction with the tax authority and their types of annual tax return. Most respondents have never been contacted by the Indonesia tax authority (74 per cent). Conversely, only around two per cent of respondents experienced tax audit. Moreover, correspondence analysis

suggests self-employed PITs appear to have a more chance of getting audited than employed PITs. Self-employed PITs also tend to be contacted by the tax authority.

**Table 7: Respondents' previous interaction with the tax authority**

**Correspondence Table**

| | Previous interaction with the tax authority | | | | |
|---|---|---|---|---|---|
| Types of annual tax return | I have never been contacted by the DGT | I have been contacted, but never been audited | I have been audited but never been penalised | I have been audited and penalised | Active Margin |
| 1770 | 125 | 63 | 3 | 5 | 196 |
| 1770 S | 47 | 11 | 0 | 0 | 58 |
| 1770 SS | 121 | 22 | 0 | 0 | 143 |
| Active Margin | 293 | 96 | 3 | 5 | 397 |

5.2.2 Respondents' perceived levels of corruption.

Table 8 details the respondents' scores of perceived levels of five forms of corruption. The mean scores demonstrate that the perceived level of corruption in Indonesia is high. In general, the highest perceived level of corruption is grand corruption, with the lowest mean value for its indicator is 6.46 out of 7. Perceptions of petty tax-corruption appear to have the lowest mean score for its indicator of 4.91 out of 7.

**Table 8: Respondents' perceived level of different forms of corruption**

**Perceptions of general corruption — PGC**
(*the abuse of entrusted power by public officials for private gain)*

| Indicators | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| A1 | 397 | 3 | 7 | 6.11 | .918 |
| A2 | 397 | 4 | 7 | 6.21 | .906 |
| A3R | 397 | 4 | 7 | 6.11 | .874 |
| A4 | 397 | 3 | 7 | 6.13 | .851 |
| A5 | 397 | 3 | 7 | 6.22 | .902 |
| Valid N (listwise) | 397 | | | | |

**Perceptions of grand corruption — GCO**
(*the misuse of public power by high-level public officials for private gain which often involves large sums of money)*

| Indicators | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| B1 | 397 | 4 | 7 | 6.48 | .676 |
| B2 | 397 | 4 | 7 | 6.50 | .646 |
| B3R | 397 | 3 | 7 | 6.47 | .698 |
| B4 | 397 | 4 | 7 | 6.46 | .656 |
| B5 | 397 | 4 | 7 | 6.50 | .665 |
| Valid N (listwise) | 397 | | | | |

**Perceptions of petty corruption — PCO**
(*the extortion of small payments by low-level public officials in daily interactions with the public as 'grease money')*

| Indicators | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| C1 | 397 | 4 | 7 | 6.36 | .705 |
| C2 | 397 | 4 | 7 | 6.39 | .679 |
| C3R | 397 | 3 | 7 | 6.33 | .735 |
| C4 | 397 | 4 | 7 | 6.32 | .719 |
| C5 | 397 | 4 | 7 | 6.29 | .732 |
| Valid N (listwise) | 397 | | | | |

**Perceptions of grand tax-corruption — GTC**

(*the misuse of public power by high-level tax officials for personal pecuniary gains which often involves large illegal payment in dealing with certain tax cases)*

| Indicators | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| D1 | 397 | 3 | 7 | 5.50 | 1.100 |
| D2 | 397 | 3 | 7 | 5.51 | 1.084 |
| D3R | 397 | 3 | 7 | 5.60 | 1.139 |
| D4 | 397 | 3 | 7 | 5.58 | 1.090 |
| D5 | 397 | 3 | 7 | 5.44 | 1.110 |
| Valid N (listwise) | 397 | | | | |

**Perceptions of petty tax-corruption — PTC**

(*the misuse of public power by low-level tax officials for personal pecuniary gains or the extortion of small payments by operational staff in daily interaction with taxpayers as 'grease money')*

| Indicators | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| E1 | 397 | 2 | 7 | 4.99 | 1.069 |
| E2 | 397 | 3 | 7 | 5.06 | 1.032 |
| E3R | 397 | 3 | 7 | 5.08 | 1.013 |
| E4 | 397 | 2 | 7 | 5.03 | 1.102 |
| E5 | 397 | 2 | 7 | 4.91 | 1.073 |
| Valid N (listwise) | 397 | | | | |

***Note:*** For each of the questions, the respondents were asked whether the level of corruption was 'high'. The lowest score was 1 and the highest was 7. Score 1 refers to 'strongly disagree', score 2 means 'strongly agree'.

### 5.2.3 Respondents' source of information about corruption

*Direct source: Personal experience*

Table 9 represents the number of respondents who used their personal experience as a basis of assessment towards the levels of different forms of corruption with a majority indicating that they evaluate the levels of petty corruption based their own experience (42 per cent). In contrast, only nine per cent of respondents used their personal experience to assess the level of grand tax-corruption.

**Table 9: The number of respondents who use their own experience to assess different forms of corruption by types of annual income tax return and levels of annual income.**

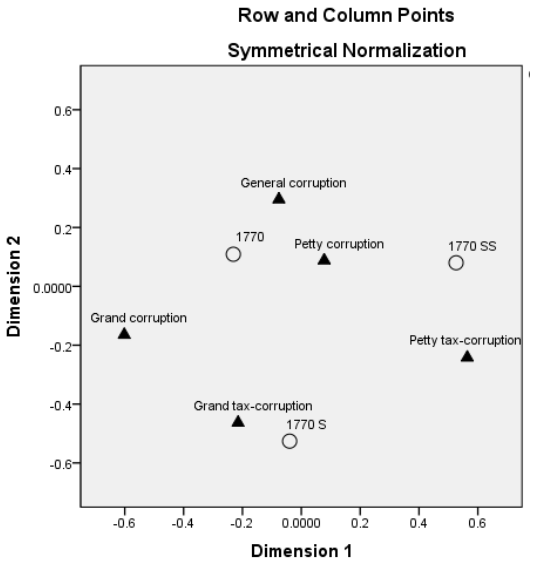
**Correspondence Table**

| | When rating the level of this corruption, I base my assessment on my own experience | | | | | |
|---|---|---|---|---|---|---|
| Types of annual tax return | General corruption | Grand corruption | Petty corruption | Grand tax-corruption | Petty tax-corruption | Active Margin |
| 1770 | 58 | 40 | 109 | 23 | 33 | 263 |
| 1770 S | 13 | 11 | 29 | 8 | 12 | 73 |
| 1770 SS | 25 | 11 | 53 | 9 | 23 | 121 |
| Active Margin | 96 | 62 | 191 | 40 | 68 | 457 |

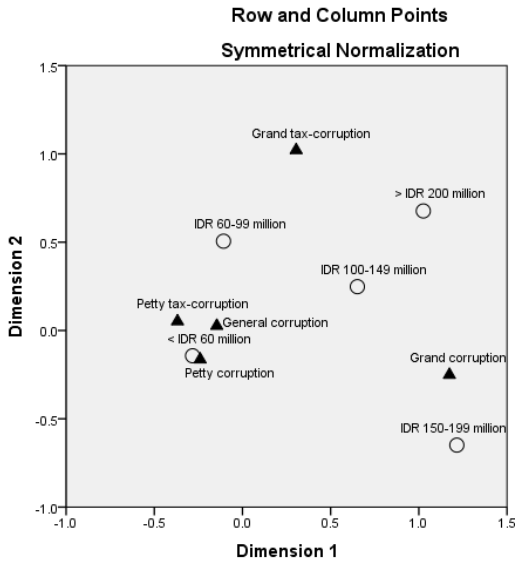
**Correspondence Table**

| | When rating the level of this corruption, I base my assessment on my own experience | | | | | |
|---|---|---|---|---|---|---|
| Levels of annual income | General corruption | Grand corruption | Petty corruption | Grand tax-corruption | Petty tax-corruption | Active Margin |
| < IDR 60 million | 62 | 27 | 129 | 19 | 46 | 283 |
| IDR 60-99 million | 17 | 8 | 30 | 10 | 13 | 78 |
| IDR 100-149 million | 7 | 10 | 17 | 6 | 4 | 44 |
| IDR 150-199 million | 6 | 12 | 11 | 2 | 3 | 34 |
| > IDR 200 million | 4 | 5 | 4 | 3 | 2 | 18 |
| Active Margin | 96 | 62 | 191 | 40 | 68 | 457 |

**Figure 8: Correspondence analysis of direct source of information of different forms of corruption by types of tax return and levels of income**




○ = types of annual income tax return; ▲ = when rating the level of this corruption, I base my assessment on my own experience




○ = levels of annual income; ▲ = when rating the level of this corruption, I base my assessment on my own experience

The correspondence analysis set out at Figure 8 indicates that while employed PITs whose annual income level is less than IDR 60 million (1770SS) tend to rely on their experience to assess the level of petty tax-corruption, employed PITs with annual income more than IDR 60 million (1770S) appear to be more familiar with direct experience of grand tax-corruption. The data also suggest that self-employed PITs (1770) seem to use their experience to assess the levels of petty corruption and general corruption. Further, the data presents that grand corruption tends to be experienced by both self-employed PIT and employed PITs with annual income more than IDR 60 million rather than employed PIT with annual income less than IDR 60 million.

*Indirect sources: Press media, television and the internet*

Compared to direct experience about corruption, press media, television and the internet as a group seems a primary source of information about corruption among respondents (88 per cent). Further, as shown in Table 10, a majority of respondents use press media, television and the internet to assess the perceived level of grand corruption (24 percent), with the least proportion of 15 per cents of respondents use this indirect source of information to assess the level of petty tax-corruption.

**Table 10: The number of respondents who use press media, television or the internet to assess different forms of corruption by types of annual income tax return and levels of annual income**

**Correspondence Table**

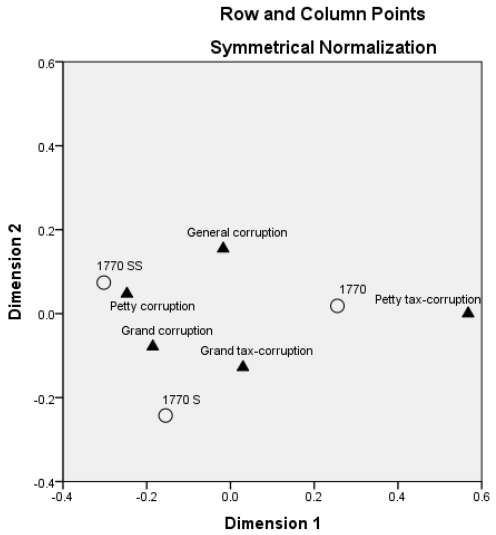
| | When rating the level of this corruption, I base my assessment on press media, television and the Internet | | | | | |
|---|---|---|---|---|---|---|
| Types of annual income tax return | General corruption | Grand corruption | Petty corruption | Grand tax-corruption | Petty tax-corruption | Active Margin |
| 1770 SS | 277 | 295 | 228 | 233 | 149 | 1182 |
| 1770 S | 109 | 122 | 90 | 101 | 68 | 490 |
| 1770 | 391 | 384 | 285 | 343 | 296 | 1699 |
| Active Margin | 777 | 801 | 603 | 677 | 513 | 3371 |

**Correspondence Table**

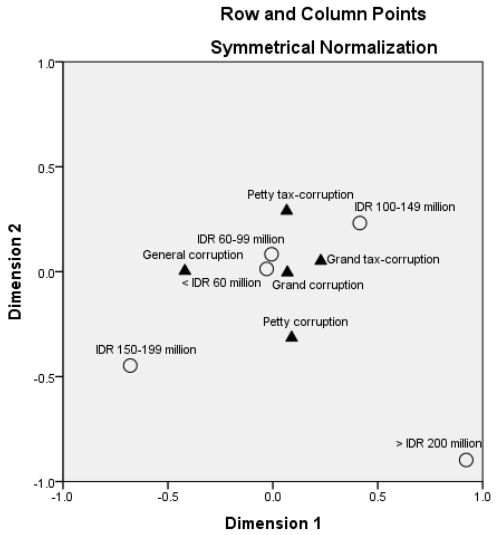
| | When rating the level of this corruption, I base my assessment on press media, television and the Internet. | | | | | |
|---|---|---|---|---|---|---|
| Levels of annual income. | General corruption | Grand corruption | Petty corruption | Grand tax-corruption | Petty tax-corruption | Active Margin |
| < IDR 60 million | 499 | 554 | 416 | 462 | 376 | 2307 |
| IDR 60-99 million | 124 | 142 | 101 | 117 | 95 | 579 |
| IDR 100-149 million | 42 | 55 | 40 | 55 | 40 | 232 |
| IDR 150-199 million | 39 | 31 | 27 | 25 | 18 | 140 |
| > IDR 200 million | 10 | 20 | 19 | 18 | 10 | 77 |
| Active Margin | 714 | 802 | 603 | 677 | 539 | 3335 |

As illustrated in Figure 9, self-employed PITs tend to use press media, television and the internet to assess the perceived level of petty tax-corruption, while employed PITs with annual income level less than IDR 60 million are likely to use this indirect source of information to evaluate the perceived level of petty corruption. Employed PITs (1770 S and 1770 SS) appear to have more inclination to use indirect information to measure the perceived level of grand corruption and grand tax-corruption than self-employed PITs (1770). Regarding income levels, the data suggests that those with annual income levels IDR 150-199 million and more than IDR 200 million are unlikely to use indirect source of information about corruption to assess the perceived level of corruption.

**Figure 9: Correspondence analysis of indirect source of information of different forms of corruption by types of tax return and levels of income**




○ = types of annual income tax return; ▲ = when rating the level of this corruption, I base my assessment on press media, television and the Internet




○ = levels of annual income; ▲ = when rating the level of this corruption, I base my assessment on press media, television and the Internet

### 5.2.4 Respondents' self-reported (non)compliance behaviour

Table 11 presents the extent to which respondents reported their actual income in their 2014 annual tax return. The detailed cross-tabulation of the data indicates that only 18 per cent self-employed PITs agree or strongly agree that they have reported their actual income. In contrast, 64 per cent of employed PITs agree or strongly agree that they have reported their income other than salary, wage, or other tax withheld income

in their annual income tax return. It is important to note however that a majority of employed PITs have no additional income other than from employment (83 per cent), implying that the rest (34 employed PITs) receive additional income. Further, roughly 4 per cent of employed PITs (seven respondents) have reported that they did not earn income in 2014.

**Table 11: The extent to which respondents self-reported their compliance behaviour (Questions $J_1$ and $J_2$)**

Count

| | | I have fully reported my actual income in my annual tax return for fiscal year 2014 (Self-employed) / I have fully reported my income other than salary, wage, or other tax withheld income on my annual tax return for fiscal year 2014 (Employed) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Strongly disagree | Disagree | Somewhat disagree | Neutral | Somewhat agree | Agree | Strongly agree | Total |
| PIT_TYPE | Self-employed | 4 | 15 | 42 | 54 | 45 | 27 | 9 | 196 |
| | Employed | 5 | 18 | 13 | 27 | 13 | 84 | 41 | 201 |
| Total | | 9 | 33 | 55 | 81 | 58 | 111 | 50 | 397 |

Count

| | | As far as I can remember, the amount of income I have reported in my annual tax return was roughly ... of my actual income[a] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | No income / no other income | 0% | 16% | 33% | 50% | 67% | 83% | 100% | Total |
| PIT_TYPE | Self-employed | 7 | 2 | 7 | 34 | 42 | 53 | 37 | 14 | 196 |
| | Employed | 167 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 201 |
| Total | | 174 | 36 | 7 | 34 | 42 | 53 | 37 | 14 | 397 |

a. For Employed PIT, this refers to income other than salary, wage, or other tax withheld income.

In terms of amount of income being under-reported in annual tax returns, the data indicate that 44 per cent of self-employed PITs have under-reported between 50 per cent and 100 per cent of their actual income. Surprisingly, no respondent from employed PITs who received additional income other than from employment reported their additional income in the annual tax return—all of them (34 employed PITs) answered zero per cent.

### 5.2.5 Proposed structural models

The results presented in Section 5.2.4 have implications for further confirmatory analysis.[70] As in the conceptual model there is a 'level of reported income (TCB)' variable (see Figure 4), self-employed PITs who did not earn income (7 respondents) and employed PITs who did not received additional income other than from employment (167 respondents) will be excluded from analysis of full model.[71] As a result, while the whole sample (397 respondents) are used in the analysis of partial models, only 223 respondents can be used in the analysis of full models.

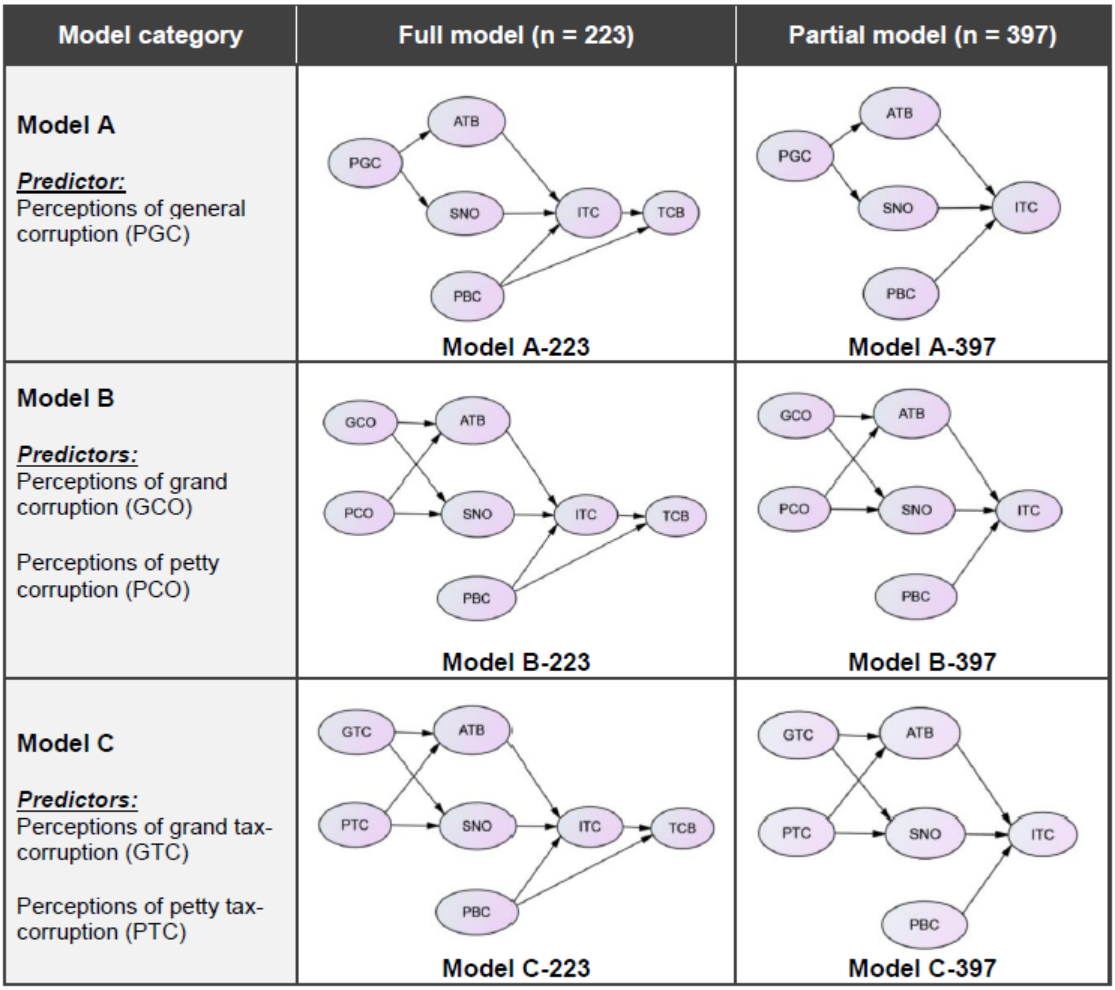
For this reason, this study employs six models for structural analysis. As illustrated in Figure 10, there are three categories for the models: (i) model A uses perceptions of general corruption (PGC) as predictor variable, (ii) model B uses two types of perceptions of non-tax corruption (GCO and PCO) as predictor variables and (iii) model C adopts two types perceptions of tax-corruption (GTC and PTC). Further, to

[70] It is worth noting that SEM is a 'confirmatory' tool rather than an 'exploratory' tool (Gefen et al., 2000; Kline and Rex, 2005). SEM is an a priori technique to determine whether a pattern of linear relationships among a set of latent variables and manifest variables is valid, rather than to 'discover' an appropriate model (Shah and Goldstein, 2006).

[71] In this paper, the term 'full model' refers to the inclusion of 'level of reported income (TCB)' variable, while the term 'partial model' means the exclusion of the TCB variable (as illustrated in Figure 10).

make it easier to distinguish, the number of samples used in the model is added in the name of the model—for instance, Model A-223 means that this model uses perception of general corruption (PGC) as a predictor variable and is based upon a sample of 223 respondents, and is a full model. Nevertheless, as the complete data for Model C is still being analysed, this paper only discusses Models A and B (involving four structural models).

**Figure 10: Proposed structural models**




***Note***: ATB = attitude towards tax underreporting; SNO = subjective norm towards tax underreporting; PBC = perceived behavioural control towards tax underreporting; ITC = intention to report actual income; TCB = level of reported income

### 5.2.6 Measurement models

Measurement model tests aim to evaluate the construct validity of latent variables under study to examine whether an indicator adequately represents the observed latent variable and captures what it intends to measure. This examination was achieved by performing tests for convergent and discriminant validity.

*Convergent validity*

This test is performed by evaluating the standardised construct loadings of indicators. The rule of thumb indicates that indicators with standardised factor loadings greater than 0.5 are acceptable. Table 12 and Table 13 summarise the results of factor loadings and suggest that two out of 46 indicators have a factor loading value less

than 0.5 (G2 = 0.41 and H2 = 0.32, both for full models). Consequently, these indicators are excluded in the structural analysis.

**Table 12: Standardised factor loadings of indicators of perceptions of corruption constructs**

| Latent variables | Observed variables | Model A-223 | | Model B-223 | | Model A-397 | | Model B-397 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Loading | *p*-value | Loading | *p*-value | Loading | *p*-value | Loading | *p*-value |
| PGC | A1 | .68 | *** | | | .74 | *** | | |
| | A2 | .67 | *** | | | .73 | *** | | |
| | A3R | .59 | *** | | | .64 | *** | | |
| | A4 | .65 | *** | | | .71 | *** | | |
| | A5 | .72 | *** | | | .76 | *** | | |
| GCO | B1 | | | .70 | *** | | | .72 | *** |
| | B2 | | | .55 | *** | | | .63 | *** |
| | B3R | | | .60 | *** | | | .68 | *** |
| | B4 | | | .54 | *** | | | .65 | *** |
| | B5 | | | .60 | *** | | | .67 | *** |
| PCO | C1 | | | .54 | *** | | | .63 | *** |
| | C2 | | | .64 | *** | | | .68 | *** |
| | C3R | | | .56 | *** | | | .66 | *** |
| | C4 | | | .52 | *** | | | .63 | *** |
| | C5 | | | .56 | *** | | | .64 | *** |

**Table 13: Construct validity of five variables of the TPB: Full and partial models**

| Latent variables | Observed variables | Model A- and B-223 | | Model A- and B-397 | |
|---|---|---|---|---|---|
| | | Loading | *p*-value | Loading | *p*-value |
| ATB | F1 | .58 | *** | .67 | *** |
| | F2 | .67 | *** | .63 | *** |
| | F3 | .52 | *** | .57 | *** |
| | F4R | .62 | *** | .66 | *** |
| | F5 | .63 | *** | .62 | *** |
| | F6 | .61 | *** | .63 | *** |
| | F7R | .62 | *** | .69 | *** |
| | F8 | .62 | *** | .57 | *** |
| | F9R | .63 | *** | .63 | *** |
| SNO | G1R | .68 | *** | .75 | *** |
| | G2 | .41 | *** | .55 | *** |
| | G3R | .65 | *** | .67 | *** |
| | G4 | .63 | *** | .66 | *** |
| | G5 | .60 | *** | .60 | *** |
| | G6 | .62 | *** | .60 | *** |
| | G7 | .58 | *** | .70 | *** |
| | G8 | .54 | *** | .58 | *** |
| PBC | H1 | .57 | *** | .72 | *** |
| | H2 | .32 | *** | .64 | *** |
| | H3 | .57 | *** | .73 | *** |
| | H4 | .69 | *** | .82 | *** |
| | H5 | .63 | *** | .78 | *** |
| | H6 | .60 | *** | .77 | *** |
| | H7R | .62 | *** | .81 | *** |
| | H8 | .58 | *** | .75 | *** |
| ITC | I1 | .63 | *** | .66 | *** |
| | I2 | .73 | *** | .83 | *** |
| | I3 | .68 | *** | .71 | *** |
| | I4 | .71 | *** | .83 | *** |
| TCB | J1 | .82 | *** | | |
| | J2 | .79 | *** | | |

***Note***: ATB = attitude towards tax underreporting; SNO = subjective norm towards tax underreporting; PBC = perceived behavioural control towards tax underreporting; ITC = intention to report actual income; TCB = level of reported income

*Discriminant validity*

Discriminant validity requires a high correlation between an indicator and its construct but low correlation with all other latent constructs. Accordingly, this assessment can be performed by examining correlation coefficients and the square root of Average Variance Extracted (AVE). The rule of thumb suggests that a

construct which has a value of square root of AVE higher than its correlation coefficients among other constructs has good discriminant validity (see, for example, Bagozzi and Yi, 1988). Table 14 summarises the correlation coefficients and the AVE values of latent variables under study and demonstrates that all of the constructs have acceptable discriminant validity.

**Table 14: Correlations between latent variables and square root of AVE**

**Model A**

**Full models (n = 223)**

| | PGC | ATB | SNO | PBC | ITC | TCB |
|---|---|---|---|---|---|---|
| PGC | **0.66** | | | | | |
| ATB | 0.12 | **0.61** | | | | |
| SNO | 0.01 | 0.09 | **0.62** | | | |
| PBC | 0.11 | 0.06 | -0.02 | **0.61** | | |
| ITC | -0.23 | -0.46 | -0.17 | -0.2 1 | **0.71** | |
| TCB | -0.24 | 0.08 | -0.07 | -0.02 | .59 | **0.81** |

**Partial models (n = 397)**

| | PGC | ATB | SNO | PBC | ITC |
|---|---|---|---|---|---|
| PGC | **0.72** | | | | |
| ATB | 0.27 | **0.63** | | | |
| SNO | 0.06 | 0.09 | **0.64** | | |
| PBC | 0.23 | 0.18 | 0.14 | **0.75** | |
| ITC | -0.39 | -0.51 | -0.24 | -0.34 | **0.76** |

**Model B**

**Full models (n = 223)**

| | GCO | PCO | ATB | SNO | PBC | ITC | TCB |
|---|---|---|---|---|---|---|---|
| GCO | **0.60** | | | | | | |
| PCO | 0.38 | **0.56** | | | | | |
| ATB | 0.29 | 0.06 | **0.61** | | | | |
| SNO | 0.16 | 0.33 | 0.09 | **0.62** | | | |
| PBC | 0.09 | 0.02 | 0.06 | -0.02 | **0.61** | | |
| ITC | -0.30 | -0.26 | -0.46 | -0.17 | -0.21 | **0.71** | |
| TCB | -0.18 | -0.12 | 0.07 | -0.07 | -0.01 | 0.60 | **0.81** |

**Partial models (n = 397)**

| | GCO | PCO | ATB | SNO | PBC | ITC |
|---|---|---|---|---|---|---|
| GCO | **0.67** | | | | | |
| PCO | 0.39 | **0.65** | | | | |
| ATB | 0.35 | 0.13 | **0.63** | | | |
| SNO | 0.16 | 0.33 | 0.09 | **0.64** | | |
| PBC | 0.11 | 0.06 | 0.18 | 0.14 | **0.75** | |
| ITC | -0.31 | -0.30 | -0.50 | -0.24 | -0.34 | **0.76** |

### 5.2.7 Structural models

Structural model assessment aims to simultaneously analyse the relationships among constructs. Initially, the model estimation process is performed to measure the original model goodness-of-fit values. This paper adopts six measures: (1) Chi-square ($\chi^2$); (ii) p-value, (iii) $\chi^2$/df; (iv) TLI, (v) CFI and (vi) RMSEA. In the initial model, the results of two measures, Chi-square and p-value, indicate that the models do not fit well the data. Accordingly, to obtain better structural models, model modifications are needed.

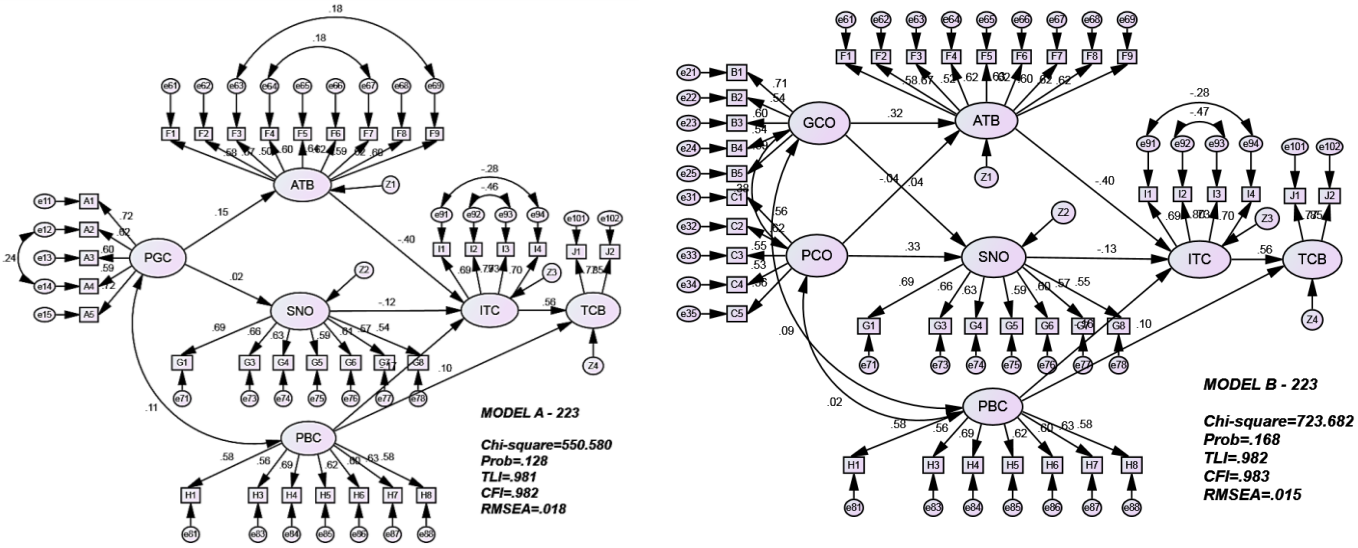
The modifications were made by adding five covariance of error terms in the initial model A-223 (covariance between e12 and e14, e63 and e69, e64 and e67, e91 and e94, e92 and e93) and two covariance of error terms in the initial models of B-223, A-397 and B-397. The following section of this paper discusses the detailed results of modified models.

*Full structural models: Model A- and B-223*

Figure 11 demonstrates the structural relationships among latent constructs for the modified Model A- and B-223. The models suggest that the intention to report actual income (ITC) is a good predictor of the level of reported income (TCB), with path coefficients between ITC and TCB greater than 0.55. Attitude towards tax underreporting (ATB), subjective norm towards tax underreporting (SNO) and perceived behavioural control towards tax underreporting (PBC) all have negative path coefficients upon ITC in both Model A- and B-223, indicating that these constructs have negative impact upon intention to report actual income.[72]

[72] The path coefficients between PBC and TCB in both Models A- and B-223 are not statistically significant with *p*-value = 0.185 and 0.175 respectively.

**Figure 11: Modified full structural models: Model A- and B-223**




***Note***: **PGC** = perceptions of general corruption; **GCO** = perceptions of *grand* corruption; **PCO** = perceptions of *petty* corruption; **ATB** = attitude towards tax underreporting; **SNO** = subjective norm towards tax underreporting; **PBC** = perceived behavioural control towards tax underreporting; **ITC** = intention to report actual income; **TCB** = level of reported income

However, as presented in Table 15, the path coefficients of SNO is not statistically significant at a *p*-value < 0.05 (in Model A-223, $\beta$ = -0.12, *p*-value = 0.10; in Model B-223, $\beta$ = -0.13, *p*-value = 0.08). In Model A-223, while the impact of perceptions of general corruption (PGC) upon ATB and SNO are positive, the path coefficients of PGC to both ATB and SNO are not statistically significant at a *p*-value < 0.05. Grand corruption (GCO) and petty corruption (PCO) appear to have different impact upon ATB and SNO. GCO seems more influential towards ATB ($\beta$ = 0.317, *p*-value = 0.002) than SNO ($\beta$ = 0.036, *p*-value = 0.70). In contrast, PCO appears to have a stronger effect upon SNO ($\beta$ = 0.331, *p*-value = 0.003) than ATB ($\beta$ = -0.041, *p*-value = 0.66).

Moreover, as detailed in Table 15, the modified structural models analysis also provide direct, indirect and total effects of the relationship between exogenous and endogenous latent variables.[73] The findings indicate that, as an exogenous variable in the Model A-223, PGC has total negative effect upon TCB of -0.034 while, as the exogenous variables of Model B-223, GCO and PCO have negative effect of -0.073 and -0.015 upon TCB. The results suggest the strongest effect is generate by the direct effect of ITC upon TCB (roughly 0.56 in both models).

[73] In structural equation modeling, an exogenous variable is a variable which is only influenced by other variables beyond the model. In contrast, endogenous variable is a variable which is influenced by other variables in the model (Blunch, 2013).

**Table 15: Regression weights and total effects of modified full structural models**

**Model A-223**

Regression weights for modified structural equation model

| Latent variables | Coefficient | Critical ratio | Prob. | Significance |
|---|---|---|---|---|
| PGC → ATB | .147 | 1.755 | .079 | ** |
| PGC → SNO | .016 | .188 | .851 | Not sig. |
| ATB → ITC | -.403 | -4.619 | *** | * |
| SNO → ITC | -.122 | -1.643 | .100 | ** |
| PBC → ITC | -.168 | -2.200 | .028 | * |
| ITC → TCB | .558 | 5.761 | *** | * |
| PBC → TCB | .102 | 1.325 | .185 | Not sig. |

**Model B-223**

| Latent variables | Coefficient | Critical ratio | Prob. | Significance |
|---|---|---|---|---|
| GCO → ATB | .317 | 3.090 | .002 | * |
| GCO → SNO | .036 | .381 | .703 | Not sig. |
| PCO → ATB | -.041 | -.429 | .668 | Not sig. |
| PCO → SNO | .331 | 2.992 | .003 | * |
| ATB → ITC | -.400 | -4.626 | *** | * |
| SNO → ITC | -.130 | -1.753 | .080 | ** |
| PBC → ITC | -.165 | -2.173 | .030 | * |
| ITC → TCB | .559 | 5.770 | *** | * |
| PBC → TCB | .104 | 1.346 | .175 | Not sig. |

Total effects among latent variables

| Total effects | | Intervening variables | | | Endogenous variables |
|---|---|---|---|---|---|
| | | ATB | SNO | ITC | TCB |
| Exogenous variables | PGC | .147 | .016 | -.061 | -.034 |
| | PBC | | | -.168 | .008 |
| Intervening variables | ATB | | | -.403 | -.225 |
| | SNO | | | -.122 | -.068 |
| | ITC | | | | .558 |

| Total effects | | Intervening variables | | | Endogenous variables |
|---|---|---|---|---|---|
| | | ATB | SNO | ITC | TCB |
| Exogenous variables | GCO | .317 | .036 | -.131 | -.073 |
| | PCO | -.041 | .331 | -.027 | -.015 |
| | PBC | | | -.165 | .011 |
| Intervening variables | ATB | | | -.400 | -.223 |
| | SNO | | | -.130 | -.073 |
| | ITC | | | | .559 |

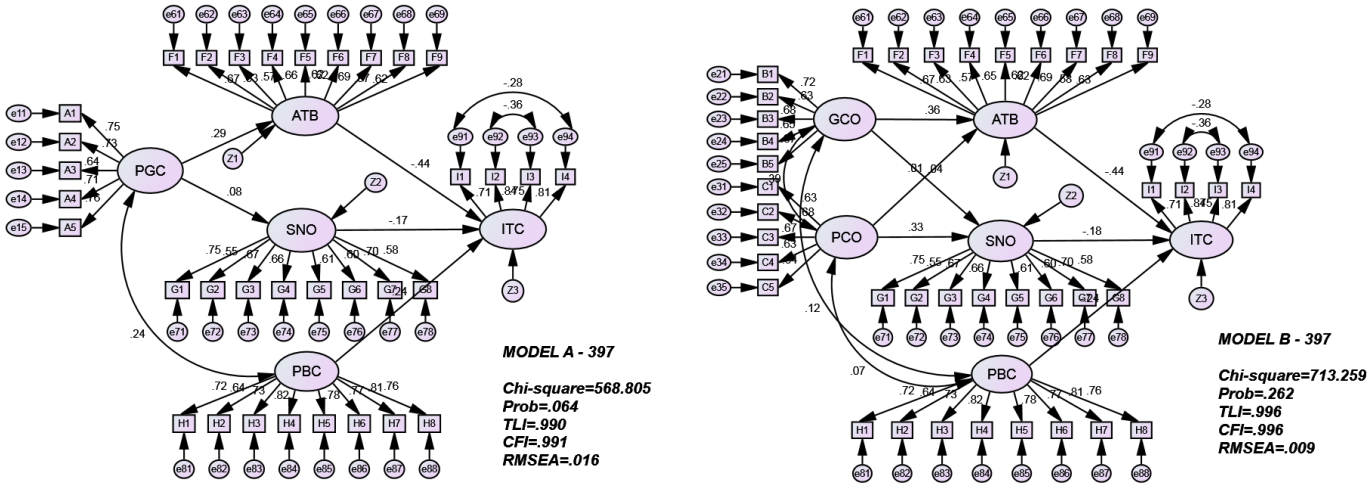
***Note***: * = *significant* at $p$ = .05; ** = *significant* at $p$ = .10

*Partial structural models: Model A- and B-397*

Figure 12 demonstrates the structural relationships among latent constructs for the modified Model A- and B-397. As previously discussed in Section 5.2.5, dissimilar to Model A- and B-223, there is no level of reported income (TCB) variable in Model A- and B-397. Accordingly, the exogenous variable in these models is intention to report actual income (ITC).

The models show attitude towards tax underreporting (ATB), subjective norm towards tax underreporting (SNO) and perceived behavioural control towards tax underreporting (PBC) all have negative path coefficients upon ITC, indicating that these constructs have negative impact upon intention to report actual income. As presented in Table 15, the path coefficients of ATB, SNO and PBC upon ITC are statistically significant at a $p$-value < 0.05.

**Figure 12: Modified partial structural models: Model A- and B-397**




***Note***: **PGC** = perceptions of general corruption; **GCO** = perceptions of *grand* corruption; **PCO** = perceptions of *petty* corruption; **ATB** = attitude towards tax underreporting; **SNO** = subjective norm towards tax underreporting; **PBC** = perceived behavioural control towards tax underreporting; **ITC** = intention to report actual income

As presented in Table 16, in Model A-397, while the impact of perceptions of general corruption (PGC) upon ATB and SNO are positive, the path coefficients of PGC upon ATB and SNO are mixed. PGC has significant impact upon ATB ($\beta$ = 0.289, *p*-value = ***) but not upon SNO ($\beta$ = 0.078, *p*-value = 0.187). In Model B-397, the findings suggest that grand corruption (GCO) and petty corruption (PCO) also have different impact upon ATB and SNO. Similar to Model B-223, GCO seems more influential towards ATB ($\beta$ = 0.363, *p*-value = ***) than SNO ($\beta$ = 0.037, *p*-value = 0.572). In contrast, PCO appears to have a stronger effect upon SNO ($\beta$ = 0.326, *p*-value = ***) than ATB ($\beta$ = 0.008, *p*-value = 0.898).

**Table 16: Regression weights and total effects of modified partial structural models**

**Model A-397**

Regression weights for modified structural equation model

| Latent variables | Coefficient | Critical ratio | Prob. | Significance |
|---|---|---|---|---|
| PGC → ATB | .289 | 4.620 | *** | * |
| PGC → SNO | .078 | 1.320 | .187 | Not sig. |
| ATB → ITC | -.445 | -6.763 | *** | * |
| SNO → ITC | -.171 | -3.280 | .001 | * |
| PBC → ITC | -.242 | -4.726 | *** | * |

**Model B-397**

| Latent variables | Coefficient | Critical ratio | Prob. | Significance |
|---|---|---|---|---|
| GCO → ATB | .363 | 5.027 | *** | * |
| GCO → SNO | .037 | .565 | .572 | Not sig. |
| PCO → ATB | .008 | .128 | .898 | Not sig. |
| PCO → SNO | .326 | 4.420 | *** | * |
| ATB → ITC | -.441 | -6.983 | *** | * |
| SNO → ITC | -.175 | -3.343 | *** | * |
| PBC → ITC | -.242 | -4.725 | *** | * |

Total effects among latent variables

| Total effects | | Intervening variables | | Endogenous variables |
|---|---|---|---|---|
| | | ATB | SNO | ITC |
| Exogenous variables | PGC | .289 | .078 | -.142 |
| | PBC | | | -.242 |
| Intervening variables | ATB | | | -.445 |
| | SNO | | | -.171 |

| Total effects | | Intervening variables | | Endogenous variables |
|---|---|---|---|---|
| | | ATB | SNO | ITC |
| Exogenous variables | GCO | .363* | .037 | -.167 |
| | PCO | .08 | .326* | -.061 |
| | PBC | | | -.242 |
| Intervening variables | ATB | | | -.441 |
| | SNO | | | -.175 |

***Note***: * = *significant* at *p* = .05

Furthermore, the findings indicate that, as an exogenous variable in the Model A-397, PGC has total negative effect upon ITC of -0.142 while, as the exogenous variables of Model B-223, GCO and PCO have negative effect of -0.167 and -0.061 ITC TCB. The results suggest the strongest effect is generate by the direct effect of ATB upon ITC (roughly 0.44 in both models).

## 6 Conclusion

This paper has examined the relationship between perceptions of different forms of corruption and the way Indonesian personal income taxpayers behave, in the context of reporting actual income in their 2014 annual tax returns. The paper demonstrates empirically that, in general, high perceived levels of corruption influence Indonesian PITs to intentionally underreport their income tax. While the extent of high perceived levels of different forms of corruption is confirmed in both qualitative and quantitative approaches, the extent of underreported income and the mechanism these perceptions impact upon intentional tax underreporting behaviour are indicated by the results of the quantitative approach.

The data reveal that the mean scores of perceived levels of different forms of corruption in Indonesia is high. In general, the highest perceived level of corruption is grand corruption, where the lowest value for its indicator is 6.46 out of 7. Perceptions of petty tax-corruption appear to have the lowest score for its indicator, 4.91 out of 7.

Moreover, the findings also suggest that an indicator of a wide underreporting gap exists in Indonesia, with only 18 per cent of Indonesia self-employed PITs agreeing or strongly

agreeing that they have reported their actual income. In terms of the amount of income being under-reported in annual tax return, 44 per cent of self-employed PITs have under-reported between 50 per cent and 100 per cent of their actual income. Worryingly, employed PITs who received additional income other than their employment appear to completely conceal their extra income.

Ultimately this paper has identified that high levels of perceived corruption impact upon decisions by Indonesian PITs to intentionally underreport their income tax. This is demonstrated by way of three important findings. First, as indicated in the Models A- and B-223, the data suggest that intention to report actual income is a good predictor of tax reporting behavior, with path coefficients greater than 0.55 in both models. Second, taxpayers' attitudes (ATB) and their subjective norms (SNO) on underreporting tax, coupled with the perceived behavioural control (PBC) towards tax underreporting, appear to undermine taxpayers' intention to report their actual income. The overall negative relationships between these three latent variables (ATB, SNO and PBC) and ITC can be found in both the full and partial models of Models A and B. Nevertheless, ATB seems to have the strongest direct effect upon ITC (with values ranging between -0.4 to -0.445). Third, perceptions of corruption generally affect both taxpayers' attitudes (ATB) and their subjective norms (SNO), but with mixed results. Using $p$-value < 0.05 as a threshold, high levels of perception of general corruption (PGC) is found to be statistically influential upon ATB only in Model A-397. Further, Model B-223 and B-397 suggest while high levels of perceived grand corruption (GCO) tend to affect ATB, high levels of perceived petty corruption seem more influential upon SN. These results suggest that high levels of perceived corruption affect Indonesian PIT to intentionally underreport their income tax in their 2014 annual tax returns.

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