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EDITORS' NOTE

The *eJournal of Tax Research* is a refereed journal that publishes original, scholarly works on all aspects of taxation. It aims to promote timely dissemination of research and public discussion of tax-related issues, from both theoretical and practical perspectives. It provides a channel for academics, researchers, practitioners, administrators, judges and policy makers to enhance their understanding and knowledge of taxation. The journal emphasises the interdisciplinary nature of taxation.

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Editorial

Emeritus Professor John Taylor was an outstanding tax scholar, teacher, mentor, colleague and leader. Among other things he was the Head of the School of Taxation and Business Law (from 2009 to 2016), co-editor of the *eJournal of Tax Research* (*eJTR*, from 2013 to 2021) and a recipient of the Australasian Tax Teachers Association's Hill Medal in 2019. His premature passing in January 2023 was a tremendous loss to the community of tax academics around the world.

The *eJTR* plans to publish a special issue in 2024 to honour John's many contributions to tax law. This special issue will be edited by Emeritus Professor Chris Evans and Professor Binh Tran-Nam, two of John's long-time colleagues. Submitted papers are expected to focus on John's areas of research interest, which include, but are not limited to, taxation of business entities, international taxation, double tax treaties, tax history and capital gains taxation. Contributions by John's former students, colleagues and co-authors are particularly welcome. Please send your submissions in correct *eJTR* template to Chris cc.evans@unsw.edu.au with a copy to Binh b.tran-nam@unsw.edu.au by 31 December 2023.

Youngdeok Lim

Yan Xu

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Accounting for uncertain tax positions and lenders' risk evaluations

Sungsil Lee*

Abstract

This study explores whether publicly traded US firms' unrecognised tax benefit (UTB) disclosures are associated with the cost of debt. Using UTB comovement, a measure of UTB comparability, I find that the UTB balance is positively associated with the cost of debt, but this association is less pronounced when UTB disclosures are comparable to those of other firms. In addition, these associations are more predominant when firms have a considerable amount of foreign sales or engage in research and development (R&D) activities.

Keywords: unrecognised tax benefit (UTB); uncertain tax positions; tax risk; tax uncertainty; cost of debt

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1. INTRODUCTION

This study explores whether corporate disclosures for uncertain tax positions are associated with the cost of debt. Since 2007, the Financial Accounting Standards Board (FASB) has required publicly traded US corporations to recognise a contingent liability for uncertain tax positions, referred to as unrecognised tax benefits (UTBs). UTBs are expected to provide helpful information to lenders' loan decisions because they show potential cash outflow due to uncertain tax positions, and such cash outflow affects the default probability of borrowing firms. Nevertheless, little evidence exists of whether UTB disclosures provide decision-useful information to lenders. This study fills this void by examining the association between UTB disclosures and the cost of debt.

This study particularly investigates how the comparability of UTB disclosures is associated with the cost of debt. The UTB balance indicates potential tax cash flow from uncertain tax positions; thus, it has been used as a tax risk measure (Hanlon, Maydew & Saavedra, 2017; Dyreng, Hanlon & Maydew, 2019). However, this measure should be used cautiously because the UTB balance is driven not only by tax uncertainties but also by financial reporting incentives (Hanlon & Heitzman, 2010). As managers determine whether tax positions are uncertain, they can exclude relevant but unfavourable information from UTB disclosures. This managerial discretion is a cause of variations among firms in how uncertain tax positions are disclosed as UTBs in financial statements (De Simone, Robinson & Stomberg, 2014; Nesbitt, 2014). Given this diversity in practice, the comparability of UTB disclosures is likely associated with the cost of debt. Sengupta (1998) shows that firms disclosing higher quality information tend to have lower costs of debt because a higher disclosure quality implies a lower likelihood of withholding unfavourable information. Similarly, UTB disclosures comparable to those of other peer firms may properly inform the potential outcomes of uncertain tax positions without concealing unfavourable news, thus lowering the cost of debt.

To measure how UTB disclosures are comparable to the disclosure of other firms adopting similar uncertain tax positions, this study develops the UTB comovement measure. Since UTB disclosures are subject to managerial discretions, comparability is an important characteristic of informative UTB disclosures (FASB, 2006; Blouin & Robinson, 2014). Adopting the idea of earnings comovement to measure earning comparability from De Franco, Kothari and Verdi (2011), this study uses UTB comovement to measure UTB comparability. When peer firms share common tax strategies and comparably recognise UTBs regarding the tax strategies, these firms' UTBs will move in the same way, thus showing high UTB comovement.

I find that the effective tax rates (ETRs) of high UTB comovement firms tend to be more stable than those of low UTB comovement firms in the large tax settlement years. Even in the large tax settlement years, firms with informative UTBs are less likely to have spikes in their ETRs because they have already recognised tax expenses and contingent liabilities (UTBs) in advance. Therefore, the finding in this study suggests that UTB disclosures with high comovement tend to be more informative about future tax settlements.

My sample includes 1,710 bank loans issued to US public firms in the period 2012-2015.[1] I focus upon bank loans because bank loans are a predominant source of external financing for US corporations (e.g., Bharath, Sunder & Sunder, 2008). Furthermore, compared to other investors, such as bondholders or equity investors, banks usually retain a larger share of the loans; therefore, they tend to be more exposed to tax risk (Sufi, 2007).

In the main test, loan spread is positively associated with UTB balance but negatively associated with an interaction term of UTB balance and UTB comovement. That is, higher UTB comovement moderates a positive association between the UTB balance and loan spread. All else being equal, if the mean firm in my sample increases its UTB balance by one standard deviation, then the firm's loan spread increases by 19.31 basis points. However, if a one standard deviation increase in the UTB balance is combined with a one standard deviation increase in UTB comovement, the increase in loan spread would be 15.82 basis points. These findings suggest that, while lenders demand a tax-related risk premium for uncertain tax positions, they also incorporate the quality of tax risk disclosures into the risk premium. In addition, I test whether the influence of UTB disclosures on the loan spread is more pronounced when UTBs are more relevant to the lenders' loan decisions and find that UTB comovement particularly affects the loan spread when a firm reports large foreign sales or research and development (R&D) expenditures.

This study makes three primary contributions. First, this study explores whether a new accounting standard, FASB Interpretation No. 48 (FIN48)/Financial Accounting Standards Codification 740-10 (ASC740-10), provides useful information for lenders. While UTB studies to date have been limited to examining whether UTB disclosures are useful to equity investors (Song & Tucker, 2008; Koester, 2011; Robinson & Schmidt, 2013), this study demonstrates that UTB disclosures are also decision-relevant information for lenders. The findings of this study indicate that although the practice of UTBs varies among firms, UTB disclosures are informative about a firm's overall tax risk.

Second, I propose a new measure, UTB comovement, to measure the comparability of UTB disclosures. UTB comovement has at least two strengths. First, this measure focuses on comparability, which is the FASB's main concern in recording UTBs (Blouin & Robinson, 2014). Second, the measure enhances our understanding of how UTB balances evolve. Although assessing an uncertain tax position is a continuous process, previous studies mostly focus on UTB balances within a single period across firms, and little is known about time series changes in UTBs (e.g., Dyreng et al., 2019). This study indicates that informative UTBs have high covariance with the UTBs of peers.

Third, this study shows the impact of lenders' tax risk perceptions on the cost of debt. While this study confirms the previous finding that aggressive tax avoidance increases the cost of debt (e.g., Hasan et al., 2014; Shevlin, Urcan & Vasvari, 2020), it is in line with Isin (2018) showing that lenders may not price tax risk under certain circumstances. This study shows that the impact of aggressive tax avoidance is less

[1] To compute UTB comovement, I require five years of UTB data. As UTB disclosure has been mandated since 2007, the first year of UTB comovement available is 2011. I test the impact of UTB quality on debt contracts the following year; hence, my bank loan sample starts from 2012.

pronounced when UTBs are more informative about the consequences of uncertain tax positions, suggesting that lenders' perceptions of a borrower's tax risk are influenced by tax risk disclosures as well as tax risk itself.

The remainder of this article proceeds as follows. Section 2 provides background information about FIN48/ASC 740-10 and develops the hypotheses. Section 3 presents the data sample and research design, section 4 establishes the empirical results, and section 5 concludes the article.

2. THEORETICAL BACKGROUND AND HYPOTHESES

2.1 Background on FIN 48/ASC 740-10

Since 2007, FIN 48 (mostly codified as ASC Topic 740-10) has required publicly traded US corporations to disclose information regarding uncertain tax positions. In accordance with FIN 48, managers are required to evaluate every tax position to determine whether it is more likely than not that a tax position will be sustained upon examination by taxing authorities based upon its technical merits. If firms do not meet the more-likely-than-not threshold, they are not allowed to recognise tax positions in the financial statements. Nevertheless, those benefits are already claimed in tax returns; hence there are differences in the tax benefit recognitions in the tax returns compared with the financial statements. Such differences represent a contingent liability, widely known as a UTB. Firms should continuously evaluate uncertain tax positions until those positions are resolved. As of each balance sheet date, management must determine whether the factors underlying the sustainability assertion have changed and whether the amount of the UTB is still appropriate.

2.2 Hypotheses development

It has been an important debate in recent tax research whether and how corporate tax risk is associated with the cost of debt. On the one hand, the lender may view aggressive tax positions positively as the cash tax savings aspect of aggressive tax strategies may reduce the default risk (e.g., Kim, Li & Li, 2010; Lim, 2011). Since statutory tax rates in the past have been greater than one-third of firms' profit, cash savings from aggressive tax strategies can be a significant source of financial slack. Furthermore, cash tax savings can reduce firms' leverage by acting as a replacement for debt-induced interest expense deductions (Graham & Tucker, 2006; DeAngelo & Masulis, 1980). On the other hand, lenders' fixed income makes them focus more on downside risk than on upside potential (Jensen & Meckling, 1976). This is consistent with the findings of recent studies that the cost of debt is higher when firms engage in aggressive tax strategies (e.g., Hasan et al., 2014; Shevlin et al., 2020; Saavedra, 2019). Aggressive tax strategies risk being challenged by tax authorities, and this challenge may cause significant direct and indirect costs to be incurred and impair the firm's repayment ability (Wilson, 2009; Hasan et al., 2014). In addition, firms tend to be reluctant to provide detailed information about aggressive tax strategies to avoid being detected by tax authorities (Desai & Dharmapala, 2006). Such opaque tax positions provide managers with opportunities to divert corporate resources to the manager's private benefit (Desai & Dharmapala, 2009; Chen et al., 2010).

In recent studies, the balance of UTB is used as an alternative tax risk measure (Hanlon et al., 2017; Dyreng et al., 2019). The UTB balance illustrates the degree of tax-related uncertainties or risk because this balance indicates potential cash outflow as a result of

uncertain tax positions. Since a lender's main concern is cash holdings and the default probability of borrowing firms, UTBs measure the tax risk with which lenders are most concerned. A larger potential cash flow indicates that the impact of uncertain tax positions upon a borrower's repayment ability could be more serious. Hasan et al. (2014) in fact find that lenders impose larger risk premiums on the borrowing firms presenting larger UTB balances.

Although UTB is an ideal measure of tax risk in theory, previous studies emphasise that UTB should be used as a tax risk measure with caution (Hanlon & Heitzman, 2010). UTBs are driven not only by tax uncertainties but also by financial reporting incentives. If the tax position is included in UTB reporting, this reporting increases tax expenses, consequently decreasing the net income. For this reason, managers may exclude tax positions from UTB reporting even though the position is more likely than not to be denied by the taxing authorities. Thus, previous research reveals variations among firms in how uncertain tax positions are recorded in UTBs in financial statements (De Simone et al., 2014; Nesbitt, 2014).

When there is a diversity in UTB recognition practice, the informativeness of UTB disclosures will affect lenders' perceptions about the tax risk of borrowing firms. Sengupta (1998) finds a negative association between disclosure quality and the cost of debt. Lenders evaluate the default risk based on all the available information when lending money to borrowing firms. One factor involved in risk evaluation is the probability of borrowers withholding unfavourable information that would increase the firm's default risk. Lenders believe that firms with high disclosure quality are less likely to hide unfavourable information and, therefore, charge high disclosure quality firms lower risk premiums. In the same manner, lenders would offer lower risk premiums for a given level of UTBs to firms disclosing informative UTBs including unfavourable information about uncertain tax positions.

Informative UTBs are likely to show high comparability with the UTB disclosures of other firms. UTB disclosures are considered comparable if two firms produce similar financial statements for a given set of uncertain tax positions. If two firms adopting similar tax positions disclose all available information about these positions similarly, UTB disclosures of the two firms would be comparable as well as informative about uncertain tax positions. Therefore, my first hypothesis is as follows:

H_1: *Ceteris paribus, UTBs increase loan spread less when UTB disclosures are more comparable to those of other firms.*

Although lenders have access to non-public information, such access may not eliminate the important role of UTB disclosure. The Internal Revenue Service (IRS) uses UTB disclosures to assess the tax uncertainties of firms even though it has access to non-public tax information, including tax returns (Bozanic et al., 2017). Several IRS documents explain the role of public tax reporting including UTB disclosure in the conduct of IRS audits. For example, when UTB disclosures were initially mandated, the IRS developed a Field Examiners' Guide, 'FIN 48 Implications', and provided training programs about how field examiners should use UTB information to conduct risk assessments (IRS, 2007). Similarly, bond rating agencies with access to non-public information also use tax-related disclosures on financial statements to increase their understanding of the issuer's tax risk (Bonsall, Koharki & Watson, 2017). Such evidence suggests that UTB disclosures play an important role in tax risk evaluation.

The impact of UTB disclosures on loan spread would be prominent for firms where the disclosures are more relevant to the lenders' loan decisions. Since UTB disclosures mostly involve international transfer pricing, business deductions, and R&D credits (Towery, 2017), they are expected to be more important when firms are largely involved in foreign sales or R&D activities. Thus, I predict the following:

H_{2a}: *Ceteris paribus, the impact of UTB disclosures on loan spread is prominent when a firm has a significant amount of foreign sales*; and

H_{2b}: *Ceteris paribus, the impact of UTB disclosures on loan spread is prominent when a firm is involved in R&D activity.*

3. RESEARCH DESIGN

3.1 Sample selection

My sample includes all US-domiciled firms reporting UTBs during the years 2011-2014 (*N = 37,435*). The sample begins in 2011 because UTB disclosures are mandated for the fiscal periods beginning after 15 December 2006 and five consecutive years of UTB observations are required to generate UTB comovement. For example, to calculate the UTB comovement for 2011, UTB data from 2007 to 2011 are required. Firm-year observations in the financial (SIC Code 6000-6999) and utility (SIC Code 4900-4999) industries are eliminated because they have different tax and financial reporting incentives. Firms whose industry is not defined (SIC Code 9000-9999) are also eliminated because it is difficult to identify their peers. To control for any potential measurement error in the UTB data, observations with any missing UTBs over the five-year period are dropped.[2] Firms whose UTBs are zero over five consecutive years are also excluded from the sample. In addition, I delete firm-years with less than five peer firms in the same industry during the year. This generates an initial sample of 6,324 with the UTB comovement variable.

Table 1: Sample Selection

US-domicile firm-years on Compustat Annual File for fiscal years 2011-2014	37,435
Less:	
Financial firms, utilities, and non-classified firms	(15,473)
Firm-years missing data on unrecognised tax benefits	(8,574)
Firm-years missing data on unrecognised tax benefits in the last four years	(6,051)
Firms whose UTB is zero over five consecutive years	(903)
Firms with less than five peer firms in the same industry and year	(110)

[2] Lisowsky, Robinson and Schmidt (2013) compared the IRS-Large Business and International Division's UTB data and Compustat's UTB data and found a large number of missing values in Compustat for the UTB balances at the end of the year (*TXTUBEND*), especially in the early years of the FIN 48 adoption. They suggest dropping the firms with missing UTBs if Compustat's UTB data is used. Following this suggestion, I remove missing values from the test, rather than considering missing values as zero. Lisowsky et al. (2013) replicate their analysis using Compustat instead of the IRS-Large Business and International Division's UTB data and find that the results are not significantly altered if firms with missing UTBs are dropped from the sample.

UTB Comovement Sample (Firm-Years)	**6,324**
UTB Comovement Validation	
UTB comovement sample	6,324
Less:	
Firm-years missing large tax payment year variable	(2,981)
Firm-years missing control variables	(67)
Sample (Firm-Years)	**3,276**
UTB Disclosures and Loan Spread	
UTB comovement sample	6,324
Less:	
Firm-years missing loan terms	(4,566)
Firm-years missing large tax payment year variable	(577)
Firm-years missing control variables	(163)
Sample (Firm-Years)	**1,018**
Sample (Loan Issuances)	**1,710**

To conduct the UTB comovement validation test, I exclude firm-year observations without the large tax settlement year (*LGTAX_D*) variable. Following Bauer and Klassen (2014), I calculate *LGTAX_D*, an indicator of a large tax settlement year. As calculating *LGTAX_D* requires firms to have at least seven years of the return on assets (ROA) greater than or equal to 0.5% and positive cash ETR and generally accepted accounting principles (GAAP) ETR, this requirement excludes 2,981 observations. I also exclude 67 observations with missing control variables. Thus, the final sample for validation testing is 3,276 firm-years. In the main test, I remove 4,566 firm years with missing loan terms, 577 firm years missing the *LGTAX_D* variable and 163 firm years with missing control variables. Accordingly, the final sample consists of 1,018 firm years with 1,710 loan issuances. Table 1 summarises the sample selection process.

3.2 Variable measurement: UTB comovement

To measure the comparability of UTB disclosures, I develop a 'UTB comovement' measure. I adopt the idea of 'earnings comovement', a measure of earnings

comparability (De Franco et al., 2011).[3] De Franco et al. (2011) claim that firms show high earnings comovement when the accounting is comparable between the firms and the firms have experienced similar sets of economic events. Similarly, if peer firms have similar uncertain tax positions and their UTB recognitions are comparable, their UTBs will also be highly comoved. For example, if a new ruling related to the common tax positions of peer firms is released, the ruling's effect on both firms should be in the same direction. A new ruling may increase (or decrease) the likelihood that the tax authority would deny the tax positions of both firms upon audit. Therefore, if peer firms recognise the impact of new rulings on UTBs in the same way, both firms' UTBs will also move similarly. When such comparable recognition accumulates over time, the UTBs of peer firms will demonstrate high comovement.

I expect peer firms in the same industry to have similar tax positions and face similar tax uncertainties. For example, many US-based pharmaceutical companies had been keen on tax inversions until the enactment of the *Tax Cuts and Jobs Act of 2017*. The most important motivation for these tax inversions of pharmaceutical companies had been a follow-the-leader effect. Pharmaceutical companies that do not invert are worried that paying higher US taxes will place them at a competitive disadvantage to those who move overseas (Weissmann, 2015). Academic research also provides similar evidence that firms tend to mimic the tax positions of their product market leader (Kubick et al., 2015). The above evidence supports the notion that peer firms are likely to take similar tax positions in the same industry and, thus, they are likely to face similar tax uncertainties. Therefore, these peer firms will show high UTB comovement if they disclose comparable UTBs for similar tax uncertainties.

To implement the UTB comovement measure, I calculate the pair-wise correlation between the UTBs of two firms among all possible pairs of firms in the same industry. Using five years of UTB data, I estimate:

$$UTB_{it} = \alpha_{0ij} + \alpha_{1ij} UTB_{jt} + \varepsilon_{ijt} \quad (1)$$

The R^2 from Equation (1) is defined as the comparability between firms *i* and *j*. I obtain a correlation measure for each firm *i* – firm *j* pair for *J* firms in the same two-digit SIC industry. Then I compute a firm-year measure of comovement as the median R^2 for all *j* in the same industry.

While a UTB comovement measure is aimed at capturing comparability of UTB disclosure, similarities and differences in a firm's economic performance and uncertain tax positions as compared with those of peer firms may also affect UTB comovement. To control for these perplexing factors, I control for earnings comovement and cash ETR comovement measured analogously to UTB comovement. By doing so, the association between UTB comovement and loan spread is expected to be driven by the accounting of uncertain tax positions.

[3] De Franco et al. (2011) provide two models to capture earnings comparability, the matching model and the earnings comovement model. I choose the comovement model because UTBs satisfy the assumption that the underlying tax uncertainties of the two peer firms are similar. In contrast, the matching model requires a proxy of a distinguishable economic event, which may not exist.

3.3 UTB comovement validation test

Before conducting the main test, I validate whether high UTB comovement indicates that UTB disclosures are informative for future tax consequences. If a firm determines that its uncertain tax position would not be sustained upon tax audit, it would instantly report UTB (contingent liability) and tax expenses related to this tax position. Instead, they do not need to report additional tax expenses when the tax positions are denied. In this regard, in the large tax settlements years (i.e., the year the tax position is denied), firms with informative UTBs would have relatively stable GAAP ETRs compared to other firms that did not report UTBs related to the denied tax positions.

I test whether high UTB comovement firms have stable GAAP ETRs during years of large settlements by estimating the following model:

$$ABETR_{it} = \gamma_0 + \gamma_1 UTB_{it-1} + \gamma_2 UTBCOMV_{it-1} + \gamma_3 UTB_{it-1} \times UTBCOMV_{it-1} + \gamma_4 LGTAX\_D_{it} \ (or\ \gamma_4 LGTAX\_C_{it}) + \gamma_5 LGTAX_{it} \times UTB_{it-1} + \gamma_6 LGTAX_{it} \times UTBCOMV_{it-1} + \gamma_c CONTROL_{ci,t-1} + \sum \gamma_j YEAR_t + \sum \gamma_m IND_{m,t} + \varepsilon_{it} \quad (2)$$

where *ABETR* represents abnormal changes in GAAP ETR in year *t*, defined as a firm's absolute GAAP ETR in year *t* minus its 10-year average GAAP ETR. *UTB* is the UTB balance at the end of year *t-1* scaled by total assets at the beginning of the year. *UTBCOMV* is UTB comovement at *t-1* and calculated based on the method explained in section 3.2.

LGTAX_D (or *LGTAX_C*) indicates whether year *t* is a large tax settlement year. Tax settlement data are not accessible; therefore, I employ the methodology used in previous research to identify potential large tax settlement firm-years (Bauer & Klassen, 2014; Finley, 2015). Firm years are identified as large tax settlement years (*LGTAX_D*) if a firm's cash ETR is greater than its own 10-year cash ETR mean by more than two industry standard deviations. I require firms to have ROAs greater than or equal to 0.5% to ensure that high cash ETRs are driven by high taxes paid (numerator) and not by low pre-tax income (denominator). I delete firm-years from the sample if the cash ETR is not calculable for more than three years over the past 10 years. I also calculate an alternative *LGTAX_C* measure that is a continuous variable equal to cash ETR minus the 10-year average cash ETR of the firm.

I include several variables at year *t-1* to control for the effects of firm characteristics on changes in GAAP ETR. The control variables include firm characteristics such as size, leverage, ROA, the market-to-book ratio, net operating loss (NOL), foreign sales, and R&D expenditure. Finally, I add industry and year fixed effects. In general, firms in the large tax settlement years show greater changes in GAAP ETR. However, firms with high UTB comovement would experience smaller changes in their GAAP ETRs compared to other firms in the large tax settlement years. Hence, my prediction is that $\gamma_6 < 0$.

3.4 Main tests

To test whether the comparability of UTB disclosures is associated with the cost of debt (H_1), I estimate the following regression model:

$$\begin{aligned}\log\,(LOANSPREAD_{i,t}) &= \gamma_0 + \gamma_1 UTB_{i,t-1} + \gamma_2 UTBCOMV_{i,t-1} \\ &+ \gamma_3 UTB_{i,t-1} \times UTBCOMV_{i,t-1} + \gamma_4 CETRCOMV_{i,t-1} \\ &+ \gamma_5 UTB_{i,t-1} \times CETRCOMV_{i,t-1} + \gamma_6 EARNCOMV_{i,t-1} \\ &+ \gamma_7 UTB_{i,t-1} \times EARNCOMV_{i,t-1} \\ &+ \sum \gamma\, FIRM\ CHARACTERISTICS_{it-1} \\ &+ \sum \gamma\, LOAN\ CHARACTERISTICS_{it} + YEAR_{t-1} + IND_{m,t-1} \\ &+ \varepsilon_{i,t}\end{aligned} \tag{3}$$

where $\log\,(LOANSPREAD_{i,t})$ is the natural logarithm of the loan interest payment at year *t* in basis points over the London Interbank Borrowing Rate (LIBOR) or the LIBOR equivalent for each dollar drawn down (i.e., the all-in spread) for a loan facility.

In Equation (3), the loan variables are measured in year *t*, whereas the firm characteristics, such as *UTB*, *UTBCOMV*, and other control variables, are measured in year *t-1*. This is because this test aims to investigate how loan spreads change after UTB is disclosed. $UTB \times UTBCOMV$ is a variable of interest and is expected to be negative because comparable UTB reduces the risk premium on uncertain tax positions. I focus on the coefficient of the interaction term rather than the coefficient of *UTBCOMV* because comparable UTB disclosure does not reduce the general risk on debt; instead, it mainly reduces the risk on given uncertain tax positions. Thus, *UTBCOMV* may affect the loan spread by reducing risk premium on given UTBs.

I control for cash ETR comovement (*CETRCOMV*), earnings comovement (*EARNCOMV*) and their interactions with *UTB*. As mentioned earlier, a potential concern with the UTB comovement measure is that it could be driven by similarities and differences in uncertain tax positions and firms' performance. I attempt to control for these confounding factors by controlling for cash ETR comovement and earnings comovement. The control variables also include cash ETR and cash ETR volatility over five years (e.g., Dyreng, Hanlon & Maydew, 2008; Guenther, Matsunaga & Williams, 2017; Drake, Lusch & Stekelberg, 2019). Following Graham, Li and Qiu (2008), I include several variables to control for the effects of firm and loan characteristics on the loan spread. The definitions of these variables are the same as those in Equation (2).

To test whether UTB disclosures are more closely related to loan spread when the UTBs are more relevant to the loan decisions (H_{2a} and H_{2b}), I separate the sample into two groups based on the foreign sales and R&D expenditure and estimate the Equation (3).

4. RESULTS

4.1 Validation test

Table 2, Panel A (see Appendix) reports the descriptive statistics for the variables used in the validation test. The mean of UTBs indicates that the size of UTBs on average is approximately 1.03% of total assets. This is similar to the amounts reported in previous research (e.g., Lisowsky et al., 2013; Nesbitt, 2014). The mean of UTB comovement is 33.27%, and the descriptive statistics of the other control variables are consistent with previous studies. I compare the descriptive statistics of the firms in the large tax

settlement year with those of the firms that are not in the large tax settlement year.[4] Approximately 4% of the firm-years are considered large tax settlement years. Firms in the large tax settlement years have a significantly larger mean *ABETR* (18.91% vs. 7.16%) and tend to have a smaller firm size, lower leverage, lower ROA, lower market-to-book ratios, and more tax losses.

Table 3 reports the results of the validation test using Equation (2). In Column (1), *LGTAX_D* is a dummy variable that equals one if a firm's cash ETR exceeds its 10-year average by two industry standard deviations. In Column (2), *LGTAX_C* is a continuous variable that equals cash ETR minus the 10-year average cash ETR. In both columns, the coefficients of UTB are significantly positive. Firms with larger UTBs tend to have more tax uncertainties and, thus, tend to have greater abnormal changes in GAAP ETR. The coefficients of *LGTAX_D* and *LGTAX_C* are also significantly positive. Firms are likely to have greater abnormal changes in GAAP ETR in the large tax settlement years. The coefficient of the interaction terms of *LGTAX_D* (or *LGTAX_C*) and *UTBCOMV* is -0.130 (or -0.201). Compared to others, firms with higher UTB comovement tend to have smaller abnormal changes in GAAP ETR in the large tax settlement years, supporting the conclusion that high UTB comovement firms reflect tax expenditures related to large tax settlements in tax expenses in advance. Hence, these findings support the conclusion that high UTB comovement indicates more informative UTB disclosures.

Table 3: UTB Comovement Validation

	Dependent Variable = $ABETR_t$	
	(1) *LGTAX_D*: Dummy Variable	(2) *LGTAX_C*: Continuous Variable
UTB_{t-1}	0.703**	0.667**
	(2.10)	(1.96)
$UTBCOMV_{t-1}$	0.002	-0.001
	(0.14)	(-0.07)
$UTB_{t-1} \times UTBCOMV_{t-1}$	0.726	1.102
	(0.75)	(1.12)
$LGTAX_t$	0.114***	0.133***
	(4.63)	(4.08)
$LGTAX_t \times UTB_{t-1}$	3.317**	0.708
	(2.08)	(0.48)
$LGTAX_t \times UTBCOMV_{t-1}$	-0.130**	-0.201***
	(-2.02)	(-2.19)
$SIZE_{t-1}$	-0.010***	-0.011***
	(-8.32)	(-8.91)
LEV_{t-1}	0.012	0.012
	(1.33)	(1.33)

[4] In Table 2, a firm-year is considered a large tax settlement year if its tax payments are larger than its 10-year mean by two industry standard deviations.

ROA_{t-1}	-0.235***	-0.258
	(-10.81)	(-11.72)
$MTOB_{t-1}$	0.000	0.000
	(0.07)	(-0.06)
$TAXLOSS_{t-1}$	0.115***	0.117***
	(7.90)	(7.87)
$FOREIGN_{t-1}$	0.012*	0.015**
	(1.85)	(2.14)
RND_{t-1}	0.050	0.050
	(1.03)	(1.00)
Number of observations	3,276	3,276
R-squared	18.0%	15.4%
Year-fixed effect	Yes	Yes
Industry-fixed effect	Yes	Yes

Note: There are two forms of the *LGTAX* variable. In column (1), *LGTAX_D* is a dummy variable that equals 1 if the firm's cash ETR is greater than its 10-year average by two industry standard deviations. In column (2), *LGTAX_C* is a continuous variable that equals CETR minus the 10-year average CETR. T-statistics are reported in parentheses below each coefficient estimate. Continuous variables are winsorised at the 1% level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Table 7 (see Appendix) provides variable definitions.

4.2 Main tests

Table 4, Panel A (see Appendix) presents descriptive statistics for the variables used in Equation (3). The mean of *UTB* is 0.98% with a standard deviation of 1.09%, whereas the mean of *UTBCOMV* is 33.33%, with a standard deviation of 16.57%, similar to the descriptive statistics in Table 2. The mean of *EARNCOMV* is 25.29%, and that of *CETRCOMV* is 17.65%. Consistent with prior studies, the mean of *CETRV* is 18.47%, and that of *CETR5* is 24.38% (e.g., Drake et al., 2019). About 3.14% of the firm-years are identified as large tax settlement years. The descriptive statistics pertaining to other firm and loan characteristics are consistent with previous studies. Table 4, Panel B shows the associations between UTB comovement, earnings comovement, and cash ETR comovement. While cash ETR comovement is mainly driven by differences in uncertain tax positions, UTB comovement is determined not only by tax positions but also by the accounting of these tax positions. Hence, an insignificant association between UTB comovement and cash ETR comovement indicates that firms adopting similar tax strategies do not necessarily incorporate the effect of these strategies on UTBs in similar ways.

Table 5 reports the results of Equation (3), which tests whether loan spread is associated with the UTB balance and UTB comovement. In Column (1), I test the association between *UTB* and log(*LOANSPREAD*) without controlling for *UTBCOMV* and find an insignificant association between the UTB balance and loan spread. However, after controlling for *UTBCOMV* and its interaction with *UTB* in Column (2), the coefficients of UTB and the interaction term are consistently positive and negative, respectively. This suggests that lenders impose higher risk premiums on the borrowing firms with

more tax uncertainties, but the degree of the imposed risk premium would be lower when the borrowing firm reports more comparable UTBs. If a mean firm were to increase its UTB balance by one standard deviation, its loan spread would increase by 19.31 basis points (= 10.018×176.86×0.0109) or by 11% relative to a sample average loan spread of 176.86 basis points. However, if the one standard deviation increase in the UTB balance is combined with a one standard deviation increase in UTB comovement, the increase in loan spread is 15.82 basis points (= (10.018-10.936 × 0.166) × 176.86 × 0.0109). The mean value of the loan size is approximately USD 821.73 million, and the average time to maturity is around 54.95 months (see Table 4, Appendix); therefore, the firm with a one standard deviation increase in UTBs over the life of the loan pays USD 7.27 million (= 821.73 × 0.001931 × 54.95/12) more interest than the mean firm. However, the increase in interest would be USD 5.95 million (= 821.73 × 0.001582 × 54.95/12) if a one standard deviation increase in UTBs is combined with a one standard deviation increase in UTB comovement.

Table 5: The Association between UTB Disclosures and Loan Spread

	Dep Var = Log($LOANSPREAD_t$)	
UTB_{t-1}	0.332	10.018***
	(0.39)	(2.88)
$UTBCOMV_{t-1}$		0.071
		(1.01)
$UTB_{t-1} \times UTBCOMV_{t-1}$		-10.936**
		(-2.01)
$CETRCOMV_{t-1}$		0.243
		(1.32)
$UTB_{t-1} \times CETRCOMV_{t-1}$		-23.403
		(-1.50)
$EARNCOMV_{t-1}$		-0.051
		(-0.52)
$UTB_{t-1} \times EARNCOMV_{t-1}$		-12.586
		(-1.48)
$CETRV_{t-1}$	0.051**	0.060**
	(2.14)	(2.49)
$CETR5_{t-1}$	0.020	0.044
	(0.26)	(0.55)
$SIZE_{t-1}$	-0.128***	-0.128***
	(-13.38)	(-13.44)
LEV_{t-1}	0.397***	0.387***
	(7.31)	(7.08)
ROA_{t-1}	-1.260***	-1.235***
	(-7.79)	(-7.59)
$MTOB_{t-1}$	-0.006*	-0.005
	(-1.74)	(-1.49)
CFV_{t-1}	-0.938	-0.828
	(-1.45)	(-1.28)

$ZSCORE_{t-1}$	-0.044***	-0.046***
	(-3.23)	(-3.40)
$CASHHOLD_{t-1}$	0.237***	0.239***
	(3.02)	(3.01)
$TANGIBILITY_{t-1}$	-0.029	-0.030
	(-0.50)	(-0.51)
$LGTAX\_D_{t-1}$	0.158***	0.150***
	(3.08)	(2.93)
$Log(LOANMATURITY_t)$	0.247***	0.241***
	(8.08)	(7.87)
$Log(LOANAMT_t)$	-0.029***	-0.028***
	(-3.02)	(-2.85)
SYN_t	-0.074	-0.077
	(-1.14)	(-1.19)
Number of observations	1,710	1,710
R-squared	56.5%	56.8%
Year-fixed effect	Yes	Yes
Industry-fixed effect	Yes	Yes
Loan purpose and type control	Yes	Yes

Note: T-statistics are reported in parentheses below each coefficient estimate. Continuous variables are winsorised at the 1% level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Table 7 (Appendix) provides variable definitions.

Table 6 reports the test results of H_{2a} and H_{2b}, which examine the association between UTB disclosures and loan spread when UTB disclosures would be more decision-relevant to the loan decisions. In Column (1), I divide the sample into two groups based on the foreign sales. When foreign sales are median or above, the coefficient of *UTB* is significantly positive (12.649), and the coefficient of the interaction term of *UTB* and *UTBCOMV* is significantly negative (-16.417). By contrast, when foreign sales are below the median, both coefficients of *UTB* and its interaction term with *UTBCOMV* are insignificant. Column (2) compares the impact of UTB disclosures on loan spread depending on firms' engagement in R&D activities. While the coefficient of the interaction term of *UTB* and *UTBCOMV* is significantly negative when borrowing firms incur R&D expenditure, the coefficient of this interaction term is insignificant for borrowing firms which have no R&D expenditure. Both columns support the conclusion that, when borrowing firms have more opportunities of tax avoidance strategies, lenders may rely more on tax risk information provided by firms and consider the quality of information important.

Table 6: The Association between UTB Disclosures and Loan Spread When UTB Is More Relevant to Loan Decisions

	Dependent Variable = Log ($LOANSPREAD_t$)			
	(1) *FOREIGN*		(2) *RND*	
	Median or above	Below median	Above zero	Zero
UTB_{t-1}	12.649**	7.258	11.007**	10.597**
	(2.55)	(1.14)	(2.06)	(1.82)
$UTBCOMV_{t-1}$	0.117	0.043	0.101	0.049
	(1.03)	(0.49)	(0.85)	(0.59)
$UTB_{t-1} \times UTBCOMV_{t-1}$	-16.417**	-1.276	-14.123*	2.659
	(-2.22)	(-0.14)	(-1.71)	(0.38)
$CETRCOMV_{t-1}$	-0.020	0.493*	-0.192	0.622***
	(-0.06)	(1.88)	(-0.56)	(2.67)
$UTB_{t-1} \times CETRCOMV_{t-1}$	-27.686	-19.810	-13.243	-45.604*
	(-1.24)	(-0.71)	(--0.59)	(-1.69)
$EARNCOMV_{t-1}$	-0.026	0.041	-0.199	-0.062
	(-1.36)	(0.30)	(-1.09)	(-0.52)
$UTB_{t-1} \times EARNCOMV_{t-1}$	-15.263	-4.905	-21.525*	-0.656
	(-1.31)	(-0.34)	(-1.68)	(-0.05)
Number of observations	855	855	832	878
R-squared	62.3%	58.8%	60.3%	59.1%
All controls	Yes		Yes	
Year-fixed effect	Yes		Yes	
Industry-fixed effect	Yes		Yes	
Loan purpose and types control	Yes		Yes	

Note: In Table 6, Column (1) presents the results when foreign sales are median or above, or foreign sales are below median. Column (2) shows the results when firms spend R&D expenditure, or have zero R&D expenditure. T-statistics are reported in parentheses below each coefficient estimate. Continuous variables are winsorised at the 1% level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Table 7 (Appendix) provides variable definitions.

5. CONCLUSION

This study examines whether and how UTB disclosures are associated with the cost of debt. The study finds that the cost of debt is positively associated with the balance of UTBs of borrowing firms, but this positive association is less pronounced when the tax risk disclosures of borrowing firms are more comparable. Further, the study finds that

the impacts of tax risk and the related disclosures are pronounced when firms have large amounts of foreign sales or engage in R&D activities. From these findings, I infer that a lender's perception of a borrowing firm's tax risk is influenced by accounting for the tax uncertainty of the borrowing firm as well as the risk of the borrowing firm's tax position.

This study contributes to the understanding of the field by regulators, professions, and academics by examining the implementation of a new accounting policy, FIN 48. In addition to the literature on whether UTB disclosures are useful to equity investors, the study reveals that accounting for uncertain tax position is incorporated in loan spread, suggesting that UTB disclosures also provide decision-useful information to lenders. Moreover, the UTB comovement measure proposed in this study may help the exploration of UTBs in future research. Although researchers have paid attention to UTB as it is a newly implemented and theoretically ideal indicator of tax risk, managerial discretion that can arise from UTB reporting has disrupted UTB research to date. By identifying such discretion in relation to UTBs, the UTB comovement measure could allow researchers to investigate various determinants and consequences of UTB disclosures.

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Table 2: Descriptive Statistics – UTB Comovement Validation Sample

Panel A. Summary Statistics

	All Years (N=3,276)					Large Settlement Year (N=132)		Other Years (N=3,144)	
	Mean	SD	P25	P50	P75	Mean	SD	Mean	SD
ABETR (%)	7.64	10.44	1.50	3.90	9.44	18.91	17.42	7.16	9.77
UTB (%)	1.03	1.26	0.23	0.61	1.36	1.22	1.49	1.02	1.25
UTBCOMV (%)	33.27	16.66	18.90	33.66	45.91	33.35	16.36	33.25	16.68
SIZE	7.72	1.68	6.55	7.62	8.86	7.37	1.79	7.74	1.67
LEV (%)	23.92	22.04	5.63	20.41	34.23	21.37	19.98	24.03	22.12
ROA (%)	11.13	8.60	5.84	9.55	14.75	8.22	7.87	11.24	8.59
MTOB	3.29	4.15	1.57	2.49	3.87	2.53	2.66	3.32	4.20
TAXLOSS (%)	6.94	12.58	0.00	1.83	7.49	8.67	14.59	6.89	12.48
FOREIGN (%)	35.37	31.05	4.38	30.73	56.88	39.15	33.01	35.18	30.96
RND (%)	2.67	4.35	0.00	0.46	3.41	3.39	5.20	2.63	4.31

Note: Panel A presents summary statistics of variables used to validate UTB comovement as a measure of informative UTB. It consists of three parts. The first part provides summary statistics for all sample firm-years. The second and third parts provide summary statistics for large tax settlement years and non-large tax settlement years, respectively. Continuous variables are winsorised at the 1% level. Table 7 (Appendix) provides variable definitions.

Panel B. Pearson (Above Diagonal) and Spearman (Below Diagonal) Correlations

	ABETR	***UTB***	***UTBCOM***	***SIZE***	***LEV***	***ROA***	***MTOB***	***TAXLOSS***	***RND***	***FOREIGN***	***LGTAX_D***
ABETR		**0.15**	-0.02	**-0.12**	-0.01	**-0.21**	**-0.07**	**0.23**	**0.13**	**0.11**	**0.22**
UTB	**0.12**		**-0.04**	**0.13**	-0.03	**0.07**	**0.07**	**0.22**	**0.34**	**0.28**	0.03
UTBCOMV	**-0.05**	**-0.06**		0.02	-0.03	**0.03**	0.00	**-0.05**	-0.03	-0.02	0.00
SIZE	**-0.10**	**0.22**	0.01		**0.31**	**-0.08**	**0.06**	**-0.07**	**-0.07**	**0.18**	**-0.04**
LEV	-0.01	**-0.03**	-0.03	**0.42**		**-0.13**	0.03	**0.06**	**-0.22**	**-0.09**	-0.02
ROA	**-0.29**	**0.06**	**0.04**	**-0.04**	**-0.19**		**0.27**	**-0.17**	**0.05**	**-0.05**	**-0.07**
MTOB	**-0.18**	**0.17**	0.01	**0.13**	**0.05**	**0.45**		**-0.08**	**0.08**	0.00	**-0.04**
TAXLOSS	**0.24**	**0.15**	**-0.05**	0.02	**0.07**	**-0.24**	**-0.08**		**0.18**	**0.14**	0.03
RND	**0.15**	**0.35**	**-0.03**	-0.03	**-0.20**	**0.04**	**0.18**	**0.20**		**0.35**	**0.03**
FOREIGN	**0.17**	**0.35**	-0.01	**0.20**	**-0.05**	**-0.06**	0.03	**0.23**	**0.49**		0.03
LGTAX_D	**0.16**	0.03	0.00	**-0.04**	-0.02	**-0.08**	**-0.08**	0.03	0.02	0.03	

Note: Panel B presents correlations of variables used to validate UTB comovement as a measure of informative UTB. Correlations that are significant at the 5% level or lower are marked in bold. Continuous variables are winsorized at the 1% level. Table 7 (Appendix) provides variable definitions.

Table 4: Descriptive Statistics – Loan Sample

Panel A. Summary Statistics

Variable	N	Mean	SD	P25	P50	P75
Tax-related Variables						
UTB (%)	1,018	0.98	1.09	0.24	0.63	1.28
UTBCOMV (%)	1,018	33.33	16.57	19.06	34.36	45.87
EARNCOMV (%)	1,018	25.29	11.90	16.39	23.82	32.14
CETRCOMV (%)	1,018	17.65	6.04	13.48	17.12	20.94
CETRV (%)	1,018	18.47	37.65	4.69	7.64	14.77
CETR5 (%)	1,018	24.38	11.66	17.75	24.45	30.84
LGTAX_D (%)	1,018	3.14	17.46	0.00	0.00	0.00
Firm Characteristics						
SIZE	1,018	8.16	1.39	7.12	8.08	9.10
LEV (%)	1,018	26.25	19.59	13.17	23.68	35.76
ROA (%)	1,018	10.72	7.01	5.80	9.29	13.96
MTOB	1,018	3.54	3.20	1.72	2.61	4.02
CFV (%)	1,018	4.56	1.83	3.27	4.20	5.46
ZSCORE	1,018	2.14	1.01	1.43	2.06	2.73
TANGIBILITY (%)	1,018	26.86	23.63	10.06	19.03	36.30
CASHHOLD (%)	1,018	13.17	12.69	3.81	9.26	18.58

Loan Terms						
LOANSPREAD	1,710	176.86	93.26	120.00	150.00	200.00
LOANMATURITY	1,710	54.95	16.56	60.00	60.00	60.00
LOANAMT	1,710	821.73	1,120.80	191.67	428.00	1,000.00
SYN (%)	1,710	98.42	12.47	100.00	100.00	100.00

Note: Panel A presents summary statistics of variables used to test the association between UTB disclosures and loan spread. Continuous variables are winsorised at the 1% level. Table 7 (Appendix) provides variable definitions.

Panel B. Pearson (Above Diagonal) and Spearman (Below Diagonal) Correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1)*UTB*		**-0.07**	**-0.08**	**-0.06**	-0.02	**-0.12**	**0.19**	-0.04	0.02	**0.08**	0.03	**-0.10**	**-0.25**	**0.33**	0.01	**-0.09**	**-0.09**	**0.13**	-0.01
(2)*UTBCOMV*	**-0.05**		-0.02	-0.04	-0.03	0.04	0.00	**-0.07**	0.04	0.04	**0.07**	0.03	**0.07**	**0.06**	-0.01	-0.03	-0.01	-0.04	-0.02
(3)*EARNCOMV*	**-0.05**	-0.04		0.01	**0.08**	0.03	-0.05	0.03	0.01	0.00	-0.01	0.03	0.00	**-0.11**	-0.02	0.04	0.02	0.03	-0.02
(4)*CETRCOMV*	-0.03	-0.05	0.01		**-0.10**	**-0.08**	-0.01	0.01	**0.08**	0.04	-0.03	-0.01	**0.05**	**-0.05**	-0.02	0.00	0.00	-0.02	-0.02
(5)*CETRV*	**-0.05**	-0.05	**0.07**	-0.03		**0.13**	**-0.15**	**-0.06**	**-0.16**	**-0.12**	0.04	**-0.09**	**0.07**	-0.03	**0.18**	**0.15**	**0.05**	**-0.16**	0.02
(6)*CETR5*	**-0.11**	**0.06**	**0.07**	-0.03	**0.19**		**-0.07**	**-0.19**	**0.13**	0.01	**0.14**	**0.20**	**-0.05**	-0.03	**0.17**	0.00	0.04	-0.04	0.02
(7)*SIZE*	**0.22**	0.01	**-0.07**	-0.02	**-0.21**	**-0.10**		**0.22**	**-0.06**	0.03	**-0.2**	**-0.21**	**0.11**	**-0.1**	-0.01	**-0.37**	**-0.26**	**0.66**	0.02
(8)*LEV*	-0.03	**-0.06**	0.01	-0.01	**-0.10**	**-0.20**	**0.29**		**-0.16**	**0.13**	**-0.34**	**-0.40**	**0.24**	**-0.25**	**-0.05**	**0.17**	0.00	**0.11**	**0.05**
(9)*ROA*	0.02	0.02	0.05	**0.08**	**-0.31**	**0.19**	-0.05	**-0.19**		**0.41**	**0.45**	**0.49**	-0.01	**0.36**	**-0.09**	**-0.31**	**-0.10**	**0.09**	0.00
(10)*MTOB*	**0.20**	0.04	0.03	**0.09**	**-0.33**	0.01	**0.08**	**0.12**	**0.45**		**0.25**	**0.14**	**-0.11**	**0.19**	0.00	**-0.16**	**-0.06**	**0.11**	-0.02
(11)*CFV*	**0.09**	**0.07**	-0.01	-0.03	-0.01	**0.14**	**-0.18**	**-0.36**	**0.40**	**0.23**		**0.45**	0.00	**0.31**	**0.06**	**-0.18**	-0.01	**-0.08**	0.03
(12)*ZSCORE*	**-0.08**	0.02	0.02	0.01	**-0.10**	**0.26**	**-0.23**	**-0.42**	**0.51**	**0.13**	**0.47**		**-0.16**	**0.21**	**-0.06**	**-0.23**	-0.02	**-0.08**	**0.05**
(13)*TANGIBILITY*	**-0.28**	**0.07**	-0.03	0.01	**0.07**	**-0.05**	**0.07**	**0.17**	0.02	**-0.1**	**0.11**	-0.03		**-0.23**	**0.05**	-0.02	0.02	0.02	**0.05**
(14)*CASHHOLD*	**0.37**	**0.06**	**-0.09**	-0.02	**-0.06**	0.02	**-0.06**	**-0.34**	**0.26**	**0.25**	**0.35**	**0.25**	**-0.22**		0.03	**-0.07**	**-0.07**	-0.04	0.02
(15)*LGTAX_D*	0.02	-0.02	-0.02	-0.02	**0.21**	**0.12**	-0.01	-0.05	**-0.14**	-0.05	**0.07**	**-0.06**	**0.05**	**0.05**		**0.08**	-0.03	0.00	0.02
(16)log(*LOANSPREAD*)	**-0.14**	-0.04	0.01	0.00	**0.28**	**-0.06**	**-0.35**	**0.18**	**-0.37**	**-0.26**	**-0.25**	**-0.27**	**-0.05**	**-0.13**	**0.07**		**0.18**	**-0.28**	0.01
(17)log(*LOANMATU*)	**-0.05**	0.01	0.03	-0.01	**0.08**	0.04	**-0.19**	0.00	**-0.08**	**-0.06**	-0.04	-0.05	-0.04	**-0.06**	-0.01	**0.24**		**-0.19**	**0.09**
(18)log(*LOANAMT*)	**0.16**	-0.03	0.02	-0.02	**-0.19**	**-0.05**	**0.67**	**0.16**	**0.12**	**0.13**	**-0.06**	-0.07	0.01	-0.02	0.00	**-0.31**	-0.04		0.04
(19)*SYN*	-0.03	-0.03	-0.04	-0.03	0.01	0.02	0.03	**0.05**	0.01	0.00	0.04	**0.05**	**0.06**	0.00	0.02	0.01	**0.06**	**0.05**	

Note: Panel B presents correlations of variables used to test the influence of UTB disclosures to loan spread. Correlations that are significant at the 5% level or lower are marked in bold. Continuous variables are winsorised at the 1% level. Table 7 (Appendix) provides variable definitions.

Table 7: Variable Definitions

ABETR	Absolute of the difference between GAAP ETR for the year and the mean of GAAP ETR over 10 years. GAAP ETR equals total income taxes (*TXT*) divided by a firm's pre-tax income (*PI*) less special items (*SPI*).
CASHHOLD	Cash and marketable securities (*CHE*) scaled by beginning of year total assets (*AT*).
CETR5	Sum of income tax paid (*TXPD*) over the previous five years divided by the sum of a firm's pre-tax income (*PI*) less special items (*SPI*). *CETR5* is set as missing when the denominator is zero or negative. I winsorise *CETR5* to the range [0,1].
CETRCOMV	The R^2 from a regression of firm *i*'s cash ETR on the cash ETR of firm *j* is calculated for each firm *i* – firm *j* pairs over five-year rolling windows, ($i \neq j$), j=1 to *J* firms in the same two digit SIC industry as firm *i*. A firm level measure is calculated by taking the median of the firm *i* – firm *j* measures.
CETRV	Standard deviation of annual cash ETRs over five years.
CFV	The volatility of quarterly pre-tax cash flow (*OANCFY*) over the previous five years scaled by beginning of year total assets (*AT*).
EARNCOMV	The R^2 from a regression of firm *i*'s earnings on the earnings of firm *j* is calculated for each firm *i* – firm j pair over five-year rolling windows, ($i \neq j$), j=1 to *J* firms in the same two-digit SIC industry as firm *i*. A firm level measure is calculated by taking the median of the firm *i* – firm *j* measures.
FOREIGN	Sum of foreign sales scaled by total sales, taken from the Compustat segment dataset. If foreign sales are missing, but pre-tax foreign income (*PIFO*) is not missing, I reset the missing value of *foreign* equal to pre-tax foreign income (*PIFO*) scaled by pre-tax income (*PI*). If foreign sales are missing and pre-tax foreign income (*PIFO*) is missing, but foreign income taxes (*TXFO*) is not missing, I reset the missing value of *foreign* equal to foreign income taxes (*TXFO*) scaled by total income taxes (*TXT*).
GAAP ETR	Total income taxes (*TXT*) divided by a firm's pre-tax income (*PI*) less special items (*SPI*).

LEV	Long-term debt (*DLTT*) + short-term debt (*DLC*), scaled by beginning of year total assets (*AT*).
LGTAX_D	Equals 1 if the cash ETR is greater than its 10-year mean by two industry standard deviations.
LGTAX_C	Cash ETR minus the 10-year average cash ETR.
LOANAMT	Natural log of the total amount of the loan facility (in millions of US dollars) obtained by a firm.
LOANMATURITY	Natural log of the number of months to maturity of a loan facility obtained by a firm.
LOANSPREAD	Loan spread is measured as all-in spread drawn in the DealScan database. All-in spread drawn is defined as the amount the borrower pays in basis points over the LIBOR or LIBOR equivalent for each dollar drawn down.
MTOB	Ratio of market value of equity (*CSHO*PRCC_F*) to book value of equity (*CEQ*).
ROA	Pre-tax income (*PI*) scaled by beginning of year total assets (*AT*).
RND	Research and development expenses (*XRD*) scaled by beginning of year total assets (*AT*) or zero for missing values.
SIZE	Logarithm of total assets (*AT*) at the end of the year.
SYN	Equals 1 if the loan obtained in year *t* is syndicated and zero otherwise.
TANGTIBILITY	Net property, plant, and equity (*PPENT*) scaled by beginning of year total assets (*AT*).
TAXLOSS	Tax loss carry forward (*TLCF*) scaled by beginning of year total assets (*AT*).
UTB	Unrecognised tax benefit at the end of the year (*TXTUBEND*) scaled by total assets (*AT*) at the beginning of the year.
UTBCOMV	The R^2 from a regression of firm *i*'s *UTB* on the *UTB* of firm *j* is calculated for each firm *i* – firm j pair over five-year rolling windows, ($i \neq j$), j=1 to *J* firms in the same two digit SIC industry as firm *i*. A firm level measure is calculated by taking the median of the firm *i* – firm *j* measures.
ZSCORE	Modified Altman (1968) Z-score as in Graham et al. (2008) =1.2 (working capital/ total assets) + 1.4 (retained earnings/total assets) + 3.3 (EBIT/total assets) + 1.0 (sales/total assets).

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Detecting profit shifting in Indonesia using the Hines and Rice approach

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Abstract

Prior studies suggest that profit shifting by multinational enterprises (MNEs) occurs not only in developed countries but also in developing ones. However, the knowledge of profit shifting in developing countries is very limited, because the findings of most of the prior studies are difficult to interpret due to problems about reliability of data and method used to measure profit shifting (Fuest & Riedel, 2012).

This article investigates whether foreign-owned Indonesian companies (FOICs) shift profits out of Indonesia by following an approach introduced by Hines and Rice (1994) (hereafter HRA) with some modifications. HRA has been widely cited in the literature of international tax avoidance. We examine both the accounting profit and taxable income reported by FOICs in their Indonesian tax returns using confidential data supplied by the Indonesian tax authority.

After analysing a final sample of over 3,000 observations from 2009 to 2015, we find that on average a one percentage point lower statutory tax rate in the residence country of an FOIC's parent is associated with a reduction of 2.6% and 2.9%, respectively, in the pre-tax accounting profit and taxable income reported by the FOIC in its Indonesian tax return.

Keywords: profit shifting; Indonesia; tax return data; Hines and Rice approach

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1. INTRODUCTION

Business enterprises view tax as an expense and may try to avoid it. Multinational enterprises (MNEs) are in a better position to avoid tax because different countries have different tax rates and tax rules that MNEs can exploit. The most widely known method of international tax avoidance involves shifting profits to low tax jurisdictions, causing erosion of the tax base of high tax jurisdictions.

Although most base erosion and profit shifting (BEPS) strategies are legal, according to the Organisation for Economic Co-operation and Development (OECD) (2015a), the process generates several undesirable consequences. First, BEPS distorts competition because MNEs may gain competitive advantages from BEPS opportunities that domestic companies do not have. Second, it may cause the inefficient allocation of resources by distorting investment decisions towards activities that have lower pre-tax rates of return, but higher after-tax returns. Finally, it discourages voluntary compliance of most taxpayers because they observe that MNEs legally avoid income tax. The three potential distortions, compounded by the fact that most developing countries heavily rely on corporate income tax (CIT) revenue, have positioned studies on BEPS – particularly studies that focus on developing countries – as highly important.

The incidence of profit shifting by MNEs in developed countries has been confirmed by many empirical studies over several decades (e.g., Hines & Rice, 1994; Huizinga & Laeven, 2008; Dowd, Landefeld & Moore, 2017). By contrast, similar studies that focus on developing countries have only emerged in the past few years (e.g., Janský & Prats, 2015; Salihu, Annuar & Obid, 2015). Fuest and Riedel (2012) argue that the reason why knowledge on profit shifting in developing countries is limited is because the data and method used to measure profit shifting are not reliable.

This article investigates whether foreign-owned Indonesian companies (FOICs) shift profits out of Indonesia using a research method introduced by Hines and Rice (1994) with some modifications. Hines and Rice's pioneering (1994) study on profit shifting by MNEs 'established a conceptual framework that continues to be highly influential' (Dharmapala, 2014a, p. 424).[1] Dowd, Landefeld and Moore (2017) suggest that the Hines and Rice approach (hereafter HRA) has become a standard in the literature.[2]

Despite the fact that the results in studies that adopt the HRA vary, they are consistent with the hypothesis that there is a negative relation between the level of CIT rates in the host countries and the magnitude of profits reported by MNEs in different host countries. However, few studies have adopted the HRA to measure the extent to which the tax rate of the parent's country of a foreign-owned company operating in a developing country influences the profits reported by the foreign-owned company. This article is one of the early studies that uses the HRA to examine the existence of profit shifting by MNEs in a developing country using tax return data that cover a relatively long period of study.

[1] Grubert and Mutti (1991) also published a widely cited study.

[2] According to Dowd, Landefeld and Moore (2017, p. 2), 'Hines and Rice estimated the semi-elasticity of profits with respect to marginal tax rates, and their semi-log specification has become a standard in the literature and is one that we adopt here. Derived from a standard production function, this specification controls for the real economic activities of a firm using measures of capital and labor. The tax rate captures the profit shifting incentive for firms'.

This study uses tax return data supplied by the Directorate General of Taxes (DGT) – the Indonesian tax authority – under a data non-disclosure agreement. The DGT removes all identifying particulars from the data because of privacy protection requirements, i.e., firms are anonymised. The dataset only includes the country where the immediate parent of an FOIC is located. Therefore, in this study, we define 'parent's country' as the country where the immediate parent of an FOIC is located, not the country where the ultimate parent is located. We also define 'parent's tax rate' as the statutory tax rate (STR) of the country in which the immediate parent is located. To take Google as an example, PT Google Indonesia is an FOIC. It is a subsidiary of Google Asia Pacific Pte Ltd, located in Singapore. Google Asia Pacific is ultimately owned by Alphabet Inc. in the United States (US). Here, Google Asia Pacific is the immediate parent. Therefore, in this article we use the Singaporean tax rate, not the US tax rate, to examine whether PT Google Indonesia shift profits out of Indonesia.

This article measures profit in two ways: (1) taxable income (TI) based on tax law, and (2) accounting profit before tax (AP) based on financial reporting rules. This article reports the results for AP first because this study adopts the HRA which uses AP as the dependent variable. However, both AP and TI will be discussed equally given that TI is the key feature in this article, because it directly reflects the loss of tax revenue given that CIT is based on TI.

After analysing a final sample of more than 3,000 firm-year observations from 2009 to 2015, this study finds that a parent's tax rate that is one percentage point lower is associated with a reduction of 2.56% and 2.89% in the AP and TI, respectively, reported by FOICs to the Indonesian tax authority, suggesting the existence of profit shifting by FOICs. This article provides additional empirical evidence of cross-border profit shifting by MNEs in developing countries.

The rest of this article is organised as follows. The next section briefly describes the HRA, reviews some prior studies that use the HRA and develops the hypothesis to be tested in this study. Section 3 describes the research design of the study. Section 4 reports the empirical results. Section 5 concludes the article. A brief description of the company income tax system in Indonesia can be found in Appendix 1.

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1 The Hines and Rice approach in detecting cross-border profit shifting

According to the basic tax competition model, governments commit to a tax system and capital owners choose where to invest their capital (Wilson, 1999). However, once location decisions are made, firms or capital become partially immobile. Some firms may leave a region after an initial tax break has expired and choose to seek tax breaks in other regions (Wilson, 1999). From an international tax avoidance perspective, moving to other regions may not be necessary if MNEs have an opportunity to reallocate TI from countries with high tax rates to countries with low tax rates (Hines, 1999). This international tax avoidance strategy is known as profit shifting.

In their seminal paper, Hines and Rice (1994) develop an economic approach to investigate the effect of tax rate variation on profits reported by MNEs. As Dharmapala (2014a) explains, the basic premise of the HRA is that pre-tax income consists of two components: (1) 'true' income, i.e., income produced using capital and labour inputs; and (2) 'shifted' income, i.e., income shifted across borders because of a tax incentive

in the form of a tax rate difference between countries. Equation (1) represents the original HRA:

$$\log\pi_i = \beta_0 + \beta_1\tau_i + \beta_2 \log K_i + \beta_3 \log L_i + \beta_4 \log A + \varepsilon_i \quad (1)$$

where:

$\log\pi_i$ the dependent variable, is the logarithm of the pre-tax income of all US MNEs' foreign affiliates in host country *i* calculated based on confidential US Department of Commerce survey data;

τ_i the independent variable, is the average tax rate in host country *i*; the HRA bases the average tax rate on the effective tax rate (ETR) or the statutory tax rate (STR) whichever is lower. The ETR is CIT paid by all US affiliates in the local country *i* divided by their total net income before tax;

K_i is the capital input in host country *i*;

L_i is the labour input in host country *i*;

A is the level of productivity in host country *i* (proxied by income per capita);

ε_i is the error term.

Using country-level aggregate data on US-owned MNE affiliates operating in 59 countries in 1982, Hines and Rice (1994) use Equation (1) to estimate the effect of tax rate variation in the host countries on the profits reported by MNEs in those countries. In calculating K_i, the HRA includes real/economic capital and excludes financial capital. For π_i, the HRA removes financial earnings (i.e., interest received and interest paid) from reported profits because available financial data are not as reliable or as comprehensive as the data used to estimate K_i (Hines & Rice, 1994, p. 161). Hines and Rice (1994) find a negative effect of tax rates of host countries on measures of the profitability of US MNEs' affiliates. The effect is noticeably large – that is, a tax rate in a host country that is one percentage point higher is associated with a 2.83% reduction in the before-tax profitability reported in that host country.

The HRA has been widely adopted by numerous subsequent studies that examine the existence of profit shifting activities by MNEs. Despite the results showing some deviations from the original study, the subsequent studies prove that the HRA is a robust method for investigating how tax rate disparities can influence MNEs' behaviour in reporting profits in different countries. Three studies that adopt the HRA are reviewed below.

Swenson (2001) studies how import tariff variations across products provide other countries' MNEs operating in the US an incentive to shift profits by means of transfer pricing (i.e., by deliberately underpricing or overpricing affiliated firm transactions) over the period 1981-1988. The source countries of the investments are Canada, France, Germany, Japan and the UK. Swenson (2001) adopts some existing approaches – one of which is the HRA – to build a model of transfer pricing incentives with some modifications. While the author finds significant evidence that the tariff variation creates incentives for underpricing or overpricing affiliated firm transactions, she concludes that the manipulation of product transfer prices is not the main channel used to shift profits.

Using micro-level data relating to the operations of Europe-based MNEs in many European countries, Huizinga and Laeven (2008) adopt the HRA to investigate the opportunities and incentives created by cross-border profit shifting. They find that the effect of a tax rate variation of one percentage point higher on pre-tax profit is 1.08%, which is much lower than the 2.83% obtained by Hines and Rice (1994). They argue that the much higher percentage found by Hines and Rice (1994) is because Hines and Rice included many tax havens outside Europe that presumably do not have effective cross-border profit shifting regulations.

A recent study by Dowd, Landefeld and Moore (2017) not only adopts the HRA, but also states that the semi-log specification introduced by Hines and Rice (1994) has become a standard in the literature. Using a panel dataset of US tax returns, Dowd, Landefeld and Moore (2017) scrutinise the profit shifting behaviour of US MNEs over the period 2002-2012 and suggest consideration of a non-linear relation between the tax rate and reported profits.

2.2 Profit shifting in developing countries

The studies discussed in the previous section focus on developed countries and confirm that MNEs shift profits. However, MNEs operate not only in developed countries, but also in developing countries. As a result, when MNEs commit profit shifting strategies, both developed and developing countries are likely to be affected. This makes BEPS a global issue, and developed countries alone cannot sufficiently address it. Unfortunately, while empirical studies on developed countries are abundant, few studies have focused on developing countries. This section discusses some studies that have developing countries as their focus. It also examines why there are limited empirical studies in developing countries.

Profit shifting within MNEs has been an issue in developed countries for decades. However, it has only recently come to the attention of policy-makers in developing countries (Janský & Kokeš, 2015). Reports of some international institutions and empirical studies that suggest and argue that developing countries may suffer from BEPS strategies by MNEs have substantially contributed to this attention. For example, the OECD (2013a) argues that MNEs are being accused of avoiding taxes worldwide – particularly in developing countries, where tax revenue is critical to promote sustainable development.

In line with the OECD's report, Dharmapala (2014b) claims that developed countries do not rely on corporate tax revenues and therefore do not consider BEPS activity by MNEs a major determining factor to their overall level of tax revenue. In contrast, developing countries rely on corporate tax revenue because it contributes a significant proportion of their total tax revenue, and they may find it difficult to switch to other forms of taxation (Dharmapala, 2014b). As a result, 'developing countries are especially vulnerable to BEPS activity' (Dharmapala, 2014b, p. 10). This statement is consistent with the OECD's (2014b) view that some of the lowest-income countries rely on income tax from the operations of foreign MNEs.

Indonesia is not an exception. From economic surveys on Indonesia, the OECD (2012, 2015b) finds that the nation's budget relies heavily on revenue from corporate tax. Another international institution that finds that developing countries rely on corporate tax revenue is the International Monetary Fund (IMF), which estimates that the global annual corporate tax revenue loss caused by BEPS is approximately 5% of the total CIT

revenue (IMF, 2014). Moreover, the IMF estimates that the loss is as high as 13% in developing countries, confirming the high vulnerability of developing countries to profit shifting.

In 2012, the G20 initiated a global project to tackle profit shifting by MNEs and asked the OECD to undertake the project. The OECD agreed and launched the project, called *Base Erosion and Profit Shifting*, in February 2013. The G20 countries which are not OECD members (e.g., Indonesia) became associates that have equal footing with OECD members in the project and agreed to adopt an Action Plan[3] to address BEPS in September 2013 (OECD, 2013b). Since its launch, the project has received consistent support from the G20 and is known as the OECD/G20 BEPS Project or the BEPS Project. The OECD continues to encourage developing countries to be involved in the project. For example, in its *Economics Surveys: Indonesia 2015* report (OECD, 2015b, p. 15), the OECD recommends that Indonesia 'continue to be actively engaged in the OECD's Base Erosion and Profit Shifting (BEPS) Project' because the OECD believes that the project is an efficient tool to 'facilitate and improve corporate taxation for multinationals which should benefit Indonesia's tax collection' (OECD, 2016, p. 100).

2.3 Empirical evidence of profit shifting in developing countries and hypothesis development

In contrast to the considerable empirical evidence available from developed countries, there is a dearth of empirical evidence from developing countries regarding the extent to which multinational tax evasion and tax avoidance cause tax revenue losses (Fuest & Riedel, 2009; Crivelli, De Mooij & Keen, 2016). The limited empirical evidence of profit shifting strategies used by MNEs in developing countries is extensively discussed by Fuest and Riedel (2012), who review the literature on income shifting in developing countries and conclude that, while developing countries suffer from profit shifting strategies, there is inadequate knowledge regarding the extent of the revenue losses. The outcomes of most of the existing studies are difficult to interpret, mainly because of problems regarding the reliability of the data and method used to measure income shifting (Fuest & Riedel, 2012). This argument is reasonable given that the extant literature on developing countries mostly consists of unrefereed reports that have not been exposed to critical peer review (e.g., Christian Aid, 2009; Oxfam, 2000; Baker, 2005).[4] In addition, poor data availability – both in terms of quality and quantity – has led to limited empirical research into profit shifting in developing countries (OECD, 2015c).

In the past few years, the number of empirical studies that focus on finding evidence of profit shifting by MNEs in developing countries has increased. However, none of these studies have adopted the HRA, despite the fact that the HRA has been identified as a

[3] See the OECD's report entitled *Action Plan on Base Erosion and Profit Shifting* for details of the 15-point Action Plan proposed by the OECD (2013b).

[4] For example, Cobham (2005) estimates that developing countries lose USD 50 billion per year because the corporate sector shifts profits to lower-tax jurisdictions. However, as Fuest and Riedel (2009) suggest, this claim is not based on rigorous empirical analysis. Cobham (2005) based his estimation on an Oxfam (2000) report that contains several issues. A major drawback is that its estimation is based on an average corporate tax rate of 30%, while in fact many developing countries offer low or zero tax rates as incentives for corporate investment (Fuest & Riedel, 2009). As Oxfam's (2000) estimation ignores the incentives, its claim on the magnitude of the tax losses due to profit shifting in developing countries is likely to be overestimated (Fuest & Riedel, 2009).

primary approach to the empirical estimation of cross-border profit shifting (Dharmapala, 2014a).

A study that includes developing countries in its analysis is that of Crivelli, De Mooij and Keen (2016), who use panel data for 173 developed and developing countries to determine whether profit shifting is an important issue for developing countries. The results of the study suggest that profit shifting disadvantages developing countries at least as much as it disadvantages developed countries. However, the authors acknowledge that the conclusion may not be robust to some extent because there is scarce firm-level data for developing countries. This suggests that recent research that focuses on developing countries still encounters data-related issues.

Johannesen, Tørsløv and Wier (2020) use a global dataset of 102 countries and find that less developed economies are more sensitive to profit shifting by MNEs than more developed economies. A brief summary is presented below of two recent studies that attempt to find evidence of profit shifting by MNEs in a particular developing country.

Janský and Prats (2015) examine whether more than 1,500 MNEs operating in India shifted profits in 2010 and find that MNEs associated with tax havens reported lower profits and paid less Indian income taxes than MNEs with no such association. The authors conclude that MNEs have incentives to shift profits to tax havens because of lower tax rates and the secrecy provisions offered by those countries.

Using financial data for 100 Malaysian-listed corporations for 2009-2011, Salihu, Annuar and Obid (2015) examine the relationships between foreign investors' interests and tax avoidance by means of profit shifting in Malaysia. Using a generalised method of moment estimator, they demonstrate that the relationship between foreign investors' interests and tax avoidance is significantly positive among large Malaysian corporations.

Despite differences in the quantity and quality of the evidence, the four studies discussed above demonstrate that MNE affiliates operating in developing countries that have a parent or affiliate located in a country with a lower tax rate tend to shift profits to the lower tax country. Applying the findings of the prior studies to the case of Indonesia, given that the confidential dataset used by this study only contains the location of the immediate parent of each FOIC, it is hypothesised that FOICs with parents located in countries with higher tax rates will report higher profits in their Indonesian tax returns than FOICs that have parents located in countries with lower tax rates. Profit in this study is represented by both TI and AP reported by FOICs in their Indonesian tax returns. Profit shifting is a book-tax conforming tax avoidance strategy: outward profit shifting lowers AP as well as TI. This leads to the following two hypotheses stated in the alternative form:

H_1: *The parent's tax rate of an FOIC is positively associated with the FOIC's AP reported in its Indonesian tax returns after controlling for capital and labour inputs.*

H_2: *The parent's tax rate of an FOIC is positively associated with the FOIC's TI reported in its Indonesian tax returns after controlling for capital and labour inputs.*

3. RESEARCH DESIGN

3.1 Sample selection and period of study

This study uses a sample that includes all foreign-owned Indonesian companies with tax return data supplied by the DGT under a data non-disclosure agreement. For privacy protection, firms are anonymised. The dataset only shows the country where the immediate parent of an FOIC is located.

The study period covers the seven years from 2009 to 2015. The reason for starting the study from 2009 is due to the completion of a thorough tax administration reform in Indonesia in 2008 (DGT, 2009). The tax administration reform had equipped DGT's tax office units nationwide with 'more efficient, simplified and transparent business process, more advanced system and information technology, better human resources, improved good governance and more efficient structure of organisation' (DGT, 2009, p. 38). In turn, since 2009, the DGT has been providing a more reliable database for research purposes, regardless of the tax office units with which the firms are registered. The reason for ending the period of study in 2015 is simply because 2015 is the latest year for which data are available from the DGT when this study is conducted. The final sample consists of 3,390 (3,188) observations for the regression model using AP (TI) as the dependent variable – most of which (about 73% for both models) are registered in tax offices located on the island of Java.[5]

Table 1 presents the final sample derivation for both dependent variables. The distribution of countries in which the parents of FOICs are located can be found in Appendix 2.

[5] Java (where the capital of Indonesia, Jakarta, is located) accounts for about 60% of the total population, even though it is only the fifth largest island of the nation. About 60% of the nation's GDP comes from Java. The business sector finds it easier to run business in Java due to better infrastructure, abundance of labour supply, better education and labour quality, etc. Therefore, it is not surprising that 73% of the FOICs are registered in the Java tax offices.

Table 1: Derivation of the Final Sample of Firm-Year Observations

	AP	TI
Number of firm-years between 2009–2015 for which the dependent variable is available	11,281	11,281
Less:		
Number of firm-years that report loss (AP < 0 or TI < 0)	4,514	3,351
Number of firm-years of which the natural log of capital cannot be calculated (i.e., zero or missing)	2,193	2,596
Number of firm-years of which the natural log of labour cannot be calculated	1,175	1,285
Number of firm-years of which the natural log of AP or TI cannot be calculated	9	861
Final sample of firm-year observations	3,390	3,188

This study excludes FOICs that reported a loss in their tax returns. It is a common practice in the literature to exclude loss-making firms from the sample (Dharmapala, 2014a). Although losses reported in tax returns may have resulted from profit shifting activities, it is impossible to distinguish a genuine business loss from a loss caused by profit shifting. Moreover, a natural logarithm cannot be computed for a negative AP or TI. There is a significant number of missing data (or zero) for the calculations of the natural logarithm of capital and labour and, to a lesser extent, for the calculations of the natural logarithm of the two profit measurements.

3.2 Measurement of variables and regression model

This study investigates whether FOICs shift profits out of Indonesia in response to variations in their parents' tax rates (see Appendix 3 for STRs of the countries in which the parents of FOICs are located over the study period). Specifically, this study examines whether MNEs from various countries operating in Indonesia shift profits out of Indonesia to low-tax jurisdictions. It differs from the study of Hines and Rice (1994) which examines whether US MNEs operating in various host countries shift profits to low-tax jurisdictions. The HRA is suitable for this study for the following reasons.[6] First, the model of Hines and Rice (1994) is based on the Cobb–Douglas production function, which represents the relationship between output (in terms of income or profit) and input (mainly in terms of capital and labour). Therefore, the HRA is suitable for both firm- and country-level studies. Second, the basic premise of the HRA is that the observed profit consists of two components: the 'true' profit and the 'shifted' profit.

[6] In fact, the HRA is likely to be more suitable for examining profit shifting by MNEs based in different countries that have affiliates operating in a single country because a single-country study does not need to consider the real price of capital and labour, which may differ between countries. This is one focus of the HRA (Hines & Rice, 1994).

This premise is applicable to all MNE affiliates, either in many countries or in a single country.

However, this study modifies the original HRA in Equation (1) in several ways. The first modification is related to the dependent variable. This study uses pre-tax profit (both AP and TI)[7] rather than pre-tax non-financial income (i.e., earnings before interest and taxes (EBIT)) as the dependent variable because it focuses on finding indirect evidence of cross-border profit shifting in Indonesia by investigating the effect of the parents' tax rate variation on the profits reported by FOICs in their Indonesian tax returns. The estimated effect is expected to capture potential cross-border profit shifting activities through all possible channels, including transfer pricing and high debt financing. Employing earnings before interest and taxes is likely to be necessary when one tries to disentangle the transfer pricing and debt shifting channels (Dharmapala & Riedel, 2013).[8] Therefore, as in prior studies (e.g., Markle, 2015; Huizinga & Laeven, 2008; Dharmapala & Riedel, 2013), this study uses pre-tax profit as the dependent variable to detect the existence of cross-border profit shifting in Indonesia.

The second modification is related to the independent variable. This study uses the parent's tax rate (*PTR*) rather than the average tax rate in the host country (τ in Equation (1)) as the independent variable because this study focuses on incoming investment as opposed to Hines and Rice's study, which focuses on outgoing investment. Using *PTR* as the independent variable is expected to provide evidence of the effect of the parent's tax rate on the AP and TI reported by FOICs in their Indonesian tax returns. This study predicts that the coefficient of *PTR* is positive – that is, the higher (lower) the tax rate of the parent's country, the higher (lower) the AP and TI reported in Indonesia. This study uses STR instead of ETR as the *PTR*. While there has been a debate regarding which of these is a better proxy for tax incentives to shift profits, STR may act as a better proxy for an incentive to shift profits because it is set by the government and is therefore exogenous to firms' choice (Dharmapala, 2014a).

The third modification concerns the control variables for the level of productivity in the local country (A), which is excluded from this study. This variable is excluded because the data used in this study are about MNE affiliates in only one host country, i.e., Indonesia, as opposed to multiple host countries as in the study by Hines and Rice (1994).

These modifications lead to the two regression models represented by Equations (2) and (3), which this study uses to examine the effect of the parent's tax rate variation on the AP and TI, respectively, reported by the FOICs in their Indonesian tax returns.

$$\ln AP_{it} = \beta_0 + \beta_1 PTR_{it} + \beta_2 \ln K_{it} + \beta_3 \ln L_{it} + \beta_{4-9} Year_t + \varepsilon_{it} \quad (2)$$

$$\ln TI_{it} = \beta_0 + \beta_1 PTR_{it} + \beta_2 \ln K_{it} + \beta_3 \ln L_{it} + \beta_{4-9} Year_t + \varepsilon_{it} \quad (3)$$

where:

[7] In their seminal paper, Hines and Rice (1994) use reported EBIT (i.e., an accounting profit measure) as the dependent variable. Therefore, in the current study, AP comes before TI, and both AP and TI are discussed equally. Nevertheless, the current study considers TI as the most important measure of profit because, as mentioned in section 1, any reduction in TI is a direct measurement of income tax base erosion.
[8] As mentioned in section 2.1, Hines and Rice (1994) exclude interest because they do not have reliable data.

AP_{it} is the pre-tax AP reported by FOIC *i* for year *t*;

TI_{it} is the TI reported by FOIC *i* for year *t*;

PTR_{it} is the parent's STR of FOIC *i* for year *t*;

K_{it} is the capital input of FOIC *i* in year *t*, proxied by fixed tangible assets;

L_{it} is the labour input of FOIC *i* in year *t*, proxied by employment compensation;

$Year_t$ is a set of six dummy variables that is expected to account for annual fluctuations in ln*AP* or ln*TI* (the dependent variable) that were not caused by *PTR* (the independent variable) and *K* and *L* (the control variables);

ε_i is the error term.

Pooled OLS regressions may contain a bias because of the heterogeneity issue. Unfortunately, the panel data are highly unbalanced.[9] For example, only 61 firms of the 1,229 firms in the AP sample (about 5%) have data for all seven years and the missing years may not be random. More importantly, the key independent variable, *PTR*, tends to be constant over the study period. Therefore, panel data analysis may not be appropriate.

Regressions of pooled cross-sectional data should be run by clustering the errors by firm to allow the regression errors to have heteroscedasticity across firms and correlation within a firm. Therefore, this study reports regressions that include adjustments for errors clustered by firms.[10] *Year* dummies are included to control for changes in profitability reported by FOICs across years due to factors such as general macroeconomic conditions that are not covered by other explanatory variables.

4. EMPIRICAL RESULTS

4.1 Summary statistics

Table 2 presents descriptive statistics for the sample used in this study. The mean value of ln*AP* (ln*TI*) is 22.073 (22.095), suggesting that the sample of FOICs reported AP (TI) of almost IDR 4 billion, which is equivalent to approximately USD 300,000 using 2015 exchange rates for tax purposes. The *PTR* ranges from zero to 55%. Examples of countries in the sample that have zero STR are the British Virgin Islands, Cayman Islands, Channel Islands and Marshall Islands. A country in the sample that has STR of 55% is the United Arab Emirates.

[9] See Appendix 4 for a summary of the distribution of the unbalanced panel data.
[10] In STATA software, using the option 'cluster ()' will generate standard error estimates that are robust to disturbances being heteroscedastic and autocorrelated (Hoechle, 2007).

Table 2: Descriptive Statistics

A. Accounting Profit

Variable	No.	Mean	Median	Standard Deviation	Minimum	Maximum
ln*AP*	3,390	22.073	22.123	2.566	11.967	29.948
PTR	3,390	0.267	0.25	0.092	0	0.55
ln*K*	3,390	23.498	23.807	2.651	9.821	30.359
ln*L*	3,390	22.669	22.885	2.008	13.160	28.438

Notes: ln*AP* is the natural log of AP reported by FOICs in Indonesian tax returns (total of commercial net income in the Indonesian tax return 1771-I Section 3 plus Income tax in the Indonesian tax return 1771-I Section 5f). *PTR* is the parent's STR. ln*K* is the natural log of tangible fixed assets reported in Indonesian tax returns (Indonesian tax return 1771, Special attachment, Transcript of elements citation of financial statement Sections I13—land and buildings and I14—other fixed assets). ln*L* is the natural log of compensation reported in Indonesian tax returns (Indonesian tax return 1771 Section II2.6—total salaries, wages, bonuses, gratifications, honorariums and other compensations).

B. Taxable Income

Variable	No.	Mean	Median	Standard Deviation	Minimum	Maximum
ln*TI*	3,188	22.095	22.132	2.620	0	33.170
PTR	3,188	0.267	0.25	0.092	0	0.55
ln*K*	3,188	23.599	23.868	2.551	9.821	30.359
ln*L*	3,188	22.750	22.960	1.947	13.160	28.438

Notes: ln*TI* is the natural log of TI reported in Indonesian tax returns (Indonesian tax return 1771 Section A1—fiscal net income. Fiscal net income is TI before loss carried forward). See Panel A for definitions of other variables.

Table 3 shows the Pearson correlation between variables. Parent's tax rate (*PTR*) is positively correlated with both the natural log of AP (ln*AP*) and the natural log of TI (ln*TI*) and is significant at the 1% level, consistent with the prediction.

Table 3: Pearson Correlation Matrix

A. Accounting Profit

	ln*AP*	***PTR***	**ln*K***	**ln*L***
ln*AP*	1			
PTR	0.192 ***	1		
ln*K*	0.726 ***	0.098 ***	1	
ln*L*	0.761 ***	0.134 ***	0.773 ***	1

B. Taxable Income

	ln*TI*	***PTR***	**ln*K***	**ln*L***
ln*TI*	1			
PTR	0.211 ***	1		
ln*K*	0.709 ***	0.121 ***	1	
ln*L*	0.746 ***	0.138 ***	0.777 ***	1

Note: ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test, respectively.

A test of collinearity is conducted by regressing both dependent variables on all of the independent variables and calculating the variance inflation factors (VIFs) for each variable. Appendix 5 shows the VIFs when using both AP and TI as the dependent variables. The result shows that VIFs are in the range of 1.02–2.59, which is much lower than the general tolerance value of 10, suggesting the absence of the multicollinearity issue, i.e., no variable is considered a linear combination of other variables.

4.2 Regression results

After controlling for capital and labour inputs as proxies for true profit, the regressions display a positive relationship between the parent's tax rate and both AP and TI, indicating profit shifting in response to parent's tax rate consistent with the hypotheses H_1 and H_2. The regression results are presented in Table 4.

Table 4: Regression Results – Effect of Parent's Tax Rate on Reported AP and TI

$$\ln AP_{it} / \ln TI_{it} = \beta_0 + \beta_1 PTR_{it} + \beta_2 \ln K_{it} + \beta_3 \ln L_{it} + \beta_{4-9} Year_t + \varepsilon_{it}$$

	Expected sign	Dependent variable: Natural log of AP	Dependent variable: Natural log of TI
PTR (parent's tax rate)	+	2.555 ***	2.894 ***
		(4.97)	(5.80)
ln*K* (nat. log of capital)	+	0.329 ***	0.326 ***
		(11.00)	(10.11)
ln*L* (nat. log of labour)	+	0.615 ***	0.651 ***
		(14.76)	(14.30)
Year			
2010	?	−0.158 **	−0.104
		(−2.14)	(−1.47)
2011	?	−0.214 ***	−0.153 **
		(−2.79)	(−2.16)
2012	?	−0.281 ***	−0.234 ***
		(−3.33)	(−2.94)
2013	?	−0.062	−0.102
		(−0.60)	(−1.00)
2014	?	−0.110	−0.092
		(−1.16)	(−0.97)
2015	?	−0.345 ***	−0.471 ***
		(−3.77)	(−3.74)
Constant		−0.090	−1.005
		(−0.17)	(−1.70)
R^2		0.637	0.612
n		3,390	3,188

Notes: *t*-statistics appear in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test, respectively. See notes to Table 2 for definitions of variables.

The coefficients of *PTR* are positive and significant at the 1% level in both regressions, suggesting that the parent's tax rate is a significant incentive for FOICs to report a higher or lower profit in their Indonesian tax returns. The estimated coefficients indicate that a one percentage point lower tax rate of the parent's country is associated with a 2.56% (2.89%) decrease in the AP (TI) reported by FOICs in their Indonesian tax returns. This figure is similar to Hines and Rice's finding that the tax rate of the host country that is one percentage point higher is associated with a 2.83% decrease in profits reported by US MNEs in that host country.

The results are consistent with the hypotheses H_1 and H_2 which predict that the parent's tax rate of an FOIC is positively associated with the profit reported by the FOIC in its

Indonesian tax return. The empirical results are consistent with the proposition that Indonesia suffers from profit shifting by FOICs.

The coefficients of ln*K* and ln*L* are both positive and significant at the 1% level. Moreover, the regression model represented by Equations (2) and (3) have an adjusted R-squared of 63.7% and 61.2%, respectively. The high explanatory power of the regression models is consistent with the notion that capital and labour are the inputs to generate the 'true' profits, and tax incentives determine the direction and magnitude of 'shifted' profits.

All coefficients for the *Year* dummy variables are negative, but only the coefficients for the years 2010 (for AP model only), 2011, 2012 and 2015 are significantly different from zero at the 1% or 5% level, suggesting that FOICs report significantly lower AP and TI in the said years compared with 2009 which is the base year.

5. CONCLUSION

Profit shifting by MNEs is a global concern because many large MNEs are accused of using profit shifting strategies to avoid taxes worldwide. This article examines the existence of profit shifting by foreign MNEs in Indonesia. In particular, it uses the HRA with some modifications to examine the effect of the parent's tax rate variation on the AP and TI reported by FOICs in tax returns from 2009 to 2015. The HRA is adopted because it is one of the most widely recognised approaches for detecting the presence of tax-motivated profit shifting. This study uses the AP and TI reported by FOICs in their confidential Indonesian tax returns rather than the financial statement data.

The regression results indicate that a one percentage point lower tax rate of the parent's country reduces the AP and TI reported by FOICs in their Indonesian tax returns by 2.56% and 2.89%, respectively. The findings are similar to those of Hines and Rice (1994). The coefficients for the *Year* dummies seem to suggest that before the OECD introduced the BEPS Project in 2013, FOICs demonstrated an increasing trend of shifting profits out of the country. However, once Indonesia joined the BEPS Project, the magnitude of profit shifting was held back for two years, 2013 and 2014. In 2015, the size of profit shifting resumed its upward trajectory. This phenomenon might be due to the lack of effective actions taken by the Indonesian government up to 2015 to fight profit shifting by foreign MNEs after joining the BEPS project.

Overall, the results of this study provide evidence to show that FOICs use profit shifting strategies to avoid Indonesian CIT, i.e., profit shifting is occurring in Indonesia. This is consistent with the suggestion in prior studies that developing countries also suffer from profit shifting by MNEs.

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7. APPENDICES

Appendix 1: company income tax system in Indonesia

In Indonesia, income taxes are imposed under *Income Tax Law No. 7/1983* as last amended by *Law No. 36/2008* (hereafter ITL). The Indonesian CIT rate was 30% between the enactment of ITL in 1984 until 2008. It then decreased to 28% in 2009 and 25% in 2010.

According to ITL Article 2, whether an entity or an individual is a resident taxpayer is determined based on residency; thus, a resident company taxpayer is a company established or domiciled in Indonesia. Given that foreign-owned Indonesian companies (FOICs) domicile in Indonesia, they are considered resident taxpayers, similar to domestic-owned Indonesian companies (DOICs). FOICs and DOICs are therefore treated equally for tax purposes. In contrast, a non-resident company taxpayer is a company not established or domiciled in Indonesia, but that conducts business activity or receives income other than from business activity, either via or not via a permanent establishment such as a place of management, a branch or a representative office. If the business activity is run through a permanent establishment, ITL requires that the permanent establishment be treated as a resident company taxpayer for tax purposes.

ITL Article 4 (1) states that all income from Indonesia and outside Indonesia is subject to Indonesian income tax, suggesting that the country has adopted the worldwide income system. To avoid double taxation of foreign income, ITL Article 24 allows tax already paid offshore by resident taxpayers to be credited in the same year against tax payable in Indonesia as long as it does not exceed a certain level.[11]

No ITL articles allow the CIT paid on company profit to be attached to the dividends and claimed by shareholders as a tax credit. This implies that Indonesia adopts the classical system of company taxation (as in the United States) rather than the dividend imputation system (as in Australia). In the classical system of company taxation, income tax paid by a company cannot be passed on to its shareholders, whereas the dividend imputation system allows this to occur. As Indonesia adopts a classical system that taxes company profit and shareholders' dividend income separately, Indonesian companies have an incentive to avoid CIT to maximise shareholders' wealth. Further, tax avoidance literature suggests that foreign-owned companies avoid paying taxes in the countries where they run their business by shifting profits to associates in lower-tax jurisdictions. This reasoning applies to FOICs.

In Indonesia, consolidation only applies to financial reporting and is not adopted for tax purposes. As a result, all intra-group transactions, including transfer pricing and debt financing, are eliminated only in consolidated financial reports, but remain reflected in corporate tax returns.

[11] Indonesian Finance Minister Decree No. 165/2002 specifies that the limit is calculated as follows: $\frac{\text{income from overseas}}{\text{global TI}}$ X total tax payable.

Appendix 2: final sample by country of parent, 2009–2015

A. Accounting Profit Model

Country	Year							
	2009	2010	2011	2012	2013	2014	2015	Total
Japan	98	108	116	125	80	144	116	787
Korea, Republic of	77	91	114	112	44	92	186	716
Singapore	55	59	70	63	37	60	65	409
Malaysia	22	22	29	22	18	27	45	185
China	11	13	19	13	5	14	50	125
Taiwan	18	22	21	21	5	11	25	123
United States	10	17	15	16	17	20	19	114
Netherlands	19	19	14	12	9	15	15	103
Australia	14	11	14	11	15	16	16	97
Germany	10	13	15	15	13	14	17	97
British Virgin Islands	14	16	19	13	8	10	12	92
United Kingdom	12	13	16	13	8	10	10	82
Hong Kong, SAR	11	11	10	9	6	7	14	68
France	10	10	11	10	7	4	13	65
India	6	6	11	6	4	5	14	52
Switzerland	8	7	7	6	7	6	3	44
Thailand	3	3	4	2	7	6	2	27
Mauritius	4	4	4	3	2	4	5	26
Luxembourg	1	2	4	4	3	4	3	21
Spain	0	1	0	4	3	3	3	14
Italy	2	1	2	3	1	1	2	12

Country	Year							
	2009	2010	2011	2012	2013	2014	2015	Total
Belgium	1	1	2	2	1	2	2	11
Canada	1	2	3	4	0	0	1	11
Sweden	0	2	1	2	2	1	3	11
Austria	1	2	2	1	1	1	2	10
Samoa	1	1	1	0	2	2	3	10
Denmark	1	1	1	1	0	3	2	9
Marshall Islands	1	1	1	1	1	1	1	7
Pakistan	2	2	0	0	0	1	1	6
Cayman Islands	0	0	1	1	1	1	1	5
Liberia	1	1	0	1	1	1	0	5
Philippines	1	1	1	0	0	0	2	5
Channel Islands	1	0	1	1	1	0	0	4
Panama	0	0	1	1	1	0	1	4
Poland	0	1	1	1	0	1	0	4
Brunei	0	0	0	1	1	1	0	3
Finland	0	0	1	0	1	1	0	3
Jordan	0	0	1	0	1	0	1	3
Argentina	0	0	0	1	0	0	1	2
Liechtenstein	0	0	0	0	1	1	0	2
Norway	1	0	0	0	0	0	1	2
Seychelles	1	0	0	0	0	1	0	2
United Arab Emirates	1	0	1	0	0	0	0	2
Bahrain	0	0	0	0	0	0	1	1

Country	Year							
	2009	2010	2011	2012	2013	2014	2015	Total
Czech Republic	0	0	0	0	0	0	1	1
Egypt	0	0	0	0	0	0	1	1
Estonia	0	0	0	0	0	0	1	1
Guinea	0	1	0	0	0	0	0	1
Iran	1	0	0	0	0	0	0	1
Iraq	0	0	0	0	0	0	1	1
Lebanon	0	0	0	0	0	0	1	1
New Zealand	0	0	0	1	0	0	0	1
Vietnam	0	0	0	0	0	0	1	1
Total	420	465	534	502	314	491	664	3,390

B. Taxable Income Model

Country	Year							
	2009	2010	2011	2012	2013	2014	2015	Total
Japan	99	108	120	126	73	129	76	731
Korea, Republic of	89	97	127	118	44	83	150	708
Singapore	62	64	74	69	42	53	41	405
Malaysia	24	22	30	22	16	27	26	167
Taiwan	17	21	22	20	6	10	15	111
United States	12	17	18	18	17	19	10	111
Netherlands	20	18	14	11	10	11	10	94
China	9	11	16	14	7	12	21	90
Australia	15	11	16	12	12	9	12	87
Germany	10	12	14	15	12	12	12	87

Country	Year							
	2009	2010	2011	2012	2013	2014	2015	Total
United Kingdom	14	16	17	15	9	6	8	85
British Virgin Islands	15	12	17	12	8	10	10	84
Hong Kong, SAR	11	11	13	10	7	7	11	70
France	9	9	10	9	8	3	5	53
Switzerland	8	6	8	7	10	6	3	48
India	6	7	11	6	5	4	6	45
Thailand	3	3	4	3	6	6	2	27
Mauritius	4	4	4	3	2	3	2	22
Luxembourg	2	2	4	4	3	3	2	20
Sweden	1	3	2	3	2	2	2	15
Italy	2	1	3	3	2	1	2	14
Canada	2	2	3	4	0	0	1	12
Belgium	1	1	2	2	1	2	2	11
Samoa	1	1	1	1	2	2	3	11
Spain	0	1	0	3	2	2	3	11
Austria	1	2	2	1	1	1	1	9
Marshall Islands	1	1	1	1	1	1	1	7
Denmark	1	1	1	1	0	2	0	6
Pakistan	2	2	1	1	0	0	0	6
Liberia	1	1	0	1	1	1	0	5
Channel Islands	1	0	1	1	1	0	0	4
Panama	0	0	1	1	1	0	1	4
Brunei	0	0	0	1	1	1	0	3

Country	Year							
	2009	2010	2011	2012	2013	2014	2015	Total
Liechtenstein	0	1	0	0	1	1	0	3
Philippines	1	0	1	0	0	0	1	3
Poland	0	1	1	1	0	0	0	3
Jordan	0	0	1	0	1	0	0	2
Norway	1	0	0	0	0	0	1	2
Seychelles	0	0	0	0	0	1	1	2
United Arab Emirates	1	0	1	0	0	0	0	2
Argentina	0	0	0	1	0	0	0	1
Cayman Islands	0	0	0	0	0	0	1	1
Guinea	0	1	0	0	0	0	0	1
Iran	1	0	0	0	0	0	0	1
Iraq	0	0	0	0	0	0	1	1
Kenya	0	0	1	0	0	0	0	1
Lebanon	0	0	0	0	0	0	1	1
New Zealand	0	0	0	1	0	0	0	1
Total	447	470	562	521	314	430	444	3,188

Appendix 3: statutory tax rates, 2009–2015

Location	Tax Rate %						
	2009	2010	2011	2012	2013	2014	2015
Argentina	35	35	35	35	35	35	35
Australia	30	30	30	30	30	30	30
Austria	25	25	25	25	25	25	25
Belgium	33.99	33.99	33.99	33.99	33.99	33.99	33.99
British Virgin Islands	0	0	0	0	0	0	0
Brunei		23.5	22	21	20	20	18.5
Canada	33	31	28	26	26	26.5	26.5
Cayman Islands	0	0	0	0	0	0	0
Channel Islands	0	0	0	0	0	0	0
China	25	25	25	25	25	25	25
Congo				40	35	35	35
Cyprus	10	10	10	10	12.5	12.5	12.5
Czech Republic	20	19	19	19	19	19	19
Denmark	25	25	25	25	25	24.5	23.5
Egypt	20	20	20	25	25	25	25
Estonia	21	21	21	21	21	21	20
Finland	26	26	26	24.5	24.5	20	20
France	33.33	33.33	33.33	33.33	33.33	33.33	33.33
Germany	29.44	29.41	29.37	29.48	29.55	29.58	29.65
Guinea	35	35	35	35	35	35	35
Hong Kong, SAR	16.5	16.5	16.5	16.5	16.5	16.5	16.5

Location	Tax Rate %						
	2009	2010	2011	2012	2013	2014	2015
India	33.99	33.99	32.44	32.45	33.99	33.99	34.61
Indonesia	28	25	25	25	25	25	25
Iran	25	25	25	25	25	25	25
Iraq	15	15	15	15	15	15	15
Italy	31.4	31.4	31.4	31.4	31.4	31.4	31.4
Japan	40.69	40.69	40.69	38.01	38.01	35.64	33.06
Jordan	25	14	14	14	14	14	20
Kenya				30	30	30	30
Korea, Republic of	24.2	24.2	22	24.2	24.2	24.2	24.2
Lebanon	15	15	15	15	15	15	15
Liberia	25	25	25	25	25	25	25
Liechtenstein			12.5	12.5	12.5	12.5	12.5
Luxembourg	28.59	28.59	28.8	28.8	29.22	29.22	29.22
Malaysia	25	25	25	25	25	25	25
Maldives	0	0	0	0	0	0	0
Mali							30
Marshall Islands	0	0	0	0	0	0	0
Mauritius	15	15	15	15	15	15	15
Netherlands	25.5	25.5	25	25	25	25	25
New Zealand	30	30	28	28	28	28	28
Nigeria	30	30	30	30	30	30	30
Norway	28	28	28	28	28	27	27
Pakistan	35	35	35	35	35	34	33

Location	Tax Rate %						
	2009	2010	2011	2012	2013	2014	2015
Panama	30	27.5	25	25	25	25	25
Philippines	30	30	30	30	30	30	30
Poland	19	19	19	19	19	19	19
Portugal	25	25	25	25	25	23	21
Samoa	27	27	27	27	27	27	27
Saudi Arabia	20	20	20	20	20	20	20
Seychelles	40	33	33	33	33	33	33
Singapore	18	17	17	17	17	17	17
Spain	30	30	30	30	30	30	28
Sweden	26.3	26.3	26.3	26.3	22	22	22
Switzerland	18.96	18.75	18.31	18.06	18.01	17.92	17.92
Taiwan	25	17	17	17	17	17	17
Thailand	30	30	30	23	20	20	20
Turkey	20	20	20	20	20	20	20
United Arab Emirates	55	55	55	55	55	55	55
United Kingdom	28	28	26	24	23	21	20
United States	40	40	40	40	40	40	40
Vietnam	25	25	25	25	25	22	22

Sources: British Virgin Islands: http://www.ey.com/Publication/vwLUAssets/Worldwide_corporate_tax_guide_2015/$FILE/Worldwide%20Corporate%20Tax%20Guide%202015.pdf; Brunei (2010–2011): http://www.rd.go.th/publish/fileadmin/user_upload/AEC/AseanTax-Brunei.pdf, (2012–2015): https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Tax/dttl-tax-corporate-tax-rates-2012-2016.pdf; Channel Islands: http://taxsummaries.pwc.com/uk/taxsummaries/wwts.nsf/ID/Jersey-Corporate-Taxes-on-corporate-income; Guinea: http://www.tradingeconomics.com/guinea/corporate-tax-rate; Iran: http://www.doingbusiness.org/data/exploreeconomies/iran/paying-taxes/; Iraq (2009–2012): http://www.tradingeconomics.com/iraq/corporate-tax-rate; Lebanon (2009–2012): http://www.tradingeconomics.com/lebanon/corporate-tax-rate; Liberia: http://www.doingbusiness.org/data/exploreeconomies/liberia/paying-taxes/; Maldives: http://www.tradingeconomics.com/maldives/corporate-tax-rate; Mali: http://www.doingbusiness.org/data/exploreeconomies/guinea/paying-taxes/; Marshall Islands: http://www.doingbusiness.org/data/exploreeconomies/marshall-islands/paying-taxes; Seychelles:

http://www.tradingeconomics.com/seychelles/corporate-tax-rate; other locations/year: https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html.

Appendix 4: unbalanced panel data

A. Accounting Profit Model

Frequency	%	Cumulated	Pattern
299	24.33	24.33	 1
86	7	31.33	. . . . . 1 .
61	4.96	36.29	1111111
52	4.23	40.52	 11
50	4.07	44.59	1111 . . .
34	2.77	47.36	. . 1 . . . .
33	2.69	50.04	111111 .
32	2.6	52.64	. . . 1 . . .
28	2.28	54.92	11111 . .
554	45.08	100	(other patterns)
1,229	100		XXXXXXX

Notes: The panel is unbalanced: there are 1,229 firms with 3,390 firm-year observations. On average, a firm has 2.8 yearly observations. Some firms have data for only one year (e.g., 299 firms have data for 2015 only; 86 firms have data for 2014 only). Only 61 firms out of 1,229 (about 5%) have data for all seven years.

B. Taxable Income Model

Frequency	%	Cumulated	Pattern
170	15.81	15.81	 1
75	6.98	22.79	. . . . . 1 .

Frequency	%	Cumulated	Pattern
64	5.95	28.74	1111 . . .
51	4.74	33.49	1111111
49	4.56	38.05	111111 .
35	3.26	41.3	. . 1 . . . .
35	3.26	44.56	11111 . .
33	3.07	47.63	. . . 1 . . .
31	2.88	50.51	 11
532	49.49	100	(other patterns)
1,075	100		XXXXXXX

Notes: The panel is unbalanced: there are 1,075 firms with 3,188 firm-year observations. On average, a firm has three yearly observations. Some firms have data for only one year (e.g., 170 firms have data for 2015 only; 75 firms have data for 2014 only). Only 51 firms out of 1,075 (less than 5%) have data for all seven years.

Appendix 5: variance inflation factor

Variable	VIF	
	AP	TI
Parent's tax rate	1.02	1.03
Natural log of capital	2.54	2.56
Natural log of labour	2.53	2.59

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Practical Compliance Guidelines: Australian tax administration law innovation or overreach?

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Abstract

Practical Compliance Guidelines (PCGs) were introduced by the Australian Taxation Office in 2016. They number 61 to date and are innovative, often useful and sometimes controversial.

This article aims to offer a 'field guide' or study of PCGs to examine what they are, where they came from and where they fit in Australia's tax administration law framework.

An examination of each PCG is undertaken to create a typology, reflecting the nuanced design of each PCG and sharpening the analysis of areas of strength and opportunities for improvement.

Overall the PCG is found to be an innovative, transparent and sound tool, the use of which should be widened especially in dealing with the administration of principles-based legislation.

There are some areas for improvement however. The most important involve finding ways to improve judicial accountability and parliamentary oversight of PCGs or in some cases to use legislative instruments instead of PCGs.

The need for PCGs is a reminder that the Commissioner of Taxation has the job of administering legislation as it is enacted, with any and all of its imperfections. Unfortunately a PCG cannot fix bad law.

Keywords: tax administration; administrative law; general power of administration; practical compliance guidelines; responsive regulation

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1. INTRODUCTION

The Australian Taxation Office (ATO) introduced Practical Compliance Guidelines (PCGs) in 2016 and has to date published 61 PCGs on the ATO website.[1] As their name suggests, PCGs provide practical compliance guidance for taxpayers. At a high level that description is right but that is far from the end of the matter.

Many PCGs are significant and sometimes innovative. Some PCGs provide taxpayers a nuanced model for risk-based compliance on significant tax issues such as transfer pricing. Some PCGs also help resolve traditionally difficult problems in the transition from one interpretation of the law to another, whether caused by legislation, new case law or changing views of the ATO. Some seem less significant but are useful in offering taxpayers practical ways to save compliance costs by offering taxpayers simplified calculation methods or rules of thumb.

PCGs are therefore not surprisingly a topic of continuing interest and importance in the Australian tax system. This is reflected most recently in the investigation being undertaken by the Inspector-General of Taxation and Taxation Ombudsman (IGTO) into the Exercise of the General Powers of Administration vested in the Commissioner of Taxation (Commissioner) announced in December 2021 and which is ongoing. The general power of administration (GPA), as will be explained, is the primary legal foundation empowering the Commissioner to create PCGs and for ATO staff to act on them.

In these circumstances, academic study of PCGs is warranted. This article aims to be the first published study. With over six years practical experience of PCGs in the field there is a sufficient basis for reflection on the utility of PCGs, opportunities for wider deployment, whether there are more appropriate alternatives and protections for taxpayers.

This article has three main sections following this introduction.

Section 2 is general in nature and examines the following matters. *First*, what is a PCG? Where does it fit within the Australian framework of Australian law and tax administration? *Second*, what is the organisational context of the PCG? *Third*, what are the legal foundations for making and publishing a PCG? *Fourth*, what are the legal avenues available for a taxpayer to challenge a PCG?

Section 3 will examine the 61 PCGs in order to create a typology of the types and purposes to which PCGs have been put. This will draw out the nuances between PCGs within the total population of PCGs. Comments will be made on the strengths and appropriateness of particular PCGs.

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[1] ATO, Legal Database, https://www.ato.gov.au/law/#Law/table-of-contents?docref=PCG. The number of 61 is a net number of PCGs finalised. For brevity, consistency and clarity this article will use the standard refencing system employed by the ATO for citing its publications. This referencing system is the generally accepted usage. Citations used in this article are as follows: Practical Compliance Guideline (PCG); Practice Statement Law Administration (PS LA); Taxation Determination (TD); Taxation Ruling (TR); Miscellaneous Tax (MT). All documents referred to are accessible on the ATO Legal Database: see https://www.ato.gov.au/law/#Law.

By way of conclusion in section 4 the article will make observations as to the merits and deployment of PCGs and recommendations for review of the accountability mechanisms for PCGs and the future deployment of PCGs.

2. EXAMINATION OF PCGS IN GENERAL

2.1 What is a PCG?

PCG 2016/1 sets out, according to its title, in respect of PCGs, their 'purpose, nature and role in the ATO's public advice and guidance'. Four key points are observed.

The *first* point that is made by the Commissioner is the commitment of the ATO to provide 'clear and practical advice and guidance on which taxpayers can rely to manage their tax affairs'.[2] These are not empty words.

Since one of the earliest PCGs, PCG 2016/5, a notice has appeared at the commencement of each PCG stating:

> Relying on this Guideline
>
> This Practical Compliance Guideline sets out a practical administration approach to assist taxpayers in complying with relevant tax laws. Provided you follow this guideline in good faith, the Commissioner will administer the law in accordance with this approach.

The express promise is that a PCG can be relied on and indeed the implied expectation of the ATO is that it should be relied upon by taxpayers. Reliance by taxpayers will achieve the ATO's desired compliance outcomes.

PCGs are a logical progression in risk-based tax administration that in Australia really came into its own from the early 1990s with the introduction of self-assessment. As will be explained, ATO thinking was informed for a period by 'Responsive Regulation' theory that focuses on nuanced and adaptive regulatory responses to compliance risks.

The *second* point is a clear focus for PCGs to be used to provide compliance guidance to taxpayers, on significant matters[3] especially when the content is detailed, technical and may only affect a relatively small number of taxpayers.[4]

To create that focus there is a clear differentiation between a PCG and ATO guidance on the law such as the premier form of guidance, the public ruling.[5] As will be discussed later in this article, PCGs are expressly not making statements of the Commissioner's view of the interpretation of the law.[6] Statements of the ATO view of the law are usually made in other ATO products such as public and private rulings.[7] Also PCGs do not purport to create a rule binding on a taxpayer or to be legislative such as a regulation or legislative instrument. That said, ATO officers are bound as public officials to follow

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[2] PCG 2016/1, 'Practical Compliance Guidelines: Purpose, Nature and Role in ATO's Public Advice and Guidance', [4].
[3] Ibid [9].
[4] Ibid [9], [14].
[5] Ibid [4]–[5], [20]–[22], [24].
[6] Ibid [23].
[7] See *Taxation Administration Act 1953* (Cth) Sch 1, Part 5-5 ('*TAA 1953*').

PCGs, ensuring consistency so as to secure the purpose of the PCG.[8] In that limited sense PCGs do have some legal operation but not in the sense of purporting to state the rights and obligations of taxpayers. Indeed it is sometimes the case that PCGs are published as part of a suite of other ATO documents that do state the ATO view of the law such as a public ruling.

PCGs are also carefully distinguished from the ATO's Practice Statements on Law Administration. Those Statements are from 2016 to be directed to the internal ATO audience.[9]

Finally PCGs are not intended to replace general information and guidance for taxpayers published on the ATO website, such as fact sheets.[10]

The *third* point is to define what practical compliance means in a given context by the intentional use of the PCG in some cases (what will later in this article be called Type VIII PCGs) to create risk-defined zones to which the compliance response of the Commissioner, such as the risk of audit and dispute, is calibrated. To quote the Commissioner's policy:

> In addition to public rulings, taxpayers may also benefit from broader law administration guidance that conveys the ATO's assessment of relative levels of tax compliance risk across a spectrum of behaviours or arrangements. Such guidance may, for example, enable taxpayers to position themselves within a range of behaviours, activities or transaction structures that the ATO describes as low risk and unlikely to require scrutiny – to safely 'swim between the flags'.[11]

The policy later refers to 'safe harbours'.[12] The Commissioner's policy states:

> A 'safe harbour' may be described as conduct that is taken to comply with a rule or law that might ordinarily apply on the basis of more uncertain standards. Safe harbours are sometimes provided specifically in legislative provisions, or a provision may contemplate the creation of safe harbours by an administrator. Other safe harbours determined by an administrator may represent practical, purposive interpretation of a statutory provision.
>
> In appropriate circumstances, such as those described in paragraph 6 of this Guideline, the Commissioner may make sensible resource allocation decisions consistently with safe harbour approaches and express those approaches in practical compliance guidelines. In such cases, safe harbours can provide additional certainty and compliance savings for taxpayers in the face of provisions that are otherwise uncertain in their application or impose unexpectedly heavy compliance cost burdens. From the ATO's perspective, safe harbours can provide an efficient and consistent means of assessing levels

[8] PCG 2016/1, above n 2, [27].
[9] Ibid [12]–[13]. An example that expressly puts this policy into effect is PCG 2016/11, 'Fuel Tax Credits – Apportioning Fuel Used in a Heavy Vehicle with Auxiliary Equipment', which updated PS LA 2013/4 (GA), 'Apportioning Taxable Fuel Used in a Vehicle for Powering the Auxiliary Equipment of a Vehicle'.
[10] PCG 2016/1, above n 2, [14].
[11] Ibid [5].
[12] Ibid [10]–[11].

> of taxpayer compliance, allowing the ATO to direct its compliance resources to higher risk areas of the law.

The exact words on safe harbours have been recited because of their apparent importance in the Commissioner's policy on PCGs yet we find that in some important PCGs in Type VIII, such as concerning transfer pricing, there is an express disavowal that there is a safe harbour. In other words, the harbours are charted but they may not be so safe.

Which *segues* to the *fourth* point, the legal and administrative protections for taxpayers of following a particular PCG. The PCG is 'intended to guide the behaviour of taxpayers who wish to operate in a low tax risk environment, as well as to signal when the ATO considers certain behaviour to be of a higher risk of non-compliance with the law'.[13] The term 'low risk' does not mean 'no risk'. So what exactly does it mean or, more precisely, what are the consequences of taking a position defined in a PCG as low risk or a higher risk rating? Many PCGs are quite explicit as to the ATO's allocation of resources to compliance activities depending on the risk, eg, whether an audit or dispute may be expected or whether the ATO will draw a line as to when compliance action may occur such as prospectively but not retrospectively.

The ATO PCG policy also states that there will be protection from general interest charge or shortfall interest charge where there has been reasonable, good faith reliance on a PCG.[14]

One may then wonder what is the position with respect to protection from culpable penalties. PCG 2016/1 is silent as, it seems, is the ATO guidance on penalties generally. That may be in large part because where a taxpayer acts consistently with a PCG to take a low risk position, that is, to 'swim between the flags', there is the practical result that there is no increase in primary tax so there is no occasion for imposition of further penalties.

In cases where a penalty may be imposed, there seem to be several pathways to penalty protection. These are in the order that if the first is unavailable then the next may be available. *First*, where the PCG explicitly offers a safe harbour there may be no penalty.[15] It is likely that when the ATO disavows a PCG as offering a safe harbour that it has disengagement of this first form of penalty protection squarely in mind.[16]

Second, one might wonder whether PCG 2016/1, in encouraging taxpayer reliance, creates the possibility for statutory protection from culpability base penalties where a taxpayer treated a law in a particular way. One way might be that the PCG establishes or contributes to establishing a general administrative practice.[17] Another way is to the extent that the taxpayer treated a law as applying a particular way that agreed with a statement in a publication approved by the Commissioner.[18] It might be hypothesised

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[13] Ibid [27].
[14] Ibid [26], referring to *TAA 1953*, above n 7, Sch 1, s 361-5.
[15] See PS LA 2012/5, 'Administration of the False or Misleading Statement Penalty – Where There Is a Shortfall Amount', [9], [11L] citing *TAA 1953*, above n 7, Sch 1, s 284-75(6) (which sets out additional statutory conditions to qualify for penalty relief). The ATO notes that a safe harbour is not a statutorily defined term: see PS LA 2012/5, fn 16.
[16] PS LA 2012/5, above n 15, fn 16.
[17] *TAA 1953*, above n 7, Sch 1, s 284-224(1)(b).
[18] Ibid Sch 1, s 284-224(1)(c).

that the ATO in response to both ways could argue that, because a PCG involves no statement of law, either form of penalty protection has no application but the ATO position in Taxation Ruling TD 2011/19 does not take such a limited position and expressly extends to penalties.[19] Instead, the Commissioner states that '[a] general administrative practice is a practice which is applied by the Commissioner generally as a matter of administration. It consists of the habitual or customary, that is repeated, adoption of a view in multiple cases'.[20] The publication of a PCG would seem to clearly qualify for penalty protection for several reasons. One is that the PCG arguably establishes the Commissioner's general administrative practice by their publication or later conduct relying on and being consistent with the PCG.[21] The other is that, analogous to Law Administration Practice Statements, PCGs are publications of the Commissioner even if they do not establish a general administrative practice in the circumstances.[22]

Third, following a PCG in good faith ought to in most, if not all cases, offer penalty protection for exercising reasonable care.[23] It would not however assist in establishing penalty protection because there is a reasonably arguable position as a PCG is not a relevant authority.[24] The main ATO guidance on these penalty topics, Taxation Rulings MT 2008/1 and MT 2008/2, are silent in respect of PCGs.

2.2 The organisational context of PCGs

Whilst of course PCGs were launched in 2016 under the current Commissioner there are clear antecedents from earlier times. As PCG 2016/1 notes, immediately prior to the launch of PCGs, advice of a similar nature could be found in ATO Law Administration Practice Statements and on the ATO website.[25] In the author's view, the publication by tax administrators of compliance guidance has occurred much further in the past in various forms such as a number of types of published written guidance, published alerts, media releases, ATO speeches and statements in important consultation forums.

The immediate antecedents of PCGS can be seen in the early 1990s in the explicit shift to risk-based tax administration in parallel with the introduction of the self-assessment system in Australia.

In many respects, the ATO was more a leader in the move to a risk-based approach to tax administration than a follower. This is well apparent in Organisation for Economic Co-operation and Development (OECD) literature advocating approaches that the ATO had already pioneered, a 2004 Report referring to no less than seven examples from Australia.[26] A 2009 OECD Report presented four case studies, two from the ATO.[27] Another example was the Commissioner writing in the early 2000s to the boards of

[19] TD 2011/19, 'Tax Administration: What Is a General Administrative Practice for the Purposes of Protection from Administrative Penalties and Interest Charges?', [28].
[20] Ibid [1]; see also [30]–[33].
[21] Ibid [4], [42]–[46].
[22] Ibid [48]–[49].
[23] *TAA 1953*, above n 7, Sch 1, s 284-90(1) Item 3.
[24] Ibid Sch 1, ss 284-15(3), 284-90(1) Item 4.
[25] PCG 2016/1, above n 2, [12].
[26] OECD, 'Compliance Risk Management: Managing and Improving Tax Compliance', Guidance Note (October 2004).
[27] OECD Forum on Tax Administration, 'General Administrative Principles: Corporate Governance and Tax Risk Management', Information Note (July 2009).

Australia's largest companies about tax risk and publishing a 'Governance Guide for Board Members and Directors', which was fully extracted in the Report and advocated for adoption by all OECD members.[28] Tax risk assessment is now 'a key element of modern tax administration' according to the OECD, in 2017 citing the ATO as an exemplar with a centralised risk management function in the field of public and multinational businesses with cross-border intra-group dealings, prioritising transfer pricing risks.[29] PCGs continue on the same strategic trajectory.

The legal and policy shift to self-assessment in the early 1990s reflected the realigning of the ATO and the tax system to primarily focus on risk. This shift was provided for in legislation to introduce the legal mechanisms for taxpayer self-assessment rather than assessment by the Commissioner, cognate changes to the system for penalties and interest to appropriately sanction taxpayer behaviour in instances of non-compliance and the development of the public and private rulings system and other forms of ATO guidance to help taxpayers voluntarily comply.

Importantly, the ATO compliance model, originally introduced in 1998 by the Cash Economy Task Force,[30] included a pyramid from highly non-compliant to highly compliant, calibrating taxpayer risk profiles and ATO consequences. It has been developed and refined over time but the foundational thinking is well embedded in the ATO.

That foundation lies at the heart of the PCG and ATO compliance thinking to this day.[31] The scholarship of 'responsive regulation', especially in Australia led by academics John Braithwaite and Valerie Braithwaite,[32] goes back well into at least the early 1990s. It has been directly influential on the development of the thinking of the ATO and tax authorities according to Professor Judith Freedman, Professor of Tax Law at the University of Oxford.[33] Professor Freedman calls the compliance pyramid 'the Braithwaite model' and says it has been adopted by the ATO and other tax administrators.[34]

ATO organisational arrangements in around 1994 shifted from functional divisions to being organised around taxpayer market segments so that risks were prioritised in tax administration. Whilst nomenclature has changed and the concept has evolved, the basic

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[28] Ibid 13 and Attachment.
[29] OECD, BEPS Action 13, Country-by-Country Reporting: Handbook on Effective Tax Risk Assessment (September 2017) 15.
[30] Valerie Braithwaite and Jenny Job, 'The Theoretical Base for the ATO Compliance Model' (Centre for Tax System Integrity Research Note 5, 2003) 1, https://openresearch-repository.anu.edu.au/bitstream/1885/42101/2/researchnote5.pdf.
[31] ATO, 'Compliance model', https://www.ato.gov.au/about-ato/managing-the-tax-and-super-system/strategic-direction/how-we-help-and-influence-taxpayers/compliance-model/.
[32] There is a large literature on Responsive Regulation. An important survey of it is in John Braithwaite, 'The Essence of Responsive Regulation' (2011) 44(3) *University of British Columbia Law Review* 475. An important engine for Responsive Regulation theory was the Australian National University (ANU) Centre for Tax System Integrity which underpinned the work of John and Valerie Braithwaite (1999-2005). The Centre was a partnership of the ATO and the ANU.
[33] Judith Freedman, 'Responsive Regulation, Risk and Rules: Applying the Theory to Practice' (2011) 44(3) *University of British Columbia Law Review* 627; Kristina Murphy 'Moving Towards a More Effective Model of Regulatory Enforcement in the Australian Taxation Office' [2004] (6) *British Tax Review* 603.
[34] See, for example, Valerie Braithwaite and John Braithwaite, 'Managing Taxation Compliance: The Evolution of the ATO Compliance Model' in Michael Walpole and Chris Evans (eds), *Tax Administration in the 21st Century* (Prospect Media, 2001) 215.

risk architecture of 1994 informs the current ATO structure. This is well apparent in the ATO organisational chart in which the divisions include the Client Engagement Group and its market/risk subdivisions.[35] The central focus on risk remains core to the ATO and the deployment of PCGs, as explained by current ATO Second Commissioner Jeremy Hirschhorn, who leads the Client Engagement Group, who said in 2019, referring to PCGs in respect of transfer pricing:

> The ATO has been much more deliberate in exposing its risk analysis and frameworks to the taxpaying community. These are often in the form of PCGs, which set out rules of thumb for determining whether the ATO is likely to accept the price at face value, or will more deeply probe whether the price makes sense in the particular circumstances.
>
> We are using PCGs more and more to allow companies to make informed decisions as to the risk profile that they wish to adopt, rather than potentially inadvertently taking on tax risk.[36]

Under the rubric of the ATO compliance model there are many other compliance strategies which, like PCGs, aim to deter and prevent, such as 'nudging' taxpayers to comply by letter writing campaigns.[37]

Obviously the ATO continues to develop its thinking and the risk model is not static. For example, in the context of the 'Tax Gap', there is a shift emerging from risk to tolerance.[38]

2.3 Legal foundations for the PCG

2.3.1 The emergence of modern administrative law principles in Australia

Before the article addresses the legal technical aspects of PCGs it is helpful to examine the emergence of modern administrative law principles in Australia. Much has been written about it but reference will be made here especially to a 2007 paper by former Commissioner Michael D'Ascenzo that brings the topic into the setting of Australian tax administration.[39] As will be explained when this article turns to the legal foundations of PCGs and the Commissioner's general power of administration, following

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[35] ATO, 'ATO Organisational structure' (5 June 2023), https://www.ato.gov.au/uploadedFiles/Content/CR/downloads/n75148_ATO_organisational_structure.pdf

[36] Jeremy Hirschhorn, 'Future of Tax Administration' (Paper delivered to the PricewaterhouseCoopers Global Tax Symposium, Paris, 14 November 2019), available at: https://www.ato.gov.au/Media-centre/Speeches/Other/Future-of-tax-administration/.

[37] See, for example, Christian Gillitzer and Mathias Sinning, 'Nudging Businesses to Pay their Taxes: Does Timing Matter?' (Tax and Transfer Policy Institute Working Paper 13/2018, June 2018); Nassim Khadem, 'How the ATO is Nudging Australians to Pay More Tax', *Sydney Morning Herald* (15 August 2018), https://www.smh.com.au/money/tax/how-the-ato-is-nudging-australians-to-pay-more-tax-20180813-p4zx8x.html.

[38] Jeremy Hirschhorn, 'Beyond Tax Gap – How a Better Understanding of Tax Performance Changes Tax Administration' (Speech to the 14th International ATAX Tax Administration Conference, 24 November 2021), available at: https://www.ato.gov.au/Media-centre/Speeches/Other/Beyond-tax-gap---how-a-better-understanding-of-tax-performance-changes-tax-administration/.

[39] Michael D'Ascenzo, 'Effectiveness of Administrative Law in the Australian Public Service' (2007 National Administrative Law Forum, Australian Institute of Sport, Canberra, 14-15 June 2007), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3087692.

administrative law principles is mandated by the ATO in a Practice Statement published in 2009 and still current.[40]

As D'Ascenzo explains, the modern framework of administrative law emerged in the 1970s and early 1980s. There were major changes to norms, values and processes in government and the rights of citizens based on landmark legislation, notably the *Administrative Decisions (Judicial Review) Act 1977* (Cth) (*ADJR Act*) which will be discussed later and the *Freedom of Information Act 1982* (Cth) (FOI).

Before these reforms, D'Ascenzo observed that:

> There is some truth that, as with other public sector agencies, the internal workings of the ATO would have been somewhat opaque to many.[41]

In parallel with FOI has been the general practice of public service agencies publishing many internal manuals and circulars that otherwise would be unknown or unobtainable. With the rulings system starting in the 1990s, ATO transparency gained pace.

Of course, as has been earlier observed, this bias to publication has also been harnessed to drive compliance strategies. In that synthesis, PCGs can be seen as both reflecting transparency and compliance strategy.

To put this synthesis into a broader theoretical construct, it was observed by Australian academic John Bevacqua in 2018 that '[t]here is a solid foundation for the OECD's conclusion that treating taxpayers fairly will foster greater willingness among them to comply with their tax obligations'.[42] Bevacqua points to 'significant Australian and international research efforts to confirm the positive relationship between taxpayer trust in the system of tax administration and compliance behaviour'.[43]

2.3.2 PCGs as 'soft law'

With the publication of PCGs in the area of transfer pricing, which started in 2017 and will be discussed further later in the article, has come an undercurrent of criticism and concern in the legal and tax professions, much unpublished, to the effect that the ATO uses PCGs more or less to improperly step from administrator into the role of legislator and to 'make the law'. An example of a considered and balanced critique that touches on this was published in 2019 by Michael Jenkins, a partner of Ernst & Young, and raises the question whether PCGs are 'soft law' referring to an important 2010 article by Australian law academic Professor Robin Creyke.[44]

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[40] PS LA 2009/4, 'When a Proposal Requires an Exercise of the Commissioner's Powers of General Administration', [4]; PS LA 2016/1, 'Transfer Pricing Adjustments with Potential Customs Implications', [8].
[41] D'Ascenzo, above n 39, 2.
[42] John Bevacqua, 'Taxpayer Compliance Effects of Enhancing Taxpayer Rights – A Primer for Discussion of a Dedicated Research Agenda' (2018) 4(2) *Journal of Tax Administration* 6, 7.
[43] Ibid (references omitted).
[44] Michael Jenkins, '"Practical" Safe Harbours and Australia's Transfer Pricing Rules' (2019) 53(10) *Taxation in Australia* 543, 546, citing Robin Creyke '"Soft Law" and Administrative Law: A New Challenge' (2010) 61 *AIAL Forum* 15.

The question of 'soft law' in Australian and international administrative law circles gained currency in the new millennium as D'Ascenzo pointed out in 2007 in a paper in which he was assisted by Professor Creyke.[45] D'Ascenzo said:

> The new emphasis on policy, rules of conduct and professionalism has been dubbed 'soft law'. 'Soft law' has several core elements. As outlined in an Administrative Review Council background paper:
>
> > Soft law is concerned with rules of conduct or commitments. Second, these rules or commitments are laid down in instruments which have no legally binding force as such, but are nonetheless not devoid of all legal effect. Third, these rules or commitments aim at or lead to some practical effect or impact on behaviour.
>
> In other words officials are now expected not only to comply with law and policy but also with ethical standards of behaviour in the workplace.[46]

PCGs are 'soft law' as defined by the Administrative Review Council as the term itself is potentially quite broad.

A leading administrative law treatise describes 'soft law' in perhaps starker and broader terms:

> Government agencies often make decisions pursuant to non-statutory (and therefore non-binding) rules structures.[47]

Professor Creyke gives a wide range of examples of soft law:

> Descriptions of soft law embrace instruments many of which will be familiar to the administrative law community. They include 'internal guidelines, rule books and practice manuals', 'circulars, operational memoranda, directives, codes [of conduct]'. Two leading English authors on this topic list eight categories of soft law: procedural rules, interpretive guides, instructions to officials, prescriptive/evidential rules, commendatory rules, voluntary codes, rules of practice, management or operation, and consultative devices and administrative pronouncements.[48]

'Soft law' can refer to an extension of normative obligations on public officials beyond legal obligations such as a code of conduct rather than regulatory statements by a public official. D'Ascenzo, in introducing the topic of 'soft law' referred to the ATO's Integrity Framework as it applies to ATO officers rather than to ATO statements as to taxpayer compliance which as noted earlier have a long history.

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[45] D'Ascenzo, above n 39, fn 1. See also Duncan Bentley, 'The Rise of "Soft Law" in Tax Administration – Good News for Taxpayers?' (2008) 14(1) *Asia-Pacific Tax Bulletin* 32.
[46] D'Ascenzo, above n 39, 8 (footnotes omitted).
[47] Mark Aronson, Matthew Groves and Greg Weeks, *Judicial Review of Administrative Action and Government Liability* (Thomson Reuters, 6th ed, 2017) [3.240].
[48] Creyke, above n 44, 15 (footnotes omitted). Aronson, Groves and Weeks offer similar examples: see n 47, above.

That said, as Creyke notes, there are various 'soft law' instruments by Government or public officials to regulate third parties that fall short of being by or under legislation. PCGs arguably fall into this category.

Another example of 'soft law' in the tax sphere, referred to by Justice Jennifer Davies of the Federal Court (as she then was) in a 2020 article, is the integration into Australian law of OECD Model Conventions and Commentaries and the OECD Transfer Pricing Guidelines and the commentaries on the Multilateral Instrument.[49] Her Honour presciently observed that:

> It is likely that in the future the question of the use which can be made of, and the weight to be attributed to, soft law sources will become a significant issue for consideration and determination.[50]

There are two major questions to be further explored with respect to 'PCGs' and 'soft law'. The *first* is their public utility as 'soft law' and the *second* concerns their place in ATO administration that Commissioners past and present state is governed by and accountable under administrative principles. The article will deal with the first now and the second shortly.

2.3.3 Public utility of 'soft law' and PCGs

Professor Creyke refers to a number of areas in which 'soft law' offers 'practical advantages', some of which Jenkins says apply to PCGs:

> They can be made by government without the delay and complexity associated with the creation of legislation; they are flexible, informal, cheap, and largely immune from judicial review.
>
> Soft law rules are not only easy to make but they are easy to change. … [S]oft law fosters a collaborative approach between government and those being regulated – assuming that codes and guidelines are developed in conjunction with users and those being regulated. Soft law, more than legislation, is better able to provide innovative solutions, tailored to meet the needs of individual industries or particular government agencies.[51]

Professor Creyke also notes a number of problems:

> Despite its growth and apparent popularity there are problems. These include government use of soft law to make law without resort to Parliament, to instruct judges on the meaning of statutes and to insulate bureaucracies from review.
>
> Practical issues of concern to government and business are that soft law is generally drafted by 'loving hands at home' with the attendant problems of lack of clarity and, in some cases, legal error, that can arise.[52]

Professor Creyke also comments that:

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[49] Hon Justice Jennifer Davies, 'Tax Stability' (2020) 44(1) *Melbourne University Law Review* 424, 436.
[50] Ibid 437–8.
[51] Creyke, above n 44, 17–18 (footnotes omitted); Jenkins, above n 44, 546.
[52] Ibid 18 (footnote omitted).

> A more significant danger is that agencies can attribute an inflated stature to their own policies. Agency policies are designed to structure discretion, provide certainty and consistency, and guide officials in decision-making. These are laudable objectives but if policies are couched in mandatory terms, this can obscure the fact that a more flexible application of rules is permissible. For example, the overarching statement on corporate policies with the Australian Taxation Office states:
>
> > It is mandatory for all Tax Office employees to … follow Practice Statements relevant to the tasks they are performing [except] 'where there are concerns about the application of the Practice Statement (for example, unintended consequences)'.
>
> This overstatement could lead to internal policies being applied inflexibly.[53]

Professor Creyke's appraisal encapsulates part of the undercurrent of unpublished criticism of some PCGs in the legal and tax professions that PCGs inflexibly lay down rules that bind ATO officers and hamper the achievement of sensible outcomes based on individual circumstances and negotiation.

To further evaluate the public utility of PCGs there is a need to examine specific PCGs. This will be pursued in section 3 of this article.

Professor Creyke also asks whether there is an 'accountability deficit' in respect of 'soft law'. This essentially refers to the questions as to the extent of parliamentary and judicial oversight. This is another theme in the undercurrent of criticism of PCGs.

These questions or concerns are examined in the next sections which begin to explore PCGs in light of the technical operation of Australian administrative law.

2.3.4 Legal source and scope of power to make PCGs

The Commissioner explains the legal source of power to make PCGs in these terms:

> The provision of compliance guidance can be seen as consistent with the duty of good management stemming from the Commissioner's general powers of administration of the taxation laws. Balanced against the duty to assess and collect the revenue properly payable under the law, the duty of good management involves efficient resource allocation decisions to achieve optimal, though not necessarily maximum, revenue collection.[54]

Both sentences are important and should be examined carefully.

The general power of administration (GPA) is conferred by legislation using the formula which appears in the some thirty or more statutes administered by the Commissioner in whole or part:[55]

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[53] Ibid 18–19 (citing Tax Office Practice Statement System (PS 2003/01) 3 (as it then read)).
[54] PCG 2016/1, above n 2, [8].
[55] See the Terms of Reference published by the Inspector-General of Taxation and Taxation Ombudsman into 'The Exercise of the Commissioner's General Powers of Administration', available at: https://www.igt.gov.au/wp-content/uploads/2021/12/Terms-of-Reference-GPA-1.pdf.

> The Commissioner has the general administration of this Act.[56]

The predominantly English cases concerning the Commissioner's power to settle disputes as to tax liability have given rise to the expression the duty of 'good management' required by the GPA and this terminology is, as noted earlier, referred to by the Commissioner in explaining the source of power for PCGs.[57]

The 1982 English House of Lords decision in the *Fleet Street Casuals Case* is helpful in explaining the complex coalescence in the GPA of the duty of good management and the wide managerial discretion conferred to perform that duty combined with the duty on the Revenue to taxpayers to act fairly.[58] The issue arose in a challenge to the UK Revenue establishing a scheme like a taxpayer amnesty for a class of taxpayers that did not extend to all taxpayers. Lord Diplock described the breadth of powers conferred on the Revenue in these terms (emphasis added):

> All that I need say here is that the board are charged by statute with the care, management and collection on behalf of the Crown of income tax … In the exercise of these functions the board have a *wide managerial discretion* as to the best means of obtaining for the national exchequer from the taxes committed to their charge, the highest net return that is practicable having regard to the staff available to them and the cost of collection. … I do not doubt, however, and I do not understand any of your Lordships to doubt, that *if it were established that the board were proposing to exercise or to refrain from exercising its powers not for reasons of 'good management' but for some extraneous or ulterior reason, that action or inaction of the board would be ultra vires and would be a proper matter for judicial review* if it were brought to the attention of the court by an applicant with 'a sufficient interest' in having the board compelled to observe the law.[59]

Lord Scarman also said:

> Nor do I accept that the duty to collect 'every part of inland revenue' is a duty owed exclusively to the Crown … I am persuaded that the modern case law recognises a legal duty owed by the revenue to the general body of the taxpayers to treat taxpayers fairly; to use their discretionary powers so that, subject to the requirements of good management, discrimination between one group of taxpayers and another does not arise; to ensure that there are no favourites and no sacrificial victims. The duty has to be considered as one of several arising

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[56] See, for example, *TAA 1953*, above n 7, s 3A.

[57] There is a helpful body of case law and commentary arising in respect of the Commissioner's power to settle disputes the detail of which are beyond the scope of this article: See David W Marks QC, 'Not My Money to Give Away' (2018) 22(1) *The Tax Specialist* 18; Matthew Walsh, 'Tax Deeds' (2018) 21(5) *The Tax Specialist* 211. The predominantly English cases and some Australian cases are discussed.

[58] Although the case has relevance for the UK law in respect of the doctrine of legitimate expectations, the Australian courts appear to have in some respects diverged from the UK on this doctrine. In any event, the issue of legitimate expectations is not relevant to the question of the GPA and is not relied upon by the author or the Australian courts or the ATO in respect of the analysis of the GPA. To the extent that the issue of legitimate expectations is dealt with statutorily, the *Administrative Decisions (Judicial Review) Act 1977* (Cth) ('*ADJR Act*') concerns itself with statutory concepts that, although derived from general law legitimate expectations, stand in their own terms such as whether a person is 'aggrieved' and whether a statutory ground of review is made out. See further discussion in section 2.4.3 below.

[59] *Inland Revenue Commissioners v National Federation of Self-Employed and Small Businesses Ltd* [1982] AC 617, 636–7 ('*Fleet Street Casuals Case*').

> within the complex comprised in the care and management of a tax, every part of which it is their duty, if they can, to collect.[60]

The balancing required by the Commissioner involves the two particular legal conditions that are mentioned by the Commissioner in his policy on PCGs, quoted earlier.[61]

That duty will arise once the Commissioner possesses a sufficient basis to conclude that revenue is payable so that there is an obligation to assess and collect revenue.[62] That basis will be in part factual, normally based on information and documents available to the ATO, and legal in the conclusion that based on the available taxable facts a legal liability arises. It follows that the PCG, by taking the position that no further compliance resources will be applied, avoids the duty arising in particular cases because the Commissioner will not have a basis to assess and collect tax in respect of a particular taxpayer.

Nevertheless, the Commissioner also states that 'the duty of good management involves efficient resource allocation decisions to achieve optimal, though not necessarily maximum, revenue collection'.[63] This condition reflects the statutory obligation on the Commissioner as an accountable officer under section 15 of the *Public Governance, Performance and Accountability Act 2013* (Cth).[64] It follows that the Commissioner must have regard to the most efficient use of compliance resources and compliance costs in the tax system.

It is therefore not apt to describe the GPA as simply a statutory discretion such as to remit interest or penalties[65] because it ignores the duties imposed on the Commissioner, the power conferred to discharge the duty and the legal conditions that control or must be balanced against the exercise of the GPA. As was noted by the Full Court of the Federal Court in 1998, once the duty to assess arises under an Act that the Commissioner is charged to administer there is an obligation to assess and there is no question of discretion to not assess.[66] No conduct by the Commissioner can operate as an estoppel against the operation of the Act, the Full Court citing the High Court in *Wade's Case*.[67] To avoid the duty to assess arising, PCGs appear to be carefully drafted so as to state that compliance resources will not in effect be deployed such that a duty to assess and collect may arise.

It should therefore be asked how broad is the Commissioner's power in relation to PCGs? In one sense it can be said that the power is very broad because the courts have construed the GPA as giving a wide managerial discretion in respect of the administration of the whole of each Act the Commissioner administers. Thought of as

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[60] Ibid 651; Marks, above n 57, 20.
[61] See n 54, above.
[62] *Macquarie Bank Ltd v Commissioner of Taxation* [2013] FCAFC 119 [11]; *Denlay & Anor v Federal Commissioner of Taxation* (2011) 193 FCR 412; *Federal Commissioner of Taxation v Donoghue* (2015) 237 FCR 316; *Bellinz Pty Ltd v Federal Commissioner of Taxation* (1998) 84 FCR 154, 167–8 per Hill, Sundberg and Goldberg JJ ('*Bellinz*').
[63] See PCG 2016/1, above n 2, [8].
[64] See also s 26.
[65] *TAA 1953*, above n 7, s 8AAG, Sch 1, s 298-20.
[66] *Bellinz*, above n 62, 167–8.
[67] Ibid 164 citing *Federal Commissioner of Taxation v Wade* (1951) 84 CLR 105, 117 per Kitto J ('*Wade*').

day-to-day ATO administration that power is very wide. That said, the managerial discretion must be exercised consistent with the duties on the Commissioner.

Nevertheless, the GPA that underlies PCGs has been described by the Commissioner as 'narrow' in a still current 2009 Law Administration Practice Statement in that it can 'only be exercised in relation to management and administrative decisions' and is subject to the 'operation of administrative law principles'. The Practice Statement summarises the operation of the principles in these precise terms, largely reflecting *ADJR Act* grounds of review that will be discussed below:[68]

What the Commissioner must do
Make decisions based on merit
Act fairly, in good faith and without bias, enabling each party the opportunity to state their case.
Treat taxpayers fairly and equitably. This means treating taxpayers equally, rather than treating them in exactly the same manner.
Avoid conferring an advantage on a taxpayer (or taxpayers) thereby creating 'a privileged group who are not so much taxed by law as untaxed by concession'.
What the Commissioner cannot do
Exceed the authority conferred on him by the law – such actions being invalid and of no legal effect.
Use the powers for improper purposes or in bad faith – the powers must be used for a purpose that is stated in, or implied by, the tax laws.
Limit his discretion by inflexibly applying a policy or rule. Policy must not conflict with another principle of administrative law, and the Commissioner must generally be prepared to depart from the policy in appropriate (if only exceptional) cases.
Act at the direction of someone else, delegate his power to anyone else (unless authorised to do so), or enter into a binding undertaking regarding the future exercise or non-exercise of his discretionary power in a way that is against the public interest.
Be prevented from lawfully exercising his discretion by the doctrine of estoppel.

That 2009 Practice Statement in hindsight appears to be designed to explain the Commissioner's views on the GPA in answer to pressure to dispense with the clear operation of the law to conform with the purported policy or in cases where legislation was argued to have unintended and inappropriate results. This context is especially

[68] PS LA 2009/4, above n 40, [4] and Appendix B [11].

evident in a detailed 2009 speech by then Second Commissioner Bruce Quigley given two months before the Practice Statement was published,[69] eight years before the introduction of the Commissioner's Remedial Power (CRP) in 2017 and in which he argues the case for the GPA being 'narrow'.[70]

Laying the foundations for PCGs being squarely within the scope of the GPA, the 2009 Practice Statement states:

> The GPA are narrow in scope and governed by the operation of administrative law principles. A proper exercise of the powers is confined to dealing with management and administrative decisions, such as the allocation of compliance resources more broadly recognised as practical compliance approaches.[71]

2.3.5 PCGs and the Commissioner changing a view of the law

Whilst one of the core strategic uses of the PCG is as a risk-based compliance tool, another is to facilitate a change of view of the law by the Commissioner. Such changes may be for a range of reasons, such as revision of ATO legal opinions, new case law or new legislation. Regardless any change of legal view presents the Commissioner competing pressures to discharge the obligation to follow the law and to treat taxpayers fairly who may have relied on an earlier view of the law stated by the Commissioner.

The GPA, in empowering the Commissioner to allocate compliance resources, provides a mechanism for dealing with these pressures typically by stating that the new view of the law will be applied prospectively and compliance resources will not be allocated to auditing cases prior to that date where the taxpayer can demonstrate bona fide reliance on the former ATO view and there is no fraud, evasion or tax avoidance. Specific examples will be examined in section 3.

The Commissioner's policy on applying a view of the law prospectively is set out in Law Administration Practice Statement 2011/27. Relevant to statements in PCGs to support a changing view of the law, the Commissioner states:

> The Commissioner needs to make decisions about the allocation of ATO resources to compliance and other activities that promote the efficient, effective, economical and ethical use of those resources. In doing so the Commissioner must still comply with the law.
>
> In the present context, this concept means you must do more than a simple cost-benefit analysis of whether a given audit process is likely to result in recovering an amount of revenue that is greater than the cost of undertaking the audit. The Commissioner may and should give substantial weight to broader considerations, including the benefits to the tax system of administering the law in a way that promotes certainty and fairness in practice.
>
> While the Commissioner can't use the powers of general administration to accept non-compliance with the law, as part of the duty of good management, the Commissioner can decide not to undertake compliance action on a

[69] Bruce Quigley, 'The Commissioner's Powers of General Administration: How Far Can He Go?' (Paper presented to the 24th National Convention of the Taxation Institute of Australia, Sydney, 12 March 2009).
[70] Ibid 5.
[71] PS LA 2009/4, above n 40, [4].

particular issue for prior years or periods. PS LA 2009/4 addresses the exercise of the Commissioner's powers of general administration, including a range of factors the Commissioner will take into account in deciding whether to undertake compliance action in relation to prior years or periods.[72]

2.3.6 PCGs – lack of parliamentary oversight

PCGs are not specifically subject to parliamentary oversight because there is no legal requirement for that to occur although potentially a PCG might be subject to the consideration of a parliamentary committee when examining tax administration. That said, PCGs are not made by Parliament such as a statute or a regulation or rule made under statute. Also, PCGs are not a legislative instrument that is required to be tabled in Parliament because they neither bear the designation under statute of being legislative instruments nor determine the law or alter the content of the law and do not have any effect on a privilege or interest, impose an obligation, create a right, or vary or remove an obligation or right.[73] The Commissioner does not register PCGs as a notifiable instrument although the Commissioner may do so.[74]

The article will return to the policy question of whether there should be parliamentary oversight in section 4. To anticipate that discussion, the case for parliamentary oversight from a policy perspective is especially appropriate where a PCG, by making a rule of thumb or simplified compliance method, is to the advantage of one class of taxpayer over another. In these cases, taxpayers who miss out on concessional treatment offered by a PCG, such as because they are not defined to be in a concessional class, have no recourse. It would be better for the legislation to either make express provision for the concession or for the concession to be by way of legislative instrument tabled in Parliament and subject to parliamentary oversight. By contrast, it is submitted that a PCG that is part of a risk assessment strategy or a changing view of the law does not warrant parliamentary oversight because affected taxpayers will have rights of objection and appeal if they take a position contrary to the Commissioner's view. The next section will explain the judicial recourse available (or not) to make good the point.

2.4 What are the legal avenues available for a taxpayer to challenge a PCG?

2.4.1 Objections and appeals under Part IVC of the TAA 1953

As an overriding proposition, a taxpayer that disagrees with a position of the Commissioner in a PCG and is adversely assessed for tax (and potentially penalties) may object and appeal against the Commissioner's position under Part IVC of the *TAA 1953* (Part IVC) essentially on the merits of the law and evidence, rather than administrative law principles, which focus on procedural regularity.

To that extent, PCGs are not legally coercive because taxpayers have the right to dispute the Commissioner's substantive position. The only issue however in a Part IVC proceeding is whether the Commissioner's taxation decision, such as an assessment, is excessive or otherwise incorrect.[75] The procedural steps involved in respect of a PCG

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[72] PS LA 2011/27, 'Determining Whether the ATO's Views of the Law Should Be Applied Prospectively Only', [13] (footnotes omitted).
[73] See *Legislation Act 2003* (Cth) s 8.
[74] Ibid s 11.
[75] *TAA 1953*, above n 7, ss 14ZZO and 14ZZK.

will not be relevant in the proceeding as they will precede the assessment or other action to create the legal liability to tax and penalties. In any event, taxpayers can choose to ignore PCGs and have the right to test their case in court under Part IVC.

By contrast, a taxpayer that might miss out on the benefit of a PCG or simply wishes to challenge the rightfulness of the Commissioner's position in a PCG, but is otherwise unaffected by it, will have no Part IVC rights. This is because they have no assessment or other decision of the Commissioner open to challenge under Part IVC.[76]

2.4.2 Judicial review challenges at general law

Beyond the right to object and appeal under Part IVC the rights of judicial review of PCGs in Australia appear to be very limited to the point of being virtually non-existent.

The two jurisdictional pathways for judicial review under administrative law principles (as distinct from Part IVC merits review) offer different challenges.

Review under general administrative law principles under section 39B of the *Judiciary Act 1903* (Cth) and section 75(v) of the Constitution will almost certainly be refused in the discretion of the court if review under Part IVC is available.[77] That will in practical terms knock out judicial review claims where the taxpayer is able to pursue a Part IVC objection and appeal.

In cases where there is no Part IVC objection and appeal because the applicant is not affected by a taxation decision, the applicant will be unable to challenge the Commissioner's position either at common law (because they lack a sufficient interest or standing)[78] or under the *ADJR Act*, as will be further discussed below, because they are unlikely to be a person who is 'aggrieved' by the decision. This precise situation was the fact pattern in the *Fleet Street Casuals Case* where a citizen unsuccessfully sought judicial review of a form of amnesty.

2.4.3 Jurisdiction for judicial review under the ADJR Act

The *ADJR Act* is Australia's premier legal regime for judicial review and the operation of administrative law principles. It operates in respect of specific statutory powers conferred on the Commissioner unless, as will be explained, there is an exemption. An example of decisions under specific powers that are not exempt is under the Commissioner's information gathering powers.[79]

Despite the Commissioner's policy that the GPA is 'governed by the operation of administrative law principles',[80] judicial review under the *ADJR Act* is unlikely to be available in respect of the exercise of the Commissioner's GPA by way of making or giving effect to a PCG.

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[76] See also the conclusive and prima facie evidence rules that also significantly affect the means by which decisions of the Commissioner can be challenged: ibid Sch 1, Div 350, especially s 350-10.
[77] *Federal Commissioner of Taxation v Futuris Corporation Ltd* (2008) 237 CLR 146, 153 per Gummow, Hayne, Heydon and Crennan JJ; also 174–6 per Kirby J.
[78] *Fleet Street Casuals Case*, above n 59, 633 per Lord Wilberforce.
[79] *TAA 1953*, above n 7, Sch 1, s 353-10.
[80] PS LA 2009/4, above n 40, [4], Appendix B [11].

Even before getting to the question of whether the exemptions in Schedule 1(e) apply, which is discussed at the end of this section, there is the threshold question of whether there is any jurisdiction under the *ADJR Act* at all.

By way of explanation, the starting point is to establish jurisdiction under either section 5(1) (which deals with decisions) or section 6(1) (which deals with conduct for the purpose of making a decision) of the *ADJR Act*. The jurisdictional criteria or conditions to obtain an order of review on specified grounds under either section are almost the same so this article will deal with section 5(1), the more important of the two provisions.

Section 5(1) relevantly states:

> A person who is aggrieved by a decision to which this Act applies that is made after the commencement of this Act may apply to the Federal Court … for an order of review in respect of the decision on any one or more of the following grounds …

Breaking down section 5(1), *first*, there must be a person who must be aggrieved. It has been observed that the condition is 'not encased in any technical rules' and is not limited to a person who is legally interested in the decision.[81] Nevertheless, as the Full Court of the Federal Court ruled in 2015, the grievance of the applicant must be special to them and different to that of other members of the community. More pointedly the Court said:

> The applicant's interest must not be remote, indirect or fanciful. The interest must be above that of an ordinary member of the public and must not be that of a mere intermeddler or busybody.[82]

The test appears to be essentially the same as applied in the *Fleet Street Casuals Case* to deny standing for judicial review for a public spirited citizen opposed to a PCG.

Second, there must be a 'decision to which this Act applies'. This is a defined term in section 3(1) of the *ADJR Act* although the term 'decision' alone is undefined, the expression 'making of a decision' referring inclusively to a wide range of cases.[83] A decision must be of an 'administrative character',[84] which itself is, according to Aronson, Groves and Weeks, rarely defined in case law 'beyond saying that its only antitheses are legislative and judicial'.[85] It may be accepted that a decision to make a PCG is of an administrative character because it is neither legislative nor judicial.

The established view of the High Court in *Bond* is that a reviewable decision under the *ADJR Act* generally will:

> entail a decision which is final or operative and determinative, at least in a practical sense, of the issue of fact falling for consideration. A conclusion reached as a step along the way in a course of reasoning leading to an ultimate

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[81] LexisNexis, Practice and Procedure, High Court and Federal Court of Australia, [160,055.60 – Service 292] ('Administrative Appeals') citing a large body of case law.
[82] *Assarapin v Australian Community Pharmacy Authority* (2015) 239 FCR 161, 173, quoting *Right to Life Association (NSW) Inc v Secretary, Department of Human Services and Health* (1995) 56 FCR 50, 65–6 per Lockhart J.
[83] *ADJR Act*, above n 58, s 3(2).
[84] Ibid s 3(1) (definition of 'decision to which this Act applies').
[85] Aronson, Groves and Weeks, above n 47, [2.480]; general discussion, [2.470]–[2.500].

> decision would not ordinarily amount to a reviewable decision, unless the statute provided for the making of a finding or ruling on that point so that the decision, though an indeterminate decision, might accurately be described as a decision under an enactment.[86]

A PCG in and of itself will often not operate as a reviewable decision as explained in this passage because typically a PCG expresses an administrative policy that foreshadows other decisions that may be made in certain circumstances, some of which may themselves be final, operative and determinative such as an assessment of tax or penalties.

There is a separate question, assuming there is a 'decision', whether that decision is 'under an enactment'. A decision made under the GPA is not such a decision according to long standing authority of *Hutchins*, a decision of the Full Court of the Federal Court.[87] *Hutchins* concerned voting by the Commissioner at a meeting of bankruptcy creditors. In addition to the GPA being the source of power it was relevant that the Commissioner's vote alone was not conclusive as to the rights of the applicant.

Aronson, Groves and Weeks seem to be of the view that *Hutchins* is no longer good law as to whether a decision under the GPA is not a 'decision under an enactment'[88] given the High Court decision in *Tang*.[89] In *Tang*, the majority of the Court appears to reject the reasoning in *Hutchins* that the decision was too remote from the GPA as a legislative source of power to be 'under an enactment'.[90] The majority found that it was sufficient for a 'decision to be under an enactment' that the decision be required or authorised by the enactment,[91] which in the case of a PCG appears to be satisfied by the GPA as a source of power. Nevertheless the majority did not overrule *Hutchins* as the decision did not affect the rights of the applicant.

Later cases have not gone quite as far as Aronson, Groves and Weeks in dismissing the reasoning in *Hutchins* in light of *Tang* but the writing is on the wall. For example, the reasoning of *Hutchins* that there was no decision under an enactment was considered by Gyles J in *obiter dicta* in a decision of the Full Court of the Federal Court in 2006, his Honour concluding that the majority in *Tang* had 'indicated … that the adoption of a proximate source test, such as applied by Black CJ in that case, was not appropriate'.[92]

That said, in *Bilborough*,[93] Kiefel J (then of the Federal Court and now Chief Justice of the High Court) did not go quite as far. In that case the Court rejected an application for judicial review of the decision of the Commissioner to reject a taxpayer's offer of

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[86] *Australian Broadcasting Tribunal v Bond* (1990) 170 CLR 321, 337 per Mason CJ with whom Brennan and Deane JJ concurred ('*Bond*'). See also the majority of the High Court in *Griffith University v Tang* (2005) 221 CLR 99, 113 per Gummow, Callinan and Heydon JJ referring positively to *Bond*, above. *Griffith University v Tang* ('*Tang*') is widely followed by appellate courts and was referred to in passing with apparent approval on the question of being 'under an enactment' in *Minister for Home Affairs v DLZ18* (2020) 270 CLR 372, 398.

[87] *Hutchins v Deputy Commissioner of Taxation* (1996) 65 FCR 269 ('*Hutchins*').

[88] Aronson, Groves and Weeks, above n 47, [2.560].

[89] *Tang*, above n 86.

[90] Ibid 109, 114.

[91] Ibid 130–1.

[92] See *Guss v Deputy Commissioner of Taxation* (2006) 152 FCR 88, 91–2 per Gyles J, referring to *Tang*, above n 86, 124–5.

[93] *Bilborough v Deputy Commissioner of Taxation* (2007) 162 FCR 160 ('*Bilborough*').

compromise of a tax debt. Her Honour appears to treat the reasoning in *Hutchins* as consistent with *Bond* and *Tang* and does not state that the Court is bound to reject the reasoning in *Hutchins* that was criticised in *Tang*.[94] Her Honour instead concisely summarises the test in *Tang* and then concludes on the facts that the second part of the test is failed:

> The majority in *Tang* 221 CLR at [89] concluded that the determination of whether a decision is 'made … under an enactment' involves two criteria, both of which must be met: the 'decision must be expressly or impliedly required or authorised by the enactment' and 'the decision must itself confer, alter or otherwise affect legal rights or obligations, and in that sense the decision must derive from the enactment'.[95]

Her Honour refers to the power to recover unpaid taxes and compromise tax debts as being authorised by the GPA but concludes that the decision to accept a compromise does not confer a right on the applicant because that decision derives not from statute but the general law. One readily infers from the context that Her Honour is referring to contract law.[96]

It follows that identifying precisely the decision which has a substantive effect on legal rights and obligations that is made under an enactment is critical to establishing jurisdiction for judicial review under the *ADJR Act*. In that regard, Aronson, Groves and Weeks refer to a series of Federal Court authorities concerning steps by the ATO that were preliminary to a decision but were not reviewable, largely post the High Court decision in *Bond*, in which none of the steps amount to a final or operative decision. *Tang,* in its focus on the effect on legal rights and obligations, confirms the trend of authority. Aronson, Groves and Weeks draw a contrast between such cases including *Hutchins* and those where the administrative action does have a substantive effect such as writing letters to a taxpayer expressing an opinion as to tax liability and then withdrawing it.[97] It may be that some administrative action derived from a PCG could be drawn into judicial review if there is a decision giving it a substantive effect. In my view the Commissioner is likely to submit, and the courts would accept, that if the decision with substantive effect is an assessment or otherwise creates a tax liability then there may well be a reviewable decision under the *ADJR Act* but for the operation of the statutory exemption from review in Schedule 1 of the *ADJR Act* for decisions that fall into the class applicable to most tax Acts. That exemption applies to:

> decisions making, or forming part of the process of making, or leading up to the making of, assessments or calculations of tax, charge or duty, or decisions disallowing objections to assessments or calculations of tax, charge or duty, or decisions amending, or refusing to amend, assessments or calculations of tax, charge or duty …[98]

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[94] Ibid 165–6.
[95] Ibid 166.
[96] Ibid.
[97] Aronson, Groves and Weeks, above n 47, [2.380], referring to *Australian Wool Testing Authority Ltd v Federal Commissioner of Taxation* (1990) 26 FCR 171.
[98] *ADJR Act*, above n 58, Sch 1, para (e).

The remedy for the applicant, if there is one, then only lies in Part IVC objection and appeal proceedings.

2.4.4 Grounds for judicial review under the ADJR Act

Given the foregoing analysis of why judicial review under the *ADJR Act* is most likely to be unavailable, a consideration of the grounds of review is from a strictly legal perspective virtually pointless in relation to PCGs.

To add to the pessimism, from the perspective of an applicant for judicial review, Aronson, Groves and Weeks identify a considerable body of judicial authority refusing to grant judicial review to hold bureaucrats to the non-procedural (ie, substantive) terms of non-statutory instruments.[99] In other words, there is no prospect of a court reviewing the substantive terms of a PCG.

Also, judicial review will not help an applicant to bind the Commissioner to statements in a PCG. As noted earlier, an administrative pronouncement by the Commissioner cannot act as an estoppel against the operation of statute.[100] Also as a general principle the courts have established that the statutory power or discretion of an administrator cannot be fettered by administrative action. As Aronson, Groves and Weeks put it, as a general rule, rigid or blanket policies are forbidden.[101]

Importantly, the grounds for review in sections 5 and 6 of the *ADJR Act* are a legislative statement and the Commissioner is, as noted earlier, committed to following them in respect of the GPA and so presumably also in respect of PCGs that the Commissioner says are made pursuant to the GPA.

With some editing of the language of sections 5 and 6 of the *ADJR Act*, the grounds are:

(a) that a breach of the rules of natural justice occurred in connection with the making of the decision;

(b) that procedures that were required by law to be observed in connection with the making of the decision were not observed;

(c) that the person who purported to make the decision did not have jurisdiction to make the decision;

(d) that the decision was not authorised by the enactment in pursuance of which it was purported to be made;

(e) that the making of the decision was an improper exercise of the power conferred by the enactment in pursuance of which it was purported to be made;

(f) that the decision involved an error of law, whether or not the error appears on the record of the decision;

(g) that the decision was induced or affected by fraud;

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[99] Aronson, Groves and Weeks, above n 47, [3.270].
[100] See n 67, above.
[101] Aronson, Groves and Weeks, above n 47, [5.250].

(h) that there was no evidence or other material to justify the making of the decision;

(j) that the decision was otherwise contrary to law.

The reference in paragraph (e) above to an improper exercise of a power shall be construed as including a reference to:

(a) taking an irrelevant consideration into account in the exercise of a power;

(b) failing to take a relevant consideration into account in the exercise of a power;

(c) an exercise of a power for a purpose other than a purpose for which the power is conferred;

(d) an exercise of a discretionary power in bad faith;

(e) an exercise of a personal discretionary power at the direction or behest of another person;

(f) an exercise of a discretionary power in accordance with a rule or policy without regard to the merits of the particular case;

(g) an exercise of a power that is so unreasonable that no reasonable person could have so exercised the power;

(h) an exercise of a power in such a way that the result of the exercise of the power is uncertain; and

(j) any other exercise of a power in a way that constitutes abuse of the power.

Of course, whether or not these administrative principles are satisfied or not will depend on the facts of each case. To reiterate, even though, as explained above, judicial review before the Federal Court may never be available in a particular case, these grounds of review appear to be the administrative law principles that the Commissioner has committed to and expects to be followed. There is a form of oversight and accountability through the power of the IGTO to investigate and report where administrative law principles have not been followed. The IGTO jurisdiction covers PCGs and the exercise of the GPA even though the same decisions or actions are generally not subject to judicial review as explained earlier.[102]

3. EXAMINATION OF SPECIFIC PCGS

3.1 Introduction

One of the purposes of this study is to build a better informed discussion of modern tax administration. Unfortunately there are some misconceptions to be dispelled.

[102] See *Inspector-General of Taxation Act 2003* (Cth) s 15, which gives the IGTO the powers conferred by s 15 of the *Ombudsman Act 1976* (Cth). Note especially ss 15(1) of the latter Act which essentially states the reporting jurisdiction of the Ombudsman (and therefore for the IGTO) in terms that correspond closely to the grounds of judicial review under the *ADJR Act*, above n 58.

One popular example is the perception that the use of PCGs is increasing. The facts tell another story. The numbers total 61 and have reduced every year since PCGs were introduced. Here is the breakdown:

2016 – 18 (17 + the PCG Policy statement in PCG 2016/1)

2017 – 10

2018 – 9

2019 – 8

2020 – 7

2021 – 5

2022 – 3

2023 – 1

This trend might be explained by a number of factors. The author speculates that, as the ATO gains more experience with PCGs, it is deploying them more selectively for cases such as Typologies VI–X, discussed below, where there is a risk matrix model (such as in the areas of transfer pricing, section 100A of the *Income Tax Assessment Act 1936* and diverted profits tax). PCGs of the latter type are probably seen by the ATO as especially worth the investment because they are part of a major compliance risk strategy.

Another criticism is that the PCG is really the ATO making law. At its highest, PCGs are 'soft law' as discussed earlier. Nevertheless, PCGs are carefully drafted to not present a view of the law. Instead, where appropriate, the ATO issues legal views in Public Rulings that are a companion to a PCG, presenting a total package.

Although not presenting a legal view, PCGs bring a much needed discipline in certain cases to the questions facing the Commissioner of 'what are we worried about' and 'what we will tell the world we will do about it'. Other publications available to the Commissioner that convey compliance perspectives are calibrated to their audience and context, such as the ATO website or Tax Alerts, but PCGs often offer much more in terms of necessary detail and judgment as will be apparent from the exploration of the 10 types of PCG, as will be discussed shortly.

Another misconception is that the ATO is insufficiently consultative about PCGs. The facts are that the ATO consults widely on draft PCGs and since 2017 has published consultation compendiums on the ATO Legal Database in a number of instances.

To start the analysis, it is important to recognise that not all PCGs are the same – the nuances between them matter. Care is needed in making generalisations so PCGs should be studied to discover patterns, themes and typologies. That is why this section of the article will look at particular PCGs.

3.2 A PCG typology

On the basis of the author's review of every PCG, it is suggested that PCGs may be grouped into the following types having regard to their main purpose or purposes:

I. Alleviating taxpayer compliance costs.

II. Transition to accommodate system change problems.

III. Simplifying the burden on a party to fund a tax payment by another party.

IV. Resolving uncertainty about tax rate changes.

V. Supporting transition to new legislative regimes.

VI. General guidance as to how a legislative provision will be administered.

VII. Safe harbours and rules of thumb – no risk assessment model.

VIII. Risk assessment model to modify taxpayer behaviour.

IX. Transition to a new ATO view of the law.

X. Restructuring in light of new legislation.

The typology is descriptive like an ornithological field guide rather than a theoretically rigorous taxonomy. It is not so exact that a PCG can only fall into one type. Some PCGs have several main purposes, such as PCG 2022/2 (section 100A) which exhibits purposes in the Types I and II but is best included in Type IX. In fact it is entirely appropriate that PCGs are nuanced in their design and purpose so as to respond appropriately to the particular administrative situation they are to address.

Examples of each type will be examined and discussed in the following sections. The order starts with types designed to be entirely ameliorative of costs and other difficulties facing taxpayers (Types I–VII) before turning to PCGs with a strategic agenda to influence taxpayer behaviour through risk models and changes in the ATO view of the law (Types VIII–X).

3.3 Type I: alleviating taxpayer compliance costs and complexity

It may come as a surprise to the critics of PCGs that the first three PCGs dealt with fuel tax credits.[103]

The drive for PCGs on fuel tax credits does not seem to have run out of gas, the latest PCG on fuel tax credits being published in 2021.[104] In fact PCGs on fuel tax credits total seven, on average one each year since the PCG was introduced.

These PCGs largely offer practical, simplified compliance methods for various situations and classes of claimants such as basic calculation methods for small claimants and for heavy vehicles;[105] simplified fuel tax credit rate calculation for non-business

[103] PCG 2016/2, 'Fuel Tax Credits – Practical Compliance Methods for Small Claimants'; PCG 2016/3, 'Fuel Tax Credits – Fuel Tax Credit Rate for Non-Business Claimants', and PCG 2016/4, 'Fuel Tax Credits – Incidental Travel on Public Roads by Certain Vehicles'.
[104] PCG 2021/2, 'Fuel Tax Credits – Basic Method for Heavy Vehicles'.
[105] PCG 2016/2, above n 103; PCG 2021/2, above n 104.

claimants;[106] fair and reasonable apportionment of fuel costs between creditable and non-creditable cases;[107] and farmers in disaster affected areas.[108]

The fuel tax credit PCGs appear to be directed to reducing taxpayer compliance costs and some PCGs are explicit in stating this purpose.[109] This purpose typifies the first type of PCG with an additional characteristic that there is no evident purpose of influencing taxpayer behaviour in the light of any risk assessment as typifies the next type of PCG.

One doubts that claimants who benefit from these PCGs will complain but what about claimants who do not benefit and have to comply with the full rigour of the law? The latter have no standing to obtain judicial review of these PCGs, as noted earlier. Given that PCGs are not created by the Parliament or subject to parliamentary oversight, is the well-intentioned use of PCGs in this type of case objectionable as it treats fuel tax credit claimants differently?

No doubt a good part of the problem is the Commissioner having to administer legislation that if applied to the letter would impose disproportionate compliance costs on some claimants for the fuel tax credit. It is submitted that this is a case where in a perfect world the legislation would either be better drafted so as not to create unnecessary cost burdens or provide for a mechanism for the Commissioner to alleviate compliance costs that is subject to parliamentary oversight, at least by empowering the Commissioner to make a legislative instrument under the *Legislation Act 2003* (Cth). But tax administration occurs in far from a perfect legislative world and the Commissioner is left to administer the law that is enacted not that which is perfected.

There are a number of other PCGs that seem designed to fall within this first type of PCG and they also share the same difficulty just identified.

PCG 2016/7, 'GST Joint Ventures in the Energy and Resource Industry', points nicely to the question of why as a matter of good public policy that industry enjoys special treatment over others. It is hard for the author to bracket that industry with some of the more worthy classes benefited by some fuel tax PCGs such as farmers in a disaster affected area where a special case exception hardly needs to be explained.

PCG 2016/10, 'Fleet Cars: Simplified Approach for Calculating Car Fringe Benefits', is another example where the good public policy explanation for simplification applies to fleet cars but not other cases of fringe benefits taxpayers.

Another example where a PCG benefits a narrow class without immediately obvious policy explanation is PCG 2021/1, 'Application of Market Value Substitution Rules When There Is a Buy-Back or Redemption of Hybrid Securities – Methodologies for Determining Market Value for Investors Holding Their Securities on Capital Account'. Here the PCG offers a technical explanation:

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[106] PCG 2016/3, above n 103.
[107] PCG 2016/4, above n 103; PCG 2016/8, 'Fuel Tax Credits – Apportioning Fuel for Fuel Tax Credits'; PCG 2016/11, above n 9. There are examples of PCGs offering apportionment methods, eg, PCG 2019/8, 'ATO Compliance Approach to GST Apportionment of Acquisitions That Relate to Certain Financial Supplies'.
[108] PCG 2019/2, 'Fuel Tax Credits – Practical Compliance Methods for Farmers in Disaster Affected Areas'.
[109] Eg, PCG 2016/2, above n 103, [2].

> 4. The ATO recognises the practical problems faced by investors in determining the market value of a hybrid security for the purposes of calculating capital proceeds from a buy-back or redemption. This Guideline provides a practical compliance approach for determining the market value of a hybrid security for capital gains tax (CGT) purposes when it is bought back or redeemed (as relevant) from an investor holding it on capital account.

It may be confidently observed that hybrid securities are not the only case where the CGT rules present challenges in determining market value so why have a PCG for only this situation and not others?

The problem here is the lack of parliamentary oversight over PCGs that discriminate between different classes of taxpayer by administering the law differently in respect of the same rules.

Of course, there are other PCGs that appear to offer practical compliance options that reduce compliance costs and complexity which do not discriminate between taxpayers such as simplified transfer pricing record-keeping options;[110] GST and countertrade transactions with no net revenue effect;[111] and GST – inbound tour operators and agency.[112]

Some PCGs also apply a sensible *de minimis* rule that avoids discrimination such as 10 per cent of the value, eg, GST and countertrades; and exempt car benefits and exempt residual benefits in determining the private use of vehicles.[113]

It is the author's submission that the preferred approach in all cases is that this first type are subject to parliamentary oversight, especially where there is discrimination between taxpayers. Ideally, to ensure a basic level of accountability, legislation would be enacted to empower the Commissioner to make a legislative instrument that is registered and tabled in Parliament under the *Legislation Act 2003* (Cth) in these cases rather than use a PCG. Put another way, discrimination between taxpayers should be a matter authorised by and accountable to Parliament. Of course the Commissioner is subject to accountability in various ways but the PCG itself, as has been explained, is not subject to parliamentary oversight or judicial review.

3.4 Type II: transition to accommodate system change problems

Another accommodation of compliance problems faced by taxpayers is in respect of the systems for compliance. No doubt in an increasingly digital compliance environment system readiness or fitness for purpose is of increasing practical importance.

PCG 2019/7 offers a compliance approach for large APRA-regulated superannuation funds in respect of pension tax bonuses not included in members' opening account balances on commencement of a pension. The PCG wording is important:

> 1. This Guideline provides a transitional compliance approach for large Australian Prudential Regulation Authority (APRA) regulated superannuation

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[110] PCG 2017/2, 'Simplified Transfer Pricing Record-Keeping Options'.
[111] PCG 2016/18, 'GST and Countertrade Transactions'.
[112] PCG 2018/6, 'GST – Inbound Tour Operators and Agency'.
[113] PCGs 2016/18, above n 111, and PCG 2018/3, 'Exempt Car Benefits and Exempt Residual Benefits: Compliance Approach to Determining Private Use of Vehicles'.

> funds that provide a pension tax bonus to members where the superannuation funds are facing practical difficulties in complying with certain legislative requirements….
>
> 11. We recognise that some superannuation funds that wish to provide pension tax bonuses to members may need to modify existing systems to ensure full automation, and integration with core processing and integrity controls with respect to having the value of the pension tax bonus correctly reflected in the member's pension account balance.[114]

Another example of a PCG that provides for transitional support due to taxpayer system issues is PCG 2017/3, 'Income Tax – Supporting the Implementation of the Changes to the Taxation of Transition to Retirement Income Streams'.

All very sensible, but these funds are unlikely to be the only entities with system challenges. Perhaps the ATO will offer PCGs to others in worthy cases who need similar dispensations from the rigours of legislation whilst they put compliant systems in place. There is a lingering question however as to how far and in what cases the Commissioner should go in the name of taxpayer systems transition. The author understands that, especially in the financial services sector, the ATO will give practical compliance guidance about system compliance that does not make it into PCGs. The issue is not a lack of legal power to make a PCG but ensuring that system compliance guidance is transparent in a public form and subject to parliamentary oversight. Again there is a serious question why such guidance is not in a legislative instrument tabled in Parliament.

3.5 Type III: simplifying the burden on a party to fund a tax payment by another party

Some PCGs assist taxpayers not in respect of the methods to comply such as in the first two types, but in funding tax obligations.

An example is PCG 2018/4, 'Income Tax – Liability of a Legal Personal Representative of a Deceased Person'. PCG explains:

> 4. This Guideline is intended to enable LPRs of smaller and less complex estates to finalise those estates without concern that they may have to fund a liability of the deceased from their own assets. It sets out when an LPR will be treated as having notice of a claim by the ATO (including a claim arising from an amended assessment).

Seems very sensible but many entities are in the position of having to fund a liability out of a third party source, eg, a trustee from a trust estate, an agent from a principal. What is the policy justification for giving one class of entity an advantage over others in this situation?

Again, a legislative instrument would be a better approach than a PCG.

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[114] PCG 2019/7, 'Compliance Approach for Large APRA-Regulated Superannuation Funds in Respect of Pension Tax Bonuses Not Included in Members' Opening Account Balances on Commencement of a Pension'.

3.6 Type IV: resolving uncertainty about tax rate changes

Clarity about what is the legislated tax rate is fundamental to taxpayer compliance but sometimes practical clarity can be elusive.

An example of seeking to address this problem is PCG 2018/8, which is entitled 'Enterprise Tax Plan: Small Business Company Tax Rate Change: Compliance and Administrative Approaches for the 2015-16, 2016-17 and 2017-18 Income Years'. PCG explains:

> 1. This Guideline sets out the ATO's compliance and administrative approaches for corporate tax entities that have faced practical difficulties in determining their corporate tax rate and corporate tax rate for imputation purposes in the 2015-16, 2016-17 and 2017-18 income years.

Obviously the Commissioner must have formed the view that there would be a compliance problem unless taxpayers were assisted in transition to the changed rates. The intent of the administrative solution problem is laudable but should not the legislation as to rates be clear without a PCG? Would not it be better to deal with this issue in a legislative instrument, so in addition to the usual reasons that have been mentioned, the Parliament has on the record examples of practical compliance difficulties caused by legislation, which may provide a prompt for improved legislation in future?

3.7 Type V: supporting transition to new legislative regimes

Sometimes new legislative regimes have transitional compliance problems. The Commissioner will sometimes issue a PCG to help affected taxpayers.

Here is another from the financial services sector. PCG 2016/9 is entitled 'Attribution Managed Investment Trusts: Clearly Defined Rights on Transition to the AMIT Regime in 2017'. As will be shown, the PCG title promising 'clearly defined rights' is as a consequence of contorted language to say that the Commissioner will administer the law by reference to a fiction. The unfortunate words are exemplars of the problem of a PCG trying to escape statutory requirements.

> If the trustee wishes to make the choice for the trust to be an AMIT for the income year commencing 1 July 2016, there is limited time available to modify or replace the trust's constituent documents prior to 1 July 2016. Accordingly, where the relevant modifications or replacement are made on or after 1 July 2016 and no later than 31 October 2016, the ATO will administer the law on the basis that the relevant rights were in existence 'at all times' in respect of the income year commencing 1 July 2016 where …[115]

That is, subject to the specified conditions, the Commissioner will accept that changes to a trust deed in a four-month period after the end of the 2016 year of income were in existence at all times in that year of income.

This is a fiction that may be very helpful for affected taxpayers but could go beyond the power of a GPA by essentially saying the Commissioner will administer the law on the

[115] PCG 2016/9, 'Attribution Managed Investment Trusts: Clearly Defined Rights on Transition to the AMIT Regime in 2017', [5].

basis that black is white. It is not the same as a PCG providing transitional relief by not allocating resources, which does not suffer the same objection.[116]

It is also puzzling that the PCG was issued based on post year-end events involving trusts to deem them as having occurred within the year of income just ended given that the Commissioner in 2011 withdrew rulings that had stood since 1966 to provide a more or less similar concession as it was contrary to judicial authorities.[117] Those authorities are only reinforced by the 2022 High Court decision in *Carter* that require that present entitlement of a beneficiary must be established by whether within the year of income the beneficiary has a legal entitlement, without regard to post year-end events.[118]

In all, it would be better that legislation was drafted to properly provide for the transition or that the Commissioner was empowered to make a legislative instrument to deal with the transition.

3.8 Type VI: general guidance as to how a legislative provision will be administered

Some PCGs simply provide general guidance to a class of affected taxpayers as to how a legislative provision will be administered. One example is PCG 2018/1 which is headed 'ATO Compliance Approach – Attribution of ADI Equity Capital and Controlled Foreign Entity Equity' and explains how the ATO will administer section 820-300(3) of the *Income Tax Assessment Act 1997* (*ITAA 1997*) in the context of a taxpayer's calculation of its 'adjusted average equity capital'. There are numerous other examples, many indicating how a statutory discretion conferred on the Commissioner will be exercised.[119]

Such guidelines are useful but should not under administrative law principles, as discussed earlier, be followed slavishly. This is especially the case with respect to statutory discretions.

A variation within this type of PCG involves the Commissioner sensibly accommodating very minor processing time delays in respect of certain deductible superannuation contributions.[120]

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[116] Eg, PCG 2017/5, 'Superannuation Reform: Commutation Requests Made Before 1 July 2017 to Avoid Exceeding the $1.6 Million Transfer Balance Cap'; PCG 2017/6, 'Superannuation Reform: Commutation of a Death Benefit Income Stream Before 1 July 2017'; PCG 2020/5, 'Applying the Non-Arm's Length Income Provisions to "Non Arm's Length Expenditure" – ATO Compliance Approach for Complying Superannuation Entities'.

[117] See Notices of Withdrawal IT 328W and IT 329W (24 August 2011).

[118] *Federal Commissioner of Taxation v Carter* (2022) 96 ALJR 325.

[119] Eg, PCG 2016/6, 'Determining Source of Certain Hedging Gains for the Purposes of Section 770-75'; PCG 2016/16, 'Fixed Entitlements and Fixed Trusts'; PCG 2019/3, 'Wine Equalisation Tax: Attribution and Retention of Title Clauses'; PCG 2019/4, 'Retirement Villages: ATO Compliance Approach – Exit Allocable Cost Amount Calculation at Step 4 for Certain Resident Liabilities Under Lease Premium or Loan/Lease Occupancy Agreements'; PCG 2019/5, 'Capital Gains Tax and Deceased Estates – the Commissioner's Discretion to Extend the 2-Year Period to Dispose of Dwellings Acquired from a Deceased Estate'; PCG 2020/2, 'Expansion of Estimates Regime to GST, LCT and WET'; PCG 2020/4, 'Schemes in Relation to the JobKeeper Payment'; PCG 2021/3, 'Determining if Allowances or Benefits Provided to an Employee Relate to Travelling on Work or Living at a Location – ATO Compliance Approach'; PCG 2022/1, 'Non-Commercial Business Losses – Commissioner's Discretion Regarding Flood, Bushfire or COVID-19'.

[120] PCG 2020/6, 'Timing of Income Tax Deductions for Superannuation Contributions Made Through the Small Business Superannuation Clearing House – ATO Compliance Approach'.

PCGs within Type VI are very sensible and appropriate exercises of the Commissioner's GPA and do not give rise to any of the difficulties mentioned in respect of some other PCGs.

3.9 Type VII: safe harbours and rules of thumb – no risk assessment model

Some PCGs offer safe harbours or rules of thumb without having a risk assessment (those with a risk assessment are covered in Type VIII).[121]

The quantification involved in some of these PCGs does have the appearance of soft law right on the edge of the Commissioner appearing to use the PCG legislatively.

PCG 2022/3, 'Goods and Services Tax and Residential Colleges – ATO Compliance Approach', seems to go a little bit further. As paragraph 15 explains:

> The Commissioner has developed the ATO charity benchmark market values for use by certain charities in specified circumstances for applying section 38-250. These values are not actual market values and are intended to operate as proxies for market value. The purpose of the ATO charity benchmark market values is to:
>
> - reduce compliance costs for relevant charities that would otherwise be required to incur costs on engaging valuers to assist in determining relevant market values, and
> - provide assurance that the Commissioner will not allocate compliance resources to review the GST outcomes for accommodation and meals where the ATO charity benchmark market values have been correctly applied.

The ATO charity benchmark values are not created by or under specific legislation and are published on the ATO website.[122]

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[121] PCG 2016/5, 'Income Tax – Arm's Length Terms for Limited Recourse Borrowing Arrangements Established by Self-Managed Superannuation Funds', which offers safe harbours for certain arrangements consistent with arm's length dealing; PCG 2016/12, 'Petroleum Resource Rent Tax – Deductibility of General Project Expenditure Relating to the Overhead Component of Time Written Costs', which offers a safe harbour for unrelated JV parties that satisfy certain conditions; PCG 2016/14, 'Discount to the Valuation of Housing Fringe Benefits Provided by Retirement Village Operators', which states that a 10 per cent discount is acceptable; PCG 2017/15, 'GST and Customer Owned Banking Institutions', which explains when the Commissioner will accept, as a matter of practical administration, a rate of no more than 18 per cent as the extent of creditable purpose for certain acquisitions; PCG 2020/3, 'Claiming Deductions for Additional Running Expenses Incurred Whilst Working from Home Due to COVID-19'. According to para 4, 'This Guideline provides a simpler alternative to the approach in PS LA 2001/6 by specifying a fixed rate per hour that covers all of the running expense items referred to in paragraph 1 of this Guideline for taxpayers covered by paragraph 7 of this Guideline. This alternative shortcut rate (described in paragraphs 26 and 27 of this Guideline) is expected to be particularly helpful for taxpayers now working from home because of the COVID-19 emergency'. From 1 July 2022, PCG 2023/1 applies with a revised fixed rate method unless taxpayers choose to claim actual expenses.

[122] ATO, 'Benchmark Market Value Tables', https://www.ato.gov.au/Business/Bus/GST-and-supplies-by-charities---benchmark-market-values/?anchor=Referencetables#Referencetables.

It is submitted that a PCG is not an appropriate vehicle to establish benchmarks and other rules of thumb. The appropriate vehicle is by way of regulation or a legislative instrument to ensure parliamentary oversight of the instrument.

3.10 Type VIII: risk assessment model to modify taxpayer behaviour

This type of PCG features in the Commissioner's policy on PCGs[123] and is the most obvious application of responsible regulation theory discussed earlier.

It is also the type of PCG that has captured most attention within the tax profession and also the most criticism. Indeed, it is curious that less than 10 per cent of PCGs, a handful of transfer pricing and related PCGs which have risk models and so fall under Type VIII, have come to heavily colour professional opinion about PCGs.

Although much of the concerns of the tax profession about PCGs relate to Type VIII transfer pricing PCGs, the first PCG of this type was PCG 2016/13, 'Petroleum Resource Rent Tax – Deductibility of General Project Expenditure'. It revealed the hallmark of a Type VIII PCG in offering a risk assessment-based allocation of ATO compliance resources. Next came PCG 2016/17, 'ATO Compliance Approach – Exploration Expenditure Deductions', advancing a more developed guidance emphasising taxpayer self-assessment of tax risks, governance and substantiation.

PCGs on transfer pricing started to arrive in 2017 and further refined this type of PCG, with risk ratings matched by correlated ATO compliance responses vividly depicted in risk zones in bold primary and secondary colours to get the message across as to likelihood of review/audit, alternative dispute resolution (ADR) or litigation and access to the Advance Pricing Arrangement (APA) program. Self-assessment of risks by taxpayers remains a core expectation.[124]

Significantly, despite the promise of PCG 2016/1 of safe harbours,[125] many Type VIII PCGs expressly state that no safe harbour is created.[126] The significance of this statement was discussed earlier. The absence of a safe harbour arguably undermines the effectiveness of the PCG by reducing the incentive for taxpayers to adopt a low or lower risk position when there is no safe harbour. Such PCGs, to use the vernacular, seem to wave a big stick without offering much of a carrot for compliant behaviour compared to 'safe harbour' PCGs (Type VII). Be that as it may, that is the Commissioner's call under the GPA.

PCGs on topics not far afield from transfer pricing also emerged to offer a risk assessment model PCG such as PCG 2017/8, 'Income Tax – the Use of Internal Derivatives by Multinational Banks' (relating to arm's length principles); and PCG 2017/10, 'Application of Paragraphs 215-10(1)(c) and 215-10(1)(d) of the *Income Tax*

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[123] PCG 2016/1, above n 2.
[124] See PCG 2017/1, 'ATO Compliance Approach to Transfer Pricing Issues Related to Centralised Operating Models Involving Procurement, Marketing, Sales and Distribution Functions'; PCG 2017/4, 'ATO Compliance Approach to Taxation Issues Associated with Cross-Border Related Party Financing Arrangements and Related Transactions'; PCG 2019/1, 'Transfer Pricing Issues Related to Inbound Distribution Arrangements'; PCG 2020/1, 'Transfer Pricing Issues Related to Projects Involving the Use in Australian Waters of Non-Resident Owned Mobile Offshore Drilling Units – ATO Compliance Approach'.
[125] PCG 2016/1, above n 2, [5].
[126] Eg, PCG 2017/1, above n 124, [26]; PCG 2020/1 [12], [29], [45], [64].

Assessment Act 1997', which concerns the issue of non-share equity through permanent establishments and touches on transfer pricing and arm's length principles.

Type VIII PCGs have been issued in the context of international anti-avoidance rules such as PCG 2018/5, 'Diverted Profits Tax', and PCG 2019/6, 'OECD Hybrid Mismatch Rules – Concept of Structured Arrangement'.

Interestingly the PCGs include the statement that:

> Notwithstanding strictly applied the law requires taxpayers to test for the existence of a structured arrangement each time a payment is made under a scheme, in practical terms the Commissioner recognises the significant compliance burden such an approach would entail.

The PCG then offers a short cut method. This may be sensible but is open to the same criticism for Type I PCGs, eg, PCG 2020/7, 'ATO Compliance Approach to the Arm's Length Debt Test' and PCG 2021/5, 'Imported Hybrid Mismatch Rule – ATO's Compliance Approach'.

Type VIII PCGs have also been issued in a purely domestic tax context and include PCG 2018/2, 'Propagation arrangements adopted by Registrable Superannuation Entities' and PCG 2021/4, 'Allocation of Professional Firm Profits – ATO Compliance Approach', with no 'safe harbour'.

In the author's view, Type VIII PCGs, especially those on transfer pricing and others modelling that approach such as PCG 2022/2 on Section 100A (Type IX), represent the high point in the appropriate and strategic use of PCGs. They are consistent with the proper use of the Commissioner's GPA, despite some reservations raised about the disavowal of a 'safe harbour' in some cases. That is not a comment on the merits of the settings in the PGC risk model but an observation as to the legality, design and construction of these PCGs to achieve their strategic purpose in a framework of normatively acceptable taxpayer protections in the form of taxpayer choice to follow a PCG or take another position and have their day in court.

It is observable that many Type VIII PCGs deal with the administration of tax legislation which depends on concepts of arm's length dealing and pricing. It is perhaps this type of provision, which relies on market-based principles rather than highly prescriptive legislative rules, that has the greatest call for this type of PCG. This is because compliance risk is highly dependent upon the facts and evidence.

It may be that where there is principles-based legislative design, such as where market valuation is an issue (including under the CGT market value substitution rules),[127] there is scope for further Type VIII PCGs. For example, perhaps the ATO's market valuation guidelines should be developed with risk-assessment guidance as a Type VIII PCG?

3.11 Type IX: transition to a new ATO view of the law

The groundwork for this type of PCG is laid by Law Administration Practice Statement 2011/27 and the case law underlying it that was examined earlier. It will be recalled that

[127] See *Income Tax Assessment Act 1997* (Cth) s 116-30.

in exercise of the GPA the Commissioner may decide only to allocate compliance resources in respect of a particular topic prospectively.

The occasion for and merit of the change of ATO view of the law is a separate question to the use and validity of the PCG.

PCGs of this type that simply reflect a change of ATO view because legal interpretations have changed represent one sub-type and all said and done are relatively straightforward as to role and operation of the PCG. An early example is PCG 2017/13, 'Division 7A – PS LA 2010/4 Sub-Trust Arrangements Maturing In or After the 2016-17 Income Year'. The PCG states at the outset:

> Relying on this Guideline
>
> This Practical Compliance Guideline sets out a practical administration approach to assist taxpayers in complying with relevant tax laws applicable to sub-trust arrangements entered into in respect of trust entitlements arising prior to 1 July 2022. Provided you follow this Guideline in good faith, the Commissioner will administer the law in accordance with this approach.
>
> Our view in Taxation Determination TD 2022/11 *Income tax: Division 7A: when will an unpaid present entitlement or amount held on sub-trust become the provision of 'financial accommodation'?* differs from the views in Taxation Ruling TR 2010/3 *Income tax: Division 7A loans: trust entitlements* and the administrative approach in Law Administration Practice Statement PS LA 2010/4 *Division 7A: trust entitlements.* TR 2010/3 and PS LA 2010/4 have been withdrawn but will continue to apply to trust entitlements arising before 1 July 2022.
>
> TD 2022/11 applies to trust entitlements arising on or after 1 July 2022.

A more recent example is PCG 2022/2 in respect of section 100A of the *Income Tax Assessment Act 1936* (Cth). The PCG does double duty in that it provides guidance as to *first* the application of ATO compliance resources prospectively in respect of the revised ATO view of the law set out in Taxation Ruling TR 2022/4 and *second* a detailed risk model typical of Type VIII PCGs.

Although some controversy continues to surround the ATO's view as expressed in an associated Taxation Ruling TR 2022/4 and in the risk examples in the PCG, published with the PCG as a package, the legal basis for and terms of the PCG fall within the GPA power.

A more complicated sub-type is where the ATO revises its view in the light of a court decision and also is aware of a government announcement to change the law.

PCG 2018/9 on corporate residency and central management and control is a prime example. The ATO had a view of the law in a taxation ruling[128] that was withdrawn in

[128] TR 2004/15, 'Income Tax: Residence of Companies Not Incorporated in Australia – Carrying on Business in Australia and Central Management and Control'.

light of the High Court decision in *Bywater* in 2018.[129] In the PCG the Commissioner explains at the outset:

> In the 2020-21 Budget, the former Government announced technical amendments to clarify the corporate residency test. Legislation to implement this announcement remains unenacted. Announced measures that are not yet law will be subject to consideration by the Government. Taxation Ruling TR 2018/5 *Income tax: central management and control test of residency* and this Guideline provide our existing view on the central management and control test of corporate residency.[130]

To date, although it is understood that the current government may introduce legislation to clarify the corporate residency test, it has not yet done so. As a consequence the ATO has continued to extend a transitional compliance approach but has advised recently that the transitional position will not be extended beyond 30 June 2023.[131]

Generally speaking, taxpayers obtain clear guidance by the promulgation of a change of ATO view of the law on a prospective basis so that they can organise their affairs accordingly and are not disadvantaged by the view being applied retrospectively. That organising of affairs may involve restructuring, which can be a complex topic that is dealt with under Type X.

3.12 Type X: restructuring in light of new legislation

A complex topic for any tax system will be the introduction of new integrity legislation and the question of taxpayers restructuring in advance of its commencement to be in compliance. That restructuring may be encouraged by the legislature and the tax administrator as it promotes compliance with the new law. That said there is the risk of the restructuring attracting the operation of general anti-avoidance rules (in Australia Part IVA of the *Income Tax Assessment Act 1936* (Cth) (Part IVA)).

PCG 2018/7 is intended to address the question of restructuring in light of new cross-border hybrid mismatch rules and Part IVA. The PCG states:

> 3 … where taxpayers have existing hybrid arrangements and it is expected they will attract the operation of the hybrid mismatch rules, a likely response would be for affected taxpayers to restructure out of their hybrid arrangements to avoid any potential adverse impact of the rules. The enactment of the hybrid mismatch rules with a deferred commencement date is intended to allow taxpayers time to review their existing hybrid arrangements and to unwind or restructure out of such arrangements in advance of the rules if they so choose.
>
> 4. Concerns have been raised about the potential for the Commissioner to apply Part IVA to cancel all or part of a tax benefit where a taxpayer restructures an existing hybrid arrangement to avoid the application of the hybrid mismatch rules. This may involve, for example, replacing a hybrid financing instrument

[129] *Bywater Investments Ltd v Federal Commissioner of Taxation* (2016) 260 CLR 169.
[130] PCG 2018/9, 'Central Management and Control Test of Residency: Identifying Where a Company's Central Management and Control is Located', preamble.
[131] Ibid [104AA].

> with a debt instrument to eliminate tax benefits in another country but preserve tax benefits going forward, in the form of deductible debt, in Australia.
>
> 5. This Guideline is designed to assist taxpayers to manage their compliance risk in these circumstances where their intention is to eliminate double non-taxation outcomes, consistent with the underlying objective of the hybrid mismatch rules. It does so by outlining restructuring that the Commissioner considers to be 'low risk' and to which the Commissioner would not seek to apply Part IVA.[132]

This type of PCG reflects a number of elements of other types of PCGs, such as transitioning to new legislation (Type V), the exercise of the power conferred under Part IVA (Type VI) and a risk assessment model (Type VIII). It is illustrative of a carefully designed PCG to deal with a significant matter.

As with all Type VIII PCGs, taxpayers may choose to run the gauntlet and act on their own risk assessment and view of the law, all the time retaining Part IVC rights of objection and appeal.

In all, it is a very useful PCG on a difficult topic and illustrative of the proper use of the Commissioner's GPA.

4. CONCLUSIONS

PCGs have become reasonably well-established in Australian tax administration. An in-depth international comparative study of compliance guidance is beyond the scope of this article and may be a large job worth undertaking but would need to have regard to jurisdictional specific considerations such as the differences in legal rules governing compliance guidance such as legislative authority, oversight and judicial rule.

More realistically, examination of the performance of the PCG system may be worth pursuing simply to improve what overall appears to be a generally sound initiative. There would be a question of who should undertake such an examination. Presumably in the ordinary course the ATO has or will undertake its own reviews as might the Auditor-General. Also the IGTO has embarked on an investigation of the Commissioner's GPA and may touch on the PCG. Academics should also focus on PCGs as a cutting edge of tax administration.

In that spirit of positive support for PCGs in general and calling for their continued study, the author offers a number of observations from the study undertaken in this article. Reference to relevant discussion in the article is in parentheses.

PCGs are a generally sound, transparent and innovative compliance tool in tax administration. PCGs contribute to transparency for taxpayers and also for the government in policy development.

In terms of future deployment of PCGs, PCGs that support principles-based legislation could be especially useful. As noted there are already examples in connection with

[132] PCG 2018/7, 'Part IVA of the Income Tax Assessment Act 1936 and Restructures of Hybrid Mismatch Arrangements' (footnotes omitted).

transfer pricing that provide a model for risk based PCGs for other principle based rules such as market valuation and arm's length dealings in the CGT rules (see section 3.9).

PCGs that offer guidance about how the ATO administers a provision, including a statutory discretion are very useful (provided the guidelines are not followed slavishly). (see section 3.8) PCGs involving risk models are especially valuable and their use should be expanded in cases of significant compliance risks (see section 3.10).

PCGs to manage changes of the ATO view by distinguishing between prospective operation of the new view and not applying retrospectively get the balance right (see sections 2.3.6, 3.11).

PCGs should be subject to appropriate taxpayer protections and judicial or parliamentary oversight. Although Part IVC provides significant taxpayer rights in some cases, judicial review following administrative law principles is practically unavailable. The Commissioner's commitment to administrative law principles in respect of the GPA is therefore laudable but lacks the mechanism for judicial review before the courts in most if not all cases. This jurisdictional problem requires further consideration to either create appropriate pathways for judicial review under the *ADJR Act* or increased parliamentary oversight of PCGs (see sections 2.3.1, 2.3.5, 2.3.7, 2.4 generally).

It would be very hard to conceive that the ATO would be concerned that judicial and parliamentary accountability would have a chilling effect on tax administration given the Commissioner's commitment to administrative law principles and to the transparency that lies at the heart of PCGs.

Where there is presently an absence of judicial and specific parliamentary oversight PCGs should be made subject to the normative standard of accountability involved in making at least a legislative instrument so that they are tabled in Parliament or, where appropriate, in primary legislation or regulations. Given acceptance of Australian legislative norms as they stand today in current parliamentary procedure and practice, primary legislation should be preferred instead of a legislative instrument in cases of significant new policy, fundamental changes to policy, rules having a significant impact on individual rights and liberties and administrative or civil penalties for regulatory offences.[133] Otherwise, a legislative instrument would be appropriate. It is a question for further research and debate outside the scope of this article as to the use and benefits or problems that arise using legislative instruments.

This will require legislative change such as to bring the instrument under the *Legislation Act 2003* (Cth) and will take it out of being a PCG made pursuant to a GPA. Priority cases for this are where currently PCGs seek to assist taxpayers by offering compliance assistance but discriminate against others who do not get that support (see sections 3.3 – 3.5) or seem to create 'rules of thumb' that lack any specific legislative basis other than the GPA (see section 3.9).

[133] See the Attorney-General's Second Reading speech for the introduction of the Legislative Instruments Bill 2003, Commonwealth Parliamentary Debates, House of Representatives (26 June 2003) 17,623 (Hon Daryl Williams), referring to the Administrative Review Council report, 'Rule Making By Commonwealth Agencies' (1992). See also Department of Prime Minister and Cabinet (Cth), *Commonwealth Legislation Handbook* (2017) [1.10]; Parliament of Australia, Senate, *Odgers' Australian Senate Practice* (14th ed including updates to 30 June 2022) ch 15.

Sometimes PCGs are a means by which the Commissioner assists with the transition into new legislation or otherwise cushions taxpayers from the disproportionate burdens of new legislation. The goal is important but the question needs to be asked as to the cause of the problem and the methods to solve it. Passage and improvement of legislation is no doubt an ongoing challenge but pushing the problem back to the Commissioner as the administrator creates its own issues. Legislation will never be perfect but tabling a legislative instrument that addresses legislative compliance problems ensures parliamentary oversight and puts the matter transparently on the public record. Hopefully this will 'nudge' Treasury, the Office of Parliamentary Counsel and law-makers to do better in making laws that are easier to administer and comply with. Also, sometimes the law just needs to be fixed and a PCG should not and cannot be used to 'solve the problem (see sections 3.6, 3.7).

The administration of PCGs as to penalty relief should be made more explicit. The disavowal of 'safe harbours' in some important PCGs seems to be at cross purposes with the general message in PCG 2016/1 and with giving appropriate incentives to taxpayers to choose to take a low risk approach as set out in a PCG (see sections 2.1, 2.2, 3.9, 3.10).

By way of final observations, the author embarked on this study aware of some polarisation of views between the ATO and the legal and tax profession about PCGs. This polarity is overly simplistic given the various types of PCG. PCGs are often an innovative utilisation of the Commissioner's GPA. That said sometimes a PCG cannot fix bad law. The accusation of overreach in the form of the Commissioner 'making law' is not sound but there are areas in which legislative instruments should replace PCGs and there is an 'accountability deficit', as Professor Creyke calls it in respect of 'soft law', where PCGs are not subject to parliamentary or judicial oversight.

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Exploring the deep determinants of tax revenues

Marius van Oordt*

Abstract

The tax effort literature explains cross-country variation in tax to GDP ratios using various determinants of tax revenues. To date, this literature has viewed this tax ratio primarily as a function of current economic and political circumstances, proximate determinants of tax performance. Borrowing from the development economics literature, this article explores 'deep determinants' or long-term variables of tax ratios. I consider how geography, formal institutions, and informal institutions influence tax ratios in a large cross-section of countries. A theory based on 'institutional efficiency' is proposed that may partly explain the lower tax ratios in many developing countries.

Keywords: tax ratios; tax effort; deep determinants; geography; institutions

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1. INTRODUCTION

> A realistic understanding of the role of historical factors is essential for policy assessment. One could obtain misleading conclusions about the effects of specific policies and institutions when not taking into account the role of long-term variables.[1]

The tax effort literature improves our understanding of why some societies collect more tax revenues as a percentage of gross domestic product (GDP) than others.[2] Understanding this variation in tax ratios is valuable since many countries struggle to collect sufficient tax revenues. Traditionally, this variation is explained by what can be viewed as proximate determinants of tax ratios: economic development, trade, sector composition, corruption, voice and accountability, and similar factors that have higher variance. An exception to this is the past economic environment, as explored by Mkandawire and by Feger and Asafu-Adjaye.[3] These authors argue, with supporting evidence, that the economic environment found by colonisers influenced the policies implemented and, thereby, current tax ratios.

The economic environment found by colonisers is an example of a 'deep determinant' of tax ratios, the focus of this article. It is a variable that exposes the underlying, slow-changing or fixed structures that influence proximate determinants and also the tax ratio. Deep determinants, therefore, often work through the proximate determinants. Deep

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[1] Enrico Spolaore and Romain Wacziarg, 'How Deep Are the Roots of Economic Development?' (2013) 51(2) *Journal of Economic Literature* 325, 363.

[2] Seminal contributions to this literature are Jørgen R Lotz and Elliott R Morss, 'Measuring "Tax Effort" in Developing Countries' (1967) 14(3) *Staff Papers (International Monetary Fund)* 478, and Roy W Bahl, 'A Regression Approach to Tax Effort and Tax Ratio Analysis' (1971) 18(3) *Staff Papers (International Monetary Fund)* 570. Other important contributions include Jane H Leuthold, 'Tax Shares in Developing Economies: A Panel Study' (1991) 35(1) *Journal of Development Economics* 173; Vito Tanzi and Howell H Zee, 'Tax Policy for Emerging Markets: Developing Countries' (2000) 53(2) *National Tax Journal* 299; Janet G Stotsky and Asegedech WoldeMariam, 'Tax Effort in Sub-Saharan Africa' (International Monetary Fund Working Paper 97/107, 1997); Marcelo Piancastelli, 'Measuring the Tax Effort of Developed and Developing Countries: Cross Country Panel Data Analysis – 1985/95' (IPEA Discussion Paper 103, 2015 [2001]); James Alm, Jorge Martinez-Vazquez and Friedrich Schneider, '"Sizing" the Problem of the Hard-to-Tax' in James Alm, Jorge Martinez-Vazquez and Sally Wallace (eds), *Taxing the Hard-to-Tax: Lessons from Theory and Practice* (*Contributions to Economic Analysis* vol 268) (Elsevier, 2004) 11; Roy Bahl, 'Reaching the Hardest to Tax: Consequences and Possibilities' in James Alm, Jorge Martinez-Vazquez and Sally Wallace (eds), *Taxing the Hard-to-Tax: Lessons from Theory and Practice* (*Contributions to Economic Analysis* vol 268) (Elsevier, 2004) 337; Joweria M Teera and John Hudson, 'Tax Performance: A Comparative Study' (2004) 16(6) *Journal of International Development* 785; Abhijit Sen Gupta, 'Determinants of Tax Revenue Efforts in Developing Countries' (International Monetary Fund Working Paper 07/184, 2007); Richard M Bird, Jorge Martinez-Vazquez and Benno Torgler, 'Tax Effort in Developing Countries and High Income Countries: The Impact of Corruption, Voice and Accountability' (2008) 38(1) *Economic Analysis and Policy* 55; Carola Pessino and Ricardo Fenochietto, 'Determining Countries' Tax Effort' (2010) 195(4) *Hacienda Pública Española/Revista de Economía Pública* 65; Paul Clist and Oliver Morrissey, 'Aid and Tax Revenue: Signs of a Positive Effect since the 1980s' (2011) 23(2) *Journal of International Development* 165; Tuan Minh Le, Blanca Moreno-Dodson and Nihal Bayraktar, 'Tax Capacity and Tax Effort: Extended Cross-Country Analysis from 1994 to 2009' (World Bank Working Paper 6252, 2012); Ricardo Fenochietto and Carola Pessino, 'Understanding Countries' Tax Effort' (International Monetary Fund Working Paper 13/244, 2013).

[3] Thandika Mkandawire, 'On Tax Efforts and Colonial Heritage in Africa' (2010) 46(10) *Journal of Development Studies* 1647; Thuto Feger and John Asafu-Adjaye, 'Tax Effort Performance in Sub-Sahara Africa and the Role of Colonialism' (2014) 38 *Economic Modelling* 163.

determinants may also impact the tax ratio directly. Deep determinants show that history matters towards tax revenues and that tax revenues are path dependent.

The focus is on deep determinants since the argument, as borrowed from the development economics literature, is that proximate determinants are unlikely to experience significant change unless there is change in their underlying deep determinants. For instance, increasing trade openness, which has been shown to have a positive impact on tax ratios, may require changes in deep determinants, such as informal institutions. Changing deep determinants may, therefore, present a great challenge if such changes are a prerequisite to collecting sufficient tax revenues.

This article explores other deep determinants of tax ratios. I follow the deep determinants of economic development literature and consider whether geography, formal institutions and informal institutions influence tax ratios in a cross-section of 141 countries. Under geography, I consider the location and size of countries. Under formal institutions, the regime type and tax laws of countries are considered. To measure informal institutions, I rely on the work of Inglehart and Welzel and their culture map of 2014 (see Appendix B).[4]

The breadth of the reported estimates necessarily comes at a cost of rigour. Although the variables of interest tend to be exogenous, instrumental variables are relied on to address remaining endogeneity bias and some robustness tests are performed, I do not claim that any of the reported coefficients reflect a causal relationship. Such relationships will require further research.

The reported research is, therefore, exploratory in nature. The reason for the exploratory approach is to provide some justification for a theoretical concept – institutional efficiency – proposed in the conclusion. The theory formalises how knowledge of deep determinants and institutional economics can be incorporated in discussions on tax policy. The theory relates to the work of Boettke, Coyne and Leeson on institutional stickiness and path dependence.[5] The theory differs from that of Boettke, Coyne and Leeson by including enforcement characteristics and by focusing on minimising transaction costs, rather than whether an institution can be successfully introduced.

Since the focus of the article is on deep determinants of the tax ratio, which are supply-side factors, the suggested theory does not consider demand-side factors. The theory may, therefore, be less relevant for jurisdictions that can increase their tax ratios, but do not need additional tax revenues to meet their expenditure needs.

The remainder of the article is organised as follows. Section 2 explores the effect of geography on tax ratios. Section 3 explores the effect of institutions on tax ratios and section 4 concludes.

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[4] Ronald Inglehart and Christian Welzel, *Modernization, Cultural Change, and Democracy: The Human Development Sequence* (Cambridge University Press, 2005).

[5] Peter J Boettke, Christopher J Coyne and Peter T Leeson, 'Institutional Stickiness and the New Development Economics' (2008) 67(2) *American Journal of Economics and Sociology* 331.

2. GEOGRAPHY AND TAX RATIOS

2.1 The location of a country and tax ratios

The hypothesis explored in this section is that the location, climate, and disease environment of a country determined the diffusion of technology in the past. This diffusion partly determined which economic sectors developed. These patterns continue to exist today. High productivity sectors – generally established in urban areas – and international trade are generally easier to tax and administer than low productivity sectors or subsistence activities – generally established in rural areas. The difference in society's tax ratios may, therefore, be partially explained by the difference in their locations.

The historical arguments of this hypothesis are expertly illustrated by Diamond.[6] Originally, all human societies were hunter-gatherers. In moving from hunting-gathering to farming, Eurasia had a number of advantages. The local plants and animals were easier to domesticate. Animals that are useful for transport (eg, donkeys and horses) were native to Eurasia. Eurasia is further unique in that a similar latitude is shared throughout the continent, allowing for crops and animals domesticated in one area to adapt in another area. The plentiful supply of foods allowed for the division of labour, specialisation, technological innovation, and economic growth. The technology developed in Eurasia did not diffuse to other continents since ocean trade did not exist and the ecological zone of Africa was not suited to the plant species and domesticated animals of Eurasia. Consequently, Eurasia gained a substantial lead in population size, economic development, and specialisation – all of which are conducive to further technological development. At the onset of ocean travel, Eurasian countries had a substantial technological advantage in having guns, allowing these societies to extract from or settle in other societies.

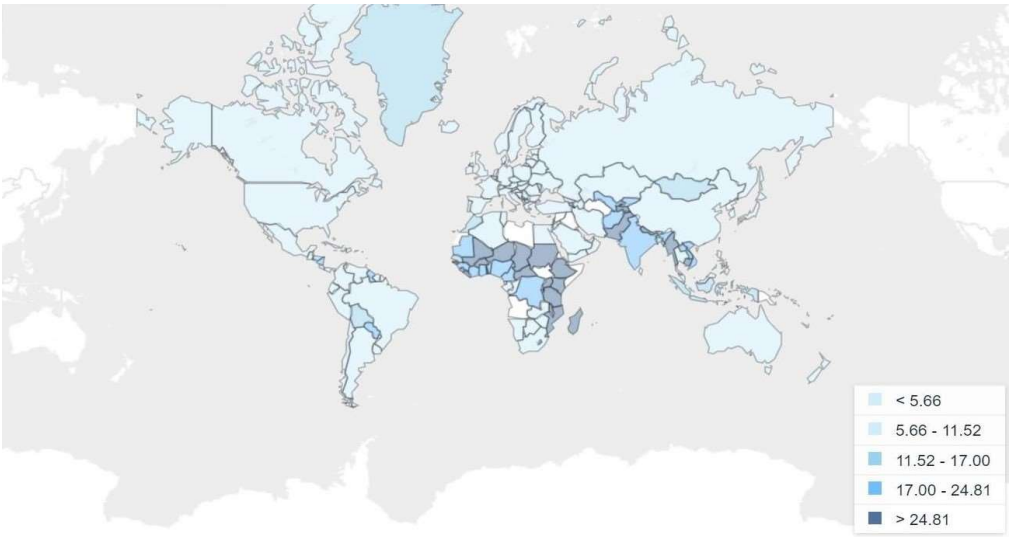
The decision to settle or extract was largely based on the favourability of the disease environment.[7] Where colonisers settled, the technology developed in Eurasia was diffused and continued to be developed. This technology decreased transport cost, which further increased economic development.[8]

The economic and technological development, coupled with larger population sizes and therefore more inventions, could have resulted in larger industry and services sectors. Where colonisers did not settle, technology likely developed at a slower rate and population sizes were likely lower due to the disease environment, resulting in smaller industry and service sectors and a reliance on the agricultural sector and subsistence activities. This could explain why the countries with the largest agriculture sectors today are located near the equator, in high temperature tropic areas, with few cold seasons and consequentially a high disease environment (see Figure 1). The generally small financial

[6] Jared M Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (WW Norton, 1997).
[7] Daron Acemoglu, Simon Johnson and James A Robinson, 'The Colonial Origins of Comparative Development: An Empirical Investigation' (2001) 91(5) *American Economic Review* 1369.
[8] John Luke Gallup, Jeffrey D Sachs and Andrew D Mellinger, 'Geography and Economic Development' (1999) 22(2) *International Regional Science Review* 179.

sectors found in countries with large agricultural sectors may also have limited the ability of the countries' governments to increase their tax ratios.[9]

Fig. 1: World Map of Agriculture to GDP



Source: World Bank. Note that no data is available for countries coloured in white.

I test the hypothesis that a country's location has an influence on tax ratios with the use of a cross-section dataset of at most 141 countries for the year 2014, using alternative models (refer to Table 1). Appendix A provides the sample and a description for all variables used in this article. The models contain predominantly geographical variables, geography described as being 'as exogenous a determinant as an economist can ever hope to get'.[10] The only non-geographical variables are malaria risk in 1965 and population size. Malaria risk in 1965 serves as a proxy for the disease environment faced by settlers and seems likely to be exogenous to current tax ratios. Formal testing for endogeneity by using various geographic variables as instruments supports this conclusion. Since current population size may be endogenous to tax ratios (and the coefficient is relevant for the remainder of the article), I use population size in 1960 as an instrument for current population size and two-stage least squares as the estimator when including population size. It seems unlikely that population size in 1960 will

[9] Roger Gordon and Wei Li, 'Tax Structures in Developing Countries: Many Puzzles and a Possible Explanation' (2009) 93(7-8) *Journal of Public Economics* 855.
[10] Dani Rodrik, Arvind Subramanian and Francesco Trebbi, 'Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development' (2004) 9(2) *Journal of Economic Growth* 131, 133.

influence tax revenues through a channel not represented by the current population size and population size in 1960 may, therefore, be a valid instrument.[11]

Table 1: Country's Location and Tax Ratios

VARIABLES	(1) OLS	(2) OLS	(3) 2SLS	(4) OLS	(5) 2SLS
Temperature	-0.262***	-0.103	-0.0728	-0.102	
	(0.0994)	(0.123)	(0.120)	(0.127)	
Rainfall	0.0943	0.0553	0.0652	0.0558	
	(0.108)	(0.118)	(0.114)	(0.118)	
Area	-0.201***	-0.174***		-0.174***	
	(0.0617)	(0.0537)		(0.0539)	
Landlocked	-0.0800	-0.0201	-0.0102	-0.0187	
	(0.232)	(0.234)	(0.235)	(0.232)	
Malaria risk 1965		-0.242**	-0.226**	-0.239**	
		(0.105)	(0.105)	(0.118)	
Population			-0.160***		-0.168***
			(0.0519)		(0.0370)
Development				0.00747	
				(0.110)	
Tropical area					-0.266***
					(0.0828)
Coastline length					-0.0846**
					(0.0368)
Constant	0.0159	0.00399	0.000188		-0.0204
	(0.0935)	(0.0923)	(0.0917)		(0.0932)
Observations	141	141	140	141	115
R-squared	0.075	0.113		0.113	

Notes: Heteroscedasticity robust standard errors are provided in parentheses. Asterisks denote significance at the 1% (***), 5% (**), and 10% (*) levels. All variables are standardised.

Column 1 in Table 1 shows that countries with higher average temperatures have lower tax ratios. Column 2 shows that when controlling for the disease environment, temperature is no longer a significant determinant of tax ratios. Alternatively stated, temperature influences tax ratios, but only through its influence on the past disease environment. This provides support for the hypothesis that the past disease environment of a country and the consequent influence on the behaviour of settlers has an influence on tax ratios today. The immediate argument against such a conclusion would be that the disease environment changed population sizes, but as shown in Column 3, controlling for population has little influence on the coefficient of malaria risk.

[11] For both models estimated by two-stage least squares, the Kleibergen-Paap rk statistics indicated that the equations are not under-identified. The Kleibergen-Paap Wald rk F statistics indicated that the equations do not suffer from weak instruments.

Since the economic development literature finds a strong relationship between the past disease environment and economic development and economic development is shown to influence tax ratios in the tax effort literature, a further argument could be that the observed effect of the disease environment on tax ratios only runs through the level of economic development of countries. Column 4 shows that this is not the case; the past disease environment affects tax ratios irrespective of the level of development. This result is also not dependent on the specific country that colonised a country (result not shown). Column 5 further supports the hypothesis, showing that countries with larger tropical areas, where diseases were more common and settler mortality rates were high,[12] have lower tax ratios.

Taken together, the results in Table 1 support the hypothesis that the location of a country, and the implied history of this location, has an influence on tax ratios. It should however be made clear that the empirical results do not prove that it was the technology diffused by colonisers that influences tax ratios. Although this is likely one aspect, colonisers not only brought their technology and related knowledge to where they settled, but as will be explored later, also their institutions.

2.2 The size of a country and tax ratios

Table 1 shows that larger countries, based on area, population size or coastline length, tend to have lower tax ratios. Larger countries have larger internal markets, reducing the need to be open to international trade. In the tax effort literature, trade openness (exports plus imports over GDP) has received significant attention and is well established as a factor affecting tax ratios. Alesina and Wacziarg also provide robust estimations showing the negative cross-section effect of country size on international trade.[13] One potential explanation for the correlation between country size and tax ratios in Table 1 may, therefore, be that larger countries tend to conduct less international trade, a relatively easy tax handle. This is explored in Table 2.

As is evident in Table 2, trade openness has a positive correlation with tax ratios as found in the existing literature. After controlling for area, this correlation is not statistically significant. The same results are obtained when controlling for population size (not instrumented). It, therefore, appears that trade openness is not a robust determinant of tax ratios, as the previous studies suggest. There is an omitted variable that is correlated with trade openness and country size that is an important determinant of tax ratios.

[12] Diamond, above n 6.
[13] Alberto Alesina and Romain Wacziarg, 'Openness, Country Size and Government' (1998) 69(3) *Journal of Public Economics* 305.

Table 2: Country's Size, Openness and Tax Ratios

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Openness	0.161*	0.132	0.124	-0.0248	
	(0.0854)	(0.087)	(0.085)	(0.0694)	
Area		-0.108**			-0.166**
		(0.0466)			(0.0806)
Population			-1.67***	-0.532*	-0.416*
			(0.0454)	(0.277)	(0.230)
Constant	0.00736	0.00791	0.008	0.0690	0.0578
		(0.084)	(0.0836)	(0.0836)	(0.0861)
Observations	139	139	139	138	138
R-squared	0.025	0.036	0.052	0.223	0.181

Notes: Heteroscedasticity robust standard errors are provided in parentheses. Asterisks denote significance at the 1% (***), 5% (**), and 10% (*) levels. All variables are standardised.

A second potential explanation for the correlation between country size and tax ratios is that larger countries are more likely to have instituted federalism. Keen and Kotsogiannis show that, theoretically, the competition between states in a federal country for mobile tax bases can lead to lower tax rates (a horizontal externality).[14] At the same time, lower and higher levels of government face a common-pool problem in taxing the same base. Each state unduly discounts the impact of their tax rates on the federal tax base, which could result in tax rates that are too high relative to the social optimum (a vertical externality). Besley and Case show, theoretically and with evidence from the United States, that vote-seeking behaviour of politicians, coupled with taxpayers' awareness of tax rates in other states in a federal country, will reduce taxes.[15] Esteller-Moré and Solé-Ollé show that federalism leads to higher personal income taxes in the United States.[16] Brülhart and Jametti provide empirical evidence that in Sweden the vertical externality of federalism dominates the horizontal externality of federalism, leading to higher tax rates.[17] The correlation between country size and tax ratios, as well as the correlation between trade openness and tax ratios as frequently shown in the literature, may therefore be explained by federalism.

Besides having instituted federalism, larger countries are also more likely to have a greater diversity of cultures, which can be identified based on race and language and measured as ethnic fractionalisation. This is a third potential explanation for the correlation between country size and tax ratios. Such individual heterogeneity can decrease the likelihood that tax policies and public goods and services satisfy all

[14] Michael J Keen and Christos Kotsogiannis, 'Does Federalism Lead to Excessively High Taxes?' (2002) 92(1) *American Economic Review* 363.
[15] Timothy Besley and Anne Case, 'Incumbent Behavior: Vote-Seeking, Tax-Setting, and Yardstick Competition' (1995) 85(1) *American Economic Review* 25.
[16] Alex Esteller-Moré and Albert Solé-Ollé, 'Vertical Income Tax Externalities and Fiscal Interdependence: Evidence from the US' (2001) 31(2-3) *Regional Science and Urban Economics* 247.
[17] Marius Brülhart and Mario Jametti, 'Vertical versus Horizontal Tax Externalities: An Empirical Test' (2006) 90(10-11) *Journal of Public Economics* 2027.

citizens' preferences.[18] Easterly and Levine show that ethnic diversity adversely affects many public policies associated with economic growth and conclude that their 'results lend support to theories that interest group polarization leads to rent-seeking behavior and reduces the consensus for public goods'.[19] La Porta and co-authors show that ethnic heterogeneity is correlated with poorer quality of governance and Lago-Peñas and Lago-Peñas, as well as Xin Li show that ethnic fractionalisation is negatively correlated with tax morale.[20] The correlation between country size and tax ratios may, therefore, also be due to ethnic fractionalisation.

Building on the results in Table 1, Column 1 of Table 3, shows that after controlling for federalism, area no longer has a statistically or economically significant effect on tax ratios. Column 2, however, shows that ethnic fractionalisation does not have a similar effect on the coefficient of area. This suggests that larger countries in terms of area size are not necessarily more ethnically fractionalised. It, therefore, appears that the correlation between area and tax ratios runs through federalism.[21]

Under all the model specifications in Table 3, the effect of federalism remains statistically significant at the 1 per cent level, with large economic significance. The direction of correlation between federalism and tax ratios is, however, the opposite of that expected when only considering the results of Esteller-Moré and Solé-Ollé and Brülhart and Jametti. One potential explanation would be that the change in other political outcomes associated with federalism drives this result, but as shown in Column 4, controlling for political outcomes has nearly no influence on the coefficient of federalism. Another explanation is that vote-seeking behaviour of politicians and tax competition between federal states drives down tax rates and provides incentives to move mobile tax bases to lower tax rate states (a horizontal externality).

Ethnic fractionalisation also has a statistically and economically significant effect on tax ratios and the coefficient of ethnic fractionalisation shows robustness to the inclusion of basic control variables (Columns 2-5 in Table 3). Based on the existing literature, this result is as expected. The channel of correlation of ethnic fractionalisation does not, however, run through country size (measured in terms of area or population as in Column 5). Ethnic fractionalisation may, therefore, be a deep determinant of tax ratios in its own right.

Population remains significant after controlling for federalism and ethnic fractionalisation and the coefficient of population is almost identical to the 2SLS coefficient of population in Table 1. Adding further controls (not shown) has nearly no influence on the coefficient of population. This suggests that population size has an effect on tax ratios, irrespective of federalism or ethnic fractionalisation. One potential

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[18] Alberto Alesina, Enrico Spolaore and Romain Wacziarg, 'Trade, Growth and the Size of Countries' in Philippe Aghion and Steven N Durlauf (eds), *Handbook of Economic Growth, Vol 1B* (North-Holland, 2005) 1499.

[19] William Easterly and Ross Levine, 'Africa's Growth Tragedy: Policies and Ethnic Divisions' (1997) 112(4) *Quarterly Journal of Economics* 1203, 1241.

[20] Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny, 'The Quality of Government' (1999) 15(1) *Journal of Law, Economics, and Organization* 222; Ignacio Lago-Peñas and Santiago Lago-Peñas, 'The Determinants of Tax Morale in Comparative Perspective: Evidence from European Countries' (2010) 26(4) *European Journal of Political Economy* 441; Sherry Xin Li, 'Social Identities, Ethnic Diversity, and Tax Morale' (2010) 38(2) *Public Finance Review* 146.

[21] Openness is also no longer a statistically significant determinant of tax ratios after controlling for federalism (result not shown).

explanation for this correlation may be that there are economies of scale in supplying public goods. Larger populations may also provide challenges in tax enforcement, especially for countries with limited tax administration capacity. Taxpayers' perceived probability of detection may also decrease as population sizes increase.

Table 3: Country's Size (Area and Population), Federalism, Ethnic Fractionalisation and Tax Ratios

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Area	-0.0472	-0.127***	-0.0630	-0.0248	
	(0.0713)	(0.0416)	(0.0713)	(0.0694)	
Population					-0.166**
					(0.0806)
Federal	-0.617**		-0.530*	-0.532*	-0.416*
	(0.294)		(0.294)	(0.277)	(0.230)
Ethnic Fractionalisation		-0.330***	-0.265***	-0.216**	-0.321***
		(0.0721)	(0.0866)	(0.105)	(0.0809)
Religion Fractionalisation			0.0200	-0.0704	
			(0.0896)	(0.0891)	
Development			0.117	0.0960	
			(0.0872)	(0.140)	
Latitude				-0.217**	
				(0.108)	
Population density				-0.0885	-0.108
				(0.0663)	(0.0793)
Control of corruption				0.00292	
				(0.239)	
Government effectiveness				0.139	
				(0.338)	
Regulatory quality				-0.246	
				(0.247)	
Political stability				-0.0236	
				(0.118)	
Rule of law				-0.0124	
				(0.344)	
Voice and accountability				0.386***	
				(0.142)	
Constant	0.0919	-0.00439	0.0744	0.0690	0.0578
	(0.0893)	(0.0809)	(0.0875)	(0.0836)	(0.0861)
Observations	141	138	138	138	138
R-squared	0.060	0.126	0.158	0.223	0.181

Notes: Heteroscedasticity robust standard errors are provided in parentheses. Asterisks denote significance at the 1% (***), 5% (**), and 10% (*) levels. All variables are standardised.

3. INSTITUTIONS AND TAX RATIOS

3.1 Formal institutions and tax ratios

Diamond's discussion, as summarised in section 2, focuses on the diffusion of technology and how this led to Eurasian dominance. But the plentiful supply of food and consequent division of labour, population growth, and trade do not only benefit technological development. The interaction between different social groups and societies necessitates the establishment of new institutions. The institutions developed and established in Eurasia were replicated in societies where colonisers settled and many continue to exist today.[22] Today, non-settler societies often also enforce formal institutions originating from Eurasian societies. Formal institutions are regarded as deep determinants because they are historically determined, slow changing and, therefore, path dependent.

North often illustrates the role of institutions in a society by referring to a game of sports, say football (soccer).[23] There are formal (predominantly written) rules indicating what a player may or may not do (eg, handle the ball), which are enforced by referees. There are also informal rules that relate to sportsperson-like behaviour (eg, to not aim the celebration of a goal at the opposing team), often enforced by other players or the spectators. But if two societies are not playing the same game of sports, the rules will look remarkably different. If the second society is playing, say, baseball, there will be a rule that the ball should be hit with a bat, a rule that is not possible in football. Since the rules differ, behaviour associated with the rules differs.

These rules that are collectively recognised and accepted, together with the identification of the players, referees and spectators, provide for a selection of powers, obligations, rights and responsibilities to the players, referees and spectators.[24] In this sense an institution is any collectively accepted system of rules. Formal institutions are created and enforced inside officially sanctioned channels, while informal institutions are created and enforced outside officially sanctioned channels.[25]

The measurement of formal institutions has proven to be an empirical challenge. In the development economics literature, political outcomes are often used as a measure of formal institutions.[26] I take the view of Glaeser and co-authors that these outcomes are not the ideal measures of formal institutions.[27] Political outcomes (obtained primarily from survey data) are likely a function of formal institutions, informal institutions,

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[22] Diamond, above n 6; William Easterly and Ross Levine, 'Tropics, Germs, and Crops: How Endowments Influence Economic Development' (2003) 50(1) *Journal of Monetary Economics* 3.

[23] Douglass C North, *Institutions, Institutional Change and Economic Performance* (Cambridge University Press, 1990) ('*Institutions, Institutional Change and Economic Performance*'); Douglass C North, *The Role of Institutions in Economic Development: Gunnar Myrdal Lecture* (United Nations, 2003).

[24] John R Searle, 'What Is an Institution?' (2005) 1(1) *Journal of Institutional Economics* 1.

[25] Gretchen Helmke and Steven Levitsky, 'Informal Institutions and Comparative Politics: A Research Agenda' (2004) 2(4) *Perspectives on Politics* 725.

[26] See, for example, Stephen Knack and Philip Keefer, 'Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures' (1995) 7(3) *Economics and Politics* 207, and Robert E Hall and Charles I Jones, 'Why Do Some Countries Produce So Much More Output Per Worker Than Others?' (1999) 114(1) *Quarterly Journal of Economics* 83.

[27] Edward L Glaeser, Rafael La Porta, Florencio Lopez-de-Silanes and Andrei Shleifer, 'Do Institutions Cause Growth?' (2004) 9(3) *Journal of Economic Growth* 271.

enforcement characteristics, and the personal characteristics, values, and biases of those in government and of those completing the surveys.

An institution is a collectively accepted system of rules. According to Ellickson a rule is a guideline that influences human behaviour.[28] To influence human behaviour the rule should be enforced, which requires sanctions or rewards. It is not a requirement that enforcement is perfect or that each instance of breaking the rule is met with sanctions. In my view, formal institutions are therefore dichotomous; the collectively accepted (eg, generally written) system of rules is either enforced (through official channels) and therefore an institution, or it is not. Any non-dichotomous measure will likely be subject to the strength of enforcement of the system of rules, going beyond the definition of an institution.

The potential importance of formal institutions in understanding tax ratios is already suggested by the robust connection between federalism and tax ratios in Table 3. Federalism is a system of rules that, among other things, provides for shared taxing rights between lower and higher levels of government. As shown, this formal institution seems to provide incentives and constraints that are associated with decreased tax ratios.

The work of Bird, Martinez-Vazquez and Torgler also suggested the importance of formal institutions.[29] The authors refer to societal institutions and measure these in terms of governance, voice and accountability, political stability, rule of law, and control of corruption. These variables may be correlated with formal institutions and can be thought of as proximate determinants of tax ratios. They exhibit greater variance than the variables considered in this article.

3.1.1 Formal regime type and tax ratios

Whether a country is a democracy and has a parliamentary system can be expected to influence tax ratios. The representative or median voter models of the size of government depends on the extent of suffrage and majority rule.[30] These systems are indicative of whose voice enters policy-making and the constraints on policy-makers and politicians.[31] These models generally predict that democracy should lead to greater preference for redistribution and there exists robust empirical evidence supporting this prediction.[32] Another theory, as suggested by Olson,[33] is that under authoritarian systems governments would attempt to be as large as possible (as found by Mulligan,

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[28] Robert C Ellickson, *Order Without Law: How Neighbors Settle Disputes* (Harvard University Press, 1991).

[29] Richard M Bird, Jorge Martinez-Vazquez and Benno Torgler, 'Societal Institutions and Tax Effort in Developing Countries' (Andrew Young School of Policy Studies Working Paper 04-06, 2004).

[30] For example, Anthony Downs, 'An Economic Theory of Political Action in a Democracy' (1957) 65(2) *Journal of Political Economy* 135; Kevin WS Roberts, 'Voting over Income Tax Schedules' (1977) 8(3) *Journal of Public Economics* 329; Allan H Meltzer and Scott F Richard, 'A Rational Theory of the Size of Government' (1981) 89(5) *Journal of Political Economy* 914.

[31] Andrew C Gould and Peter J Baker, 'Democracy and Taxation' (2002) 5 *Annual Review of Political Science* 87; Margaret Levi, *Of Rule and Revenue* (University of California Press, 1989).

[32] Carles Boix, 'Democracy, Development, and the Public Sector' (2001) 45(1) *American Journal of Political Science* 1; Toke S Aidt and Peter S Jensen, 'Tax Structure, Size of Government, and the Extension of the Voting Franchise in Western Europe, 1860–1938' (2009) 16(3) *International Tax and Public Finance* 362; Timothy Besley and Torsten Persson, 'The Origins of State Capacity: Property Rights, Taxation, and Politics' (2009) 99(4) *American Economic Review* 1218 ('The Origins of State Capacity').

[33] Mancur Olson, 'Dictatorship, Democracy, and Development' (1993) 87(3) *American Political Science Review* 567.

Gil and Sala-i-Martin).[34] Persson and Tabellini[35] find that presidential systems decrease tax revenues (parliamentary systems increase tax revenues), although this result is questioned by the replication study of Blume and co-authors, which uses a larger sample.[36] The results reported in this section are from a greater number of observations than these previous studies (141 compared to 88 by Blume and co-authors and 76 by Persson and Tabellini).

The majority of past studies on democracy and government size measure the relationship between the *extent* of democratisation and government size (ie, a continuous variable). The interest in this section is whether the formal institutions of democracy and parliamentary systems have an effect on tax ratios (ie, a binary variable). To this end, a country is classified as a democracy if there exists a system of rules that is enforced (irrespective of strength) that gives citizens the right to vote in an election, freely and fairly. The democratic outcomes of having this system of rules, post-enforcement, are not of interest. Similarly a system of rules is classified as parliamentary if: (1) the system has elected executives; (2) the system has a prime minister; (3) the president cannot veto legislation without a supermajority support from parliament, and (4) the president cannot appoint or dismiss prime ministers *and* dissolve parliament.

Both democracy and parliamentary systems are most likely endogenous to tax ratios and will suffer from omitted variable bias without proper controls.[37] The formal institutions of democracy and parliamentary systems were not implemented randomly. Przeworski and co-authors consider these institutions to emerge as a consequence of economic development and social transformation.[38] To establish whether democracy and parliamentary systems have an effect on tax ratios, I control for the level of development, other variables that have been shown to influence the level of development in the deep determinants of economic development literature and variables indicative of society and societal development.

Column 1 in Table 4 shows that democracy is positively correlated with tax ratios. When only controlling for factors relating to economic development, the coefficient of democracy appears to be robust (Column 2). The coefficient of democracy remains fairly robust after including factors representing social transformation (Columns 3 and 4), taking into account that including the schooling variable (a proxy for human capital) reduces the sample size. Column 5 shows that after including all control variables, democracy is no longer statistically significant although remaining economically significant. The evidence suggests that institutionalising democracy is likely to increase tax ratios, although this should not be expected to always be the case.

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[34] Casey B Mulligan, Ricard Gil and Xavier Sala-i-Martin, 'Do Democracies Have Different Public Policies than Nondemocracies?' (2004) 18(1) *Journal of Economic Perspectives* 51.

[35] Torsten Persson and Guido Tabellini, *The Economic Effects of Constitutions* (MIT Press, 2005).

[36] Lorenz Blume, Jens Müller, Stefan Voigt and Carsten Wolf, 'The Economic Effects of Constitutions: Replicating – and Extending – Persson and Tabellini' (2009) 139(1-2) *Public Choice* 197.

[37] It seems unlikely that the coefficients will suffer from simultaneity or reverse causality bias in that countries become democratic or adopt a parliamentary system as a result of tax ratios. This is suggested by Michael L Ross, 'Does Taxation Lead to Representation?' (2004) 34(2) *British Journal of Political Science* 229, but he does not find empirical evidence that higher tax ratios lead to democratisation.

[38] Adam Przeworski, Michael E Alvarez, José Antonio Cheibub and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950–1990* (Cambridge University Press, 2000).

Table 4: Influence of Democracy on Tax Ratios

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Democracy	0.550***	0.506**	0.345**	0.336*	0.328
	(0.190)	(0.218)	(0.170)	(0.196)	(0.207)
Latitude		-0.155			-0.0937
		(0.0971)			(0.0925)
Population		-0.160***			-0.0858
		(0.0590)			(0.0638)
Landlocked		0.0562			0.0704
		(0.232)			(0.246)
Development		0.147*			0.113
		(0.0876)			(0.114)
Protestant			0.248***	0.238**	0.183
			(0.0947)	(0.105)	(0.111)
Muslim			-0.161	-0.0590	-0.0412
			(0.101)	(0.105)	(0.104)
Scientific articles			-0.140***	-0.159***	-0.101
			(0.0359)	(0.0428)	(0.0817)
Schooling				0.116	0.101
				(0.0942)	(0.0898)
Constant	-0.374**	-0.356*	-0.235	-0.174	-0.181
	(0.167)	(0.209)	(0.151)	(0.168)	(0.199)
Observations	141	141	141	118	118
R-squared	0.066	0.126	0.184	0.168	0.188

Notes: Heteroscedasticity robust standard errors are provided in parentheses. Asterisks denote significance at the 1% (***), 5% (**), and 10% (*) levels. All variables are standardised.

The evidence on parliamentary systems presented in Table 5 is similar to that of democracy in Table 4. The coefficient of parliamentary systems, however, has greater statistical and economic significance than the coefficient of democracy. The coefficient of parliamentary systems also appears to be more robust than that of democracy. This suggests that the formal institution of democracy is of general importance to tax ratios, but the specific system of rules applied within a democracy (in this case parliamentary or presidential) is of greater importance. Kunicová and Rose-Ackerman show that presidential systems are more susceptible to corrupt political rent-seeking and argue that legislative bargaining patterns partly drive their results.[39] Within tax laws, rent-seeking behaviour can be associated with tax cuts and exemptions aimed at specific interest groups and it is possible that this political influence on taxation is less pronounced when

[39] Jana Kunicová and Susan Rose-Ackerman, 'Electoral Rules and Constitutional Structures as Constraints on Corruption' (2005) 35(4) *British Journal of Political Science* 573.

political power is more distributed. Rent-seeking behaviour could also influence tax morale, decreasing tax compliance.[40]

Table 5: Influence of a Parliamentary System on Tax Ratios

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Parliamentary	0.748***	0.778***	0.570***	0.640***	0.708***
	(0.166)	(0.208)	(0.151)	(0.191)	(0.221)
Latitude		-0.165*			-0.111
		(0.0924)			(0.0852)
Population		-0.163***			-0.133**
		(0.0534)			(0.0600)
Landlocked		0.0124			0.00431
		(0.212)			(0.220)
Development		0.0387			-0.0158
		(0.0993)			(0.137)
Protestant			0.250***	0.253**	0.218*
			(0.0940)	(0.0999)	(0.114)
Muslim			-0.147	-0.0302	-0.00934
			(0.109)	(0.109)	(0.108)
Scientific articles			-0.136***	-0.146***	-0.0394
			(0.0341)	(0.0414)	(0.0753)
Schooling				0.0751	0.102
				(0.1000)	(0.0928)
Constant	-0.349***	-0.360**	-0.257**	-0.224*	-0.243*
	(0.109)	(0.144)	(0.104)	(0.114)	(0.141)
Observations	133	133	133	113	113
R-squared	0.135	0.190	0.245	0.244	0.264

Notes: Heteroscedasticity robust standard errors are provided in parentheses. Asterisks denote significance at the 1% (***), 5% (**), and 10% (*) levels. All variables are standardised.

3.1.2 Tax laws and tax ratios

The specifics contained within tax laws – 'the paradigmatic system of rules'[41] – determine the upper bound amount of tax revenue that governments can collect and the ease and consequences of tax evasion. It is therefore not surprising that there exists a large body of literature focused on the specific provisions contained within tax laws.

Tax laws reside in legal systems that were instituted centuries ago. La Porta and co-authors argue that a civil legal tradition can be taken as an intent to build institutions to

[40] Benno Torgler, Markus Schaffner and Alison Macintyre, 'Tax Compliance, Tax Morale and Governance Quality' (Center for Research in Economics, Management and the Arts Working Paper No 2007-17, 2007).
[41] David A Weisbach, 'Formalism in the Tax Law' (1999) 66(3) *University of Chicago Law Review* 860, 860.

further the power of the state and a common law tradition indicates the intent to limit rather than strengthen the state.[42] Under civil law, tax laws tend to be more formal and systematic with statutes drafted in greater detail than under common law.[43] In common law countries, the court generally plays a greater role in developing tax laws than in civil law countries. Thuronyi argues that the legal traditions and other historic commonality or influence on tax laws allow for the grouping of countries into tax families.[44] Countries falling into the same tax family have similar tax laws and legislation is often imitated in a tax family. The results in section 2 of this article suggest that history – specifically whether colonisers settled – matters for tax ratios. This section explores whether history through its influence on legal systems and tax laws is also important in understanding tax ratios. Specifically, I estimate the effect of tax laws, grouped into tax families, on tax ratios.

The results in Table 6 show that the historical influence on legal systems and specifically tax laws does have an effect on tax ratios (Column 1). Specifically, the Commonwealth, French, Northern European and Southern European tax families exhibit greater tax ratios than the other tax families. This effect, however, is not robust to basic control variables – especially societal features (Column 2) – or to using two stage least squares as the estimator (Column 3).[45] This aligns with the literature on tax culture,[46] and suggests that tax laws are a bottom-up institution where society determines the rules, rather than the rules being created and enforced without consent and approval from society. If tax laws are a bottom-up institution, informal institutions should be important towards a greater understanding of tax ratios.

[42] La Porta et al, above n 20.
[43] Victor Thuronyi, *Comparative Tax Law* (Kluwer Law International, 2003).
[44] Ibid.
[45] Latitude is used as an instrument for Northern European, the tax family with the greatest economic significance in the models using OLS as the estimator. The correlation between latitude and Northern European is 0.66. Latitude is exogenous to tax ratios. According to the Kleibergen-Paap rk LM statistic and the Kleibergen-Paap rk Wald F statistic, the equation is not under-identified and does not suffer from weak instruments.
[46] See, for example, Birger Nerré, 'Tax Culture: A Basic Concept for Tax Politics' (2008) 38(1) *Economic Analysis and Policy* 153.

Table 6: Influence of Tax Families on Tax Ratios

VARIABLES	(1) OLS	(2) OLS	(3) 2SLS
Commonwealth	0.913**	0.309	
	(0.373)	(0.406)	
American	0.351	-0.511	
	(0.407)	(0.452)	
French	0.740*	0.577	
	(0.409)	(0.490)	
Latin American	0.408	-0.278	
	(0.333)	(0.402)	
Transitional and post-conflict	0.550	0.244	
	(0.348)	(0.374)	
Northern European	1.480***	0.640	0.0826
	(0.427)	(0.550)	(0.615)
Southern European	0.890**	0.337	
	(0.399)	(0.443)	
Japanese	0.123	-0.454	
	(0.344)	(0.397)	
Development		0.0136	
		(0.102)	
Latitude		-0.0637	
		(0.109)	
Protestant		0.228**	0.286**
		(0.112)	(0.126)
Muslim		-0.285**	-0.224**
		(0.110)	(0.106)
Constant	-0.757**	-0.256	-0.00708
	(0.322)	(0.363)	(0.0961)
Observations	137	137	137
R-squared	0.109	0.239	

Notes: Heteroscedasticity robust standard errors are provided in parentheses. Asterisks denote significance at the 1% (***), 5% (**), and 10% (*) levels. All variables are standardised.

3.2 Informal institutions and tax ratios

In his book titled *The Ecology of Human Development*, Bronfenbrenner writes:

> Finally, there is a striking phenomenon pertaining to settings at all three levels of the ecological environment outlined above: within any culture or subculture, settings of a given kind – such as homes, streets, or offices – tend to be very much alike, whereas between cultures they are distinctly different. It is as if within each society or subculture there existed a blueprint for the organization of every type of setting. Furthermore, the blueprint can be changed, with the

> result that the structure of the settings in a society can become markedly altered and produce corresponding changes in behavior and development.[47]

These blueprints of organisation and behaviour are akin to the informal institutions discussed by North; they are systems of rules administered and enforced through non-official channels that give rise to shared expectations in behaviour.[48]

In section 2, it was concluded that factors related to racial and linguistic diversity may impact tax ratios. These indicators of social diversity, together with others such as economic inequality and socioeconomic status, are indicative of the diversity of informal institutions in a society. The effort and cost to create and enforce formal institutions – such as tax laws – would be partially dependent on the informal institutions in a society.[49] This could be an explanation for the lower tax ratios observed in more diverse societies. But, it is not only the diversity of informal institutions that can have an effect on tax ratios, but also the nature of the informal institutions themselves.

Since most informal institutions cannot be directly observed in the same manner that most formal institutions can, measurement of informal institutions provides a greater challenge. Informal institutions are continuously developing and enforcement is an integral part of this development. This means that, unlike formal institutions, only the outcomes of most informal institutions can be measured, at least those applicable in the context of cross-country analysis. Since this is the case, the measures of informal institutions relied on in this section are outcomes of informal institutions, admittedly not an ideal measure.

I rely on the work of Inglehart and Welzel and their culture map of 2014 (see Appendix B), which is based on the results of the World Values Survey (WVS).[50] Inglehart and Welzel identify two measures of cultural values from a factor analysis of 10 items of the WVS (refer to Table 7). These two measures are traditional versus secular-rational values and survival versus self-expression values. Together, the two measures explain 71 per cent of cross-national variation in the 10 items analysed. Appendix A provides full definitions for the two measures.

[47] Urie Bronfenbrenner, *The Ecology of Human Development: Experiments by Nature and Design* (Harvard University Press, 1979) 4.
[48] North, *Institutions, Institutional Change and Economic Performance*, above n 23.
[49] Masahiko Aoki, *Toward a Comparative Institutional Analysis* (MIT Press, 2001).
[50] Inglehart and Welzel, above n 4.

Table 7: Inglehart-Welzel Values Measure

	Factor loadings
Traditional values emphasise the following (Secular-rational values emphasise the opposite):	
God is very important in respondent's life.	.91
It is more important for a child to learn obedience and religious faith than independence and determination.	.88
Abortion is never justifiable.	.82
Respondent has strong sense of national pride.	.81
Respondent favours more respect for authority.	.73
Survival values emphasise the following (Self-expression values emphasise the opposite):	
Respondent gives priority to economic and physical security over self-expression and quality of life	.87
Respondent describes self as not very happy.	.81
Homosexuality is never justifiable.	.77
Respondent has not and would not sign a petition.	.74
You have to be very careful about trusting people.	.46

Source: Inglehart and Welzel, above n 4, 49.

It is an empirical challenge to estimate the influence of informal institutions (represented by the two measures in Table 7) on tax ratios. Informal institutions are both an input and an outcome of, among other things, the economic environment of a society, which includes taxes. Estimation by OLS can therefore be expected to suffer from omitted variable and reverse causality bias. To obtain consistent estimates, variables that are correlated with informal institutions, but not with tax ratios (other than through their correlation with informal institutions and other control variables) are required.

Tabbellini shows that culture has a causal effect on economic development.[51] Based on the findings of Tabbellini, it can be expected that past indicators of economic development will be highly correlated with cultural traditions of earlier generations. The level of urbanisation in 1960 and economic development in 1973 are, therefore, used as instruments for informal institutions. Without further control variables, the covariance between these instruments and the error term in the second-stage regression may not be equal to nil. Both instruments are correlated with the current level of development (and associated factors) and informal institutions (as included) may not capture all the variance in current development.[52] Controlling for exogenous determinants of economic development (and associated factors) should address this issue and result in the instruments being exogenous. Additional controls (which also act as instruments) being latitude, population size in 1960, the area of a country, and whether a country is landlocked are therefore added to the equations. After including these control variables,

[51] Guido Tabellini, 'Culture and Institutions: Economic Development in the Regions of Europe' (2010) 8(4) *Journal of the European Economic Association* 677.

[52] An OLS regression of the level of development on the two measures of informal institutions has an R-squared of 0.69 indicating that a large portion of the variance in current development is captured by these two measures.

statistical tests (the Hansen J statistic) show that the two instruments are valid and should not be included in the second-stage regressions directly.

The results in Table 8 show the effect of informal institutions on tax ratios. Societies with more secular-rational values have significantly greater tax ratios than societies with traditional values (Column 1). Societies with traditional values – in contrast with secular-rational values – emphasise the importance of religion, family, nation, respecting authority and social conformity and are less open to foreign influence. This could lead to homogenous informal institutions that emphasise the importance of obeying rules and also emphasise that rules and rule-makers should not be questioned. Further, traditional societies may have informal institutions that emphasise that their institutions should be developed and evolve locally and not as a result of foreign influence. Questioning rules and rule-makers and being open to implementing institutions (and here specifically tax laws) that have shown success elsewhere may be important if a society is to have formal institutions that adjust and are able to adjust to changing economic and social reality. Basic empirical evidence supports this view. Traditional values are positively correlated with having policies that do not promote private sector development (r=0.49) and positively correlated with perceived corruption in the public sector (r=0.51).[53]

Societies with more self-expression values have significantly greater tax ratios than societies with survival values (Table 8, Column 2). Societies with survival values emphasise economic and physical security, feel threatened by foreign influence, ethnic diversity and cultural change and have an authoritarian political outlook. The informal institutions in survival societies can be expected to be similar to those in traditional societies. In addition, it can be expected that the emphasis on economic and physical security, and the threat of foreign influence and cultural change, may limit the adoption of new technologies and thereby economic development. Basic empirical evidence supports this; survival societies have on average larger agricultural sectors (r=0.32) and are less developed (r=0.75). As shown in the tax effort literature, these characteristics of the economic environment are associated with decreased tax ratios.

Societies with self-expression values emphasise trust, tolerance, civic activism, individual autonomy and have a democratic political outlook. In self-expression societies, one can expect to find informal institutions emphasising equality, involvement in the rule-making process and accountability of those who make the rules. Further, acceptance of foreign institutions can be expected to be greater in these societies than in traditional or survival societies. This can lead to formal institutions that are better aligned with economic and social reality; the correlation between self-expression societies and policies that promote private sector development is 0.67. Further, the informal institutions in self-expression societies can be expected to increase entrepreneurial activities and opportunities, supporting the creation of new technologies and economic development. This could partly explain the on average larger service sectors (r=0.45) and higher level of economic development (r=0.75) in these societies. Self-expression societies also have lower levels of perceived corruption in the public sector (r=0.74). The economic and political environment is therefore better suited for increased tax ratios.

[53] Data used for the correlations reported in this section are contained in the Worldwide Governance Indicators: World Bank, https://info.worldbank.org/governance/wgi/.

Self-expression societies are also on average more rule abiding (r=0.72). This is different to traditional societies who are less rule abiding (r=0.56) although having informal institutions that emphasise rule obedience. It appears that institutions that support the involvement of society in the creation of rules that represent their interests drives rule obedience, rather than institutions emphasising rule obedience. Stronger enforcement of formal institutions is not necessarily the answer (as much of the tax literature emphasises). Supporting the development of improved informal institutions and creating formal institutions that represent these informal institutions could be a more fruitful approach.

Table 8: Influence of Informal Institutions on Tax Ratios[54]

VARIABLES	(1) 2SLS	(2) 2SLS
Traditional – secular-rational values	0.586***	
	(0.224)	
Survival – self-expression values		0.408***
		(0.157)
Latitude	-0.182	0.109
	(0.123)	(0.0820)
Population 1960	-0.210***	-0.115*
	(0.0448)	(0.0699)
Area	-0.0603	-0.0838
	(0.0416)	(0.0818)
Landlocked	-0.151	-0.0917
	(0.224)	(0.221)
Constant	0.191	-0.0369
	(0.138)	(0.115)
Observations	83	83

Notes: Heteroscedasticity robust standard errors are provided in parentheses. Asterisks denote significance at the 1% (***), 5% (**), and 10% (*) levels. All variables are standardised.

4. CONCLUSION AND POLICY IMPLICATIONS

A few reccurring themes can be identified based on the results presented in this article. The first is that for tax ratios, history matters. The importance of wars on the development of taxes is well documented in the tax literature. The narrative of colonialism on taxation and especially tax ratios has received less attention. Feger and Asafu-Adjaye show that factors capturing the current economic environment and incidence of wars are insufficient to explain tax ratios.[55] In the narrative, the authors,

[54] The Kleibergen-Paap rk LM statistic showed that the equations were not under-identified. The Kleibergen-Paap rk Wald F statistic showed that the equations do not suffer from weak instruments. Under the Hansen J statistic the joint null hypothesis that the instruments are valid could not be rejected.

[55] Feger and Asafu-Adjaye, above n 3.

similar to Mkandawire, suggest that the economic environment of countries at the time of colonisation, emphasising the extent that mineral wealth has been discovered, influences current levels of tax ratios.[56] Although mineral wealth most likely played a part in the policies implemented during colonisation, this article provides an alternative narrative that emphasises geography, rather than the economic environment.

It is shown that the past disease environment is a significant determinant of tax ratios and that the effect does not run only through the influence of the past disease environment on economic development (as shown by Acemoglu, Johnson and Robinson).[57] It is suggested that this effect is as a result of the institutions and, importantly, the technology and ideas of settlers, which were implemented and applied where they settled. Adopting foreign technology may be particularly important for developing countries if they are to increase their tax ratios.

Second, for tax ratios the division of powers matter. The results in this article suggest that toward increased tax ratios, democratic institutions can be preferred to authoritarian institutions and parliamentary institutions can be preferred to presidential institutions. Societies with informal institutions aligned with democratic principles also exhibit greater tax ratios. These results suggest that a greater division of power is beneficial to tax ratios. This suggestion is, however, not supported by the finding that federal institutions, which likely lead to tax competition, have a negative effect on tax ratios. Taking the findings on democratic institutions, parliamentary institutions, and federalism into consideration, it appears that the division of power can increase tax ratios, but these effects may be dampened if such division results in tax competition.

Third, for tax ratios formal and informal institutions matter. Since institutions are slow changing, advising changes to formal and informal institutions may not be particularly helpful for countries which require additional tax revenues in the short term. For the short term, knowledge of the effect of institutions on tax ratios may be more useful in how tax policy is designed and debated. Incorporating the results presented in this article, Figure 2 provides a theory on how greater cognisance of institutions can be useful in designing tax policy.[58]

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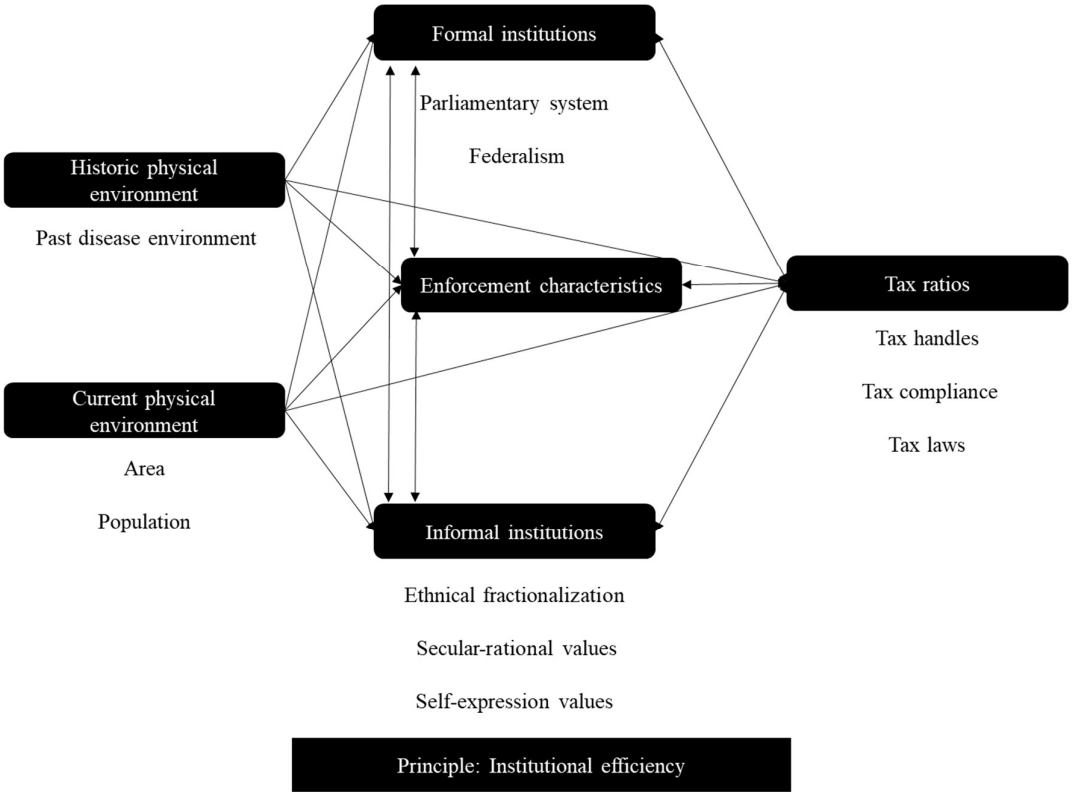
[56] Ibid.

[57] Acemoglu, Johnson and Robinson, above n 7.

[58] The theory does not attempt to include all factors that influence tax ratios. There are many factors that influence tax design and tax ratios that are not considered in this article. Inequality is an example of such a factor, as discussed in Kenneth L Sokoloff and Eric M Zolt, 'Inequality and Taxation: Evidence from the Americas on How Inequality May Influence Tax Institutions' (2006) 59(2) *Tax Law Review* 167.

Fig. 2: Institutional Efficiency



Source: author.

At the far left of Figure 2 is the historical and current physical environment. Both of these have an indirect influence on tax ratios, through their influence on formal institutions, informal institutions, and enforcement characteristics (specifically technology and human capital, but also state capacity in general).[59] They also have a more direct influence on tax ratios by influencing the established determinants of tax ratios, being tax handles (eg, supply and demand factors such as sectoral composition, development and governance), tax compliance and tax laws.[60]

At the centre of Figure 2 are formal institutions, enforcement characteristics, and informal institutions. Formal institutions, informal institutions, and their enforcement characteristics all influence each other. Together with the physical environment, these three components influence tax ratios and there is reverse feedback from tax ratios to

[59] On state capacity, see eg Besley and Persson, 'The Origins of State Capacity', above n 32.
[60] With reference to Figure 2, it can be seen that there is no reverse feedback from institutions or tax ratios to the physical environment. This is based on the results of this article and it seems reasonable to assume that there are some instances where taxes influence the physical environment (for instance environmental taxes). This influence is, however, likely to be small compared to the influence of taxes on institutions.

these institutions and enforcement characteristics. The theoretical principle that I propose here is institutional efficiency.

When proposing a new formal institution (eg, tax law), institutional efficiency will be high if: (1) the proposed formal institution does not adversely influence the intended outcomes of other existing formal institutions; (2) the proposed formal institution is aligned with the existing informal institutions, and (3) the proposed formal institution does not adversely influence the existing informal institutions. The higher the institutional efficiency, the lower the transaction costs of the policy.

The transaction costs of the policy will include implementation costs, adjustment costs, and enforcement costs. Implementation costs include political costs (for instance, the loss of votes), costs to obtain consensus on the policy, the costs of citizen organisations in lobbying, costs to translate the policy to law, and the loss suffered from the adverse influence of the proposed formal institution on other existing formal institutions and informal institutions. A potential example of an implementation cost due to the influence of a new formal institution on informal institutions is the introduction of a municipal tax leading to an informal rule that littering is acceptable since citizens believe they now pay for street cleaning services.

Adjustment costs relate to the costs of relevant actors (policy-makers, politicians, tax administrators, and taxpayers) changing their behaviour as a result of the proposed policy. The most effective and rewarding behaviour of these actors is often learned over time. Changes in formal institutions may result in these actors having to re-learn what the most effective and rewarding behaviour entails. Firms may, for instance, have to restructure and since this change in behaviour takes time, the change in formal institutions decreases the economic efficiency of the policy.

Enforcement cost is primarily a function of the alignment or misalignment between formal and informal institutions and the enforcement characteristics of the society. Formal and informal institutions will closely align where the formal rules reflect the informal rules held by the majority of society. For instance, where there exists an informal rule that tax avoidance is wrong, countries should be able to levy higher taxes at lower enforcement costs. Since formal institutions will only influence human behaviour to the extent that they are enforced, keeping enforcement costs manageable is essential for the proposed formal institution to have the desired outcome. If additional enforcement costs are to be minimised, changing informal institutions should precede a change in formal institutions.

Figure 2 also presents a warning for tax policy in developing countries. The traditional and survivalist values that are predominant in many developing countries, coupled with poor enforcement characteristics, mean that tax policies generally employed in developed countries are likely to suffer from great institutional inefficiency if applied in developing countries. It is likely that the transaction costs of such policies will be very high and a proposed or even written policy may become largely irrelevant to the outcome of that policy. This may be a partial explanation for why tax policies that work in developed countries often fail in developing countries and learning to tax (in Nicholas Kaldor's famous words[61]) is more difficult than it may appear. Successful policy may

[61] See Nicholas Kaldor, 'Will Underdeveloped Countries Learn to Tax?' (1963) 41(2) *Foreign Affairs* 410.

require an in-depth understanding of the informal institutions residing in countries, bringing sociology squarely into the field of fiscal policy.

APPENDIX A. SAMPLE, VARIABLES, SOURCES AND MEANING

The sample includes Afghanistan, Albania, Algeria, Angola, Antigua and Barbuda, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bosnia, Botswana, Brazil, Bulgaria, Burkina Faso, Cabo Verde, Cambodia, Canada, Central African Republic, Chile, China, Colombia, Congo, Rep., Costa Rica, Cote d'Ivoire, Croatia, Cyprus, Czech Republic, Denmark, Dominica, Dominican Republic, Egypt, El Salvador, Estonia, Ethiopia, Fiji, Finland, France, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Honduras, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Korea, Rep., Kuwait, Kyrgyzstan, Lao PDR, Latvia, Lebanon, Lesotho, Liberia, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Mauritius, Micronesia, Moldova, Mongolia, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russia, Rwanda, Samoa, Sao Tome and Principe, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, South Africa, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, Suriname, Swaziland, Sweden, Switzerland, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, Vanuatu, Vietnam, Zambia.

Variable	Source	Meaning
Area	CEPII	Area of country in kilometres
Civil law	Thuronyi[62]	Binary. Countries in which a civil law system is applied as opposed to a common law system.
Coastline length	World Factbook	Length of coastline in kilometres
Control of corruption	World Bank	Perceptions of the extent that public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and private interests.
Democracy	Boix, Miller and Rosato[63]	Binary. A country is classified as a democracy if there exists a system of rules that is enforced that

[62] Thuronyi, above n 43, 40.

[63] Carles Boix, Michael K Miller and Sebastian Rosato, 'Boix-Miller-Rosato Dichotomous Coding of Democracy, 1800-2010' (2014), updating Carles Boix, Michael K Miller and Sebastian Rosato, 'A Complete Data Set of Political Regimes, 1800-2007' (2013) 46(12) *Comparative Political Studies* 1523. Available at:

		gives citizens the right to vote in an election, freely and fairly.
Development	World Bank	GDP per capita
Development 1973	Maddison Project database	GDP per capita in 1973
Ethnic Fractionalisation	Alesina and others[64]	Reflects the probability that two randomly selected people from a given country will not belong to the same racial or linguistic group.
Federal	World Factbook	Binary. Indicates whether a country has a system of rules that allow for the division of power between two levels of government.
Government effectiveness	World Bank	Perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
Landlocked	CEPII	Binary. A country has no access to the ocean.
Latitude	CEPII	Degrees in latitude from the North pole
Malaria risk 1965	Conley, McCord and Sachs[65]	Percentage of population at risk of malaria
Muslim	World Factbook	Percentage of population who classify themselves as being Muslim
Parliamentary	World Bank	A system is classified as parliamentary if: (1) the system has elected executives; (2) the system has a prime minister; (3) the president cannot veto legislation without a supermajority support from parliament; (4) the president cannot appoint or dismiss prime ministers *and* dissolve parliament.
Political stability	World Bank	Perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism.
Population	World Bank	Number of citizens in a country
Population density	World Bank	Number of citizens per square kilometre
Protestant	World Factbook	Percentage of population who classify themselves as being Protestant
Rainfall	World Bank	Average yearly rainfall
Regulatory quality	World Bank	Perceptions of the ability of the government to formulate and implement sound policies and regulations, which permit and promote private sector development.

https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/28468.

[64] Alberto Alesina, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat and Romain Wacziarg, 'Fractionalization' (2003) 8(2) *Journal of Economic Growth* 155 ('Fractionalization').

[65] Dalton Conley, Gordon C McCord and Jeffrey D Sachs, 'Africa's Lagging Demographic Transition: Evidence from Exogenous Impacts of Malaria Ecology and Agricultural Technology' (National Bureau of Economic Research Working Paper 12892, 2007).

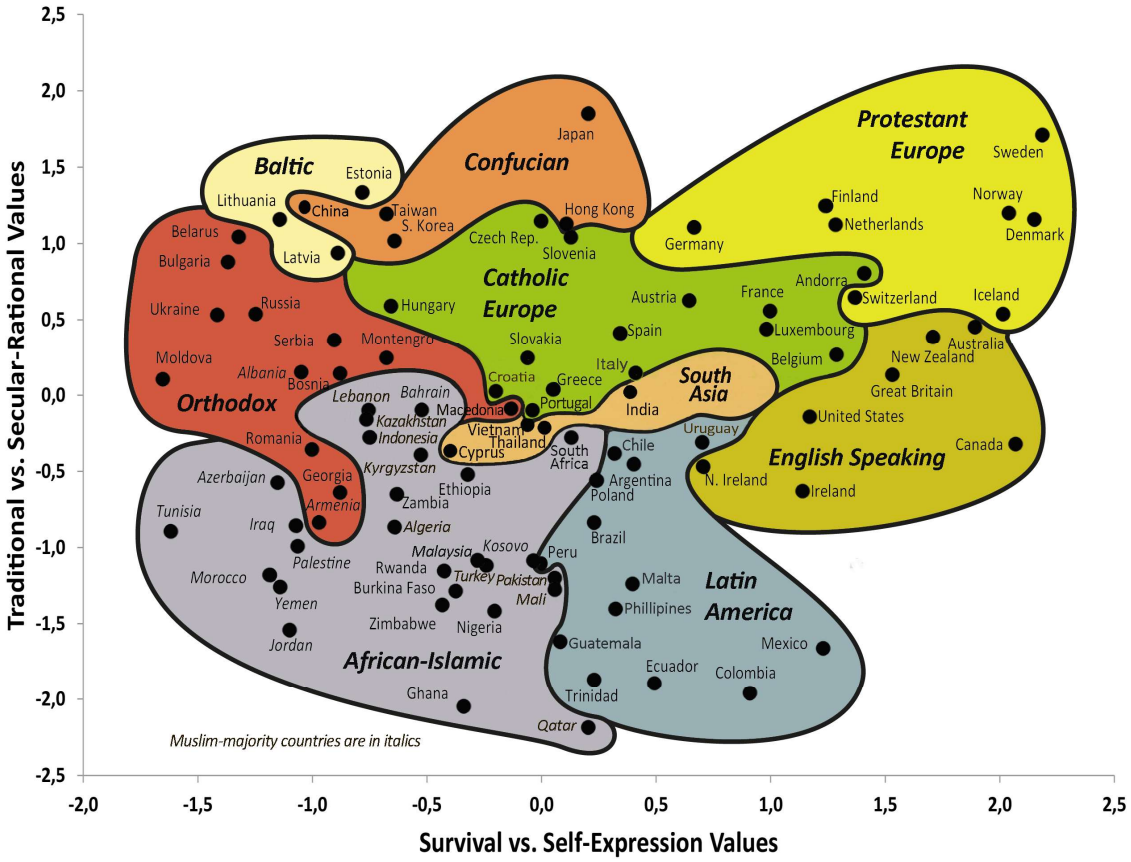
Religion Fractionalisation	Alesina and others[66]	Reflects the probability that two randomly selected people from a given country will not belong to the same religious group
Rule of law	World Bank	Perceptions of the extent that agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
Tax ratios	World Bank	Total tax revenues over GDP
Temperature	World Bank	Average yearly temperature
Traditional – secular-rational values	Inglehart and Welzel[67]	This dimension 'reflects the contrast between societies in which religion is very important and those in which it is not, but deference to the authority of God, fatherland, and family are all closely linked with each other. The importance of the family is a major theme: in traditional societies, a main goal in most people's lives is to make their parents proud; and one must always love and respect one's parents regardless of how they behave; conversely, parents must do their best for their children, even at the cost of their own well-being; and people idealize large families (and actually have them: high scores on this dimension correlate strongly with high fertility rates). Although the people of traditional societies have high levels of national pride, favor more respect for authority, take protectionist attitudes toward foreign trade, and feel that environmental problems can be solved without international agreements, they accept national authority passively: they rarely discuss politics. In preindustrial societies the family is crucial to survival. Accordingly, societies at the traditional pole of this dimension reject divorce and take a pro-life stance on abortion, euthanasia, and suicide. They emphasize social conformity rather than individualistic striving, support deference to authority, and have high levels of national pride and a nationalistic outlook. Societies with secular-rational values have the opposite preferences on all of these topics'.
Tropical area	Portland State University	Percentage of land in geographical tropics
Scientific articles	World Bank	Scientific and technical journal articles refer to the number of scientific and engineering articles

[66] Alesina et al, 'Fractionalization', above n 64.
[67] Inglehart and Welzel, above n 4.

		published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences.
Schooling	World Bank	Tertiary school enrolment
Survival – self-expression values	Inglehart and Welzel[68]	This dimension 'taps a syndrome of tolerance, trust, emphasis on subjective well-being, civic activism, and self-expression that emerges in postindustrial societies with high levels of existential security and individual autonomy. At the opposite pole, people in societies shaped by existential insecurity and rigid intellectual and social constraints on human autonomy tend to emphasize economic and physical security above all; they feel threatened by foreigners, ethnic diversity, and cultural change – which leads to intolerance of gays and other outgroups, insistence on traditional gender roles, and an authoritarian political outlook. A central component of this dimension involves the polarization between materialist and postmaterialist values. These values tap an intergenerational shift from emphasis on economic and physical security, toward increasing emphasis on self-expression, subjective well-being, and the quality of life. This cultural shift is found throughout postindustrial society; it emerges among birth cohorts that have grown up under conditions in which one can take survival for granted. These values are linked with the emergence of growing emphasis on environmental protection, the women's movement, and rising demands for participation in decision making in economic and political life'.
Tax families	Thuronyi[69]	Refer to page 43 to 44 of Thuronyi.
Voice and accountability	World Bank	Perceptions of the extent that a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.

[68] Ibid.
[69] Thuronyi, above n 43.

APPENDIX B. CULTURE MAP



Source: Inglehart and Welzel, above n 4, based on www.worldvaluessurvey.org.

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Towards a conceptual framework for tax literacy: a scoping review

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Abstract

Given the paucity of studies on tax literacy in the extant literature, a meticulous approach to synthesising the conceptualisation of the emerging topic was followed in this scoping review. Three prominent content areas relating to the conceptualisation of the construct 'tax literacy' emerged from the review. These content areas are included in a suggested conceptual framework that is presented from a holistic perspective. These content areas are as follows: (i) tax literacy from an individual's perspective, that is, an individual as his or her own tax professional; (ii) tax literacy from a relational perspective, that is, citizens are required to be responsible in relation to all tax-related issues, and (iii) tax literacy from a systemic perspective, that is, a sense of responsibility towards the objectives of the social contract, which requires the active participation of the citizenry and a high degree of tax morality.

Keywords: tax literacy, financial literacy, scoping review, conceptual framework, tax compliance, public finance, government expenditure

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1. INTRODUCTION

'In this world nothing can be said to be certain, except death and taxes.'

Benjamin Franklin

As the above quotation ascribed to Benjamin Franklin suggests, taxes are ubiquitous and, for most people, an undesirable obligation. A specific type of preparation seems to be necessary to encourage people to fulfil their duty to pay tax. Indeed, proponents of so-called tax literacy put forward a series of arguments about why increasing the level of taxpayers' literacy could be considered an effective and efficient way of approaching problems like tax complexity, low tax morale, low tax compliance and the shadow economy. The Organisation for Economic Co-operation and Development (OECD), in conjunction with the International and Ibero-American Foundation for Administration and Public Policies (FIIAPP) (2015), for example, states that promoting tax literacy is expected to help citizens understand the functioning of the tax system and to strengthen their feelings of responsibility to the state. Furthermore, it should raise their awareness that increased revenues could affect the improvement of the quality of public goods and services. More recently, tax literacy has also been acknowledged as an important part of financial literacy as taxation could influence a variety of important financial decisions and events such as a promotion, donations and retirement saving product selections with more responsibility transferred to the taxpayer to make informed decisions (Lyon & Catlin, 2020).

As Cvrlje (2015) states, individuals and households have to keep track of all the changes in their financial environment in order to protect and secure their personal finances. This may also pertain to changes in the tax system. In order to manage their personal finances effectively, individuals should be well educated on both their tax obligations and their tax entitlements since any disturbances in the taxation system may affect the level of their disposable income, and their expenditure, saving and investment decisions. Secondly, tax literacy is strongly connected not only to the financial situation of individuals and households but also to the issue of government finance and government spending. The recent Covid-19 pandemic has also highlighted the need for taxpayers and consumers to be more prepared to cope with unforeseen challenges and therefore become more financially resilient (OECD, 2021). It however also indicated that tax and financial literacy is a topic relevant to policy-makers across the world to ensure the financial stability of the economy (OECD, 2023).

However, it should also be noted that given the paucity of research on tax literacy, the evidence on the effect of tax literacy on compliance is still evolving with no clear result at this point in time. A case in point is the study conducted by Kwok and Yip (2018) which indicated that there are various intermediate compliance factors that could influence compliance regardless of high levels of tax literacy, such as taxpayers' ability and willingness to pay, their perceptions towards the fairness of the tax system as well as their level of tax morale.

Despite the recognised importance of the concept of tax literacy, it is not discussed as widely as the concept of financial literacy, nor is there a global and generally accepted definition or a common conceptualisation of tax literacy. This is a rather unfortunate state of affairs since a correct understanding of what tax literacy actually means is an

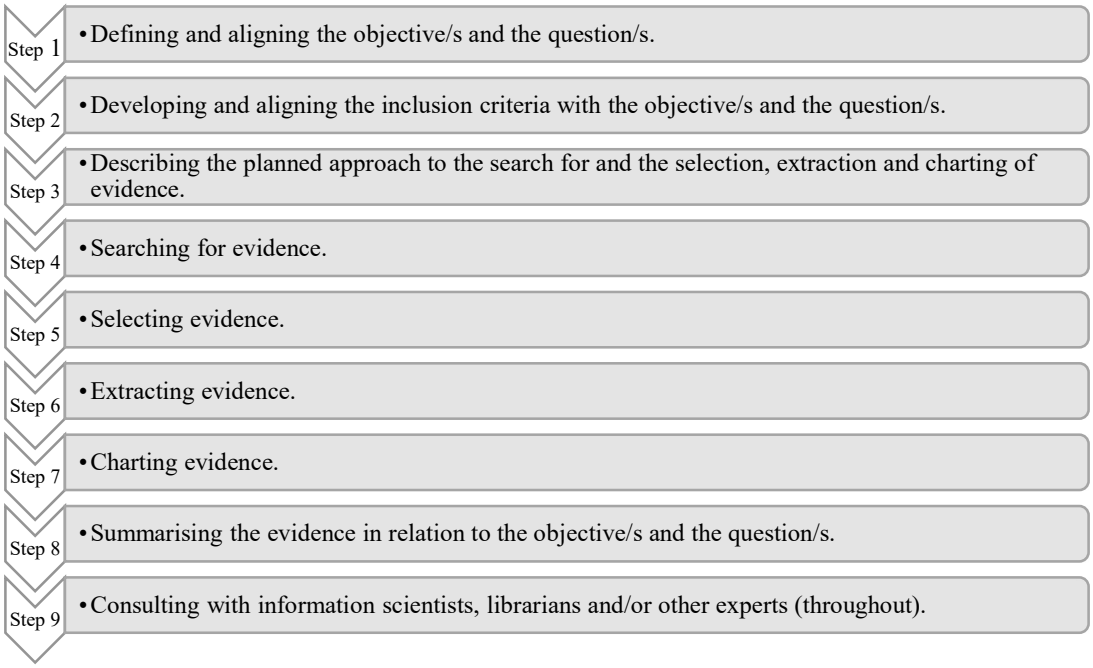
indispensable prerequisite not only for bringing tax and financial education together but also for developing targeted learning and assessment tools. The study presented in this article addresses this gap by systematically identifying and analysing conceptual definitions and key components of tax literacy for individuals in the available research literature by means of a scoping review. On this basis, a preliminary conceptualisation of tax literacy as an integral part of financial literacy is suggested.

The structure of the article is as follows. In the next section we briefly describe the methodology employed in the study. In section 3, we present the results of the scoping review. On the basis of the results, in section 4 we propose a conceptual structure and main elements of tax literacy as an integral part of financial literacy. We conclude the article in section 5 by summarising the main insights emerging from the review and its interpretation while at the same time pointing out possible limitations of our efforts so far and delineating prospects for future research in the field of tax literacy.

2. RESEARCH METHODOLOGY

A scoping review was employed to map the key components that underpin the concept of 'tax literacy'. A scoping review provides a synthesis of the evidence gathered through research (Rumrill, Fitzgerald & Merchant, 2010) and clarifies working definitions (Peters et al., 2017). Given the paucity of randomised control trials and the fairly recent interest in defining the concept of tax literacy, a systematic review was not feasible (Levac, Colquhoun & O'Brien, 2010). Levac and co-authors (2010) and Peters and co-authors (2017) expanded on Arksey and O'Malley's (2005) original guiding framework on how to conduct a scoping review and suggested nine steps that should form part of the process (refer to Figure 1).

Fig. 1: A Scoping Review Framework



Source: Adapted from Peters et al. (2017, p. 5)

The enhanced scoping review framework suggested by Peters et al. (2017) and illustrated in Figure 1 was followed for the purpose of this article. Two experienced researchers, one from the discipline of taxation and one from the discipline of business and economics education, conducted the review, which ensured that the review was as broad and detailed as possible.

Step 1: Defining and aligning the objective and the question. One key question informed the literature review: How is tax literacy conceptualised in the existing literature? The answer to this question assisted the researchers in identifying the key components of tax literacy.

Step 2: Developing and aligning the inclusion criteria with the objective and the question. The literature search was limited to studies that have 'tax literacy' in the title, the abstract or the list of keywords. This was done to ensure that only studies that focus on the concept of tax literacy were identified. The related term 'tax knowledge' was not used since it would limit the literature to the narrow concept of tax knowledge and not the broader concept of tax literacy (which the researchers expected to include knowledge, skills and attitudes and to be broader than pure technical tax knowledge). Other concepts such as tax morale were also not considered as tax morale is an outcome variable similar to tax literacy and the focus of this article was to identify the composition of the limited concept of tax literacy and not the relationships with other potentially related concepts. The researchers also limited the review to literacy in respect of personal tax as opposed to the tax literacy of business owners.

Step 3: Describing the planned approach to the search for and the selection, extraction and charting of evidence. In order to ensure that the review was as extensive as possible, the scoping exercise involved the exploration of four databases, namely, ABI/INFORM Collection, Business Source Ultimate, EconLit and Google Scholar. These databases were selected because of their broad coverage of a variety of fields of study (including business, taxation, economics and public finance).

Step 4: Searching for evidence. A review of the titles, abstracts and keywords (if available) of studies indicated that there was not a large number of studies focusing on tax literacy per se. The inclusion and exclusion criteria that were applied are presented in Table 1.

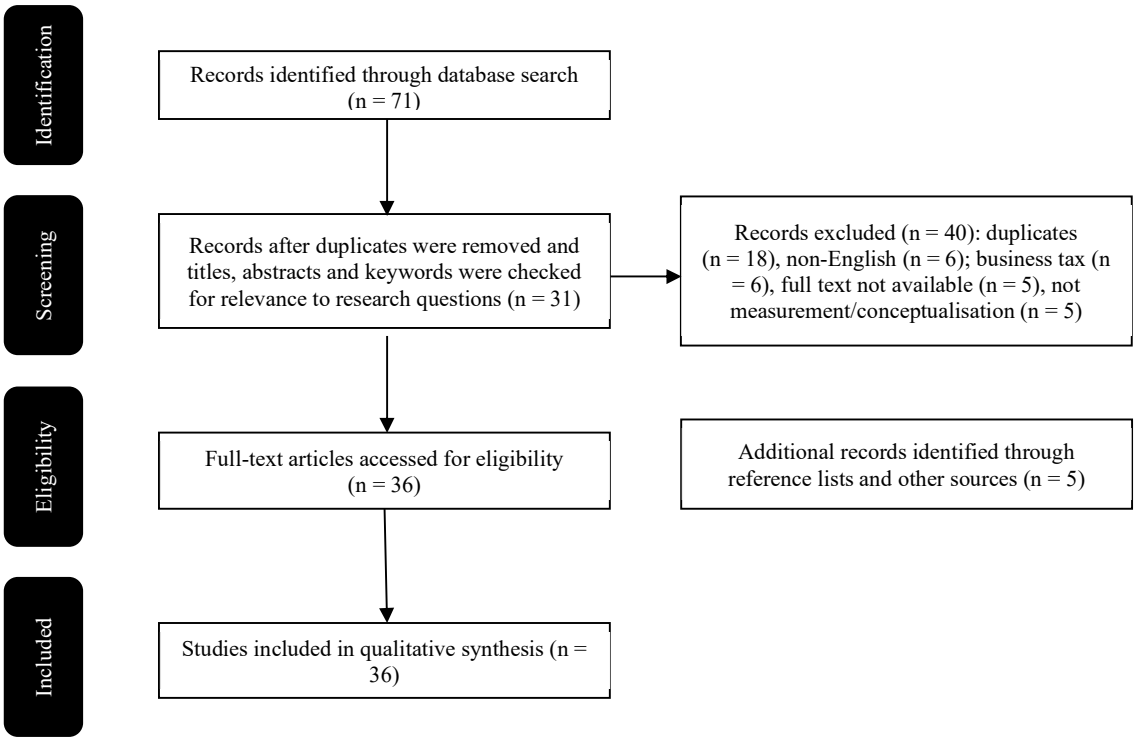
Table 1: Inclusion and Exclusion Criteria

Inclusion criteria	Exclusion criteria
• English article in a peer-reviewed journal • Full paper accessible • Conceptualisation and/or measurement of personal income tax • Conceptualisation and/or measurement of the tax system applicable to citizens of a country (i.e., public finance)	• Non-English article • Tax literacy of business owners • Article was incorrectly highlighted during the search strategy, e.g., 'tax, literacy' was included although the article does not discuss tax literacy (the inclusion of the comma was not picked up during the search) or the reference to tax literacy in the abstract was a recommendation and not a conceptualisation or a measurement • Full text of article was not available

A literature review conducted by a librarian of one of the universities involved in the project did not lead to the identification of any additional records (step 9).

Step 5: Selecting evidence. In keeping with the search strategy protocol, 71 records were identified by searching the databases. Following a review of the 71 records, 18 duplicates were removed. Another 21 records were also excluded since they focused on business tax, only the abstract was in English, the full text was not available or the reference to 'tax literacy' had mistakenly been included as 'tax**,** literacy'. Through a review of the reference lists, another five additional sources were identified. On completion of the inclusion/exclusion exercise, a total of 36 records were included in the qualitative synthesis (refer to Figure 2).

Fig. 2: PRISMA Flow Diagram of Study Selection Process



Source: Adapted from Peters et al. (2017)

Step 6: Extracting evidence. The identified records were downloaded and stored in Mendeley to ensure ease of access for both researchers. An Excel spreadsheet was developed for recording key data on each record, including the author(s), the academic background of the author(s), if available, the year of publication, the aim/purpose of the study, conceptual definitions provided and key findings that related to the concept of tax literacy. A thematic analysis (discussed in step 7 and presented in section 3) was performed to establish a robust and systematic framework for coding the qualitative data (Braun & Clarke, 2014). Through the coding of the qualitative data identified in the scoping review, themes were identified across the dataset in relation to possible components of tax literacy.

Steps 7 and 8: Charting and summarising the evidence.

As mentioned in step 6, an Excel spreadsheet was populated with all the relevant information required for conducting a descriptive analysis (refer to section 3.1). All identified sources were stored in a literature repository (Mendeley) to which both researchers had access. Once the studies had been identified as per the scoping review protocol, a thematic analysis as suggested by Nowell and co-authors (2017, p. 5) was conducted in order to identify content areas of tax literacy. The first author (given the tax expert) reviewed the articles and conducted the thematic analysis. The second author

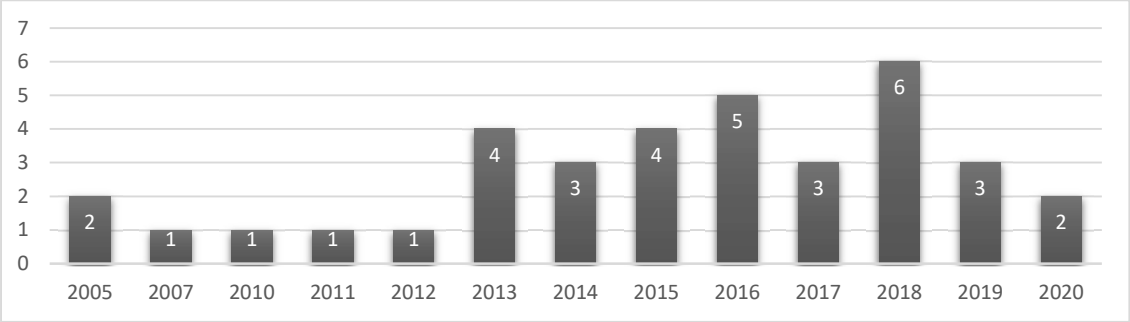
independently reviewed a selection of the articles and where differences were observed between the two coding exercises, these were discussed and resolved. The results of this analysis will be presented in the next section, along with a brief overview of the characteristics of the sources.

3. ANALYSIS OF RESULTS

3.1 Characteristics of the sources

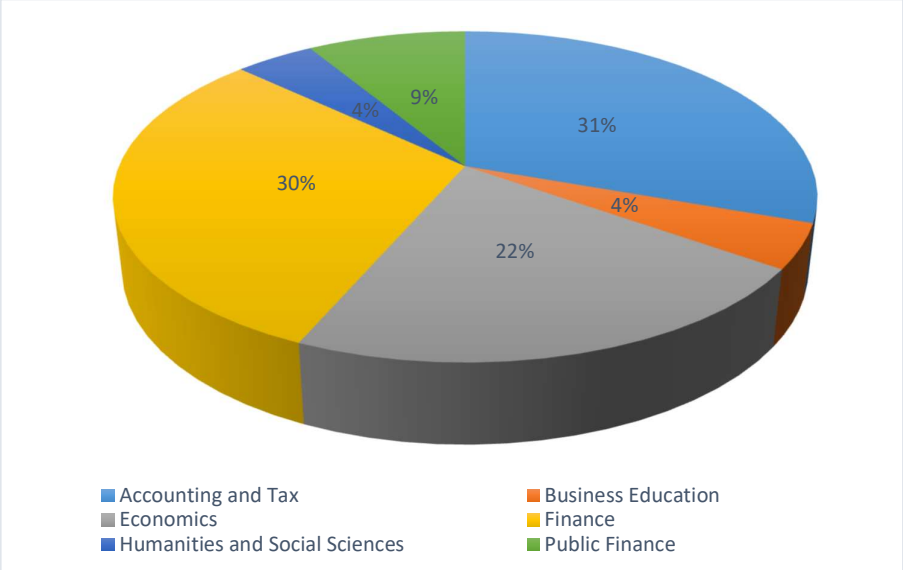
A total of 36 sources that pertinently focus on tax literacy were identified in the review. The analysis is based on conceptual definitions provided by the various authors. However, where conceptual definitions are not provided, the authors deduced content areas from the operational definitions provided, that is, domains of the measurement instruments applied. The paucity of research on tax literacy is evident in Figure 3. Although there has been an increase in such research since 2005, only six sources that had 'tax literacy' in the title were published in 2018 and three in 2019.

Fig. 3: Number of Publications on Tax Literacy



Of the 36 papers, several papers were co-authored, but four authors published more than once on this topic. Based on the academic discipline of the first authors, is it evident from Figure 4 that most of the studies included in the scoping review were published by authors from the disciplines of accounting and tax (31%), finance (30%) or economics (22%), confirming the multifaceted nature of taxation.

Fig. 4: Academic Disciplines of First Authors



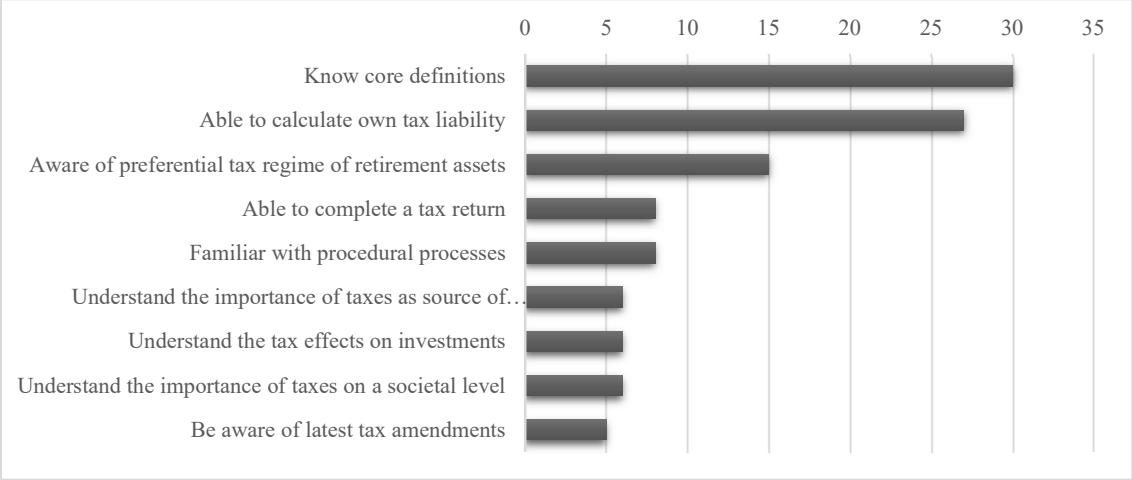
The bulk of the studies included in the scoping review were sourced from academic journals (26). The remainder of the source documents were papers delivered at conferences (4), unpublished dissertations (4) and two working papers.

3.2 Identification of tax literacy content areas or themes

The second phase of the analysis entailed identifying themes, as suggested by Nowell and co-authors (2017, p. 5), which required the development of an initial set of codes. An inductive process was followed whereby an original list of 86 codes were identified. After the initial list had been reviewed, several similar codes were identified and the initial list was reduced to 25 codes (refer to the left-hand side of Figure 6).

Based on a frequency distribution, it became evident that some of the 25 codes occurred more frequently than others. The codes that reflected almost 80% of all the identified codes are illustrated in Figure 5.

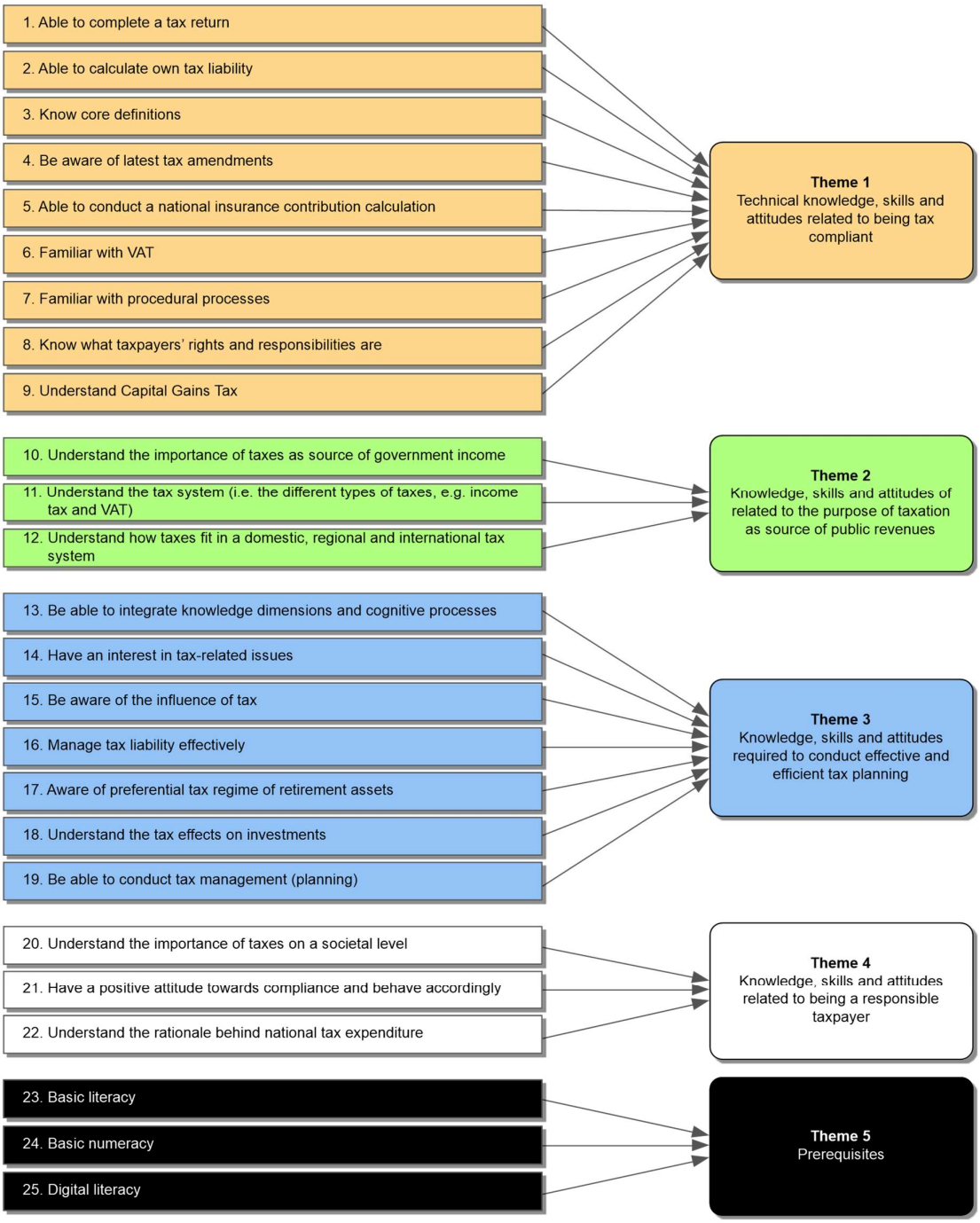
Fig. 5: Frequency of Codes



As is evident from Figure 5, there is a strong sense that taxpayers should be familiar with the core definitions embedded in tax laws, be able to calculate their own tax liability, be aware of the preferential nature of taxes in respect of retirement assets and be able to submit their own tax returns, which requires knowledge on the administration processes.

Nowell and co-authors (2017, p. 9) indicate that once the initial codes have been identified, the set of codes should be reviewed to determine whether there is a coherent pattern among the codes. In addition to the frequency distribution of the codes, as indicated in Figure 5, there was a certain hierarchy in the codes, resulting in the identification of five overall themes (refer to Figure 6).

Fig. 6: Identification of Themes



The five themes that were identified will now be discussed in detail. The discussion of the themes is presented in chronological order, based on the sources identified in the scoping review.

3.2.1 Theme 1: Technical knowledge, skills and attitudes related to being tax compliant

Some authors approach tax literacy in a predominantly technical or practical way. For example, Kamaluddin and Madi (2005, p. 73),[1] quoting Bardai (1992) and Razman and Ariffin (2000), define tax literacy as individuals' 'ability to fill [in] the tax form and calculate their tax liabilities independently'. Kamaluddin and Madi (2005, p. 72) and Madi and co-authors (2010, p. 219) also refer to functional literacy by stating that a taxpayer, especially in a self-assessment environment, should be able to determine his or her own chargeable income and income tax payable and to furnish correct returns to the relevant tax authority. The authors also stress the importance of awareness of tax amendments since changes to a self-assessment system will have a significant impact on taxpayers because they have to ensure the accuracy of the returns they submit. Latiff and co-authors (2005, p. 2) agree with Kamaluddin and Madi (2005) regarding this rather narrow scope of tax literacy in that they define it as a 'sufficient ability to read, write and understand taxation matters'. For Latiff et al. (2005), a person is tax illiterate if he or she does not understand how to complete his or her own tax return. They further posit the notion that people are functionally tax illiterate when they self-report on having the necessary ability to perform the task, that is, complete a tax return but do not have enough knowledge about tax.

Brackin (2007) started her exploration of the measurement of tax literacy by focusing on financial literacy research in the context of the Australian taxation system. She specifically examined whether low levels of tax literacy act as a barrier to participation in the taxation system. In her work on financial literacy among school learners, she included what she refers to as 'basic taxation, including why governments impose taxation, general income, general deductions and the calculation of basic tax liability' (Brackin, 2007, p. 2). It is clear that she considers tax literacy to include knowledge of relevant tax legislation and procedures for tax compliance, together with a broader understanding of the need for taxes. This second point is included in Theme 2.

Similar to the previous authors referred to, Bhushan (2014, p. 124) equates tax literacy with the knowledge and skills required to be tax compliant. He defines tax literacy as 'the ability of an individual to understand the concepts of personal taxation and to apply these concepts for calculating tax liability and filing of tax returns independently'. Although the definition focuses on an individual's ability to calculate tax liability and to file a tax return, it is interesting to note that for purposes of the tax literacy score, measures of attitudes towards taxation and behaviour (broader than the filing of a tax return) are included in the calculation.

Blechová and Sobotovičová (2016) take a slightly different approach in their measurement of tax literacy. In the majority of the studies discussed, the tax literacy levels of taxpayers were assessed, but Blechová and Sobotovičová (2016) evaluated the tax literacy levels of students enrolled in the School of Business Administration in Karviná, Czech Republic. For purposes of their assessment, they measured basic tax

[1] Unfortunately, the original sources for Bardai (1992) and Razman and Ariffin (2000) could not be sourced and as such the authors are dependent on the quotation as per Kamaluddin and Madi (2005).

literacy as determined by questions on personal income tax, tax rates, tax allowances and tax credits. They also included a measurement relating to consumption taxation, focusing on general knowledge about selected products and tax rates (Blechová & Sobotovičová, 2016, p. 116). They did not provide a conceptual framework, but their questions seemed to measure legislative tax knowledge.

Concerns regarding tax complexity that would require high levels of tax literacy led to a Canadian study by Genest-Grégoire, Godbout and Guay (2017). The study was aimed at measuring the tax literacy level of citizens of Quebec. The authors define tax literacy as 'having the knowledge, skills and confidence to make responsible tax decisions' (Genest-Grégoire et al., 2017, p. 4). They further postulate that tax literacy consists of objective and subjective aspects and provide a framework in support of their measurement tool, as indicated in Table 2.

Table 2: Subject Matters Tested

Subjective and behaviour measures	Knowledge about income tax	Knowledge about consumption taxes	Knowledge about progressivity
1. Self-reported level of knowledge about taxation	1. Capital gains taxation on the sale of a residence	1. Rates of GST and QST	1. Presence of different tax rates for different people
2. Tax preparation behaviour	2. Taxation of various types of income: • withdrawal from RRSP • withdrawal from TFSA • employment insurance benefit • lottery gains • child support payments received	2. Coverage of different goods and services by the GST and QST: • potatoes • restaurant meal • sweater • detective novel • dentist exam	2. Varying effect of a deduction, depending on the level of income
3. Media consulted on subjects pertaining to taxation and frequency of consultation: • dedicated programmes • opinion pieces • blogs or social media • official sources			3. Tax rate at the top income tax bracket 4. Marginal taxation of a salary gain 5. Income splitting between spouses
Acronyms: RRSP – registered retirement savings plan, TFSA – tax-free savings account, GST – goods and services tax, QST – Quebec sales tax			

Source: Genest-Grégoire et al. (2017, p. 5)

Alexander and co-authors (2018) explored mechanisms for improving the tax literacy and the tax morale of young adults in the United Kingdom. Although they do not provide a conceptual definition of tax literacy, they operationalise the concept in their measurement instrument by including a variety of questions aimed at testing respondents' financial and tax literacy, including specific knowledge and application questions on value added tax, income tax, national insurance contributions, allowances

and deductions within the UK's tax framework, as well as general knowledge questions on the UK's individual tax system (Alexander et al., 2018, p. 12). The items included were concepts of average tax rates and marginal tax rates, a calculation of value added tax, simplistic calculations of income tax liability and calculations of national insurance contributions.

Cechovsky (2018a) explores the conceptual definition of tax literacy through the lens of economics education. Based on the theoretical groundwork of economics education, Cechovsky (2018a, p. 115) defines tax literacy 'as general tax knowledge on a societal and individual level, an interest in tax-related issues, and an attitude, alongside a corresponding tax compliance behaviour'. She provides a more comprehensive description of what is to be understood under 'general tax knowledge'. According to Cechovsky (2018a), general tax knowledge comprises different types of knowledge and different cognitive processes, according to the taxonomy for learning, teaching and assessment by Anderson and Krathwohl (2001), which is based on work by Bloom (1972). Therefore, general tax knowledge comprises not only factual knowledge but also more complex knowledge dimensions (factual, conceptual and procedural knowledge) and cognitive processes (remembering, understanding, applying, analysing and evaluating). Furthermore, it consists of relevant tax-related content. While the content focuses on a public level of taxation (e.g., functions of taxes), it also focuses on the individual level (e.g., basic principles of the most important types of taxes) (Cechovsky, 2018a, p. 115). Unfortunately, Cechovsky (2018a) does not provide detail on the scope or the content of the questions related to tax knowledge that were part of the questionnaire on tax knowledge in her study, only stating that it consisted of 24 multiple-choice questions on general tax knowledge developed from an analysis of various textbooks, a curriculum analysis, the qualitative study and existing instruments.

Cechovsky's (2018b) doctoral thesis provides however more detail on the measurement discussed above by providing a comprehensive discussion of the process she followed in measuring the tax literacy of Austrian students. She first explores certain central concepts, such as economics literacy, economics education, economics competency, financial literacy and tax literacy. Second, she provides some theoretical background on the composition of a possible measurement instrument for tax literacy that includes the cognitive dimension, interest in the subject at hand and attitudes toward the topic. She then gives a review of the empirical evidence on tax literacy, tax knowledge and tax compliance. In her review, she defines tax literacy for purposes of her project as 'general tax knowledge concerning the individual and society, including recent developments; an interest in tax-related issues; an attitude; and a corresponding tax compliance behaviour' (Cechovsky, 2018b, p. 22). She then sets out a comprehensive instrument for measuring the various components. Cechovsky is therefore concerned with technical knowledge required to be deemed tax literate.

In their evaluation of tax literacy, Moučková and Vítek (2018) focus on Bachelor's degree students enrolled at a university in Prague. They compare the level of tax literacy of students who previously passed tax courses with that of students who had no previous exposure to tax courses. They do not provide a definition of tax literacy but measure the concept with two questionnaires, one on personal income tax and one on value added tax. Their basis for the selection of the questions was to examine the knowledge students acquired through formal education and students' ability to apply that knowledge by means of practical assessments.

In a more future-oriented approach than has been described thus far, Bornman and Wassermann (2018) explore the meaning of tax literacy and tax compliance in the context of a digital economy. For purposes of their study, they define tax literacy as 'a dynamic process of developing skills and gaining the confidence to be aware of and understand the factors that influence your tax decision and of taxation consequences of your decision, to know where to get assistance on complicated tax issues and to use the knowledge to make informed choices and decisions with respect to various transactions' (Bornman & Wassermann, 2018, p. 5). According to the authors, tax literacy has three distinctive elements, namely, tax awareness, contextual knowledge and informed decision-making. They indicate their understating of tax awareness includes the notion of understanding or recognising factors relevant to a decision (where the decision relates to applying tax rules and procedures correctly) and the notion of understanding the tax consequences of the decision made (Bornman & Wassermann, 2018, p. 5). Bornman and Wassermann (2018) are thus also focusing on the technical knowledge required to be able to conduct a tax liability calculation and be tax compliant.

Regarding contextual knowledge, Bornman and Wassermann (2018, p. 5) list two dimensions, namely, procedural and legal knowledge. Procedural knowledge refers to the fact that taxpayers need to be aware and have acceptable knowledge of the tax processes and their responsibility to adhere to the tax laws in their countries. This is the knowledge of how and when to fill in tax returns and to supply information to the tax authorities (Bornman & Wassermann, 2018, p. 6). Legal knowledge, as an element of tax knowledge, has two dimensions – the understanding of legal terms and legislation ('knowing that something is taxable') and the ability to apply the legal knowledge to specific situations to be able to calculate the tax effect ('knowing how') (Bornman & Wassermann, 2018, pp. 6-7). Lastly, Bornman and Wassermann (2018, p. 7) depict decision-making as the outcome that is attained when an individual's tax awareness interconnects with his or her tax knowledge and an informed decision can be made.

In a more recent study, Nichita and co-authors (2019) explore the relationship between tax literacy and tax compliance. Nichita et al. (2019, p. 2) define tax literacy as 'taxpayers' ability to understand their rights and obligations, to make use of their tax knowledge and skills in order to fill in tax returns correctly, and to comply with the tax laws in effect'. The authors state that tax literacy 'is therefore connected to the tax knowledge possessed by taxpayers which consists of information regarding both tax obligations (i.e., fiscal fees, taxes, mandatory contributions) and the manner in which the mechanism of collecting and redistributing taxes works' (Nichita et al., 2019, p. 5). Based on this conceptual definition, they operationalise the concept through a tax literacy index, based on the number of correct answers in 11 of 15 items in the assessment. Four of the 15 items focus on respondents' awareness of (or familiarity with) the finance ministerial agencies. The remaining 11 items measure what the authors refer to as theoretical and practical knowledge of basic taxation concepts. The basic concepts include knowledge on: the institution that establishes tax obligations at the national level; a taxonomy of tax obligations; the types of tax rates applied to income/profit; a simple calculation for determining the value of a good before direct and indirect taxation; and benefits generated by fully paying local taxes in advance (Nichita et al., 2019, p. 10).

Machova, Šeben and Kútna (2019) explore the tax literacy of Generations Z and Y. They provide a brief description of the distinguishing characteristics of the two generations, and a brief overview on the history of taxation. As in many of the studies

presented thus far, these authors do not provide a definition of tax literacy, focusing their analysis on Slovakian taxpayers' awareness of the tax rate, as well as knowledge questions on the tax system (i.e., direct versus indirect taxes, differentiated rates between corporate and local taxes, submission dates, the effect of a rise in fuel taxes on excise duty, the taxation of tobacco products, and tax exemptions). In addition to conducting a knowledge assessment, they obtained information regarding the respondents' satisfaction with the process of tax declarations, the helpfulness of staff, the electronic information system, the interpretation of documents and the business hours of the tax offices.

The study of Stephen and Chakraborty (2019) explores the tax literacy levels of individuals in India. Similar to most key areas already identified, they base their assessment on the measurement of knowledge about 'computation of taxable income, tax liability, deductions, and the manner of filing tax returns'. They do not provide a formal conceptual definition of tax literacy.

Similar to Brackin (2007), Lyon and Catlin (2020) explore the relationship between tax and financial literacy. Using a tax literacy measurement instrument consisting of eight questions, they gauge consumers' understanding of the tax law concepts that are applicable to important decisions in their daily lives. Unfortunately, they do not provide a conceptual framework, but they note that the aim of the research was to address the paucity of research on 'consumers' knowledge across multiple provisions of the tax code in the United States' (Lyon & Catlin, 2020, p. 3). The following topics were assessed in their survey: (1) withholding versus tax liability; (2) tax brackets; (3) tax deductions versus credits; (4) charitable contributions; (5) income and exclusions (gifts), and (6) payroll/self-employment tax.

3.2.2 Theme 2: Knowledge, skills and attitudes related to the purpose of taxation as a source of public revenue

Waris and Murangwa (2012) argue that tax literacy is embedded in the social context of a country. They argue that although tax literacy is not dependent on the sophistication of the tax system, it does have an important role to play in the development of a country. The authors argue that tax literacy becomes critical especially in developing countries where confidence in the state is normally low or where governments are perceived as incapable of carrying out the mandate society has granted them. In terms of their discipline lens, they define the purpose of tax literacy as follows (Waris & Murangwa, 2012, p. 8):

> Tax literacy is intended to firstly, help provide information about tax, secondly, not to support any particular type or amount of taxes, but to simply explain: taxes within a domestic system as well as a regional and international system and how it impacts on those being informed. Thirdly, the information transmitted consists of not just tax revenue but also tax expenditure. Finally the persons being informed include any interested persons but society generally.

Kovárník and Hamplová (2013) approach their exploration of the concept of tax literacy from a tax equity perspective. They state: 'Tax literacy, as a basic part of knowledge based economy, is analyzed in this research through … questions related [to both] the opinion on the main purposes of taxes, and to the explanation of terms direct and indirect taxes' (Kovárník & Hamplová, 2013, p. 69). Paseková, Kovařík and Ředinová (2013, p. 40) deem someone to be tax literate if that person has 'sufficient theoretical and

practical knowledge on and insight in issues that affect payroll and tax problems'. They regard theoretical knowledge as knowledge of the meaning of terms related to the tax system in the Czech Republic. They moreover interpret practical knowledge as knowledge relating to tax rates. In another study conducted by the authors, they analyse tax literacy through 'questions related [to both] the opinion on the main purpose of taxes, and to the explanation of terms direct and indirect taxes' (Kovárník et al., 2015, p. 1254). The authors referred to thus far are therefore not consistent in their conceptualisation of the construct of tax literacy, which makes it very difficult to develop a coherent understanding of the construct – an issue that will continue to be evident as other studies are discussed.

The need for general society to have an awareness of the tax system and the role that tax plays, as suggested by Waris and Murangwa (2012), is echoed by Blechová and Sobotovičová (2013). Although Blechová and Sobotovičová (2013) discuss the possible relationship between financial literacy and tax literacy, they do not define tax literacy but include it as part of financial literacy. According to the authors, 'financial literacy as management of personal or family finance includes three components, namely monetary literacy; pricing literacy; and budget literacy'. Further in their discussion they indicate that budget literacy does not reflect personal budgeting as per traditional financial literacy but rather the need for society to understand important terms such as public finance (which includes state and municipal budgets, incomes and budget expenses, taxes, deficit management and budget policy). Thus, one can deduce from their discussion that they agree that the concept of tax literacy must include the social context, which moves it away from the personal income tax only also to include the broader tax system and the importance thereof. According to Blechová and Sobotovičová (2013, p. 18), a person is tax literate if he or she

- understands why taxes exist and what the role of tax is in terms of citizen society;
- understands that tax is an element of ensuring responsible behaviour of citizens towards a family and a state;
- has a basic awareness of the tax system;
- has a basic knowledge of the taxes levied in the state where he or she lives.

Nichita (2015a) endorses the notion that tax authorities should make every effort to increase the tax literacy of both current and future taxpayers. She discusses the link between higher levels of tax literacy and compliance, concluding that having the necessary knowledge will improve tax compliance. She does not provide a description of what tax literacy entails in this narrative of tax literacy and tax compliance. However, in a follow-up article, Nichita (2015b) does provide a definition of tax literacy, stating that it has both a narrow sense and a broad sense. She defines tax literacy, in the narrow sense, as 'a taxpayer's ability to correctly fill in a tax return' (2015b, p. 849). She relates this ability to conditions for being tax compliant, namely, genuine reporting of the tax base, accurate computation of taxes to be paid, the filing of tax reports in due time according to the tax calendar established by authorities and payment of taxes owed in due time to avoid penalties. Regarding the broader sense, she focuses on taxpayers' role as contributors to the state finances, which includes understanding the matter of taxation as a source of government income and its importance.

3.2.3 Theme 3: Knowledge, skills and attitudes required for effective and efficient tax planning

Another line of research explores the linkage between tax literacy and financial literacy. Brackin (2007) does not provide a formal definition of tax literacy but alludes to the positive linkage between being more tax literate and taking a more active and responsible role in the taxation arena. She further argues that taxation should be regarded an important component of financial literacy since it has the potential to impact on a person's overall wealth. The ability to meet tax liabilities on time, to prepare returns accurately and to claim all available entitlements would certainly impact on a person's overall financial position. In her review of the scope of financial literacy research in the context of the taxation system, Brackin[2] (Brackin, 2007; Chardon, 2011) reports on the low levels of knowledge specifically relating to the effect of taxation on superannuation, for example, that superannuation is taxed at a lower rate than other investments.

Following her original exploratory work on the relationship between financial and tax literacy, Chardon (Brackin, 2014; Chardon, 2014) and her colleagues (Chardon, Brimble & Freudenberg, 2016; Chardon, Freudenberg & Brimble, 2016a; Chardon, Freudenberg & Brimble, 2016b; Chardon et al., 2016) continued to explore tax literacy in Australia and New Zealand. They explored tax literacy from a broad perspective by means of a tax literacy index, on the one hand, and on a narrow scope, on the other, focusing on the importance of tax and superannuation. Working through a grounded theory lens, Brackin (2014) developed a tax literacy score informed by the results of focus group interviews of what should be included in a measurement of tax literacy. Informed by the focus group results, she concluded (2014, p. 146) that such a survey should include confidence questions, knowledge questions and attitudinal questions.

Brackin (2014, p. 146) further reports that for a person to be considered financially literate, he or she should understand the tax equation; understand how marginal tax rates work; understand what deductions he or she is entitled to; understand the difference between deductions and offsets; understand the tax effects of investing in property; understand important tax consequences for small business; understand superannuation; and have knowledge of the Medicare levy and medical tax offsets. She further differentiates the item pool not only in terms of the topics listed but also in terms of their nature, that is, questions about confidence in understanding the meaning of some tax and investment terms and knowledge questions incorporating theoretical and practical questions on specific concepts. The knowledge questions include questions about the tax equation such as upon which basis tax is calculated and questions about marginal rates of tax and how to calculate tax payable given a simple scenario. These questions are followed by general questions about tax deductions, such as questions about the deductibility of specific items and questions exploring participants' understanding of the difference between deductions and tax offsets. Two questions deal with understanding the actual dollar effect of receiving a tax deduction as opposed to a tax offset. The next questions deal with different types of investments, exploring the different reasons why participants might choose types of investments, as well as the benefits of negative gearing and how capital gains tax works. There are also several questions regarding general concepts related to superannuation and tax consequences of superannuation. The final knowledge category questions relate to the Medicare levy and

[2] Please note that the names Toni Brackin and Toni Chardon refer to the same author.

include a small number of knowledge questions about the Medicare levy, how to calculate it and the availability of medical tax offsets (Brackin, 2014, pp. 147-148).

Bhushan and Medury (2013, p. 76) stress the importance of tax management as part of personal financial planning. They argue that tax management includes taxpayers' ability to compute their tax liability, to determine any possible tax savings via the tax code and not to incur any financial losses due to late payments or the late submission of tax returns. Bhushan and Medury (2013, p. 76) broadly define tax literacy 'as the knowledge which an individual should possess in order to manage the issues concerning personal taxation effectively'.

Cvrlje (2015) discusses the relationship between financial literacy and tax literacy, giving a comprehensive analysis of their interrelatedness. Financial literacy, like tax, is dynamic and ever-changing. She highlights that consumers (and/or taxpayers) should have a certain amount of financial knowledge and skills, first, to identify the various risks that might have serious financial consequences and, second, to diminish or avoid those risks. Keeping track of changes to one's personal financial environment, including changes to the tax system, is one of the measures a person can implement to avoid or reduce these financial consequences. She further argues that a lack of financial and tax literacy could lead to lost wealth for an individual. In respect of competencies required, Cvrlje (2015, p. 157) indicates that individuals should be well educated not only on their tax obligations but also their tax entitlements. She states:

> To be able to understand [the] tax system and determine (i.e. calculate) your own tax obligations, one should have an adequate level of tax education i.e. tax literacy. Secondly, tax literacy is strongly connected not only to the financial situation of individuals and households but also to the issue of government finance and government spending. Problems like tax complexity; low tax morale, low tax compliance and shadow economy may all be reduced [by] increasing the level of taxpayers' (individuals') financial literacy.

She observes that tax literacy should be considered in conjunction with financial literacy since the ability to meet tax liabilities on time, to prepare returns accurately and to claim all available entitlements will certainly impact on a person's overall financial position. Cvrlje (2015, p. 158) reiterates the important role of tax management in personal financial planning and agrees with Bhushan and Medury's (2013) definition of tax literacy in stating that an individual should have a thorough knowledge of various aspects of taxes and tax policies, which should help him or her to better understand how much he or she can save even after paying taxes.

Le Roux (2017), in his study, explores the financial and tax literacy of South Africans, specifically relating to retirement planning, but he does not provide a comprehensive definition of tax literacy. The administered questionnaire measured (among other issues) whether the respondents were aware of the retirement reform that had been implemented in South Africa, knew what a tax-free savings account was, understood the tax implications of their investments and might act differently if they were better informed about tax and financial concepts and principles (Le Roux, 2017, pp. 48-55). These questions were very broadly structured.

Echoing previous authors' (Brackin, 2007; Chardon, 2011; Le Roux, 2017) interest in tax and retirement, Iwasaki, Nakashima and Kitamura (2018) investigate the role of tax literacy, time and risk preference in personal pension investments. They do not provide

a conceptual definition of tax literacy, but operationalise the concept by including questions that could objectively measure tax and financial literacy (Iwasaki et al., 2018, p. 3). The objective measure of tax literacy in their study comprises three questions focusing on respondents' knowledge of the tax advantages of certain savings products and respondents' ability to calculate the tax benefit of investing in tax-friendly retirement products.

3.2.4 Theme 4: Knowledge, skills and attitudes related to being a responsible citizen

In addition to linking tax literacy to decision-making capabilities, Cvrlje (2015) discusses the relevance of tax literacy from a societal perspective, specifically regarding tax compliance and tax evasion. The linkage between low tax morale, tax compliance and tax evasion is well known. However, from a tax literacy perspective, complex tax systems, dissatisfaction with tax rates or the quality of services rendered by the government, as well as high levels of corruption could result in tax-literate taxpayers becoming less willing to remain tax compliant. Kidder and McEwen (1989, p. 58) state that 'procedural compliance may be a luxury that relatively few can afford because it requires skill and resources that relatively few people have'. Thus, citizens should not only have the relevant tax knowledge but also the inclination to remain tax compliant (tax morality).

In line with the citizenship approach suggested by Cvrle (2015), Pazdnikova and Pechenegina (2017) explore mechanisms for establishing a public tax culture and public tax literacy through a review of possible ways to organise the process of public tax culture formation by the authorities. They do not measure tax literacy per se, but suggest approaches that can be followed to develop protection management in respect of taxpayers' rights, stating that 'public awareness of the necessity to pay taxes, as an essential obligation, should be combined with the awareness of taxpayers' rights based on continuous and comprehensive informing of public society' (Pazdnikova & Pechenegina, 2017, p. 389).

Abuselidze (2020) also considers the relevance of tax literacy for the societal good, exploring the optimality of tax policy based on a comparative analysis of income taxation in developed and developing countries. Although the purpose of the paper was not to measure tax literacy, given the inclusion rules that were applied, the paper was included in the scoping review because tax literacy is mentioned in the abstract. However, the author's sentiment towards tax literacy is worth noticing – he states 'that the main idea of income tax should be the optimal distribution of tax literacy on the basis of a direct definition of income of taxpayers or progressive taxpayers' (Abuselidze, 2020, p. 272). The author explores the tax burden among taxpayers and sees tax literacy as an outcome of a fair distribution of the tax burden, speaking to the societal value of taxation.

3.2.5 Theme 5: Prerequisites

Aligned with research on financial literacy, Cvrlje (2015) also draws attention to the prerequisites for the acquisition of tax literacy. She underlines the importance of basic literacy and numeracy since people have to be able to read and write in order to understand tax laws and procedures and to determine their tax burden.

Regarding the effect of the digital economy on tax literacy, Bornman and Wassermann (2018, p. 9) reflect on the additional competencies that will be required of taxpayers.

Digital literacy will become more prominent as tax administration processes (affecting taxpayers' interaction with authorities) and the processes of recording transactions and maintaining records for tax purposes (affecting taxpayers' financial accounting and record-keeping) are digitalised.

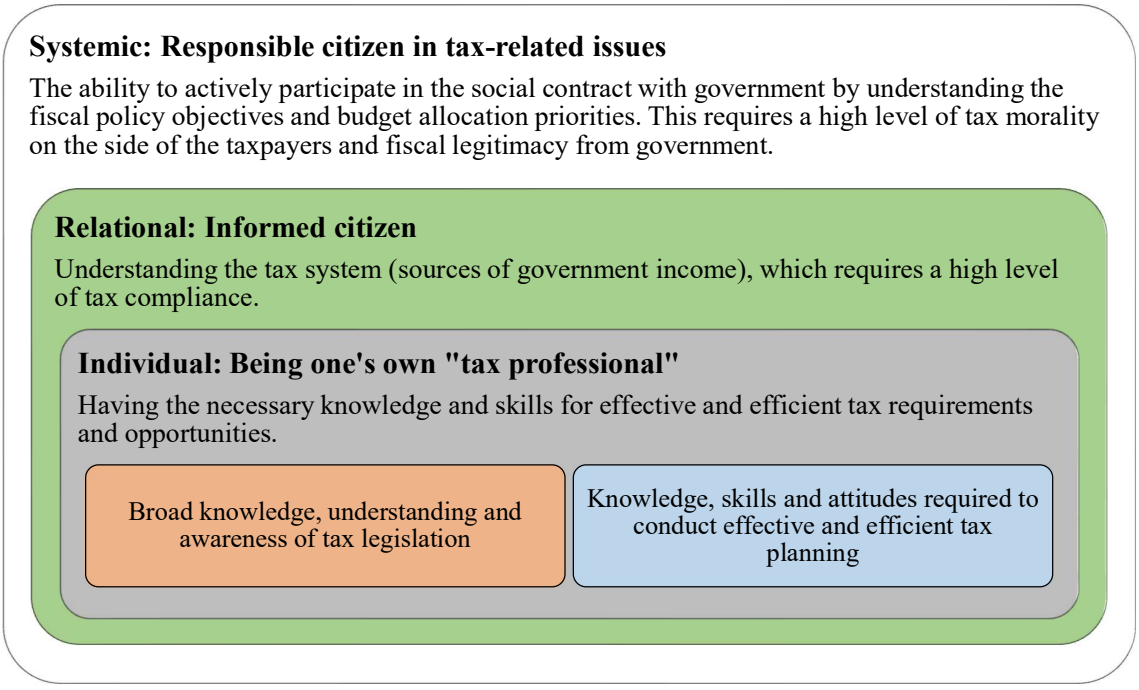
It is clear from the concept-mapping exercise that similar topics have been dealt with by several authors. Themes 1 and 3 focus on the knowledge, skills and attitudes required by citizens to be tax knowledgeable, to conduct efficient tax planning and to be tax compliant. Theme 2 focuses on the importance of tax as a source of government income to fund its various fiscal policy objectives. Theme 4 concerns the societal value of taxation. Some authors have also identified certain prerequisites (Theme 5) that should be met.

However, the absence of a clear conceptual definition is prevalent in most of the studies included in the scoping review. The following section addresses the identified gap.

4. A PRELIMINARY CONCEPTUAL FRAMEWORK TOWARDS TAX LITERACY

Tax literacy is clearly a multidimensional concept, strongly defined by a variety of disciplines. It is also clear that the key areas of tax literacy not only relate to an individual perspective but also touch on relational (or societal) and systemic perspectives to ensure high levels of tax morale and economic stability in a country. The three dimensions of the content areas relevant to tax literacy are illustrated in Figure 7.

Fig. 7: A Conceptual Frame



As indicated in the introduction, there is a higher demand on consumers and taxpayers to make informed financial and tax decisions. This notion is supported by the review which seems to indicate the consensus among various authors that tax literacy entails having enough knowledge about the relevant tax laws, especially laws on personal income tax. This aspect is listed as a requirement in 18 of the studies. The need for legislative knowledge is also listed as a requirement for tax literacy in a large number of the studies, together with the requirement that taxpayers be familiar with core concepts relating to income tax, for example, taxable income, deductions and marginal rates. Taxpayers are also expected to be aware of the latest tax amendments. Furthermore, knowledge alone regarding income tax is not enough. Taxpayers should be able to complete their tax returns by themselves and have the relevant attitudes that motivate them to do so.

This thinking is very much aligned with what is being discussed in the financial literacy domain since an increasing number of individuals need to take responsibility for their financial decisions (e.g., the transfer of investment decisions due to the switch from defined benefit funds to defined contribution funds). Thus, taxpayers are also required to be more informed in order to manage their own tax affairs. This is also clear from Table 1, where the need to be able to conduct effective and efficient tax planning is identified. Those that undertake tax planning (not professionals but taxpayers themselves) should be aware of the preferential tax regimes that apply to several investment products. Such tax incentives are provided to entice tax planners to save more and therefore tax planners should be aware of possible tax benefits when considering investments.

In addition to knowledge about legislation, it is also evident in Table 1 that a country's taxpayers should understand the linkage between the taxes they pay and how those taxes contribute to the various sources of income of the government. Here the focus is broader than personal income tax. For example, in a country such as South Africa, the personal income taxpayers are in the minority compared to the total population. However, value added tax is also a source of income of a government and all citizens pay value added tax for goods, except on certain zero-rated items. Therefore, all citizens of a country contribute to the government's income, albeit some more than others. It is thus necessary to ensure high levels of voluntary compliance through a taxpayer-centric approach. This would require certainty and clarity of what is expected from taxpayers through an effective and efficient tax administration approach.

Lastly, it is also important that citizens of a country understand what is done with the taxes collected. Fiscal policy defines a government's spending priorities, which include, among other things, quality education, health care, public transport and poverty alleviation. To enable a government to achieve these goals, a high level of tax compliance among taxpayers is required. Should low tax morale and low levels of compliance occur, regardless of the knowledge that tax evasion is illegal and can have severe consequences, the fiscal stability of a country can be at risk. When a government is perceived to be corrupt and guilty of wasteful expenditure and the tax burden becomes too high, a systemic problem could arise if taxpayers withhold payment of taxes. The fiscal policy objectives such as poverty alleviation will not be achieved, which could lead to higher levels of social unrest. Citizens of countries should thus be actively involved in fiscal policy debates and hold their governments accountable in terms of the agreed upon social contract by which they (the citizens) have to pay their due taxes and the governments have to uphold the highest level of governance and transparency in

fulfilling their mandate. This will result in social cohesion that will benefit all through effective domestic resource mobilisation, high levels of accountability and agency amongst all involved in the tax ecosystem.

Supported by Figure 7, the authors argue that in terms of the social contract between a government and its citizens, tax literacy can be defined as follows:

> *Tax literacy is a combination of the knowledge, the skills and the attitudes that individuals require to gather the necessary information to determine their tax liability, to be tax compliant and to conduct effective tax planning. It furthermore includes a sense of responsibility towards the objectives of the social contract, which requires active participation by the citizenry and a high degree of tax morality*.

5. CONCLUSION

In addressing the paucity of reviews of the existing literature on tax literacy, this article derives valuable conceptual insights on the topic. Tax literacy is receiving more prominence from both a national and individual level since several countries are experiencing fiscal pressures, and many are modernising their tax administration efforts. These modernisation efforts cater for more independence from taxpayers, for example, self-assessments, resulting in taxpayers becoming more tax literate. Regarding fiscal pressures, governments are required to adhere to their roles and responsibilities in terms of their social contract with the citizens of their countries in spite of limited resources. In view of the importance of redistribution based on collective contributions, citizens have to understand public finances and the role they play in public finances. This article is therefore a wake-up call not only to tax administrations, policy-makers, and other stakeholders, but also to citizens, that steps should be taken to improve people's tax literacy, based on a sound conceptualisation that will ultimately improve the financial wellbeing of individuals and the broader society. This article is the first step in providing a conceptual framework and will be followed by an exploration of measurement methods as operational efforts to gauge the actual tax literacy of citizens across various tax systems and jurisdictions.

Future research should therefore explore the applicability of the conceptual definition across the various disciplines that underpin tax literacy to support concept clarity for this very important construct. The conceptual framework should also be further unpacked to determine whether it is possible to identify key competencies supporting each of the domains that would be comparable regardless of country of implementation. De Clercq (2023) developed a draft competency framework for tax literacy that could support the population of the three layers identified in this conceptual framework; however the stated framework also only defines high-level domains and needs to be operationalised in future research. The suggested conceptual framework will also support the development of a measurement instrument that could provide comparable data on tax literacy across different tax systems and countries at various levels of development.

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