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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-ediv m 2009 0 0

Accounting for uncertain tax positions and lenders' risk evaluations

Sungsil Lee

Abstract

My sample includes 1,710 bank loans issued to US public firms in the period 2012-2015. 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,

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. T

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 [illegible]

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**

comparability (De Franco et al., 2011). 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:

$$= \quad + \quad + \qquad (1)$$

The 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 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.

3.3 UTB comovement validation test

Before conducting the main test, I valid

log (**)**

= + +

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\+ × +

\+ ×

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settlement year with those of the firms that are not in the large tax settlement year.

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

ZSCORE

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

	Dependent Variable = Log (LOANSPREAD)	
	(1) FOREIGN	(2) RND

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.

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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	0.000.7	0	UTB

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

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**

Detecting profit shifting in Indonesia using the Hines and Rice approach

Arnaldo Purba and Alfred Tran

Abstract

1. I

This study uses tax return data supplied by the Directorate General of Taxes (DGT) –

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

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where:

log **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;**

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

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 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

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

is the pre-tax AP reported by FOIC i for year t;

is the TI reported by FOIC i for year t;

is the parent's STR of FOIC i for year t;

is the capital input of FOIC i in year t, proxied by fixed tangible assets;

is the labour input of FOIC i in year t, proxied by employment compensation;

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

+∂·c ḷ ḅ ṋ ‧ṭ·c Ḙ ṭ Ṗ

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

ln /ln = + + ln + ln + +

	Expected sign	Dependent variable: Natural log of AP	Dependent variable: Natural log of TI

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

The coefficients of lnK and lnL 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 ory po l

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

Country	Year							
	2009	2010	2011	2012	2013	2014	2015	Total
Belgium	1	1	2	2	1	2	2	11
Canada	1	2	3	4				

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

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

Country	2009	[illegible]	2011	[illegible]	[illegible]	2014	2015	Total
Liechtenstein	[illegible]	[illegible]	0	[illegible]	1	1	0	

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

Appendix 4: unbalanced panel data

A. Accounting Profit Model

Frequency	%	Cumulated	Pattern
299	24.33	24.33	 1
[illegible]	7	31.33	. . . . . 1 .

Frequency	%	Cumulated	Pattern
64	**5.95**	**28.74**	**1111 . . .**

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

Michael Bersten

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. Instead, the Commissioner states that '[a] general

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. 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. PCCs 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, 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 fou ! da t malleonnt thtthtnnt otbthmETd A.O compli nce miié ng Utbd hisdepak 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. 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.

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.

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.

2.3 Legal foundations for the PCG

2.3.1 Td

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. Her Honour presciently observed that:

> **It is likely that in the future the question of the use which can be made of, and**

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. 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**

(p)

(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 disn in i א ue " po m A f of é " ec er;

One popular example is the perception that the use of PCGs is increasing. The facts tell

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. **culties " ǂ f Æns…fe t ꝑ tsi**

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

PCGs within Type VI are very sensible and appropriate exercises of the Commissioner's

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:

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 –

light of the High Court decision in Bywater

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 [illegible]

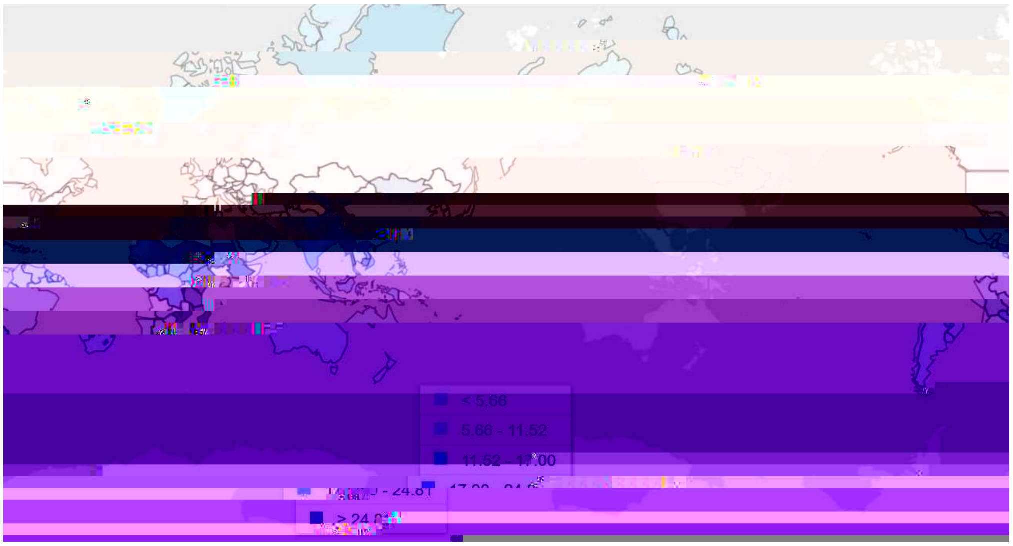
1. I

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

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

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'. 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

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

Table 1: Country's Location and Tax Ratios

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**OLS**	**OLS**	**ή**	**ʻ**	**ή ʻ**

Since the economic development literature finds a strong relationship between the past disease environment and economic development and economic development is shown

citizens' preferences. 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'. 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. The correlation between country size and tax ratios may, therefore, also be due to ethnic fractionalim ° ʽ a h

3. I

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. Today, non-settler societies often also enforce formal institutions originating from Eurasian societies. Formal institutions are regarded as deep

Gil and Sala-i-Martin). Persson and Tabellini 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. 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

Table 7: Inglehart-Welzel Values Measure

	Factor loadings
Traditional values emphasise the following (Secular-rational values emphasise the opposite):	

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.

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. 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). 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.

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

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

A A. S , ,

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,

		gives citizens the right to vote in an election, freely and fairly.
Development	**World Bank**	**GDP per capita**

Religion Fractionalisation	**Alesina and others**	**Reflects the probability that two randomly selected people from a given country will not**

Towards a conceptual framework for tax literacy: a scoping review

Bernadene de Clercq and Carmela Aprea

Abstract

1. I

'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

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. R

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 eg O R - ℵ icat - " df fndectits

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 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

Fig. 2: PRISMA Flow Diagram of Study Selection Process

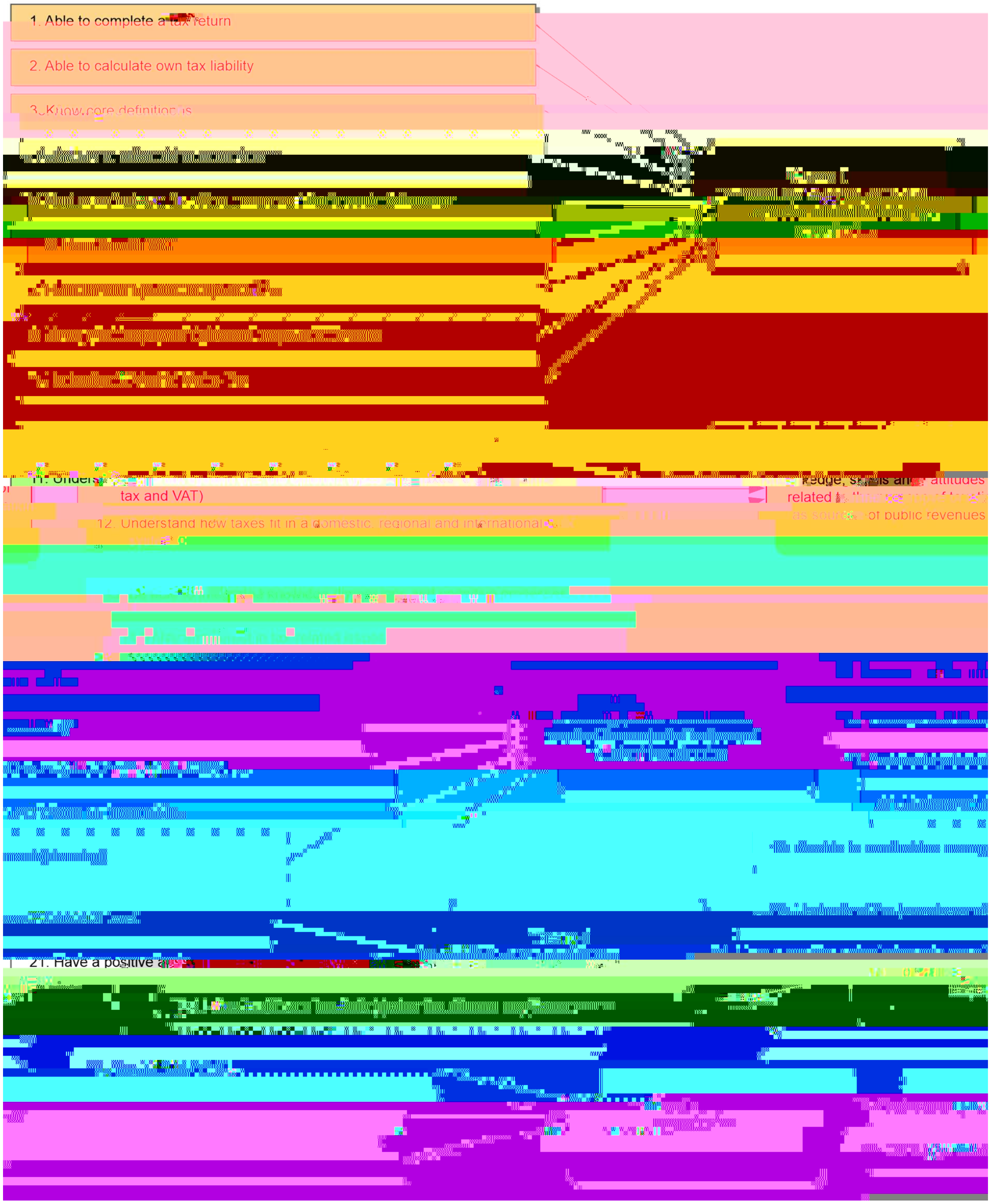
Source: Adapted from Peters et al. (2017)

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 fi ni th au relatid do Mdxe c_

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. A

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), 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 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

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

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 file 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

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 (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 lowertwh l m ž)

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 taxp ! ts aoue Q n aavaon

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

Le Roux, D J 2017, Retirement planning: Could tax and financial literacy increase financial independence during retirement?, MCom dissertation, University of Pretoria.

Levac, D, Colquhoun, H & O'Brien, K K 2010, 'Scoping studies: Advancing the methodology', Implementation Science, vol. 5, article 69.

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Rumrill, P D, Fitzgerald, S M & Merchant, W R 2010, ‘Using scoping literature reviews as a means of understanding and interpreting existing literature’, Work, vol. 35, no. 3, pp. 399-404.

Stephen, C A A & Chakraborty, A 2019, ‘Understandingp. Þ e,F 1 t akraborb axistingnl rdae