eJournal of Tax Research

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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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WEBPAGE

Current and past issues of the *eJournal of Tax Research* are available via the journal's website: https://www.unsw.edu.au/business/our-research/research-environment/ejournal-tax-research.

Editorial

We are pleased to announce that the *eJournal of Tax Research* will transition to ScholarOne (https://mc04.manuscriptcentral.com/ejtr) for operation and management starting from 1 July 2024. We welcome the submission of original contributions on any topic of tax interest, which should be submitted through ScholarOne. Please note that email submissions (ejtr@unsw.edu.au) will no longer be accepted. Authors may use either of the two citation styles: the Australian Guide to Legal Citation (AGLC 4) or the Harvard style.

On a separate note, we plan to publish two special issues in September and December 2024. The first will commemorate Professor Taylor's contributions to the development of the eJTR, and the second will feature papers from the 2024 SMU-Edinburgh Environmental, Social, Governance and Taxation conference. Please stay tuned for more details.

Youngdeok Lim and Yan Xu

Assessing the role of losses in uncertain tax planning

R Thomas Godwin[*]

Abstract

Prior literature has provided substantial evidence of the determinants of tax planning choices but primarily in the context of profitable firms, often citing a lack of incentives for loss firms to pursue tax planning. To understand the role of losses in uncertain tax planning, this article employs an explorative approach that allows for non-linearities in the distribution between pre-tax profitability and uncertain tax planning. Specifically, the results indicate that uncertain tax choices are not linear across the spectrum of profit and loss firms but are increasing in profits and losses. The findings extend prior literature on loss firms, in particular.

Keywords: loss firms, tax uncertainty, tax planning, tax avoidance

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1. INTRODUCTION

The construct of tax planning through uncertain tax choices has been an area of interest for both accounting researchers as well as regulators and standard-setters for well over a decade. As such, prior accounting literature has deeply explored the relation between uncertain tax planning and many firm characteristics, largely with respect to only firms with positive pre-tax income (Henry & Sansing, 2018).[1] The exclusion of loss firms from prior studies has often been attributed to two main explanations. First, the exclusion has been a practical one in that some effective tax rate-based measures of tax planning are difficult to interpret for loss firms. Second, prior literature has cited conventional wisdom that because loss firms often cannot monetise tax planning immediately, the incentives for such choices are lower (Scholes et al., 2015). Despite the lack of evidence on the tax planning choices of loss firms, particularly uncertain tax choices, recent work shows consistent evidence that in profitable years, firms use tax attributes accumulated in loss years to reduce their tax liability (Drake, Hamilton & Lusch, 2020; Van der Geest & Jacob, 2020; Christensen, Kenchington & Laux, 2022). While these studies have shown that firms with accrued losses monetise the accrued tax benefits of those losses, this line of work has not considered how loss firms choose uncertain tax planning and whether the conventional wisdom holds for loss firms specifically. This question is particularly important given concerns by regulators that loss firms may pursue more uncertain tax choices and because loss firms are often examined less frequently by tax authorities (Organisation for Economic Co-operation and Development (OECD), 2011; Henry & Sansing, 2018; Internal Revenue Service (IRS), 2021).[2] In addition, because loss firms must often wait to monetise uncertain tax planning, prior work implies that loss firms may need to pursue more uncertain tax planning to achieve the same expected value of tax planning (Dyreng, Lewellen & Lindsey, 2018).

This article examines the role of losses in uncertain tax planning by investigating the relation between pre-tax operating income and uncertain tax choices for both profit and loss firms. This analysis provides a more complete picture by using a research approach that allows for non-linearities. The results indicate that uncertain tax choices are increasing in pre-tax profits, consistent with prior literature, but also show that uncertain tax choices are increasing in pre-tax losses, consistent with concerns from regulators and standard-setters. These findings underscore the distinct behaviour of profit and loss firms and highlight the non-linearity in the relation between pre-tax operating income and uncertain tax planning that is centred around zero pre-tax operating income.

With respect to profitable firms, prior literature has presented consistent reasoning and empirical evidence that the relation between pre-tax income and uncertain tax choices is positive, often including pre-tax income as a key control variable (Klassen, Lisowsky & Mescall, 2016). With respect to loss firms, prior literature is largely silent on the relation between pre-tax losses and uncertain tax choices. On one hand, loss firms do

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[1] Prior literature has also referred to the construct of uncertain tax planning as tax aggressiveness.

[2] Specifically, Henry and Sansing (2018, p. 1043) quote the OECD by saying, 'This recent surge in corporate losses, and the economic importance of the firms generating them, has attracted the attention of governments concerned that growing losses could raise tax compliance risks "if companies turn to aggressive tax planning as a means of increasing or accelerating tax relief on their losses" (OECD, 2011)'. The notion that loss firms would pursue more uncertain tax planning relates to increasing the future benefit of the tax loss attributes.

not theoretically have as strong a set of incentives as profitable firms, since loss firms cannot always monetise uncertain tax choices immediately (Scholes et al., 2015). On the other hand, regulators have expressed concern that firms engage in more uncertain tax planning under losses (OECD, 2011; General Accounting Office (GAO), 1993), and prior literature suggests that tax loss carryovers are often associated with a greater risk appetite for firms (Langenmayr & Lester, 2018). In addition, De Waegenaere, Sansing and Wielhouwer (2021) provide theoretical evidence that the conventional wisdom in Scholes and co-authors (2015) does not always hold, but this study stops short of providing empirical insight into this prediction. Thus, the relation between uncertain tax choices and losses is an empirical question.

Because prior literature presents strong reasoning in both directions, this article employs a three-pronged exploratory approach to allow for non-linearities in the relation between uncertain tax choices and pre-tax profit/loss consistent with prior literature (Kim, Taylor & Verrecchia, 2021; Samuels, Taylor & Verrecchia, 2021). This approach validates the findings of prior work with respect to profitable firms and provides insights into the role of losses. Using a sample of 13,360 firm-year observations from 2007 to 2016, the article investigates this relation by examining disclosures of Uncertain Tax Benefits (UTBs), the most powerful measure of uncertain tax planning in samples that include both profit and loss firms (De Simone et al., 2020). Importantly, the UTB reserve must be based solely on a position's technical merits rather than expectations of profitability or enforcement, meaning that this measure captures the firm's *ex ante* expectations of the uncertainty of the position exclusive of other expectations about the future (Financial Accounting Standards Board (FASB), 2006). In the first prong of this approach, the article divides the sample into deciles based on pre-tax return on assets and plots the mean value of uncertain tax choices by decile. These figures indicate a non-linear relation between pre-tax income and uncertain tax choices and specifically show that uncertain tax choices are increasing in both profits and losses.

To confirm these findings using multivariate analyses, the article employs two additional approaches. First, the article estimates multivariate OLS regression models using both squared terms and a partitioning variable that allows the relation to vary based on the partition for loss firms. Next, the article estimates spline regression models that allow the relation on pre-tax income to vary in a piecewise linear fashion at a zero-income partition. Both of these analyses use a vector of control variables previously shown to be associated with uncertain tax planning as well as either industry and year or firm and year fixed effects. The results of these tests provide strong evidence that uncertain tax choices are non-linear in pre-tax income. Specifically, the findings indicate for profit firms, uncertain tax choices are increasing in income, which is consistent with the findings of prior literature that examines only profitable firms. However, in stark contrast, uncertain tax choices are also increasing in the amount of pre-tax operating loss incurred by the firm, which is a new result in the literature.[3]

The article also considers two cross-sectional hypotheses to investigate this result further. First, the article directly considers the assertions of regulators and standard-setters that the choice of more uncertain tax planning by loss firms may stem from a

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[3] While this study does not directly examine the types of activities that loss firms choose with more uncertainty, anecdotal evidence from conversations with practitioners suggests that the additional uncertainty is often generated on the margin by a wide variety of choices (i.e., many marginal decisions lead to the overall greater uncertainty).

lower likelihood of compliance or enforcement. These analyses reveal that on average, loss firms reduce uncertain tax planning in response to a higher likelihood of enforcement, consistent with the assertions of regulators. In addition, the article examines how the presence of prior losses impacts the realisation of settlements with tax authorities. In order for the relation of uncertain tax choices increasing in pre-tax losses to ultimately matter, it is important to consider whether these positions are overturned upon examination or if they are a product of over-reserving for the same positions as profitable firms. If either of these explanations is true, there should be a significant relation between prior losses and current settlements such that these firms are unable to monetise the more uncertain tax choices made in loss years. Indeed, Christensen and co-authors (2022) illustrate that profitable firms using tax loss attributes in the current year do not choose more uncertain tax planning when generating profits. However, they do not examine how prior choices made by those firms manifest in different levels of settlements with tax authorities. The results of this analysis show no significant differences in the settlements with tax authorities between profitable firms with prior losses and other profitable firms. These findings imply that while loss firms pursue more uncertain tax planning, their choices do not unwind in the form of more settlements, suggesting that loss firms are often able to escape enforcement of many of these positions.

The article conducts a battery of robustness tests to support the main analyses. Specifically, the article uses alternative measures for both uncertain tax planning and income and find qualitatively similar results. These measures include different variables for uncertain tax planning based on other prior literature as well as using different scaling variables. Additionally, these analyses use measures of income based on both the firm's taxable income as well as the firm's pre-tax income net of special items. The article also considers underlying differences in profit and loss firms by both employing a propensity score matched sample as well as a control vector fully interacted with the indicator variable for loss firms. These tests support the notion that underlying differences in other firm characteristics of profit and loss firms are not driving the results. In final robustness analyses, the article eliminates outlier observations in bands to alleviate concern that the results are driven by big bath accounting issues under losses, and the article also finds no difference based on the persistence of losses.

Finally, the article examines the sources of the incremental uncertainty from the tax planning of loss firms. Anecdotal evidence and conversations with practitioners indicate the uncertain tax planning often occurs on the margin and largely depends on the context in which a firm operates. For example, a firm taking advantage of certain tax credits may take action to increase those credits while a firm with significant international activity could implement more discretion to accomplish the same ends. Specific tax cases have involved the disallowance of 'aggressive' tax losses. Specifically, in a 2014 court case, Wells Fargo was denied over USD 400 million in tax losses that lacked 'economic substance' (Reuters, 2014). Interestingly in this case, the Internal Revenue Service attempted to access Wells Fargo's workpapers on Uncertain Tax Positions, suggesting that the losses being utilised by Wells Fargo may contain too much uncertain tax planning (Robert & Spencer, 2013). To explore larger scale associations, the article interacts different activities with the variables of interest and finds that loss firms realise more tax uncertainty from research and development as well as foreign income.

This study offers three distinct contributions to both the academic accounting literature as well as to regulators and standard-setters. First, this article contributes to the extant

literature on tax planning. Prior literature has offered significant insight into the tax choices of profitable firms but has often excluded loss firms from analysis (Henry & Sansing, 2018). Since tax loss attributes comprise an economically significant way that firms avoid paying taxes (Drake et al., 2020; Christensen et al., 2022) and because loss firms constitute a substantial portion of the population, it is imperative to understand how firms make uncertain tax choices when incurring pre-tax losses. This study answers that question by showing that uncertain tax choices are increasing in income for profitable firms but increasing in losses for loss firms. Importantly, the results provide descriptive evidence that indicates the conventional wisdom that uncertain tax planning is increasing in pre-tax income does not hold for loss firms. These findings add to the understanding of uncertain tax planning to provide a more complete picture of the relation between income and tax choices for the full spectrum of firms by indicating a similar increasing relation in both profits and losses.

Second, this study contributes more broadly to recent work that studies non-linearities in accounting research. Recent studies have suggested that some relations assumed by prior literature to be linear are not, in fact, linear. For example, Kim and co-authors (2021) use a voluntary disclosure setting to document non-linearity when information and disclosure costs are determined jointly. Similarly, Samuels and co-authors (2021) study the setting of public scrutiny and misreporting to show a non-linear relation. In the banking industry, recent work by Basu, Vitanza and Wang (2020) highlights that an important assumption of linearity in loan loss provisioning is violated when examining the full sample of firms, and Beardsley, Imdieke and Omer (2021) consider non-linearities as they relate to audit quality. This line of work adds rich texture to the literature to provide more complete insight into different accounting issues. The present article is among few that consider this type of issue in a tax setting to identify an important non-linear relation with respect to uncertain tax planning, which furthers the understanding of how the common assumption of linearity might influence inferences. It is also among the few studies that consider how profit and loss firms behave differently in a broader context.

Third and finally, this research has significant implications for regulators and standard-setters. This work is particularly relevant at a time when enforcement resources are scarce and government agencies seek to reshape and increase funding for enforcement efforts (Tankersley & Rappeport, 2021). The results indicate that concerns of regulators that loss firms pursue more uncertain tax planning are not unfounded and that these firms appear to avoid future settlements. Importantly, the findings also document that an increased likelihood of enforcement attenuates the relation between losses and uncertain tax planning on average, suggesting that better enforcement may be effective in curbing this relation and providing timely, relevant insight into uncertain tax planning for regulators and standard setters.

2.   BACKGROUND

2.1   Tax planning and tax uncertainty

A substantial amount of prior research has been dedicated to understanding the determinants and outcomes of a firm's tax planning activities.[4] This line of literature has investigated how agency issues, incentives, and conflicts of interest shape a firm's

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[4] Hanlon and Heitzman (2010) and Wilde and Wilson (2018) review this literature.

tax choices as well as how these choices shape outcomes like the information environment, disclosure, and other features. Since the bulk of this literature relies on effective tax rates (ETRs) in all or in part to measure tax planning choices, these results are largely constrained to profitable firms. The exclusion of loss firms from these analyses has also been consistent with the framework presented by Scholes and co-authors (2015), which implies that loss firms often do not have cash benefits associated with tax planning.

Extending this work on general tax planning choices, recent studies highlight the fact that additional risk associated with uncertain tax choices can have adverse consequences for the firm. Hanlon, Maydew and Saavedra (2017) document that the adoption of projects with more tax uncertainty causes firms to hold more precautionary cash, and Jacob, Wentland and Wentland (2022) show that tax uncertainty can induce firms to delay or even forgo profitable investment decisions, potentially harming the value of the firm. Dyreng, Hanlon and Maydew (2019) link specific tax planning projects with tax uncertainty and find that firms engaging in more tax planning on average bear more uncertainty with respect to those positions. Their results also show that certain activities generate more uncertainty for the firm (e.g., more patent filings, tax haven activity, and transfer pricing related to intangibles). Other work generally points to uncertain tax planning increasing in the amount of income for profitable firms (Klassen et al., 2016). However, the results of these studies are largely constrained only to profitable firms.

2.2   Loss firms

Despite the extensive literature on the tax choices of profitable firms, few studies explicitly examine the tax choices of firms incurring losses. Loss firms are often excluded from prior studies either because of difficulty in calculating measures of tax planning or due to an assumed lack of incentive to pursue tax planning (Henry & Sansing, 2018; Scholes et al., 2015). However, a recent line of literature suggests that the tax benefits generated by operating losses provide an economically significant portion of tax savings realised by firms in profitable years. For example, Drake and co-authors (2020) find that declining GAAP (generally accepted accounting principles) ETRs over the past two decades are primarily due to GAAP treatment of releases from the valuation allowance as opposed to intentional tax planning. Similarly, Van der Geest and Jacob (2020) show that profitable firms with zero tax expense primarily achieve low ETRs by non-aggressive choices. Christensen and co-authors (2022) also present findings consistent with profitable firms often using loss carryovers as the main way to reduce ETRs to seemingly low values. Interestingly, their findings also show that profitable firms using loss carryovers do not choose more uncertain tax planning in profitable years, providing some evidence of an association between low ETRs and uncertain tax choices but not considering the choices during loss years. Given that these studies still often exclusively examine profitable firms in their analyses, an important underlying assumption is that the loss carryovers themselves do not contain more uncertain tax planning than in years with profits. Examining the uncertain tax choices of firms under losses is critical to understanding whether the loss carryovers themselves contain more uncertain tax planning.

Another stream of literature has more explicitly examined how loss carryovers can impact firm behaviour. Earlier studies emphasise that losses and their associated tax attributes are economically important to firms and other stakeholders (Altshuler & Auerbach, 1990; Altshuler et al., 2009). Both Maydew (1997) and Erickson, Heitzman and Zhang (2013) show that these attributes can motivate a firm to change its behaviour

by managing earnings between years to be able to maximise the benefits associated with losses. Often, these attributes are so important to firms that many even adopt 'poison pill' provisions to preserve the ability to offset future income (Erickson & Heitzman 2010; Sikes, Tian & Wilson, 2014). Given that firms view loss attributes as economically important, it is also important to consider the tax planning choices of firms under losses to provide a clear picture of what types of tax planning are ultimately being monetised upon the use of the loss attributes.

More recent work suggests that because tax loss carryovers shift downside risk to the government, they are associated with greater risk-taking by the firm (Langenmayr & Lester, 2018). Heitzman and Lester (2022) show that consistent with more limited downside risk, investors value cash more for firms with loss carryovers. In theoretical work, De Waegenaere and co-authors (2021) highlight that the ability to carry over losses intertemporally can provide incentives for loss firms to pursue riskier investment. Consistent with these incentives, regulators and standard-setters have suggested that firms may pursue even more uncertain tax planning when incurring losses, but whether firms actually do so is an empirical question (OECD, 2011; GAO, 1993).

3.   HYPOTHESIS DEVELOPMENT

3.1   Main hypothesis: H_1

Given that prior literature presents conflicting evidence as to whether loss firms would pursue more or less uncertain tax planning, examining the relation between uncertain tax choices and income for both firms with profits and losses is important to develop an understanding of the full set of firms and their uncertain tax choices. On one hand, prior literature implies that loss firms would adopt less uncertain tax choices due to lack of ability to monetise those choices in most years (i.e., absent the ability to carryback the net operating loss) (Scholes et al., 2015). On the other hand, studies have also found that the ability to carry over losses can induce firms to make more uncertain choices (Langenmayr & Lester, 2018; De Waegenaere et al., 2021). Regulators have also shown concern that firms may make riskier tax choices under losses due to a lower likelihood of compliance or enforcement (OECD, 2011; GAO, 1993). Because these lines of prior work present conflicting reasoning as to how loss firms might choose uncertain tax planning, this article forms the following hypothesis in the null form:

> H_1: *The relation between income and uncertain tax planning is not different between profit and loss firms.*

3.2   Supplemental hypotheses: H_2 and H_3

To investigate this question further, the article also considers two supplemental hypotheses to better understand both how the relation between losses and uncertain tax planning varies in the cross-section as well as whether firms with prior losses have their uncertain tax planning subsequently overturned by an enforcement agency. First, the article turns to the rationale presented by regulators of the uncertain tax planning of loss firms in particular. Both the OECD and GAO have expressed concern that firms may make their most uncertain tax choices in years with losses due to compliance and enforcement difficulties (OECD, 2011; GAO, 1993). In line with this assertion, IRS data documents that loss firms are often examined less frequently than their profitable counterparts (IRS, 2021). However, prior work has shown that the likelihood of enforcement curbs tax planning by firms (Hoopes, Mescall & Pittman, 2012). If loss

firms respond to the risk of enforcement, the present article anticipates that any differential relation should be attenuated by higher enforcement risk. To consider this question, the article again frames the hypothesis in the null form as follows:

> **H₂**: *The relation between losses and uncertain tax planning is not attenuated by greater risk of enforcement.*

Finally, the article studies how prior losses influence settlements with tax authorities. Given that regulators and enforcement agencies have long suspected that firms engage in more uncertain tax planning under losses, it may follow that loss firms experience greater levels of positions that are examined and overturned when attempting to monetise some or all of those positions. However, in practice, such examinations typically involve assessing the tax choices of multiple years during one audit, which adds to the task complexity. Importantly, any observed differential relation between losses and uncertain tax planning could be eliminated by better enforcement when the firm begins to produce profits and use the loss carryforwards produced under losses. The article states the following hypothesis in the null form to consider how prior losses map into settlements with tax authorities for profitable firms:

> **H₃**: *Profitable firms with prior losses do not experience greater settlements with tax authorities than other profitable firms.*

4.   SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

4.1   Sample selection and variable measurement

The data employed in this study come from the Compustat Fundamentals Annual and Compustat Segments databases for fiscal years ending 2007 to 2016. The sample begins in 2007 because it is the first year subject to disclosure rules under FIN 48 for which UTB data are available for most firms. The sample ends in 2016 prior to the introduction of the *Tax Cuts and Jobs Act of 2017* to ensure a constant statutory tax rate and other tax laws across the sample period. The article excludes firms in regulated utility and financial services industries (SIC 4900-4999 and 6000-6999) consistent with prior studies, because the tax laws and reporting environments within these industries are substantially different from other industries. The article also eliminates firms with total assets of less than USD 10 million and firms with a negative or missing ending balance for UTB reserves to ensure that all firms in the sample are large public firms with similar reporting requirements (Dyreng et al., 2019).[5] Further, the article requires that each observation has sufficient data to calculate all variables in regression models for the main analyses. All variables are winsorised at the 1st and 99th percentile levels. After imposing these data requirements, the sample consists of 13,360 firm-year observations.

Because the sample includes loss firms, the article measures uncertain tax planning based on a firm's UTB disclosures for two primary reasons. First, UTB disclosures provide uniform rules to capture the firm's uncertainty on an *ex ante* basis (FASB, 2006). These rules outline that the reserve must be made with respect to only the position's technical merits, meaning that expectations about future profitability and the potential of enforcement cannot be considered when establishing the reserve for the

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[5] The USD 10 million threshold ensures that all firms are subject to filing Schedule M-3 as well as other disclosure features. In untabulated analyses, the article also excludes observations with zero additions to UTBs and finds the results are qualitatively similar.

year. Second, De Simone and co-authors (2020) show that the UTB reserve reported under FIN 48 is the most powerful proxy in capturing uncertain tax choices in samples with both profit and loss firms. While some literature documents that firms have discretion in their UTB reserves (De Simone, Robinson & Stomberg, 2014), studies employing proprietary IRS data show that UTB reserves capture more uncertain tax strategies effectively (Lisowsky, Robinson & Schmidt, 2013; Ciconte et al., 2023). Further, although UTB reserves cannot perfectly capture the risk associated with uncertain tax choices, prior literature shows that UTB reserves are positively associated with future cash tax settlements (Robinson, Stomberg & Towery, 2014). To confirm that the results are not due to differences in disclosure choices or measurement of income, the article also examines alternative measures of both uncertain tax choices and income in robustness analyses.

4.2 Descriptive statistics

Table 1 (Appendix B) presents univariate descriptive statistics of the sample in Panel A and Pearson correlation coefficients in Panel B. To capture incremental uncertain tax choices, the article measures the uncertain tax activities by using the additions relating to current year positions scaled by total assets and multiplied by 100 for interpretability to construct *UTBadd*. The article also presents summary statistics for the value of cumulative uncertain tax positions, *UTBend*. The mean values of *UTBend* and *UTBadd* indicate that the sample has an average ending balance of UTB reserves of 1.339% of assets and average annual additions relating to current year positions of 0.157% of assets. These values correspond to an average annual increase of the ending UTB balance of approximately 12% per year.

The mean value of *Loss,* an indicator variable equal to 1 when pre-tax income is negative, is 0.333, indicating that a substantial portion (33.3%) of the sample firm-years are loss observations. This value emphasises the prevalence of loss firms in the universe of public companies and stresses the importance of specifically studying how their incentives differ from profitable firms (Henry & Sansing, 2018). Consistent with the inclusion of loss firms in the sample, the natural logarithm of assets, *Size,* has a mean of 6.593, which illustrates that the sample firms are large (USD 730 million in assets on average) but smaller than in studies that exclude loss firms. Other firm characteristics and control variable values are consistent with prior studies and indicate that the sample consists of large public US-based firms with significant international activity.

5. RESEARCH DESIGN AND MAIN RESULTS

5.1 Tests of H_1

5.1.1 Univariate evidence

Because the article's first hypothesis relates to a potentially non-linear relation between pre-tax profit/loss and uncertain tax planning, the article employs a three-pronged approach to study this relation consistent with Kim and co-authors (2021) and Samuels and co-authors (2021). This process involves first examining the full distribution graphically. To do so, the article divides the sample into deciles based on *ROA* and plots the mean value of *UTBadd* within each decile, where the decile is constructed by year, industry, and both industry and year and plotted separately. These results are presented in Figures 1 and 2. Figure 1 plots the mean value for *UTBadd* for all sample firm-years. Interestingly, despite the conventional wisdom that loss firms often cannot immediately

monetise uncertain tax planning, Figure 1 suggests a non-linear relation between *ROA* and *UTBadd*, and it indicates the same shape for deciles when sorted by year, industry, or industry and year.[6] The plot shows a V-shaped distribution with a minimum value around the decile where losses turn into profits, with the amount of *UTBadd* increasing in profits for profitable firms and losses for loss firms (the shaded area). Importantly, the distribution shows that the change in linearity occurs when loss firms begin to be included in each decile. While Figure 1 plots the relation based on the disclosed value of UTBs, some firms choose to disclose no UTBs. Figure 2 presents the same univariate sorts when excluding firm-years reporting zero additions to the UTB reserves, which ensures that the distribution observed in Figure 1 is not simply due to the inclusion of zero-UTB observations. Again, Figure 2 illustrates a shape of the distribution consistent with Figure 1. These Figures provide preliminary evidence that uncertain tax planning is non-linear and increasing in both profits and losses.

Fig. 1: Mean *UTBadd* by ROA Decile

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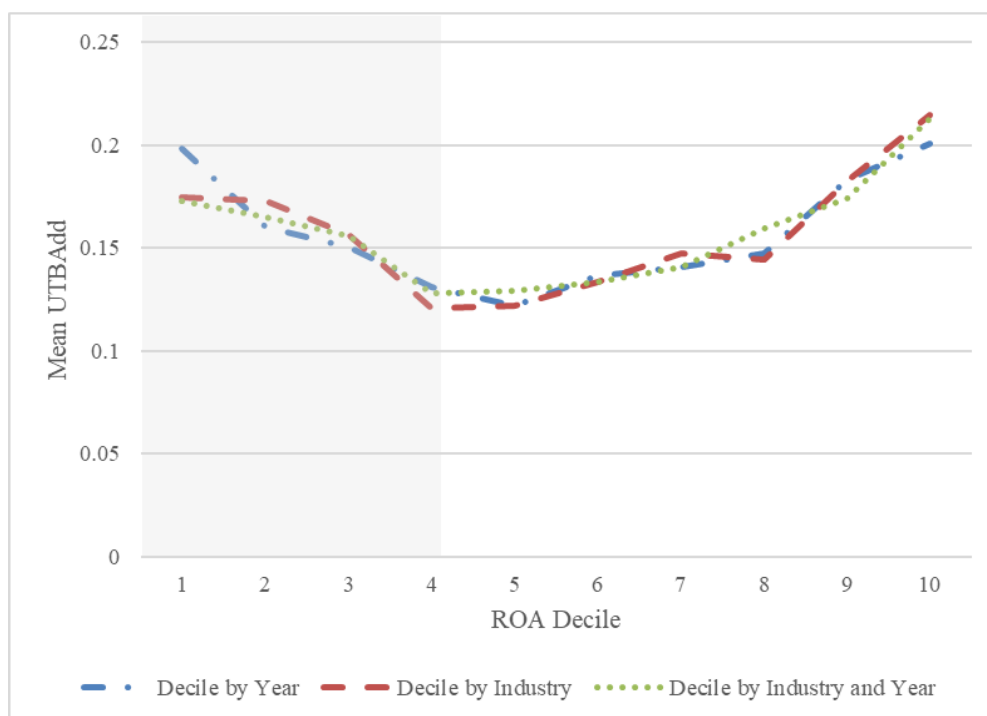
[6] The article also considers untabulated analyses of the raw values of pre-tax income and UTB reserve additions and finds that the shape of the distribution is still such that uncertain tax choices appear to be increasing in both profits and losses. These plots confirm that the univariate findings are not simply products of the scaling factor employed.

Fig. 2: Mean *UTBadd* by ROA Decile Excluding Zero UTB Firms
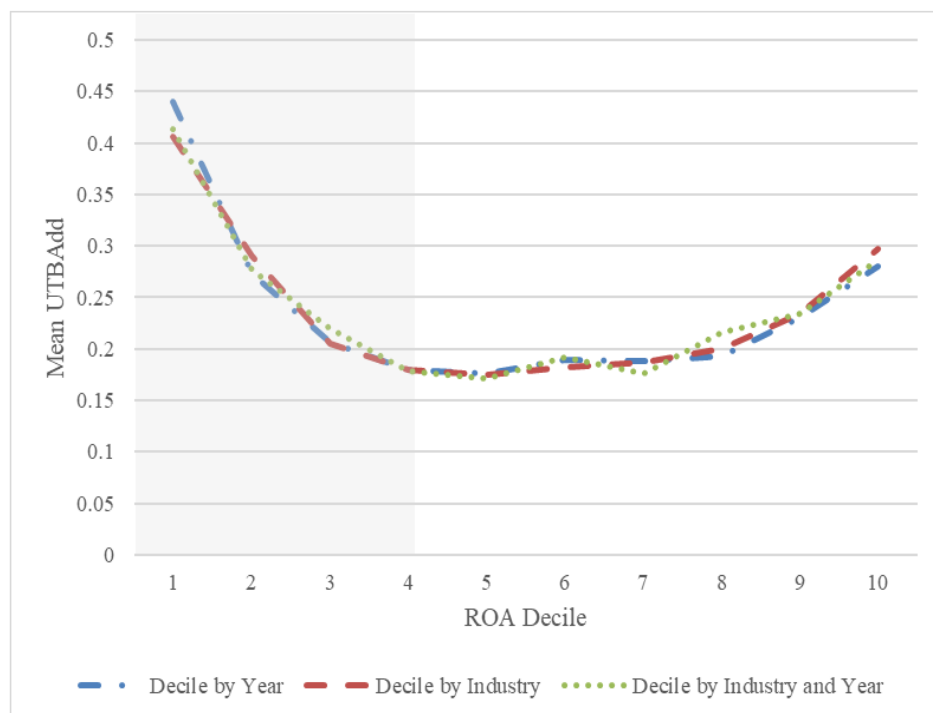
Table 2 (Appendix B) reports the numerical values that correspond to each decile of *ROA* based on the sort regime employed. Panel A shows the values for the univariate sorts using the full sample, which corresponds to the values in Figure 1. Each ranking scheme presents a consistent finding that the level of *UTBadd* is decreasing in the first four deciles and then begins to increase. Importantly, across all ranking schemes, the reversal in the values of *UTBadd* occurs around the decile where loss firms stop being included (decile 5). The difference between deciles 3 and 4 is consistently statistically significant, yielding support that the value of *UTBadd* is increasing in the amount of losses for loss firms. For profitable firms (deciles 5 through 10), there appears to be a generally increasing trend as profits increase.

Overall, these univariate sorts suggest that the relation between income and uncertain tax planning for the full distribution of firms is non-linear, exhibiting a V-shape with a minimum around zero income. These results highlight that the shape of this distribution is not driven by control variables in regressions but rather can be illustrated using univariate data. To formally test the shape of this distribution, the article also conducts multivariate regression analyses below.

5.1.2   *Multivariate regression models*

To support the univariate findings, the article uses multivariate regression models that use both a polynomial specification as well as a partitioning specification. In the polynomial regression models, the article uses both linear and squared polynomial terms on the income variables (*ROA* and ROA^2) to allow the shape of the distribution to vary non-linearly without restricting the location of the partition. To consider these tests, the

article estimates the following OLS regression model with standard errors clustered at the firm level:

$$UTBadd_{i,t} = \beta_0 + \beta_1 ROA_{i,t}^2 + \beta_2 ROA_{i,t} + \delta Controls_{i,t} + \varepsilon_{i,t} \qquad (1)$$

In this model, *UTBadd* is the measure for uncertain tax planning adopted in the current year, and *ROA* is the firm's pre-tax return on assets that measures the income level of the firm.

Because the article's hypothesis pertains to the partition at zero income, in addition to the polynomial specification, the article also employs a regression model that partitions the sample at zero income by introducing the variable *Loss*, which is equal to 1 when the firm incurs negative pre-tax income, and interacting *Loss* with *ROA*. This model is estimated as follows using OLS regression with standard errors clustered at the firm level:

$$UTBadd_{i,t} = \beta_0 + \beta_1 ROA_{i,t} + \beta_2 Loss_{i,t} + \beta_3 Loss * ROA_{i,t} + \delta Controls_{i,t} + \varepsilon_{i,t} \qquad (2)$$

To account for other reasons that may result in different levels of uncertain tax planning, the article also employs a common vector of control variables in Equations 1 and 2 that prior literature has shown to be associated with differential levels of uncertain tax planning. Specifically, the control vector includes age (*Age*), size (*Size*), long-term debt (*Leverage*), current debt (*CDebt*), and Big 4 auditor presence (*Big4*), because these features may create different incentives and restrictions associated with adopting uncertain tax choices (Lisowsky et al., 2013; Law & Mills, 2015; Klassen et al., 2016). The article also controls for specific activities that can contribute differently to the amount of tax uncertainty for a firm, consistent with inferences drawn from prior literature (Dyreng et al., 2019) including foreign income (*ForeignInc*), research and development expenses (*R&D*), and intangible assets (*Intang*).[7] In addition to these variables, the model also controls for overall risk-taking (*STDROA*), financial constraints (*Zscore*), and the firm's expectations of future growth (*MtB*), as prior literature has attributed tax planning to overall risk as well as the need for additional cash (Altman, 1968; Langenmayr & Lester, 2018; Yost, 2018; Edwards, Shevlin & Schwab, 2016).

In addition to these control variables, the main estimations of Equations 1 and 2 also include industry and year fixed effects. To further account for unobservable differences between firms, the article also ensures the results are robust to including firm and year fixed effects and presents those results beside the results using other fixed effect structures in the main analyses.

Table 3 (Appendix B) presents the results of estimating Equations 1 and 2. Models 1 and 3 show a positive and significant coefficient on ROA^2 (t-stat = 3.16 and t-stat = 2.48 respectively), suggesting that the relation between *ROA* and *UTBadd* is not linear but

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[7] Although the coefficients on *R&D* and *Intang* are negative, this is anticipated as the sample includes both profit and loss firms. In Table 12 (Appendix B), the negative coefficient goes away and loses significance for profit firms when run in a model where *Loss* is interacted with each, highlighting that this sign is only due to the inclusion of both profit and loss firms in the article's main sample.

rather increasing in both positive and negative values of *ROA*. Models 2 and 4 estimate Equation 2 using the partitioning specification. Again, these models indicate a positive and significant coefficient on *ROA* (t-stat = 4.29 and t-stat = 1.74 respectively) but a negative and significant coefficient on the interaction term *Loss*ROA* (t-stat = -6.16 and t-stat = -2.33 respectively). Model 2 also indicates a positive and significant coefficient on loss, implying that loss firms engage in more uncertain tax planning outside of the relation with ROA. These results provide evidence that uncertain tax planning is non-linear and increasing in both profits and losses. In Models 1 and 2, the coefficients on the control variables are generally consistent with prior literature, and the article conducts robustness analyses where all controls are fully interacted with *Loss* to be sure that underlying differences in the control variables are not driving the results. In Models 3 and 4, the firm fixed effects largely subsume the significance of the control vector but arrive at consistent inferences with respect to the variables of interest.

5.1.3 Spline regression models

To further support the findings that uncertain tax planning is increasing in both profits and losses, the article also employs a spline regression model that partitions the model at zero income to evaluate a piecewise linear estimation for both profit and loss firms. Specifically, the article estimates the relation between income and uncertain tax planning using the following spline regression model:

$$UTBadd_{i,t} = \beta_0 + \beta_1 ROA < 0_{i,t} + \beta_2 ROA \geq 0_{i,t} + \delta Controls_{i,t} + \varepsilon_{i,t} \quad (3)$$

Consistent with the other equations, the article estimates this model with both year and industry as well and year and firm fixed effects.

The results of estimating Equation 3 are presented in Table 4 (Appendix B). In Model 1, the coefficient on β_1 is negative and significant (t-stat = -6.75), suggesting that uncertain tax choices are increasing in the amount of losses in a given firm-year. The coefficient on β_2 is positive and significant (t-stat = 3.03), which indicates that uncertain tax choices are also increasing in the amount of pre-tax profits realised by the firm in a given year. The test of the equality of these two coefficients (F-stat = 28.85) indicates that they are statistically different values. In Model 2, the article repeats the same analyses using firm fixed effects in lieu of industry fixed effects and finds similar conclusions, namely that uncertain tax choices are increasing in both losses and profits and that the coefficients are different in this piecewise linear regression model.

Taken together, Figures 1 and 2 and Tables 2, 3, and 4 provide strong support that the relation between uncertain tax choices is not linear across the full sample of firms. These results support the idea that uncertain tax choices are increasing in the amount of pre-tax income realised by profitable firms in a given year, consistent with prior literature. However, the findings also present a more complete picture of the full sample of firms by also considering loss firms in the analyses as well as providing for non-linearity in the relation across the full sample of firms. Importantly, in stark contrast to conventional wisdom, these results indicate that uncertain tax choices are also increasing in the amount of pre-tax losses for loss firms. They provide critical insight to better understand how a significant portion of firms behave with respect to uncertain tax choices, and these findings suggest that regulators' concerns that loss firms pursue more uncertain tax planning are warranted. To confirm that these results are not sensitive to the measurement factors used in the main analysis, the article also considers a number of different specifications and measurements in robustness analyses.

5.2   Tests of H₂

To further explore the relation between losses and uncertain tax choices, the article first considers how issues raised by regulators and enforcement agencies relate to the choice to pursue more uncertain tax strategies. On one hand, some regulators have suggested that loss firms may pursue more uncertain tax choices due to a lack of compliance or enforcement (OECD, 2011), but other agencies have held that enforcement efforts are increased when claiming tax benefits associated with losses (Treasury Inspector General for Tax Administration (TIGTA), 2015). Therefore, it is an empirical question whether a higher probability of enforcement would curb the adoption of uncertain tax strategies by loss firms. To consider this question, the article estimates the following regression model using OLS with standard errors clustered by firm:

$$UTBadd_{i,t} = \beta_0 + \beta_1 Loss_{i,t} + \beta_2 HighEnforce_{i,t}$$

$$+\beta_3 Loss * HighEnforce_{i,t} + \delta Controls_{i,t} + \varepsilon_{i,t} \qquad (4)$$

All estimations of Equation 4 include both industry and year fixed effects and include the same vector of control variables as Equation 1. Given the findings from the main analyses, this model uses a partitioning variable, *Loss*, to identify firms with current year losses. In Equation 4, *HighEnforce* is identified using two definitions. First, to capture the likelihood of enforcement, the article employs the model developed by Ayers, Seidman and Towery (2019) to capture firms likely to be subject to an audit. Specifically, the present article constructs *HighCIC* as an indicator variable equal to 1 if the firm falls in the top decile of audit probability from the Ayers and co-authors (2019) model.[8] Second, to capture the scrutiny of tax enforcement, the article considers the position of the TIGTA that firms using net operating losses carried over from a prior year are likely subject to more tax scrutiny. Accordingly, *NOLCB* is an indicator variable if the firm is a loss firm and has negative tax paid in the current year, suggesting the firm is receiving a refund for past taxes paid.[9]

Table 5 (Appendix B) presents the results of estimating Equation 4 using each of the two measures for *HighEnforce*. Model 1 employs *HighCIC* as the measure for *HighEnforce* and indicates a positive and significant coefficient on *Loss* (t-stat = 5.34), consistent with the main results. However, the coefficient on the interaction term *Loss*HighEnforce* is negative and significant (t-stat = -2.68), which suggests that loss firms respond to a higher enforcement probability by reducing the adoption of uncertain tax choices. The sum of *Loss* and *Loss*HighEnforce* is not statistically significant from zero (sum = -0.0189, t-stat = 0.85), suggesting that the average positive relation observed in the main analyses between losses and uncertain tax choices is attenuated when enforcement likelihood is sufficiently high.

Similarly, Model 2 presents the results of the same equation using *NOLCB* as a measure of heightened scrutiny from enforcement agencies. In Model 2, the coefficient on *Loss* is again positive and significant (t-stat = 5.07), and the coefficient on the interaction

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[8] The article uses the top decile to ensure that all firms in this group have a higher than average probability of audit, but the results are not sensitive to this cutoff.

[9] Because all firms with a positive value of *NOLCB* are loss firms by definition, the main effect of *HighEnforce* is omitted from these models.

term *Loss*HighEnforce* is negative and significant (t-stat = -2.68). Again, the sum of *Loss* and *Loss*HighEnforce* is not statistically significant from zero (sum = 0.0081, t-stat = 0.62), which suggests that the average relation observed in the main analyses is eliminated when enforcement scrutiny is sufficiently high. Taken together, these results suggest that the positive relation between losses and uncertain tax choices depends on the level of enforcement anticipated by the firm, which provides meaningful insight to regulators, standard-setters, and enforcement agencies.

5.3   Tests of H₃

Finally, the article considers the issue of whether firms with prior losses experience more reversals of uncertain tax choices after they become profitable. To analyse this possibility, the article restricts the sample to firms with current year profits and examines how losses in the prior three years map into the amount of settlements recorded by the firm. If loss firms adopt more uncertain tax choices than profitable firms only to have those choices overturned upon becoming profitable, that would imply that these firms are not at any advantage relative to other profitable firms. Similarly, if loss firms are simply over-reserving for the same types of tax choices as profitable firms, this behaviour should unwind through future settlements, resulting in higher levels of settlements with tax authorities. To formally evaluate these possibilities, the article estimates the following regression model using OLS and standard errors clustered by firm:

$$Settle_{i,t} = \beta_0 + \beta_1 Loss_{i,t-1} + \beta_2 Loss_{i,t-2} + \beta_3 Loss_{i,t-3} + \delta Controls_{i,t} + \varepsilon_{i,t} \tag{5}$$

The dependent variable in Equation 5 is *Settle*, which is defined as the total settlements with tax authorities disclosed by the firm during the year scaled by total assets and multiplied by 100 for interpretability. Equation 5 is estimated using the same control variable vector as Equation 1 and includes industry and year fixed effects in all estimations. If prior losses are associated with different levels of settlements, the article anticipates a significant coefficient on the *Loss* variables, and if not, the article anticipates no significant relation.[10]

Table 6 presents the results of estimating Equation 5 where the sample includes only firms with current year profits to ensure consistency of other incentives. Each model employs lagged values of *Loss* to identify firms that incurred losses in prior years. Model 1 uses one preceding year of losses and finds no significant association on the coefficient of *Loss$_{t-1}$* (t-stat = -1.24). Model 2 uses two preceding years of losses and shows no significant coefficient on either *Loss$_{t-1}$* (t-stat = -0.80) or *Loss$_{t-2}$* (t-stat = -1.57). However, the sum of the coefficients of *Loss$_{t-1}$* and *Loss$_{t-2}$* is negative and significant (sum = -0.011, t-stat = -1.86), suggesting that firms with consecutive years of prior losses actually have lower levels of settlements after realising profitability. Model 3 provides similar inferences to Model 2 in showing that when using three preceding

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[10] In robustness analyses, the article replaces *Settle* with *UTBadd* in a sample of profitable firms with negative tax expense to investigate whether firms using NOLs make more uncertain tax choices after coming out of losses and finds no significant relation. These tests confirm that firms with prior losses do not adopt more uncertain tax choices than other profitable firms in the years following those losses, consistent with Christensen and co-authors (2022). However, these results also highlight the distinct findings of this study that loss firms choose more uncertain tax planning while incurring losses but not when using NOLs upon reaching profitability.

years, there is no significant relation between any of the individual coefficients for each year but the sum of the three coefficients is again negative and significant (sum = -0.0153, t-stat = -2.31). These results provide evidence of no differences in settlements between firms with prior losses in a given year and prior profits in a given year, despite the main analyses showing the positive relation between losses and uncertain tax choices. Further, the combined coefficients in these tests highlight that firms with serial losses actually realise lower levels of settlements, which is in line with the concerns of some regulators that loss firms may utilise loss carryovers as a mechanism to embed more uncertain tax planning choices (OECD, 2011).

6. ROBUSTNESS AND ADDITIONAL ANALYSES

6.1 Alternative measures for uncertain tax choices

To ensure the main results are not sensitive to measures used in defining uncertain tax choices, the article considers two alternate measures of uncertain tax choices. In these analyses, alternative definitions of uncertain tax choices are substituted for *UTBadd* in Equation 2. Because measuring tax planning of profit and loss firms together has been difficult in prior literature, the article first employs a measure based on Henry and Sansing (2018). This measure is calculated by scaling the firm's tax conformity, Δ [(cash taxes paid adjusted for tax refunds) minus (pre-tax income times the statutory tax rate)], by the market value of assets. Consistent with literature using the volatility of tax outcomes as a measure of the risk/uncertainty of tax planning, the article uses the standard deviation of this measure over the following three years to construct *STDHS*. Because this measure does not require the disclosure of tax reserves that began in 2007, the analyses using *STDHS* include all firm-years beginning in 1994.

The results of estimating Equation 2 using *STDHS* as the dependent variable are presented in Model 1 of Table 7 (Appendix B). Consistent with the main results, the coefficient on *ROA* is positive and significant (t-stat = 7.70), and the coefficient on *Loss*ROA* is negative and significant (t-stat = -18.26). Importantly, these findings show that the observed relation between losses and uncertain tax choices is not due to the sample period or disclosure choices. In addition to using *STDHS*, Model 2 estimates Equation 2 in the main sample using *UTBaddS*, which scales the increases in tax reserves by sales. Again, the coefficient on *Loss*ROA* is negative and significant, supporting the inferences about loss firms.

6.2 Alternative measures for income and losses

Because the main analyses rely on a parsimonious definition of pre-tax operating income commonly used in prior tax planning literature, the article also considers alternative measures for income and loss. Table 8 (Appendix B) estimates Equation 2 using two different measures for income and losses, *Taxable Income* and *Income Net of Special Items*. *Taxable Income* is calculated consistent with prior literature as the amount of current tax expense grossed up by the statutory tax rate and scaled by total assets. This estimate of taxable income considers the fact that book income and taxable income are often different. *Income Net of Special Items* is calculated as pre-tax income less special items and scaled by total assets. This measure of income considers that many special items (for example, goodwill impairments) might affect book income but not taxable income.

The results of estimating Equation 2 with each of these alternative measures of income are presented in Table 8 (Appendix B) using both industry and year fixed effects. Model 1 employs *Taxable Income* to define both the partitioning variable, *Loss*, and *ROA*, and the results indicate similar inferences to the main results, namely a positive and significant coefficient on *ROA* (t-stat = 2.82) and a negative and significant coefficient on the interaction term *Loss*ROA* (t-stat = -2.87). The results in Model 2 show a similar relation such that *UTBadd* is increasing in *ROA* (t-stat = 4.29) but also increasing in losses, illustrated by the negative coefficient on *Loss*ROA* (t-stat = -6.17). Together these models support the results in the main analyses and show that the findings are not sensitive to the definition of income and loss used in the main tests of Equation 2.

6.3   Alternative samples and specifications

Because loss firms can often differ from profit firms in terms of other firm characteristics (i.e., they are more likely to be growth firms or otherwise different firms than the average profitable firm), the article also employs alternative samples and specifications to confirm that the results are not sensitive to different assumptions. First, the article considers differences in firm types by using a sample of propensity score matched firms. Although the main analyses include firm fixed effects to account for unobservable firm characteristics, propensity score matching offers a distinct restrictive approach to support the robustness of these findings. Specifically in this sample, loss firms are matched one-to-one based on all covariates in the main model.[11] Model 1 of Table 9 (Appendix B) presents the results of estimating Equation 2 in the propensity score matched sample. In this model, the coefficient on *ROA* is positive and significant (t-stat = 2.83), and the coefficient on the interaction term *Loss*ROA* is negative and significant (t-stat = -2.81). These coefficients support the inferences of the main analyses.

In addition to using a propensity score matched sample, the article also considers differences in covariates explicitly based on the partitioning variable *Loss*. To do so, the article estimates Equation 2 and adds a set of full interactions with *Loss* to the control vector, where every control variable is interacted with *Loss*. The results of this estimation are presented in Model 2 of Table 9. Again, similar to the main results, the coefficient on *ROA* is positive and significant (t-stat = 2.79), but the coefficient on *Loss*ROA* is negative and significant (t-stat = -4.33). Collectively, these findings show that the results in the main analyses are robust to different sample restrictions and are not due to differences in the relation of other control variables based on the partitioning variable *Loss*.

6.4   Big bath accounting and outlier observations

Next, when firms incur large operating losses, they often have incentives to engage in big bath accounting (Hayn, 1995; Hope & Wang, 2018). Figures 1 and 2 both show an increasing trend in uncertain tax choices as the magnitude of losses increases, and the effect of reserving for uncertain tax choices is a further reduction in net income. These incentives raise the potential concern of whether firms with extreme negative values of *ROA* drive the results found in the main analyses. To rule out this possibility, the article

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[11] Firms are matched based on the absolute values of *ROA* to provide for matches between the two firms. To confirm that the findings are not driven by this design choice, the article also matches on only the control vector and finds that the results are qualitatively similar.

estimates Equation 2 using three different sub-samples where the absolute value of *ROA* is bounded at 35%, 25%, and 15% to eliminate outlier observations for both profit and loss firms.

Table 10 (Appendix B) presents the results of these models. Model 1 shows the results where *ROA* is bounded at an absolute value of 35%, which eliminates about 1,000 observations from the sample compared to the main analyses. In this model, consistent with the main results, the coefficient on *ROA* is positive and significant (t-stat = 3.74), and the coefficient on *Loss*ROA* is negative and significant (t-stat = -5.41). Similarly, Model 2 restricts the sample to firms with absolute values of *ROA* within a band of 25% and shows similar sign and significance on both *ROA* (t-stat = 3.69) and *Loss*ROA* (t-stat = -4.88). Finally, Model 3 imposes a restriction of 15% and indicates a positive but insignificant coefficient on *ROA* (t-stat = 0.87) and a negative and significant coefficient on *Loss*ROA* (t-stat = -2.24), which implies that the relation between uncertain tax choices and profits may be driven by firms with high values of *ROA* but that the relation between uncertain tax choices and losses is not driven by firms with extreme low values of *ROA*. Taken together, these findings show that the results presented in the main analyses are not simply due to big bath accounting employed by some loss firms.

6.5   Loss persistence

In a final robustness test, the article considers whether loss persistence influences the choice of uncertain tax planning of loss firms. From a theoretical perspective, firms choose more uncertain tax planning as a means to generate future benefits. However, this feature may be driven by lower enforcement, as documented by H_2 or by lower loss persistence (i.e., the firm expects to be profitable sooner). Because the rules regarding the reserve for UTBs state that the amount should only be based on the technical merits of a position rather than the expectation of future income, the article does not anticipate that the persistence of losses should influence the relation between losses and uncertain tax planning. To support that the main findings are due to lower threat of enforcement rather than less persistent losses, the article employs a modified version of Equation 4, substituting *Prior3Loss* for *HighEnforce*. In this new model, *Prior3Loss* is set equal to 1 if the firm had persistent losses (i.e., losses in each of the prior three years). The results of estimating this equation are presented in Table 11 (Appendix B), and the inferences show that prior losses have no incremental association with uncertain tax planning. In addition, Model 2 divides the losses into the prior three years among firms with a current year loss and again finds no significant association.

6.6   Sources of incremental uncertainty

Finally, the article considers the sources of uncertain tax planning for loss firms. To do so, the article examines three potential sources of tax uncertainty identified by prior literature: (1) research and development activities; (2) intangible assets, and (3) foreign income. Empirically, the article interacts *R&D*, *Intang*, and *ForeignInc* with both *Loss* and *ROA* in Equation 2. The results of this analysis are presented in Table 12 (Appendix B). In Model 1, the three sources of uncertainty are interacted with *Loss*. The coefficients on *Loss*R&D* and *Loss*Intang* are not significant, but the coefficient on *Loss*ForeignInc* is negative and significant. Model 2 provides full interactions and shows a negative and significant coefficient on *Loss*ROA*R&D* as well as *Loss*ROA*ForeignInc*. These results indicate that loss firms realise more incremental tax uncertainty from research and development activities and foreign income, on average.

7.   CONCLUSION

This article investigates the role of losses in uncertain tax planning by considering the relation between pre-tax income and uncertain tax choices for both profit and loss firms. Recent accounting literature has indicated that firms often achieve low effective tax rates by using benefits carried over from loss years through net operating losses (Drake et al., 2020; Van der Geest & Jacob, 2020; Christensen et al., 2022). Given the importance of these carryovers generated under losses and the fact that they are often used in subsequent years to reduce tax payments, it is important to understand how firms behave with respect to uncertain tax choices under losses.

While conventional wisdom indicates that profit firms have greater incentive to pursue uncertain tax choices and that the relation between pre-tax income and uncertain tax choices is increasing among profitable firms (Scholes et al., 2015), regulators and standard-setters have expressed concern that firms may pursue more uncertain tax choices under losses. Consistent with these concerns, recent work supports the notion that tax loss carryovers can increase a firm's risk appetite and that conventional wisdom does not always hold (Langenmayr & Lester, 2018; De Waegenaere et al., 2021).

To investigate the relation between pre-tax profit/loss and uncertain tax choices, the article employs an approach consistent with prior literature that considers non-linearities in accounting research by using univariate graphical evidence, multivariate regression, and spline regression techniques (Kim et al., 2021; Samuels et al., 2021). The results indicate that for profitable firms, consistent with conventional wisdom, uncertain tax choices are increasing in pre-tax operating profits. However, the results also illustrate that, consistent with concerns from regulators, uncertain tax choices are increasing in the magnitude of the loss for loss firms. Collectively, these findings suggest that the relation between uncertain tax choices and pre-tax profit/loss is not linear such that uncertain tax choices are increasing in both profits and losses. In cross-sectional analyses, the article finds that the relation between losses and uncertain tax choices is attenuated when the likelihood of enforcement is high, which implies that concerns about lower levels of enforcement among loss firms are not unfounded. In addition, the article also finds that profitable firms with prior losses do not experience higher levels of settlements with tax authorities, illustrating that the relation is not simply due to over-reserving or efficiently captured when trying to realise the benefits of tax loss carryovers. The results are robust to a battery of different robustness analyses.

This evidence sheds light on an important subset of firms relevant to both academic accounting literature as well as regulators and standard-setters. First, despite the importance of the tax attributes generated by losses, prior literature has not thoroughly examined the behaviour and incentives of firms under losses. This study adds to the understanding of uncertain tax choices by loss firms in showing that such choices are increasing in the amount of pre-tax operating loss incurred by the firm. In addition, this article also contributes to the broader line of recent literature that challenges conventional wisdom by documenting non-linearities in firm behaviour (Kim et al., 2021; Samuels et al., 2021; Basu et al., 2020). Finally, this research has implications for regulators and standard-setters. The findings confirm the suspicions of some regulators that loss firms choose more uncertain tax planning than profitable firms.

Collectively, this study provides significant insight into the tax choices of loss firms by considering the incentives surrounding such a choice. Despite the assumption that loss firms often do not immediately benefit from uncertain tax choices, prior literature

documents that firms use tax attributes generated under losses to reap cash benefits later. This article adds to the literature by documenting that the relation between uncertain tax choices and pre-tax income is not linear across the full universe of firms and specifically that the relation is increasing in both profits and losses.

8.   REFERENCES

Altman, E I 1968, 'Financial ratios, discriminant analysis and the prediction of corporate bankruptcy', *The Journal of Finance*, vol. 23, no. 4, pp. 589-609.

Altshuler, R & Auerbach, A J 1990, 'The significance of tax law asymmetries: An empirical investigation', *Quarterly Journal of Economics*, vol. 105, no. 1, pp. 61-86.

Altshuler, R, Auerbach, A J, Cooper, M & Knittel, M 2009, 'Understanding US corporate tax losses', *Tax Policy and the Economy*, vol. 23, no. 1, pp. 73-122.

Ayers, B C, Seidman, J K & Towery, E M 2019, 'Tax reporting behavior under audit certainty', *Contemporary Accounting Research*, vol. 36, no. 1, pp. 326-358.

Basu, S, Vitanza, J & Wang, W 2020, 'Asymmetric loan loss provision models', *Journal of Accounting and Economics*, vol. 70, nos 2-3, 101359.

Beardsley, E L, Imdieke, A J & Omer, T C 2021, 'The distraction effect of non-audit services on audit quality', *Journal of Accounting and Economics*, vol. 71, nos 2-3, 101380.

Christensen, D M, Kenchington, D G & Laux, R C 2022, 'How do most low ETR firms avoid paying taxes?', *Review of Accounting Studies*, vol. 27, no. 2, pp. 570-606.

Ciconte, W A, III, Donohoe, M P, Lisowsky, P & Mayberry, M A 2023, 'The predictive ability of tax contingencies for future income tax cash outflows', unpublished working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2390150.

De Simone, L, Nickerson, J, Seidman, J & Stomberg, B 2020, 'How reliably do empirical tests identify tax avoidance?', *Contemporary Accounting Research*, vol. 37, no. 3, pp. 1536-1561.

De Simone, L, Robinson, J R & Stomberg, B 2014, 'Distilling the reserve for uncertain tax positions: The revealing case of black liquor', *Review of Accounting Studies*, vol. 19, no. 1, pp. 456-472.

De Waegenaere, A, Sansing, R C & Wielhouwer, J L 2021, 'Tax loss carryovers in a competitive environment', *Contemporary Accounting Research*, vol. 38, no. 1, pp. 180-207.

Drake, K D, Hamilton, R & Lusch, S J 2020, 'Are declining effective tax rates indicative of tax avoidance? Insight from effective tax rate reconciliations', *Journal of Accounting and Economics*, vol. 70, no. 1, 101317.

Dyreng, S D, Hanlon, M & Maydew, E L 2019, 'When does tax avoidance result in tax uncertainty?', *The Accounting Review*, vol. 94, no. 2, pp. 179-203.

Dyreng, S D, Lewellen, C M & Lindsey, B P 2018, 'Tax planning gone awry: Do tax-motivated firms experience worse tax outcomes from losses compared to other firms?', unpublished working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3291705.

Edwards, A, Schwab, C & Shevlin, T 2016, 'Financial constraints and cash tax savings', *The Accounting Review*, vol. 91, no. 3, pp. 859-881.

Erickson, M & Heitzman, S 2010, 'NOL poison pills: Selectiva v. Versata', *Tax Notes Federal*, vol. 127, 21 June.

Erickson, M M, Heitzman, S M & Zhang, X F 2013, 'Tax-motivated loss shifting', *The Accounting Review*, vol. 88, no. 5, pp. 1657-1682.

Financial Accounting Standards Board (FASB) 2006, 'Accounting for uncertainty in income taxes – An interpretation of FASB Statement No. 109', Norwalk, CT.

General Accounting Office (GAO) 1993, *Corporate taxes: Many benefits and few costs to reporting net operating loss carryover*, Report to the Chairman, Committee on Ways and Means, Subcommittee on Oversight, House of Representatives, GAO/GGD-93-131, September.

Hanlon, M & Heitzman, S 2010, 'A review of tax research', *Journal of Accounting and Economics*, vol. 50, no. 2, pp. 127-178.

Hanlon, M, Maydew, E L & Saavedra, D 2017, 'The taxman cometh: Does tax uncertainty affect corporate cash holdings?', *Review of Accounting Studies*, vol. 22, no. 3, pp. 1198-1228.

Hayn, C 1995, 'The information content of losses', *Journal of Accounting and Economics*, vol. 20, no. 2, pp. 125-153.

Heitzman, S & Lester, R 2022, 'Net operating loss carryforwards and corporate savings policies', *The Accounting Review*, vol. 97, no. 2, pp. 267-289.

Henry, E & Sansing, R 2018, 'Corporate tax avoidance: Data truncation and loss firms', *Review of Accounting Studies*, vol. 23, no. 3, pp. 1042-1070.

Hoopes, J L, Mescall, D & Pittman, J A 2012, 'Do IRS audits deter corporate tax avoidance?', *The Accounting Review*, vol. 87, no. 5, pp. 1603-1639.

Hope, O-K & Wang, J 2018, 'Management deception, big-bath accounting, and information asymmetry: Evidence from linguistic analysis', *Accounting, Organizations and Society*, vol. 70, pp. 33-51.

Internal Revenue Service (IRS) 2021, 'SOI Tax Stats – IRS Data Book', https://www.irs.gov/statistics/soi-tax-stats-irs-data-book.

Jacob, M, Wentland, K & Wentland, S A 2022, 'Real effects of tax uncertainty: Evidence from firm capital investments', *Management Science*, vol. 68, no. 6, pp. 4065-4089.

Kim, J M, Taylor, D J & Verrecchia, R E 2021, 'Voluntary disclosure when private information and disclosure costs are jointly determined', *Review of Accounting Studies*, vol. 26, no. 3, pp. 971-1001.

Klassen, K J, Lisowsky, P & Mescall, D 2016, 'The role of auditors, non-auditors, and internal tax departments in corporate tax aggressiveness', *The Accounting Review*, vol. 91, no. 1, pp. 179-205.

Langenmayr, D & Lester, R 2018, 'Taxation and corporate risk-taking', *The Accounting Review*, vol. 93, no. 3, pp. 237-266.

Law, K K F & Mills, L F 2015, 'Taxes and financial constraints: Evidence from linguistic cues', *Journal of Accounting Research*, vol. 53, no. 4, pp. 777-819.

Lisowsky, P, Robinson, L & Schmidt, A 2013, 'Do publicly disclosed tax reserves tell us about privately disclosed tax shelter activity?', *Journal of Accounting Research*, vol. 51, no. 3, pp. 583-629.

Maydew, E L 1997, 'Tax-induced earnings management by firms with net operating losses', *Journal of Accounting Research*, vol. 35, no. 1, pp. 83-96.

Organisation for Economic Co-operation and Development (OECD) 2011, *Corporate loss utilisation through aggressive tax planning*, OECD Publishing, Paris.

Reuters 2014, 'US Supreme Court declines to hear Wells Fargo-IRS tax squabble', *Reuters Online*, 10 June, https://www.reuters.com/article/usa-tax-wells-far/u-s-supreme-court-declines-to-hear-wells-fargo-irs-tax-squabble-idUSL2N0OQ0N420140609/.

Robert, J & Spencer, K (McDermott Will & Emery) 2013, 'IRS denied peek behind the curtain: District Court protects Wells Fargo's tax accrual workpapers', *Lexology*, 12 June. https://www.lexology.com/library/detail.aspx?g=03382585-3c71-4d5a-85ea-043bc355fcca.

Robinson, L A, Stomberg, B & Towery, E M 2016, 'One size does not fit all: How the uniform rules of FIN 48 affect the relevance of income tax accounting', *The Accounting Review*, vol. 91, no. 4, pp. 1195-1217.

Samuels, D, Taylor, D J & Verrecchia, R E 2021, 'The economics of misreporting and the role of public scrutiny', *Journal of Accounting and Economics*, vol. 71, no. 1, 101340.

Scholes, M S, Wolfson, M A, Erickson, M M, Hanlon, M L, Maydew, E L & Shevlin, T J 2015, *Taxes and business strategy: A planning approach*, 5th edn, Pearson Prentice Hall, Boston, MA.

Sikes, S A, Tian, X (S) & Wilson, R 2014, 'Investors' reaction to the use of poison pills as a tax loss preservation tool', *Journal of Accounting and Economics*, vol. 57, nos 2-3, pp. 132-148.

Tankersley, J & Rappeport, A 2021, 'Biden seeks $80 billion to beef up IRS audits of high-earners', *The New York Times*, 27 April (updated 7 July), https://www.nytimes.com/2021/04/27/business/economy/biden-american-families-plan.html.

Treasury Inspector General for Tax Administration (TIGTA) 2015, *The Internal Revenue Service administered corporate net operating losses efficiently and effectively; However, financial reporting could be improved*, 2016-IE-R002, 13 October, https://www.tigta.gov/reports/inspection-evaluation/internal-revenue-service-administered-corporate-net-operating-losses.

Van der Geest, J & Jacob, M 2020, 'Zero-tax firms', unpublished working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3561016.

Wilde, J H & Wilson, R J 2018, 'Perspectives on corporate tax planning: Observations from the past decade', *Journal of the American Taxation Association*, vol. 40, no. 2, pp. 63-81.

Yost, B P 2018, 'Locked-in: The effect of CEOs' capital gains taxes on corporate risk-taking', *The Accounting Review*, vol. 93, no. 5, pp. 325-358.

9.   APPENDIX A

Variable Definitions

Variable Name	Variable Definition
Age	The firm's age in years.
Big4	An indicator variable equal to 1 if the firm is audited by a Big Four accounting firm.
CDebt	The ratio of current debt to total assets, lagged by one year.
ForeignInc	The ratio of a firm's foreign income to sales. Missing values for foreign income are set equal to zero.
HighCIC	An indicator variable equal to 1 if the firm falls in the top decile of firms based on audit probability modeled by Ayers, Seidman and Towery (2019).
Income Net of Special Items	Pre-tax income less special items, scaled by total assets.
Intang	The ratio of intangible assets to total assets.
Leverage	The ratio of long-term debt to total assets, lagged by one year.
Loss	An indicator variable equal to 1 if the firm's pre-tax income is negative year; zero otherwise.
MtB	The market value of equity divided by the book value of equity, lagged by one year.
NOLCB	An indicator variable equal to 1 if the firm is a loss firm and has negative tax paid; zero otherwise.
Prior3Loss	An indicator variable equal to 1 if the firm had a cumulative loss over the prior three years; zero otherwise.
R&D	The ratio of research and development expenses to sales.
ROA	The ratio of pre-tax income to total assets.
Settle	Settlements with tax authorities in the current year scaled by total assets and multiplied by 100 for interpretability.
Size	The natural logarithm of total assets.
STDHS	The standard deviation of the firm's cash tax non-conformity (Δ) scaled by the market value of assets, consistent with Henry and Sansing (2018), over the future three years.
STDROA	The standard deviation of the firm's return on assets over the prior three years.
Taxable Income	Estimated taxable income scaled by assets, where taxable income is calculated as current tax expense grossed up by the statutory tax rate.
UTBadd	The additions to the tax reserve for uncertain tax benefits relating to positions adopted in the current year scaled by assets and multiplied by 100, consistent with Dyreng, Hanlon and Maydew (2019) for interpretability.
UTBaddS	The additions to the tax reserve for uncertain tax benefits relating to positions adopted in the current year scaled by sales and multiplied by 100, consistent with Dyreng, Hanlon and Maydew (2019) for interpretability.
UTBend	The total tax reserve for uncertain tax benefits scaled by total assets and multiplied by 100 for comparability.
Zscore	The opposite-signed Altman (1968) bankruptcy prediction score, lagged by one year, such that financial constraints are increasing in the measure.

10.   APPENDIX B

Table 1: Descriptive Statistics

Panel A: Univariate Statistics

Variable	N	Mean	St Dev	P25	Median	P75
UTBend	13,360	1.339	2.035	0.135	0.612	1.603
UTBadd	13,360	0.157	0.286	0.000	0.043	0.179
Loss	13,360	0.333	0.471	0.000	0.000	1.000
ROA	13,360	-0.013	0.229	-0.044	0.047	0.104
Age	13,360	24.362	16.149	13.000	19.000	31.000
Size	13,360	6.593	2.033	5.145	6.525	8.023
Big4	13,360	0.791	0.407	1.000	1.000	1.000
ForeignInc	13,360	0.015	0.074	0.000	0.001	0.035
R&D	13,360	0.616	3.317	0.007	0.040	0.145
Intang	13,360	0.208	0.204	0.029	0.146	0.341
Leverage	13,360	0.170	0.191	0.000	0.121	0.269
CDebt	13,360	0.032	0.066	0.000	0.005	0.032
STDROA	13,360	0.150	0.381	0.020	0.047	0.123
ZScore	13,360	3.888	6.094	1.737	3.204	5.221
MtB	13,360	3.083	5.602	1.295	2.231	3.809

This Table reports descriptive statistics. N is the number of observations, StdDev is the standard deviation, P25 (P75) is the 25th (75th) percentile of the variable's distribution. Variable definitions are reported in Appendix A.

Panel B: Pearson Correlations

	UTBadd	Loss	ROA	Age	Size	Big4	ForeignInc	R&D	Intang	Leverage	Cdebt	STDROA	ZScore	MtB
UTBend	**0.566**	**0.134**	**-0.148**	**-0.022**	-0.007	**0.061**	**0.060**	0.028	**-0.048**	**-0.019**	**-0.015**	**0.041**	**0.134**	0.004
UTBadd		**0.024**	**-0.036**	**-0.037**	**0.086**	**0.115**	**0.086**	0.015	**-0.030**	**-0.022**	**-0.026**	**0.039**	**-0.030**	**0.055**
Loss			**-0.690**	**-0.261**	**-0.415**	**-0.170**	**-0.361**	**0.235**	**-0.134**	-0.004	**0.120**	**0.165**	**0.208**	-0.005
ROA				**0.245**	**0.433**	**0.175**	**0.352**	**-0.447**	**0.143**	-0.029	**-0.142**	**-0.233**	**-0.290**	0.013
Age					**0.418**	**0.100**	**0.182**	**-0.123**	**0.065**	**0.077**	**-0.039**	**-0.218**	**0.026**	**-0.027**
Size						**0.501**	**0.281**	**-0.199**	**0.287**	**0.318**	**-0.060**	**-0.198**	**-0.062**	**0.035**
Big4							**0.102**	**-0.076**	**0.106**	**0.167**	**-0.102**	**-0.080**	**-0.052**	**0.049**
ForeignInc								**-0.116**	**0.102**	0.007	**-0.070**	**-0.088**	**-0.073**	-0.006
R&D									**-0.110**	**-0.057**	-0.017	**0.160**	-0.018	**0.044**
Intang										**0.232**	**-0.061**	**-0.086**	**0.071**	-0.001
Leverage											0.002	**-0.042**	**0.258**	-0.008
CDebt												**0.033**	**0.203**	**-0.045**
STDROA													**0.052**	0.011
ZScore														**-0.187**

This Table reports Pearson correlation coefficients. Correlations significant at the 5% level are indicated in bold. Variable definitions are reported in Appendix A.

Table 2: Income Levels and Uncertain Tax Choices -- Univariate Differences

Panel A: All Firms

| | | | | | ROA decile | | | | | |
Ranking Scheme	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Year										
Mean of *UTBadd*	0.198	0.160	0.150	0.131	0.131	0.122	0.137	0.141	0.148	0.183
Δ(D,D-1)		-0.038	-0.010	-0.019	0.000	-0.009	0.015	0.004	0.007	0.035
Δ(D,D-1)/Abs(D-1)		-0.192	-0.061	-0.128	0.000	-0.070	0.121	0.029	0.050	0.240
p-value: Δ=0		0.007	0.417	0.076	0.331	0.092	0.666	0.431	0.000	0.128
Industry										
Mean of *UTBadd*	0.175	0.173	0.156	0.121	0.122	0.133	0.147	0.144	0.183	0.215
Δ(D,D-1)		-0.002	-0.016	-0.035	0.001	0.012	0.014	-0.003	0.038	0.032
Δ(D,D-1)/Abs(D-1)		-0.010	-0.095	-0.226	0.007	0.095	0.105	-0.022	0.267	0.177
p-value: Δ=0		0.894	0.192	0.001	0.929	0.213	0.123	0.710	0.000	0.006
Industry-Year										
Mean of *UTBadd*	0.173	0.165	0.156	0.128	0.129	0.133	0.141	0.159	0.174	0.213
Δ(D,D-1)		-0.008	-0.009	-0.028	0.001	0.005	0.007	0.019	0.015	0.039
Δ(D,D-1)/Abs(D-1)		-0.047	-0.053	-0.181	0.009	0.035	0.053	0.133	0.094	0.221
p-value: Δ=0		0.550	0.481	0.011	0.911	0.621	0.433	0.042	0.127	0.001

Panel B: Firms Reporting Non-zero UTB Additions

					ROA decile					
Ranking Scheme	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Year										
Mean of *UTBadd*	0.439	0.272	0.207	0.180	0.176	0.190	0.188	0.193	0.231	0.280
Δ(D,D-1)		-0.167	-0.066	-0.027	-0.003	0.013	-0.002	0.005	0.037	0.050
Δ(D,D-1)/Abs(D-1)		-0.380	-0.242	-0.130	-0.018	0.075	-0.009	0.029	0.192	0.215
p-value: Δ=0		0.000	0.000	0.043	0.786	0.298	0.892	0.635	0.005	0.001
Industry										
Mean of *UTBadd*	0.406	0.290	0.205	0.180	0.175	0.182	0.187	0.200	0.234	0.297
Δ(D,D-1)		-0.116	-0.085	-0.025	-0.005	0.007	0.005	0.013	0.034	0.063
Δ(D,D-1)/Abs(D-1)		-0.286	-0.292	-0.124	-0.028	0.040	0.028	0.071	0.169	0.270
p-value: Δ=0		0.000	0.000	0.066	0.692	0.562	0.664	0.269	0.010	0.000
Industry-Year										
Mean of *UTBadd*	0.414	0.277	0.220	0.179	0.171	0.191	0.176	0.216	0.234	0.287
Δ(D,D-1)		-0.137	-0.057	-0.041	-0.007	0.020	-0.016	0.040	0.018	0.053
Δ(D,D-1)/Abs(D-1)		-0.330	-0.206	-0.187	-0.041	0.116	-0.081	0.229	0.082	0.227
p-value: Δ=0		0.000	0.001	0.004	0.544	0.103	0.186	0.001	0.188	0.001

This Table presents the univariate results from ranking firms by decile based on the value of *ROA*. For each decile, the mean value of *UTBAdd* is presented based on one of three different ranking schemes (year, industry, and industry-year). Appendix A contains variable definitions.

Table 3: Losses and Uncertain Tax Choices

Model:	(1)			(2)			(3)			(4)		
	Coefficient		Std Error	Coefficient		Std Error	Coefficient		Std Error	Coefficient		Std Error
ROA^2	0.1453	***	0.046				0.1165	**	0.047			
ROA	-0.0449		0.033	0.2915	***	0.068	0.0422		0.036	0.1286	*	0.074
Loss				0.0401	***	0.010				-0.0012		0.009
Loss*ROA				-0.4682	***	0.076				-0.1981	***	0.085
Age	-0.0013	***	0.000	-0.0013	***	0.000	0.0030		0.008	0.0031		0.008
Size	0.0251	***	0.003	0.0270	***	0.003	-0.0182		0.011	-0.0178		0.011
Big4	0.0444	***	0.011	0.0439	***	0.011	0.0185		0.016	0.0186		0.016
ForeignInc	0.2577	***	0.069	0.2718	***	0.070	0.0489		0.071	0.0554		0.072
R&D	-0.0030	**	0.001	-0.0031	**	0.002	0.0008		0.002	0.0009		0.002
Intang	-0.1180	***	0.022	-0.1058	***	0.021	-0.0742	*	0.040	-0.0692	*	0.041
Leverage	-0.0405		0.029	-0.0400		0.029	-0.0085		0.038	-0.0063		0.038
CDebt	-0.0855		0.053	-0.0958		0.053	-0.0067		0.080	-0.0062		0.080
STDROA	0.0164		0.010	0.0155		0.010	-0.0052		0.009	-0.0050		0.009
Zscore	-0.0003		0.001	0.0000		0.001	-0.0004		0.001	-0.0004		0.001
MtB	0.0016	**	0.001	0.0013	*	0.001	0.0006		0.001	0.0006		0.001
Intercept	-0.0418		0.086	-0.0961		0.082	0.1779		0.226	0.1630		0.227
Year Fixed Effects	Yes			Yes			Yes			Yes		
Industry Fixed Effects	Yes			Yes			No			No		
Firm Fixed Effects	No			No			Yes			Yes		
Observations	13,360			13,360			13,360			13,360		
Adjusted R-squared	0.075			0.080			0.581			0.581		

This Table reports OLS regression results where the dependent variable is *UTBadd*. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 4: Spline Regression Specification

Model:	(1)			(2)		
	Coefficient		Std Error	Coefficient		Std Error
β_1: ROA < 0	-0.2094	***	0.031	-0.0686	*	0.037
β_2: ROA $\geq$ 0	0.1788	***	0.059	0.1321	**	0.067
F-statistic: $\beta_1 - \beta_2 = 0$	28.85			5.97		
p-value: $\beta_1 - \beta_2 = 0$	<0.01			0.01		
Control Variables	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Industry Fixed Effects	Yes			No		
Firm Fixed Effects	No			Yes		
Observations	13,360			13,360		
Adjusted R-squared	0.079			0.581		

This Table reports spline regression results where the dependent variable is *UTBadd*. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 5: Losses and Heightened Enforcement Risk

Model:	(1)			(2)		
HighEnforce Variable:	*HighCIC*			*NOLCB*		
	Coefficient		Std Error	Coefficient		Std Error
Loss	0.0427	***	0.008	0.0456	***	0.009
HighEnforce	-0.0171		0.018			
Loss*HighEnforce	-0.0616	***	0.023	-0.0375	***	0.014
Age	-0.0012	***	0.000	-0.0013	***	0.000
Size	0.0264	***	0.004	0.0237	***	0.003
Big4	0.0420	***	0.011	0.0466	***	0.011
ForeignInc	0.2681	***	0.071	0.2776	***	0.071
R&D	-0.0001		0.001	-0.0004		0.001
Intang	-0.1261	***	0.022	-0.1254	***	0.022
Leverage	-0.0379		0.030	-0.0341		0.029
CDebt	-0.0711		0.054	-0.0717		0.054
STDROA	0.0235	**	0.011	0.0249	**	0.010
Zscore	0.0002		0.001	0.0001		0.001
MtB	0.0018	**	0.001	0.0017	**	0.001
Intercept	-0.0597		0.091	-0.0273		0.090
Year Fixed Effects	Yes			Yes		
Industry Fixed Effects	Yes			Yes		
Observations	13,360			13,360		
Adjusted R-squared	0.071			0.068		

This Table reports OLS regression results where the dependent variable is *UTBadd*. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 6: Prior Losses and Future Settlements

Model:	(1)			(2)			(3)		
	Coefficient		Std Error	Coefficient		Std Error	Coefficient		Std Error
Loss$_{t-1}$	-0.0062		0.005	-0.0040		0.005	-0.0036		0.005
Loss$_{t-2}$				-0.0070		0.004	-0.0052		0.005
Loss$_{t-3}$							-0.0064		0.004
ROA	0.0250		0.024	0.0225		0.024	0.0207		0.024
Age	0.0003	**	0.000	0.0003	**	0.000	0.0003	**	0.000
Size	0.0110	***	0.002	0.0108	***	0.002	0.0107	***	0.002
Big4	0.0060		0.006	0.0061		0.006	0.0061		0.006
ForeignInc	-0.0121		0.035	-0.0132		0.035	-0.0149		0.035
R&D	-0.0044		0.004	-0.0042		0.003	-0.0041		0.003
Intang	-0.0130		0.011	-0.0138		0.011	-0.0144		0.011
Leverage	0.0100		0.014	0.0104		0.014	0.0107		0.014
CDebt	-0.0807	***	0.026	-0.0807	***	0.026	-0.0804	***	0.026
STDROA	-0.0072	**	0.004	-0.0063	**	0.004	-0.0044		0.004
Zscore	0.0006	*	0.000	0.0006	*	0.000	0.0007	**	0.000
MtB	0.0000		0.000	0.0000		0.000	0.0000		0.000
Intercept	-0.0956	***	0.022	-0.0912	***	0.022	-0.0876	***	0.021
Industry Fixed Effects	Yes			Yes			Yes		
Year Fixed Effects	Yes			Yes			Yes		
Observations	8,908			8,908			8,908		
Adjusted R-squared	0.032			0.032			0.032		

This Table reports OLS regression results where the dependent variable is *Settle* in a sample of only profitable firm-years. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 7: Alternative Measures for Uncertain Tax Choices

Model:	(1)			(2)		
Dependent Variable:	*STDHS*			*UTBaddS*		
	Coefficient		Std Error	Coefficient		Std Error
ROA	0.0231	***	0.003	0.0892		0.146
Loss	0.0021	***	0.001	0.0845	***	0.024
Loss*ROA	-0.0913	***	0.005	-0.6221	***	0.186
Age	0.0000	***	0.000	-0.0043	***	0.001
Size	-0.0020	***	0.000	0.0634	***	0.007
Big4	-0.0023	***	0.001	0.1134	***	0.029
ForeignInc	0.0043		0.004	0.1020		0.263
R&D	0.0155	***	0.002	0.0309	***	0.010
Intang	-0.0112	***	0.001	-0.2121	***	0.054
Leverage	-0.0023		0.002	-0.0465		0.091
CDebt	0.0085	***	0.003	-0.1535		0.139
STDROA	0.0040	***	0.001	0.0674	*	0.038
Zscore	0.0002	***	0.000	-0.0045		0.003
MtB	0.0003	***	0.000	0.0005		0.002
Intercept	0.0339	***	0.003	0.1258		0.479
Industry Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Observations	21,578			13,360		
Adjusted R-squared	0.382			0.126		

This Table reports OLS regression results where the dependent variables are alternative measures of uncertain tax choices. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 8: Alternative Measures for Income and Loss

Model:	(1)			(2)		
Loss and ROA Based on:	*Taxable Income*			*Income Net of Special Items*		
	Coefficient		Std Error	Coefficient		Std Error
ROA	0.1352	***	0.048	0.2920	***	0.068
Loss	-0.0143		0.011	0.0417	***	0.011
Loss*ROA	-0.6332	***	0.221	-0.4935	***	0.080
Age	-0.0014	***	0.000	-0.0013	***	0.000
Size	0.0214	***	0.003	0.0273	***	0.003
Big4	0.0458	***	0.011	0.0433	***	0.011
ForeignInc	0.1922	***	0.069	0.2392	***	0.068
R&D	0.0008		0.001	-0.0035	**	0.002
Intang	-0.1299	***	0.022	-0.1012	***	0.021
Leverage	-0.0228		0.029	-0.0382		0.029
CDebt	-0.0441		0.053	-0.0937	*	0.053
STDROA	0.0254	**	0.011	0.0148		0.010
Zscore	0.0012	*	0.001	0.0000		0.001
MtB	0.0017	**	0.001	0.0011		0.001
Intercept	-0.0048		0.082	-0.1003		0.084
Industry Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Observations	13,360			13,360		
Adjusted R-squared	0.071			0.080		

This Table reports OLS regression results where the dependent variables are alternative measures of uncertain tax choices. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 9: Alternate Samples and Specifications

Model:	(1)			(2)		
	Coefficient		Std Error	Coefficient		Std Error
ROA	0.2487	***	0.088	0.1867	***	0.067
Loss	0.0371	***	0.012	0.0210		0.030
Loss*ROA	-0.2810	***	0.100	-0.3244	***	0.075
Age	-0.0013	***	0.000	-0.0012	***	0.000
Size	0.0264	***	0.004	0.0222	***	0.004
Big4	0.0357	***	0.012	0.0293	**	0.012
ForeignInc	0.3109	**	0.156	0.8766	***	0.119
R&D	0.0006		0.002	0.0172		0.018
Intang	-0.1002	***	0.027	-0.0994	***	0.023
Leverage	-0.0818	**	0.034	-0.0637	**	0.032
CDebt	-0.0870		0.073	-0.1130	*	0.061
STDROA	0.0010		0.001	0.0034		0.009
Zscore	-0.0025		0.009	-0.0006		0.001
MtB	0.0008		0.001	0.0012		0.001
Intercept	-0.1427	***	0.055	-0.0487		0.079
Sample	Propensity Score Matched			Full		
Industry Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Fully Interacted Control Variables with *Loss*	No			Yes		
Observations	4,674			13,360		
Adjusted R-squared	0.062			0.093		

This Table reports OLS regression results where the dependent variable is *UTBadd*. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 10: Uncertain Tax Choices by ROA Band

Model:	(1)		(2)		(3)	
Absolute Value of ROA Limited to:	*35%*		*25%*		*15%*	
	Coefficient	Std Error	Coefficient	Std Error	Coefficient	Std Error
ROA	0.2540 ***	0.068	0.2728 ***	0.074	0.0813	0.093
Loss	0.0367 ***	0.010	0.0362 ***	0.010	0.0239 **	0.011
Loss*ROA	-0.5298 ***	0.098	-0.5899 ***	0.121	-0.4057 **	0.181
Age	-0.0011 ***	0.000	-0.0011 ***	0.000	-0.0009 ***	0.000
Size	0.0259 ***	0.003	0.0251 ***	0.003	0.0204 ***	0.003
Big4	0.0313 ***	0.010	0.0260 **	0.011	0.0312 ***	0.011
ForeignInc	0.4531 ***	0.076	0.4626 ***	0.082	0.5181 ***	0.097
R&D	-0.0031 *	0.002	-0.0023	0.002	0.0067	0.006
Intang	-0.0864 ***	0.020	-0.0817 ***	0.021	-0.0646 ***	0.020
Leverage	-0.0749 ***	0.027	-0.0910 ***	0.027	-0.0752 ***	0.029
CDebt	-0.1305 ***	0.050	-0.1781 ***	0.048	-0.1678 ***	0.051
STDROA	0.0066	0.008	0.0082	0.009	0.0137	0.010
Zscore	-0.0002	0.001	-0.0010	0.001	-0.0020 *	0.001
MtB	0.0019 ***	0.001	0.0024 ***	0.001	0.0020 **	0.001
Intercept	-0.0847	0.081	-0.1324 **	0.059	-0.0933	0.058
Industry Fixed Effects	Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes	
Observations	12,323		11,519		9,704	
Adjusted R-squared	0.087		0.090		0.081	

This Table reports OLS regression results where the dependent variable is *UTBadd*, and the sample varies by the number of observations included in each band of *ROA*. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 11: Uncertain Tax Choices and Loss Persistence

Model:	(1)		(2)	
	Coefficient	Std Error	Coefficient	Std Error
Loss	0.0238 **	0.010		
Prior3Loss	0.0008	0.010		
Loss*Prior3Loss	0.0236	0.014		
$Loss_{t-1}$			0.0151	0.011
$Loss_{t-2}$			0.0056	0.011
$Loss_{t-3}$			-0.0103	0.012
Controls	Yes		Yes	
Sample	Full		Loss Firms	
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Observations	13,360		4,452	
Adjusted R-squared	0.071		0.052	

This Table reports OLS regression results where the dependent variable is *UTBadd*. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Table 12: Losses and Sources of Uncertainty

Model:	(1)			(2)		
	Coefficient		Std Error	Coefficient		Std Error
ROA	0.2098	***	0.065	0.1118		0.077
Loss	0.0469	***	0.013	0.0409	***	0.014
Loss*ROA	-0.3556	***	0.073	-0.2562	***	0.087
Loss*R&D	-0.0205		0.018	-0.0131		0.014
Loss*Intang	0.0019		0.032	-0.0170		0.038
Loss*ForeignInc	-0.9575	***	0.148	-0.5102	**	0.224
ROA*R&D				0.4315	*	0.246
ROA*Intang				-0.2971		0.282
ROA*ForeignInc				3.6185	**	1.417
Loss*ROA*R&D				-0.4371	*	0.246
Loss*ROA*Intang				0.3803		0.309
Loss*ROA*ForeignInc				-3.5964	**	1.425
Age	-0.0012	***	0.000	-0.0011	***	0.000
Size	0.0215	***	0.003	0.0210	***	0.003
Big4	0.0463	***	0.011	0.0471	***	0.011
ForeignInc	0.8655	***	0.118	0.4139	**	0.181
R&D	0.0176		0.018	0.0065		0.014
Intang	-0.1108	***	0.023	-0.0766		0.031
Leverage	-0.0322		0.029	-0.0356	**	0.029
Cdebt	-0.1070	**	0.052	-0.1060		0.052
STDROA	0.0149		0.010	0.0144		0.010
ZScore	0.0000		0.001	-0.0001		0.001
MtB	0.0013	*	0.001	0.0013	*	0.001
Intercept	-0.0597		0.078	-0.0599		0.074
Year Fixed Effects	Yes			Yes		
Industry Fixed Effects	Yes			Yes		
Firm Fixed Effects	No			No		

Observations	13,360	13,360
Adjusted R-squared	0.092	0.094

This Table reports OLS regression results where the dependent variable is *UTBadd*. Robust standard errors are clustered by firm. ***, **, and * correspond to two-tailed significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are reported in Appendix A.

Designing orthopaedic boots for a clay-footed giant: unconventional fixes for the international corporate tax system

Francesco Cannas[*] and Edoardo Traversa[**]

Abstract

The development of economic activities and the corresponding attribution of income (and wealth) to economic actors for tax purposes have undergone various processes of de-territorialisation and de-materialisation that have accelerated as a result of digitalisation. Recent international (OECD and EU) and, to a lesser extent, domestic initiatives have attempted to adapt the structure of corporate taxation to those changes. However, corporate taxes continue to be built on traditional concepts such as legal personality, residence and income which, due to structural weaknesses, may appear to inadequately determine what types of contributions may be required from corporate actors. Therefore, while we acknowledge the merits of recent international initiatives such as Pillars 1 and 2 of the OECD Base Erosion and Profit Shifting project, it is of value to explore alternatives such as more targeted taxes based on transactions and value as well as a renewed conception of 'contribution' by corporate actors. Three possibilities are analysed: transaction-based taxes, taxes on corporate value, and a re-elaboration of the idea of tax as a contribution (in money or in-kind) inspired by the concept of corporate social responsibility.

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1.   INTRODUCTION

The world is experiencing a strong acceleration in terms of technological innovation that is causing significant changes in social and economic structures.[1] Policy-makers have been striving to find solutions to adapt the current legal framework to the globalisation and digitalisation of the economy. The archetypal illustration of these transformations are the multinational enterprises (MNEs) which operate on a large scale in many different jurisdictions[2] and challenge smaller domestic businesses as well as the states' sovereignty.

MNEs are indeed able to systematically exploit the loopholes and inconsistencies in the tax and legal systems of the jurisdictions in which they perform their activities. Regardless of the lawfulness of those practices, international tax planning of MNEs undermines, in the public opinion, the legitimacy of taxes as such and ultimately of the state itself.[3] There is a widespread perception that the states are only able to effectively impose taxes on smaller domestic businesses and individual taxpayers, while MNEs and high net wealth individuals (HNWIs), ultimately pay much less, at least in proportion, even though they are formally subject to the same taxes.

The corporate income tax (CIT) was introduced as a complement to the personal income tax in order to prevent wealthier individuals from deferring the payment of taxes on business activities by using corporations. In addition, there was the belief that, by structuring the tax levy in two steps, ie, the corporate level and the distribution of dividends, a certain level of progressivity of taxation could be maintained even for shareholders when they reaped the fruits of their investments from companies.

This system has worked quite well; however, digitalisation and globalisation have put CIT systems under pressure. Domestic lawmakers have adopted numerous unilateral measures that have sought to 'plug the holes' in the existing corporate income tax

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[1] For an analysis of the legal consequences of digitalisation, for example, see Terry Hutchinson, 'Legal Research in the Fourth Industrial Revolution' (2017) 43(2) *Monash University Law Review* 567. The author comprehensively analyses and explains how technology's effects on legal procedures and the power of the algorithm to predict outcomes of disputes will change the legal environment we all know and in which we grew up. In this regard, it should be noted from the outset that all the technology terms used in this article, such as 'digital', 'dematerialisation', etc, are not intended to be technical or to refer to legal definitions that may be found in certain jurisdictions. They are used in their common sense and therefore refer to activities carried out in whole or in part by means of information technology (IT) and the internet.

[2] It is not only in recent times that the phenomenon of the exponential growth in the size and importance of multinational companies has caught the attention of scholars. For some studies from past decades, see Raymond Vernon, 'The Multinational Enterprise: Power versus Sovereignty' (1971) 49(4) *Foreign Affairs* 736; Alan M Rugman, 'Multinational Enterprises and Public Policy' (1998) 29(1) *Journal of International Business Studies* 115. Enrico Nuzzo, in the Treccani Legal Encyclopaedia (*Enciclopedia giuridica Treccani* (Istituto della Enciclopedia italiana, 1989)), 'Impresa multinazionale' (dir. trib.), writes that the activities of this type of company have been regulated most often in a shortsighted and fragmentary manner with the problem being reduced to the taxation of branches or subsidiaries of foreign companies.

[3] The connection between territoriality of taxation and fairness is a complex one and is well explained by Wolfgang Schön in 'One Answer to Why and How to Tax the Digitalized Economy' (Max Planck Institute for Tax Law and Public Finance Working Paper 2019-10, 2019) 9-10 (footnotes omitted): 'From a fairness point of view, the rationale for taxation on the basis of territorial activity seems to be that the degree of the presence of the taxpayer in a territory is correlated to the benefits received from the local government, thus justifying fiscal contributions to the public sphere. It is reasonable to assume that the capacity of a state to provide public benefits to taxpayers hardly reaches beyond that state's territory. There exist a certain number of extraterritorial benefits like diplomatic protection, which may be substantially relevant in the context of individuals, but they do not play a major role in the area of international business taxation'.

systems. Some examples are controlled foreign company (CFC) laws[4] representing a spatial extension of the concept of residence, the non-deductibility of certain payments such as interest expenses above a certain threshold[5] which represents a restriction of the taxpayer's right to conduct its business as it wishes, and the mandatory disclosure of tax information[6] which serves to compensate for existing asymmetries between the various parties involved in the tax levy. All these measures are aimed at enabling the tax administration to gain comprehensive knowledge of the taxpayer's foreign activities and to be able to intervene unilaterally and without requiring the cooperation of any other state when the amount of tax due is not as stipulated by domestic law.

At the international level, the Organisation for Economic Co-operation and Development (OECD) and the European Union (EU) have launched initiatives aimed at enhancing international cooperation in the application of domestic corporate income taxes, in particular what is known as the Base Erosion and Profit Shifting (BEPS) project that will be discussed below.

The latest of these initiatives is the agreement reached at the OECD level and already implemented in an EU directive[7] to impose a global minimum tax on corporations of 15 per cent (referred to as Pillar 2). This has been presented to the general public as a very effective tool to resolutely contend with MNEs' international tax avoidance, and even prominent critics of the current system have recognised that it constitutes progress.[8] However, the question looms as to whether this can be regarded as an effective solution for ensuring international tax equity. Large multinational enterprises currently continue to attract and accumulate immense amounts of financial wealth, but their overall tax contribution remains significantly lower than less financially advantaged businesses or individuals.[9]

The BEPS tax policies promoted and implemented in recent years have revolved around three fundamental objectives: (i) limiting multinational enterprises' tax avoidance by shifting resources to low-tax jurisdictions (*base erosion and profit shifting*); (ii) tying

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[4] See Organisation for Economic Co-operation and Development (OECD), *Designing Effective Controlled Foreign Company Rules, Action 3 – 2015 Final Report*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, 2015).

[5] See OECD, *Limiting Base Erosion Involving Interest Deductions and Other Financial Payments, Action 4 – 2015 Final Report*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, 2015).

[6] See OECD, *Mandatory Disclosure Rules, Action 12 – 2015 Final Report*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, 2015).

[7] European Council, *Directive (EU) 2022/2523 of 14 December 2022 on Ensuring a Global Minimum Level of Taxation for Multinational Enterprise Groups and Large-Scale Domestic Groups in the Union* [2022] OJ L 328/1.

[8] Thomas Piketty, 'The G7 Legalizes the Right to Defraud', *Le Monde* (15 June 2021), https://www.lemonde.fr/blog/piketty/2021/06/15/the-g7-legalizes-the-right-to-defraud/ (accessed 7 May 2024); F Baraggino and G Scacciavillani, '*Tassa minima globale per multinazionali, Piketty: "Scandaloso definirlo 'grande risultato', ci credono imbecilli? Vorrei anch'io il 15% di tasse'*", *Il Fatto Quotidiano* (6 June 2021), https://www.ilfattoquotidiano.it/2021/06/06/tassa-minima-globale-per-multinazionali-piketty-scandaloso-definirlo-grande-risultato-ci-credono-imbecilli-vorrei-anchio-il-15-di-tasse/6221668/ (accessed 7 May 2024).

[9] See, for example, the EU Tax Observatory Report authored by Mona Barake, Theresa Neef, Paul-Emmanuel Chouc and Gabriel Zucman, *Collecting the Tax Deficit of Multinational Companies: Simulations for the European Union*, EU Tax Observatory Report No 1 (2021), available at the website https://www.taxobservatory.eu/.

the value produced by MNEs to a jurisdiction and taxing it there (*value creation*); and (iii) making multinational enterprises contribute more to states' budgets (*fair share*).

Nevertheless, the International Tax Order remains a clay-footed giant, as it progressively strengthens in structure but continues to rest on weak and increasingly inappropriate foundations for achieving the goals for which it was created. In this sense, the giant needs a new pair of boots. They do not necessarily have to be its only footwear, but can complement those it is already using, consisting of an unconventional and radical approach to solving current weaknesses.

Even if current reforms help to slightly increase the amount of corporate taxes paid by MNEs, the authors contend that the three objectives of the BEPS tax policies, while legitimate and fully satisfactory, cannot be pursued all at once simply by reforming the current corporate income taxation framework. The actual fundamental essence lies in the founding concepts of today's corporate income taxation systems, specifically, the corporate taxpayer, corporate residence and corporate income.

The three aforementioned concepts, whose origin dates back to more than a century ago and which remain central today, will be analysed in the following paragraphs. Such concepts can be considered three legal fictions, ie, the distinct legal and tax personality of the corporation (clearly separated from the natural persons controlling it), the concept of income as the difference between revenues and costs allocated firstly to that (fictitious) person, and the proxies used to tie the corporation – and its income – to a jurisdiction (tax residence).

The authors then review the most significant corporate income tax developments that have occurred at the international level to limit the margin of freedom left to taxpayers to freely allocate income to low-tax jurisdictions. They then contend that the basic problem with these initiatives is that, despite their merits, they are bound to have limited effectiveness insofar as they are still based on the legal fictions mentioned above[10] and do not take sufficiently into account phenomena such as globalisation, financialisation and digitalisation.[11] Moreover, their broad scope of application does not make them easily adaptable to the specific situations of MNEs. As Miranda Stewart states:

> While governments have always taxed corporations, tax experts, whether they are lawyers, economists or accountants, have often criticised the corporate tax. … Corporations pose major challenges for tax policy, law and administration and the corporate tax is usually the most complex tax in the armoury of governments. A key reason is the diversity of corporations and their

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[10] Since the 1990s, tax scholars have focused on two of the possible approaches to the digital economy. The first is known as the 'revolutionary approach' that aims to elaborate 'new rules for a new reality', thus establishing a dedicated body of rules for cyberspace. The second is known as the 'status quo approach'. This is a conservative approach and is supported by the vast majority of scholars and international institutions. Silvia Cipollina, *I confini giuridici nel tempo presente. Il caso del diritto fiscale* (Giuffrè, 2003) 277.

[11] See the French Collin Report: Pierre Collin and Nicolas Colin, *Task Force on Taxation of the Digital Economy – Report to the Minister for the Economy and Finance, the Minister for Industrial Recovery, the Minister Delegate for the Budget and the Minister Delegate for Small and Medium-Sized Enterprises, Innovation and the Digital Economy* (Report, January 2013), of which the concluding section V elaborates some proposals on how to deal with the disruption caused by the digital economy and is organised, among others, around the following 'traditional' concepts: permanent establishment (5.1.1); transfer prices (5.1.2), and taxation of research and development (R&D) (5.2.2).

activities. Corporations range from small and closely held proprietary companies that deliver personal services, or trade on a small scale, to large multinational corporate groups operating in countries around the world.[12]

Probably too much has been expected from CIT reforms at the international level, and other more targeted instruments may be needed to find adequate funding of our tax states and our societies.

In this part of the study, the three basic concepts underlying modern corporate taxation identified earlier are systematically compared with (and challenged by) the characteristics of the digital economy, thus highlighting their current inadequacy.

In the last part of the study, three alternative ways of envisaging corporate contributions to states' budgets and to society are subsequently proposed. There is one for each of the goals originally assigned to the BEPS initiatives (avoiding profit shifting to low-tax jurisdictions, tying taxation to the creation of value, and making MNEs contribute their fair share). Rather than provide solutions to fully replace existing corporate income taxes, a proposal is made to complement current income taxation with a tax on cross-border corporate payments, a tax on corporate value, and targeted contributions for specific general interest purposes.

2.   THE NEED TO MOVE BEYOND SOME CORPORATE INCOME TAX PARADIGMS

It was about a quarter of a century ago that Professor Michael Graetz wrote one of his most famous articles[13] in which he analyses how the entire international tax order is based on outdated concepts that require radical renewal. It was not until quite a few years later that the BEPS project started, which aimed to revolutionise the international tax order by addressing phenomena and behaviours undermining the functioning of modern states.

As several years have now passed since the BEPS project was launched, the literature on it is extensive. Many scholars have elaborated on it, proposed evaluations and described and taken stock of the situation over the years.

Among the most prominent, Reuven Avi-Yonah argued in 2020 that the innovations introduced by Pillar 1, at the time still in the drafting stage, have the potential to change the international tax regime.[14] This follows the failure of BEPS whose Action 1 failed in his opinion to meet the challenges posed by digitalisation.

In particular, in light of that failure, continuation of this project will lead to the abandonment of the arm's length principle (incorporated in Article 9 of the OECD Double Tax Treaties) and the permanent establishment principle (incorporated in Article 7 of the OECD Double Tax Treaties). The ultimate goal is the creation of a new

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[12] Miranda Stewart, *Tax and Government in the 21st Century* (Cambridge University Press, 2022) 179-180.
[13] Michael J Graetz, 'Taxing International Income: Inadequate Principles, Outdated Concepts, and Unsatisfactory Policies' (2001) 26(4) *Brooklyn Journal of International Law* 1357, 1357 et seq.
[14] Reuven S Avi-Yonah, 'A Positive Dialectic: BEPS and The United States' (2020) 114 *AJIL Unbound* 255 (in Symposium on Ruth Mason, 'The Transformation of International Tax').

'*nexus*' connecting income and territory for the purposes of taxation, through the activation of new mechanisms for allocating them amongst different jurisdictions.[15]

As far as Pillar 2 is concerned, Avi-Yonah merely says in the same article that the United States (US) should support it through a sharp increase in the corporate tax rate, so as to benefit as much as possible from it. He does not propose an in-depth assessment thereof but implies an overall positive assessment of the plan.[16]

Miranda Stewart, too, in some of her articles,[17] stated that one of the most problematic aspects of BEPS, which requires close attention, is the coordination of the tension between some of the dichotomies on which modern tax systems are based: residence and source; production and consumption; capital-import and capital-export countries. The key to resolving these tensions lies in international cooperation, so much so that new conceptions of state sovereignty can be envisaged based on the ability of states to significantly extend their ability to levy taxes abroad by relying on the ever-widening networks of cooperation between tax administrations.

More recently, Professor Michael Devereux[18] welcomed the Pillars stating that even after BEPS the existing international tax system is undermined by the existence of a scattering of very small open economies acting as tax havens. In his view, only a broad consensus on the Pillars, leading to their effective implementation, can create a critical mass to force large multinational enterprises to pay a fair share of taxes in the countries where they operate. According to Devereux, without the achievement of such a critical mass, it will never be possible to defuse the competitive dynamics that nowadays plague relations between states and are at the root of the race to the bottom in tax rates, and thus in revenue.

After stressing the need to reach a critical mass, Devereux, together with John Vella and Heydon Wardell-Burrus[19] in a policy brief, added that overall the Pillar 2 should have a significant impact on tax competition, albeit not as notable as some may have hoped, and certainly not a straightforward impact. Even if all the states were to find common ground for the minimum tax, several avenues for competition would remain open, eg, the offering of government grants, with economic consequences very similar to the current ones. As grants are treated as additional income rather than a reduction in taxes,

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[15] Interestingly, Avi-Yonah suggested to the US policy-makers not to reject the Pillar 1 logic, as Treasury Secretary Steven Mnuchin seemed to do at the time, but rather to tax the web giants, as many of them have their residence in the US.

[16] He even goes so far as to say in his conclusions that the success of these projects could be crucial in providing states with the resources they need to cope with the inequalities caused by globalisation and subsequent shocks, such as Brexit.

[17] See, in particular, Miranda Stewart, 'Abuse and Economic Substance in a Digital BEPS World' (2015) 69(6/7) *Bulletin for International Taxation* 399 and Miranda Stewart, 'Transnational Tax Law: Fiction or Reality, Future or Now?' (Working Paper, Colloquium on Tax Policy and Public Finance, New York University School of Law, 2016). It was discussed in several prestigious universities, such as New York University and the National University of Singapore. In particular, in the first of these two articles, at 408 (footnote omitted), Stewart affirms that '[i]t is also necessary for countries to explore fundamental policy options for the corporate tax in the longer term. A destination-based consumption base has been suggested by some tax experts as the most efficient and viable corporate tax base in a global digital economy; however […] [a]ddressing these challenges requires global coordination'.

[18] Michael P Devereux, 'International Tax Competition and Coordination with a Global Minimum Tax' (2023) 76(1) *National Tax Journal* 145.

[19] Michael P Devereux, John Vella and Heydon Wardell-Burrus, 'Pillar 2: Rule Order, Incentives, and Tax Competition' (Oxford University Centre for Business Taxation Policy Brief, 2022).

their use can allow for much lower 'real' effective tax rates than the 15 per cent set out in the OECD Global Anti-Base Erosion (GloBe) (Pillar 2) proposal.

Even more recently, Wolfgang Schön too emphasised that the BEPS and the subsequent Pillars were, overall, a success story.[20] This success, however, is largely based on cooperation, and in 2023 the world witnessed a series of changes in the global political framework that jeopardised these achievements; in his words:

> This success story is strangely at odds with the visible fragmentation and de-globalisation of world politics where major actors like the United States, the People's Republic of China, Russia or India are increasingly stepping back from multilateral commitments and assume a more confrontational stance.

He draws a valuable parallel between the international political situation and tax competition among states, asking whether it is possible to isolate it and keep it at a low level in such difficult times. His analysis is particularly interesting because it is not based on strictly legal arguments, but questions whether budgetary constraints may be insufficient for encouraging states to continue to cooperate, since a number of them may find it more convenient (or more opportune) to go back to acting in a fully selfish mode.

All the literature cited, as well as much of the tax literature on this topic, seems to agree that the BEPS and the Pillars that followed it are a complex project that is producing some positive outcomes. The present authors agree with this position and there seems to be no doubt that the international tax system is more robust now than in the 'pre-BEPS era'. However, none of the renowned authors mentioned considers that the problems caused by the BEPS have been definitively solved. Above all, rather than stressing the robustness of the legal framework and the more strictly legal aspects, they all seem to be of the opinion that the level of cooperation achieved at the agreement stage might not be transformed into effective and consistent administrative practices or might even fall victim to the changed international political trends.

In our opinion, these fears are justified and, if one wants to make a systematic analysis, they may be attributed to the very nature of corporate taxation. Although decades and even centuries have passed, the structure and basic principles of corporate taxes have in fact remained the same and are today unsuited to coping with a reality such as the one that the world is experiencing. The paradigm within which current studies move is still that of a tax to be paid in money by those who produce value in a certain territory, establishing links by which to measure 'attachment' to the territory and subjecting the action of the lawmaker and the government to legal principles such as that of ability to pay. Within this paradigm, affected by the difficulties posed by current phenomena, the solution proposed always consists of getting states to work closely together, so that they can help each other collect information on the taxpayers and be able to exercise some of their powers across borders.

The authors intend to postulate on a move beyond this paradigm, believing that the time has come to question principles that were developed when the economy was 'fully-material'. For this reason, an unconventional approach to BEPS is proposed, in the sense that it is first put into historical perspective and then some possible alternatives to the status quo are elaborated. In this way, it becomes evident that it is the inadequacy of

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[20] Wolfgang Schön, 'International Tax Rules for Unruly Times' (Max Planck Institute for Tax Law and Public Finance Working Paper 2023-08, 2023).

corporate taxation, largely based on old fictions, which underlies the impossibility of effectively combating the contemporary BEPS phenomena.

As stated by Katharina Pistor,[21] capital governs through the law which has the capacity to create wealth also because it is backed by state power. By remaining within solutions that do not change the paradigm and sometimes only minimally change the legal framework, eg, by creating connections between the tax administrations of different jurisdictions or setting thresholds that can easily be circumvented, the BEPS problem will never be truly solved. The authors intend to contribute to the legal scholarly debate by promoting an unconventional approach to BEPS which may be suitable for overcoming and resolving some of the inefficiencies underlying today's corporate taxation model.

3.   THE THREE ORIGINAL FLAWS OF CORPORATE INCOME TAX

3.1   The fiction of the corporate entity as an entity subject to an income tax

Corporations have existed since the early modern era, but their importance and presence in the economy has grown exponentially over the last century.[22] Today, large corporations are among the most powerful economic forces, to such an extent that, in some cases, their annual turnover is even greater than the domestic product of certain states.[23]

The importance of corporations in today's world far exceeds their economic role of producing immense quantities of goods and services. They are drivers of technological innovation, cultural influencers, general interest service providers (for example in the telecommunications sector) as well as promoters of massive investment in healthcare, cooperation, and climate-mitigating programs.[24] They may even influence political decisions by lobbying behind the stage, financing parties or individual candidates, and even publicly forcing governments to abide by their conditions.[25] Moreover, they have even taken over some traditional states' prerogatives.

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[21] Katharina Pistor, *The Code of Capital: How the Law Creates Wealth and Inequality* (Princeton University Press, 2019) 205.

[22] Grietje Baars and André Spicer, 'Introduction: Why the Corporation?' in Grietje Baars and André Spicer (eds), *The Corporation: A Critical, Multi-Disciplinary Handbook* (Cambridge University Press, 2017) 1.

[23] This is highlighted, among others, by CORPNET researchers, who are involved in a five-year project initiated in September 2015 and located at the Amsterdam Institute for Social Science Research, University of Amsterdam, which is funded by the European Research Council ('ERC' starting grant). They investigate the topic 'Corporate Network Governance: Power, Ownership and Control in Contemporary Global Capitalism' and, in a blog post of 16 July 2018 (Milan Babic, Eelke Heemskerk and Jan Fichtner, 'Who Is More Powerful – States or Corporations?', *The Conversation* (11 July 2018), https://theconversation.com/who-is-more-powerful-states-or-corporations-99616 (accessed 7 May 2024)), they calculate that, of the world's top 100 economic revenue collectors, 29 are states and 71 are corporations.

[24] To understand the scale of the phenomenon, see, for example, Milan Babic, Jan Fichtner and Eelke M Heemskerk, 'States versus Corporations: Rethinking the Power of Business in International Politics' (2017) 52(4) *The International Spectator* 20; Walter Frick, 'The Conundrum of Corporate Power' (2018) 96(3) *Harvard Business Review* 154. More in general and based solely on daily experience, suffice it to think how Facebook has changed social relationships in the last few years or how Netflix, TikTok and YouTube have changed the way we spend our free time.

[25] Aneta Jakubiak Mironczuk, 'Lobbying in a Democratic State of Law – Between Meaning and Judgment' (2015) 72 *Persona y Derecho* 149; OECD, *Financing Democracy: Funding of Political Parties and Election Campaigns and the Risk of Policy Capture* (OECD Publishing, 2016).

In the US, warfare and prison management have now been, at least in part, corporatised. Corporations have even been given the right of free speech.[26] Last but not least, they are responsible for considerable levels of greenhouse gas emissions as well as others forms of damage to the environment (loss of biodiversity, water and soil pollution, etc) and to human health.

From a historical perspective, although some traces of organised enterprises can be found even during ancient times (eg, the *societas* and *societas publicanorum* under Roman law),[27] the development of private, profit-oriented corporations is a fairly recent phenomenon.[28] As the medieval commercial practices that were developed mainly in Italy migrated to northern Europe, by the late 15th and early 16th centuries, the corporate form developed as an organisational model guaranteeing protection and even privileges to economic activities.[29] Nevertheless, charters remained widely an act of dispensation granted through a political rather than administrative process; legally speaking, incorporation was often a royal prerogative that could easily be withdrawn and not an individual's right.[30]

After the period of the large commercial corporations, including, for instance, the well-known names of the West and East India Companies, there came the start of what Philip Stern calls the Liberal Age.[31]

The joint stock companies and regulated companies initiated the development of a number of features that have gradually led towards the contemporary concept of a corporation, specifically the opportunity to produce large capitalisation through the sales of shares to investors; the construction of an individual legal personality that was distinct from its individual members, etc.[32]

During the 19th century, the corporation transitioned from being a public interest organisation created for public purpose by the law and the state to a private enterprise through both legislative and judicial interventions.[33] In the United States at that time, several states, including, for example, New York, New Jersey and Connecticut,

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[26] Daryl G Hatano, 'Should Corporations Exercise Their Freedom of Speech Rights?' (1984) 22(2) *American Business Law Journal* 165; Breanne Gilpatrick, 'Removing Corporate Campaign Finance Restrictions in *Citizens United v. Federal Election Commission*, 130 S. Ct. 876 (2010)' (2011) 34(1) *Harvard Journal of Law and Public Policy* 405.

[27] Geoffrey Poitras and Frederick Willeboordse, 'The *Societas Publicanorum* and Corporate Personality in Roman Private Law' (2021) 63(7) *Business History* 1055; Andrea Di Porto, *Impresa Collettiva e Schiavo 'Manager' in Roma Antica (II Sec. A.C.-II sec. D.C.)* (Giuffrè, 1984).

[28] Philip J Stern, 'The Corporation in History' in Grietje Baars and André Spicer (eds), *The Corporation: A Critical, Multi-Disciplinary Handbook* (Cambridge University Press, 2017) 21, 22.

[29] For a general overview of the evolution of companies in those times, see, among others, Ageo Arcangeli, '*La commenda a Venezia specialmente nel secolo XIV*' (1902) 33(1) *Rivista italiana per le scienze giuridiche* 107; Armando Sapori, '*La responsabilità verso i terzi dei compagni delle compagnie mercantili toscane del dugento e dei primi del trecento*' (1938) 36(1) *Rivista di diritto commerciale* 571.

[30] Stern, above n 28, 26.

[31] Ibid 28.

[32] CE Walker, 'The History of the Joint Stock Company' (1931) 6(2) *The Accounting Review* 97.

[33] See also Ron Harris, 'The Private Origins of the Private Company: Britain 1862-1907' (2013) 33(2) *Oxford Journal of Legal Studies* 339.

introduced concepts of limited liability,[34] while the US Supreme Court contributed to refining the legal framework of the corporation.[35]

In 1896, in the United Kingdom (which ruled the British Empire at the time), the House of Lords delivered the landmark judgment in the case *Salomon v Salomon*[36] that concerned claims of certain unsecured creditors in a liquidation process.[37] They established the foundations of how a modern corporation exists and functions including the principle of separate legal personality.[38] Reversing the Court of Appeal's ruling according to which the corporation is a myth, the Lords held that, when duly incorporated, it is an independent person with its rights and liabilities regardless of the motives of those who took part in its promotion. They can, for instance, sue and be sued in their own name.[39] This legal fiction became a legal reality and went down in history as the 'corporate veil' between the company and its controllers and owners.[40]

The reality of the corporate personality became dominant in the Western world. Countries like Belgium, France, Germany and Italy gradually introduced into their legislation the possibility for individuals to create legal persons to shield their personal wealth from the risks of an economic activity – but not before very heated debates had appeared in the literature concerning its theoretical and even philosophical foundations, although with little effective impact.[41]

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[34] PW Ireland, 'The Rise of the Limited Liability Company' (1984) 12(3) *International Journal of the Sociology of Law* 239.

[35] As reported by Stern, above n 28, 29, in *Trustees of Dartmouth College v Woodward*, 17 US 518 (1819), the Supreme Court 'decided that the state of New Hampshire's attempt to make a private corporation into a public one, in an attempt to reverse the decision of the college trustees in ousting its president, violated the clause of the US Constitution (Article I, sec 10, clause 1) that restricts the state from impinging upon contract rights of private persons'.

[36] *Salomon v A Salomon & Co Ltd* [1897] AC 22.

[37] See, for example, Max Radin, 'The Endless Problem of Corporate Personality' (1932) 32(4) *Columbia Law Review* 643.

[38] Murray A Pickering, 'The Company as a Separate Legal Entity' (1968) 31(5) *The Modern Law Review* 481.

[39] On this topic, see also, among others, Arthur W Machen, Jr, 'Corporate Personality' (1911) 24(4) *Harvard Law Review* 253; Harold J Laski, 'The Personality of Associations' (1916) 29(4) *Harvard Law Review* 404; John Dewey, 'The Historic Background of Corporate Legal Personality' (1926) 35(6) *Yale Law Journal* 655.

[40] Marc T Moore, '"A Temple Built on Faulty Foundations": Piercing the Corporate Veil and the Legacy of Salomon v Salomon' [2006] (2) *Journal of Business Law* 180.

[41] Friedrich Karl von Savigny, *Traité de droit romain* (Firmin Didot frères, 1855); Maurice Vauthier, *Études sur les personnes morales dans le droit romain et dans le droit français* (G Pedone Lauriel, 1887); Otto Friedrich von Gierke, *Die Genossenschaftstheorie und die deutsche Rechtsprechung* (Weidmann, 1887); Gustavo Bonelli, 'Di una nuova teorica della personalità giuridica' (1890) 9(3) *Rivista Italiana per le scienze giuridiche* 325; Maurice Hauriou, 'De la personnalité comme élément de la réalité sociale' (1898) 22 *Revue Générale Du Droit, de la Législation et de la Jurisprudence en France et à l'Étranger* 5 and 119; Achille Mestre, 'Les personnes morales et le problème de leur responsabilité pénale' (thèse de doctorat, Université de Paris, 1899); Marcel Planiol, *Traité élémentaire de droit civil* (Librairie Cotillon, 3rd ed, 1904) vol 1, 977 et seq; Démètre Négulesco, *Le problème juridique de la personnalité morale et son application aux sociétés civiles et commerciales* (A Rousseau, 1900); Georges Trouillot and Fernand Chapsal, *Du contrat d'association – Commentaire de la Loi du 1er juillet 1901* (Lois Nouvelles, 1902); Raymond Saleilles, *De la personnalité juridique, Histoire et théories* (Rousseau, 1910); Alphonse Boistel, *Conception des personnes morales, rapport présenté au IIe Congrès international de philosophie tenu à Genève du 4 au 8 sept. 1904* (Henry Kündig, 1904); Eduard Hölder, *Natürliche und juristische Personen* (Duncker and Humblot, 1905); Julius Binder, *Das Problem der juristischen Persönlichkeit* (A Deichert, 1907); Michele Barillari, *Sul concetto della persona giuridica* (E Loescher, 1910); Frederic William Maitland, 'Moral Personality and Legal Personality' (1905) 6(2) *Journal of the Society of Comparative*

As for the legal studies on corporation, in the 1970s, what is known as the *agency theory*[42] was developed according to which corporations act as agents for their shareholders since the latter entrusted their investments to the directors and management.

Along with the development of corporate governance and a broad process of financialisation, in corporate law the corporation began to be perceived as more than just the sum of its members. The idea that companies are 'real entities' started to materialise together with shareholder primacy according to which firms should be managed with an exclusive view to maximising financial returns to shareholders. In this perspective, shareholders do not own the company but are its 'residual claimers' which means that, not being entitled to directly access its assets while it is a going concern, they do have rights over the surplus that it generates.[43] This view allowed shareholders – and other persons controlling the companies – to benefit from the best of both worlds. On the one hand, the distinct legal personality of the corporation would work advantageously as a shield from any liability claims arising from the economic activities carried out through the corporation. On the other hand, the capital invested in the corporation could be protected. Alternatively, corporate law would give them substantial control over the corporation, including the right to define what to do with the profits generated from the economic activities (investment, *thésaurisation*, accumulation or distribution). As shown by Katharina Pistor, such a legal construction impacts wealth creation and generates inequality.[44]

Corporate income taxes were adopted in the 20th century as an extension of the existing personal income taxes without much discussion about the reasons for such an assimilation.[45] However, even if there may be good reasons for granting legal personality to corporations under corporate law, such as allowing them to conclude contracts or to obtain access to capital through direct investments or loans, making them taxpayers in their own right (moreover subject to CIT) is not a straightforward consequence. The ultimate reason why this path was taken appears to be of a purely practical nature: the '*immediate*' taxation of profits retained in the company. More

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Legislation 192; Gabriel La Broüe De Vareilles-Sommières, *Les personnes morales* (Librairie Générale de Droit et de Jurisprudence, 1919); Francesco Ferrara, *Teoria delle persone giuridiche* (E Marghieri, 2nd ed, 1923); Hans Julius Wolff, *Organschaft und Juristische Person – Untersuchungen zur Rechtstheorie und zum öffentlichen Recht*, *Volume 1* (Carl Heymanns Verlag, 1933); Alexander Nékám, *The Personality Conception of the Legal Entity* (Harvard University Press, 1938); Henri Velge, *Associations et fondations en Belgique, Histoire et théories* (Bruylant, 1942); Jean Dabin, *Le droit subjectif* (Dalloz, 1952) 123 et seq.

[42] Simon Deakin, 'The Corporation in Legal Studies' in Grietje Baars and André Spicer (eds), *The Corporation: A Critical, Multi-Disciplinary Handbook* (Cambridge University Press, 2017) 47.

[43] On the difference between taxing corporations and taxing shareholders, see Wei Cui, 'Residence-Based Formulary Appointment: (In)Feasibility and Implications' (2018) 71(3) *Tax Law Review* 551, 566, where the author notes that: '[a] basic justification for the corporate income tax is that it prevents individuals from deferring tax liability by earning income through distinct legal entities. To achieve this objective, any country should tax corporations owned by its individual taxpayers, regardless of whether the corporation is domestic or foreign'.

[44] On this topic, see again Pistor, above n 21, 48. In chapter 3, the author conducts what she defines as an 'institutional autopsy' of Lehman Brothers for the purpose of showing that corporation law can be and is used not just to optimise the allocation of risks and returns in the production of goods and services. Instead, it can be turned into a capital minting operation by employing the ability to partition assets and shield them behind a chain of corporate veils to access low-cost debt finance and to engage in tax and regulatory arbitrage.

[45] Rebecca S Rudnick, 'Who Should Pay the Corporate Tax in a Flat Tax World?' (1988-89) 39(4) *Case Western Reserve Law Review* 965, 985-986.

specifically, the articulation of a twofold taxation, ie, corporate profits first and dividends second, is in actual fact a way of preventing the wealthiest people from deferring taxation virtually indefinitely.[46]

Indeed, originally corporate taxation was seen as a complement to personal taxation that allowed taxation not to be delayed forever and made it at least partially progressive since dividends were taxed in the hands of the shareholder on the basis of the rate applying to that person.[47]

Similarly, if there may be valid reasons for subjecting corporations to tax, the issue of whether it should be a tax on income (based on residence) is not as straightforward either.[48] Attributing income and capital to a physical person naturally limited in his or her ability to attract, to possess, and to consume wealth is one thing, while doing so for legal persons who do not have the same limitations is another.

3.2   The fiction of corporate income… which makes finding a justification for corporate income taxes necessary

3.2.1   *A brief excursus on the historical origin of corporate income tax: understanding the past to better understand the present*

When income tax was adopted in the US in 1913, Professor Edwin Seligman[49] traced the primary phases of its history. He stated that direct taxes were the ultimate development that started with voluntary offerings and gradually changed into compulsory payments as well as parallel primitive fees and tolls that evolved into indirect taxes. According to Seligman, one of the main drivers of this development was the clash of divergent interests and the endeavour of each social class to pass the burden of taxation to some other class. This resulted in a slow and laborious elaboration of standards of justice in taxation and rules for implementing them for the community as a whole. In other words, the history of taxation is strictly related to the development of the principle that Seligman refers to as faculty or ability to pay,[50] namely the principle that each individual should be held to help the community in proportion to the ability to help him- or herself.[51]

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[46] Reuven S Avi-Yonah, 'Corporations, Society, and the State: A Defense of the Corporate Tax' (2004) 90(5) *Virginia Law Review* 1193 ('Corporations, Society, and the State').

[47] More in general, see also Edwin RA Seligman, 'The Theory of Progressive Taxation' (1893) 8(1) *Publications of the American Economic Association* 52.

[48] For a general idea, see, for example, Ruud A de Mooij, 'Will Corporate Income Taxation Survive?' (2005) 153(3) *De Economist* 277.

[49] Edwin RA Seligman, *The Income Tax – A Study of the History, Theory, and Practice of Income Taxation at Home and Abroad* (Macmillan, 1914).

[50] On this aspect, see also Roy Blough, 'Basic Tax Issues' (1955) 1st *Annual Tax Conference* (College of William and Mary in Virginia) 17, 22: 'The frequency and importance of the issues concerning the degree of progression have given rise to attempts by scholars and others to develop an objective mathematical measurement of the proper scale of progression, mostly around the idea that taxes should be levied in accordance with "ability to pay." These efforts have not achieved their goal of measuring "ability to pay," but they have popularized the concept'.

[51] James Coffield, *A Popular History of Taxation: From Ancient to Modern Times* (Longman, 1970); Stephen Dowell, *A History of Taxation and Taxes in England* (Longmans, 1884). See also the proceedings of the European Association of Tax Law Professors (EATLP) Congress 2021 held online on 3-4 June 2021, https://www.eatlp.org/congresses/congress-antwerp-2021.

At the outset, when the structure of the economy and the idea and protection of private property were rudimentary, direct taxation often took the form of poll or capitation taxes. This was the case, for example, in the early stages of the Teutonic civilisation and the beginnings of Puritan New England.[52]

As private property developed, so did differentiation between social groups of individuals based on inequality of possessions. Efforts were therefore made to regulate the poll according to various outwards signs with the consequence that, especially in the Middle Ages, direct taxes often proved to be class taxes.[53]

Soon, though, these taxes started being either supplemented or supplanted by property taxes. For many centuries, and more precisely until industry and trade began to develop significantly, property consisted of land and appurtenances to it with the consequence that property taxes in those periods were virtually taxes on real estate. Subsequently, this land-focused system of taxation also gradually underwent a crisis for a number of reasons. First, the fact that, although in the long run the value of land is dependent on its yields, on a yearly basis, there is often a gap between the property and its produce. For example, two farmers may own two pieces of agricultural land of equal value with almost identical characteristics, but one may have bad luck if it floods while the other obtains an excellent harvest.[54]

From the 17th century onwards, it became increasingly common to tax the produce of the land rather than the land itself. This is the system that became known by the name of *taxes réelles* (real taxes) in France and *Ertragssteuern* in Germany as opposed to the previous *taxes personnelles* and *Vermögenssteuern*.[55] Taxes on economic activities evolved from lump-sum taxes (franchise taxes) to profit-based taxes. Income became the best measure to assess taxpayers' economic capability.[56] The exponential growth of

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[52] See, among others, Charles A Beard, 'The Teutonic Origins of Representative Government' (1932) 26(1) *American Political Science Review* 28.

[53] See generally Charles Adams, *For Good and Evil: The Impact of Taxes on the Course of Civilization* (Madison Books, 1993) 137.

[54] In explaining the rationale underlying land taxation, Achille D Giannini, *Istituzioni di diritto tributario* (Giuffrè, 1951) 285, wrote that this type of tax 'provides a stable and secure basis for the implementation of the levy'. These taxes were considered to be 'inherent in the land'.

[55] For a historical perspective, see Stephen Utz, 'Ability to Pay' (2002) 23(4) *Whittier Law Review* 867. See also Ruud de Mooij, Alexander Klemm and Victoria Perry (eds), *Corporate Income Taxes Under Pressure: Why Reform Is Needed and How It Could Be Designed* (International Monetary Fund, 2021). In explaining 'why tax corporate income' and elaborating on a 'standard corporate income tax', de Mooij and Klemm in 'Why and How to Tax Corporate Income' 11, 13 and 15, recall that '[t]here are different types of systems to tax capital income … The so-called classical corporate income tax considers corporations as separate entities from their ultimate owners. As wages and interest are generally deductible, the corporate income tax effectively becomes a withholding tax on equity returns at the company level. … Using a definition of profits as the tax base has the implication that, as in accounting, investment is not a deductible expense. As the company merely changes one type of asset (cash) for another (capital), such a transaction is not a cost. The cost to the company is, instead, the loss of value of the capital due to obsolescence or wear and tear, and this depreciation is deductible'.

[56] See also chapter 17, titled 'Taxing Corporate Income', of the final report from the Mirrlees Review, Sir James Mirrlees, Stuart Adam, Timothy Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles and James Poterba, *Tax by Design: The Mirrlees Review* (Oxford University Press, 2011).

the presence of corporations in the economic life of advanced economies led to the development of corporate income taxes in most jurisdictions.[57]

3.2.2   *The justification for corporate income tax*

There is a general consensus on the idea that income responds better than the previous listed tests to the demands of modern tax systems.[58] However, this does not mean that all other tests have been completely supplanted; property, production and expenditure are still highly relevant as taxable bases.

In the field of taxation, income always refers to net income which is different from mere receipts and gross revenue because expenses related to the economic activity are deducted.[59] Returning to the proposed examples, this means that, if productive assets are purchased relying on debt, interest on such debt must be deducted for tax purposes.[60] Strictly speaking, income is the amount of money or goods that becomes available to an individual or a corporation in excess of all the necessary expenses of acquisition and can be used for its own consumption or distribution. It is intended as a flow of wealth and is calculated over a definite period, ie, the taxable year, during which it is at the disposal of the owner so that, in using it, its capital is not impaired.[61]

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[57] For an overview of some of the most recent trends, see United Nations Conference on Trade and Development (UNCTAD), 'Corporate Income Taxes and Investment Incentives – A Global Review', *UNCTAD Investment Policy Monitor*, Special Issue 8 (July 2022).

[58] Avi-Yonah, 'Corporations, Society, and the State', above n 46, explains how the corporate income tax may be conceived of as a payment in return for the benefits of incorporation such as limited liability. Nevertheless, he also points out that there are several objections to this *defence*. First, some of the benefits conferred by the government also flow to non-incorporated businesses not subject to the tax. Second, there would be no correlation between corporate income and the benefits provided since the same benefits apply (and, in the case of limited liability, apply more forcefully) to corporations that lose money.

[59] For a review of the literature on the theoretical optimal tax, see Spencer Bastani and Daniel Waldenström, 'How Should Capital Be Taxed?' (2020) 34(4) *Journal of Economic Surveys* 812.

[60] In addition to that, it must also be considered that, as explained by David A Weisbach, 'The Irreducible Complexity of Firm-Level Income Taxes: Theory and Doctrine in the Corporate Tax' (2007) 60(4) *Tax Law Review* 215, a high level of complexity arises because firms can hold assets in two ways, ie, directly or through a subsidiary. Dual ownership, as he calls it, creates complexity because it creates the possibility of multiple realisations of the same economic income.

[61] In the Italian tax law tradition, it is commonly accepted that what is taxed by income taxation is 'new wealth' which is a pre-legal concept borrowed by law. Professor Falsitta, among others, has extensively investigated the notion of income for tax purposes since, in the Italian tax system, it is not expressly defined under any statute and is, therefore, considered a 'pre-legal' concept. See Gaspare Falsitta, *Manuale di diritto tributario – Parte speciale* (CEDAM, 7th ed, 2010) 2. See also Giuseppe Melis, *Lezioni di diritto tributario* (Giappichelli, 6th ed, 2018) 544. He explains that income must be taxed where it is related to a productive source, ie, a relationship of derivation shall exist between the increase in assets and an activity or act of management of a productive asset that is capable of producing an economic result. By contrast, according to various theories, what is to be taxed is the mere fact of the existence of an increase in assets irrespective of whether this is linked to a source of production. This issue has also long been present in the legal tradition of common law jurisdictions. In *Commissioner of Income Tax, Bengal v Shaw Wallace & Co* [1932] LR 59 IA 206, the concept of income was held to connote a periodical monetary return '*coming in*' with some sort of regularity or expected regularity from defined sources. In addition to that, Lord Macmillan observed in *Van den Berghs Ltd v Clark* [1935] AC 431, 438 that '[t]he Income Tax Acts nowhere define "income" any more than they define "capital"; they describe sources of income and prescribe methods of computing income, but what constitutes income they discreetly refrain from saying. … Consequently it is to the decided cases that one must go in search of light'. See also Choong Kwai Fatt, *Malaysian Taxation – Principles and Practice* (InfoWorld, 27th ed, 2021) 2-3, in which it is further clarified that, according to the Malaysian tax system, the source is not necessarily one that is expected to be continuously productive, but

Some tax systems include temporal elements in this definition thus also taking into consideration the regularity of the calculated flow. This is why, in certain circumstances, large gifts and inheritances may be considered as additions to capital rather than constituent elements of income.

Different justifications exist in the literature[62] for adopting a corporate (income) tax. However, many of these arguments are justifications as to whether corporations should be subject to tax (the main reason being that most of the money in a market economy tends to pass through a corporation eventually) rather than a solid rationale for the use of income taxes levied on corporations.

In the mid-1990s, Professor Richard Bird reorganised these arguments into three major groups.[63] According to him, companies should be taxed because this is desirable, necessary and convenient.

The first argument is economic in nature and, beyond the technicalities of Pigouvian theory, can be summarised as the idea that it is desirable to tax corporations in order to impose a cost on the negative externalities they produce. Corporate taxes, though not necessarily on income, are therefore a price and an appropriate corrective on activities giving rise to problems (eg, environmental degradation).

Regarding the necessity to tax corporations, this argument is subsequently divided into two main points. The first, which is also one of the strongest, is the copycat element according to which the reason why most countries tax corporate profit is because most other countries do so. In other words, in a world where economies interact and cross-border investment flows are important, tax systems necessarily influence each other and if, for example, the United States taxes profits, Canada should do so too. Second, necessity may arise simply due to the fact that there is no other effective way to tax rents than through some form of corporate tax.

The last argument is that, even if it were not desirable or necessary, taxing corporations is convenient because it is simple. In fact, taxes are paid in money, and most of it that is earned and spent in modern economies passes at some point through the hands of a relatively small number of (small) corporations that generally maintain better records and are easier to locate and track than individuals. To use a colloquial expression, that is 'where the money is'.

Another justification that has been given historically is based on the benefit principle. When the old medieval corporations were abolished in Europe and replaced by the freedom of enterprise, franchise taxes (*droit de patente*, in French) were seen as compensation for removing the barriers to trade and industry that had existed

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it must be one whose object is the production of definite return, excluding anything in the nature of a mere windfall.

[62] See, among others, Steven A Bank, 'Entity Theory as Myth in the Origins of the Corporate Income Tax' (2001) 43(2) *William and Mary Law Review* 447.

[63] Richard Bird, 'Why Tax Corporations?' (Working Paper No 96-2, Technical Committee on Business Taxation, December 1996), available at the official website of the Canadian Government (https://publications.gc.ca/).

previously. They were additionally considered as a counterpart to the legal protection offered to undertakings by public authorities.[64]

Although all these arguments, as well as the one described later considering corporate taxation as a complement to the taxation of individuals, can justify the taxation of companies to some extent, they do not justify the taxation of their income in the way it is currently done.

As explained by J Clifton Fleming, Robert Peroni and Stephen Shay,[65] corporate income tax was originally a product of the progressive era when companies' tax returns were of public domain, and it was then intended as a device to impose a measure of public control on companies' behaviour. When the public disclosure of returns was abolished, corporate income tax was rationalised and remained, also in modern times, as a device for the same purposes. The idea behind this rationalisation process was that, by limiting the accumulation of wealth within corporations and through tax expenditures and denial of deductions, the tax system can help to shape companies' behaviour.[66] Nevertheless, as the authors mention, practical evidence shows that the considerable net worth and cash holdings of large corporations and groups indicate that the corporate income tax has not been a meaningful restraint on accumulations of corporate wealth. Fleming, Peroni and Shay state that 'while the corporate income tax has undeniably affected corporate decisions regarding the location and composition of business activity, its role has been limited outside of the business domain'.[67]

Other justifications rely on the widespread tacit consensus on the idea that corporate income tax is ultimately a tax on shareholders. Companies may exist by themselves in private law but, from a tax perspective, they are nothing more than an empty (cash) box in a sense, ie, a shield placed between the shareholders and the treasury.[68] From a practical standpoint, corporate income tax is still levied because collection is easier at a company level. From a more theoretical standpoint, corporate income tax prevents natural persons with capital from investing in companies' shares, undermining the ability to pay principle, or at least mitigating the consequences of its infringement. Without such a levy in place, they would be able to earn a higher income compared to other natural persons with the same ability to pay who did not incorporate by simply deferring the distribution of dividends or not selling the shares.

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[64] See, for example, in Belgium: Edmond Picard, N d'Hoffschmidt and Jules de le Court, *Pandectes belges*, v° Patente (général) (Larcier, 1903) vol 74, n° 14, 462; Jean Steels, *Les principes fondamentaux du système fiscal belge* (Bruylant, 1943) 57.

[65] J Clifton Fleming, Jr, Robert J Peroni and Stephen E Shay, 'Defending Worldwide Taxation with a Shareholder-Based Definition of Corporate Residence' [2016] (6) *Brigham Young University Law Review* 1681.

[66] See the Joint Committee on Taxation, *Economic Growth and Tax Policy*, JCX-47-15 (20 February 2015).

[67] Fleming et al, above n 65, 1695 (footnotes omitted).

[68] In tracing the historical evolution of income tax, Jane Gravelle, in 'The Corporate Income Tax – A Persistent Policy Challenge' (2011) 11(2) *Florida Tax Review* 73, 80 (footnotes omitted), recalls that an 'issue addressed early on was the interaction between individual and corporate taxes. The individual income tax was initially imposed as a normal tax which was relatively low (one percent) and a surtax. From the beginning of the income tax until 1936, dividends were excluded from the tax base for purposes of the normal tax. Thus, there was early recognition of the double tax imposed under the corporate and individual income taxes. At the same time, there was also concern about the use of corporations to shelter income of wealthy individuals from the higher individual surtaxes'.

3.2.3   Corporate income as an adequate taxable basis for taxing MNEs

Examining the particular situation of MNEs in the current context of globalisation, the question arises as to whether income – as determined by domestic rules – is still a suitable parameter for measuring the taxpaying capacity of those who operate internationally.

According to Professor John Prebble,[69] the concept of income in tax law is not income itself but a legalistic simulacrum of it. Business profits arise independently of the law, and the fundamental problem of any income tax law is that it cannot tax economic transactions directly but taxes the legal forms that are used to represent economic transactions. The point is that income is somehow an artificial concept, more specifically the difference between receipts and expenditures. Furthermore, this difference is very hard to split territorially with the result that it is almost impossible to allocate it to a single jurisdiction in international tax matters. Indeed, the fact that economic activities are global makes it much more difficult for states to ensure that CIT taxable profits reported by multinational groups actually correspond to a fair proportion of the wealth generated by the economic activities carried out by the MNEs in their territory.

On the one hand, revenues generated by MNEs are not always easy to quantify or to attribute to one jurisdiction. They can be the consideration for supplies of services and goods jointly produced by different entities within the group. With regard to financial instruments or capital contributions, it is not even clear at what time they should be considered as an accrual of wealth. A lack of coordination between jurisdictions regarding the characterisation of items of income or the time of realisation are additional sources of indeterminacy.

On the other hand, it is even more difficult to link expenditure to a particular territory, ie, to establish to what extent the expenditure of a multinational enterprise in a certain jurisdiction on the purchase of an asset or service, for example, is actually 'used' in every single jurisdiction around the world.[70] As a result, calculating net income in every jurisdiction and using it as an effective measure to assess corporations' ability to pay creates opportunities for wide errors, arbitrary allocations, and possibilities for manipulation.

Moreover, corporate taxation remains strongly related to statutory accounting. The calculation of income is made based on the balance sheet that is drawn up from a single-jurisdiction perspective. It considers almost exclusively the economic reality of the business in that particular spatial area on the assumption that the deductions, for example, are actually referable to only one jurisdiction.

3.3   The fiction of corporate residence

On the issue of residence, tax legislators also piggy-backed on personal income tax. However, over the years, it has become a concept that is increasingly disconnected from economic substance.

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[69] John Prebble, 'Income Taxation: A Structure Built on Sand' (2002) 24(3) *Sydney Law Review* 301.
[70] For an analysis involving only some specific aspects of this phenomenon, see Ruth Mason, 'Tax Expenditures and Global Labor Mobility' (2009) 84(6) *New York University Law Review* 1540.

Corporate tax residence has two main functions in modern tax systems: (i) providing a domestic connecting factor between a corporation and the tax jurisdiction of a state, and (ii) the allocation of income under tax treaties.

The first arises when the tax jurisdiction goes beyond the political borders of a given state and, in exchange for taking resident corporations into consideration in the determination of economic policy, it envisages the taxation of their worldwide income. Indeed, corporate tax residence forms the basis for worldwide taxation.

In contrast, the second of the listed functions stems from tax treaty law. Corporate tax residence is, in fact, used as a criterion for allocating income to one contracting state or to another. This may be the case, for example, wherever a tax treaty does not grant an exemption in the residence state for passive income and, under clauses drafted following the OECD *Model Tax Convention on Income and on Capital* (Model Tax Convention), allocation is determined by reference to corporate residence.

Events in recent years have demonstrated that legal entities have been a tool for disconnecting created wealth from the income tax base. For tax purposes, in fact, companies have allowed individuals, in a sense, to 'double up' and establish a presence where it is most convenient. This instrument has not always been used merely to limit the liability of investors to conduct business in a jurisdiction other than the one where the investors are physically present, but its nature has often been exploited to 'choose' the most tax-efficient jurisdictions.

Unlike flesh and blood individuals, corporations must necessarily rely on a legal system for their existence. For non-tax law purposes, the concept of corporate residence is useful for answering a number of questions such as where the entities may be sued, where insolvency procedures shall be initiated, where contracts have to be executed, etc.[71] As already explained, tax law borrowed significantly from corporate law in creating its own system of criteria for determining corporate tax residence.[72] Most of the jurisdictions currently rely on a mix of formal and substantive criteria.

The category of formal criteria implies the adoption of tests that result in a high level of legal certainty as well as low administrative and compliance costs. Conversely, they are

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[71] For a comprehensive analysis of the complex relationship between residence, citizenship and representation, see Wolfgang Schön, 'Taxation and Democracy' (2019) 72(2) *Tax Law Review* 235, 288 ('If one regards residence-based taxation as a form of quasi-citizenship taxation, the argument for voting rights is strong. But this is not the position taken in this Article. Fiscal residence does not, as has been laid out above, relate to a sufficient level of integration of a taxpayer into the domestic society on polling day').

[72] Another scholar who explores the issue of the artificiality of tax residence is David R Tillinghast, in 'A Matter of Definition: "Foreign" and "Domestic" Taxpayers' (1984) 2(2) *International Tax and Business Lawyer* 239. He begins his analysis by stating (at 239) that '[n]othing is more fundamental under the federal income tax system than determining whether an individual is a domestic or a foreign taxpayer', so as to underline how such a concept is central for the tax system. Subsequently, highlighting how this is the result of political choices, he clarifies (at 239, footnotes omitted) that '[t]here are those who believe that no Constitutional proscription and no rule of international law prohibit the United States from taxing all of the income of any taxpayer that it can reach. Under this view, the federal government could adopt some variation of the unitary tax principle utilized by a dozen American states to reach the income of taxpayers throughout the world. For reasons of history, practicality, comity, and a visceral sense of fairness, the federal government has chosen not to do this. It is this decision, however, which creates the need to differentiate one class of taxpayer from the other'.

exposed to a relatively high level of electivity.[73] While the technical terminology used may vary significantly in different jurisdictions, for the purposes of the present study, they may be gathered under the expression *legal seat of a company* which also includes what is commonly referred to as the place of incorporation.

This category of tests implies that any entity incorporated in a certain jurisdiction remains resident therein for tax purposes regardless of where it is managed or operates. In the United States, one of the most relevant examples of the adoption of this formal criterion dates back to the *Tariff Act of 1909* and to the *War Revenue Act of 1917* when corporations were identified as resident for tax purposes if 'created under the law of the United States, or of any State, Territory or District thereof'.[74] Although the origin of this criterion remains ambiguous in part and currently largely unchanged, there seems to be little doubt that it developed at that time because it was appropriate for a historical period characterised by: (i) somewhat underdeveloped international trade, and (ii) the circumstance that a corporation's legal standing was largely confined to the territory of the state that created it.[75] Moreover, as reported by Professor Omri Marian, there was often a formal requirement jointly with a generalised tacit understanding that corporations were incorporated in the place where they had significant operations, where their officers and directors resided, and where they held their shareholders' and directors' meetings.[76]

Other countries use substantive criteria for residence based on the economic nexus between the corporation and the jurisdiction.[77] The most common criteria within this group are the *place of effective management* (POEM) and *the central management and control* (CMC). The former must be kept conceptually separate from the tie-breaker rule under Article 4(3) of the OECD Model Tax Convention although, in several jurisdictions, their content actually coincides and what is considered relevant is the place where strategic or key decisions are taken. Other jurisdictions instead adopt an overall approach. In the case of groups of companies, the test is generally carried out at the level of each subsidiary unless it has no decision-making power.

In contrast, the CMC assesses where the real business of a company is located. The main element of this test is where the key decisions of the company's policy are taken which is a factual evaluation and shall not be limited to where the board of directors

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[73] Daniel Shaviro, 'The Rising Tax-Electivity of US Corporate Residence' (2011) 64(3) *Tax Law Review* 377.

[74] *War Revenue Act of 1917*, ch 63, sec 200 (3 October 1917), 40 Stat 300, 302.

[75] Roland Ismer, 'History and Emergence of the Corporate Residence Concept in Europe: A Comparative Approach' in Edoardo Traversa (ed), *Corporate Tax Residence and Mobility* (IBFD Publications, 2018) 27, 44.

[76] Omri Marian, 'The Function of Corporate Tax-Residence in Territorial Systems' (2014) 18(1) *Chapman Law Review* 157. In that article, a complex evaluation of the corporate tax residence determination in territorial systems is given. Under a positive approach, corporate tax residence is seen positively as pointing to the source of income earned by the corporation. Thus, corporate taxes would serve as a proxy to source taxation. The author acknowledges its historical merit but considers it as obsolete nowadays. Under a negative approach, corporate tax residence would only be relevant to the extent that it prevents income from being sourced to a jurisdiction where income could not possibly have been generated. As such, residence determination would serve as an instrument to prevent income shifting and base erosion.

[77] Among others, Luc de Broe, 'Corporate Tax Residence in Civil Law Jurisdictions' in Guglielmo Maisto (ed), *Residence of Companies under Tax Treaties and EC Law* (IBFD Publications, 2009) 95.

meets.[78] The focus is on the nature of the decisions taken by the board of directors and when the key management decisions are taken by the parent company of a group of companies, the CMC remains with the parent company. Alternatively, because the overall situation has to be taken into consideration, when the key decisions are taken by someone who is not on the board of directors, the CMC remains with that person.

In addition to the above, there are several tax systems that adopt their own model of substantive criteria.[79]

The domestic rules on corporate tax residence also have a significant impact on the allocation of income at the international level as the application of tax treaties relies heavily on them.[80] Under tax treaties, corporate tax residence usually: (i) defines the personal scope of application since only residents are entitled to treaty benefits; (ii) protects against double taxation because almost all allocation rules make some reference to the state of residence; (iii) determines the source of certain types of income such as, for example, dividends, and (iv) is of some relevance with regard to non-discrimination rules and mutual agreement procedures.[81]

Most of the concepts briefly presented in the above paragraph were elaborated in the first half of the 20th century and in the context of an economy strongly based on manufacturing and 'material' (*brick-and-mortar*) activities. One of the most striking and widely cited examples is the leading case of *De Beers*[82] decided by the House of Lords in 1906 for which the substantive criteria of the central management and control were first proposed.

In the judgment, the Lord Chancellor affirmed that, although the corporation has no personal life but only a business life, in applying the conception of residence to it, one should proceed as closely as possible to the analogy with an individual: 'A company cannot eat or sleep, but it can keep house and do business'.[83]

This idea that legal persons are also resident somewhere is reflected and amplified in the network of international treaties against double taxation. These treaties and their functioning, like that of domestic tax systems, are also greatly influenced by the concept of tax residence. Thus, not only do natural persons have the possibility to 'double up' by incorporating but, when deciding where to 'establish' this *alter ego* of theirs, they

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[78] Ismer, above n 75, 50. Some of the main judgments in this regard are: *New Zealand Shipping C. Ltd v Thew* (1922) 8 TC 208; *Untelrab Ltd & Ors v McGregor*, SpC55 (1995); *Laerstate BV v HM Revenue and Customs* [2009] UKFTT 209 (TC).

[79] In the Netherlands, for example, an open standard provision is in force under which residence is determined 'according to the circumstances'. Italy relies on two substantive criteria that can determine the residence of a corporation for tax purposes. They are the place of management that adheres to the model described above and the localisation of the main object of business (*oggetto esclusivo o principale dell'ente*). Additionally, in Belgian tax law, two alternative substantive criteria coexist, namely the company's principal establishment and the seat of management or administration.

[80] Ismer, above n 75, 57.

[81] See generally David Elkins, 'The Elusive Definition of Corporate Tax Residence' (2017) 62(1) *Saint Louis University Law Journal* 219.

[82] *De Beers Consolidated Mines, Ltd v Howe* [1906] AC 455 (HL).

[83] Ibid 458. The Court held (at 458) that the tax residence of a company shall be where it 'really keeps house and does business', specifically, as stated by the Court, where its 'chief seat of management and its centre of trading' are. This because, again in the Court's words (at 459), the 'real business is carried on where the central management and control actually abides', not where its business operations are located.

can often also exploit a totally artificial division between residents and non-residents, thus gaining significant advantages.

To a certain extent, the inadequacy of this legal fiction became apparent a long time ago, as indicated by the introduction of CFC rules, the first version of which was introduced in the United States in 1962.[84] These laws apply when domestic shareholders have a 'substantial influence' on a foreign corporation which, as a result of that, begins to be treated as a resident entity.[85] This represents a *de facto* extension of the rules on tax residence and proves that the need to go beyond the traditional categories of tax law emerged long ago. The CFC laws are a good example of what has been argued herein since they are precisely a first attempt to overcome the traditional fictions of residence and existence of legal entities, in order to exercise taxing powers in a way that is more adherent to the economic reality.[86]

4.   THE GLOBALISATION AND DIGITALISATION OF THE ECONOMY AS A BREAKING POINT OF THE CORPORATE INCOME TAX MODEL

The OECD opines that the main tax challenges of the digital economy include a lack of nexus (or taxable presence in a jurisdiction), reliance on intangibles, data and user-generated content, income characterisation, spread of new business models in which the buyer and seller are in different jurisdictions, and the expansion of e-commerce.[87]

4.1   Main features of the digitalisation of the economy

Digitalisation is defined as the phenomenon that consists of 'the incorporation of data and the Internet into production processes' and has a profound impact on the structure of the global economy as highlighted by a substantial number of reports and studies.[88] No agreed definition of the digital economy exists. In a narrow context, this expression overlaps with online platforms and activities that owe their existence to them. Conversely, it broadly refers to all activities that use digitised data; thus, almost all of the entire modern economy.[89]

The main driver of digitalisation is currently the internet that is enabling the processing of big data aggregated by online platforms, sensors and smartphones together with a constantly increased storage capacity, computing power and algorithms that are increasingly sophisticated.[90] Moreover, the presence of certain factors with enormous development potential such as artificial intelligence, the fall in price of information and communication technologies (ICT) and the adoption of 5G lead us to think that, in the near future, this phenomenon will only accelerate and will enable the digitalising of even more sectors of the economy.[91] Commonly, the totality of these phenomena is

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[84] Reuven S Avi-Yonah, *Advanced Introduction to International Tax Law* (Edward Elgar, 2nd ed, 2019) 38.
[85] Ibid 40.
[86] See, generally, Shaviro, above n 73.
[87] Pascal Saint-Amans, 'Tax Challenges, Disruption and the Digital Economy' *OECD Observer* (10 March 2017) 2.
[88] International Monetary Fund (IMF), 'Measuring the Digital Economy' (Policy Paper, 2018) 6.
[89] See the section 'Definition and Size of the Digital Sector, Products, and Transactions': ibid 7.
[90] See also Martin Mühleisen, 'The Long and Short of The Digital Revolution' (2018) 55(2) *Finance and Development* 4.
[91] See Oliver Cann, '$100 Trillion by 2025: The Digital Dividend for Society and Business' World Economic Forum (News Release, 22 January 2016), available at: https://www.weforum.org/press/2016/01/100-trillion-by-2025-the-digital-dividend-for-society-and-

referred to as the Fourth Industrial Revolution,[92] which is considered to be the most important development in the world economy since the Industrial Revolution. It is strongly characterised by the fusion of the physical, digital and biological worlds[93] as well as, in the case of the sharing economy, by certain boundaries between consumers and producers becoming indistinguishable.[94]

Business operations rely heavily on digitalisation and, from an economic perspective, the faster and more efficient it becomes, the more significant the time and cost savings will be for the product and service development processes. This is boosting the economic performances of these corporations to such an extent that, in certain cases, there is even a tendency towards the monopolisation of their respective markets due to network effects, scale effects, restrictions of use, potential to differentiate, and multi-sided platforms.[95] It is not surprising that, in light of the dimension of these types of businesses, Denmark went so far as to appoint a digital ambassador to deal with large MNEs in the digital sector.[96]

Concerning the characteristics of these business models that are posing the greatest challenges to tax systems, the most relevant factors are that digital goods are highly mobile, and a physical presence of a business in the market country is often not required (often referred to as 'scale without mass').[97] Digital business models generally rely on intangible property such as licences, brands, trademarks and copyrights and place great importance on the use of innovative technologies such as a cloud, analytics, algorithms and smart machines. Some of them are also used in the tax strategies of 'traditional' multinational businesses of which the activities are chiefly focused on manufacturing and tangible items while others are more 'typical' of the digital business sector.[98]

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business/; Naja Bentzen, Mar Negreiro, Vincent Reillon, Nikolina Sajn and Marcin Szczepański, 'Adapting to New Digital Realities: Main Issues and Policy Responses' (European Parliamentary Research Service Briefing, April 2018), available at:
https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2018)614734.

[92] Klaus Schwab, *The Fourth Industrial Revolution* (World Economic Forum, 2016) 6.

[93] Eli Hadzhieva, *Impact of Digitalisation on International Tax Matters: Challenges and Remedies*, Study Requested by the TAX3 Committee of the European Parliament (2019) 15.

[94] For an overview of some of these innovative business models, see, for example, Cristina Trenta, *Rethinking EU VAT for P2P Distribution* (Kluwer Law International, 2015).

[95] Hadzhieva, above n 93, 15.

[96] Marc Rameaux, '*Les GAFA élevés au rang de puissance diplomatique ou la tyrannie des géants du Web*' *Le Figaro* (2 February 2017), https://www.lefigaro.fr/vox/monde/2017/02/02/31002-20170202ARTFIG00113-les-gafa-eleves-au-rang-de-puissance-diplomatiqueou-la-tyrannie-des-geants-du-web.php.

[97] See also Yariv Brauner and Pasquale Pistone, 'Adapting Current International Taxation to New Business Models: Two Proposals for the European Union' (2017) 71(12) *Bulletin for International Taxation* 681.

[98] Assaf Harpaz, 'Taxation of the Digital Economy: Adapting a Twentieth-Century Tax System to a Twenty-First-Century Economy' (2021) 46(1) *Yale Journal of International Law* 57, summarises the main policy challenges posed by digital taxation in two main questions: first, how to establish taxing rights (nexus) in jurisdictions where foreign businesses have significant commercial presence with little or no physical presence and, second, how and where to allocate the taxable profits of MNEs. For a general comment, see also Frans Vanistendael, 'Digital Disruption in International Taxation' (2018) 89 *Tax Notes International* 175 (as to what he refers to as 'the fundamental challenge', he comments (at 177) that '[t]oday taxation of digital economic activity is neither neutral nor efficient, and because of the complications involved in the digital revolution, it is not simple. The digital revolution has completely changed our daily way of life').

4.2   Digitalisation and recognition of value and income for CIT purposes

Digitalisation affects income, value creation and recognition. Its ultimate essence is about *removing most of the mediators* that are present in the market.[99] If one thinks about the book market, for example, the business model of Amazon removes most of the mediators between the publishing house and the final consumer, of which the most familiar is the bookstore. The possibility to download an e-book, more specifically a digital and dematerialised version of the same product, goes even further by also removing the courier who delivers to private homes, ie, one of the last mediators who still 'survives' with the e-commerce business model.[100] Likewise, the business model of eBay also removes a number of mediators and allows goods to circulate among individuals who possess nothing of the business structures that are necessary in a materialised economy.[101]

Similarly, email goes directly from the writer to the reader. All of the intermediary steps, individuals and structures have been removed, eg, purchasing a stamp and envelope, the mail carrier, the post office, etc.

Even Google and Yahoo, in a way, remove a number of mediators. Although they are *per se* not experts in anything, they are currently two of the most relevant sources of information in existence. This is made possible due to their use of algorithms, which are mathematical formulas that are able to direct requests for information according to previously decided indications.

These new business models are radically transforming most production processes, making it problematic to determine where the value is created and which factors contribute to it. In its interim report on tax challenges arising from digitalisation, the OECD[102] identifies three types of value creation processes. The first is the value chain which is a theory of the firm where value is created by converting inputs into outputs through discrete but related sequential activities. The second is the value network which relies on mediating technologies such as, for example, those used by platform operators to link customers interested in engaging in a transaction or relationship (whether for financial consideration or not). Third is the value shop that operates in single-sided markets where interactions take place with one specific type of user or customer such as medical technology used to diagnose and treat a patient's disease. Its main characteristic is the use of an intensive technology applied in order to solve a specific customer demand or problem.

The digital economy also modifies the business models typical of industrial societies because they operate widely with the primary resource of data collected from users. Many social networks, for example, rely significantly on user participation and the

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[99] Alessandro Baricco, *The Game* (Einaudi, 2018) 73.

[100] Montserrat Hermosín Álvarez and José Miguel Martín Rodríguez, '*Los nuevos productos de la economía digital. Características, criterios de identificación y tipos de gravamen aplicables. Especial mención a los libros electrónicos*' in Adriano Di Pietro and Piera Santin (eds), *La fiscalità dell'economia digitale tra Italia e Spagna* (CEDAM, 2021) 76.

[101] See also, Alina Ionela Bădescu, 'Expansion and Contraction of Businesses: The Model of Co-Extension of Business Spaces' (2014) 10(2) *Revista Universitara de Sociologie* 7.

[102] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, Inclusive Framework on BEPS (OECD Publishing, 2018) 34 ('*Interim Report 2018*'). See also Andrew McAfee and Erik Brynjolfsson, 'Investing in the IT That Makes a Competitive Difference' (2017) 86(7/8) *Harvard Business Review* 98.

provision of user-generated content as transactions between the users (as providers of data/content) and the digitalised business with the latter providing financial or non-financial compensation to the former in exchange for such data/content. That non-financial compensation may come in the form of providing data hosting, email services or digital entertainment, for example.[103] Not only have the wealth flows changed their structure and direction but, in fact, they have changed their nature. Even if there is no doubt that the fundamental reason why businesses exist and will continue to do so is to realise profits, replacing major parts of production processes with the exchange and circulation of large amounts of data is often problematic with regard to reliance on the traditional concept of income. The data both add to and have great value in themselves and, since they exist only in the digital borderless world, it is extremely difficult under the current tax law framework, for example, to allocate the net income to a jurisdiction since expenses incurred to realise such data can occur virtually anywhere in the world. Moreover, even the fact that the current notion of income for tax purposes is usually limited to money or physical types of income risks overlooking the enormous data flows which, as mentioned, both have and add significant value to many of the contemporary value production chains.[104] Again, from an international tax law standpoint, it can be noted that data collection has always been considered as an auxiliary activity below the minimum threshold for determining the presence of a permanent establishment able to attract the taxing rights of the state where its activities are performed.[105]

Those transformations have a significant impact on the calculation of the taxable base for income tax purposes that mostly depends on financial accounting. In the last decades, financialisation and digitalisation of the economy have eroded the reliability of financial accounting for assessing the capacity of businesses to generate profits.[106] Contemporary balance sheets are very much focused on physical assets purchased and

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[103] Dirk A Zetzsche and Linn Anker-Sørensen, 'Taxing Data-Driven Business: Towards Data Point Pricing' (2021) 13(2) *World Tax Journal* 217.

[104] See the report of the Schmalenbach-Gesellschaft 'Transfer Pricing' Working Group, 'Data and Information as Taxable Assets' (2020) 60(11) *European Taxation* 489.

[105] Changes to this concept have been discussed for some time. See, for example, Peter Hongler and Pasquale Pistone, 'Blueprints for a New PE Nexus to Tax Business Income in the Era of the Digital Economy' (IBFD Working Paper, January 2015). See also the report of the United Nations Committee of Experts on International Cooperation in Tax Matters, 'Tax Challenges in the Digitalized Economy: Selected Issues for Possible Committee Consideration', E/C.18/2017/CRP.22 (11 October 2017).

[106] In the 2016 book authored by Baruch Lev and Feng Gu, *The End of Accounting and the Path Forward for Investors and Managers* (Wiley, 2016) 35, the authors claimed that, over the last 100 years or so, financial reports have become less useful in capital market decisions and, after having rhetorically asked, 'Are we fair to accounting?', the answer is 'not really. We draw a rather strong conclusion – accounting information has lost much of its relevance to investors – from examining the association of only two financial information items with stock prices. […] We document that the role of reported financial information in investors' decisions eroded systematically and quite rapidly over the past half century, despite the unprecedented expansion of the scope of accounting regulation during this period'. Their entire book is aimed at explaining and investigating the causes of this conclusion, but it is interesting to note that, at the beginning of the analysis, they write: 'A clue to accounting's relevance loss lies in a close inspection of figure 3.4: While the curve declines slightly from the 1950s to the mid-1970s, the drop really began to pick up steam from the late 1970s. Something started in those years to increasingly distance financial information from reality (stock prices). Any astute economic observer can easily guess the impetus: The 1980s saw the emergence and steep rise in the economic role of intangibles (intellectual) assets. Revolutionary changes, shifting economies and business enterprises from the industrial to the information age, started to profoundly affect the business models, operations and values of companies in the 1980s, yet amazingly triggered no change in accounting. Entire industries, which are largely intangible (conceptual industries, as Alan Greenspan called them), including software, biotech, and Internet services, came into being during the 1980s and 1990s'.

sold by means of contracts displaying a price that, in most cases, reflects their market value. Most of the time, these assets can be located in a physical space with a certain degree of precision.

However, digitalised businesses create their value by relying heavily on assets that are external to the perimeter of the companies filing the statutory accounts. Very often, these assets are owned by someone else or are not even the subject of property rights as we know them under private law. Suffice it to take as an example Uber's cars, Facebook's and Google's users, Airbnb's residential properties, etc.

Moreover, the main assets falling directly within the perimeter of digital businesses are, among others, algorithms, peer and supplier networks, artificial intelligence, human capital, etc which are not recorded as capitalised assets on balance sheets as most of them are currently filed. Nevertheless, in order to build these intangible assets, businesses sustain (deductible) expenses that are included in the statutory accounts of the corresponding companies.

Whereas a traditional business must show any purchases, eg, a machine, in the balance sheet as it is expected to have an impact on its performance, the dynamics are very different for digital businesses. A social network that acquires thousands of new users and a platform on which innumerable new videos are uploaded, for instance, will be able to increase its stock market value without showing anything other than tax deductible costs in the statutory accounts.

Even one of the few intangible assets often used by digital businesses that can be included in the capital under current rules, namely the brand, contributes to this trend and constitutes a perfect, illustrative example. In fact, purchased brands are reportable on balance sheets as physical assets and, like physical assets, they thereby generate deductible expenses. However, in contrast to them, brands (ie, intangible assets) do not depreciate with use and are likely to increase in value.[107]

In addition to this, it must also be considered that ultimately in most jurisdictions the tax calculation begins after the directors, on behalf of the shareholders, have already decided how to allocate the profits deriving from the business activity. This derives from company law and is not a strictly fiscal issue, but it causes taxation to represent public interests very late in the process of the business operation and means it is easily influenced by the choices of the taxpayers themselves.

For all the above reasons, relying on income (derived from financial accounting) as the main indicator of ability to pay for corporations has become increasingly difficult for ensuring the equality of tax contributions amongst businesses.

4.3   Digitalisation and 'de-territorialisation' of tax residence

Current tax systems are based on rules such as those determining corporate tax residence that are drafted for the purpose of taxing the profits where the value is created along the production process. By removing a number of mediators, the digitalised, globalised and highly mobile new business models are also eliminating most of the links of production chains and creating completely new business structures. Consequently, this alters the

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[107] For a historical overview of the tax issues posed by brands, see David Haigh, 'Make Brands Make Their Mark' (2001) 12(2) *International Tax Review* 40.

flow of wealth characterising materialised economies. Returning once again to the example of the company in the *De Beers Consolidated Mines* case, it is evident that replacing the mine activities in South Africa with an internet activity based on the exploitation of an algorithm becomes problematic when applying the reasoning of the Court and determining where the corporation has its *chief seat of management and its centre of trading*. Indeed, under the current legal framework, it may be difficult to determine where an algorithm is 'preserved' or where it generates its value. Theoretically, it may be in the jurisdiction where the company using it is located, where the final customer lives at that moment or permanently resides, or even in the one or more jurisdictions where the servers supporting the operations or the mathematicians updating the formula are located.

The statement above also derives from the fact that, from an international law standpoint, the notion of value creation is not among the traditional concepts.[108] It did not play a crucial role in the drafting of the OECD Model Tax Convention nor in the drafting of the OECD *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations* until the BEPS project.[109] On the contrary, when the modern day system of international agreements on the avoidance of double taxation was conceived by the League of Nations in the 1920s, the idea of 'economic allegiance' of a business to a certain jurisdiction served as a guiding principle for the allocation of taxing rights.[110] This is the context that gives rise, for example, to the notion of 'physical' permanent establishment.[111] It derives from a compromise that considers this threshold as a sufficient nexus for the exercising of taxing rights by states other than the residence state.[112] The assumption underlying the adopted solution is that such a regime would have led to an allocation of taxing rights in conformity with the benefit principle. In parallel, it would also have solved most of the 'administrative concerns'. Taxes should be paid where the business would typically avail itself to a significant degree of physical infrastructure and other public goods provided by the state and where it would, at the same time, be visible and accessible to tax authorities.[113]

Digital businesses are often able to significantly reduce their tax burden for two main reasons.[114] In some cases, certain jurisdictions offer low-tax regimes or deliberately

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[108] Johannes Becker and Joachim Englisch, 'Taxing Where Value is Created: What's "User Involvement" Got to Do With It?' (2019) 47(2) *Intertax* 161.

[109] As reported by Becker and Englisch, ibid 162 (footnote omitted): 'It is against this backdrop that the OECD declared its intention to better "align taxation with value creation" and introduced the concept into the BEPS documents. This slogan was put forth as the guiding principle for fixing all the actual or perceived deficiencies of the traditional tax system and make it fit for the 21st century. It allowed the OECD to forge consensus on the overall direction of reform efforts not only among its member States, but to also win the support of (other) G20 member States – altogether a group of 44 nations with quite divergent stages of economic development. The new "value creation" terminology was sufficiently vague and flexible to allow every party to project its own tax policy preferences into it, facilitating international agreement'.

[110] See, for example, Sunita Jogarajan, *Double Taxation and the League of Nations* (Cambridge University Press, 2018) 20, and, regarding the origins of this school of thought, Klaus Vogel, 'Worldwide vs Source Taxation of Income: A Review and Re-evaluation of Arguments' (1988) 16(8/9) *Intertax* 216.

[111] See Becker and Englisch, above n 108, 162.

[112] See generally José Á Gómez Requena, 'Adapting the Concept of Permanent Establishment to the Context of Digital Commerce: From Fixity to Significant Digital Economic Presence' (2017) 45(11) *Intertax* 732.

[113] See for example OECD, *Model Tax Convention on Income and on Capital: Condensed Version 2017* (OECD Publishing, 2017) Commentary on Art 7, para 11.

[114] See, among others, Johannes Becker, Joachim Englisch and Deborah Schanz, 'A SURE Way of Taxing the Digital Economy' (2019) 93 *Tax Notes International* 309. See also European Commission, *Time to*

refrain from exercising source taxing rights despite being entitled to do so in order to attract intellectual property or investment. The businesses relying widely on intellectual property and intangible assets often have many opportunities for exploiting that kind of international competition. This is not something that is exclusively exploitable by 'purely' digital businesses, but the fact that a consistent part of the product is dematerialised (eg, a software) or that a significant part of the value added consists of dematerialised components facilitates the artificial allocation of profits in elected jurisdictions. In other cases, certain digital business models allow for a significant presence in the economic life of a country without a corresponding physical presence.

All this is made possible by the exploitation of the three fictions mentioned above that enable substantial wealth to be created but without it forming a substantial income tax base in any high-tax jurisdiction.[115]

As to the innovations that allow business activities to be disconnected from the physical presence in the target market, they undermine the applicability of the rules described above aimed at subjecting income to taxation. While the formal criteria for determining a company's residence have always been elective, this disconnection also renders the substantive criteria elective to a certain extent. Indeed, if the case of *De Beers* is considered and set in the present day, it is evident that the internet would make it much easier than it was at that time to move the place of central management and control of the corporation, thus making the application of rules on corporate tax residence extremely complicated. Furthermore, the mining activities in South Africa can be replaced with either e-commerce or fully digitalised activities that can be conducted from virtually anywhere in the world and imply a limited used of physical support (eg, the servers) that can also be localised almost anywhere in the world. As a result, it is evident that all the substantive criteria for determining corporate tax residence as described, including the centre of trading and the main object of business, are inadequate for capturing the income generated by current digital businesses.

As summarised by Shafik Hebous:

> The decreased importance of maintaining a physical presence of companies for sales (and, more generally, the organizational structure of the global firm) have made guarding the borders between residence and source an extremely fragile undertaking. Distinguishing between different types of income has become more difficult and potentially prone to inconsistency across countries. The consequences are tax competition and profit shifting.[116]

All the above accentuates the need to establish new principles and solutions for modifying legal and tax systems in order to make them appropriate for the digital era. Despite its ambiguity and wide leeway for alternative readings, the logic behind the idea 'tax where value is created' is ultimately a restatement of the more general principle of

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Establish a Modern, Fair and Efficient Taxation Standard for the Digital Economy, COM(2018)146 final (21 March 2018) 4; HM Treasury, *Corporate Tax and the Digital Economy: Position Paper Update* (March 2018) 4; French Parliament (Assemblée Nationale), *Rapport d'Information Relative à L'évasion Fiscale Internationale des Entreprises*, No 1236 (12 September 2018) 167.

[115] Michael P Devereux and John Vella, 'Are We Heading Towards a Corporate Tax System Fit for the 21st Century?' (2014) 35(4) *Fiscal Studies* 449.

[116] Shafik Hebous, 'Global Firms, National Corporate Taxes: An Evolution of Incompatibility' (IMF Working Paper 178, 2020) 22.

'fair allocation of business profits'. With reference to multinational companies, it may be translated as 'tax where the market would allocate income if the taxpayers – or a taxpayer's different establishments – were unrelated parties'.[117] The challenge that tax systems are facing is to guarantee this ultimate principle of justice in a context where the difficulties in enforcing tax rules are becoming almost unsurmountable. It is therefore necessary to work in two directions. On the one hand, the current set of standards should be adapted both at a national and international level to the new reality described above. On the other, the current paradigms need to be overturned and forms of taxation developed that disregard the three aforementioned legal fictions. This should all be accomplished in the aim of establishing a framework capable of ensuring a fair distribution of business profits and, consequently, of taxation rights.

5. OECD ACTION UNDER THE BEPS PROJECT: FROM ACTION 1 ON THE DIGITAL ECONOMY TO PILLARS 1 AND 2: NOTHING MORE THAN A FEW ADJUSTMENTS (?)

Various international organisations have been working to find solutions to the problems created by the new economic models.[118] Among these, a leading role has undoubtedly been played by the OECD that has attempted, through various initiatives, to find innovative and appropriate solutions to the problems mentioned above.

5.1 The original OECD BEPS plan

The OECD's BEPS project has been the precipitator for a profound reflection on the adaptation of international taxation to globalisation and digitalisation.[119] In 2013, under the political impetus of the G20, the OECD launched the BEPS project that was divided into 15 Actions. Its general objective is to ensure that profits are taxed where the activities that generated them are located and carried out.[120]

Overall, the 15 Actions are considered fundamental for achieving the project's objectives in practice and are based on some major axioms, ie, making national tax systems coherent; strengthening the substantive requirements underlying existing international standards; pursuing a realignment of taxation to the location of production activities and value creation; increasing transparency and exchange of information; and improving the conditions of legal certainty for businesses and governments. With regard to the phenomena described here, it is no coincidence that the first of these 15 Actions

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[117] Becker and Englisch, above n 108, 165.

[118] Not only have international organisations worked on this topic, but tax scholars as well. To give an example of an innovative elaboration, see Reuven Avi-Yonah and Nir Fishbien, 'The Digital Consumption Tax' (2020) 48(5) *Intertax* 538, advocating for the imposition of a digital consumption tax rather than the gross receipts DST. This consumption tax would be applied on the seemingly free interaction between, for example, Facebook (and other companies alike) and its user.

[119] The OECD had already addressed some of the issues relating to the impact of the changing digital economy on tax systems at a 1998 conference in the Canadian city of Ottawa that was followed by the creation of the 'Technical Advisory Group on Business Profits' (TAG Business Profits) and the inclusion of paragraphs 42.01 to 42.10 in the Commentary to the OECD *Model Tax Convention on Income and on Capital* (OECD Publishing, 2003).

[120] On the genesis of the BEPS project, see Edoardo Traversa and Matthieu Possoz, '*L'action de l'OCDE en matière de lutte contre l'évasion fiscale internationale et d'échange de renseignements: développements récents*' [2015] (1) *Revue Générale du Contentieux Fiscal* (R.G.C.F.) 5.

is devoted to the digital economy in a document referred to as *Addressing the Tax Challenges of the Digital Economy.*[121]

According to the OECD, the characteristics of the digital economy required a broad approach to address the very basis of taxation and its allocation across jurisdictions. The final version of the previously mentioned report previously advocated the need – given the significant divergence between where the sale of digital goods and services takes place and where the corresponding income is taxed – to develop forms of taxation that do not require a physical presence. In particular, the recognition of a permanent establishment in the territory of the states where digital multinational businesses are active is recommended. This Action is divided into 10 chapters and is structured around the following points after a review of the basic principles of tax policy in the digital economy as well as the business models and technical aspects of the main innovations leading to a technical revolution. The OECD first identifies the possibilities for base erosion and profit shifting in the digital economy (chapter 5), then develops strategies to address them (chapter 6), and concludes with three chapters on a number of 'options' to address the broader challenges that are raised.

The Action suggests the use of the concepts of *significant economic presence*, commonly also called *virtual permanent establishment* as a main strategy with the aim of identifying a criterion of connection with the law of a state. It recommends using a series of additional parameters, or at least some diverging from the traditional ones, as well as the concept of connection with the territory to verify the requirements deemed qualifying.

The OECD assumes that the evolution of business models and the growth of the digital economy have led to profound changes but not in the fundamental nature of the core activities that firms perform within a business model to generate profits. In fact, the OECD notes that firms still need to source and acquire inputs, create or add value, and sell to customers.[122] With regard to the possibility of creating a taxable presence in a certain jurisdiction where a non-resident business has a significant presence, the OECD states that it should be based on factors that demonstrate a voluntary and sustained interaction with the economy of that jurisdiction through technology or other automatic tools.

These factors should be combined with one based on revenue from remote transactions in the jurisdiction to ensure that only cases of *real* significant economic presence are covered.[123] The OECD argues that revenue generated in a jurisdiction on a sustained basis can be considered one of the clearest potential indicators of significant economic presence, although it also recognises that the payer's jurisdiction and the user's jurisdiction do not always coincide.[124]

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[121] OECD, *Meeting the Tax Challenges of the Digital Economy, Action 1 – Final Report 2015*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, October 2015).
[122] Ibid 100.
[123] Ibid 107.
[124] For analyses on this point, see, among others, Pasquale Pistone, João FP Nogueira and Betty Andrade Rodríguez, 'The 2019 OECD Proposals for Addressing the Tax Challenges of the Digitalization of the Economy: An Assessment' (2019) 2(2) *International Tax Studies*; Isabella Cugusi, 'Prospects for Taxation of the Digital Economy between "Tax Law and New Economy" and "Tax Law of the New Economy"' (2020) 12(4) *World Tax Journal* 763.

As for other factors to be considered in conjunction with revenue, the OECD focuses on those that, as in the traditional economy, make interaction with users and customers possible, ie, a local domain name, a local digital platform and local payment options. Regarding user-based factors, the OECD proposes to take into account monthly active users, the conclusion of online contracts and data collected in a certain jurisdiction.

In contrast to the other Actions, the OECD continued its reflection on the tax impact of digitalisation. It finally published an interim report entitled *Tax Challenges of Digitalisation*[125] that begins by examining some of the main features of the digital economy of which the main concept is that of the massless transnational scale. According to the OECD, as described above, digitalisation has allowed companies in many sectors to locate different stages of their production processes in different countries while having access to a larger number of customers worldwide.

As a result, it also allows highly digitalised companies to become heavily involved in the economic life of a jurisdiction without any or a significant physical presence thus achieving local scale operation without local mass. Following this introductory section, the report assesses the state of implementation of the BEPS project. It indicates that, on the one hand, although it is still relatively early in its implementation, evidence is available that jurisdictions have taken a significant step towards widespread implementation of the various BEPS measures and that this is already having an impact.[126]

On the other hand, it is recognised that the relevance and impact of BEPS measures that have been implemented is far more indistinguishable for the broader direct tax challenges raised by digitalisation (eg, *nexus*) as, for many jurisdictions, these challenges remain largely unresolved. It further explains that this is because the relevant measures in the BEPS package were primarily designed to target double non-taxation rather than address the tax challenges posed by digitalisation more systematically.[127]

Secondly, the report follows the implementation of some national measures that are potentially relevant for digitalisation.[128] These are the following uncoordinated and unilateral measures which, partly along the lines already recommended in BEPS Action 1, can be grouped into four categories: (i) alternative applications of the permanent establishment threshold; (ii) withholding taxes; (iii) turnover taxes, and (iv) specific regimes targeting large multinational enterprises (eg, UK tax on diverted profits).[129]

In the report, the OECD also recognises that the objective of realigning the place where profits are taxed with the place where economic activities take place and value is created appears difficult to pursue in the digital economy. This is because digitalisation tends to geographically disconnect individuals and assets from the value creation process.

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[125] OECD, *Interim Report 2018*, above n 102, 19.
[126] Ibid para 253.
[127] Ibid para 255.
[128] Ibid ch 4.
[129] A rather negative judgement on these unilateral measures was made by a study commissioned by the EU Parliament Tax Committee, authored by Eli Hadzhieva, above n 93, published in February 2019 ('Absence of consensus leads to unilateral measures, making multilateralism lose its appeal. The effectiveness of such interim measures is doubtful. Some scholars recognise the legitimacy of short-term approaches that may put pressure on international organisations to speed up their coordination efforts while others think that they would fall short of fixing the interests of source needs, calling for a serious reform').

The OECD also notes a divide between those states supporting the idea that a state providing the market where a foreign company's goods and services are supplied is a sufficient nexus for creating an exclusive nexus for tax purposes, and those that reject it and prefer to continue to use the traditional criteria for allocating taxing powers.[130]

In conclusion, the report identifies as a basis for future work the belief shared by many jurisdictions that there is a need to review the rules on the nexus and profit allocation and also argues that, pending this review, there is no need to recommend the adoption of specific interim measures.

5.2 The Actions on transfer pricing: a partial attempt to change perspective while keeping the arm's length principle

The BEPS project focused strongly on transfer pricing rules. This is because both governments and scholars have always seen transfer pricing as one of the main means of implementing aggressive tax planning and avoidance schemes.

In past years, the debate has mainly concerned the suitability of the principle to meet the needs to which the transfer pricing rules respond and has gradually shifted to the relationship between transfer pricing and the dematerialised economy.[131]

Among the 15 BEPS Actions, four relate directly or indirectly to transfer pricing. To summarise: the purpose of Action 8 is to develop rules to prevent BEPS through transfers of intangible assets between members of the group; Action 9 develops rules to prevent the transfer of risks or allocation of excessive capital between group companies; Action 10 serves to counter BEPS conduct carried out through involvement in transactions that do not or very rarely occur between third parties, and Action 13 aims, among other things, to revise the rules on transfer pricing documentation to improve transparency in communications with tax authorities.

As a whole, Actions 8 to 10 aim at aligning transfer pricing outcomes with value creation.[132] The OECD, in fact, never expressed the intention to replace the arm's length principle but rather to adapt it to the needs of the present time.[133] On the basis of this approach, it can be stated that the work of the OECD in this area has not been conclusive in the sense that the underlying problems, such as the arbitrary shifting of risks and capital, still remain to a large extent.[134]

With regard to transactions, for example, the project shows that its intention is to focus the transfer pricing analysis on the conduct of the parties and the 'real deal' between them rather than on the formal aspects of economic transactions such as *legal ownership*. The analysis must therefore not be limited to that of contractual clauses but must take into consideration the actual behaviour of the parties, the price applied, the

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[130] OECD, *Interim Report 2018*, above n 102, 172.

[131] See, for example, Helen Rogers and Lynne Oats, 'Emerging Perspectives on the Evolving Arm's Length Principle and Formulary Apportionment' [2019] (2) *British Tax Review* 150; Isabel Verlinden, 'The Value of a Principle … the Arm's Length Principle' (2021) 49(3) *Intertax* 206; Marta Pankiv, *Contemporary Application of the Arm's Length Principle in Transfer Pricing* (IBFD Publications, 2017).

[132] OECD, *Action Plan on Base Erosion and Profit Shifting* (OECD Publishing, 2013) 19.

[133] Ibid 14-20.

[134] See also, among others, Georg Kofler, 'The BEPS Action Plan and Transfer Pricing: The Arm's Length Standard Under Pressure?' [2013] (5) *British Tax Review* 646.

propensity to take risks, etc. Relationships not formalised in contracts may also be relevant for the purposes of transfer pricing.

On one of the most critical points, ie, intangibles, their valuation and the consequent allocation of the created value, the BEPS project is characterised by two specific aspects. On the one hand, it requires that profits from the transfer or use of intangibles be allocated on the basis of value creation. On the other hand, it encourages the adoption of specific measures with the possibility to deviate from the arm's length principle for the transfer of what is known as *hard-to-value intangibles*. This indeed represents the most reforming aspect of the intangibles project since, firstly, the OECD admits that there are intangibles for which the current transfer pricing discipline based on the arm's length principle is not suitable for a correct valuation; secondly, it emphasises the role of the arm's length principle as a means rather than as an end of transfer pricing analysis.[135]

Ultimately, the OECD focuses on situations in which the very rationale of the arm's length principle fails because there are no comparable transactions in the market, as is often the case with transactions involving intangibles. In this sense, the entire framework of transfer pricing rules remained with the profit split method without introducing any major innovations. To some scholars, this seems to be a solution that actually defeats the project's purposes.[136]

In itself, the profit split presupposes the non-existence of comparable transactions between independent parties and, thus, the application of the arm's length principle in these cases remains *forced* in a certain way. This is because it is not really possible to determine the conduct that independent parties would have assumed in transactions that they never carried out and will never carry out in many cases.

To be consistent with the arm's length principle and the reality of the current business models, the profit split method should theoretically only be used in cases when independent companies would also have used it. However, for integrated companies for which intragroup transactions often involve unique intangibles of value, the profit split method will inevitably be the most widely used method.

The arm's length principle as originally elaborated in Article 9 of the OECD Model Tax Convention worked effectively until globalisation allowed for the emergence of integrated multinational businesses operating in several jurisdictions in which each group entity performs certain functions within the global value chain. With BEPS, in fact, the same need arose as that in the 1930s which led to the elaboration of the arm's length principle as the existing rules did not allow for the fight against elusive phenomena in a widely dematerialised context. In order to achieve this, the new approach being followed is based on the conduct of the parties as well as the facts and circumstances of the transaction rather than the contractual agreements. This therefore suggests that, in addition to being an income allocation tool, the arm's length principle after BEPS also adheres to a more pronounced anti-avoidance purpose. In particular, Actions 8 to 10 arise in pursuit of substance seeking to understand whether the parties to a transaction earn profits by virtue of the functions performed, assets used and risks

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[135] J Scott Wilkie, 'Intangibles and Location Benefits (Customer Base)' (2014) 68(6/7) *Bulletin for International Taxation* 352; Yariv Brauner, 'What the BEPS?' (2014) 16(2) *Florida Tax Review* 55.
[136] See also Yariv Brauner, 'Changes? BEPS, Transfer Pricing for Intangibles, and CCAS' (University of Florida Levin College of Law Research Paper No 16-14, 2016).

assumed or whether there is inconsistency between the contractual provisions and the parties' actual conduct.

Nevertheless, the idea of linking value creation to a specific territory with reference to business models that have no physical connection with it is revealing in all of its inherent limitations. Any split of profits can only be arbitrary and is highly likely not to reflect reality. This is all without taking into account the fact that financial administrations have very limited possibilities for reconstructing intangible value chains.

5.3   From international digital business tax reform to international business tax reform in general: Pillars 1 and 2

Further debate within the Inclusive Framework led to the publication of a policy note on 23 January 2019[137] followed by a public consultation of stakeholders and accompanied by a discussion paper published on 13 February 2019.[138] In the discussion paper, the proposals considered by the Inclusive Framework are divided into two sets referred to as *Pillars*. The first relates to changes in the rules for defining the nexus and allocation of profits generated by companies operating globally and the second to unresolved BEPS issues.[139] The OECD persevered in its effort by publishing a blueprint for each Pillar in October 2020 reflecting points of convergence on a significant number of policy features and principles and identifying remaining technical issues and contentious policy choices. This perseverance was successful as it led to an agreement in principle in various forums: first the G7, then the G20, and finally the inclusive OECD framework (130 countries) endorsed the principle of the two Pillars.[140]

5.3.1   The first Pillar (or 'Pillar 1')

Pillar 1 aims to address the fundamental questions of 'how to tax', 'where to tax' and 'what to tax' by reviewing the current tax rules on the allocation of taxing powers between jurisdictions in which multinational enterprises operate, including those on transfer pricing and the arm's length principle. To do so, according to the OECD, it is necessary to prioritise a review of the nexus rules, ie, those that determine the connection of a company with a specific jurisdiction.

At the end of 2019, however, the OECD proposed a '*unified approach*' based on the common features of previous proposals.[141] It consists of revised rules for identifying the profit attribution nexus with the intent to strengthen and broaden the taxing rights of market jurisdictions *vis-à-vis* digital multinational businesses.

This approach is based on the following points: (a) the scope is limited to highly digitised business models, including direct-to-consumer digital businesses; (b) a new

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[137] OECD, *Meeting the Tax Challenges of the Digitalisation of the Economy – Policy Note, as approved by the Inclusive Framework on BEPS on 23 January 2019* (2019).
[138] OECD, *Meeting the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document, 13 February – 6 March 2019* (OECD Publishing, 2019).
[139] For a review of the debate around the main OECD initiatives in this field, see Vikram Chand, Alessandro Turina and Louis Ballivet, 'Profit Allocation within MNEs in Light of the Ongoing Digital Debate on Pillar I – A "2020 Compromise"? From Using a Facts and Circumstances Analysis or Allocation Keys to Predetermined Allocation Approaches' (2020) 12(3) *World Tax Journal* 565.
[140] OECD/G20, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy* (2021).
[141] OECD, *Secretariat Proposal for a 'Unified Approach' under Pillar One, Public Consultation Document, 9 October 2019 – 12 November 2019* (OECD Publishing, 2019).

nexus concept is proposed that does not depend on the physical presence of the company but is based primarily on sales volume with the establishment of country-specific thresholds calibrated so that even states with smaller economies can benefit from tax revenues; (c) a new profit allocation rule going beyond the arm's length principle is approved that concerns taxpayers falling within the scope of the proposal whether they are physically present (with a permanent establishment or subsidiary) in the marketing or distribution jurisdiction or whether they use 'distributors', and (d) greater tax certainty is sought for taxpayers and tax administrations through the three-tier mechanism. However, this does not affect the right to maintain the current rules when they are more appropriate to meet the needs of a particular case.

Such a mechanism gives market jurisdictions the right to tax in three steps:[142] (1) the calculation of Amount A that corresponds to a share of the presumed residual profit allocated to the market jurisdictions according to a formula, ie, the new right to tax; (2) the calculation of Amount B that consists of a fixed remuneration for the basic marketing and distribution functions that take place in the market jurisdiction, and (3) the calculation of Amount C, ie, a binding and effective dispute avoidance and resolution mechanism relating to the application of the proposal.

As for the development of a new concept of nexus (that would coexist with the traditional concept of permanent establishment), the document[143] states that it should be applicable in all cases when a company has significant and ongoing involvement in the economy of the market jurisdiction. This could occur, for example, through the interaction and involvement of users and consumers there irrespective of the company's physical presence in that jurisdiction.[144]

Based on stakeholder feedback, the Inclusive Framework and the G20 agreed on a new Pillar 1 agenda (the 'Declaration') in January 2020 to replace the one published in May 2019.[145] The Declaration focuses primarily on Amount A that is intended to be the main response to the tax challenges of the digital economy and emphasises that taxing rights granted to market jurisdictions on the basis of specific formulas could be exercised on part of the residual profits of specific categories of business taxpayers. These include: (i) businesses that provide automated digital services to a globally extended customer or user base operating remotely and using little or no local infrastructure; (ii) consumer-oriented businesses which are businesses generating revenue from the sale of goods and services to consumers; (iii) consumer-oriented enterprises which are enterprises generating revenues from the sale of goods and services to consumers (ie, enterprises that provide services to consumers), and (iv) enterprises generating revenues from licensing rights to branded consumer products.

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[142] Ibid 6.
[143] Ibid 8-9.
[144] The easiest way to apply the new nexus concept would be to define a share of the revenues generated by the company in the specific market (the amount of which could be adapted to the size of the market itself) as the main indicator of the company's sustained and significant involvement in that jurisdiction. This would also make it possible to take into account, inter alia, online advertising services to users located in jurisdictions other than those in which the relevant revenues are recorded.
[145] OECD, *Statement by the OECD/G20 Inclusive Framework on BEPS on the Two-Pillar Approach to Address the Tax Challenges Arising from the Digitalisation of the Economy, as Approved by the OECD/G20 Inclusive Framework on BEPS on 29-30 January 2020* (2020).

According to the 2021 agreement, the first Pillar is intended to apply to multinational companies with a global turnover of more than EUR 20 billion and a profitability of more than 10 per cent and to countries where MNEs have generated at least EUR 1 million in revenues (with a lower threshold for small jurisdictions, ie, EUR 250,000). These states could then tax between 20 per cent and 30 per cent of the residual profit (above a 10 per cent threshold). The solution would then be implemented through a multilateral instrument open for signature by all states in 2022 with entry into force from 2023 on.

The original objective of the first Pillar was to ensure that, in an increasingly digital age, the allocation of taxing rights between countries is adapted to the new business models that have emerged as a result of digitalisation. To achieve such a goal, this Pillar aims to extend the taxing rights of market jurisdictions (which are based on the location of users for some business models) where a business is actively and permanently involved in the economy through activities carried out there or from remote locations focused on that jurisdiction. As a result, this new taxing right will, on the contrary, reduce the taxing rights of some jurisdictions (particularly the taxing rights of jurisdictions where multinational entities entitled to residual profits under the existing rules are located).

The compromise reached in July 2021 partly fulfils this objective as it reallocates some taxing power to the market jurisdiction that is limited to a part of the residual profit. However, one of the main problems is that the scope of application of this solution is restricted to a limited number of companies which may consequently exclude some digital multinational enterprises from the new system.

In addition to this and more in general, another problem is that the solution is based entirely on a questionable assumption, namely that value is created in a market jurisdiction. This is one of the misunderstandings arising from the old concept on which modern corporate taxation is based and that we have already examined. On closer inspection, in fact, the only reliable information that can be derived is that consumer payments are made from the market jurisdiction, but otherwise it is difficult to know both whether that is where digital products are actually used and, more importantly, where value is created.

Indeed, in a digital environment, value can even be created in many places at once, and if a market jurisdiction wants to impose a tax, it would probably be more efficient for it to be a tax on cash flow rather than a tax calculated as the difference between costs, which are difficult to identify and localise, and revenues.

5.3.2   The second Pillar (or 'Pillar 2')

Pillar 2 deals with some global proposals against base erosion. In particular, it seeks to address some of the remaining challenges by developing the concept of two interrelated rules:[146] (1) an inclusion rule for [under-taxed overseas] income, and (2) a tax on base eroding payments.

On this basis, the OECD presented the Global Anti-Base Erosion Proposal ('GloBe') in 2019. It consists mainly of two sets of interrelated rules that are reminiscent of and magnify those in the second part of the abovementioned document: (a) an income inclusion rule that provides for the inclusion of the income of the foreign branch in the

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[146] Ibid; see particularly p 28 of the document.

tax base of the company to which it belongs (or the parent company) if the tax and effective burden on the former is particularly low, and (b) a tax on tax base eroding payments that consists of denying the deductibility of a related party payment if the related income component is not subject to a minimum effective tax rate in the destination jurisdiction (the under-taxed payment rule) and denying – in the same case – the tax benefits provided in international double taxation treaties (the tax liability rule).

In the OECD's view, the GloBe would help to resolve the remaining problems of base erosion by strengthening the taxing power of each state.[147] Thus, states would continue to have discretion in setting their level of taxation autonomously, but other states would be given subsidiary taxing powers in cases where company profits are not taxed or are taxed below an agreed threshold.[148]

According to the 2021 agreement, the second Pillar encompasses multinational companies with a global turnover of at least EUR 750 million. The minimum effective rate below which other states would be able to apply tax 'countermeasures' has been established at 15 per cent, calculated on a country-by-country basis.[149] Exceptions are made for jurisdictions where there is substantial economic activity.

The objective of Pillar 2 adheres more closely to the original BEPS project and aims to provide a systematic solution to ensure that all internationally operating companies pay a minimum amount of tax. Although the Pillar 2 objective goes beyond the topic of digitalisation of the economy and imposes a minimum tax on all companies, the link to BEPS Action 1 can be found in the observation that the importance of intangible assets as profit drivers often puts highly digitised companies in an ideal position to use profit shifting planning structures.

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[147] For a comprehensive analysis, see the study commissioned by PwC from the Oxford University Centre for Business Taxation: Michael P Devereux with François Bares, Sarah Clifford, Judith Freedman, İrem Güçeri, Martin McCarthy, Martin Simmler and John Vella, *The OECD Global Anti-Base Erosion Proposal* (Oxford University Centre for Business Taxation, 2020). Regarding the project's chances of success, they predict that the claimed benefits in terms of profit shifting and tax competition depend on it being widely, if not universally, adopted. They ask and elaborate on whether this is likely to be the case and whether – even if all or most countries agree to implement it initially – it could be stable in the long run given the option for individual countries not to implement it. An overall positive evaluation and positive expectation of general acceptance is also expressed by Joachim Englisch and Johannes Becker, 'International Effective Minimum Taxation – The GLOBE Proposal' (2019) 11(4) *World Tax Journal* 483. They conclude that: 'Altogether, it could thus have a markedly positive impact on the efficiency and fairness of the international tax system. To what extent this potential can be realized depends not only on the international acceptance of the instrument, but also crucially on its design. In particular, it is necessary to strike a balance between the effectiveness and the administrative feasibility of the minimum tax. This requires a careful calibration and coordination of its several components'.

[148] In November 2019, the OECD published a second public consultation on the second pillar of which the scope is limited to the income inclusion rule asking stakeholders (a) whether and to what extent financial accounts could be used as a tax base to determine the effective tax rate ('ETR') to which a digital multinational enterprise should be subject; b) to what extent the calculation of the effective tax rate should take into account taxes paid on a global or domestic basis; and c) the possibility of providing for exclusions from the scope of the GloBe proposal. See OECD, *Global Anti-Base Erosion Proposal ('GloBE') – Pillar Two, Public Consultation Document, 8 November 2019 – 2 December 2019* (OECD Publishing, 2019), https://search.oecd.org/fr/fiscalite/ocde-sollicite-les-commentaires-du-public-sur-la-proposition-globale-de-lutte-contre-l-erosion-de-la-base-d-imposition-au-titre-du-pilier-2.htm.

[149] See also Angelo Nikolakakis, 'Aligning the Location of Taxation with the Location of Value Creation: Are We There Yet!?!' (2021) 75(11/12) *Bulletin for International Taxation* 549.

However, the development of this second Pillar is also based on conflicting visions. The name of the proposal, ie, the 'Global Anti-Base Erosion Proposal', suggests that the second Pillar should be considered as a mere derivative of the BEPS project that comprehensively addresses residual profit shifting and base erosion. A much broader objective could be inferred from the work program published in 2019. Indeed, it stated that 'global action is needed to stop the harmful race to the bottom' and that Pillar 2 was about 'strengthening the tax sovereignty of all countries to "re-tax" profits where other countries have not sufficiently exercised their primary taxing powers'. These considerations seem to indicate a much broader scope aimed at eliminating tax competition in general.[150] The proposal goes beyond the issue of actual economic activity and focuses exclusively on tax rates. This represents a major change in the way tax competition is perceived for which, previously, it was agreed that low or no taxation was not inherently harmful if it was linked to real presence.

It is questionable whether the introduction of a 15 per cent minimum tax will be a sufficient deterrent for companies (although the complexity of the rules may, in itself, be an adequate reason to avoid applying them as much as possible).[151] On the other hand, it is still uncertain whether this minimum tax will eventually become a maximum tax. In this sense, in fact, the calculation mechanism on which it is based (also known as the QDMTT, or Qualified Domestic Minimum Top-up Tax) seems more likely to push states that currently tax multinational enterprises at a low rate to tax them at 15 per cent, so that they can continue to host them in their territories. The alternative, in fact, is that the 'high tax jurisdictions' apply their much higher rates and in this sense the risk is that once this threshold is set, all states will converge there, both those that currently tax at a low rate and those that tax at a high one.

The outcome will only become clear in the course of time but, beyond the specific content of the measures adopted, one can only welcome the emergence of a genuine global forum for discussion and negotiation on the legal framework for international taxation.

5.4   Assessing the potential outcomes of the implementation of Pillars 1 and 2

All of the OECD's work in this field is certainly commendable, and there is no doubt that it has produced some improvements compared to the pre-BEPS situation.

The authors agree with the scholars in the academic tax law community who have recently stated that, even if it is too early to fully assess the implications of this *uncertain direction of travel*, it would be difficult to envisage effective domestic tax reform

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[150] More in general, on why the Pillar 2 undertaxed profits rule would be consistent with US bilateral income tax treaties and the exploration of some of the reasons underlying claims that the undertaxed profits rule ('UTPR') is incompatible with those treaties, see Allison Christians and Stephen E Shay, 'The Consistency of Pillar 2 UTPR With US Bilateral Tax Treaties' (2023) 109 *Tax Notes International* 445.

[151] All of this has a high degree of artificiality, not in the least because, as mentioned by Marcel Olbert and Christoph Spengel, in 'International Taxation in the Digital Economy: Challenge Accepted?' (2017) 9(1) *World Tax Journal* 3, 28 (footnotes omitted): 'Besides anecdotal and descriptive evidence on US digital companies' effective tax rates, there are no specific empirical studies on the interrelation between international taxation and digital businesses models. This lack of evidence might be due to the shortage of readily available data to scrutinize the degree of digitalization, the organizational structures and the financial characteristics of digital business models as well as the topic's newness'.

occurring without reference to theoretical tax principles[152] such as those developed internationally by the OECD. Overall, domestic legal systems are certainly better equipped today to face the challenges of globalisation and the digital economy than they were previously.

However, these developments have taken place within the framework of corporate income tax. The OECD efforts have aimed at better coordinating the existing domestic income taxation systems at the global level. The idea that remains behind all this work is that companies are autonomous entities residing in a particular place, therefore they have to be considered for tax purposes, and consequently they have to report income and pay taxes in that jurisdiction. In the policies outlined by the OECD, there seems to be a firmly rooted belief that through a globalised set of corporate income tax rules a state of residence can be continuously and clearly identified for companies and, consequently, the taxing powers of all the jurisdictions where a particular company operates can be coherently allocated.

It is nevertheless worth noting that recent developments have shown significant departures from traditional categories on three levels.

First, Pillar 1 and, even more clearly, Pillar 2 constitute a shift from individual corporate taxpayer liability to a broader notion of group liability therefore partly disconnecting liability to tax from an individual legal personality.

Secondly, envisaging the situation of the group from a global perspective also constitutes a partial departure from the concept of residence. According to Pillar 2, the income of a company may be taxed in a jurisdiction other than that of residence (and the source jurisdiction that often uses residence – of the payer – as a proxy).

Thirdly, in Pillar 1, proxies other than residence are used to connect the taxable base to a territory, in particular the presence of customers.

The actual tendency seems therefore to preserve the current structure of income tax systems and, consequently, to find solutions that continue to distinguish between residents and non-residents as well as natural persons and legal persons. They must all submit accounting and tax documents in each jurisdiction from which their income is derived and it is hoped that such documents allow the reconstruction of their ability to pay within each specific jurisdiction.[153] When this proves ineffective, the answer is always left, to some extent, to international cooperation and therefore to the hope that other jurisdictions will decide to adopt common rules and share the taxpayers' information they possess.[154] However, this strategy has two major risks.

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[152] Craig Elliffe, 'The Brave (and Uncertain) New World of International Taxation under the 2020s Compromise' (2022) 14(2) *World Tax Journal* 237.

[153] For an empirical analysis of the connection between taxation and accounting, although referred to the situation of a specific jurisdiction, see Nexhmie Berisha Vokshi, 'The Connection between Accounting and Taxation from the Perspective of Preparing the Financial Statements' (2018) 6(4) *International Journal of Economics and Business Administration* 34. For a more general analysis of the topic, see among others Simon James, 'The Relationship Between Accounting and Taxation' (University of Exeter Paper 02/09, 2002).

[154] Although an in-depth analysis of these dynamics is beyond the research scope of this contribution, it is worth noting that the issue is even more complex since there are multiple actors playing a role. This is well explained by Carlo Garbarino in 'Cosmopolitan Rights, Global Tax Justice, and The Morality of Cooperation' (2020) 23(2) *Florida Tax Review* 743, who, in elaborating on what is known as the global tax

First, from a practical standpoint, the globalisation of corporate income taxation implies a very broad political consensus at international level.[155] In fact, just as with all global solutions proposed for global problems, effective global corporate taxation would require a substantial number of jurisdictions to agree and act with strong synergy.[156] As affirmed by Professor Avi-Yonah,[157] once a set of principles is embodied and becomes part of the international tax regime, major problems arise when too many countries need to cooperate for the regime to be effective. He gives the example of two recent OECD projects, ie, the Multilateral Agreement on Mutual Assistance in Tax Matters (MAATM) that was inspired by the US Foreign Account Tax Compliance Act (FATCA) and the BEPS project itself which would certainly be helpful but are bound to have limited effects without a truly global, consistent and coherent effort. Similarly, although on a smaller scale, there is the example even in the European Union of how a project such as the CBR (value added tax (VAT) Cross-Border Rulings), which is not binding and to which only a few countries have adhered, is achieving very limited results.[158]

Secondly, from a more theoretical standpoint, as seen above, it can be said that a significant number of the problems caused by the fact that the categories on which corporate taxation is currently based are outdated remain largely unresolved. This is at the root of a number of inadequacies that existed prior to the digital economy and globalisation and have been amplified by them. It cannot therefore be held for certain that even with a global set of rules adopted and implemented by all jurisdictions worldwide, a reform of corporate income taxes will result in profit shifting, ensure taxation of value creation, and make multinationals contribute a *fair share* to state budgets.

It is therefore necessary to find new forms of taxation that, either as a replacement or as a complement to the current income taxation, make it possible to better avoid the risks

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justice question explains (at 745, footnotes omitted): 'not only governments, but also Global Actors contribute to the current situation of unregulated tax competition compounded with BEPS. This situation is a thoroughly *global* phenomenon (full mobility of capital across the globe) that has idiosyncratic *local* impacts on individuals. There is a complex relationship between these global and local impacts, which can be termed as "impact-glocalization", defined here as the integration of global and local impacts of tax competition and BEPS. This phenomenon combines the word globalization with localization and identifies a new dimension of taxation, which should also be analysed in its anthropological post-modern dimension, a novel perspective'.

[155] Lilian V Faulhaber, 'Taxing Tech: The Future of Digital Taxation' (2019) 39(2) *Virginia Tax Review* 145, 186-187, explains that, despite the potential benefits of an internationally agreed solution on the taxation of digital multinational businesses, there are many hurdles in achieving it. They are of both a political and a legal technical nature: '[t]he first and most fundamental barrier to achieving international consensus is the political difficulty of getting over 130 countries to agree to an effective solution. […] Many legal and technical challenges also limit the likelihood of reaching an international solution, but these are in many ways tied to the political challenges discussed above. For example, one large category of technical challenges is all of the definitional issues that must be addressed'.

[156] On the reassertion of state power as a reaction to difficulties in taxing MNEs, see also Margarita Gelepithis and Martin Hearson, 'The Politics of Taxing Multinational Firms in a Digital Age' (2022) 29(5) *Journal of European Public Policy* 708.

[157] Reuven S Avi-Yonah, 'The International Tax Regime: A Centennial Reconsideration' (2016) 1 *Global Taxation* 27, also available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2622883 (last revised 12 January 2021).

[158] Francesco Cannas, 'The Participation of Italy in the EU VAT Cross-Border Rulings Project: Legal and Procedural Issues' (2020) 31(5) *International VAT Monitor* 272.

inherent in a system based on the following premises, ie, the legal person as taxpayer, the notion of residence as nexus, and the concept of corporate income as taxable base.

5.5   Alternative methods of taxing corporate profits

The current corporate income taxation regime is based on legal concepts that were developed at the time when the economy consisted of small- and medium-sized firms trading tangible goods or services in a single state,[159] and such concepts cannot easily be adapted to fit the realities of a globalised economy.[160] Current reforms of the CIT through the BEPS initiative or at other levels such as the EU and in single states might therefore have a limited impact.

The authors intend to discuss the possibility of approaching BEPS from a perspective that, in the current paradigm of corporate taxation, may be considered as unconventional. The idea is to recognise that the current taxation model is outdated and new concepts need to be elaborated on which to base the contributions that companies are requested to make in order to allow society to work.

The conceptual solutions proposed hereinafter are intended as a starting point for the academic debate and they leverage the analysis of the weaknesses of the current system, aiming to overcome them to guarantee an effective contribution.

It should be underlined that these are unconventional solutions, revolutionary in their own way, and therefore they cannot be implemented in a short time and thus do not allow an immediate move away from one system to another.

Also, on the basis of revenue needs and economic studies, one could hypothesise the partial adoption of new paradigms, for example applied to selected taxpayers based on their type of activity or transnational character. Similarly, it could be hypothesised that for certain taxpayers there could be a transitional regime, or that the new contribution models complement the old ones to a certain extent, without ever completely replacing them.

In practice, the CITs should thus be complemented (if not partially replaced) by alternative specific levies and contributions.[161] Each should be for the purpose of

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[159] It should be noted that various attempts have been made to propose reforms, even radical ones, of tax systems with the aim of making them adequate for the challenges of the present century. Among these, the authors point to a recent one: Michael P Devereux, Alan J Auerbach, Michael Keen, Paul Oosterhuis, Wolfgang Schön and John Vella, *Taxing Profit in a Global Economy: A Report of the Oxford International Tax Group* (Oxford University Press, 2021) ('*Taxing Profit in a Global Economy*').

[160] In recent years, there has been no shortage of proposals for reform, even radical reform, of taxation (among others, to replace the corporate income tax with a tax at ordinary income tax rates on the accrued or mark-to-market income of corporate shareholders; a corporate tax on distributed profits without a reduction in corporate tax revenues; and, for the US, a tax reform plan that uses revenues from a value added tax (VAT) to substantially reduce and reform the nation's tax system). See, as an example, Eric Toder and Alan D Viard, *A Proposal to Reform the Taxation of Corporate Income* (Tax Policy Center, Urban Institute and Brookings Institution, June 2016); Jack Mintz, 'A Proposal for a "Big Bang" Corporate Tax Reform' (University of Calgary School of Public Policy Research Paper 15:7, February 2022); Michael J Graetz, 'The Tax Reform Road Not Taken – Yet' (2014) 67(2) *National Tax Journal* 419; Martin J McMahon, Jr, 'Rethinking Taxation of Privately Held Businesses' (2016) 69(2) *Tax Lawyer* 345.

[161] More in general on this, see also Reuven S Avi-Yonah, 'The Three Goals of Taxation' (2006) 60(1) *Tax Law Review* 1, where the scholar assumes that, when designing tax policies, policy-makers should probably first clearly identify the goals of taxation and assign no more than one to each tax. He explains that the three main goals of taxation are revenue raising, redistribution and regulatory objectives. The challenge for any

achieving one of the three proposed BEPS objectives, specifically: (i) limiting tax avoidance by multinational enterprises by shifting resources to low-tax jurisdictions (*base erosion and profit shifting*); (ii) tying the value produced by MNEs to a jurisdiction and taxing it there (*value creation*), and (iii) making multinational enterprises contribute more to the states' budgets (*fair share*).

The first objective is to focus on payments since profit shifting and base erosion occur mainly through transactions carried out against payment.

The second is to consider the value of the enterprise which has little or nothing to do with its income. Regardless of its income, in fact, the entirety of stocks, bonds and assets have a measurable value.

The third and last, and perhaps the most innovative, would be to request large multinational enterprises for in-kind and money contributions to earmarked funds.

This approach focuses exclusively on taxation and omits other aspects closely linked to it, such as the possibility of intervening on accounting principles or company law. To give an example, we have already seen how the tax calculation begins after the directors have already decided in full autonomy how to allocate the company's profits and how taxation is effectively asked to resolve a large part of the inequities of our societies.

An idea not directly connected to tax law could be to oblige companies to link a part of the dividends distributed or the profits accumulated to activities that have some positive social impact, but this would require intervention that comes into operation before taxation.

5.5.1 *Transaction-based taxes*

The first conclusion that can be drawn from the analysis carried out is that one should look for alternative proxies other than income to assess corporate ability to pay. As highlighted previously, income is quite appropriate as a proxy for individuals even in a globalised world (of course, subject to transparency requirements for foreign income); however, it is far from optimal for corporations and especially for multinational entities. An alternative should be to focus on transactions rather than income, which can be made in different ways. A number of proposals have been made regarding transaction-based taxes.

One of the first alternatives discussed that comes to mind are, of course, the general turnover taxes, like VAT/goods and services tax (GST). VAT/GST, although labelled as a consumption tax, can also be seen as a proper tax on businesses. Businesses not only act as tax collectors (with correlated compliance costs), but they bear the incidence of the tax. This occurs either indirectly because VAT being incorporated in the final price diminishes profit margins or directly because, at least in the European system, some businesses are denied the right to deduct upstream VAT (for example, the banking and insurance sectors or real estate). However, the limits of VAT to capture corporate profits are evident. First, this is a tax that is ultimately borne by the consumer and,

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tax system is to use the right taxes for the right goals, and he suggests dividing the tax system into three major taxes, ie, one for each of these goals.

therefore, business-to-business (B2B) transactions are not supposed to bear any economic burden even though they are legally subject to tax.

Secondly, numerous transactions remain out of scope either because they are not considered as supplies of good or services (for example, capital contributions or dividend distributions) or because they are exempted (most financial transactions). It could also simply be because they are considered as being located outside the jurisdiction that imposes the tax (typically B2B or transactions with foreign clients).

Reforming VAT can play a role in strengthening the system to avoid loopholes. First, subjecting all transactions effectively to VAT (which implies eliminating most of the exemptions) would not only increase corporate contributions to states' budgets but also allow transaction reporting that could be used for other purposes. Considering the fact that the right to deduct can be denied in the case of fraud but also abuse, additional conditions for cross-border transactions with certain jurisdictions could be imposed on the taxpayer to ensure that the intention behind the transaction is genuine.

Another idea that has been developed are destination-based cash flow taxes.[162] This type of taxation should also be coordinated with VAT and is presented as being equivalent in its economic impact to introducing a broad-based, uniform rate VAT in order to be able to make a corresponding reduction in taxes on wages and salaries. Among the positive aspects, Professor Devereux highlights how cash flow taxation is neutral with respect to decisions about the scale of investment and financial decision-making (ie, these taxes do not distort the choice between debt and equity). The most significant element that is not characteristic of the proposal made here would be the 'destination-based' element that introduces border adjustments of the same form as those under the VAT, ie, exports are untaxed while imports are taxed.

Furthermore, taxes on turnover targeting specific economic sectors have been developed.[163] This type of tax, however, makes it difficult to determine the specific sector to which they have to be applied, and there is always the risk of ending up in a potential discrimination. Although turnover is certainly easier to calculate than income and may reduce the risk of manipulation to some extent, eg, with regard to cost deductions and transfer pricing, it is still a form of taxation that relies heavily on the fictions analysed above.

Substantial risks of manipulation persist regarding, for example, tax residency, deferral of payments, and the use of digitisation to make physical assets allocated in space communicate with each other and use them to reduce the tax burden.

Additional specific taxes have also been tested. Digital taxes have been criticised from a theoretical viewpoint but are relatively easy to put into practice.[164] However, they have a limited scope and target only certain types of businesses and, therefore, if badly

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[162] One of the most elaborate examples is the destination-based cash flow taxation proposed in Devereux et al, *Taxing Profit in a Global Economy*, above n 159, ch 7.

[163] One example is the Hungarian special turnover tax in the retail store trade sector, which on 3 March 2020 was analysed by the Court of Justice of the European Union (CJEU). It released a decision in the *Tesco* case (*Tesco-Global Áruházak Zrt. v Nemzeti Adó- és Vámhivatal Fellebbviteli Igazgatósága*, C-323/18, ECLI:EU:C:2020:140, 3 March 2020) ruling that it does not violate the freedom of establishment under the Treaty on the Functioning of the European Union (TFEU).

[164] Claudio Cipollini, 'A Systematic Introduction to Tax and Technology' (2022) 5(3) *International Tax Studies*.

designed, may be challenged under the equality principle. Moreover, there is a risk that they are shifted completely onto the customers. From the source country perspective, they constitute a valid alternative to income tax.[165]

Finally, in order to overcome the use of transactions to erode the tax base and shift profit, one can also think of forms of taxation at source. An instrument inspired by the works of Professor Avi-Yonah, Professor Yariv Brauner and Andres Báez Moreno[166] that can be put in place is a withholding tax on payments made to certain jurisdictions. For example, Belgian companies must report all transactions in tax havens and, although no taxes are imposed if they do so, nothing prevents going one step further.

Other examples can be found in withholding taxes on gross income (which could be characterised as transaction taxes) such as in Malaysia (see further below). It would also be coherent to further develop those taxes as a regulatory tool in order to strengthen anti-money laundering instruments.[167] Such taxes are the most effective instrument to counter profit shifting and to tax stateless (or homeless) income.

As stated by Professor Bret Wells and Cym Lowell, the source country is in the best position to assert taxing jurisdiction over homeless income. If a residence country attempts to tax it, taxpayers will simply 'elect out' of that particular country and instead incorporate their businesses in a more taxpayer-friendly jurisdiction. Since the country of residency is effectively a taxpayer election and because many countries acquiesce to this electivity, there has been an international race to the bottom to attract multinational headquarter companies.[168]

Albeit in a different context and proposing different solutions, some decades ago, Professor Frans Vanistendael[169] wrote an article advocating the use, or more accurately the retention, of withholding taxes concluding that it may be unjust but that it was even 'more unjust still to have no tax of capital income at all'.[170] In his opinion, even if source taxation may not be favourably accepted by economists due to the inefficiencies of double taxation, countries, especially developing countries, should not abandon it.

This type of levy should primarily be imposed on cross-border transactions when the payer and recipient are in different jurisdictions, but one can also envisage a system that

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[165] Moreover, a similar conceptual proposal was already introduced by Wolfgang Schön in 'Ten Questions about Why and How to Tax the Digitalized Economy' (2018) 72(4/5) *Bulletin for International Taxation* 278. He affirms (at 284) that '[i]f one takes the position that the digitalized economy requires measures going beyond the compensatory implementation of the "single tax principle", the first question refers to the option to introduce a new tax on payments for digital services and similar value transfers'.

[166] Andres Báez Moreno and Yariv Brauner, 'Taxing the Digital Economy Post-BEPS…Seriously' (2019) 58(1) *Columbia Journal of Transnational Law* 121; Reuven S Avi-Yonah, 'A Coordinated Withholding Tax on Deductibility Payments' (2008) 119(9) *Tax Notes* 993.

[167] The liberalisation of capital movement in the 1980s certainly brought a significant increase in cross-border trade but also many drawbacks that have never really been addressed. The development of tax avoidance practices with offshore financial centres is a direct consequence of this capital movement liberalisation. There are therefore sound justifications for limiting the tax-free movement of capital to restricted geographical areas, regrouping countries that abide by the same standards regarding money laundering and level of taxation.

[168] Bret Wells and Cym Lowell, 'Tax Base Erosion and Homeless Income: Collection at Source Is the Linchpin' (2012) 65(3) *Tax Law Review* 535.

[169] Frans Vanistendael, 'Reinventing Source Taxation' (1997) 6(3) *EC Tax Review* 152.

[170] Ibid 162.

would be applied in purely domestic situations (whenever the beneficiary would benefit from a preferential regime on the payment received).

This could be seen as a type of withholding exit tax applied on a territorial basis. Refunds or exemptions could be granted in the case of final effective taxation in the hands of the ultimate beneficiary. In addition, personal requirements could also be added for the payer or recipient, for instance, if wanting to restrict the personal scope only to transactions between (related) companies.

Banking and financial institutions could be actively involved in the reporting and taxation of those transactions, at least regarding those from the territory of the state and intended for the purchase of goods and services. The information should always be available to the tax authorities and ultimately, for each reporting period, the system could be structured in such a way that it is either the taxable person or the intermediary who has made the electronic payment possible that remits the payment to the treasury. In any event, the other two parties involved should be held responsible in the event of non-payment so that the treasury may always rely on effective means to collect the sums due.

This solution can be widely applied and is independent of the type of taxpayer, ie, natural or legal person, their residence, their income, or their balance sheets and accounting documents. It would enable all the legal fictions described above to be overcome as well as the practical problems including the need for close international cooperation. Once the scope of application of the withholding tax has been delineated, in fact, no international cooperation would be required, and it would be sufficient to rely on instruments over which the tax administration has effective power to intervene, eg, current accounts with local banks, credit cards issued within the jurisdiction, etc.

Taxation systems which could be used to develop innovative solutions already exist in various parts of the world. One such example is the Malaysian withholding tax on contract payments. Under section 107A of the *Income Tax Act 1967*, all contract payments for services connected or attributable to activities in Malaysia under a contract paid to non-resident contractors are subject to a withholding tax. Part of this levy, however, is not final but a payment in account and is offset against the final tax liability of the non-resident contractor (based on the tax return submitted).[171]

Although an in-depth analysis of these aspects would be beyond the scope of the present conceptual elaboration, such a payment tax could also be made deductible or creditable (with limitations) under income tax rules. In this way, the levy on payments would be a kind of advance on 'traditional' income taxes, which would still burden an appropriate manifestation of ability to pay. It would also ensure that the treasury can actually collect a share of the wealth effectively generated within the territory of the state.

5.5.2   *Taxing corporate value*

As explained above, income (as based on financial accounting) is far from being an ideal proxy for assessing the creation of economic value in the hands of corporations.

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[171] In the specific case of Malaysia, 3 per cent of the withheld amount is refundable which is the portion of the contract relating to taxes to be paid by employees. For a complete understanding of this mechanism, see Noor Sharoja Sapiei and Mazni Abdullah, *Veerinder on Malaysian Tax Theory and Practice* (Wolters Kluwer, 5th ed, 2021) 171.

In recent years, there has been a surge in the stock market value of certain multinational companies that was only connected in part with an increase in actual profits. Examples of companies that have been loss-making for years and are nevertheless considered as extremely valuable are well-known even by the general public.

Therefore, developing taxes on an alternative basis should allow a more effective grasp of this increase in value (which necessarily translates into increasing economic power).

An alternative would be to tax corporate wealth for which there are examples of corporate taxes on capital. These taxes also have the advantage of incentivising an effective use of capital. It should not be forgotten that the granting of a legal personality must serve a purpose, which is to develop an economic activity and not to shield profits from taxation in the hands of the company stakeholders.

In its most advanced form, this type of taxation could also take into account the negative externalities created by economic activity, such as environmental pollution, which could be quantified and added to the benefit for society so that the tax levy could also be increased accordingly.[172]

A more radical alternative would be a tax based on the stock exchange value that would apply to tax increases in the value of securities traded on regulated markets. The value of shares traded on the stock exchange, for example, could be seen as a reflection of the real value of a business that is even more reliable than statutory accounts.[173] This tax would be very different from current capital gains or security transaction taxes since the idea is to subject to tax the increases in the value of shares traded on the stock exchange regardless of realisation or distribution. The tax could be imposed on the listed company itself (with the possibility of passing it on to the shareholders) or it could be a tax directly imposed on the shareholders.

The idea of taxing corporate value is not entirely new. In 2007, Professor Calvin Johnson, after having identified the two 'original sins' of corporate taxation (specifically, distortion of investment decisions and favouritism towards debt) proposed adopting a 20-basis-point-per-quarter market capitalisation tax imposed on the issuer on the fair market value stock and debt traded on an established market.[174] His proposal

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[172] On the interaction between the amount of carbon emitted and taxation, albeit from the very different perspective of indirect taxes, see also Francesco Cannas and Matteo Fermeglia, 'Reconciling EU Tax and Environmental Policies: VAT as a Vehicle to Boost Green Consumerism under the EU Green Deal' in Hope Ashiabor, Janet E Milne and Mikael Skou Andersen (eds), *Environmental Taxation in the Pandemic Era: Opportunities and Challenges* (Edward Elgar, 2021) 81; Francesco Cannas and Matteo Fermeglia, 'Environmental Neutrality: Redesigning EU VAT Neutrality to Support the Implementation of the European Green Deal' in Stefen E Weishaar, Janet E Milne, Mikael Skou Andersen and Hope Ashiabor (eds), *Green Deals in the Making: Perspectives from Across the Globe* (Edward Elgar, 2022) 62; Edoardo Traversa and Benoît Timmermans, 'Value-Added Tax (VAT) and Sustainability in the European Union: A Radical Proposal, Design Issues, Legal Aspects, and Policy Alternatives' (2021) 49(11) *Intertax* 871.

[173] More in general, it is also interesting to note that the use of the market value to tax corporations was already identified as a possibility in the late 1800s and was rejected, albeit in a very different context compared with today. Edwin RA Seligman, in *Essays in Taxation* (Macmillan, 1895) 193, writes critically: '*The capital stock at its market value*. This plan is open to several vital objections. The idea is that the market value of the stock will be practically equivalent to the value of the property, or, as it is put by some of our state courts, that the entire property of a corporation is identical with its stock. As has already been observed, heavily bonded corporations would in this way entirely escape taxation; because in such cases – and they are the great majority – the capital stock alone would not represent the value of the property'.

[174] Calvin H Johnson, 'Replace the Corporate Tax With a Market Capitalization Tax' (2007) 117 *Tax Notes* 1082.

provided that the tax would be calculated by the Internal Revenue Service (IRS) on the basis of published information on the fair market value of stock and debt. By adopting this approach, the calculation by tax authorities would ensure that a uniform rule was used across the United States.

Such a tax would affect one of the most evident demonstrations of wealth creation since changes in the value of securities traded on the stock exchange are one of the tests that best and almost in real time measure business performances.

This would also be compatible with the principle of ability to pay since a company that performs advantageously on the stock exchange can certainly distribute a dividend in a short time.

Directly or indirectly affecting shareholders with a tax levy would also discourage keeping large amounts of cash 'parked' in companies since having to pay a tax on the increase in the value of shares would encourage the distribution of dividends. This type of tax could also have positive effects in regulatory terms, discouraging speculative investments and thus limiting the creation of bubbles in the stock market.[175] This is because rapid increases in value of a listed company would translate into a higher tax liability and therefore lesser future returns for the shareholders. However, it would also be necessary to further study potential negative effects of this tax, for example, on investments. The option could be considered of making it at least partially deductible against the taxes on either dividends or capital gains subsequently derived from the sale of shares.

Liquidity could be an issue; however, large corporations with soaring market values are usually very likely to be able to obtain access to credit from financial institutions (if they did not have a sufficient amount of cash to pay the tax). Such a form of taxation would also have a number of practical advantages since it would, for example, be based on data already collected and largely in the public domain as well as being very simple in terms of calculating the tax base.

From an international perspective, the most significant problem with such a taxation system would be establishing a suitable link between the increased value of shares traded on a stock exchange and the state levying the tax. The link would exist for the state of the (beneficial) owner of the shares that could levy the tax (in proportion to the shares owned by its residents). It would also exist for the state where the stock market is located (although, in the case of a shareholder tax, it may raise practical difficulties for collecting the tax directly from foreign shareholders).

However, other market states would be willing to apply these taxes; not all stock exchange listings are indeed made in the main markets where multinational companies operate, and a company listed on a certain regulated market may create its value elsewhere. That would imply the need to develop a set of new economic indicators that went beyond statutory accounts and allowed jurisdictions to allocate the percentage of the increase in stock market value attributable to each jurisdiction.

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[175] On this point, see also Joseph E Stiglitz, 'Using Tax Policy to Curb Speculative Short-Term Trading' (1989) 3(2-3) *Journal of Financial Services Research* 101; James Dow and Rohit Rahi, 'Should Speculators Be Taxed?' (2000) 73(1) *The Journal of Business* 89.

A good starting point could be, for example, an OECD report from 1999 entitled *New Measures for the New Economy*[176] that explores possible solutions for resolving the level of uncertainty created by the valuation of intangibles. After explaining why statutory accounts do not reflect the economic reality of those who make massive use of intangibles, the report identifies a number of measures for what is labelled as the 'knowledge economy'. They are the human capital, customers as assets, brands, research and development, and patents. A formula could also be used.

Nonetheless, from a practical viewpoint, the tax could only be collected by the market states in the hands of the multinational group and not its shareholders. The development of this new taxation technique should begin by drawing up a list of regulated markets to be brought within the scope of this tax on the increase in the value of securities. It should include those where the largest globalised and digital businesses are listed. This would make it possible (for the tax administration) to effectively monitor the stock market performance of companies operating in the enforcing jurisdiction and possibly notify them of their status of being a taxable person.

At this point, the tax liability would be incurred by the listed company regardless of its residence or the regulated market on which it is listed. In order to guarantee an effective levy, a system of rebuttable presumptions could be envisaged. For example, a fixed tax rate could be applied on the sum of the increases in value in a given period that could be commensurate with some objective criteria based on publicly available data (eg, total value of the shares on the stock exchange, period in which the listing took place, number of share transfers, etc).

If the company wanted to have a different rate applied, including a zero rate, the burden would be on the company itself to prove that a different percentage of the increases in value on the stock exchange is not attributable to the market of the enforcing jurisdiction. The tool to provide such evidence and rebut the presumptive presence on the enforcing jurisdiction market could be, for example, an 'Effective Capital, Revenue and Income Report' modelled on the 'Intellectual Capital Report' (or 'Intellectual Capital Balance Sheet') to go along with the traditional financial accounts. The purpose of this document would be to illustrate the actual value generation of these businesses, taking into account human capital, customer relationships and organisational competences.

This would, in a sense, also reverse the role of accounting in the tax collection process. Instead of being the basis for taxation, accounting would become the basis for non-taxation in a reverse process in which it would be in the taxpayer's interest to have accounting that reflects the real situation of the business. This is because only if other taxes have already been paid would the taxpayer be allowed not to pay this tax. Instead of the tax administration having to invest time and resources tracing a realistic representation of the business situation from the accounts, the efforts would then be shifted and become the taxpayer's responsibility.

The OECD envisages two approaches, ie, the incremental approach whereby the report on capital is placed alongside and read at the same time as the statutory accounts, and the radical approach whereby reference is made exclusively to the report on capital, and

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[176] Charles Leadbeater, *New Measures for the New Economy* (Institute of Chartered Accountants in England and Wales, 2000).

taxation is levied accordingly. With regard to the form of taxation envisaged herein, while both approaches would be theoretically reliable, the considerations proposed above would lead to a preference for a radical approach.

Such a document could also theoretically be the basis for a specific and new form of capital taxation. As explained above, global and digitised firms have a reduced 'traditional capital' compared to the typical business models of the 'old' material economy, and this escapes the current accounting rules. Therefore, a measurement of their 'real capital', which is mainly dematerialised, could enable either its increases or stock to be taxed.

Finally, with regard to the levy, direct involvement of the shareholders themselves could also be envisaged, even if only the majority shareholders, although their possible involvement would depend very much on the level of administrative cooperation achieved. When cooperation is of a high degree, then forms of cooperation concerning tax revenue-sharing can be imagined. This is because multinational groups are often listed on more than one stock exchange and have shareholders in multiple jurisdictions.

5.5.3   *In-kind and earmarked corporate contributions to general interest projects*

Taxes are not the only instrument capable of making multinational enterprises contribute to public interest policies. They may not even be the most suitable instruments due to some drawbacks. Corporate income taxes are indeed defined in an abstract manner. Such a structure allows equality between taxpayers and legal certainty. However, it produces uncertainty for the states regarding the revenues raised and de facto inequality between taxpayers' effective contributions due to differences in the possibility of using tax planning strategies. Moreover, they are not linked to specific public policies or general interest goals, which may weaken their legitimacy.

Looking at the historical development of the relationship between the state and the market in the production of goods and services could serve as a source of inspiration to redefine the extent and nature of the societal contribution of (large) businesses.

In many countries, especially in western Europe, the decades between the 1930s and the 1990s saw a direct involvement of the government in the economy. Italian Professor Sergio Steve described the emergence of a 'modern' form of public finance, specifically the development of state-owned enterprises such as railways, airlines, postal services, television channels, telegraphs, telephones, etc.[177] In addition to that development, at that time, local authorities also directly owned and controlled large sectors of the economy such as electricity production, gas, water, urban transport, pharmacies, etc. This was the result of instances of both deliberate nationalisation and bailout of companies in difficulty. However, at the time, these 'new' forms of public finance did not have generating revenues for the treasury alongside taxes as a primary objective but the provision of affordable public goods and services (and work) to the general population. Different management criteria, production and price policies than those for private businesses applied because maximisation of profit was not the main driver.

Setting aside the arguments that may be proposed to claim that private or public control of a given sector of the economy is more efficient, the relevant fact is that states have

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[177] Sergio Steve, *Lezioni di Scienza delle Finanze* (CEDAM, 6th ed, 1972) 215.

had the power for many years to steer important sectors of the economy specifically towards general interest purposes.

Currently, the government has largely abdicated the direct management of the economy and has carved out a more passive role for itself as controller and supervisor of the markets.[178] After major privatisation programs were initiated in the 1990s, the relationship between public authorities and the private sector was, in fact, reduced to the levy of taxes together with public procurement and subsidy policies. Revenues from taxes that were levied on the private sector have grown in importance over time, progressively overcoming those arising from the direct involvement of the state in the economy.[179] This phenomenon of 'financialisation' of the 'relationship between the government and the large businesses', nevertheless obscures the fact that (large) companies offer goods and services that may be considered as also serving some general public interest in their nature. For example, while the 'space race' during the Cold War was promoted by state space agencies mainly in the US and the Soviet Union, it is now carried out by private companies such as Virgin Galactic and SpaceX.[180] There is no doubt that the latter do so for economic and profit-making purposes, but this does not detract from the fact that their achievements are perceived (also due to the marketing that accompanies them) as collective successes at least to a certain extent.

Even the new wave of public investments for general interest goals aims at stimulating the production of goods and services by private operators. Take, for example, the wide-reaching and mostly debt-based recovery plan called Next Generation EU ('NGEU') with the ambitious goal of reshaping the European economy and society following the Covid-19 pandemic. Although Member States and the Union will have a certain steering role, they will not be directly responsible for the production of public goods and services.[181]

The idea behind this type of relationship is that businesses should be entitled to move in full autonomy while respecting a set of rules for which the scope must be as narrow as possible. Additionally, their greatest duty to the government and the community is to pay their 'fair share of taxes'. All of the OECD's work in recent years, which was discussed previously, is based on the idea that the current situation is pathological because the greatest economic actors who are leading the globalised and digitalised economy do not pay sufficient taxes. The public debate (including many non-governmental actors) has adopted this approach and gives the impression that the only

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[178] This radical change went hand in hand with what is referred to as the welfare state crisis for which the fiscal implications are well analysed in Reuven S Avi-Yonah, 'Globalization, Tax Competition, and the Fiscal Crisis of the Welfare State' (2000) 113(7) *Harvard Law Review* 1573. He explains that the crisis of the welfare state, which began over a century ago with Bismarck's social insurance scheme and has always been financed by a comprehensive income tax, faces the fundamental problem of the aging population. This is the result of the post-World War II baby boom and is part of the general narrowing of the role of the state that underlies the phenomena being described.

[179] Bernardo Bortolotti and Domenico Siniscalco, *The Challenges of Privatization* (Oxford University Press, 2004); Emilio Barucci and Federico Pierobon, *Le privatizzazioni in Italia* (Carocci, 2007).

[180] For a general idea, see, among others, Tim Levin, 'Jeff Bezos Just Launched to the Edge of Space. Here's How Blue Origin's Plans Stack Up to SpaceX and Virgin Galactic' *Yahoo Business Insider* (21 July 2021), https://www.businessinsider.com/elon-musk-jeff-bezos-branson-spacex-blue-origin-virgin-2021-5 (accessed 15 May 2024).

[181] For a legal assessment of the plan, see, among others, Päivi Leino-Sandberg and Matthias Ruffert, 'Next Generation EU and its Constitutional Ramifications: A Critical Assessment' (2022) 59(2) *Common Market Law Review* 433.

way to make businesses contribute is through (corporate income) taxes.[182] While in no way denying that large companies should pay their fair share of taxes, contributions by MNEs could also take other forms.

In this perspective, corporations could be asked to contribute through means other than traditional (corporate income) taxes. They could be requested to either contribute in kind by sharing technology, knowledge and know-how with governments, performing public works, or offering free or discounted services to the general public. This idea was present in the dialogue in 2021 between Elon Musk and the World Food Program Chief, David Beasley, according to whom USD 6 billion would be sufficient to end hunger in the world. Similarly to the proposal, which was never actually implemented, of the multibillionaire to sell Tesla stocks to fund the program,[183] MNEs could also be asked to make contributions to special funds, for example, to fight climate change or mitigate water and soil pollution.

Large corporations could enter into long-term collaboration agreements with governments and perform certain functions that they normally carry out for the government under public procurement rules. In practice, instead of creating a specific digital tax (which might not have the expected yield, due specifically to constitutional or procedural issues), digital companies such as Google could contribute in kind to programs such as the digitalisation of schools and ministries or giving internet access to remote rural areas, Uber could organise the transport of a certain number of elderly people to hospitals for scheduled medical examinations, Glovo and Grab could plan the delivery of meals to socially disadvantaged people, Amazon could lend some of its managers to improve the logistics of strategic state infrastructures, Microsoft could offer online courses to students in difficulty, or Facebook and YouTube could be requested to use their algorithms to promote a minimum quantity of cultural messages. This would consist of asking, at least in part, to do what large state-owned utility companies in

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[182] This debate should take into consideration the role of taxes which are an instrument of income policy to redistribute income and wealth for the purpose of reducing inequality and having a regulatory function. As recalled by Hans Gribnau, 'Voluntary Compliance Beyond the Letter of the Law: Reciprocity and Fair Play' in Bruno Peeters, Hans Gribnau and Jo Badisco (eds), *Building Trust in Taxation* (Intersentia, 2017) 17, 22, '[o]ften, the tax system itself is used to promote the common good, eg, to promote economic growth (eg, by attracting foreign investors), to increase employment and for health and environmental policy. In times of financial crisis, for example, businesses benefit from tax incentives, such as accelerated depreciation. In this way, tax incentives are used to affect behaviour. Thus taxation has an enormous impact on all kinds of activities and situations of various members of society, citizens as well as enterprises. Moreover, partly as a consequence of this instrumental use of tax law, the tax burden seems to be ever growing'. The theory of the triple function of taxes is linked back to Reuven S Avi-Yonah who, in 'The Three Goals of Taxation', above n 161, 3 (footnotes omitted), about the regulatory function explains that '[t]axation also has a regulatory component: It can be used to steer private sector activity in the directions desired by governments. This function is also controversial, as shown by the debate around tax expenditures. But it is hard to deny that taxation has been and still is used widely for this purpose, as shown inter alia by the spread of the tax expenditure budget around the world following its introduction in the United States in the 1970s'. More in general, see also Reuven S Avi-Yonah, 'Taxation as Regulation: Carbon Tax, Health Care Tax, Bank Tax and Other Regulatory Taxes' (2011) 1(1) *Accounting, Economics, and Law* article 6.

[183] For a report on the matter, consult the site of the World Economic Forum at https://www.weforum.org/agenda/2021/11/elon-musk-un-world-hunger-famine/.

western Europe did in decades past by assuming their corporate social responsibility in a more direct and transparent way.[184]

This approach could be in conjunction with a broader debate on the role of companies similar to what occurred in the field of company law on the need for a *new theory of companies*.[185] On closer inspection, from whichever perspective the phenomenon of companies is viewed, eg, concession theory, trust and freedom of association theory, fiction theory, contract theory, etc,[186] the common trait is always that companies essentially have the possibility for one or more natural persons to create a purely artificial third party. Each and every one of these theories pays attention to one fundamental element, ie, it is the company's statutes, and thus it is indirectly the state that allows the natural person to *create* this artificial third party that may *act* in the real world. Ultimately, it can be said that companies owe their existence and capacity to act to the intervention of the state.

Therefore, companies should not behave in a way that is detrimental to the state's objectives (for example, by not honouring contracts and debts with other economic actors). However, in democratic societies, companies could also be requested to participate more actively in the pursuit of general interest objectives embedded in democratic constitutions.

Even without going so far as to argue that the government should have a participatory role in managerial choices or the distribution of dividends,[187] it does not seem unbalanced or restrictive of the freedom to do business for the government to impose in-kind or earmarked contributions beyond the payment of general taxes. An existing example is the European Emission Trading System (EU ETS) which serves a similar purpose as a carbon tax without being legally characterised as such. This mechanism, in fact, provides for the setting of public interest objectives and then leaves the private enterprise with the choice between complying with these objectives, bearing the costs itself, or paying a sum of money to the public authorities. This is supposed to compensate for the negative externalities of the economic activity and to be invested by the state in environmental policies.

MNEs could even be given a choice between both forms of contributions (in kind or direct). The dimension of choice and the direct involvement of the corporate persons in public projects with the consequent possibility of establishing a more distinct link between the individual contribution and the general interest goals pursued would increase the legitimacy of the system. Moreover, it would be easier for MNEs to justify

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[184] Although in different terms, the relationship between corporate social responsibility and taxation has already been explored: Arjo van Eijsden, 'The Relationship between Corporate Responsibility and Tax: Unknown and Unloved' (2013) 22(1) *EC Tax Review* 56; Hans Gribnau, 'Corporate Social Responsibility and Tax Planning: Not by Rules Alone' (2015) 24(2) *Social and Legal Studies* 225.

[185] Eva Micheler, *Company Law: A Real Entity Theory* (Oxford University Press, 2021) 195; Nicholas HD Foster, 'Company Law Theory in Comparative Perspective: England and France' (2000) 48(4) *American Journal of Comparative Law* 573. The author (at 575) writes that '[m]any of these organizations are not subject to governmental control, and are therefore not subject to normal constitutional accountability processes, or form such a concentration of power in themselves that they rival governments (or at the least can exert considerable influence on governments), or both'.

[186] David Wishart, 'A Reconfiguration of Company and/or Corporate Law Theory' (2010) 10(1) *Journal of Corporate Law Studies* 151.

[187] Katharina Bluhm, Bernd Martens and Vera Trappmann, 'Business Elites and the Role of Companies in Society: A Comparative Study of Poland, Hungary and Germany' (2011) 63(6) *Europe-Asia Studies* 1011.

that type of contribution to their shareholders, and it could also have a positive impact on how they are perceived by the general public.

From a practical point of view, the government could identify a number of projects in which it could request private parties' cooperation and assess the contribution that certain private enterprises could make to these projects through something like a public call for expressions of interest. Negotiations concerning the exact extent and form of the contributions would then take place involving a large number of stakeholders to avoid giving the impression of collusion.

The concept of payment of taxes in kind is not new in contemporary tax systems. Apart from schemes primarily devised for natural persons such as the payment of personal and inheritance taxes with works of art,[188] an interesting experiment involving undertakings has been established in Peru with the 'Works for Taxes Scheme'. Under this program, private firms are allowed to pay a portion of their income taxes in advance in the form of public works from public buildings to transport infrastructure and beyond. In the Peruvian context, this project was seen as an opportunity to bridge the infrastructure gap in some areas and proved to be an overall success. Between 2009 and 2017, approximately USD 1.25 billion was pledged or invested in 318 Works for Taxes projects with the participation of 82 private enterprises, six ministries, 14 regional governments and 114 local governments.[189] As to the limits of that program, in the case of Peru, they originated from the public officials' lack of sufficient understanding of how the mechanism worked and how it differed from operations affiliated with traditional public works.

Such a mechanism also embodies the idea of corporate social responsibility. In addition to mere compliance with the law, it implies that the business integrates social, environmental and human rights as well as ethical values into its actions. As explained by Frederick,[190] it occurs when business firms consciously and deliberately act to enhance the social wellbeing of those whose lives are affected by the firm's economic operations. Its purpose is to create an organic link between businesses and societies. This reflects the original idea that granting a legal personality is a privilege that must serve a certain general interest purpose. The mere pursuit of profit (sometimes even at the expense of the state grating the legal personality) cannot be seen as sufficient.

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[188] In Italy, for example, it is possible to pay taxes through the transfer of works of art to the state. In particular, it is provided that the taxpayer can settle his or her tax debts (not future debts) relating to income and inheritance taxes through the transfer of goods that are considered to be of artistic interest. The procedure provides that the taxpayer can request to be allowed to pay in this way by making a formal application to the tax authorities. Following this application, a procedure for assessing the documentation is initiated in which the Ministry of Cultural Heritage also participates: Art 28-bis of the DPR 602/1973 on the collection of taxes (*Disposizioni sulla riscossione delle imposte sul reddito*). Antonio Guidara, '*Riscossione fiscale e opere d'arte*' (2019) 90(3) *Diritto e pratica tributaria* 1091; Alberto Traballi, '*L'attività di riscossione e le opere d'arte*' in Simone Facchinetti, Francesco Oliveti, Alberto Traballi and Ennio Vial, *Arte e Fisco: La gestioni legale e fiscal delle opere d'arte* (Maggioli, 2020) 165. A similar mechanism exists in France and in Belgium (for inheritance duties).
[189] Paola Elvira Del Carpio Ponce, 'Peru's Works for Taxes Scheme: An Innovative Solution to Accelerate Private Provision of Infrastructure Investment' (World Bank and International Finance Corporation Emerging Markets Compass 55, 2018).
[190] William C Frederick, 'Corporate Social Responsibility: From Founders to Millennials' in James Weber and David M Wasieleski (eds), *Corporate Social Responsibility* (Emerald Publishing, 2018) 3.

The first idea of corporate social responsibility appeared in the US in the 1920s and manifested itself in the form of corporate philanthropy. From the 1950s onwards, this concept began to evolve, and the idea that companies have obligations to the community began to take hold. Professor William Frederick explains that its primary reason is the 'prevalence of a market-style economy, supported by adherence to free-market ideology and a limited economic role for government'.[191] As this *ideology* has entered a new phase of its existence and the role of governments has significantly changed in recent decades, there are grounds to argue for a further evolution of this *doctrine* by also applying it to quasi-fiscal contributions.

From a legal point of view, this would also require the establishment of a number of guarantees in order to ensure equality before the law or to protect certain rights, such as the right to privacy. It would obviously require a significant amount of trust. This is because, by partially abandoning the standardisation brought about by the current income tax in which everyone submits the same documents, calculates taxes in the same way and pays the same amounts, there would be a greater risk of creating unwanted differences between taxpayers. Comparing the costs and benefits of infrastructure in completely different sectors may not always be easy.

In the case of the European Union, for example, if such a solution were implemented at the EU level, it would require a high level of cooperation because differential treatment between taxpayers has consequences for the functioning of the Single Market. An update of the state aid legislation and corresponding control mechanism might be necessary, for example, as Member States might be tempted to use this form of taxation to favour national enterprises.

A solution such as the one briefly conceived here could appeal simultaneously to the desire of large multinational enterprises to promote their image and the public's desire to justifiably claim a positive return for the community in exchange for everything the multinational enterprises gain from society that does not always need to consist solely of a sum of tax money. Obviously, no one is so naive as to think that large multinational enterprises would adhere to this type of project on the basis of the public good alone. A certain form of constraint would be needed, but to give more discretion in the determination of the nature of the contribution (but not its principle) could yield positive results for both parties.

Such a solution would certainly be innovative and would entail a clear reversal of the traditional paradigms of tax law. The essence of the proposals made here is not to reduce the role of the state but simply to create a legal framework within which it can effectively exercise its authority. This should in no way be perceived as an abdication of its power to levy taxes, but as a complementary instrument to foster corporate contributions in a more collaborative perspective and in the aim of making all the parties involved perceive these contributions as representing a 'fair share'.

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[191] Ibid 5.

Financial secrecy, tax havens, and liquidity: evidence from non-US stocks

Darius Fatemi[*] and Jang-Chul Kim[**]

Abstract

We investigate the relation between a country's level of financial secrecy and market liquidity for non-US stocks listed on the New York Stock Exchange (NYSE). Our results indicate that non-US stocks from countries with lower levels of financial secrecy have higher market liquidity, as well as a lower probability of information-based trading. Deeper analysis into components of financial secrecy, including a jurisdiction's activity as a tax haven, lends insight into significant drivers of these effects. Our findings suggest that reducing financial secrecy can enhance market liquidity, ultimately benefiting investors and contributing to the overall stability and efficiency of financial markets.

Keywords: market liquidity, bid-ask spreads, information-based trading, financial secrecy, tax havens

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1.   **INTRODUCTION**

The benefits to globalisation of investment opportunities, particularly with equity, have been widely documented, both for the investor and for the companies that avail themselves of capital (Mittoo, 1992; Doidge, Karolyi & Stulz, 2004). For the investor, foreign investment provides the opportunity for portfolio diversification, achieving returns from multiple vehicles that are not perfectly correlated with each other. For the company, equity issuance enables access to a larger base of shareholders and a lower cost of capital. Standard market measures, such as valuation and liquidity, are improved by the increased visibility. But just how much are these measures improved?

At the same time that liquidity can be enhanced, these same stocks suffer from competing effects that plague investments into foreign companies (French & Poterba, 1991; Coval & Moskowitz, 1999; Coval & Moskowitz, 2001). The famed quote from legendary investor Peter Lynch to 'buy what you know' seems to weigh heavily for investors when it comes to foreign investment. This article seeks to examine information asymmetry effects directly by looking at one oft-overlooked source of investor trepidation: regulation.

The interplay between these two regimes – an investing landscape with diminishing global barriers and common capital interests, on the one hand, and a regulatory landscape with widely varying sets of governmental processes and philosophies across borders, on the other, set up a delicate balance between factors that can either encourage, or discourage, foreign investment. Our intersection is found by exploring the range of opportunities created by non-US stocks on the New York Stock Exchange (NYSE), coupled with the levels of financial secrecy that exist in the home countries of the companies representing those non-US stocks. We find that financial secrecy is significantly related to liquidity and information asymmetry across multiple measures, both in cross-section by country and within countries as levels of secrecy change over time. In a deeper analysis, we explore tax characteristics underlying financial secrecy and look specifically at a country's status as a tax haven for multinational corporations. We find that liquidity is lower, and information asymmetry is higher, in countries marked by higher haven indexes and scores. In so doing, we provide a different perspective from the conventional argument that listing requirements on a major stock exchange ensure adequate information availability for investors. Instead, characteristics of home countries, particularly pertaining to tax regulation, persist in their effects at least as far as the NYSE.

Our results suggest implications for investors and policy-makers, and much of this derives from the fact that the importance of liquidity is difficult to overstate. Investors demand liquidity as an offset to risk, needing assurance that positions can be sold when forecasts or personal/business situations change. Moreover, companies plagued by a lack of liquidity suffer damage to their own credibility, manifested in the form of discounted shares and a diminished ability to obtain capital, when investors require a higher return on their investment (Amihud & Mendelson, 1986).

The rest of this article is organised as follows: section 2 provides a literature review and hypotheses. Data and methodology are outlined in section 3, and section 4 presents the results. Section 5 provides conclusions, implications, and suggestions for future research.

2.   LITERATURE REVIEW AND HYPOTHESES

2.1   Global investment and reduced barriers

As previously noted in the Introduction, the advantages for companies in listing across borders are numerous (Stulz, 1999; Doidge et al., 2004). Looking at the US markets alone, this can be observed in the increased number of listings of non-US stocks on US exchanges, as long charted by the Bank of New York Mellon. For example, in December 2000, there were approximately 330 non-US stocks listed on the NYSE. As of 2020, the number of non-US stocks listed on the NYSE had risen by nearly two-thirds, to 542. Some of this has simply been due to the globalisation of capital markets, which has made it easier for companies to access international investors. Another factor has been the growing interest in emerging markets, particularly in Asia and Latin America, where many companies are seeking to tap into the liquidity and expertise of US investors.

For domestic US investors, non-US stocks are becoming an increasingly popular way to gain exposure to international markets, particularly in regions where direct investment may be more difficult or risky. Non-US stocks in the form of American Depository Receipts (ADRs) offer investors a convenient and liquid way to invest in foreign companies, without having to navigate local market regulations or currency risk. Overall, the trend of listing non-US stocks is likely to continue in the coming years, as more companies seek to tap into global capital markets and more investors look for opportunities to diversify their portfolios internationally.

There are several benefits to listing non-US stocks on US exchanges (Doidge, Karolyi & Stulz, 2009; Fernandes & Ferreira, 2008; La Porta et al., 1998; Lang, Lins & Miller, 2003; Reese & Weisbach, 2002). First, companies listed on non-US exchanges may seek to tap into US capital markets to raise funds and increase their visibility in the US. Listing non-US stocks on a US exchange provides US investors with easier access to the company's shares and allows the company to tap into the world's largest pool of investment capital. Second, it provides US investors with a convenient way to diversify their portfolios. Third, listing non-US stocks on US exchanges can increase the credibility of foreign companies. Finally, the transparency and governance requirements of a US exchange can lead to lower uncertainties and information asymmetries, with commensurate lower trading costs, for cross-listed foreign stocks.

2.2   Financial secrecy and threats to investment

La Porta and co-authors (2008) have noted that the regulatory environment can influence investment levels through their effect on information asymmetries, both real and perceived. Tax policy, in particular, can have implications for trading costs, as delineated in Listokin (2011). Within the last decade alone, the influence of taxation on markets has been the subject of significant attention among researchers. For example, Chen and co-authors (2018) found that income-shifting to jurisdictions with lower tax rates increased information asymmetry. Gaertner, Hoopes and Williams (2020) and Kalcheva and co-authors (2020) observed market valuation effects in response to new tax policies resulting from the Tax Cuts and Jobs Act (TCJA), and Wagner, Zeckhauser and Ziegler (2018) observed that even an expectation of changes to tax policy leads to valuation changes; importantly, these studies all showed variations relative to myriad taxation regimes internationally. At a philosophical level, related concerns have called for renewed discussion on the differences between tax avoidance and tax evasion, and regulation's influence on either activity (Christians, 2017).

In recent years, financial secrecy has become a widely discussed topic due to its potential role in facilitating illicit activities such as tax evasion and money laundering. Non-US stocks from countries with high levels of financial secrecy may be especially vulnerable to these risks. Increased concern for financial secrecy has prompted the Tax Justice Network (TJN) to formulate databases and analyses of different country environments in order to catalogue possible threats. Their work, while relatively new, is already being incorporated into the current body of academic literature (Killian et al., 2022; Walton, 2022). It is from this database, and out of this concern, that we conduct our exploration into the impact of financial secrecy on market dynamics.

2.3   Hypotheses development

On the one hand, one might expect negligible effects of financial secrecy on market liquidity. The NYSE itself sets up rigorous requirements for listing, demanding levels of transparency and conformity to accounting standards that could reduce information asymmetries. Janský, Palanská and Palanský (2022) find that only highly secret destinations are used for illicit purposes, which could reduce variation in market effects across the broad spectrum of our investment universe. Moreover, Hakelberg (2016) noted that an automatic information exchange instituted by the US Foreign Account Tax Compliance Act and the Common Reporting Standard initiated by the Organisation for Economic Co-operation and Development (OECD) (OECD, 2014, 2017) took significant steps to reducing financial secrecy, and an earlier effort attempted the same through the Savings Tax Directive of the EU in 2009. All of these efforts could minimise any effects within our sample period.

Conversely, ADRs present a very specific challenge to foreign investment. While they make it easier, in some respects, to invest in non-US stocks, they represent initial public offerings (IPOs) at the time of initial listing that have been essentially private until then. Consequently, an extensive set of historical analysis can be missing. In addition, even if measures to reduce financial secrecy are effective, Janský and co-authors (2022) assert that investors merely adjust by exploring tax havens in other destinations.

Specifically, financial secrecy can create information asymmetry and, in turn, reduced liquidity. Wherever information is difficult to obtain, sophisticated investors will have resources to uncover better information than those who are less resourceful or informed. Uninformed investors then need to protect against losses (Johnson & So, 2018; Amiram, Owens and Rozenbaum, 2016). In essence, when there is risk and uncertainty, market makers will obtain compensation through wider bid-ask spreads, as has been evidenced in multiple studies (Foerster & Karolyi, 1998; Odders-White & Ready, 2006; Ding & Hou, 2015; Hameed, Kang & Viswanathan, 2010). Liquidity, in turn, has been observed to mediate the impact of information asymmetry on markets (Kelly & Ljungqvist, 2012).

Because non-US stocks represent a particularly vulnerable set of investments, and as investors can move their capital to alternative destinations as regulations in one country change, we expect that concerns from financial secrecy would be strong enough to impact investor sentiment, as seen through market measures of liquidity and information asymmetry. We operationalise these predictions through multiple measures of each, but broadly express the predictions in two overarching hypotheses:

H₁: *Non-US stocks from countries of higher financial secrecy will possess lower levels of market liquidity.*

H$_2$: *Non-US stocks from countries of higher financial secrecy will possess higher levels of information asymmetry.*

3.   DATA AND METHODOLOGY

We obtained Financial Secrecy Score (FSS) data from the TJN. Due to the limited availability of financial secrecy data, we use data from 2011, 2013, 2015 and 2018, and fill in missing years with prior data. This score ranks jurisdictions based on their level of complicity in facilitating financial secrecy, which can enable tax abuse and money laundering via, for example, weaknesses in tax regulation and a lack of legal entity transparency. By using these scores, we aim to assess the potential impact of financial secrecy on the liquidity of non-US stocks.

The FSS can range from 0 (no secrecy) to 100 (unlimited secrecy), and it is calculated by the TJN using 20 indicators across four categories. These four categories are Ownership Registration, Legal Entity Transparency, Integrity of Tax and Financial Regulation, and International Standards and Cooperation. Ownership Registration consists of five indicators, which are bank secrecy, trust and foundations register, recorded company ownership, other wealth ownership, and limited partnership transparency. The overarching concept within this category is to capture the degree to which individual wealth is opaque to outside inquiry.

Legal Entity Transparency also consists of five indicators, which are public company ownership, public company accounts, country-by-country reporting, corporate tax disclosure, and legal entity identifier.

Integrity of Tax and Financial Regulation consists of six indicators, which are tax administration capacity, consistent personal income tax, avoids promoting tax evasion, tax court secrecy, harmful structures, and public statistics.

International Standards and Cooperation consists of four indicators, which are anti-money laundering, automatic information exchange, exchange of information on request, and international legal cooperation.

The TJN determines an index value by combining FSS and Global Scale Weight (GSW), which is the degree to which multinational financial activity occurs in a country. The precise formula used in this combination is to multiply the cube of FSS by the cubed root of GSW, dividing the result by 100. The computations related to financial secrecy are discussed in more detail in Janský and co-authors (2022).

Because of the prominence of tax-related measures in the TJN's assessment of financial secrecy, we probe further by looking at the TJN's determinations of Haven Score and the Corporate Tax Haven Index (CTHI). The Haven Score uses a set of 20 indicators in five categories to evaluate jurisdictions on their level of financial transparency and their provision of offshore financial services. It indicates the allowance for tax abuse within the jurisdiction's laws and ranges from 0 (no ability for corporate tax abuse) to 100 (unrestrained allowance).

The Haven Score is an average of the five category variables: LACIT (Legal and Accounting Complexity Index); Loopholes and Gaps; Transparency; Anti-Avoidance; and Double Tax Treaty Aggressiveness. LACIT measures the complexity of a country's legal and accounting systems. Higher levels of complexity can create loopholes and opportunities for tax avoidance and evasion. Loopholes and Gaps refers to specific gaps

or weaknesses in a country's tax laws or enforcement mechanisms that can be exploited for tax avoidance or evasion. Transparency measures a country's level of openness in terms of its tax and financial systems. Higher levels of transparency can help prevent tax evasion and illicit financial flows. Anti-Avoidance measures a country's commitment to combating tax avoidance through the use of legal and regulatory measures. Double Tax Treaty Aggressiveness refers to agreements between two countries to prevent double taxation of income earned by individuals or companies operating in both countries. These treaties can help promote investment and trade between countries while also preventing tax evasion.

The CTHI then combines the Haven Score with GSW. The precise formula used in this combination is to multiply the cube of the Haven Score by the cubed root of GSW, dividing the result by 100. A higher CTHI therefore indicates a higher risk of multinational corporate tax abuse occurring in a jurisdiction.

We identify non-US stocks listed on the NYSE by obtaining information from the NYSE's non-US companies database, resulting in a sample of 3,462 non-US stocks from 41 different countries. The number of non-US stocks and countries varies each year, and we use data from 2011 to 2019.

To gather data on liquidity variables for non-US stocks, we use the Trade and Quote database (TAQ) provided by the NYSE, which contains extensive historical data on stock prices, trading volume, bid-ask spreads, and other important liquidity measures. We apply standard data filters commonly used in microstructure literature to remove errors and outliers. These filters include: (1) deleting quotes if either the bid or ask price is negative; (2) deleting quotes if either the bid or ask size is negative; (3) deleting quotes if the bid-ask spread is greater than USD 4 or negative; (4) deleting trades and quotes if they are out of time sequence or involve an error; (5) deleting before-the-open and after-the-close trades and quotes; (6) deleting trades if the price or volume is negative, and (7) deleting trades and quotes if they changed by more than 10% compared to the last transaction price and quote. These filters help to ensure that the data is cleaned of errors and outliers and is suitable for analysis.

This section outlines the procedures for calculating various measures of liquidity and information-based trading. The quoted spreads of stock i at time t are calculated as the difference between the ask and bid prices:

$$Quoted\ Spread_{i,t} = (Ask_{i,t} - Bid_{i,t});$$

where $Ask_{i,t}$ is the ask price for stock i at time t, and $Bid_{i,t}$ is the bid price for stock i at time t.

To calculate the effective spread when trades occur within the bid and ask quotes, we use the following:

$$Effective\ Spread_{i,t} = 2D_{i,t}\ (P_{i,t} - M_{i,t});$$

where $P_{i,t}$ is the transaction price for stock i at time t, $M_{i,t}$ is the midpoint of the most recently posted bid and ask quotes for stock i, and $D_{i,t}$ is a binary variable equal to 1 for customer buy orders and negative 1 for customer sell orders. We estimate $D_{i,t}$ using the algorithm proposed by Ellis et al. (2000).

We calculate the quoted depth of stock i at time t as the sum of the ask and bid depths:

$$Quoted\ Share\ Depth_{i,t} = (Ask\ Depth_{i,t} + Bid\ Depth_{i,t});$$

where Ask Depth$_{i,t}$ is the ask depth for stock i at time t, and Bid Depth$_{i,t}$ is the bid depth for stock i at time t. Ask depth and bid depth indicate the number of limit orders to sell and buy, respectively, a security. As such, the quoted depth of a stock measures the degree to which a large number of trades would affect its market price.

We use the market quality index (MQI) proposed by Bollen and Whaley (2004) to measure the overall effect of the ratings on market liquidity. This measure captures the tradeoff between quoted spread and market depth and is a direct measure of liquidity. The MQI is defined as the ratio of the quoted depth to the quoted spread:

$$Market\ Quality\ Index_{i,t} = (0.5)Quoted\ Depth_{i,t} / Quoted\ Spread_{i,t}.$$

The price impact of trades measures the extent of information-based trading, and we calculate it using the following:

$$Price\ Impact_{i,t} = 100\ D_{i,t}(M_{i,t+5} - M_{i,t});$$

where $M_{i,t}$ and $M_{i,t+5}$ are the quote midpoints for stock i at time t and $t+5$ minutes, respectively. The price impact of trades measures the extent to which a trade alters the share price. If a trade carries no new information on the value of the share, its price impact should be zero on average. If a trade is information motivated, the price will tend to rise if initiated by a buyer and fall if initiated by a seller. The mean value of the price impact during each interval is calculated by weighing each trade equally.

The realised spread for each trade measures the market maker's revenue net of losses to informed traders (manifested by the price impact of trades):

$$Realised\ Spread_{i,t} = 2D_{i,t}\ (P_{i,t} - M_{i,t+5});[1]$$

where i is the stock, t is the time interval, $D_{i,t}$ is the trade direction (1 for buy and -1 for sell), $P_{i,t}$ is the transaction price, and $M_{i,t+5}$ is the mid-quote price (the average of the bid and ask prices) 5 minutes after the transaction. The trade-weighted average realised spread can be calculated for each 30-minute interval.

In addition to analysing the realised spread and price impact as metrics for measuring information-based trading, we also incorporate the probability of informed trading (PIN) introduced by Easley and co-authors (1996). PIN is a metric that quantifies the likelihood of a trade in a financial market being informed, where informed trades are those executed by traders who possess non-public information about the value of an asset that is not yet reflected in its market price. The PIN is calculated based on the order flow characteristics of the market and the proportion of informed traders. The model assumes that the order flow in a market is a mixture of informed and uninformed trades, with the proportion of informed trades denoted by the symbol 'θ'. The PIN is defined as:

$$PIN = (θ/1-θ) * (E(qi)/σ(qi))^2$$

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[1] Note that the realised spread is equal to the difference between the effective spread and the price impact of trades, all expressed in dollars: $2D_{i,t}\ (P_{i,t} - M_{i,t+5}) = 2D_{i,t}\ (P_{i,t} - M_{i,t}) -\ 2D_{i,t}(M_{i,t+5} - M_{i,t}).$

where θ is the proportion of informed trades, E(qi) is the expected value of the order flow of informed trades, and σ(qi) is the standard deviation of the order flow of informed trades.

4.   RESULTS

4.1   Primary analysis

Table 1 (Appendix), Panel A presents FSS data from the TJN for the countries in our dataset (Janský et al., 2022). The scores can theoretically range from 0 to 100, with higher scores indicating higher levels of secrecy. For example, in 2018, the three countries with the highest scores were The Bahamas, Liberia and Thailand, with scores of 85, 80 and 80, respectively.

Table 1, Panel B presents CTHI values and Haven Scores from the TJN for the countries in our dataset (Janský et al., 2022). Like the FSS, the Haven Score can theoretically range from 0 to 100, with higher scores indicating a higher allowance for tax abuse within the jurisdiction's laws. For example, in 2018, the three countries with the highest scores were The Bahamas, Bermuda and the Cayman Islands, all with scores of 100. One of the benefits of this dataset is that it includes information from low-income countries that are often excluded in other projects.

Table 2 (Appendix) presents descriptive statistics. Here, means and standard deviations can be seen for our variables of interest, discussed in section 3. In addition, percentile tabulations show alternative measures of the distribution in our data and allow inference of sample medians. Table 2 shows the average non-US stock is traded at a price of USD 25.50, possesses annual volatility of 2.4%, a trading volume of USD 31 million, a quoted spread of 0.5%, and a price impact of 0.2%.

The results of our regressions are shown in Tables 3-5 (Appendix). In general, our analysis reveals that non-US stocks from countries with higher levels of financial secrecy have lower liquidity and higher information asymmetry. Specifically, we find that a one-standard-deviation increase in financial secrecy is associated with a 0.2% decrease in liquidity and a 0.1% increase in information asymmetry.

In Table 3, we incorporate a multivariate model to show the effect of financial secrecy on four separate measures of liquidity: Quoted spread, effective spread, depth and MQI. These measures are represented by DV in our model:

$$DV_{i,t}, = \beta_0 + \beta_1 FSS_{j,t} + \beta_2 Log(Political_{j,t}) + \beta_3 Log(GDP_{j,t}) + \beta_4 (1/Price_{i,t}) + \beta_5 \text{Return Volatility}_{i,t} + \beta_6 Log(Volume_{i,t}) + \beta_7 Log(Market Cap_{i,t}) + \text{Industry FE} + \text{Year FE} + \varepsilon_{i,j,t} \quad (1)$$

Hence, in each case, we control for political risk, GDP to capture macroeconomic effects, market price, price volatility, trading volume, and market capitalisation. Harris and Raviv (1990) have asserted that in addition to price-based measures of liquidity (e.g., the bid-ask spread), this market characteristic should be measured by quantity-based measures, motivating the additional analysis pertaining to depth. We do not include firm fixed effects, as the variation in country is small over time, and there is only one value per country each year. This means that the variation in FSS is not primarily driven by differences between individual firms, but rather by differences between countries. In this case, using firm fixed effects in the regression analysis would not be appropriate because there is not enough within-group variation to estimate the

effects of the liquidity or information asymmetry variables. (Firm fixed effects are typically used when there is substantial variation within firms over time, and when the effects of interest are estimated by comparing changes within firms over time.) As a robustness check, the standard errors are clustered by year to account for any correlation or heterogeneity within each specific year. As can be seen in the Table, FSS loads at less than 1% statistical significance levels in each model; in all cases, the sign of the coefficient corresponds to higher levels of secrecy reducing market liquidity, supporting H_1.

Note that we have included the political risk rating of each country as a governance control variable, sourced from Worldwide Governance Indicators (WGI).[2] This additional control variable helps to capture the potential influence of country-specific factors on our results, beyond the effects accounted for by the industry and year fixed effects regressions. These indicators have found widespread application across myriad scholarly investigations (Kaufmann, Kraay & Mastruzzi, 2011; Ruiz-Cantero et al., 2019; Handoyo, 2023). Specific to our article, Eleswarapu and Venkataraman (2006) pinpoint the critical role of political stability in influencing information risk and investor participation, thereby significantly impacting trading costs. By using the political risk measure from WGI, we aim to capture this key factor identified in the literature as a crucial determinant of trading costs. This measure is particularly relevant to our research question as it encapsulates the broader implications of political stability on governance, providing a comprehensive perspective on the macro-level institutional environment.

In Table 4, we look at regressions showing the effect of financial secrecy on three separate measures of information asymmetry: Realised spread, price impact and PIN. Controls are conducted similarly to the regressions in Table 3. As can be seen in the Table, FSS is statistically significant at 1%, 5%, and 10% levels for realised spread, price impact and PIN, respectively; in all cases, the sign of the coefficient corresponds to higher levels of secrecy increasing information asymmetry, supporting H_2.

Table 5 extends our analysis to changes in both dependent and independent variables. Regressions using the first difference of variables, which measure changes in the variables over time, are generally considered to be less susceptible to displaying spurious relationships between variables than regressions using the level variables. This is because first differencing eliminates time-invariant unobserved heterogeneity that may cause spurious correlations between variables. Therefore, using first differences of variables can be a more robust approach to testing causal relationships. Note that in order to use available data for first differencing regressions, we computed the difference between 2013 and 2011, 2015 and 2013, and 2018 and 2015. As a result, the first differencing regressions contain a total of 885 observations.

The results of these regressions, as shown in Table 5, indicate that the coefficients (quoted spread and effective spread) on the change in the FSS for non-US stocks are positive and significant. This suggests that an increase in spreads is associated with an increase in the country's FSS. This finding provides further evidence for the robustness of the relationship between spreads and FSS and supports the conclusion that increasing financial secrecy accountability can lead to an increase in spreads.

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[2] See World Bank, 'Worldwide governance indicators',
https://www.worldbank.org/en/publication/worldwide-governance-indicators.

4.2   Supplemental analysis

According to the TJN, the increasing number of tax havens have a negative impact on global tax revenues by enabling wealthy individuals and corporations to shift their profits to lower tax jurisdictions and avoid paying their fair share of taxes. This practice fosters unjust competition among nations and weakens the ability of governments to furnish essential public services and tackle social disparities.

The TJN developed the CTHI to address corporate tax-dodging activities specifically. The index ranks countries based on their facilitation of corporate tax avoidance, considering a range of indicators such as tax rates, tax incentives and loopholes that allow companies to shift profits to lower tax jurisdictions. The CTHI supplies a ranking of the 50 most complicit jurisdictions in enabling corporate tax avoidance.

Apart from the CTHI, the TJN has also developed the Haven Score, a broader measure of financial secrecy and tax haven activities across all sectors, not just corporate taxation. The Haven Score uses a set of 20 indicators to evaluate jurisdictions on their level of financial transparency and their provision of offshore financial services. The Haven Score ranks 130 jurisdictions based on financial secrecy and tax haven activities.

To examine the relation between liquidity, CTHI and Haven Score, we first regress both the quoted and effective spreads on CTHI and Haven Score along with several control variables. We show the regression results in Table 6 (Appendix). The coefficients of the regressions for the CTHI and Haven Score are positive and highly significant. The positive coefficients indicate that non-US stocks from countries with higher tax haven indexes and scores tend to exhibit wider quoted and effective spreads, suggesting that these stocks provide lower liquidity. In order to fully assess liquidity and gain a more comprehensive view of the tax effects, we consider not only the spread but also the depth and MQI. The regression results for depth and MQI are presented in Table 7 (Appendix). Consistent with the results from spreads, the coefficients of regressions for depth and MQI are negative and highly significant, indicating that depth and MQI for non-US stocks from countries with higher corporate tax haven indexes and scores are lower than those for stocks from countries with lower corporate tax haven indexes and scores.

Building on the significant empirical association between our liquidity measures and tax haven scores that we established in the previous section, we delve into a deeper analysis of the relationship. Specifically, we aim to identify the haven indicators that are driving this association. The Haven Score is constructed from 20 indicators that assess the tax and legal systems of each country, each reflecting different mechanisms that multinationals use to avoid taxes. These indicators are divided into five categories, each accounting for 20% of the overall score: Legal and Accounting Complexity Index, Loopholes and Gaps, Transparency, Anti-Avoidance and Double Tax Treaty Aggressiveness.

To find out which component of tax haven scores drives the results, we regress our measures of liquidity on the five categories of tax haven scores and on the control variables. We show the regression results in Table 8 (Appendix). The results show that both the quoted and effective spreads are positively and significantly related to two (Anti-Avoidance and Double Tax Treaty Aggressiveness) of the five tax haven categories.

Regarding Anti-Avoidance, one of its indicators is Controlled Foreign Company (CFC) rules. They garner much attention in international tax discussions; one can surmise that they would cause scepticism regarding investments. In fact, they have been a common topic of study since the TCJA (e.g., Clausing, 2020). Regarding Double Tax Treaties, these also attract a lot of attention and would be salient to investors. For example, Beer and Loeprick (2018) focus on Sub-Saharan Africa and assert that investors are not attracted to areas that engage in treaty shopping, an activity that would have resulted in a high score within this category, consistent with our regression analysis.

5.   CONCLUSION

We investigate the relationship between a country's level of financial secrecy and market liquidity for non-US stocks listed on the NYSE from 2011 to 2019. Our findings suggest that non-US stocks from countries with lower levels of financial secrecy have better market quality, including narrower spreads, higher market quality indices, smaller price impacts of trades, and lower probabilities of information-based trading. The results also indicate that changes in the liquidity measures are significantly related to changes in the level of financial secrecy of the country over time.

Going further, we explore tax characteristics underlying financial secrecy and look specifically at a country's status as a tax haven for multinational corporations. We find that liquidity is lower, and information asymmetry is higher, in countries marked by higher haven indexes and scores. Weak anti-avoidance qualities, and double tax treaty aggressiveness, appear especially influential in creating these market inefficiencies.

Altogether, our results regarding financial secrecy and tax havens present an alternate perspective from the theory that cross-listing, with its associated expectations for corporate governance, is enough to ensure liquid markets. In turn, these findings have several implications for investors, policy-makers, and academics. First, investors can benefit from investing in non-US stocks from countries with lower levels of financial secrecy, as they are associated with higher market liquidity and lower trading costs. Second, policy-makers should focus on improving the level of financial transparency and disclosure in their countries, as it can help attract more foreign investment and enhance the liquidity and quality of their domestic financial markets. Prior attempts by policy-makers have had mixed results, as noted by the work of Johannesen and Zucman (2014) and Casi, Spengel and Stage (2020) and may need to invoke notions of third-party monitoring (Chan and Lam, 2018). Academics would not only want to continue this line of research, but also will want to include financial secrecy in models of trading cost determinants.

However, further research is needed to provide a more comprehensive understanding of the relationship between financial secrecy and market liquidity in other markets and to consider other factors that may affect market liquidity, such as political stability and economic development. In addition, competing factors would need to be explored. For example, if a jurisdiction is characterised by high levels of financial secrecy, it may deter investment into individual companies but attract assets through illicit mechanisms. An examination of this trade-off would be useful to policy-makers attempting to effect change. Finally, future studies should replicate these analyses as more data from the TJN become available. For example, given the limited number of time periods, we cannot reliably include year fixed effects in the first differencing regressions due to a lack of within-group variation. This is a natural challenge when embarking in a direction

that has been less studied, but it highlights a promising line of inquiry in the years to come as more observations become available.

Overall, this study contributes to the literature on market liquidity and financial regulation and provides insights for investors and policy-makers to improve market quality and efficiency.

6. REFERENCES

Amihud, Y & Mendelson, H 1986, 'Asset pricing and the bid-ask spread', *Journal of Financial Economics*, vol. 17, no. 2, pp. 223-249.

Amiram, D, Owens, E & Rozenbaum, O 2016, 'Do information releases increase or decrease information asymmetry? New evidence from analyst forecast announcements', *Journal of Accounting and Economics*, vol. 62, no. 1, pp. 121-138.

Beer, S & Loeprick, J 2018, 'The cost and benefits of tax treaties with investment hubs: Findings from Sub-Saharan Africa', IMF Working Paper No. 2018/227.

Bollen, N P B & Whaley, R E 2004, 'Does net buying pressure affect the shape of implied volatility functions?', *Journal of Finance*, vol. 59, no. 2, pp. 711-753.

Casi, E, Spengel, C & Stage, B M B 2020, 'Cross-border tax evasion after the common reporting standard: Game over?', *Journal of Public Economics*, vol. 190, 104240.

Chan, K N & Lam, W F 2018, 'Bureaucratic control and information processing: An institutional comparison', *Governance*, vol. 31, no. 3, pp. 575-592.

Chen, C-W, Hepfer, B F, Quinn, P J & Wilson, R J 2018, 'The effect of tax-motivated income shifting on information asymmetry', *Review of Accounting Studies*, vol. 23, no. 3, pp. 958-1004.

Christians, A 2017, 'Distinguishing tax avoidance and evasion: Why and how', *Journal of Tax Administration*, vol. 3, no. 2, pp. 5-21.

Clausing, K A 2020, 'Profit shifting before and after the Tax Cuts and Jobs Act', *National Tax Journal*, vol. 73, no. 4, pp. 1233-1266.

Coval, J D & Moskowitz, T J 1999, 'Home bias at home: Local equity preference in domestic portfolios', *Journal of Finance*, vol. 54, no. 6, pp. 2045-2073.

Coval, J D & Moskowitz, T J 2001, 'The geography of investment: Informed trading and asset prices', *Journal of Political Economy*, vol. 109, no. 4, pp. 811-841.

Ding, R & Hou, W 2015, 'Retail investor attention and stock liquidity', *Journal of International Financial Markets, Institutions and Money*, vol. 37, pp. 12-26.

Djankov, S, La Porta, R, Lopez-de-Silanes, F & Shleifer, A 2008, 'The law and economics of self-dealing', *Journal of Financial Economics*, vol. 88, no. 3, pp. 430-465.

Doidge, C, Karolyi, G A & Stulz, R M 2004, 'Why are foreign firms listed in the US worth more?', *Journal of Financial Economics*, vol. 71, no. 2, pp. 205-238.

Doidge, C, Karolyi, G A & Stulz, R M 2009, 'Has New York become less competitive than London in global markets? Evaluating foreign listing choices over time', *Journal of Financial Economics*, vol. 91, no. 3, pp. 253-277.

Easley, D, Kiefer, N M, O'Hara, M & Paperman, J B 1996, 'Liquidity, information, and infrequently traded stocks', *Journal of Finance*, vol. 51, no. 4, pp. 1405-1436.

Eleswarapu, V R & Venkataraman, K 2006, 'The impact of legal and political institutions on equity trading costs: A cross-country analysis', *Review of Financial Studies*, vol. 19, no. 3, pp. 1081-1111.

Ellis, K, Michaely, R & O'Hara, M 2000, 'The accuracy of trade classification rules: Evidence from Nasdaq', *Journal of Financial and Quantitative Analysis*, vol. 35, no. 4, pp. 529-551.

Fernandes, N & Ferreira, M A 2008, 'Does international cross-listing improve the information environment', *Journal of Financial Economics*, vol. 88, no. 2, pp. 216-244.

Foerster, S R & Karolyi, G A 1998, 'Multimarket trading and liquidity: A transaction data analysis of Canada-US interlistings', *Journal of International Financial Markets, Institutions, and Money*, vol. 8, nos 3-4, pp. 393-412.

French, K R & Poterba, J M 1991, 'Investor diversification and international equity markets', *American Economic Review*, vol. 81, no. 2, pp. 222-226.

Gaertner, F B, Hoopes, J L & Williams, B M 2020, 'Making *only* America great? Non-US market reactions to US tax reform', *Management Science*, vol. 66, no. 2, pp. 687-697.

Hakelberg, L 2016, 'Coercion in international tax cooperation: Identifying the prerequisites for sanction threats by a great power', *Review of International Political Economy*, vol. 23. no. 3, pp. 511-541.

Hameed, A, Kang, W & Viswanathan, S 2010, 'Stock market declines and liquidity', *Journal of Finance*, vol. 65, no. 1, pp. 257-293.

Handoyo, S 2023, 'Worldwide governance indicators: Cross country data set 2012-2022', *Data in Brief*, vol. 51, 109814.

Harris, M & Raviv, A 1990, 'Capital structure and the informational role of debt', *Journal of Finance*, vol. 45, no. 2, pp. 321-349.

Janský, P, Palanská, T & Palanský, M 2022, 'Hide-seek-hide? The effects of financial secrecy on cross-border financial assets', WIDER Working Paper No. 2022/9.

Johannesen, N & Zucman, G 2014, 'The end of bank secrecy? An evaluation of the G20 tax haven crackdown', *American Economic Journal: Economic Policy*, vol. 6, no. 1, pp. 65-91.

Johnson, T L & So, E C 2018, 'Asymmetric trading costs prior to earnings announcements: Implications for price discovery and returns', *Journal of Accounting Research*, vol. 56, no. 1, pp. 217-263.

Kelly, B & Ljungqvist, A 2012, 'Testing asymmetric-information asset pricing models', *Review of Financial Studies*, vol. 25, no. 5, pp. 1366-1413.

Kalcheva, I, Plečnik, J M, Tran, H & Turkiela, J 2020, '(Un)intended consequences? The impact of the 2017 tax cuts and jobs act on shareholder wealth', *Journal of Banking and Finance*, vol. 118, 105860.

Kaufmann, D, Kraay, A & Mastruzzi, M 2011, 'The Worldwide Governance Indicators: Methodology and analytical issues', *Hague Journal on the Rule of Law*, vol. 3, no. 2, pp. 220-246.

Killian, S, O'Regan, P, Lynch, R, Laheen, M & Karavidas, D 2022, 'Regulating havens: The role of hard and soft governance of tax experts in conditions of secrecy and low regulation', *Regulation and Governance*, vol. 16, no. 3, pp. 722-737.

La Porta, R, Lopez-de-Silanes, F, Shleifer, A & Vishny, R W 1998, 'Law and finance', *Journal of Political Economy*, vol. 106, no. 6, pp. 1113-1155.

Lang, M H, Lins, K V & Miller, D P 2003, 'ADRs, analysts, and accuracy: Does cross listing in the United States improve a firm's information environment and increase market value?', *Journal of Accounting Research*, vol. 41, no. 2, pp. 317-345.

Listokin, Y 2011, 'Taxation and liquidity', *The Yale Law Journal*, vol. 120, no. 7, pp. 1682-1732.

Mittoo, U R 1992, 'Managerial perceptions of the net benefits of foreign listing: Canadian evidence', *Journal of International Financial Management and Accounting*, vol. 4, no. 1, pp. 40-62.

Odders-White, E R & Ready, M J 2006, 'Credit ratings and stock liquidity', *Review of Financial Studies*, vol. 19, no. 1, pp. 119-157.

Organisation for Economic Co-operation and Development (OECD) 2014, *Standard for automatic exchange of financial account information: Common Reporting Standard*, OECD Publishing, Paris.

Organisation for Economic Co-operation and Development (OECD) 2017, *Standard for automatic exchange of financial account information in tax matters*, 2nd edn, OECD Publishing, Paris.

Reese, W A, Jr & Weisbach, M S 2002, 'Protection of minority shareholder interests, cross-listings in the United States, and subsequent equity offerings', *Journal of Financial Economics*, vol. 66, no. 1, pp. 65-104.

Ruiz-Cantero, M T, Guijarro-Garvi, M, Bean, D R, Martínez-Riera, J R & Fernández-Sáez, J 2019, 'Governance commitment to reduce maternal mortality. A political determinant beyond the wealth of the countries', *Health and Place*, vol. 57, pp. 313-320.

Stulz, R M 1999, 'Globalization, corporate finance, and the cost of capital', *Journal of Applied Corporate Finance*, vol. 12, no. 3, pp. 8-25.

Wagner, A F, Zeckhauser, R J & Ziegler, A 2018, 'Company stock price reactions to the 2016 election shock: Trump, taxes, and trade', *Journal of Financial Economics*, vol. 130, no. 2, pp. 428-451.

Walton, S 2022, 'The impact of tax haven use on tax accrual quality', *Journal of Tax Administration*, vol. 7, no. 2, pp. 74-104.

7.   APPENDIX

Table 1: Financial Secrecy Scores, CTHI and Tax Haven Score by Country

Panel A. Financial Secrecy Scores

The Financial Secrecy Score published by the Tax Justice Network ranks countries and territories based on their levels of financial secrecy and offshore financial activities. The score ranges from 0 to 100, with a higher score indicating a greater level of financial secrecy.

Country	2011	2013	2015	2018
Australia		47	43	51
Bahamas	83	80	79	85
Belgium	59	45	41	44
Bermuda	85	80	66	73
Brazil		52	52	49
Canada	56	54	46	55
Cayman Islands	77	70	65	72
Chile			54	62
China			54	60
Denmark	40	33	31	53
Finland		29	31	53
France	54	41	43	52
Germany	57	59	56	59
Greece		39	36	58
Hong Kong	73	72	72	71
India	53	46	39	52
Indonesia				61
Ireland	44	37	40	51
Israel	58	57	53	63
Italy	49	39	35	49
Japan	64	61	58	61
Liberia	81	83	83	80
Luxembourg	68	67	55	58
Marshall Islands			79	73
Mexico			45	54

Monaco	75	75	74	78
Netherlands	49	50	48	66
Norway		42	38	52
Panama	77	73	72	77
Philippines	73	67	63	65
Portugal	51	39		
Puerto Rico				77
Russia		60	54	64
Singapore	71	70	69	67
South Africa		53	42	56
Spain	34	36	33	48
Sweden				45
Switzerland	78	78	73	76
Thailand				80
Turkey			64	68
United Kingdom	45	40	41	42

Panel B. CTHI and Tax Haven Score

	CTHI					Haven				
Country	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bahamas	1378	1378	1378	1378	1378	100	100	100	100	100
Belgium	822	822	822	822	822	68	68	68	68	68
Bermuda	2653	2653	2653	2653	2653	100	100	100	100	100
Cayman Islands	2534	2534	2534	2534		100	100	100	100	
China	659	659	659	659	659	58	58	58	58	58
Denmark	226	226	226	226	226	52	52	52	52	52
Finland	237	237	237	237	237	55	55	55	55	55
France	525	525	525	525	525	56	56	56	56	56
Germany	461	461	461	461	461	52	52	52	52	52
Greece	54	54	54	54	54	39	39	39	39	39
Hong Kong	1372	1372	1372	1372	1372	73	73	73	73	73
Ireland	1363	1363	1363	1363	1363	76	76	76	76	76
Italy	302	302	302	302	302	51	51	51	51	51
Liberia	71	71	71	71	71	49	49	49	49	49
Luxembourg	1795	1795	1795	1795	1795	72	72	72	72	72
Monaco	207	207	207	207		68	68	68	68	
Netherlands	2391	2391	2391	2391	2391	78	78	78	78	78
Panama	405	405	405	405	405	72	72	72	72	72
Singapore	1489	1489	1489	1489	1489	81	81	81	81	81
South Africa	184	184	184	184	184	47	47	47	47	47
Spain	403	403	403	403	403	55	55	55	55	55
Sweden			365	365	365			56	56	56
Switzerland	1875	1875	1875	1875	1875	83	83	83	83	83
United Kingdom	1068	1068	1068	1068	1068	63	63	63	63	63

Table 2: Descriptive Statistics

Political rating is the country political risk rating from Worldwide Governance Indicators, Price is the share price, Return volatility is the standard deviation of daily closing quote-midpoint returns, Dollar trading volume is the mean daily dollar trading volume, Quoted spread is the time-weighted mean quoted spread, Effective spread is the trade-weighted mean effective spread, Realised spread is the difference between the execution price and the midpoint of the bid-ask spread, expressed as a percentage of the midpoint, Depth is the mean quoted depth Market quality index is measured by the ratio of the time weighted mean quoted depth to the time-weighted mean quoted percentage spread, and Price impact is the mean price impact.

| Variable | Mean | Standard deviation | Percentile | | | | |
			Min	25	50	75	Max
Political rating	0.59	0.71	-2.01	-0.05	0.99	1.10	1.63
Price ($)	25.50	35.84	0.09	4.99	13.90	35.07	716.40
Return volatility	0.0243	0.0130	0.0032	0.0146	0.0214	0.0311	0.1382
Dollar trading volume ($ in thousands)	31313	105904	2	1092	6971	32831	3566390
Market value of equity ($ in millions)	5842	13550	1	255	1071	4806	199719
Quoted spread	0.0491	0.0969	0.0016	0.0126	0.0213	0.0493	2.5410
Effective spread	0.0315	0.0647	0.0015	0.0093	0.0132	0.0292	2.0502
Realised spread	0.0167	0.0490	0.0007	0.0029	0.0052	0.0130	1.6947
Depth (in hundreds)	8102	26540	261	749	1708	5416	444559
Market quality index (in thousands)	412	1418	0	11	51	233	26909
Price impact	0.0152	0.0232	-0.0137	0.0061	0.0083	0.0158	0.5266
PIN	0.0603	0.0860	0.0001	0.0100	0.0270	0.0752	0.9246

Table 3: Regression Analysis for Financial Secrecy and Liquidity

This Table shows the OLS results of the following regression model: Quoted Spread$_{i,t}$, Effective Spread$_{i,t}$, Depth$_{i,t}$, or MQI$_{i,t}$ = β_0 + β_1 Financial Secrecy Score$_{j,t}$ + β_2 Political$_{j,t}$ + β_3 Log(GDP$_{j,t}$) + β_4 (1/Price$_{i,t}$) + β_5 Return Volatility$_{i,t}$ + β_6 Log(Volume$_{i,t}$) + β_7 Log(Market Cap$_{i,t}$) + $\varepsilon_{i,j,t}$; where Quoted Spread$_{i,t}$ is the mean quoted spread of stock i in year t, Effective Spread$_{i,t}$ is the trade-weighted mean effective spread of stock i in year t, Depth$_{i,t}$ is the mean quoted depth of stock i in year t, Market Quality Index$_{i,t}$ is measured by the ratio of the time weighted mean quoted depth to the time-weighted mean quoted percentage spread of stock i in year t, Financial Secrecy Score$_{i,t}$ is an annual score of a country's financial system, specifically country j in year t, that is published by the Tax Justice Network, Political$_{j,t}$ is the political rating of country j in year t from the Worldwide Governance Indicators, GDP$_{i,t}$ is the GDP per capita of country j in year t, Price$_{i,t}$ is the mean stock price of stock i in year t, Return Volatility$_{i,t}$ is the standard deviation of daily closing quote-midpoint returns of stock i in year t, Volume$_{i,t}$ is the mean daily dollar trading volume of stock i in year t, Market Cap$_{i,t}$ is the market value of equity of company i in year t, and $\varepsilon_{i,t}$ is the error term. Standard errors are adjusted for both heteroscedasticity using Huber-White estimators and clustering by year, addressing potential correlation or heterogeneity within each specific year. The significance levels of the coefficients are denoted by ***, **, and *, indicating statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variables	(1) Quoted Spread	(2) Effective Spread	(3) Depth	(4) MQI
Financial Secrecy	0.0848**	0.0445**	-0.3216***	-1.6203***
	(3.29)	(3.09)	(-5.68)	(-5.61)
Political	-0.0212***	-0.0125***	-0.0098*	-0.0656*
	(-3.99)	(-4.06)	(-1.88)	(-1.88)
Log(GDP)	0.0095**	0.0051**	0.0113**	0.0661*
	(3.02)	(2.77)	(2.59)	(2.27)
Price	-0.0294***	-0.0219***	0.0606***	0.6237***
	(-5.00)	(-5.50)	(4.86)	(7.10)
Volatility	-0.1227	0.0167	0.5216	3.8246
	(-0.59)	(0.13)	(0.82)	(1.20)
Log(volume)	-0.0151***	-0.0118***	0.0421***	0.2557***
	(-12.47)	(-12.69)	(5.51)	(7.48)

Log(MCap)	0.0074***	0.0052***	-0.0279***	-0.1531***
	(7.99)	(8.02)	(-4.42)	(-5.60)
Constant	0.0477	0.0766**	-0.1868**	-1.6440***
	(0.99)	(2.45)	(-2.98)	(-4.64)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	3,281	3,281	3,281	3,281
Adjusted R^2	0.1851	0.1867	0.1175	0.1496

Table 4: Regression Analysis for Financial Secrecy and Information Asymmetry

This Table shows the OLS results of the following regression model: Realised Spread$_{i,t}$, Price Impact$_{i,t}$, or PIN$_{i,t}$ = $\beta_0 + \beta_1$ Financial Secrecy Score$_{j,t}$ + β_2 Political$_{j,t}$ + β_3 Log(GDP$_{j,t}$) + β_4 (1/Price$_{i,t}$) + β_5 Return Volatility$_{i,t}$ + β_6 Log(Volume$_{i,t}$) + β_7 Log(Market Cap$_{i,t}$) + $\varepsilon_{i,j,t}$; Realised spread$_{i,t}$ is the realised spread of stock i in year t, Price impact$_{i,t}$ is the mean price impact of stock i in year t, PIN$_{i,t}$ is the probability of informed trading of stock i in year t, Financial Secrecy Score$_{i,t}$ is an annual score of a country's financial system, specifically country j in year t, that is published by the Tax Justice Network, Political$_{j,t}$ is the political rating of country j in year t from the Worldwide Governance Indicators, GDP$_{i,t}$ is the GDP per capita of country j in year t, Price$_{i,t}$ is the mean stock price of stock i in year t, Return Volatility$_{i,t}$ is the standard deviation of daily closing quote-midpoint returns of stock i in year t, Volume$_{i,t}$ is the mean daily dollar trading volume of stock i in year t, Market Cap$_{i,t}$ is the market value of equity of company i in year t, and $\varepsilon_{i,t}$ is the error term. Standard errors are adjusted for both heteroscedasticity using Huber-White estimators and clustering by year, addressing potential correlation or heterogeneity within each specific year. The significance levels of the coefficients are denoted by ***, **, and *, indicating statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variables	(1) Realised Spread	(2) Price Impact	(3) PIN
Financial Secrecy	0.0195*	0.0318***	0.0216*
	(1.91)	(7.13)	(1.97)
political	-0.0085**	-0.0056***	-0.0160***
	(-3.08)	(-7.65)	(-4.31)
Log(GDP)	0.0035*	0.0023***	0.0059**
	(2.10)	(5.25)	(2.85)
Price	-0.0155***	-0.0087***	-0.0144**
	(-5.15)	(-6.56)	(-2.32)
Volatility	0.0614	0.0312	-0.3665**
	(0.61)	(0.64)	(-2.44)
Log(volume)	-0.0095***	-0.0037***	-0.0324***
	(-11.11)	(-11.90)	(-23.04)
Log(MCap)	0.0036***	0.0028***	0.0085***
	(6.48)	(9.73)	(8.17)

Constant	0.0737**	-0.0001	0.3974***
	(3.10)	(-0.02)	(18.28)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	3,281	3,281	3,247
Adjusted R^2	0.1933	0.1886	0.5379

Table 5: Regression Results for Spreads Using Changes in Variables

This Table shows the results of the following regression model: ΔQuoted spread$_{i,t}$, ΔEffective spread$_{i,t}$ or ΔRealised spread$_{i,t}$ = β_0 + β_1 ΔFinancial Secrecy Score$_{j,t}$ + β_2 ΔPolitical$_{j,t}$ + β_3 ΔLog(GDP$_{j,t}$) + β_4 Δ(1/Price$_{i,t}$) + β_5 ΔReturn volatility$_{i,t}$+ β_6 ΔLog(Dollar trading volume$_{i,t}$) + β_7 ΔLog(Market Cap$_{i,t}$) + $\varepsilon_{i,t}$; where Quoted spread$_{i,t}$ is the time-weighted mean quoted spread of stock i in year t, Effective spread$_{i,t}$ is the trade-weighted mean effective spread of stock i in year t, Realised spread$_{i,t}$ is the realised spread of stock i in year t, Financial Secrecy Score$_{j,t}$ is the Financial Secrecy Score of country j in year t, Political$_{j,t}$ is the political rating of country j in year t, GDP$_{i,t}$ is the GDP per capita of country j in year t, Price$_{i,t}$ is the mean stock price of stock i in year t, Return Volatility$_{i,t}$ is the standard deviation of daily closing quote-midpoint returns of stock i in year t, Volume$_{i,t}$ is the mean daily dollar trading volume of stock i in year t, Market Cap$_{i,t}$ is the market value of equity of stock i in year t, and $\varepsilon_{i,t}$ is the error term. Δ denotes changes in variables between year t and t-1. Standard errors are adjusted for heteroscedasticity (Huber-White estimators). ***, **, and * indicate that the coefficients are statistically significant at 1%, 5%, and 10% levels, respectively.

Dependent variables	(1) Quoted Spread	(2) Effective Spread	(3) Realised Spread
Financial Secrecy	0.0994**	0.0550**	0.0575***
	(2.31)	(2.16)	(2.88)
Political	0.0289**	0.0152**	0.0126**
	(2.51)	(2.17)	(2.34)
Log(GDP)	0.0634**	0.0249	0.0137
	(2.02)	(1.30)	(1.05)
Price	-0.0049*	-0.0045**	-0.0034**
	(-1.90)	(-2.44)	(-2.55)
Volatility	0.8987**	0.6036***	0.4167**
	(2.19)	(2.60)	(2.26)
Log(volume)	-0.0179***	-0.0121***	-0.0094***
	(-3.79)	(-4.32)	(-4.20)

Log(MCap)	0.0346***	0.0207***	0.0136***
	(4.22)	(4.27)	(3.54)
Constant	0.0073***	0.0022	0.0027**
	(3.05)	(1.56)	(2.46)
Observations	885	885	885
Adjusted R^2	0.0867	0.0828	0.0778

Table 6: Regression Analysis for Tax Haven and Spread

This Table shows the OLS results of the following regression model: Quoted Spread$_{i,t}$, or Effective Spread$_{i,t}$, = β_0 + β_1 CTHI$_{j,t}$ or Haven Score$_{j,t}$ + + β_2 Political$_{j,t}$ + β_3 Log(GDP$_{j,t}$) + β_4 (1/Price$_{i,t}$) + β_5 Return Volatility$_{i,t}$ + β_6 Log(Volume$_{i,t}$) + β_7 Log(Market Cap$_{i,t}$) + $\varepsilon_{i,j,t}$; where Quoted Spread$_{i,t}$ is the time-weighted mean quoted spread of stock i in year t, Effective Spread$_{i,t}$ is the trade-weighted mean effective spread of stock i in year t, CTHI$_{j,t}$ is the Corporate Tax Haven Index of country j in year t, Haven Score$_{j,t}$ is a measure of how much tax abuse is allowed by country j in year t, Political$_{j,t}$ is the political rating of country j in year t from the Worldwide Governance Indicators, GDP$_{i,t}$ is the GDP per capita of country j in year t, Price$_{i,t}$ is the mean stock price of stock i in year t, Return Volatility$_{i,t}$ is the standard deviation of daily closing quote-midpoint returns of stock i in year t, Volume$_{i,t}$ is the mean daily dollar trading volume of stock i in year t, Market Cap$_{i,t}$ is the market value of equity of company i in year t, and $\varepsilon_{i,t}$ is the error term. Standard errors are adjusted for both heteroscedasticity using Huber-White estimators and clustering by year, addressing potential correlation or heterogeneity within each specific year. The significance levels of the coefficients are denoted by ***, **, and *, indicating statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variables	(1) Quoted Spread	(2) Quoted Spread	(3) Effective Spread	(4) Effective Spread
CTHI	0.0332***		0.0173***	
	(7.49)		(7.60)	
Haven Score		1.5210***		0.7657***
		(9.20)		(9.90)
Political	0.0269**	0.0202**	0.0129**	0.0098**
	(3.75)	(4.30)	(3.18)	(3.56)
Log(GDP)	-0.0174**	-0.0150**	-0.0089**	-0.0076**
	(-4.23)	(-4.52)	(-3.96)	(-4.18)
Price	-0.0335**	-0.0324**	-0.0228**	-0.0223**
	(-3.80)	(-3.43)	(-3.92)	(-3.60)
Volatility	0.0640	-0.0506	0.1925	0.1353
	(0.28)	(-0.21)	(1.26)	(0.84)
Log(volume)	-0.0107**	-0.0110**	-0.0078**	-0.0079**
	(-3.94)	(-4.12)	(-4.01)	(-4.13)

Log(MCap)	0.0064**	0.0072**	0.0038*	0.0042**
	(3.06)	(3.27)	(2.69)	(2.88)
Constant	0.2621***	0.1712***	0.1668***	0.1205***
	(6.98)	(7.16)	(7.56)	(8.08)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	923	923	923	923
Adjusted R-squared	0.1393	0.1383	0.1662	0.1639

Table 7: Regression Analysis for Tax Haven and Depth and Market Quality Index

This Table shows the OLS results of the following regression model: $\text{Depth}_{i,t}$, or $\text{MQI}_{i,t}$, $= \beta_0 + \beta_1 \text{CTHI}_{j,t}$ or $\text{Haven Score}_{j,t} + \beta_2 \text{Political}_{j,t} + \beta_3$ $\text{Log(GDP}_{j,t}) + \beta_4 (1/\text{Price}_{i,t}) + \beta_5 \text{Return Volatility}_{i,t} + \beta_6 \text{Log(Volume}_{i,t}) + \beta_7 \text{Log(Market Cap}_{i,t}) + \varepsilon_{i,j,t}$; where $\text{Depth}_{i,t}$ is the mean quoted depth of stock i in year t, Market Quality Index$_{i,t}$ is measured by the ratio of the time-weighted mean quoted depth to the time-weighted mean quoted spread of stock i in year t, CTHI$_{j,t}$ is the Corporate Tax Haven Index of country j in year t, Haven Score$_{j,t}$ is a measure of how much tax abuse is allowed by country j in year t, Political$_{j,t}$ is the political rating of country j in year t from the Worldwide Governance Indicators, GDP$_{i,t}$ is the GDP per capita of country j in year t, Price$_{i,t}$ is the mean stock price of stock i in year t, Return Volatility$_{i,t}$ is the standard deviation of daily closing quote-midpoint returns of stock i in year t, Volume$_{i,t}$ is the mean daily dollar trading volume of stock i in year t, Market Cap$_{i,t}$ is the market value of equity of company i in year t, and $\varepsilon_{i,t}$ is the error term. Standard errors are adjusted for both heteroscedasticity using Huber-White estimators and clustering by year, addressing potential correlation or heterogeneity within each specific year. The significance levels of the coefficients are denoted by ***, **, and *, indicating statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent variables	Depth	Depth	MQI	MQI
CTHI	-0.1786***		-0.8789***	
	(-7.65)		(-8.09)	
Haven Score		-8.6089***		-42.5228***
		(-7.91)		(-8.39)
Political	0.1335**	0.1749**	0.6760**	0.8818**
	(3.59)	(3.27)	(3.64)	(3.29)
Log(GDP)	-0.0015	-0.0141	-0.0135	-0.0751
	(-0.08)	(-0.63)	(-0.13)	(-0.67)
Price	0.1246***	0.1180***	0.7052***	0.6730***
	(6.34)	(5.08)	(7.72)	(6.06)
Volatility	-1.7904	-1.1350	-9.1437	-5.9041
	(-1.59)	(-0.93)	(-1.58)	(-0.95)
Log(volume)	0.0617***	0.0636***	0.3253***	0.3346***
	(5.59)	(5.75)	(5.97)	(6.11)

Log(MCap)	-0.0479**	-0.0518**	-0.2458**	-0.2651**
	(-3.82)	(-3.81)	(-3.85)	(-3.84)
Constant	-0.0678	0.4399	-0.5019	2.0038
	(-0.32)	(1.52)	(-0.49)	(1.41)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	923	923	923	923
Adjusted R-squared	0.2103	0.2126	0.2166	0.2192

Table 8: Regression Results for Spreads Using Tax Haven Category Scores

This Table shows the OLS results of the following regression model: Quoted Spread$_{i,t}$ or Effective Spread$_{i,t}$ = $\beta_0 + \beta_1$ Category Score$_{j,t} + \beta_2$ Political$_{j,t}$ + β_3 Log(GDP$_{j,t}$) + β_4 (1/Price$_{i,t}$) + β_5 Return Volatility$_{i,t}$ + β_6 Log(Volume$_{i,t}$) + β_7 Log(Market Cap$_{i,t}$) + $\varepsilon_{i,j,t}$; where Quoted Spread$_{i,t}$ is the time-weighted mean quoted spread of stock i in year t, Effective Spread$_{i,t}$ is the trade-weighted mean effective spread of stock i in year t, Category Score$_{j,t}$ (LACIT is an acronym for the Legal and Accounting Complexity Index of a given country in a specific year (i.e., country j in year t); Loopholes & Gaps refers to specific gaps or weaknesses in a country's tax laws or enforcement mechanisms that can be exploited for tax avoidance or evasion in the same country and year; Transparency measures the level of openness in a country's tax and financial systems for the same country and year; Anti-Avoidance measures indicate a country's commitment to combat tax avoidance using legal and regulatory measures in the same country and year, and Double Tax Treaty Aggressiveness refers to agreements between two countries to prevent double taxation of income earned by individuals or companies operating in both countries for the same country and year), Political$_{j,t}$ is the political rating of country j in year t from the Worldwide Governance Indicators, GDP$_{i,t}$ is the GDP per capita of country j in year t, Price$_{i,t}$ is the mean stock price of stock i in year t, Return Volatility$_{i,t}$ is the standard deviation of daily closing quote-midpoint returns of stock i in year t, Volume$_{i,t}$ is the mean daily dollar trading volume of stock i in year t, Market Cap$_{i,t}$ is the market value of equity of company i in year t, and $\varepsilon_{i,t}$ is the error term. Standard errors are adjusted for both heteroscedasticity using Huber-White estimators and clustering by year, addressing potential correlation or heterogeneity within each specific year. The significance levels of the coefficients are denoted by ***, **, and *, indicating statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variables	(1) Quoted Spread	(2) Quoted Spread	(3) Quoted Spread	(4) Quoted Spread	(5) Quoted Spread	(6) Quoted Spread	(7) Effective Spread	(8) Effective Spread	(9) Effective Spread	(10) Effective Spread	(11) Effective Spread	(12) Effective Spread
LACIT	0.0007*** (7.59)					0.0001 (0.95)	0.0003*** (9.12)					-0.0000 (-0.55)
Loopholes & Gaps		0.0007*** (6.67)				-0.0001 (-0.65)		0.0003*** (6.94)				-0.0001 (-0.95)
Transparency			0.0013*** (8.57)			0.0012*** (8.28)			0.0007*** (8.98)			0.0007*** (7.70)
Anti-Avoidance				0.0010*** (5.33)		0.0003 (1.80)				0.0005*** (5.85)		0.0003** (3.02)
Double Tax Treaty					0.0002	0.0002**					0.0001	0.0001*

					(1.38)	(3.25)					(1.45)	(2.65)
Political	0.0064	0.0387***	0.0144***	0.0332***	0.0410***	0.0116*	0.0040	0.0191***	0.0067**	0.0161***	0.0203***	-0.0080**
	(1.15)	(7.27)	(4.76)	(6.26)	(5.71)	(2.44)	(1.23)	(6.16)	(4.31)	(5.40)	(4.94)	(-4.12)
Log(GDP)	-0.0106**	-0.0194***	0.0073*	-0.0124**	-0.0160**	0.0032	-0.0055**	-0.0098***	0.0037*	-0.0063**	-0.0083**	0.0049**
	(-3.11)	(-6.10)	(2.50)	(-4.21)	(-3.60)	(1.05)	(-2.93)	(-5.16)	(2.22)	(-3.51)	(-3.15)	(3.29)
Price	-0.0335**	-0.0325**	-0.0323**	-0.0345**	-0.0336**	-0.0323**	-0.0229**	-0.0223**	-0.0222**	-0.0233**	-0.0229**	-0.0001
	(-3.52)	(-3.14)	(-3.45)	(-3.30)	(-3.23)	(-3.44)	(-3.65)	(-3.36)	(-3.61)	(-3.49)	(-3.43)	(-0.95)
Volatility	0.0147	-0.0080	-0.2025	0.0788	0.0901	-0.1764	0.1706	0.1581	0.0568	0.2000	0.2062	0.0007***
	(0.06)	(-0.03)	(-1.02)	(0.33)	(0.36)	(-0.81)	(1.02)	(1.01)	(0.43)	(1.25)	(1.27)	(7.70)
Log(volume)	-0.0104**	-0.0105**	-0.0101**	-0.0123**	-0.0108**	-0.0107**	-0.0077**	-0.0077**	-0.0075**	-0.0086**	-0.0079**	0.0003**
	(-4.07)	(-3.65)	(-3.99)	(-4.20)	(-3.68)	(-4.07)	(-4.07)	(-3.79)	(-4.05)	(-4.23)	(-3.81)	(3.02)
Log(MCap)	0.0072**	0.0067**	0.0078**	0.0093**	0.0074**	0.0080**	0.0042**	0.0039*	0.0045**	0.0053**	0.0043**	0.0001*
	(3.63)	(2.84)	(3.72)	(4.02)	(3.20)	(3.60)	(3.11)	(2.55)	(3.25)	(3.54)	(2.82)	(2.65)
Constant	0.1814***	0.2708***	-0.0842*	0.1421***	0.2597***	-0.0660*	0.1276***	0.1702***	-0.0102	0.1020***	0.1663***	-0.0152
	(6.41)	(12.04)	(-2.55)	(12.56)	(7.78)	(-2.39)	(7.53)	(11.79)	(-0.76)	(10.84)	(7.90)	(-0.88)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	923	923	923	923	923	923	923	923	923	923	923	923
Adjusted R^2	0.1315	0.1231	0.1483	0.1269	0.1162	0.1479	0.1564	0.1507	0.1730	0.1558	0.1454	0.1730

Demystifying the Value-Added Tax Act implications of fixed property transactions in South Africa

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Abstract

The South African Value-Added Tax (VAT) Act lacks a logical structure for fixed property transactions, making it difficult to teach, apply and administer. This study examines the organisational structure of the VAT Act as an element of legal complexity. The study establishes guidelines to simplify VAT implications for fixed property transactions. Semi-structured interviews were conducted following a literature review. Research shows that improving statute structure, layout and organisation improves readability. This study confirms that the fixed property provisions of the VAT Act complicate the law, increasing compliance and administrative costs. The literature review and interview findings support the development of the guidelines to simplify complex transactions in the VAT Act. The principles in the guidelines include section grouping, headings and subheadings and clear signposting, and in this article these are applied to practically illustrate the VAT implications for fixed property transactions.

Keywords: fixed property, statutory drafting, structure, layout, organisation, design, complexity

1.   INTRODUCTION

'*Knowledge is a process of piling up facts; wisdom lies in their simplification*'.[1]

The *Value-Added Tax Act 89 of 1991* (VAT Act) was implemented in South Africa on 30 September 1991. The VAT Act incorporates specific rules pertaining to fixed property transactions. In order to address the intricate nature of the subject matter, the South African Revenue Service (SARS) released a comprehensive guide titled 'VAT 409: Guide for Fixed Property and Construction for Vendors (Issue 7)' to explain the VAT implications associated with fixed property transactions (SARS, 2023). Since its initial publication in September 1991, coinciding with the implementation of the VAT Act, an additional six updates have been released. The VAT implications associated with fixed property are, however, inherently complex. The presence of scattered sections that must be evaluated for fixed property transactions serves to enhance and complicate the implications associated with such transactions, thereby rendering these implications challenging to instruct, implement and administer.

To illustrate the problem, an analysis pertaining to various transactions involving fixed property are set out in this article. These transactions include purchase or sale of fixed property by a VAT vendor, purchase of fixed property by a connected person and acquisition of second-hand fixed property. The pertinent sections in the VAT Act that necessitate consideration when a VAT registered vendor acquires or disposes of immovable property are as follows: section 1, which defines 'fixed property'; section 9(3)(d), which outlines the specific timing of supply for fixed property; section 16(3)(a)(iiA), which establishes the special value rule for the buyer, and sections 16(4)(a) and (b), which stipulate the special value rule for the seller.

Section 9(3)(d), which pertains to the specific time of supply rule for fixed property, lacks any explicit references to section 16(3)(a)(iiA) governing the special value rule for the buyer, or sections 16(4)(a) and (b) governing the special value of supply rule for the seller. However, sections 16(3)(a)(iiA) and 16(4)(a) and (b) make a reference to section 9(3)(d). The seller's special value of supply rule for fixed property transactions, which is distinct from the general and special value of supply rules outlined in section 10 of the VAT Act, is contained in sections 16(4)(a) and (b). This observation suggests that a logical structure of the VAT Act is lacking.

When a connected person buys fixed property, it is important to consider the specific provisions of the VAT Act. These provisions include section 1, which defines 'fixed property', section 9(3)(d), which deals with the special time of supply for fixed property, and section 10(4), which addresses the special value of supply for connected persons.

Notwithstanding the special time of supply rule applicable to connected persons, the more precise time of supply pertaining to fixed property, specifically the occurrence of either registration or payment, supersedes the time of supply for connected persons as stipulated in section 9(3)(d) of the VAT Act. It is worth noting that section 9(2), which contains the special time of supply rule for connected persons, does not make any

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[1] Martin H Fischer, quoted in Carl C Gaither and Alma E Cavazos-Gaither (eds), *Gaither's Dictionary of Scientific Quotations* (Springer, 2008) 719 (citing Howard Fabing and Ray Marr, *Fischerisms* (CC Thomas, 1944) 2); BrainyQuote, https://www.brainyquote.com/quotes/martin_h_fischer_121669.

reference to section 10(4) in relation to the special value of supply for connected persons. Furthermore, section 10(4) does not contain any instances of circular referencing, such as making a reference to subsection 9(2) of the VAT Act.

The VAT Act contains important provisions that must be taken into account when a VAT vendor purchases second-hand fixed property. These provisions include section 1, which defines 'fixed property' and 'second-hand goods', as well as section 16(3)(a)(ii)(bb) which specifies the special time of supply for second-hand fixed property. Additionally, section 16(3)(a)(ii)(aa) in conjunction with paragraph (b) of the definition of 'input tax' in section 1 addresses the concept of notional input VAT.

In order to gain a comprehensive understanding of the VAT obligations associated with the acquisition of second-hand fixed property, it is imperative to consult external documents such as SARS Interpretation Note 92, which sets out the documentary proof prescribed by the Commissioner, including the taxable supply of fixed property and second-hand fixed property acquired under a non-taxable supply (SARS, 2016). These examples highlight the dispersion of provisions in the VAT Act as well as other documents issued by SARS, which must be considered when assessing a specific transaction or event in the VAT Act, in this instance fixed property transactions. SARS states as follows on its website: 'Interpretation notes are intended to provide guidelines to stakeholders (both internal and external) on the interpretation and application of the provisions of the legislation administered by the Commissioner'.[2] In terms of section 1 of the *Tax Administration Act No 28 of 2011* (SA) (TAA) as read with section 5(1) of the TAA, a 'practice generally prevailing' is 'a practice set out in an official publication regarding the application or interpretation of a tax Act'. An 'official publication' is defined in section 1 of the TAA to specifically include an interpretation note. Put differently, interpretation notes are not law and are, as a result, not binding in determining the meaning of a provision. This assertion reinforces the contention that there is a pressing necessity for a resolution to the research problem, namely the complexity of the VAT Act; specifically, the legislation should be unambiguous, thereby reducing the reliance on SARS' guides and interpretation notes. The efficacy of SARS' guides and interpretation notes in resolving disputes and withstanding legal challenges is called into question, as demonstrated in the case of *Marshall NO v Commissioner for the South African Revenue Service* (CCT 208/17) [2018] ZACC 11 (Constitutional Court of South Africa). Taxpayers are advised to exercise caution when relying on interpretation notes and guidance provided by SARS. The confirmation of the taxpayer's or SARS' interpretation of the relevant tax legislation may be achieved by referencing the corresponding interpretation note or guide, provided that such an interpretation aligns with an objective and independent understanding of the legislation and is mutually accepted by both SARS and the taxpayer.

The examples serve to demonstrate the quantity of sections that necessitate evaluation in the context of fixed property transactions. The absence of a clear manifestation of the concept of grouping sections together becomes apparent when examining the VAT implications associated with fixed property transactions.

The objective of this study is to provide assistance in the organisation of the fixed property transactions of the VAT Act in South Africa, utilising guidance derived from

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[2] See SARS, 'Interpretation Notes' (last updated 8 August 2023), https://www.sars.gov.za/legal-counsel/interpretation-rulings/interpretation-notes/ (accessed 18 May 2024).

existing literature and semi-structured interviews. The primary objective is to show how these guidelines can be implemented in order to effectively demonstrate how the layout, design and structure of the VAT Act can be enhanced with regard to fixed property transactions, thereby facilitating simplification.

Section 2 of the article presents a concise overview of the literature review pertaining to tax complexity. In addition, it discusses empirical studies that provide evidence of the correlation between an incoherent tax structure and the presence of tax complexity. Furthermore, this section offers guidelines for simplifying the tax structure. Section 3 provides a description of the research methodology utilised in this study, which is followed by section 4, which outlines the key findings derived from the interviews and analysis. The conclusion is presented in section 5.

2.   LITERATURE REVIEW

This study aims to elucidate the theoretical underpinnings of tax complexity. In this context, the literature review commences with a discussion of existing literature pertaining to enhancements in legal complexity, with particular emphasis on logical structure. The review then delves into specific literature findings regarding the presence of incoherent structure in VAT legislation, both on an international scale and in relation to the South African VAT Act. Lastly, the review encompasses a comprehensive analysis of general literature concerning guidelines for logical structure in the realm of legal drafting.

2.1   Tax complexity

The concept of tax simplification pertains to the endeavour of enhancing the comprehensibility of the tax system (Tran-Nam, Oguttu & Mandy, 2019). Consequently, the determination of the concept of tax simplification is contingent upon the constituents of tax simplicity, or conversely, tax complexity. The concept of tax complexity, despite its extensive utilisation, lacks a universally agreed-upon definition, measurement or consensus. Tax complexity arises as tax legislation becomes increasingly intricate (Richardson & Sawyer, 2001). There are, however, different approaches to characterising tax complexity. Some authors describe tax complexity based on fundamental attributes (Slemrod, 1989), while others describe it using the process approach (Tran-Nam & Evans, 2014; Ulph, 2015).

Tran-Nam (1999) proposes a methodology that differentiates between tax complexity that adheres to legal frameworks (formal) and tax complexity that has economic implications (effective). Legal complexity refers to the level of difficulty associated with reading, comprehending, interpreting and applying a specific tax statute in various practical situations. Hence, the definition provided establishes that legal simplicity holds significant importance for academics, professional tax lawyers, tax advisors and judges.

Tran-Nam (1999) posits that the level of intricacy inherent in tax legislation is contingent upon two key factors: the linguistic elements employed to articulate the law, such as the use of plain language, grammatical accuracy, sentence length, active voice and logical structure; and the substantive aspects of the law, including ambiguity, exemptions, rebates, concessions and annual modifications. The present study primarily concentrates on the examination of logical structure, a constituent of legal complexity, as articulated in this description.

2.2   General literature: legal complexity and logical structure

The 1994 Organisational Review of the Inland Revenue Department (Sir Ivor Richardson, chair) and the Consultative Committee on the Taxation of Income from Capital (Arthur Valabh, chair) (also known as the Valabh Committee) were the primary drivers of the rewrite project in New Zealand (Sawyer, 2016). One of the recommended key features in the Valabh Committee's 1991 report (Consultative Committee on the Taxation of Income from Capital, 1991) was the reorganisation of the legislation (namely the *Income Tax Act 1976* (NZ) and the Inland Revenue Department Act 1974 (NZ)) into a more logical and coherent scheme in the New Zealand rewrite project. The Valabh report dealt with key reforms to the scheme of tax legislation (Smaill, 2021, p. 2). Richardson and Sawyer (1998) examined the New Zealand government's commitment to reorganising and eventually updating income tax legislation in 1992. Their study examined how the reorganisation affected the length of average sentences. Despite the fact that the rewrite was only partially complete, the results of this study were encouraging for the New Zealand government's sentence length goals. Before the completion of the rewrite project, Pau, Sawyer and Maples (2007) conducted a further empirical analysis using readability measures to examine New Zealand's rewritten sections in the *Income Tax Act 2004* and other tax materials, such as Tax Information Bulletins and binding rulings. Even though the rewrite project was not complete at the time, the readability indexes demonstrated that the *Income Tax Act 2004* was much easier to read than the *Income Tax Act 1994* (and the *Income Tax Act 1976*). Saw and Sawyer (2010) conducted an evaluation of the effectiveness of the New Zealand rewrite project by analysing the readability levels of the New Zealand Income Tax Act and other related documents. The findings of a study conducted by Tan and Tower (1992) were compared to those of Saw and Sawyer (2010), revealing that New Zealand's efforts to revise tax regulations were effective in terms of enhancing readability (Sawyer, 2013). The New Zealand Income Tax Act underwent a series of revisions, beginning with the restructuring of the *Income Tax Act 1976* and the *Inland Revenue Department Act 1974*. These changes ultimately resulted in the enactment of the *Income Tax Act 1994*, along with the *Tax Administration Act 1994* and the *Taxation Review Authorities Act 1994*. Therefore, the reorganisation of the statutes improved their readability.

The Office of Tax Simplification (OTS) was originally established in the United Kingdom in 2010 for a duration of five years. Its primary objective was to conduct an in-depth examination of different facets of the tax system and provide comprehensive recommendations for both immediate and long-term improvements. It was explicitly instructed to refrain from engaging in policy matters and to formulate suggestions that would not have an impact on the overall revenue generated by the tax system. The OTS was officially established as a permanent fixture within the tax framework of the United Kingdom in 2015, obtaining comprehensive legal authorisation (Dodwell, 2021). The OTS has been dissolved subsequently (OTS, 2022). Sawyer (2023, pp. 1-2) argues that the decision to disband the OTS is based on misinformation and is likely to be regressive, potentially undermining the significant progress achieved by the OTS.

The OTS devised a complexity index with the aim of facilitating the examination of various dimensions of the tax code. The OTS then concentrated its endeavours on areas that yielded the highest level of benefit. The development of the index occurred gradually and underwent multiple iterations before ultimately being refined to encompass 10 distinct factors (OTS, 2017). One inquiry raised regarding the readability of a provision pertained to its standalone comprehensibility as opposed to its potential

reliance on extensive cross-referencing and validation of definitions found in other sections of the code. There is a contention that if the gathering of pertinent information necessitates substantial exertion, the rating should be subjected to a supplement. Therefore, the OTS considered the distribution of sections and cross-referencing to definitions when determining the complexity index. The United Kingdom implemented a reform initiative aimed at restructuring legislation through the use of contemporary language and concise sentences. In addition, this initiative provided coherent definitions and explicit cross-references to enhance clarity and comprehension (Budak & James, 2018).

2.3   Specific literature findings: incoherent structure of the VAT Act

The Tax Review Committee (Judge D Davis, chair) (Davis Tax Committee) (2018, p. 91, emphasis added) discusses the simplification of the corporate tax system in South Africa:

> One radical suggestion has been that the Act should be *re-written and re-structured* in its entirety. *Such a rewrite would undoubtedly result in a rearrangement of the provisions of the Act into a more coherent logical sequence*. This may enhance the efficiency of the compliance environment of taxpayers.

No published study has indicated that the legal complexity found in South Africa's Income Tax Act is also found in the VAT Act, except for Young (2021) who discussed the logical structure of the VAT Act in her study. The purpose of her study was to explore methods to streamline the South African tax system.

Young (2021, p. 8) provides an analysis of the logical structure inherent in the South African VAT Act:

> Cross-references between sections also abound, making the interpretation of the sections extremely complex. Section 16(3) of the VAT Act includes fourteen subsections, some with numerous sub-subsections and provisos, each of which is cross-referenced to a different section in the Act.

2.4   General literature: guidelines on logical structure

The logical arrangement of a statute contributes to its comprehensibility (Thuronyi, 1996). A well-structured statute facilitates the identification of relevant information and the exclusion of irrelevant sections for a particular taxpayer, thereby aiding in the process of locating answers to specific inquiries. To ensure organisational coherence, it is imperative to group provisions pertaining to the same topic together. Moreover, it is imperative that every subdivision of the statute, including individual sections, be organised in a coherent and systematic manner (Dale, 1977; Thuronyi, 1996). The legislative scheme impacts the quality of legal drafting by reflecting an ideal representation of how well an Act of parliament should be structured and written in terms of substance and form (Crabbe, 1993). The legislative scheme focuses on the logical progression of different topics and the organised symmetrical layout of sections. In academic discourse, it is customary to commence by presenting the overarching principle, subsequently delving into any deviations or particular regulations that pertain to distinct instances. In a literature study conducted by Kimble (1996-1997), an examination of the use of plain English in legal writing was undertaken. As a result of this investigation, a series of recommended guidelines was proposed, encompassing the

organisation of related concepts and the arrangement of components in a coherent and rational manner.

One instance of inadequate organisation can be observed when a substantial statute lacks proper division into sections, thereby compelling the reader to conduct a comprehensive search throughout the entire statute in order to locate the pertinent provisions (Thuronyi, 1996). According to Thuronyi (1996), a tax statute that is well written often contains various cross-references, both explicit and implicit. Explicit cross-references refer to specific sections or provisions in the statute, while implicit cross-references involve the use of terms that are defined elsewhere in the statute.

Modifying legislation structurally can make it more visually appealing and easier for readers to understand (Hunt, 2002). Recommendations in this regard involve organising provisions in a sequential order and grouping together provisions with the same subject (Hunt, 2002, p. 25).

According to Petelin (2010, pp. 212-213), a recommended approach to enhancing clarity in writing involves initially constructing a profile of the target audience and prospective readers. Petelin (2010) provides a comprehensive set of guidelines categorised under the headings of 'substance and structure' and 'style (verbal and visual)'. According to Petelin (2010), substance and structure encompass a coherent and logical arrangement of information, with a suitable sequence that follows the order of presenting general information before specific details and exceptions. This should be accompanied by the use of appropriate transitional words and phrases (Petelin, 2010, p. 213). In order to attain coherent and well-organised content, it is imperative to structure the text based on the reader's perspective rather than that of the author. According to Cutts (2013), it is essential for readers to have the ability to effectively navigate the text, locate the specific information they are seeking and comprehend it.

The implementation of simple tax legislation is necessary to ensure that taxpayers are able to understand and adhere to the regulations accurately and in a manner that is economically efficient (American Institute of Certified Public Accountants (AICPA), 2017). In summary, the recommendations for enhancing the logical structure in legal drafting encompass the following aspects: grouping, use of headings, explicit cross-referencing and tailoring the writing to suit the intended audience.

3.   RESEARCH METHODOLOGY

This study consisted of two distinct phases, namely a comprehensive review of existing literature and semi-structured interviews. The research design followed a sequential approach, wherein Phase 1 involved a literature review that partially influenced the formulation of the interview questions used in Phase 2. The literature review examined empirical studies that have been conducted on the topic of incoherent legislative structure and guidelines for tax simplification to a logical structure. The interviews sought perspectives from individuals who were affected by the research issue regarding their suggestions for improvements to the logical structure as a component of legal complexity in the VAT Act. The existing literature was compared to the findings derived from the interviews conducted.

The retrieval of information and documents was achieved by conducting online searches using search engines such as Google Scholar and the University of Johannesburg's databases, specifically UJoogle, Jutastat Online and Lexis Library. In addition to

conducting online searches, the authors also explored the websites of reputable accountancy firms and governmental entities such as SARS and the National Treasury, as well as international organisations such as the Organisation for Economic Co-operation and Development (OECD) and the International Monetary Fund (IMF). The search incorporated various keywords, such as Value-Added Tax Act, unstructured, complexity, difficulty, simplicity, scattered, dispersed, uncertainty and ambiguity.

Primary data were collected through semi-structured interviews from participants who had direct experience working with the VAT Act. Due to the intricate nature of the research problem and the limited representation of experts in the stakeholder cohorts, interviews were deemed more advantageous compared to surveys. The research inquiry encompassed legal complexity, thereby necessitating the use of interviews as a suitable method for data collection, as suggested by Babbie and Mouton (2001).

The study employed expert sampling as a purposive sampling technique, which involves gathering data from individuals possessing specialised knowledge (Rai & Thapa, [2015]). The selection of the sample consisted of VAT specialists from both academia and industry who had direct experience of and engagement with the VAT Act. The authors employed their expertise and experience to exercise judgment in this process.

The sample of interviewees consisted of four stakeholder groups, each selected for specific reasons: (i) tax academics specialising in VAT instruction at a postgraduate level in the context of a South African university, where the focus was on the academic perspective, exploring the difficulties encountered in the process of teaching VAT; (ii) advisors who serve on the VAT Sub-committee of the South African Institute of Chartered Accountants (SAICA) and/or the VAT Committee of the South African Institute of Taxation (SAIT), with the consent of these professional bodies, the advisors being selected due to their expertise and practical experience, which allowed them to provide valuable perspectives on the subject matter; (iii) SARS personnel employed in the VAT department working with administration and interpretation of the Act, the individuals being chosen with the approval of the SARS Commissioner, and (iv) with permission from the Head, Tax and Financial Sector Policy at the National Treasury, individuals who were involved in the development of the VAT Act, to offer their perspectives on the underlying reasoning behind the present design, arrangement and structure of the VAT Act, as well as to propose potential areas for enhancement.

The inclusion of these four stakeholder groups was based on the presence of VAT experts in each group who engaged in regular work and interactions pertaining to the VAT Act. The individuals involved in this study demonstrated a comprehensive grasp of the research problem; specifically, the interviewees possessed a close proximity to the matter under investigation, namely the logical structure of the VAT Act. The judiciary was regarded as a stakeholder but was ultimately excluded due to their limited daily engagement with the VAT Act, which hinders their comprehensive understanding of its overall structural concerns. Instead, judges primarily focus on the interpretation of the VAT Act.

SAICA states that it is 'the leading accountancy body in South Africa'.[3] SAIT 'is the largest of the professional tax bodies in South Africa', and endeavours 'to enhance the tax profession by developing standards in education, compliance, monitoring and

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[3] SAICA, 'About us', https://www.saica.org.za/about (accessed 25 May 2024).

performance'. According to SAIT,[4] the institution 'contributes to the development of world class professional practises and people'.

Table 1 presents a summary of the number of interviews conducted with each of the four stakeholder groups.

Table 1: Summary of Interviews with Each Stakeholder Group

Stakeholder group	Number of interviews
Academics	7
Advisors	5
SARS	2
National Treasury	1
Total	**15**

The collection of detailed demographic information from the participants was deemed unnecessary for the purposes of this study. A duration of one hour was allocated for each interview. The shortest interview lasted 45 minutes, while the longest lasted one hour. The compilation of essential inquiries comprised a total of 10 questions. A subset of primary inquiries encompassed a series of additional questions. The primary focal points of the inquiries encompassed issues related to the lack of coherence in structure, use of plain language, sentence length, employment of active or passive voice, presence of ambiguity, exemptions such as rebates and concessions, amendments, economic policy, best practices and potential solutions. The primary objective of this research, which was a component of a broader study, was to examine the issue of the incoherent structure in the context of fixed property transactions, with a specific emphasis on identifying best practices and proposing potential solutions. The predominant language spoken by the individuals participating in the interviews was either English or Afrikaans. Special attention was given to formulating questions that were unambiguous and easily comprehensible. The preservation of confidentiality was ensured. Despite the authors' adherence to a chronological order in posing questions, the interviewees' responses exhibited a tendency to deviate from the immediate query, as the discussions occasionally underwent shifts in focus. The authors granted permission for this action, as it facilitated the acquisition of comprehensive qualitative data.

The interviews were transcribed by two professional transcribers. In order to uphold the confidentiality of the individuals being interviewed and the content of the interviews,

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[4] SAIT, 'About us', https://www.thesait.org.za/page/About_SAIT (accessed 25 May 2024).

both transcribers entered into confidentiality agreements. The accuracy of all transcriptions was verified by the authors through a comparison with the interview recordings. The initial recordings and corresponding transcriptions will be securely stored for a duration of five years, after which they will be destroyed.

The data were analysed in the following manner: transcriptions were subjected to coding, where codes were subsequently organised into categories, and these categories were further consolidated into overarching themes, as recommended by Bryman and Bell (2014). The data management tool employed by the authors was ATLAS.ti Windows (Version 22.2.5.0). Prior to the commencement of data collection and interview procedures, ethical clearance and approval were obtained from the respective institutions of the participants. In addition, the participants were required to provide their informed consent in order to participate in the research study.

4.   FINDINGS

The interviewees presented examples to substantiate the claim that the VAT Act has an incoherent structure. The analysis in this section of the article is presented in the following manner: because fixed property was mentioned by most of the interviewees as an example to illustrate the scattered incidence of sections in the VAT Act, and these transactions are a common daily occurrence, the section starts with the results of a further analysis of fixed property in the VAT Act informed by the literature. This section then examines the viewpoints expressed by the interviewees regarding the lack of logical structure of the VAT Act. This is followed by examples to demonstrate the consensus among the interviewees that the VAT Act exhibits an incoherent structure and the scattered nature of the relevant sections. The section ends with suggestions by the interviewees that can serve as guidelines to simplify the VAT Act.

4.1   Fixed property: analysis

There are three specific scenarios that fell under the scope of this analysis. First, the standard rule was considered. Secondly, transactions between connected persons were examined, with a focus on cases where the open market value rule is applicable. Lastly, the analysis included second-hand fixed property, specifically addressing the claiming of notional input tax. The VAT implications and relevant sections of the legislation pertaining to fixed property transactions are depicted in Figure 1.

Fig. 1: VAT Implications in Relation to Fixed Property
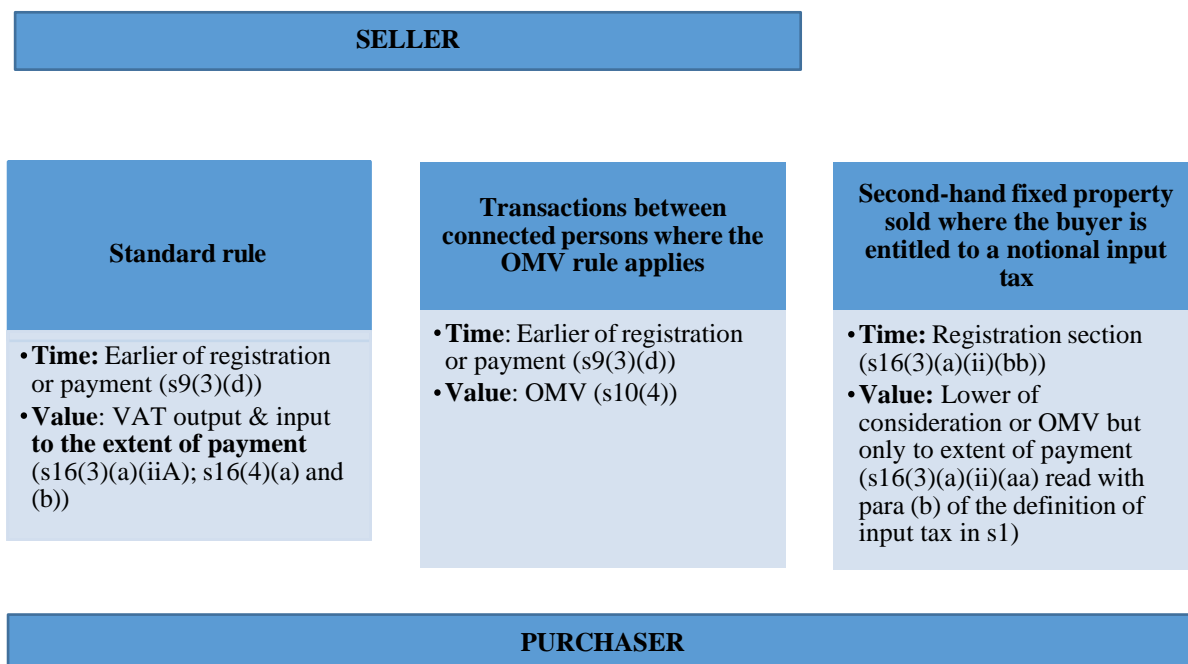
OMV = open market value as defined in section 1 of the VAT Act, read with section 3

According to section 1 of the VAT Act, the term 'goods' encompasses fixed property. Therefore, fixed property as defined includes land and real rights in such land, unit, share or time-sharing interest.

4.1.1   Standard rule

Summary of the VAT implications

Irrespective of the accounting method they have chosen, vendors who engage in taxable supplies of fixed property are required to report output tax based on the amount of consideration received for the supply (SARS, 2022). In a similar vein, the recipient is eligible to claim a deduction for input tax, but only to the extent that payment of the consideration has been made. This means that these supplies are treated as if they were on a payment basis, as long as the time of supply has been initiated.

The law

The relevant sections in the VAT Act that pertain to the sale and acquisition of fixed property by a VAT vendor are section 1, which defines 'fixed property', section 9(3)(d) which deals with the special time of supply for fixed property, section 16(3)(a)(iiA) which outlines the special value rule for the buyer, and section 16(4)(a) and (b) which specify the special value rule for the seller.

Interpretation of the standard rule

At the outset, it must be mentioned that the transfer of immovable property is either subject to VAT or transfer duty (Franzsen & Van de Merwe, 1996). The transaction is subject to VAT in the case where the seller is a registered VAT vendor who transfers immovable property in the course and furtherance of its enterprise activities. The term 'fixed property' as defined in section 1 of the VAT Act refers to any property or real right associated with it. This definition applies when the property is transferred. The transfer of ownership of immovable property (or any right in immovable property) is done by way of registration in a deeds registry. The transfer of immovable property is regulated by the *Alienation of Land Act, 1981*. As mentioned, such alienation is either subject to transfer duty in terms of the Transfer Duty Act, or VAT. The parties cannot choose which Act applies. The VAT Act applies only where the requirements in the VAT Act are met. The time of supply for fixed property transactions is the earlier of registration or on the date when any payment related to the consideration is made. This is outlined in sections 9(3)(d), 16(4)(a) and 16(4)(b). Case ITC 1623, 59 SATC 342 confirmed that a right to the deduction of input tax arises at the time of 'supply'. For fixed property, section 9(3)(d) specifies that the 'supply' occurs on the date of registration of transfer. In Case ITC 1622, 52 SATC 334, it was necessary for the Court to establish the timing of the disposal (not the time of supply) of fixed property to determine if it constituted the disposal of a business as a going concern. In 1992, the vendor obtained the right to buy specific fixed property. The option was executed, and the property was transferred in 1994. The vendor argued that the disposal of the fixed property to took place in 1992 when the option was initially obtained. However, the Court disagreed, stating that 'the grant of an option does not dispose of anything at all. An option is no more than an offer' (52 SATC 334, p. 337).

The aforementioned condition does not encompass a 'deposit', as it is not considered a form of 'any payment' until the seller can utilise it as a means of payment for the provision of goods or services. In a similar vein, it should be noted that a payment held in trust by an estate agent or attorney does not qualify as a payment made, as the seller is unable to utilise the funds to fulfil their existing obligation at that particular moment (SARS, 2022). This is because the seller becomes entitled to the money upon registration of the property in the purchaser's name at the deed office. At this stage, the parties have reciprocal personal rights. That is, the seller may demand payment after registration in the purchaser's name, and the purchaser may demand delivery by way of registration of the property in its name.

Irrespective of the accounting basis under which VAT vendors are registered, vendors who engage in the sale of fixed property and provide taxable supplies are obligated to declare output tax only to the extent that they have received consideration for the supply (SARS, 2022). In a similar vein, when the time of supply has been initiated, the recipient is only permitted to claim input tax deductions up to the amount of consideration that has been paid. This means that these supplies are treated as if they were on a payments basis, as stated in section 16(3)(a)(iiA). It is important to highlight that section 9(3)(d), pertaining to the special time of supply for fixed property, does not include any explicit references to section 16(3)(a)(iiA), which governs the special value rule for the buyer, or section 16(4)(a) and (b), which govern the special value of supply rule for the seller. Nevertheless, sections 16(3)(a)(iiA) and 16(4)(a) and (b) incorporate a cross-reference to section 9(3)(d). It is important to highlight that while the general and special value of supply rules are located in section 10 of the VAT Act, the seller's special value of supply

rule for fixed property transactions can be found in sections 16(4)(a) and (b). This observation serves to emphasise the lack of logical coherence in the design of the VAT Act.

It should be noted that in cases where the special value of supply rule is applicable to connected persons, the standard rule for fixed property transactions is not applicable. In this particular scenario, the specific value supply rule pertaining to connected persons will be given priority over the general rule governing fixed property transactions.

4.1.2   Transactions between connected persons

The VAT Act encompasses overarching rules pertaining to the timing and valuation of supplies. Connected persons are subject to specific rules regarding the timing and valuation of supply. The application of a unique provision in the supply rule is primarily activated in situations where connected persons engage in transactions that do not adhere to the principle of arm's length dealing.

Summary of the VAT implications

In cases where there is a sale of fixed property to a connected person, the aforementioned standard rule for transactions involving fixed property does not apply. In this particular scenario, the specific value of supply rule pertaining to connected persons will be given priority over the general rule governing fixed property transactions.

The law

The relevant sections of the VAT Act that pertain to the sale of fixed property to a connected person are section 1, which defines 'fixed property', section 9(3)(d), which specifies the special time of supply for fixed property, and section 10(4), which outlines the special value of supply for connected persons.

Interpretation of transactions between connected persons

A 'connected person' is defined in section 1 of the VAT Act and includes, but is not limited to, natural persons and their relatives; a company and any other company that has control or the shareholders that are substantially the same (therefore a company that has control over its subsidiary companies); a company and any of its branches or divisions that are separately registered for VAT; a company and any natural person where that natural person owns more than 10% of the shares or voting rights in the company; a close corporation and any of its members; a partnership and any of its members, or a trust and any beneficiary.

The general time of supply rule, as described in section 9(1) of the VAT Act, is replaced by a more specific time of supply rule for connected persons, as outlined in section 9(2) of the VAT Act. Under this rule, if goods are to be removed, the date of removal is considered the time of supply. For other goods, the time of supply is when the goods are made available to the buyer. For services, the time of supply is when the services are performed.

The special time of supply rule for connected persons does not apply (section 9(2)(a), first and second provisos) where the time of supply is triggered by the general time of supply rules on or before the date that a return was submitted, or where the whole or

part of consideration cannot be determined at the time of supply to be made to a connected person who is entitled to a full input tax deduction.

It is noteworthy that, notwithstanding the aforementioned special time of supply rule applicable to connected persons, the more precise time of supply pertaining to fixed property, namely the earlier of registration or payment, supersedes the time of supply for connected persons (as stipulated in section 9(3)(d) of the VAT Act). The general value of supply rule extends to connected persons. However, a more precise and specialised rule regarding the value of supply is applicable to connected persons, where no payment is received, or the payment is lower than the market value, or the payment cannot be determined at the time of the supply. In such cases, if the purchaser is not entitled to a complete input tax deduction on the goods or services acquired, this rule is outlined in section 10(4) of the VAT Act. If the scope of the section is fulfilled, it can be inferred that the value of supply corresponds to the prevailing open market value. The special value supply rule between connected persons does not extend to cases where the supply in question constitutes a fringe benefit granted to an employee.

It is noteworthy that section 9(2), which pertains to the specific timing of supply for connected persons, does not explicitly reference section 10(4), which governs the specific value of supply for connected persons. Furthermore, it is important to note that there is an absence of circular reference in the given context. For instance, there is no reference made back to section 9(2) of the VAT Act in section 10(4).

In summary, when there is a sale of fixed property between connected persons, and the special value of supply rule is applicable as outlined in section 10(4) of the VAT Act, the value of the transaction is determined based on the open market value. The special time of supply rule for fixed property will continue to be in effect, specifically the earlier of registration or payment as stated in section 9(3)(d) of the VAT Act.

Irrespective of whether the transfer is between connected or unconnected persons, the purchaser can claim input VAT only to the extent that the purchase price was paid. Thus, the amount on the invoice (the deed of alienation) is the base line amount. However, input VAT is limited to the extent that this amount has been paid/extinguished. Where the parties are connected, and the amount in the deed of alienation is not at arm's length, the market value is used. Again, in this case, input VAT can be claimed to the extent that this amount has been extinguished (see sections 16(4)(a)(ii) and 16(4)(b)(i); De Koker & Badenhorst, 2024; ITC 1622, 52 SATC 334).

Immovable property (i.e., land) is due its nature considered second-hand as it has been previously owned. In the case of the sale of a second-hand fixed property, including land, where the buyer has the right to claim a notional input tax, it is necessary to adhere to the notional input tax rules, which are subject to the same requirements as in the case of all fixed property transactions, so that the input tax can only be claimed once the property has been registered.

Next, the acquisition of second-hand fixed property, in which a notional, i.e., hypothetical, input tax credit can be claimed, is discussed.

4.1.3   *Second-hand fixed property: notional input tax*

Summary of the VAT implications

On the acquisition of second-hand fixed property from a non-VAT vendor, i.e., where transfer duty is applicable, the purchaser is entitled to a notional input tax.

The law

The relevant sections of the VAT Act that require consideration are section 1, which provides the definition of 'fixed property' and 'second-hand goods'; section 16(3)(a)(ii)(bb), which outlines the special time of supply for second-hand fixed property; and section 16(3)(a)(ii)(aa) in conjunction with paragraph (b) of the definition of 'input tax' in section 1, which pertains to notional input VAT.

In addition to the sections in the VAT Act that must be evaluated, SARS Interpretation Note 92 must also be consulted, which sets out the documentary proof prescribed by the Commissioner, including the taxable supply of fixed property and second-hand fixed property acquired under a non-taxable supply (SARS, 2016).

Interpretation of second-hand fixed property

The definition of 'goods' in section 1 of the VAT Act includes second-hand goods. Second-hand goods (including real property) are previously owned and used items (section 1 of the definition in the VAT Act of 'second-hand goods'). Certain items, such as animals, gold, gold coins, gold-containing goods and 'old order' mining rights, are excluded from the definition.

For the acquisition of second-hand goods pursuant to a non-taxable supply, vendors may only deduct the notional input tax to the extent that they have paid the consideration for the supply, irrespective of whether they are registered on the invoice basis or the payments basis (SARS, 2022). The notional input tax is claimed in accordance with section 16(3)(a)(ii)(aa), when read in conjunction with subsection (b) of the definition of 'input tax' in section 1 of the VAT Act, i.e., on the lower of the consideration or the open market value, both of which are defined in the VAT Act. Before 10 January 2012, the notional input tax deduction for fixed property purchased from a non-vendor was restricted to the amount of transfer duty that was paid. Vendors can now claim a notional input tax deduction under the VAT Act, calculated based on the tax fraction of the consideration paid or the property's open market value (National Treasury, 2012, citing the Taxation Laws Amendment Act No. 22 of 2012).

If the second-hand goods are fixed property, the vendor cannot claim the input tax until the transfer of the fixed property has been recorded in a deeds office (section 16(3)(a)(ii)(bb) of the VAT Act). Consultation must also be made with SARS Interpretation Note 92, which outlines the documentary evidence prescribed by the Commissioner, such as the taxable supply of fixed property and second-hand fixed property acquired under a non-taxable supply (SARS, 2016).

In summary, it is necessary to assess various sections scattered throughout the VAT Act when examining the consequences of fixed property transactions, contingent upon the particular circumstances. Moreover, it is apparent that the fixed property transactions lack adherence to the principle of grouping, as well as explicit cross-referencing and the inclusion of headings.

4.2 Incoherent structure: VAT Act

The individuals who were interviewed but did not have regular involvement with the VAT Act unanimously expressed their opinion that the VAT Act exhibits a lack of coherence in its structure, resulting in complexity. The following was stated by an academic in relation to the incoherent structure:

> You almost don't start with the Act when you start preparing for VAT. You start with other documents. You go to textbooks. You go to the SARS guide … to get the information that you need. Then you might go to the Act and even then, you don't have the comprehensive picture. You have to look at other sources as well and the risk is always there that you are not aware that it's there and this is for us that are people that deal with taxes and Acts every single day. So, if it's difficult for us to do it, I can't imagine for a person who is just a businessperson, and their specialty is not in law. So, it's definitely a big problem.

Conversely, the interviewees who possessed expertise in VAT did not perceive the incoherent structure as a significant factor contributing to complexity. The lack of concern regarding the dispersed sections can be attributed to their significant years of professional experience with the VAT Act, which has allowed them to develop a natural familiarity with the various sections. An interviewee from the advisors group made the following comment in relation to the incoherent structure:

> I've never thought of the VAT Act as complex or disorganised, to be honest, to put it out there, because the VAT Act as you know has been around since '91 … based on New Zealand … what I do think is that … there is definitely scope to do some adjustments to the structure …

Given their expertise in the VAT Act and their inherent involvement in the VAT Act, it was expected from the outset that participants from the advisors group might hold varying viewpoints regarding the scattered sections, thereby recognising the potential bias in their opinions (see Erard, 1993; Mills, Erickson & Maydew, 1998; Newberry, Reckers & Wyndelts, 1993). It was also expected from the outset that interviewees belonging to the developers group might express unfavourable views regarding the incoherent structure of the VAT Act, perceiving it as a form of criticism. An interviewee from the developers group expressed the following sentiment in relation to the incoherent structure:

> I haven't found it to be that difficult to understand being an attorney … because I've been in VAT for so many years that I sort of know where to find things … I do see […] a point that certain cross-references are not there …

According to Cutts (2013), it is essential for text to be structured in a manner that is logically organised from the reader's perspective. It is imperative that readers possess the ability to effectively navigate through the text, locate desired information and comprehend its content. It is imperative for specialists, drafters and taxpayers alike to be able to read and understand the law.

The interviewees identified three specific examples, namely VAT adjustments, imported services and fixed property transactions, to effectively demonstrate the dispersed incidence of the sections in the VAT Act in relation to a singular transaction

or event. The primary emphasis of this article is on fixed property transactions, thereby excluding an evaluation of VAT adjustments and imported services.

4.3   Guidelines for an improved logical structure in the VAT Act

The authors questioned the interviewees about the design considerations that must be taken into account when designing a solution for the incoherent structure. The concept of grouping with headings was mentioned by interviewees for highly complex transactions such as fixed property.

Regarding grouping, an interviewee from the academics group made the following comment:

> [W]e have a general rule and then a grouping per concept and like fixed property … you can also group vouchers and coupons and the fringe benefits you can group, and I made a comment here, it's like the Seventh Schedule. We have the Seventh Schedule now where we group these different sort of fringe benefits and in that the value of supply and things are talked about under the one heading. So, the grouping per concept or theme, I think that was my first thought on how to simplify it.

An interviewee from the academics group further made the following statement during the interview:

> [W]hen I teach fixed property I tend to have to structure my notes in a way where I tie together the various sections and put them in one slide or one diagram so that the students can see how it all fits in together consolidated, because I think if I don't do that exercise of putting [it] together for them in terms of what is the type, time and value for each one of those different fixed property scenarios, I think that they would struggle trying to do that on their own by just working through the legislation.

An interviewee from the advisors group further commented as follows:

> I mean even the properties [of] which part of it sits in [section] 16 then you first get the time of supply and then you go to [section] 16, so it is a bit laborious almost because you [have] got to read all the sections, it's almost like you [have] got to do a search for fixed property and say oh where does it get in the law as opposed to in one place but then you deal with the time and the value separately …

Regarding headings, one interviewee from the advisors group provided the following insight:

> [Y]ou can even have headings that say you know, registrations, accounting for VAT … because that's actually how the textbooks set out the various sections of the law, so I think it's a brilliant idea to do that … you would find the section in a certain place almost because you would know where to go and find it … and then you can deal with special cases … [for example] you can even after each section have like a special … section that deals with special cases.

An interviewee from the developers group made the following comment in relation to missing cross-references: '[s]ometimes they write the time and value of supply in that section … and sometimes they don't'. There are numerous cross-references between

sections of the VAT Act, making interpretation of the sections exceedingly complex (Young, 2021). The UK Tax Law Rewrite initiative, undertaken at the same time as the NZ Rewrite project, aimed to reorganise UK tax legislation by using clear signposting (Budak & James, 2018). When calculating the complexity index, the OTS considered the distribution of sections, i.e., cross-referencing to definitions (OTS, 2017). A well-written tax statute contains explicit and implicit cross-references (i.e., the use of a term whose meaning is defined elsewhere in the statute) (Thuronyi, 1996).

The interviewees, therefore, expressed their agreement with the concept of grouping and use of headings, which is also substantiated by existing literature (see Kimble, 1996-1997; Petelin, 2010; Thuronyi, 1996). The authors submit that these guidelines, which consist of grouping with headings and cross-referencing, are appropriate for fixed property transactions due to the legal team's consideration of the VAT implications when drafting legal contracts for such transactions.

One of the present authors sent the interviewees the guidelines in order to collect additional qualitative data, i.e., the interviewees' opinions and any suggested improvements (see Bryman & Bell, 2014). Even though the interviewees were only asked to respond to the author's email if they had additional comments or suggestions, nine out of 15 interviewees responded to the request for suggestions and/or improvements. Five of the nine participants were academics, three were consulting professionals (from the advisors group) and one was from the National Treasury. The interviewees made no additional modifications to the guidelines.

4.4 Application of the guidelines

The authors applied the guidelines for grouping and introducing headings with cross-referencing to fixed property transactions as an example of how to improve the layout, design and structure of the sections (see Figure 2). Even though SARS issued the VAT 409 guide, the focus of this guide is primarily on vendors who are involved in transactions concerning the development, construction and selling of fixed property (SARS, 2022). As such, the guide does not display the grouping of sections that must be evaluated in relation to the three distinct scenarios when considering the VAT implications in relation to fixed property transactions.

Fig. 2: Improving the Logical Structure of the VAT Act in Relation to Fixed Property

[VAT 409]
1. Fixed property: Standard rule
Definition: Section 1, definition of "fixed property"
Seller
Time of supply: s9(3)(d)
Value of supply: s16(4)(a) and (b))
Purchaser
Value of supply: s16(3)(a)(iiA)

2. Fixed property: Connected persons
Definitions: Section 1, definition of "fixed property" and "connected persons"
Seller
Time of supply: s9(3)(d)
Value of supply: s10(4)
Buyer
Value of supply: s16(2) read with s20 and (3)(a)

3. Fixed property: Second-hand
Definitions: Section 1, definition of "fixed property" and "input tax"
Buyer
Time of supply: s16(3)(a)(ii)(bb)
Value of supply: s16(3)(a)(ii)(aa) read with para (b) of the definition of input tax in s1

This approach aims to streamline the complexity associated with fixed property transactions by directing the reader's focus towards the three potential scenarios for such transactions (i.e., employing the concept of grouping). In addition, it offers the reader a coherent structure for assessing these scenarios by using headings and sub-headings. It is recommended that the proposed enhancement depicted in Figure 2 be integrated into the introduction of the SARS VAT 404 guide.

5.   CONCLUSION

The present study examined the lack of coherence in the structure of the VAT Act with a focus on fixed property transactions. This lack of coherence adds to the overall complexity of the Act, thereby posing challenges in terms of teaching, practical application and administration. The study consisted of two distinct phases, specifically a comprehensive review of existing literature and semi-structured interviews.

This study represents a new examination of the incoherent structure of the South African VAT Act as it pertains to fixed property transactions, making a significant contribution to the existing body of literature. The results, which are substantiated by existing

scholarly sources, validate that the lack of a cohesive structure in the VAT Act contributes to its intricate nature. This study presents a primary contribution in the form of proposed guidelines for the restructuring of the VAT Act pertaining to fixed property transactions. The guidelines delineate the fundamental principles that must be integrated when improving the logical structure of the VAT Act in relation to fixed property. The universal guidelines encompass the use of headings and subheadings, the consolidation of intricate sections and explicit cross-referencing. Specifically, it is recommended that sections be consistently placed under their appropriate headings and exhibit clear signposting. The empirical findings of this study serve to enhance the current body of literature, in addition to contributing new insights, namely a practical illustration of the VAT implications for fixed property.

Generally, in interpretation of statutes, headings are not considered in the interpretation of a particular section. However, headings cannot be ignored completely. This is because in some cases they give meaning to the provisions. For example, the interpretation of subclauses may be impacted by headings, or subclauses may be drafted incorrectly, in which case headings may provide clarification. Thus, where headings are used for the simple purpose of grouping sections, the legislation must contain a provision to this effect. The structure of the TAA is divided into chapters which are further divided into parts. The table of provisions also makes it helpful to search for relevant sections. In addition, sections that are grouped together under such a heading must be grouped coherently. For example, under a heading 'fixed property' the provisions under the heading must refer to fixed property transactions only and cross-reference other sections that the provisions in question have an impact on, or to which these provisions are subject.

The primary objective of this study was to enhance the logical framework pertaining to fixed property transactions, considering their frequent occurrence in daily business operations. Consequently, the study did not consider the examination of other transactions that are similarly intricate under the VAT Act.

It is recommended that the proposed enhancement pertaining to the logical framework of the VAT Act with regard to fixed property transactions be included in the SARS VAT 404 guide. It is further recommended as an area for future research that the application of the guidelines used as a practical demonstration for fixed property transactions be extended to other instances of complexity cited in the VAT Act, such as VAT adjustments and imported services. If these practical illustrations were to be incorporated into SARS guides and interpretation notes, it is anticipated that they would enhance the teaching of VAT for students, facilitate the interpretation and implementation of VAT by tax practitioners and streamline the administration of the VAT Act by officials at SARS, particularly in the context of intricate transactions. Amongst other things, well-drafted easy-to-understand tax legislation enhances tax compliance and reduces tax compliance administration costs. This represents the initial phase in the process of simplifying VAT legislation.

6.   REFERENCES

American Institute of Certified Public Accountants (AICPA) 2017, *Guiding principles of good tax policy: A framework for evaluating tax proposals*, Tax policy concept statement, New York.

Babbie, E & Mouton, J 2001, *The practice of social research*, Oxford University Press, Cape Town.

Bryman, A & Bell, E 2014, *Research methodology: Business and management contexts*, Oxford University Press, Cape Town.

Budak, T & James, S 2018, 'The level of tax complexity: A comparative analysis between the UK and Turkey based on the OTS index', *International Tax Journal*, vol. 44, no. 1, pp. 23-36.

Consultative Committee on the Taxation of Income from Capital (Arthur Valabh, chair) (Valabh Committee) 1991, *Key reforms to the scheme of tax legislation*.

Crabbe, V C R A C 1993, *Legislative drafting,* Cavendish Publishing, London.

Cutts, M 2013, *Oxford guide to plain English*, 4th edn, Oxford University Press, Oxford.

Dale, W 1977, *Legislative drafting: A new approach*, Butterworths, London.

De Koker, A & Badenhorst, G 2024, *Value-Added Tax in South Africa* (Commentary), LexisNexis, Durban.

Dodwell, B 2021, 'The OTS: The story so far', *Tax Journal*, 20 January, https://www.taxjournal.com/articles/the-ots-the-story-so-far- (accessed 20 June 2022).

Erard, B 1993, 'Taxation with representation: An analysis of the role of tax practitioners in tax compliance', *Journal of Public Economics*, vol. 52, no. 2, pp. 163-197.

Franzsen, R C D & Van der Merwe, B A 1996, 'To tax or not to tax: VAT is the question, *Strydom v Duvenhage* 1996 3 SA 27 (NC)', *Tydskrif vir Hedendaagse Romeins-Hollandse Reg* (*Journal for Contemporary Roman-Dutch Law*), vol. 59, no. 4, pp. 700-706.

Hunt, B 2002, 'Plain language in legislative drafting: Is it really the answer?', *Statute Law Review*, vol. 23, no. 1, pp. 24-46.

Kimble, J 1996-1997, 'Writing for dollars, writing to please', *Scribes Journal of Legal Writing*, vol. 6, pp. 1-38.

Mills, L, Erickson, M M & Maydew, E L 1998, 'Investments in tax planning', *The Journal of the American Taxation Association*, vol. 20, no. 1, pp. 1-20.

National Treasury, South Africa 2012, *Taxation Laws Amendment Act No. 22 of 2012*. Available at: https://www.sars.gov.za/wp-content/uploads/Legal/AmendActs/LAPD-LPrim-AA-2012-03-Taxation-Laws-Amendment-Act-2012.pdf (accessed 29 February 2024).

Newberry, K J, Reckers, P M J & Wyndelts, R W 1993, 'An examination of tax practitioner decisions: The role of preparer sanctions and framing effects associated with client condition', *Journal of Economic Psychology*, vol. 14, no. 2, pp. 439-452.

Organisational Review Committee (Sir I Richardson, chair) 1994, *Organisational Review of the Inland Revenue Department: Report to the Minister of Revenue*, April.

Office of Tax Simplification (OTS) 2017, 'The OTS Complexity Index', https://assets.publishing.service.gov.uk/media/5a82ab43ed915d74e3402f66/OTS__complexity_index_paper_2017.pdf.

Office of Tax Simplification (OTS) 2022, 'Update on the closure of the Office of Tax Simplification', 17 November, https://www.gov.uk/government/news/update-on-the-closure-of-the-office-of-tax-simplification (accessed 23 February 2023).

Pau, C, Sawyer, A & Maples, A 2007, 'Complexity of the New Zealand's tax laws: An empirical study', *Australian Tax Forum*, vol. 22, no. 1, pp. 59-92.

Petelin, R 2010, 'Considering plain language: Issues and initiatives', *Corporate Communications*, vol. 15, no. 2, pp. 205-216.

Rai, N & Thapa, B [2015], 'A study on purposive sampling method in research', research paper, https://www.academia.edu/28087388/A_STUDY_ON_PURPOSIVE_SAMPLING_METHOD_IN_RESEARCH.

Richardson, M & Sawyer, A 1998, 'Complexity in the expression of New Zealand tax laws: An empirical analysis', *Australian Tax Forum*, vol. 14, no. 3, pp. 325-360.

Richardson, M & Sawyer, A J 2001, 'A taxonomy of the tax compliance literature: Further findings, problems and prospects', *Australian Tax Forum*, vol. 16, no. 2, pp. 137-320.

Saw, K (S L) & Sawyer, A 2010, 'Complexity of New Zealand's income tax legislation: The final instalment', *Australian Tax Forum*, vol. 25, no. 2, pp. 213-244.

Sawyer, A 2013, 'Reviewing tax policy development in New Zealand: Lessons from a delicate balancing of "law and politics"', *Australian Tax Forum*, vol. 28, no. 2, pp. 401-425.

Sawyer, A 2016, 'Complexity of tax simplification: A New Zealand perspective', in James, S, Sawyer, A & Budak, T (eds), *The complexity of tax simplification: Experiences from around the world*, Palgrave Macmillan, London, pp. 110-132.

Sawyer, A 2023, 'Vale the Office of Tax Simplification: Is its abolition an ill-informed decision?', *British Tax Review*, vol. [2023], no. 1, pp. 1-8.

Slemrod, J 1989, 'Complexity, compliance costs, and tax evasion', in Roth, J A & Scholz, J T (eds), *Taxpayer compliance, vol 2: Social science perspectives*, University of Pennsylvania Press, Philadelphia, pp. 156-181.

Smaill, G 2021, 'Taxation law drafting review – report and recommendations', independent review of drafting function of New Zealand Inland Revenue Department, Greenwood Roche Project Lawyers, Wellington, 6 October, https://www.ird.govt.nz/about-us/publications/taxation-law-drafting-review---report-and-recommendations.

South African Revenue Service (SARS) 2016, 'Value-Added Tax Act No. 89 of 1991, sections 16(2)(f) and 16(3)(c) to (n), documentary proof prescribed by the Commissioner', Interpretation Note No 92, 24 October, https://www.sars.gov.za/wp-content/uploads/Legal/Notes/LAPD-IntR-IN-2016-06-IN92-Documentary-Proof-Prescribed-by-the-Commissioner.pdf (accessed 8 May 2022).

South African Revenue Service (SARS) 2022, *VAT 404: Guide for vendors*, https://www.sars.gov.za/wp-content/uploads/Ops/Guides/LAPD-VAT-G02-VAT-404-Guide-for-Vendors.pdf.

South African Revenue Service (SARS) 2023, *VAT 409: Guide for fixed property and construction for vendors, Issue 7*, https://www.sars.gov.za/wp-content/uploads/Ops/Guides/Legal-Pub-Guide-VAT03-VAT-409-Guide-for-Fixed-Property-and-Construction.pdf.

Tan, L M & Tower, G 1992, 'The readability of tax laws: An empirical study in New Zealand', *Australian Tax Forum*, vol. 9, no. 3, pp. 355-372.

Tax Review Committee (Judge D Davis, chair) (Davis Tax Committee) 2018, *Report on the efficiency of South Africa's corporate income tax system*, Pretoria. Available at: https://www.taxcom.org.za/docs/20180411%20Final%20DTC%20CIT%20Report%20-%20to%20Minister.pdf.

Thuronyi, V 1996, 'Drafting tax legislation', in Thuronyi, V (ed.), *Tax law design and drafting: Volume 1*, International Monetary Fund, Washington, DC, pp. 71-94.

Tran-Nam, B 1999, 'Tax reform and tax simplification: Some conceptual issues and a preliminary assessment', *Sydney Law Review*, vol. 21, no. 3, pp. 500-522.

Tran-Nam, B & Evans, C 2014, 'Towards the development of a tax system complexity index', *Fiscal Studies*, vol. 35, no. 3, pp. 341-370.

Tran-Nam, B, Oguttu, A W & Mandy, K 2019, 'Tax complexity and tax simplification: A critical review of concepts and issues', in Evans, C, Franzsen, R & Stack, E (eds), *Tax simplification: An African perspective*, Pretoria University Law Press, Pretoria, pp. 8-38.

Ulph, D 2015, 'Measuring tax complexity', in Evans, C, Krever, R & Mellor, P (eds), *Tax simplification*, Kluwer Law International, Alphen aan den Rijn, pp. 41-54.

Young, G J 2021, *An analysis of ways in which the South African tax system could be simplified*, unpublished Master's dissertation, Rhodes University.

Application of the slippery slope framework: an analysis of the compliance behaviour among Uganda's corporate small and medium enterprises

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Abstract

We examine the role of trust in authorities on voluntary compliance, the power of authorities on enforced compliance and the interaction of legitimate power and trust on voluntary compliance among small and medium enterprises (SMEs) in Uganda. Findings from 386 SME managers provide significant support for the slippery slope framework (SSF) assertions. Coercive power indirectly affects enforced compliance through legitimate power. However, tax fairness can positively affect voluntary tax compliance when there is trust. The interaction between legitimate power and trust shapes voluntary compliance. Lastly, social-psychological factors contribute more to tax compliance. This study contributes to the understanding of the SFF in explaining tax compliance among SME firms.

Keywords: tax fairness; coercive power; legitimate power; trust; tax compliance

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1.   INTRODUCTION

Taxation is pre-eminently the source of revenue that most governments rely on for their public expenditures (Dziobek et al., 2011). With this kind of funding, governments may find it relatively easier to spend this revenue in ways they deem reasonable as opposed to other sources that come with limits, like donor funding (Gobena & Van Dijke, 2016). Although many governments globally experience shortfalls in their national budgets, taxpayers continue to cheat on the taxes they ought to pay to the tax authorities (Ali, Fjeldstad & Sjursen, 2014). This, therefore, means that tax authorities must find ways to encourage taxpayers to contribute their fair share if governments are to reduce their budget deficits (Kornhauser, 2007; Nkwe, 2013). Consequently, it is very important for both authorities and taxpayers to understand what can motivate tax compliance behaviour.

In past decades, income tax compliance has received significant consideration from scholars globally with two broad limitations. First, many studies (see, for instance, Hansford & Hasseldine, 2012; Lignier & Evans, 2012) have investigated personal income tax compliance. Secondly, most studies in this field of scholarly work have been conducted in the context of advanced countries, with only preliminary research having been done in developing countries, especially Sub-Saharan Africa. As a result, little research has been done on corporate income tax in both developed and developing countries. This might probably explain why income tax has taken on only the second-best alternative position to value added tax in Uganda.

Furthermore, extant scholarly work reveals that a number of factors influence tax compliance behaviour, i.e., deterrence, or economic factors, and socio-psychological factors (Muehlbacher, Kirchler & Schwarzenberger, 2011). Until now, studies show that these factors have typically been examined separately. The deterrence model (power of authorities or coercive power) (Allingham & Sandmo, 1972; Slemrod & Yitzhaki, 2002), for instance, suggests that taxpayers can only be encouraged to comply with the tax laws and regulations when tax authorities institute audits to detect non-compliance and that, where tax evasion has been identified, sanctions should be executed in the form of penal taxes to deter self-interested taxpayers who fail to comply with tax rules and regulations. This model has, however, been criticised for being inadequate in explaining tax compliance behaviour (Feld & Frey, 2007; Andreoni, Erard & Feinstein, 1998). Despite the criticism, Kogler and co-authors (2020), in their study of information processing in tax decisions, indicate that the Allingham and Sandmo (1972) model still holds; however, they attribute the deviations from the model's assertions to weaknesses where all relevant parameters are not integrated. The socio-psychological model, in contrast, attributes tax compliance to several social factors, for instance, the way taxpayers are treated by tax authorities and taxpayers' trust in authorities. It also looks at how taxpayers perceive the tax system to be fair and how legitimate the tax authorities are perceived to be (Mas'ud, Manaf & Saad, 2014; Kogler, Muehlbacher & Kirchler, 2013), which can all determine tax compliance behaviour.

The slippery slope framework (SSF) proposes two dimensions of tax climate in a society, which can vary first as an antagonistic and secondly as a synergistic climate. In an antagonistic climate, taxpayers are treated as dishonest actors who will evade taxes as and when the opportunity arises, and they therefore need to be kept under check. This, therefore, means that taxpayers and tax authorities work against each other, which increases their social distance. On the other hand, a synergistic climate is viewed in the

sense that tax authorities provide a service for the same community they belong to as taxpayers. The model postulates that tax authorities' objective is to provide transparent procedures for taxpayers but also to be respectful and offer supportive treatment to taxpayers to improve tax compliance as an obligation. This is expected to reduce the social distance between taxpayers and tax authorities (Braithwaite, 2009; Kirchler, 2007). Therefore, tax compliance can be seen to happen in two dimensions: the power of authorities and trust in tax authorities. The power of tax authorities is the perception that taxpayers have about the ability of the tax officers to detect tax evasion through frequent and thorough audits and to impose penalties for tax evasion. This means that an increase in the power of authorities will enhance enforced tax compliance. In contrast, trust in authorities is a general perception that individuals and social groups hold that tax authorities are kind and work helpfully for the good of all citizens, a positive quality of a relationship. The framework, therefore, assumes that increasing the level of trust by fairly treating taxpayers at low levels of power enhances voluntary tax compliance (Kirchler, Hoelzl & Wahl, 2008). The proponents indicate that the power of authorities can have a negative relationship with voluntary tax compliance.

Combining the two strands (power of authorities and trust in authorities) to motivate enforced and voluntary tax compliance, respectively, as formulated, this article attempts to extend and apply the SSF (Kirchler et al., 2008). This model separates the power of authorities from the legitimate power employed by the tax authorities. The SSF model claims that tax fairness positively influences voluntary tax compliance as well as trust in authorities, and trust in authorities positively influences voluntary tax compliance. The model also suggests that the power of authorities significantly influences enforced tax compliance based on enforcement mechanisms, audit probability and sanctions, i.e., the power of authorities.

In empirical studies, findings by Hofmann and co-authors (2014), for example, in their study of powers wielded by authorities reveal that coercive power increases an antagonistic climate and enforced compliance, whereas legitimate power enhances trust, service climate and voluntary cooperation. Legitimate power, on the other hand, had a negative effect on an antagonistic climate and a positive effect on enforced compliance. Faizal and co-authors (2017), in their study of power and trust as factors influencing tax compliance behaviour in Malaysia, only found trust in authorities to have a significant relationship with tax compliance, and neither legitimate power nor coercive power influenced tax compliance. Kirchler and Wahl (2010) found that trust increases voluntary compliance and power reduces voluntary compliance. Batrancea and co-authors (2019), on the other hand, demonstrate that trust and power are not exclusively complementary given the negative interaction effect, while Kogler and co-authors (2013) indicate that conditions of strong trust and power resulted in the highest degree of compliance and the lowest amount of tax evasion. Ahmed and Braithwaite (2005) note that when the perceptions of procedural fairness are positive, small businesses pay more taxes than when they are perceived negatively.

Furthermore, we contend that the study variables in the SSF complement each other (Gangl, Hofmann & Kirchler, 2015), and based on this assertion, first, both perceptions of tax fairness and the power of authorities positively influence the legitimate power of authorities. Second, legitimate power positively relates to both trust in authorities and voluntary tax compliance. We, however, find tax fairness negatively influencing both enforced and voluntary tax compliance, though significant as predicted by the SSF model for enforced compliance. The study also finds a positive relationship between the

power of authorities (antagonistic climate) and the legitimate power of authorities, which would not be the case otherwise. The hypotheses and findings as to the interrelations among the variables in the SSF model form the major contribution of this study. These findings lead to modifications to the theoretical assumptions and implications for theory and practice. The rest of the article is set out as follows: section 2 provides a literature review, section 3 sets out the methods used in the study, section 4 sets out the research findings and section 5 provides discussion and implications of the findings. Finally, section 6 provides the conclusions, limitations of the study and areas for further research, and section 7 sets out the contribution that the study makes.

2.   LITERATURE REVIEW

2.1   Tax fairness, trust and voluntary tax compliance

Fairness is a perception resulting from a comparison that people make about themselves and those they relate to (Farrar, Donnelly & Dhaliwal, 2013). This, therefore, implies that individuals are likely to develop a sense of satisfaction and will tend to trust the authorities that instituted such a system to significantly influence voluntary tax compliance (Schweitzer & Gibson, 2008). In fact, trust in authorities will be enhanced when taxpayers perceive the government to be providing proportionate goods and services from tax revenue (Fajriana, Irianto & Andayani, 2023). Equally, when taxpayers perceive that there is a proportionate tax burden across all taxpayers, perceptions of trust in authorities will be higher (Wenzel, 2004; Brickman et al., 1981), as this might represent fair treatment of taxpayers (Niesiobedzka, 2014). Therefore, tax authorities that are perceived by taxpayers as fair in their processes will be highly trusted, and they will enjoy more voluntary tax compliance than those that are perceived as unfair in the way they treat taxpayers (Saad, 2010; Gobena & Van Dijke, 2016; Kugler & Bornstein, 2013). We therefore present the hypothesis that:

H_1: *Tax fairness significantly and positively affects trust in authorities and voluntary tax compliance but negatively influences enforced tax compliance among small and medium enterprises (SMEs) in Uganda.*

2.2   Coercive power and legitimate power of authorities and enforced tax compliance

On the other hand, the SSF (Kirchler et al., 2008) suggests that the tax environment can vary between an antagonistic climate (where taxpayers and tax authorities work against each other) and a synergistic climate (where taxpayers and tax authorities work together). However, in an antagonistic environment, the tax authorities believe that taxpayers evade taxes when they can (Kirchler et al. 2008), which should trigger careful monitoring through coercive power. This environment also activates taxpayers to believe that hiding from the tax authorities' persecution is the appropriate thing to do. Nonetheless, it is possible to have proper enforcement mechanisms where audit probability and detection would lead to sanctions and penal taxes (Kogler et al., 2020). When this happens, taxpayers are likely to consider the tax authority legitimate, hence the legitimate power of the authorities. Yet, legitimate power has the ability to instil perceptions of trust in authorities as well as encourage voluntary tax compliance behaviour (Faizal et al., 2017; Kirchler et al., 2008; Gangl et al., 2015). From the foregoing discussion, it is hypothesised as follows:

H_2:   *Enforced tax compliance among SMEs can be achieved directly through legitimate power when coercive power of authorities is instituted.*

2.3   Power of authorities, legitimate power of authorities, trust and tax compliance

Power is the capacity to achieve desired objectives with the help of other people (Van Dijke & Poppe, 2006). Compliance with authorities (power holders) is normally motivated by two factors: avoiding punishment by authorities (Ariel, 2012) and accepting distinct roles by both the authorities and subordinates. By accepting such roles, people therefore view the authorities' power as legitimate, which should normally be criticised in a shared environment (Gobena & Van Dijke, 2016; Kastlunger et al., 2013). The peculiarities of the power of authorities and legitimate power may be very important in guiding researchers to understanding the concept of tax compliance behaviour with regard to the authorities' fairness in motivating trust in authorities and voluntary and enforced tax compliance.

The SSF (Kirchler et al., 2008) offers a distinction between coercive power and legitimate power with regard to the tax authorities. This separation, however, has not provided adequate clarity on the effects of the power of authorities on legitimate power and ultimately on trust in authorities, voluntary tax compliance and enforced tax compliance. Prior studies reveal inconsistencies in the results between, for instance, the legitimate power of authorities and tax compliance. Gangl and co-authors (2015), for example, report a positive effect of the legitimate power of authorities on voluntary tax compliance but a negative effect on enforced tax compliance behaviour. However, Kastlunger and co-authors (2013) report a negative relationship between the legitimate power of authorities and voluntary tax compliance and a positive relationship between legitimate power and enforced compliance. In this study, we predict that the legitimate power of authorities positively affects trust in authorities, voluntary compliance and enforced tax compliance.

Indeed, legitimate power is an important factor to consider in the relationship between tax fairness and voluntary tax compliance. Certainly, legitimate power is the power of an accepted authority to which individuals voluntarily submit (Tyler, 1997; Gobena & Van Dijke, 2016; Tusubira, 2018). This, therefore, means that a high level of coercive power can result in perceptions of legitimate power for the tax authorities to be perceived as worthy of being complied with. Through the lens of tax fairness, this implies that tax authorities deserve compliance when they are perceived to have legitimate power motivated by their level of fairness (Gangl et al., 2015). High levels of coercive power and tax fairness should be in place to shape the level of legitimate power as well as trust in authorities, voluntary tax compliance and enforced tax compliance.

It is also important to mention that legitimate power is the power of accepted authorities and is viewed as the appropriate type of power that is effective in shaping taxpayers' compliance behaviour as opposed to severe controls and punishment (Gangl et al., 2015; Tyler, 2006). In this context, authorities are likely to use information regarding, for instance, expertise attributed to knowledge and skill to discover tax non-compliance, and charisma and shared values to notify taxpayers that cooperation is the only correct thing to do. Through these processes, high levels of legitimate power can be built among taxpayers as well as trust in authorities (Fjeldstad, Fundanga & Rakner, 2016). Accordingly, perceptions of the legitimate power of authorities would positively influence both trust in authorities and voluntary tax compliance, where taxpayers accept authorities with the perception that they hold legitimate power. With these views, the following hypothesis is proposed:

H₃: *Legitimate power of authorities will have positive and significant effects on trust in authorities, voluntary tax compliance and enforced tax compliance.*

2.4   Interaction between legitimate power and trust in authorities and voluntary tax compliance

To enhance tax compliance, tax authorities must prioritise fairness perceptions (Saad, 2010; Alabede, Zainol Ariffin & Idris, 2012). This therefore means that authorities should consider how taxpayers perceive the fairness of the tax system. As noted previously, perceptions of trust in authorities are anchored in tax system fairness in a synergistic tax environment (Wenzel, 2004; Kirchler et al., 2008). In other words, trust in authorities will be enhanced when the tax system is perceived as fair in terms of tax and government resource allocation procedures and distribution for the equitable benefit of all citizens after consideration of their tax burden, needs and efforts (Kirchler, 2007; Yong & Rametse, 2010; Torgler & Schneider, 2009). Additionally, when both legitimate power and trustworthiness are combined, greater tax compliance arises compared to situations where only power or trustworthiness is present. This could be due to the perception that when a tax authority possesses both power and trustworthiness, their influence is seen as legitimate and expert-driven, which in turn encourages people to comply with tax regulations (Hofmann et al., 2014). Thus, whereas trust in authorities and legitimate power can separately be influential, their interaction can have a significant effect on voluntary tax compliance behaviour among corporate SMEs in Uganda. From the discussion above, we propose the following hypothesis:

H₄: *Perceptions of trust in authorities and legitimate power significantly influence each other, and their interaction significantly affects voluntary tax compliance.*

3.   METHODS

3.1   Participants

A cross-sectional quantitative research approach was used for this study, which adopted a purposive sampling method. The sample size for the study included 386 SME taxpayers, representing a 44.6% response rate, which constituted the units of analysis. Data was collected from owners and managers of corporate taxpaying SMEs within Uganda's Kampala Capital City Authority (KCCA), central and eastern regions, with each representing one unit of analysis. Corporate SME sectors considered for the study included utilities, construction and real estate, trade, hotels and restaurants, transport and storage, financial intermediaries, insurance, business services and manufacturing and agriculture. The majority of the sampled SMEs were trading firms (38.6%), followed by business service firms (20.2%), and manufacturing and agriculture at 12.2%. The categories with the smallest representation were utilities and insurance, each with a response rate of 1.6%. These sectors dominate the economy, employing over 80% of the population (Uganda Bureau of Statistics (UBOS), 2011), yet pay less than 1% of the tax revenue (Uganda Revenue Authority (URA), 2016).

The respondents in the study were predominantly male (57.8%) compared to female (42.2%), with an average age that fell within the range of 31 to 50 years. Most of the respondents (92.5%) had university degrees, while the remaining 7.5% had diplomas. This suggests that the data collected is likely to be reliable since the majority of respondents had formal education. Among the corporate SMEs surveyed, 96.2% had

turnovers that ranged from just over UGX 12,000,000 (AUD 4,800) to not more than UGX 30,000,000,000 (AUD 12,000,000). Additionally, a significant portion (94.8%) of these corporate SMEs had a capital base above UGX 12,000,000 (AUD 4,800).

3.2   Materials

We collected data through a survey questionnaire anchored on a seven-point Likert scale. On the scale, the power of authorities was measured by the URA's likelihood of effectively and efficiently carrying out audits on SME firms and imposing sanctions in the form of penalties and interest on outstanding income taxes. Nine items were used to measure the power of authorities: five for audit probability and detection with a reliability of $\alpha =.88$ and four items for sanctions with a reliability of $\alpha =.72$ (see Bobek, Hageman & Kelliher, 2013). On the other hand, tax fairness was measured by two dimensions: distributive fairness through public service delivery and procedural fairness in error correction and consistency for all SMEs over time (Saad, 2010; Gilligan & Richardson, 2005). The reliability of the fairness constructs of distributive fairness (measured with five items) and procedural fairness (three items) was $\alpha =.96$ and $\alpha =.93$, respectively. Legitimate power was measured by how SMEs feel about the technical competence of URA to effectively identify tax non-compliance, as measured by three items with a reliability of $\alpha =.92$ (Kogler et al., 2013; Hofmann et al., 2014). Trust in authorities was measured by education and service-oriented practices of the tax authority, interest in supporting taxpayers to comply, and treatment of taxpayers with respect. Three items were used for this construct with a reliability of $\alpha =.93$ (Kogler et al., 2013). Additionally, tax compliance was measured by voluntary tax compliance and enforced tax compliance using scales from TAX-I (Kirchler & Wahl, 2010), which have also been applied by Onu, Oats and Kirchler (2019). Construct measurement was as set out in the Appendix. Also, the small and medium firms considered for analysis had generally operated businesses for more than one year; over 66% of these firms had operated their businesses for more than 10 years. The collection of data from such firms would ensure consistency.

4.   RESEARCH FINDINGS

Confirmatory factor analysis (CFA) to confirm the reliability of the survey questionnaire was determined first, by computing the Cronbach's alphas. Composite reliability (CR) coefficients were computed as well, and all dimensional scores were over 0.70, indicative of adequate reliability. We measured convergent validity using the Average Variance Extracted (AVE), which is acceptable at a level of ≥ 0.50 (Fornell & Larcker, 1981; Rosid et al., 2016). For discriminant validity, Fornell and Larcker (1981) and Bagozzi and Yi (1988) argue that it is attained when the construct AVE is higher than the square of correlations between two latent constructs. In this study, we compared the computed AVE and the square of the correlations, and the square of the correlations remained low, as shown in the diagonal of the descriptive statistics in Table 1 that follows. This means that the constructs were not measuring the same thing or were not related in any way. The Likert scale (Likert, 1932) in this study measured responses from negative to positive where expected responses were 'completely disagree' (1) to 'completely agree' (7) for all variables except for audit probability and detection where the responses were 'highly unlikely' (1) to 'highly likely' (7).

The data were then analysed using structural equation modelling (SEM) by way of a two-stage evaluation approach, first the measurement model and then the structural model. SEM is a potent analysis tool (MacCallum & Austin, 2000) that considers

analysis of several equations simultaneously (Beran & Violato, 2010). SEM was utilised in the analysis of latent variables of power of authorities and tax compliance. The measured variables were: power of authorities; legitimate power; trust in authorities, and enforced and voluntary tax compliance. The study further conformed to the SEM requirement of adhering to a large sample size of at least 200 (Hussey & Eagan, 2007). At the first stage, the measurement model was specified to estimate the confirmatory factor analysis (CFA) for more accurate results (Anderson & Gerbing, 1988). The model fit was tested by a number of scores: chi-square/df ratio, which should be <3, probability p <.001, GFI≥.9, Normed Fit Index (NFI) ≥.9, Incremental Fit Index (IFI) ≥.9, Tucker-Lewis Index (TLI) ≥.973, Comparative Fit Index (CFI) ≥.976, and Root Mean Square Error of Approximation (RMSEA) <.08 (Brown, 2006; Hailu & Rooks, 2016). The model fit well with the data and was identified by the Analysis of Moment Structures (AMOS) version 23, following the research hypotheses from the literature review (Kirchler et al., 2008; Gangl et al., 2015).

The results indicate that corporate SMEs perceived procedural fairness, distributive fairness, trust in authorities, and audit probability and detection to be average. However, taxpayers felt that sanctions were relatively severe, as reflected in the relatively high responses to enforced compliance, with a mean of over 5. Also, SMEs firms showed high level motivation to voluntarily comply with the tax law, as shown in Table 1 below.

Table 1: Correlation Coefficients

	Mean	SD	1	2	3	4	5	6	7	8
Enforced compliance (1)	5.45	1.35	**.92**							
Voluntary compliance (2)	5.39	1.34	.38**	**.89**						
Trust dimension (3)	4.76	1.08	-.10	-.01	**.90**					
Legitimate power (4)	4.89	1.08	.03	.21**	.42**	**.89**				
Audit probability (5)	4.70	.97	-.07	-.03	.42**	.42**	**.72**			
Sanctions (6)	5.11	.99	.28**	.11*	.01	.09	.13**	**.76**		
Procedural fairness (7)	4.57	1.46	-.19**	-.18**	.55**	.29**	.39**	-.10	**.91**	
Distributive fairness (8)	4.08	1.44	-.19**	-.17**	.38**	.14**	.29**	-.07	.49**	**.91**

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

The means (M) and standard deviation (SD) of the study variables set out in Table 1 show how the constructs were spread. Pearson correlation coefficients were computed to assess the linear relationships between the variables, and the results were surprising. They showed significant negative correlations between procedural fairness (r = -.18, *p* <.01) and voluntary corporate SMEs' compliance, as well as distributive fairness r = -.17, *p* <.01) and voluntary corporate tax compliance by SMEs. This may be an indication of corporate tax system unfairness or cultural beliefs within the country. In addition, enforced corporate tax compliance negatively correlated with both procedural

and distributive fairness (r = -.19, p <.01), significantly with the same magnitude. This implies that, as perceptions of the fairness of a corporate tax system improve, less corporate tax compliance enforcement might be necessary, hence a move to voluntary compliance. There was a significantly positive correlation between enforced compliance and voluntary compliance (r =.38, p <.01).

Conversely, only one of the two dimensions of power of authorities, audit probability and detection (r =.42, p <.01), positively and significantly correlated with the power dimension. Sanctions (r =.09, p >.05) did not show any significant correlation with legitimate power, as theory suggests, but significantly correlated with perceived trust in authorities (r =.33, p <.01). Surprisingly, legitimate power positively correlated with trust in authorities (r =.42, p <.01) and corporate voluntary compliance (r =.21, p <.01). Therefore, SMEs might willingly pay their corporate taxes if they perceive tax authorities to have legitimate power when they hold power of enforcement and are perceived as fair in their tax dealings since they will be trusted.

The reliability indices show an overall Cronbach's alpha (α) coefficient of α =.90, which demonstrates that the survey instrument was reliable. Also, the breakdown, for instance, shows that the smallest Cronbach's alpha for the individual constructs tested is for tax compliance with α =.81, which represents good reliability coefficients. In addition, the reliability of the questionnaire was tested by calculating composite reliability (CR) for each latent construct. The CR for all the constructs in the model was over 0.8, which demonstrates that the survey instrument used in this study is reliable.

Fig. 1: Confirmatory Analysis for Power of, and Trust in, Authorities' Model
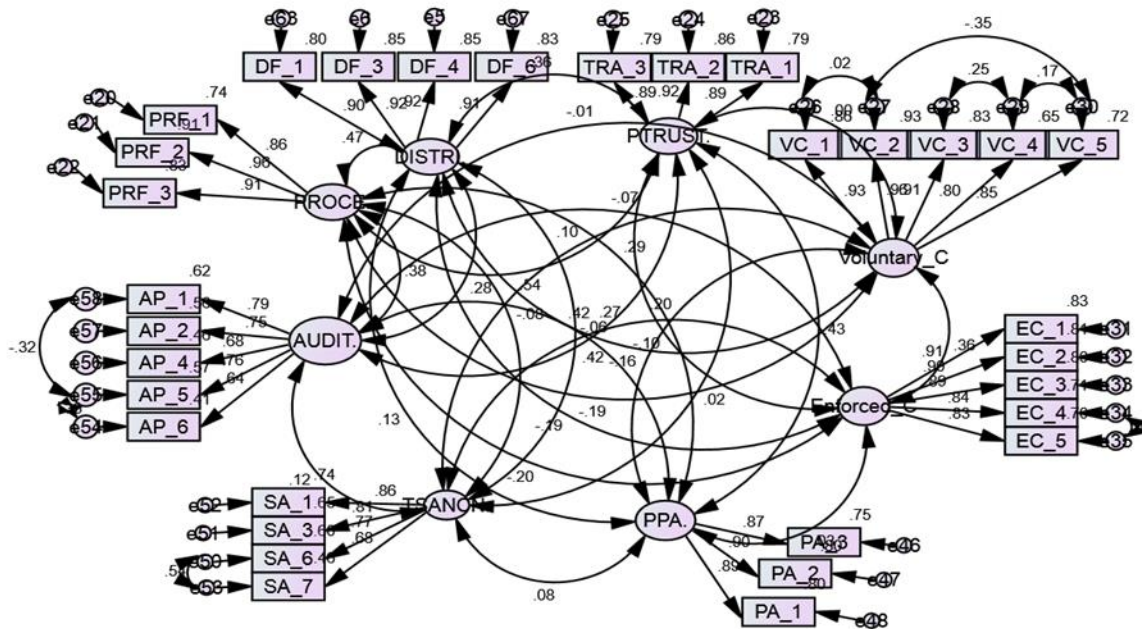
Chi-Square (χ2) = 722.382, DF = 459, Chi-Square (χ2)/df = 1.574, Probability p < .001, GFI= .897, Normed Fit Index (NFI) = .938, Incremental Fit Index (IFI) = .976, Tucker-Lewis Index (TLI) = .973, Comparative Fit Index (CFI) = .976, and Root Mean Square Error of Approximation (RMSEA) = .039.

Key: AUDIT is audit probability and detection; TSANCN is sanctions; PPA is legitimate power; PROCE is procedural fairness; DISTR is distributive fairness; PTRUST is trust in authorities; Voluntary_C is voluntary tax compliance; enforced_C is enforced tax compliance.

The AVE was used to measure convergent validity. As indicated in Table 1, audit probability and detection show an AVE of .53, sanctions indicate an AVE of .58, and legitimate power shows AVE of .78. Furthermore, procedural fairness shows AVE =.83, AVE for distributive fairness is .84, trust in authorities AVE is .81, voluntary compliance AVE =.80, and enforced compliance shows AVE of .77. In order to ensure that the latent constructs measure different concepts, discriminant validity was tested between the underlying constructs presented in Table 1 above. The square root of all AVE scores is over and above the largest correlation, as demonstrated in the diagonal of Table 1, hence the latent constructs in this study do not measure the same concepts.

The analysis of the measurement model for purposes of confirmatory factor analysis also resulted in covariance results, which demonstrate mixed results, with some of their

p-values being significant and others being insignificant. Covariance, however, may not reveal the most influential variable in explaining SME corporate tax compliance, hence the path analysis for regression as presented in Figure 2 and Table 2 that follow.

Fig. 2: Structural Model for Testing the Hypothesised Paths
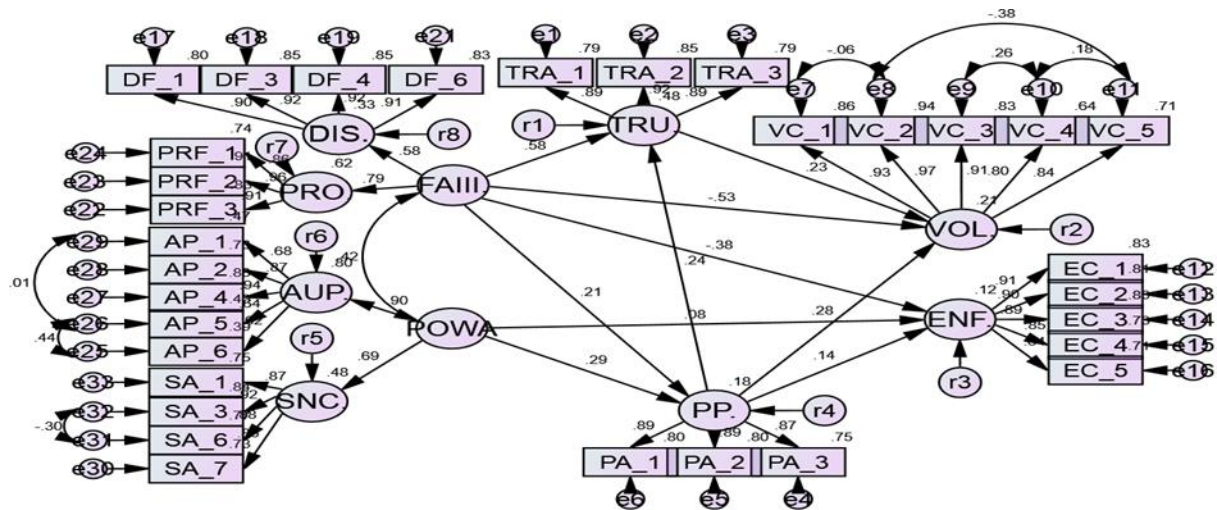
Chi-square (χ2) = 894.531, DF = 473, Chi-Square (χ2)/df = 1.891, Probability p < .001, Goodness of Fit Index (GFI) = .881, Normed Fit Index (NFI) = .929, Incremental Fit Index (IFI) = .965, Turker-Lewis Index (TLI) = .961, Comparative Fit Index (CFI) = .965, Root Mean Square Error of Approximation (RMSEA) = .048

Key: PP = legitimate power; TRU = trust in authorities; ENF = enforced tax compliance; VOL = voluntary tax compliance; FAIII = fairness perceptions; POWA = power of authorities; AUP = audit probability and detection; SNC = sanctions; DIS = distributive fairness; PRO = procedural fairness.

The regression model specified in Figure 2 shows that the model fits well with the data. Specifically, the model fit indices show acceptable measures so as to proceed with the interpretation of the model results compared to the initial rival model (Hair et al., 2010), which could only explain 0.08% and 17.4% of the variances in enforced and voluntary tax compliance, respectively. Indeed, this model explains 11.9% and 20.8% of the variance in enforced and voluntary corporate tax compliance, respectively.

Results from Table 2 show a positive significant and relationship between perceptions of the power of authorities and legitimate power (β =.29, *p* <.001), and the relationship between legitimate power and enforced compliance is positive and significant (β =.14, *p* =.028). This means that Hypothesis 2 is partially supported since the coercive power of authorities is not significantly related to the enforced tax compliance of SMEs (β =.08, *p* =.24). This implies that although URA is perceived as a legitimate tax authority, its ability to carry out enforcement is weak. This therefore calls for the authority to conduct effective audits of SME taxpayers to raise the probability of detection of tax non-compliance so that fair penal sanctions can be imposed across all taxpayers.

However, inefficiencies in implementation of enforcement mechanisms might weaken the tax system and hence increase tax non-compliance.

Table 2: Standardised Regression Weights Using Maximum Likelihood Estimates

Endogenous variables	Hypothesised paths	Estimate Unstandardised (B)	Estimate standardised (β)	p	Supported
VOL(R^2) = .21	POWA →PP (1)	.51	.29	***	Yes
ENF(R^2) = .12	PP→TRU (3)	.25	.24	***	Yes
TRU(R^2) = .48	PP→VOL (3)	.34	.28	***	Yes
PP (R^2) = .18	FAIII→VOL(2)	-.61	-.53	***	Yes
	FAIII→ENF(4)	-.45	-.38	***	Yes
	POWA→ENF(1)	.18	.08	.238	No
	FAIII→TRU(2)	.57	.58	***	Yes
	TRU→VOL(2)	.27	.23	.011	Yes
	PP→ENF (1)	.17	.14	.028	Yes

Note: Group number 1 – default model

PP = Legitimate Power, TRU = Trust dimension, ENF = Enforced compliance, VOL = Voluntary compliance, FAIII = Fairness perceptions, POWA = Power of authorities.

Results also show a significant positive relationship (β =.58, p <.001) between perceptions of tax system fairness and SMEs' trust in authorities, and between trust in authorities (β =.23, p =.011) and voluntary compliance behaviour among SME firms in Uganda. Additionally, tax fairness and voluntary compliance are statistically significant, though negative (β = -.53, p <.001). Also, findings reveal that the relationship between corporate tax system fairness and enforced compliance among SMEs (β = -.38, p <.001) demonstrates a statistically significant negative path. This means that improved perceptions of tax system fairness are likely to reduce the level of enforcement that URA might use to motivate corporate SMEs to comply with the tax code, as the majority would willingly pay their taxes. These findings are in line with the SSF (Kirchler et al., 2008), though they partially support Hypothesis 1. However, the negative relationship between fairness and voluntary tax compliance might be explained by factors other than tax system fairness, as it might not exhibit true intrinsic motivations to comply with the law.

The relationship between the perceptions of legitimate power and trust in authorities of SMEs in their tax compliance was investigated, and the results reveal a significant positive relationship (β =.24, p <.001). Moreover, positive and significant paths (β =.28, p <.001) and (β =.14, p =.028) are revealed between perceptions of the legitimate power of authorities and voluntary and enforced tax compliance. These results are consistent with the slippery slope framework (Kirchler et al., 2008) and support Hypothesis 3. This implies that SMEs' perception of legitimate power explains their level of trust in tax authorities, voluntary tax compliance and enforced tax compliance. Ideally, when tax

officers can effectively perform audits, unearth tax non-compliance practices and punish the offenders appropriately through penalties, a twofold direct influence can be experienced. First, legitimate power can lead to enhanced trust in the URA and, second, the commitment of SMEs to voluntarily pay corporate tax, which therefore supports a recommendation for the URA's assurance to build the institution's image through quality audits to enhance enforced tax compliance with impartial application of sanctions.

We also tested the model's performance when trust in authorities was allowed to have an influence over the legitimate power of the tax system. The whole performance of the model improved when the path between trust and legitimate power was changed, as can be seen in the results of the endogenous variables in Table 3 below compared to their corresponding values in Table 2 (see, for example, $R^2 = .215$ for voluntary compliance compared to $R^2 = .208$ in the previous model in Table 2). This is to say, when trust was set to influence legitimate power, trust was found to have a significant relationship with legitimate power ($\beta = .34$, p $< .001$), compared to the significant path when legitimate power was meant to relate to trust in authorities ($\beta = .24$, p $< .001$). These results demonstrate that trust in authorities and legitimate power interact with each other since they significantly influence one another, which confirms the assertion of the SSF (Kirchler et al., 2008). The coercive power of authorities, however, continues to persist as insignificant in a relationship with enforced tax compliance.

Table 3: Results When Trust Is Meant to Have an Effect on Legitimate Power

Endogenous variables	Hypothesised paths	Estimate Unstandardised (B)	Estimate standardised (β)	p	Supported
VOL(R^2) = .22	POWA →PP	.46	.27	***	Yes
ENF(R^2) = .12	TRU→PP	.33	.34	***	Yes
TRU(R^2) = .45	PP→VOL	.35	.29	***	Yes
PP (R^2) = .24	FAIII→VOL	-.65	-.53	***	Yes
	FAIII→ENF	-.47	-.39	***	Yes
	POWA→ENF	.20	.09	.183	No
	FAIII→TRU	.67	.67	***	Yes
	TRU→VOL	.29	.25	.006	Yes
	PP→ENF	.17	.14	.021	Yes

PP = Legitimate Power, TRU = Trust dimension, ENF = Enforced compliance, VOL = Voluntary compliance, FAIII = Fairness perceptions, POWA = Power of authorities.

Additionally, an interaction between trust in authorities and legitimate power was also computed to investigate further its relationship with voluntary tax compliance (see Table 4 below).

Table 4: Trust in Authorities and Legitimate Power Interaction on Voluntary Compliance

Endogenous variables	Hypothesised paths	Estimate Unstandardised (B)	Estimate standardised (β)	p	Supported
VOL(R^2) = .31	POWA →PP	.45	.26	***	Yes
ENF(R^2) = .12	TRUxPP→VOL	.05	.34	***	Yes
TRU(R^2) = .45	PP→VOL	.12	.09	.093	No
PP (R^2) = .24	FAIII→VOL	-.63	-.50	***	Yes
	FAIII→ENF	-.47	-.39	***	Yes
	POWA→ENF	.20	.10	.179	No
	FAIII→TRU	.67	.67	***	Yes
	TRU→VOL	.04	.03	.725	No
	PP→ENF	.17	.13	.026	Yes

PP = Legitimate Power, TRU = Trust dimension, ENF = Enforced compliance, VOL = Voluntary compliance, FAIII = Fairness perceptions, POWA = Power of authorities, TRUxPP = Interaction between trust and legitimate power.

An interaction term between trust in authorities and legitimate power was added in the model to establish its relationship with voluntary tax compliance; a significant relationship was revealed (β =.34, p <.001) which conforms to Hypothesis 4. This interaction between trust and legitimate power generally improved the percentage of voluntary tax compliance explained by the model from 21.5% (R^2 =.215) in the previous model to 30.6% (R^2 =.306), confirming the assertion of the SSF (Kirchler et al., 2008). However, the introduction of the interaction term in the model means that legitimate power (β =.09, p <.093) and trust in authorities (β =.03, p <.725) may not individually have significant influence on voluntary tax compliance.

5.   DISCUSSION AND IMPLICATIONS OF THE FINDINGS

The current results are powerfully consistent with the formulations of the SSF (Kirchler et al., 2008) and therefore can be used with regard to tax compliance of small- and medium-sized firms in Uganda. However, the results reveal a negative relationship between fairness perceptions and voluntary tax compliance, with no significant relationship between coercive power and enforced compliance, even though significant relationships exist between perceptions of the legitimate power of authorities and voluntary compliance. These results further reveal that to achieve optimum tax compliance results, the different constructs of the model have to work together (Kirchler et al., 2008; Gangl et al., 2015).

The results presented in Tables 2, 3 and 4 show that the power dimensional structure was slightly different, though with a very strong relationship between coercive power and the perceptions of legitimate power as hypothesised in Hypothesis 2. Coercive power is the ability of the authority to detect and punish tax evasion, which can define how taxpayers will perceive the tax authority as legitimate (Gangl et al., 2015). Kirchler

and co-authors (2014) explain that in a tax system where tax officials can effectively conduct recurrent audits and direct fines to offending taxpayers, legitimate power can be implicitly high. Instituting coercive power does not, however, mean that enforced tax compliance will be achieved. Accordingly, though our results indicate that SMEs appreciate the URA's efforts in conducting tax audits in a bid to detect non-compliance and impose appropriate penal taxes, it might not enhance enforced compliance but create legitimacy in the whole tax collection process. It is therefore important that tax authorities carry out quality audits and impose sanctions appropriately for SMEs to increase acceptance that tax officers possess expert authority to influence income tax compliance (Gangl et al., 2015).

Unexpectedly, significant negative results are revealed between tax fairness and voluntary tax compliance. Although significant, these results show an inverse relationship, even though ordinarily a fair tax system would be expected to positively relate with voluntary tax compliance (Kirchler et al., 2008). This finding signals a state of the corporate tax system that is perceived as unfair by the SMEs given other determining factors of tax fairness. These firms might find the tax system unfair due to the way in which government spends tax revenues based on the existing policy (Slemrod, 2007; Andreoni et al., 1998; Daunton, 2001) and procedures that might be susceptible to corruption (Batrancea et al., 2019). For instance, the government might be spending tax revenue outside of the designated services that are necessary for improving social welfare due to corruption, even when taxpayers pay taxes willingly (Tusubira, 2018). Also, other factors like social norms might be responsible for the influence shown in the change of direction where tax fairness negatively influences voluntary compliance. These results demonstrate that even when there is trust in authorities, tax fairness may not necessarily be a direct positive prediction of voluntary compliance among corporate SMEs in Uganda as a developing nation.

Considering Hypothesis 1, results reveal that tax system fairness and enforced compliance are negatively and significantly related (Kirchler et al., 2008). This implies that tax fairness might be supportive of tax authorities in reducing enforcement mechanisms and related costs. This can be related to the motivational postures (Braithwaite, 2003) of commitment and capitulation, where taxpayers become willing to cooperate with the tax authority in compliance with the regulation. Indeed, perceptions of tax system fairness as one of the mainstays can build a sense of trust in the authorities, reduce resistance and improve commitment among SME taxpayers to voluntarily comply with the tax regulations (Murphy & Torgler, 2004; Kirchler et al., 2008). Therefore, to build on SMEs' trust so that they comply freely, authorities should, as far as practicable, attempt to build and maintain a fair tax system by providing the people with essential outputs including, among other things, quality infrastructure, health care and education, which are fundamental in the management of relationships (Braithwaite, 2003).

In addition, the effect of legitimate power on both trust in authorities and voluntary compliance was investigated under Hypothesis 4. Findings reveal a significant regression weight of .24 and .28, respectively. These results suggest that when Uganda's SMEs perceive the URA officers to have the technical competence to discover tax non-compliance and punish offenders appropriately, their trust in the revenue authority and voluntary compliance improve. This implies that the relationship between legitimate power and trust in authorities cannot be interpreted in isolation if valid results are needed to enhance trust and voluntary tax compliance (Kirchler et al., 2008; Gangl et al., 2015).

Also, to confirm the interaction, results reveal that voluntary tax compliance is further enhanced when trust and legitimate power are allowed to interact if they all individually have significant influence on compliance before the interaction. Therefore, the URA must employ audit probability and detection and sanctions mutually with fair interaction with taxpayers to achieve legitimacy (Muehlbacher & Kirchler, 2010). This assertion is also consistent with the significant results on the relationship between legitimate power and voluntary tax compliance under Hypothesis 3. This suggests that perceptions of efficiency and effectiveness in tax audits and justice in the implementation of sanctions can encourage corporate SMEs to trust in authorities as well as increase their level of voluntary tax compliance (Alm & Torgler, 2011).

6. CONCLUSIONS, LIMITATIONS OF THE STUDY AND AREAS FOR FURTHER RESEARCH

The results of this study add to the theoretical developments in the area of tax compliance, principally Kirchler and co-authors' (2008) slippery slope framework, by revealing that the model can work for SMEs in developing countries like Uganda. Further research might be needed to investigate other factors that might be responsible for the inverse relationship between fairness and voluntary compliance as well as the insignificant relationship between coercive power and enforced tax compliance. Factors such as resistance, disengagement and game playing under motivational postures (Braithwaite, 2003) might be responsible as a reflection of doubts about tax system fairness, where taxpayers become sceptical and would want to fight for their rights. Where resistance becomes widespread, the taxpayer might not want to associate with the tax office in any way. It has been demonstrated that coercive power represented by audit probability and detection and sanction significantly influence the legitimate power of authorities. Moreover, legitimate power positively and significantly influences trust in authorities as well as voluntary corporate tax compliance by SMEs within the same model. Optimum tax compliance can be achieved when, in addition to the efficiency and effectiveness of audits and sanctions, an interaction between tax authorities and taxpayers is allowed and encouraged (Braithwaite, 2003).

The study's findings have some policy implications for the URA and the government of Uganda as a whole. First, the willingness of corporate SMEs to comply, as reflected in voluntary compliance, does not reflect the fairness of the corporate tax system per se but could be due to the need to satisfy income tax law requirements (Gangl et al., 2015). Social distance between the SMEs and URA could be in play (Braithwaite, 2003), causing resistance among them due to factors like corruption, and social norms could be investigated (Batrancea et al., 2019). Second, tax authorities ought to establish and maintain legitimate power through effective audits and penalties, and maintain a fair interaction with taxpayers beyond the legitimacy of the law so as to encourage trust in authorities and voluntary tax compliance. This could mean that the URA ensures the use of service-oriented procedures in the assessment and collection of corporate tax from SMEs by treating them with respect, offering advice for compliance and allowing them to take consistent corrective action on faulty returns. Third, it is probable that corporate SMEs find audits irregular, uncoordinated, untargeted, unfair and not to be carried out efficiently enough to send a strong signal to dissenting SMEs to respond to this enforcement mechanism and pay tax.

This study, however, has some limitations which might affect the interpretation of the results. First, the study used cross-sectional data, therefore constraining the possibility of monitoring the changes that would occur within the SMEs' tax compliance over time.

Secondly, none of the item scales adopted in the study were originally developed for use in the corporate tax regulatory setting. Most studies undertaken to try to formalise the SSF have been focused either on self-employed taxpayers or on individual taxpayers and, to the knowledge of the researchers, none have investigated the SSF as applied to corporate firms. Without downplaying the findings of this study, the researchers are of the view that there may be a need to develop scales especially for the corporate tax environment, since the unit of inquiry was still individual corporate owners and managers.

In order to underscore factors that motivate tax compliance, there is a need to carry out research to clarify the surprising results obtained in this study. These results show that perceptions of corporate tax fairness had a significant negative effect on the voluntary tax compliance behaviour of SMEs, and the power of authorities had insignificant effects on perceptions of enforced corporate tax compliance behaviour.

7.   CONTRIBUTION

There is a dearth of literature pertaining to coercive power and enforced compliance, and trust in authorities and voluntary tax compliance. Moreover, tentative research relating to voluntary tax compliance and enforced tax compliance exists about SME firms in most developing countries like Uganda (Gobena & Van Dijke, 2016). The most recent study by Batrancea and co-authors (2019), while investigating trust and power as determinants of tax compliance across 44 countries and using 14,509 undergraduate and graduate students in the experiment, revealed that the power of authorities is positively related to tax compliance. However, tentative investigations have been carried out to identify the effect of fairness on voluntary compliance, to which this study contributes. Furthermore, Batrancea and co-authors' (2019) study only included four countries that seem to be less advanced in development than Uganda. In addition, the countries studied by these authors rank relatively highly in the management of corruption behaviour than Uganda where this study is centred. Like Batrancea and co-authors' (2019) study, this article advocates for a multidimensional approach to tax compliance, employing trust and legitimate power interchangeably. Their interaction could be more effective in enhancing voluntary tax compliance. Although literature has established that tax system fairness positively and significantly affects the voluntary compliance of individual taxpayers (Kogler et al., 2013), this study has established a significant negative relationship between tax system fairness and voluntary compliance. This implies that the conditions in less developed nations can reveal differing results from similar studies in advanced ones, even when a significant positive relationship between the power of authorities and legitimate power might be similar. Nonetheless, no significant relationship was established between the power of authorities and enforced tax compliance among corporate SMEs in Uganda compared to that found in other studies, which might also provide a motivation for further research studies to be conducted.

8.   REFERENCES

Ahmed, E & Braithwaite, V 2005, 'Understanding small business taxpayers: Issues of deterrence, tax morale, fairness and work practice', *International Small Business Journal*, vol. 23, no. 5, pp. 539-568.

Alabede, J O, Zainol Ariffin, Z B & Idris, K M 2012, 'Noncompliance opportunities and tax compliance behavior in Nigeria: The moderating effect of taxpayers' financial condition and risk preference', *Journal of Modern Accounting and Auditing*, vol. 8, no. 4, pp. 445-460.

Ali, M, Fjeldstad, O-H & Sjursen, I H 2014, 'To pay or not to pay? Citizens' attitudes toward taxation in Kenya, Tanzania, Uganda, and South Africa', *World Development*, vol. 64, pp. 828-842.

Allingham, M G & Sandmo, A 1972, 'Income tax evasion: A theoretical analysis', *Journal of Public Economics*, vol. 1, nos 3-4, pp. 323-338.

Alm, J & Torgler, B 2011, 'Do ethics matter? Tax compliance and morality', *Journal of Business Ethics*, vol. 101, no. 4, pp. 635-651.

Anderson, J C & Gerbing, D W 1988, 'Structural equation modeling in practice: A review and recommended two-step approach', *Psychological Bulletin*, vol. 103, no. 3, pp. 411-423.

Andreoni, J, Erard, B & Feinstein, J 1998, 'Tax compliance', *Journal of Economic Literature*, vol. 36, no. 2, pp. 818-860.

Ariel, B 2012, 'Deterrence and moral persuasion effects on corporate tax compliance: Findings from a randomized controlled trial', *Criminology*, vol. 50, no. 1, pp. 27-69.

Bagozzi, R P & Yi, Y 1988, 'On the evaluation of structural equation models', *Journal of the Academy of Marketing Science,* vol. 16, no. 1, pp. 74-94.

Batrancea, L, Nichita, A, Olsen, J, Kogler, C, Kirchler, E, Hoelzl, E, Weiss, A, Torgler, B, Fooken, J, Fuller, J, Schaffner, M, Banuri, S, Hassanein, M, Alarcón-García, G, Aldemir, C, Apostol, O, Weinberg, D B, Batrancea, I, Belianin, A, Bello Gómez, F de J, Briguglio, M, Dermol, V, Doyle, E, Gcabo, R, Gong, B, Ennya, S, Essel-Anderson, A, Frecknall-Hughes, J, Hasanain, A, Hizen, Y, Huber, O, Kaplanoglou, G, Kudła, J, Lemoine, J E, Leurcharusmee, S, Matthiasson, T, Mehta, S, Min, S, Naufal, G, Niskanen, M, Nordblom, K, Öztürk, Pacheco, L, Pántya, J, Rapanos, V, Roland-Lévy, C, Roux-Cesar, A M, Salamzadeh, A, Savadori, L, Schei, V, Sharma, M, Summers, B, Suriya, K, Tran, Q, Villegas-Palacio, C, Visser, M, Xia, C, Yi, S & Zukauskas, S 2019, 'Trust and power as determinants of tax compliance across 44 nations', *Journal of Economic Psychology*, vol. 74, 102191.

Beran, T N & Violato, C 2010, 'Structural equation modeling in medical research: A primer', *BMC Research Notes*, vol. 3, 267.

Bobek, D D, Hageman, A M & Kelliher, C F 2013, 'Analyzing the role of social norms in tax compliance behavior', *Journal of Business Ethics*, vol. 115, no. 3, pp. 451-468.

Braithwaite, V 2003, 'Dancing with tax authorities: Motivational postures and non-compliant actions', in Braithwaite, V (ed.), *Taxing democracy: Understanding tax avoidance and evasion*, Ashgate, Burlington, VT, pp. 15-39.

Braithwaite, V 2009, *Defiance in taxation and governance: Resisting and dismissing authority in a democracy*, Edward Elgar, Cheltenham, UK.

Brickman, P, Folger, R, Goode, E & Schul, Y 1981, 'Microjustice and macrojustice', in Lerner, M J & Lerner, S C (eds), *The justice motive in social behavior: Adapting to times of scarcity and change*, Springer Science and Business Media, New York, pp. 173-202.

Brown, T A 2006, *Confirmatory Factor Analysis for Applied Research*, The Guilford Press, New York.

Buelow, M T & Suhr, J A 2009, 'Construct validity of the Iowa Gambling Task', *Neuropsychology Review*, vol. 19, no. 1, pp. 102-114.

Daunton, M 2001, *Trusting Leviathan: The politics of taxation in Britain, 1799-1914*, Cambridge University Press, Cambridge.

Dziobek, C, Alves, M, El Rayess, M, Gutierrez Mangas, C & Kufa, P 2011, 'The IMF's Government Finance Statistics Yearbook – maps of government for 74 countries', IMF Working Paper 11/127, Washington, DC.

Faizal, S M, Palil, M R, Maelah, R & Ramli, R 2017, 'Perception on justice, trust and tax compliance behavior in Malaysia', *Kasetsart Journal of Social Sciences*, vol. 38, no. 3, pp. 226-232.

Fajriana, N, Irianto, G & Andayani, W 2023, 'The role of tax fairness and taxpayer trust in building voluntary compliance in MSME taxpayers', *International Journal of Business and Society*, vol. 24, no. 1, pp. 478-487.

Farrar, J M, Donnelly, M E & Dhaliwal, S B 2013, 'Procedural aspects of tax fairness: A content analysis of Canadian tax jurisprudence', *ATA Journal of Legal Tax Research*, vol. 11, no. 2, pp. 21-37.

Feld, L P & Frey, B S 2007, 'Tax compliance as the result of a psychological tax contract: The role of incentives and responsive regulation', *Law and Policy*, vol. 29, no. 1, pp. 102-120.

Fjeldstad, O-H, Fundanga, C & Rakner, L 2016, 'The rise and fall of the mining royalty regime in Zambia', *CMI Brief*, vol. 15, no. 2.

Fornell, C & Larcker, D F 1981, 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of Marketing Research*, vol. 18, no. 1, pp. 39-50.

Gangl, K, Hofmann, E & Kirchler, E 2015, 'Tax authorities' interaction with taxpayers: A conception of compliance in social dilemmas by power and trust', *New Ideas in Psychology*, vol. 37, pp. 13-23.

Gilligan, G & Richardson, G 2005, 'Perceptions of tax fairness and tax compliance in Australia and Hong Kong – a preliminary study', *Journal of Financial Crime*, vol. 12, no. 4, pp. 331-343.

Gobena, L B & Van Dijke, M 2016, 'Power, justice, and trust: A moderated mediation analysis of tax compliance among Ethiopian business owners', *Journal of Economic Psychology*, vol. 52, pp. 24-37.

Hailu, Z & Rooks, G 2016, 'Property rights and owner-occupied housing investment in urban Ethiopia', *Property Management*, vol. 34, no. 4, pp. 345-357.

Hair, J F, Black, W C, Babin, B J & Anderson, R E 2010, *Multivariate data analysis*, 7th edn, Pearson, New York.

Hansford, A & Hasseldine, J 2012, 'Tax compliance costs for small and medium sized enterprises: The case of the UK', *eJournal of Tax Research*, vol. 10, no. 2, pp. 288-303.

Hofmann, E, Gangl, K, Kirchler, E & Stark, J 2014, 'Enhancing tax compliance through coercive and legitimate power of tax authorities by concurrently diminishing or facilitating trust in tax authorities', *Law and Policy*, vol. 36, no. 3, pp. 290-313.

Hussey, D M & Eagan, P D 2007, 'Using structural equation modeling to test environmental performance in small and medium-sized manufacturers: Can SEM help SMEs?', *Journal of Cleaner Production*, vol. 15, no. 4, pp. 303-312.

Kastlunger, B, Lozza, E, Kirchler, E & Schabmann, A 2013, 'Powerful authorities and trusting citizens: The Slippery Slope Framework and tax compliance in Italy', *Journal of Economic Psychology*, vol. 34, pp. 36-45.

Kirchler, E 2007, *The economic psychology of tax behaviour*, Cambridge University Press, Cambridge.

Kirchler, E, Hoelzl, E & Wahl, I 2008, 'Enforced versus voluntary tax compliance: The "slippery slope" framework', *Journal of Economic Psychology*, vol. 29, no. 2, pp. 210-225.

Kirchler, E, Kogler, C & Muehlbacher, S 2014, 'Cooperative tax compliance: From deterrence to deference', *Current Directions in Psychological Science*, vol. 23, no. 2, pp. 87-92.

Kirchler, E & Wahl, I 2010, 'Tax compliance inventory TAX-I: Designing an inventory for surveys of tax compliance', *Journal of Economic Psychology*, vol. 31, no. 3, pp. 331-346.

Kogler, C, Muehlbacher, S & Kirchler, E 2013, 'Trust, power, and tax compliance: Testing the "slippery slope framework" among self-employed taxpayers', Vienna University of Economics and Business International Taxation Research Paper Series 2013-5.

Kogler, C, Olsen, J, Müller, M & Kirchler, E 2020, 'Information processing in tax decisions: A MouselabWEB study on the Allingham and Sandmo model of income tax evasion', PsyArXiv Preprints, 19 May. Available at: https://osf.io/preprints/psyarxiv/bpe8j.

Kornhauser, M E 2007, 'Normative and cognitive aspects of tax compliance: Literature review and recommendations for the IRS regarding individual taxpayers', in National Taxpayer Advocate, *2007 annual report to Congress, volume two, Taxpayer Advocate Service research studies and reports*, Washington, DC, pp. 138-180.

Kugler, T & Bornstein, G 2013, 'Social dilemmas between individuals and groups', *Organizational Behavior and Human Decision Processes*, vol. 120, no. 2, pp. 191-205.

Lignier, P & Evans, C 2012, 'The rise and rise of tax compliance costs for the small business sector in Australia', *Australian Tax Forum*, vol. 27, no. 3, pp. 615-672.

Likert, R 1932, 'A technique for the measurement of attitudes', *Archives of Psychology*, vol. 22, no. 140, pp. 5-55.

MacCallum, R C & Austin, J T 2000, 'Applications of structural equation modeling in psychological research', *Annual Review of sychology,* vol. 51, pp. 201-226.

Mas'ud, A, Manaf, N A A & Saad, N 2014, 'Do trust and power moderate each other in relation to tax compliance?', *Procedia – Social and Behavioral Sciences*, vol. 164, pp. 49-54.

Muehlbacher, S & Kirchler, E 2010, 'Tax compliance by trust and power of authorities', *International Economic Journal*, vol. 24, no. 4, pp. 607-610.

Muehlbacher, S, Kirchler, E & Schwarzenberger, H 2011, 'Voluntary versus enforced tax compliance: Empirical evidence for the "slippery slope" framework', *European Journal of Law and Economics*, vol. 32, no. 1, pp. 89-97.

Niesiobedzka, M 2014, 'Typology of taxpayers and tax policy', *Polish Psychological Bulletin*, vol. 45, no. 3, pp. 372-379.

Nkwe, N 2013, 'Tax payers' attitude and compliance behavior among small medium enterprises (SMEs) in Botswana', *Business and Management Horizons*, vol. 1, no. 1, pp. 113-137.

Onu, D, Oats, L & Kirchler, E 2019, 'The dynamics of internalised and extrinsic motivation in the ethical decision-making of small business owners', *Applied Psychology*, vol. 68, no. 1, pp. 177-201.

Rosid, A, Evans, C & Tran-Nam, B 2016, 'Do perceptions of corruption influence personal income taxpayer reporting behaviour? Evidence from Indonesia', *eJournal of Tax Research*, vol 14, no. 2, pp. 387-425.

Saad, N 2010, 'Fairness perceptions and compliance behaviour: The case of salaried taxpayers in Malaysia after implementation of the self-assessment system', *eJournal of Tax Research*, vol. 8, no. 1, pp. 32-63.

Schweitzer, M E & Gibson, D E 2008, 'Fairness, feelings, and ethical decision-making: Consequences of violating community standards of fairness', *Journal of Business Ethics*, vol. 77, no. 3, pp. 287-301.

Slemrod, J 2007, 'Cheating ourselves: The economics of tax evasion', *Journal of Economic Perspectives*, vol. 21, no. 1, pp. 25-48.

Slemrod, J & Yitzhaki, S 2002, 'Tax avoidance, evasion, and administration', in Auerbach, A J & Feldstein, M (eds), *Handbook of Public Economics, vol. 3*, Elsevier, Amsterdam, pp. 1423-1470.

Torgler, B & Murphy, K 2004, 'Tax morale in Australia: What shapes it and has it changed over time?', *Journal of Australian Taxation*, vol. 7, no. 2, pp. 298-335.

Torgler, B & Schneider, F 2009, 'The impact of tax morale and institutional quality on the shadow economy', *Journal of Economic Psychology*, vol. 30, no. 2, pp. 228-245.

Tusubira, F N 2018, *Tax Compliance by the small and medium-sized corporations: A case of Uganda*, PhD thesis, University of Exeter.

Tyler, T R 1997, 'Procedural fairness and compliance with the law', *Swiss Journal of Economics and Statistics*, vol. 133, no. 2/2, pp. 219-240.

Tyler, T R 2006, 'Restorative justice and procedural justice: Dealing with rule breaking', *Journal of Social Issues*, vol. 62, no. 2, pp. 307-326.

Uganda Bureau of Statistics (UBOS) 2010, *The report on the 2010/11 census of business establishment*, Uganda.

Uganda Revenue Authority (URA) 2016, *Revenue performance report financial year 2015/16*, 15 July.

Van Dijke, M & Poppe, M 2006, 'Striving for personal power as a basis for social power dynamics', *European Journal of Social Psychology*, vol. 36, no. 4, pp. 537-556.

Van Dijke, M & Verboon, P 2010, 'Trust in authorities as a boundary condition to procedural fairness effects on tax compliance', *Journal of Economic Psychology*, vol. 31, no. 1, pp. 80-91.

Wenzel, M 2004, 'An analysis of norm processes in tax compliance', *Journal of Economic Psychology*, vol. 25, no. 2, pp. 213-228.

Yong, S & Rametse, N 2010, 'The influence of procedural fairness on the small business entrepreneurs and their perception of the tax authority: A case study approach', *International Review of Business Research Papers*, vol. 6, no. 1, pp. 487-512.

9.   APPENDIX

Power of authorities

Scenario: PAEST Business Traders Ltd owns a Pickup Van which Mr. Mudasi one of the managing Directors uses for business operations. However, Mr. Mudasi has the freedom also to use the van for his personal errands. The Income Tax Act provides that expenses are deductible to the extent the van is used for business purposes. In preparing the corporate income tax return, Mr. Mudasi establishes that the van was used 70% for business. However, he also calculates if he WRONGLY claimed it was used 95% for business, the company's deduction would rise by UGX 3,500,000 and would save UGX 1,000,000 in taxes.

Imagine you were Mr. Mudasi, how do you think you would act in his place?

Audit probability and detection (1 = highly unlikely to 7 = highly likely)

a)   Unaudited companies may comply if they become aware that others have been subjected to audits.

b)   Most corporate tax returns audited by the URA would be found to be erroneous, with less income declared.

c)   Largely, corporate income tax returns from 2014 and 2015 would be audited by the URA.

d)   If audited, how likely is it that the deduction of UGX 3,500,000 would be disallowed?

e)   If Mr. Mudasi deducts UGX 3,500,000 in van expenses, how likely is it that the URA would audit the company?

Sanctions (1 = completely disagree to 7 = completely agree)

a)   The level of punishments by the URA for not complying with the law is very high.

b)   At times, the URA closes down some companies for failure to fulfil corporate income tax requirements.

c)   Late payment of corporate tax means we have to pay higher interest on that amount of tax.

d)   The tax fines imposed for not complying with the corporate tax law are high for our company.

Legitimate power (1 = completely disagree to 7 = completely agree)

    a) The Uganda Revenue Authority has extensive means by which to force corporations to be honest about income tax.

    b) Income tax compliance is much higher when the tax authority has the capacity to match tax returns and third-party information reports in a systematic way.

    c) The Uganda Revenue Authority has good reputation and is respected for the good work.

Trust in authorities (1 = completely disagree to 7 = completely agree)

    a) The Uganda Revenue Authority treats me fairly in my dealings with them.

    b) The Uganda Revenue Authority treats us respectfully in our dealings with them.

    c) We trust the URA and government when dealing with them on corporate tax matters

Tax fairness (from 1 = completely disagree to 7 = completely agree)

Distributive fairness

    a) I believe the government utilises a realistic amount of tax revenue to achieve social goals.

    b) I think the government spends too much tax revenue on unnecessary welfare assistance (*Reversed*).

    c) We receive fair value of services from the government in return for our corporate tax paid.

    d) We pay high corporate taxes when compared to the services we get from the government (*Reversed*).

Procedural fairness

    a) There are a number of ways available to the company to correct errors in the calculation of corporate tax liability, if necessary, at no additional cost.

    b) The administration of the corporate tax system by the URA is consistent over the years.

    c) The administration of the corporate tax system by the URA is consistent for all corporate taxpayers.

Tax compliance materials (1 = completely disagree to 7 = completely agree)

Voluntary tax compliance

My company pays corporate taxes as required by the regulations because….

… it's clear that is what we have to do.

... of the need to support the state and society as a whole.

... we like to make a contribution towards everyone's good.

... for us it's the natural thing to do.

... we regard it as our responsibility as citizens.

Enforced compliance

When we pay corporate taxes as required by the regulations, we do so because ...

... a large number of tax checks are carried out.

... the tax office often carries out checks.

... we know that the company will be audited.

... the punishments for tax evasion are very severe.

... we do not know exactly how to evade taxes without attracting attention.

How does tax service quality influence SMEs' tax compliance in Vietnam? The role of trust and knowledge

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Abstract

A limited number of studies have examined the roles of behavioural and social factors, such as authorities' tax services, tax knowledge and trust, on the tax compliance of small and medium-sized enterprises (SMEs). By applying the synergistic climate of the slippery slope framework, this study examines the mechanisms by which tax service quality influences the tax compliance of SMEs in Vietnam via direct, indirect and interaction effects. Data was collected from a sample of 362 SMEs located in Vietnam using a stratification sampling method. The results indicate that tax service quality affects tax compliance directly and indirectly through trust. Furthermore, it was found that tax knowledge negatively moderates the relationship between tax service quality and compliance. The implications of these findings for tax authorities and SMEs operating in Vietnam on enhancing SMEs' tax compliance are discussed.

Keywords: tax compliance, trust, tax knowledge, small and medium enterprises, tax authorities

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1.   INTRODUCTION

Tax compliance has garnered significant attention from governments due to the negative impact of non-compliance on tax revenue collection. Insufficient tax collection hinders governments from fulfilling their social and economic responsibilities for a prosperous society and economy (Sapiei, Kasipillai & Eze, 2014). As a result, researchers across various disciplines have conducted studies on tax compliance to better understand the factors that influence taxpayers' behaviours (Nguyen et al., 2020). Studies adopting an economic approach suggest that strong tax authorities, through strict fines and audits, represent the most effective means of pursuing tax evaders (Allingham & Sandmo, 1972; Srinivasan, 1973). Nonetheless, earlier research has shown that economic factors alone cannot consistently predict tax compliance and that further investigation of social and psychological factors is warranted (Alm, 2019; Batrancea et al., 2019; Kastlunger et al., 2013).

Consequently, the researchers in the present study used the synergistic climate of the slippery slope framework (SSF) by Kirchler, Hoelzl and Wahl (2008) to explain the non-economic factors affecting the tax compliance of small and medium-sized enterprises (SMEs) in Vietnam. The SSF integrates economic, psychological and sociological assumptions and proposes that antagonistic and synergistic climates shape tax compliance. In an antagonistic climate, perceptions of authorities' power determine taxpayers' compliance behaviour. In the synergistic climate, compliance depends on trust in tax authorities. Focusing on the synergistic climate, our study investigates the influence of the tax authorities' service quality, taxpayers' trust, and tax knowledge on the tax compliance behaviour of SMEs in Vietnam. Tax authorities include tax policy-makers and tax administrators. This study focuses on tax administrators, as they provide tax services to taxpayers in addition to their tax enforcement roles. Although tax service quality could partially indicate tax administrators' capability to enforce tax compliance, the researchers adopted a synergistic approach. The literature supports the notion that tax service quality is an effective tool for facilitating and stimulating tax compliance rather than enforcing it, as tax service quality creates a cooperative climate between tax administrators and taxpayers and empowers taxpayers to feel confident in their tax declarations while strengthening their trust in officials (Alm et al., 2010; Gangl et al., 2013).

Vietnam is a suitable context for our research, as the country has undergone reforms to enhance the quality of tax services offered by tax authorities to businesses in recent years (Nguyen, 2021). Since 2004, Vietnam has implemented a self-assessment system aimed at improving the efficiency of tax administration (Nguyen et al., 2020). However, this tax administration approach also has its drawbacks, as it depends on taxpayers' tax knowledge and behaviours. Additionally, low tax knowledge, slow adoption of tax regimes and policies by taxpayers, and ineffective tax services from tax authorities have led to some negative consequences in Vietnam's tax field (Dang, Le & Do, 2013).

In the intriguing research context of Vietnam, this study emphasises SMEs rather than other taxpayer groups. First, in contrast to the case for large companies, tax compliance for SMEs relies heavily on their owners' decisions (Kirchler, 2007). In other words, the attitudes and behaviours of owners significantly affect SMEs' tax compliance. Second, due to limited administrative capabilities, SMEs are more likely not to comply with taxes compared to their larger counterparts (Inasius, 2019; Kamleitner, Korunka & Kirchler, 2012). Lastly, SMEs are crucial contributors to economic growth in countries

worldwide, including Vietnam; this sector represents approximately 90% of businesses globally (World Bank, 2019). Consequently, non-compliance by SMEs poses a significant risk to the government (Bornman & Ramutumbu, 2019). Therefore, SMEs present an appropriate context for examining the impact of behavioural factors on tax compliance.

Although limited studies have examined the roles of behavioural and social factors – such as authorities' tax services, tax knowledge, and trust – on the tax compliance of SMEs, they have primarily focused on direct effects and produced inconsistent results (e.g., Masari & Suartana, 2019; Sritharan et al., 2022; Susuawu, Ofori-Boateng & Amoh, 2020; Yunianti et al., 2019). Little is currently known about the indirect impact of tax service, leading to calls for additional research on the indirect or interaction effects of this factor on tax compliance. This article proposes that authorities' tax services may influence tax compliance through trust, with tax knowledge acting as a moderator. The researchers contend that taxpayers' knowledge is essential for understanding why some continue to engage in tax evasion despite the high quality of the authorities' tax service and vice versa. Taxpayers with low tax knowledge may interpret support from authorities differently than those with more knowledge. In other words, tax knowledge can shape how taxpayers respond to tax authorities and their compliance. Through this approach, our study plays a modest yet important role in addressing the broader research gap concerning the mechanisms through which tax service quality affects tax compliance via trust and tax knowledge.

The article is structured as follows: first, the use of the SSF to develop a conceptual model explaining the factors affecting SMEs' tax compliance is analysed. Second, hypotheses are developed. Third, the results from the analyses and testing of the hypotheses are presented. Lastly, the theoretical and managerial implications of the findings are discussed, along with directions for future research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Slippery slope framework

Prior research has indicated that economic factors such as audit rates and penalties have produced inconsistent results, affecting taxpayers' compliance with tax obligations and disproving the idea that taxpayers deliberately engage in tax evasion as opportunistic behaviour (Alm, Sanchez & De Juan, 1995; Alm et al., 2010; Kirchler et al., 2010). The field of tax behaviour research has aimed to reconcile economic and psychological factors in explaining tax compliance.

In this regard, Kirchler and co-authors (2008) developed the SSF based on Becker's (1968) crime theory, which offers two sets of factors influencing tax compliance: antagonistic and synergistic assumptions. The SSF, the most comprehensive framework of its kind, synthesises tax compliance theories (Ritsatos, 2014). The SSF looks at power derived from taxpayers' perceptions of tax authorities' abilities to identify taxpayer non-compliance (Gangl et al., 2020). Consequently, antagonistic assumptions emphasise economic factors such as fines and audits as tools that tax authorities use to alter taxpayers' behaviour due to their non-compliance. On the other hand, synergistic assumptions focus on psychological factors that motivate taxpayers' trust in tax authorities' policies and services, creating a synergistic environment conducive to voluntary compliance (Hofmann et al., 2014).

This study solely concentrates on non-economic factors, such as trust, tax authorities' service quality and tax knowledge, and the researchers utilise synergistic assumptions to elucidate our research framework. The synergistic assumption highlights voluntary compliance, which is favourable for both tax authorities and taxpayers since it prevents an adversarial relationship with tax authorities and precludes the need for costly control measures. In this context, trust in authorities fosters citizens' adherence to tax obligations. Enhancing trust in authorities results in increased honesty regarding tax payments, which in turn promotes voluntary compliance (Kogler et al., 2013). Recent research indicates that other factors, including tax knowledge and service quality, contribute to a synergistic environment that improves tax compliance (Alm et al., 2010; Jaya, Ratnawati & Sardjono, 2017; Haning et al., 2019). Tax authorities' services provide essential information to help taxpayers abide by tax regulations (Agustiara & Jati, 2020). This service empowers taxpayers to attain confidence in their tax declarations while strengthening their trust in officials.

Furthermore, tax knowledge may impact compliance positively since well-informed taxpayers possess a comprehensive understanding of the societal role of taxes, thus reducing mistrust in authorities. However, tax knowledge could also lead to non-compliance, as knowledgeable taxpayers who understand the tax system might seek to use loopholes to minimise their tax payable (Gilligan & Richardson, 2005). Despite such controversial arguments regarding the effect of tax knowledge on tax compliance (Kwok & Yip, 2018), this study focuses on its moderating role rather than its direct influence, as examined in previous studies.

2.2   Tax service quality and tax compliance

2.2.1   Tax compliance

According to the Organisation for Economic Co-operation and Development (OECD) (2004), 'tax compliance' refers to implementing tax policy based on four pillars: tax registration, tax declaration, tax payment, and tax liability reporting. Moreover, some tax authorities define tax compliance as the capacity and willingness to comply with tax regulations, declare income accurately yearly, and pay taxes in full and on time (Bui, 2017). Tax compliance is the correct and complete execution of tax reports and notices, the correct calculation of payable tax amounts and tax payments, and the timely payment of tax obligations (Hidayat et al., 2014).

2.2.2   Tax service quality

Numerous perspectives exist concerning the quality of tax services, such as those by Muhammad and Saad (2016), Gangl and co-authors (2013), and Obid and Mustapha (2014). In their research, Obid and Mustapha (2014) argue that the accessibility of tax services and amenities for taxpayers is a key indicator of tax service quality. Muhammad and Saad (2016) assert that taxpayers' attitudes and expectations toward tax services vary. The OECD (2017) demonstrates that tax services provided by taxing authorities help mitigate taxpayer concerns. Importantly, tax authorities address the issue of tax service quality for a diverse range of taxpayers; consequently, various services are tailored to different taxpayers (Ali Al-Ttaffi & Abdul-Jabbar, 2016). Jaya and co-authors (2017) examined the public service of tax authorities from the viewpoint of five measurement gaps in tax service through perceptions and expectations (Parasuraman, Zeithaml & Berry, 1985; Parasuraman, Zeithaml & Berry, 1988). A recent study conducted in Vietnam's tax context by Au, Hoang and Ho (2022)

uncovered two new elements for the tax service quality scale: responsiveness and professionalism. Responsiveness refers to readiness, promptness and timeliness in the quality of tax service, while professionalism denotes waiting time, accurate service delivery and guidance provided by the tax authority.

2.2.3   Tax service quality–tax compliance relationship

The SSF offered an improved understanding of taxpayer behaviour and regulatory practices by emphasising the need to consider government power and trust in the government, and their dynamic interaction. The SSF depends on the integration of taxpayer trust and authority. According to the trust aspect, taxpayer compliance is influenced by taxpayer trust, which is formed through tax knowledge, confidence, and satisfaction (Alm et al., 2010; Jaya et al., 2017; Haning et al., 2019). Researchers in prior studies (Alm, Kirchler & Muehlbacher, 2012; Alm et al., 2012) discovered a new tax compliance approach based on the 'service paradigm' to assist with tax compliance and increase corporate confidence in voluntary tax compliance. Consequently, in addition to the traditional 'crime paradigm' for tax compliance, enhancing tax services and trust are essential variables in tax compliance. Due to its effect on tax revenue mobilisation, the nature of the tax service quality–tax compliance behaviour relationship holds many consequences for policy-makers and governments (Susuawu et al., 2020).

Several previous studies have confirmed the relationship between tax service quality and taxpayer compliance with tax laws. According to Alabede, Zainal Affrin and Idris (2011), perceived tax service quality is significantly positively associated with tax compliance behaviour. In their study, Dharma and Suardana (2014) found that service quality considerably affects taxpayer compliance. Ali Al-Ttaffi and Abdul-Jabbar (2016) examined the impact of tax service quality on SMEs' taxpayer behaviour in Yemen. According to the study, perceived tax service quality negatively influences non-compliance behaviour. Awaluddin and Tamburaka (2017) discovered that service quality significantly affects taxpayer compliance concerning motorised vehicle tax. Wisudawaty, Rura and Kusumawati (2018) recently determined the effect of system, information and service quality on taxpayer compliance. Thus, the researchers in the present study propose the following hypothesis:

H₁: *Tax service quality positively impacts taxpayer compliance.*

2.3   Tax service quality and trust

Public service quality is an indicator of government's performance, which is a key source of public trust (Haning et al., 2019). According to the SSF, there is a strong association between tax service quality, trust and voluntary tax compliance (Da Silva, Guerreiro & Flores, 2019). Tax services foster mutual understanding and cooperation between tax authorities and taxpayers. Tax authorities offering 'better, friendlier' information through their services significantly improve taxpayers' tax knowledge, allowing them to increase certainty in their tax declarations and enhance their trust in tax officials. Consequently, supportive and friendly tax services provided by the authorities contribute to taxpayer knowledge and promote their trust in the tax agencies (Alm et al., 2010). Augustine, Folajimi and Ayodele (2020) argued that the purpose of tax service quality is to provide procedural fairness via morality, justice and service orientation toward taxpayers, thereby enhancing trust in tax authorities. Artawan, Widnyana and Kusuma (2020) found that tax service quality positively affected trust among individual taxpayers. The researchers of the present study expected the same

relationship to occur within the sample of SMEs. Therefore, the following hypothesis is proposed:

H₂: *Tax service quality positively impacts trust.*

2.4   Trust and tax compliance

For taxpayers to have trust in tax authorities, the actions of tax authorities must align with their perceived purpose, which is to act in the common good of society (Kirchler et al., 2008). Wenzel (2002) affirms and expands the findings within the realm of tax compliance, demonstrating that individuals are more likely to comply with their tax obligations when they feel the government treats them equitably and respectfully. Crucial subjective elements influencing taxpayer beliefs encompass perceptions of fairness in tax authorities' management, standards, ethics and tax knowledge (Bornman, 2015). OECD (2010) revealed that most nations regard taxpayers' trust in their government as a significant factor in promoting tax compliance. Alm and co-authors (2010) discovered that an ambiguous tax system decreases tax payment and reporting compliance. When taxpayers consider tax authorities to be trustworthy, they are more likely to have positive regard for the authorities and reciprocate by paying the appropriate taxes due to the state (Alemika, 2004; Prichard et al., 2019). Trust in tax authorities also encompasses the fair treatment of taxpayers by the authorities, which encourages taxpayers to fulfil their tax obligations (Cahyonowati, Ratmono & Juliarto, 2023).

Several studies indicate that trust in the tax system affects the tax compliance behaviour of SMEs (Ul Albab & Suwardi, 2021; Braithwaite, 1995; Cahyonowati et al., 2023; Lederman, 2003; Nartey, 2023). Lederman (2003) observed that SMEs' beliefs align with perceptions of tax fairness. Similarly, Nartey (2023) found a positive association between tax fairness and compliance among SMEs in Ghana. Ul Albab and Suwardi (2021) presented evidence of the same relationship in a Yogyakarta sample of micro businesses and SMEs. A deficit in confidence regarding the impartiality and legitimacy of tax authorities heightens the risk of corporate tax evasion (Webley, 2004). SMEs' trust positively influences their willingness to comply with tax regulations (OECD, 2010). Therefore, the researchers propose the following:

H₃: *Trust positively impacts tax compliance.*

2.5   The mediating role of trust

Trust enhances tax compliance, leading to improved tax returns. On the other hand, scepticism and mistrust in the government, along with uncertainty in the tax system, reduce taxpayer trust and increase the probability of tax violations and non-compliance, as well as companies' ability to evade taxes (Alm et al., 2010; Cummings et al., 2009; Webley, 2004). Wenzel (2002) claimed that, when tax officials treat taxpayers appropriately and respectfully, they are more likely to obey the law. It is considered a central factor of tax confidence and has a positive relationship with taxpayer compliance (Bornman, 2015; OECD, 2010). Businesses commit to enhancing tax compliance through specialised tax consulting services due to a reciprocal trust relationship (Tan, Braithwaite & Reinhart, 2016). Moreover, tax compliance relies on the tax authorities' ability to detect and penalise tax administrative infractions and scrutinise companies (Lederman, 2003). Artawan and co-authors (2020) noted a mediating role of trust in the relationship between tax service quality and tax compliance among individual taxpayers

in the case of Land and Building Tax in Gianyar Regency. Meanwhile, Dharmayanti (2023) argued that tax service quality only enhances tax compliance if it fosters trust. This underscores the importance of trust in business tax compliance. Therefore, the researchers propose the following:

H₄: *Trust mediates the relationship between tax service quality and tax compliance.*

2.6   The moderating role of tax knowledge

Tax knowledge pertains to an individual's ability to comprehend the tax system and its benefits, enabling them to make payments, file tax returns, grasp tax principles and understand the consequences of non-compliance with tax obligations (Puspita, Subroto & Baridwan, 2016; Wong & Lo, 2015). According to the SSF (Kirchler et al., 2008), tax knowledge reduces uncertainty and suspicion regarding tax policies and systems, thereby positively influencing taxpayer trust in authority and tax compliance. Tax knowledge assists taxpayers in fulfilling their tax obligations properly and accurately (Saad, 2014; Sithebe, 2022). The higher the level of taxpayer knowledge, the greater the awareness of the social obligation of paying taxes (Cialdini, 1989).

However, previous studies (e.g., Lestari & Daito, 2020; Saad, 2014; Sithebe, 2022) have primarily focused on examining the direct effect of tax knowledge on tax compliance. Little is known about the moderating role of tax knowledge in the relationship between the quality of tax service provided by tax authorities and tax compliance. The researchers argue that the strength of this association depends on taxpayers' tax knowledge. The quality of tax service provided by tax authorities is more crucial for those with low tax knowledge than for their counterparts. They are willing to comply with tax regulations, but they often fail because they need to have more knowledge about complying (Bornman & Ramutumbu, 2019). Tax services significantly contribute to understanding tax systems, enabling individuals to fulfil their tax obligations correctly.

In contrast, the role of tax authorities becomes less critical when taxpayers possess a higher level of taxation knowledge (Agustiara & Jati, 2020). Such individuals often rely less on tax services, as they are fully capable of handling tax procedures themselves. Their non-compliance may not stem from insufficient tax knowledge but rather from intentional tax evasion. These taxpayers are acutely aware of the consequences of non-compliance; however, they may still choose to violate tax regulations if the benefits outweigh the costs of non-compliance. As a result, tax support from tax authorities holds less significance for those with an advanced understanding of taxation. Therefore, the researchers propose the following:

H₅: *Tax knowledge negatively moderates the association between tax service quality and compliance.*

Based on the hypotheses developed above, the researchers propose the following research framework. In this framework, tax compliance serves as the dependent variable and tax service quality acts as the independent variable. Trust mediates the relationship between tax service quality and tax compliance, while tax knowledge moderates this connection. Control variables encompass enterprise age and enterprise size.

Fig. 1: Research Framework
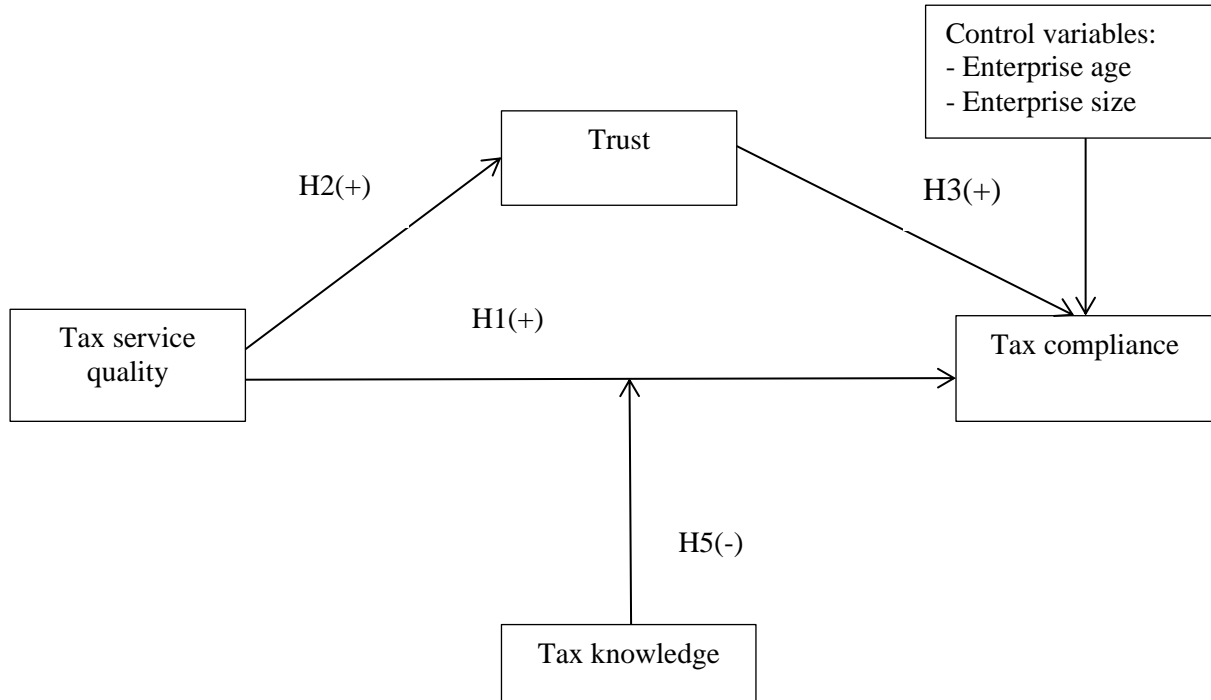
3. METHODOLOGY

3.1 Data collection

The sample for this study comprises SMEs situated in Thua Thien Hue, a province in Central Vietnam. The researchers chose Thua Thien Hue, as this province was recently selected as a pilot for proactive tax services by the Vietnam General Department of Taxation. As such, Thua Thien Hue offers an interesting research context for examining the association between tax authorities' tax service quality and SMEs' tax compliance. The researchers employed probabilistic sampling using a stratification method based on the following attributes: size, industry, type of business, and location of operation of SMEs. From the list of active SMEs, the study selected a sample of 450 from the total population of 5,235 SMEs in Thua Thien Hue province.

The selected sample size needed to be large enough to ensure reliability. The total number of SMEs in Thua Thien Hue province was 5,235 enterprises in 2022. Thus, based on the general formula of Krejcie and Morgan (1970), from a total of 5,235 SMEs, a sample size of 358 SMEs was decided upon. This sample size was calculated as follows:

$$S = (X2*N*P*(1-P))/(d2*(N-1)+X2*P*(1-P))$$

where:

s = required sample size;

X2 = the table value of chi-square for 1 degree of freedom at the desired confidence level;

N = population size;

P = population proportion (assumed to be 0.50, since this would provide the maximum sample size);

d = the degree of accuracy expressed as a proportion (0.05);

s = (1.962 x 5,235 x 0.5 x (1 – 0,5)) ÷ (0.052 x (5,235 – 1) + 1.962 x 0,5 x (1 – 0.5));

(s = 358).

The researchers distributed the questionnaires among the 450 chosen SMEs to ensure a sufficient sample size. The survey was conducted in 2022 and studied SMEs' tax compliance within the same period. The researchers used stratified random sampling to select the survey sample from a list of enterprises' names provided by the tax department of Thua Thien Hue province. The sample included members of boards of directors, chief accountants and heads of the financial departments of the chosen SMEs. The researchers emailed the 450 selected SMEs to invite them to participate in the survey. The researchers also sent paper questionnaires in sealed envelopes, with a return address included. The researchers followed up with reminders through emails if they had not yet responded to our survey within two weeks.

The researchers employed a back-translation process to create the questionnaire in Vietnamese from English. First, the researchers adapted scales and developed a questionnaire based on English literature. Second, the researchers translated the questionnaire into Vietnamese and conducted a pilot survey with five enterprises and five academics to identify any unclear questions or discrepancies with Vietnamese culture. Third, the researchers hired a translator to translate the questionnaire back into English, and the researchers compared it to the original English version to ensure both versions conveyed the same meaning.

The researchers received 391 respondents in total. The researchers eliminated some unusable questionnaires due to the lack of crucial information and dishonest responses associated with reversed questions. In the end, the researchers were left with 362 questionnaires to meet the prerequisites for further analysis.

3.2   Data analysis

The researchers utilised the SPSS statistical package to analyse descriptive statistics, test the measurement model and assess linear regression models. The researchers employed Baron and Kenny's (1986) approach to confirm mediation effects and implemented Hair and co-authors' (2010) method to evaluate moderation effects. According to Baron and Kenny (1986), confirmed mediation effects must meet four conditions: first, the independent variable must significantly affect the dependent variable; second, the independent and mediator variables must be significantly related; third, the mediator variable must be significantly associated with the dependent variable, and fourth, the relationship between the independent and dependent variables should be weaker or non-significant when both the independent and mediator variables are included in the regression model. In accordance with Hair and co-authors (2010),

moderation relationships must meet these conditions: first, the independent variable must significantly impact the dependent variable; second, the interaction effect between independent and moderation variables must significantly influence the dependent variables.

3.3 Scale

Tax knowledge pertains to comprehending tax procedures and regulations, taxpayers' rights and obligations, and their ability to determine the accurate amount of tax. The researchers adopted this scale from Mukhlis, Utomo and Soesetio (2015), which consists of five items.

Trust establishes a relationship of support, sharing, trust, and respect with tax offices, fostering a tendency for voluntary tax compliance. The researchers adopt this measure from McAllister (1995) using 11 items. McAllister (1995) built a trust scale to measure one's trust in another. The researchers adapted and revised this scale to measure businesses' trust in tax authorities.

Tax service quality refers to taxpayers' assessments of tax authorities' services (Au et al., 2022). This scale, adapted from Au and co-authors (2022), comprises two dimensions: responsiveness, which has five items, and professionalism, which has eight items.

Tax compliance reflects taxpayers' decisions to adhere to tax laws and regulations, encompassing four key components: tax registration, tax returns, tax payments, and tax liability reporting (OECD, 2010). The researchers developed tax compliance scale with four items based on these components.

All items were measured using a 7-point Likert scale, ranging from 1, 'strongly disagree', to 7, 'strongly agree', except for tax knowledge, which was measured from 1, 'no knowledge', to 7, 'superior knowledge'. The questionnaire items of the above constructs can be found in the Appendix. Additionally, the researchers controlled for enterprise age and size – measured by the enterprises' working capital.

4. RESULTS

4.1 Descriptive statistics

Table 1 displays the profiles of the respondents. Of the 362 enterprises, trade and service industries constituted 49.2%; construction comprised 25.1%; and the remaining percentage was allocated to industry and manufacturing, agriculture, forestry and fisheries, mining, and other industries. Regarding business organisations, limited liability companies represented the largest proportion at 65.7%, while partnerships accounted for the smallest at 0.6%. Joint stock companies and sole proprietorships constituted 18.8% and 13.5%, respectively. Concerning the age of SMEs, 34% were over 10 years old, and 29.8% fell into the 1 to 5 year range. Concerning firm size, 86.7% of SMEs had working capital under VND 20 billion, and 50% possessed capital under VND 3 billion. In terms of respondents' positions, 69.9% held chief accountant roles, 20.2% were members of the board of directors, and 9.9% were chief financial officers.

Table 1: Profiles of Respondents (Measured by the Number of Enterprises)

	n	%
Sectors		
Trade and services	178	49.2
Construction	91	25.1
Industry and manufacturing	19	5.2
Agriculture, forestry and fishery	19	5.2
Mining	4	1.1
Others	33	9.1
Missing	18	5.0
Types of business organisations		
Limited liability companies	238	65.7
Joint stock companies	68	18.8
Proprietorship	49	13.5
Partnership	2	0.6
Missing	5	1.4
Firm age		
Less than 1 year	38	10.5
From 1 to less than 5 years	108	29.8
From 5 to less than 10 years	93	25.7
From 10 years	123	34.0
Firm size (measured by working capital in VND)		
Less than 3 billion	184	50.8
From 3 to less than 20 billion	130	35.9
From 20 to less than 50 billion	26	7.2

From 50 billion	22	6.1
Respondents' position		
Members of the board of directors	73	20.2
Chief Financial Officers	36	9.9
Chief Accountants	253	69.9
Total	**362**	**100.0**

Table 2 displays the constructs' means, standard deviations, reliability, and correlation coefficients. Most of the constructs exhibit significant correlations with one another, with their correlations ranging from -0.183 to 0.744. All correlation coefficients in this study were below 0.9, suggesting that all scales are suitable for further analysis (Tabachnick & Fidell, 1996). Tax compliance had the highest mean (6.28), followed by trust (6.03), tax service quality (5.94), and tax knowledge (5.60). The results show that most SMEs have a high level of tax compliance, have high trust in tax authorities, and consider the quality of tax authorities' tax services to be good. The average level of tax knowledge also indicated that most SMEs had high knowledge of the tax field. These positive findings are attributable to current reforms by the tax department of Thua Thien Hue province, which aims to provide tax services proactively.

Table 2: Descriptive Statistics, Reliability and Correlation Matrix of the Study Constructs

No	Variables	Mean	SD	1	2	3	4	5	6
1	Firm age	2.96	0.942	na					
2	Firm size	1.72	0.955	0.180**	na				
3	Tax service quality	5.94	0.965	-0.094	-0.183**	**0.946**			
4	Trust	6.03	0.912	-0.045	-0.176**	0.744**	**0.942**		
5	Tax knowledge	5.60	0.985	-0.020	-0.113*	0.520**	0.579**	**0.939**	
6	Tax compliance	6.28	0.822	0.046	-0.031	0.453**	0.535**	0.508**	**0.895**

Notes: ** Significant at $p < 0.01$; * Significant at $p < 0.05$. The bold figures on the diagonal are the Cronbach's alpha.

4.2   Common method bias

First, the researchers applied Harman's single-factor analysis to test for common method variance. Results showed that four factors (measured by scaled data) had eigenvalues greater than 1.0, while the single factor accounted for only 36.28% of the total variance. Second, following Kock (2015), the researchers used the full collinearity assessment approach, and all variance inflation factors (VIFs) had values less than 3.33. Therefore, both tests indicated that the model was free from common method variance (Podsakoff et al., 2003).

There was concern about the potential common method bias since all variables were collected from the same participants (Delcourt et al., 2013; Melton & Hartline, 2013). To reduce this bias, the researchers designed the questionnaire using unambiguous scale items. Respondents were motivated to answer honestly. A marker variable (tax ethics) was included in the questionnaire. It had a low correlation with other variables (correlation coefficients ranged between -0.201 and 0.162), and the correlations among other variables remained significant. Therefore, common method bias did not affect data quality.

4.3   Hypothesis testing

Table 3 presents the outcomes of three linear weighted regression models. The first model designates trust as the dependent variable of tax service quality. In the second model, tax compliance is the dependent variable of tax service quality, while the third model incorporates trust as an independent variable. In addition, the values of the VIFs were below 3.0, indicating an absence of issues regarding multicollinearity. As the data was cross-sectional, heteroscedasticity could occur. Thus, the researchers used the White test to detect heteroscedasticity in all three models. The results show that the chi-square values in models 1 to 3 were 30.48, 69.90, and 73.74, respectively, with $p < 0.05$, indicating the presence of heteroscedasticity in all three models. The researchers used weighted regression to eliminate the problem of heteroscedasticity. Table 3 presents the weighted regressions results of the three models. Per the R^2 adjusted values, firm age, firm size, and tax service quality explain 56% and 19% of the variances in trust and tax compliance, respectively, while these independent variables and trust explain 23% of the variance in tax compliance.

Table 3: Weighted Regression Results

| | Dependent variables | | | |
| | Trust | Tax compliance | | |
	Model 1	Model 2	Model 3	VIF
Control variables				
Firm age	-0.03^{ns}	0.02^{ns}	0.06^{ns}	1.03
Firm size	-0.04^{ns}	0.03^{ns}	0.05^{ns}	1.06
Independent variables				
Tax service quality	$0.74**$	$0.45**$	$0.15*$	2.64
Trust			$0.38**$	2.65
F	$152.65**$	$29.82**$	$28.60**$	
Adjusted R^2	0.56	0.19	0.23	

Notes: ** Significant at $p < 0.01$; ns: Nonsignificant

Hypothesis 1 states that tax service quality positively influences tax compliance. The results of Model 2 demonstrate a significant impact of tax service quality on tax compliance ($\beta = 0.45$, $p < 0.01$), thus supporting the Hypothesis 1.

Hypothesis 2 proposes that tax service quality has a positive effect on trust. The findings from Model 1 reveal that tax service quality significantly and positively impacts trust ($\beta = 0.74$, $p < 0.01$), which supports Hypothesis 2.

Hypothesis 3 states that trust has a positive effect on tax compliance. Model 3 demonstrates that trust significantly impacts tax compliance ($\beta = 0.38$, $p < 0.01$), confirming the Hypothesis 3.

4.4   Mediation

This study utilises Baron and Kenny's (1986) method to investigate the mediating role of trust in the connection between tax service quality and tax compliance. First, the effect of the independent variable (tax service quality) on the dependent variable (tax compliance) is confirmed in Model 2 ($\beta = 0.45$; $p < 0.01$), supporting condition 1. Second, the significant impact of tax service quality on the mediator variable (trust) was validated in Model 1 ($\beta = 0.74$; $p < 0.01$), supporting condition 2. Third, Model 3 reveals the positive influence of trust on tax compliance ($\beta = 0.38$; $p < 0.01$). Fourth, with the inclusion of trust, the effect of tax service quality on tax compliance weakens (from $\beta = 0.45$ in Model 2 to $\beta = 0.15$; $p < 0.05$ in Model 3), satisfying condition 4. The Sobel test

result indicates this decrease is significant (Sobel Z = 4.95, p < 0.01). Therefore, trust partially mediates the link between tax service quality and tax compliance, and hypothesis 4 was supported. The total, direct, and indirect effects of tax service quality on tax compliance are shown in Table 3.

Table 3: Mediation Analysis Result

	Independent	Dependent	Direct	Indirect	Total	Sobel test	Result
H₄	Tax service quality	Tax compliance	0.15	0.28	0.43	8.61	Supported: Partial mediation

4.5   Moderating

The researchers created an interaction variable for (tax service quality x tax knowledge) and standardised all predictor and moderator variables to examine the moderating role of tax knowledge (Aiken, West & Reno, 1991). Tax knowledge significantly moderated the relationship between tax service quality and tax compliance ($\beta = -0.110$, $p = < 0.05$). Tax service quality was more positively related to tax compliance when tax knowledge was low (simple slope = 0.274, $p = < 0.01$) than when it was high (simple slope = 0.058, $p = 0.393$). Thus, the result supports Hypothesis 5: the positive influence of tax service quality on tax compliance weakens as tax knowledge increases. Figure 2 displays the moderating effect of tax knowledge.

Fig. 2: Moderating Effect of Tax Knowledge
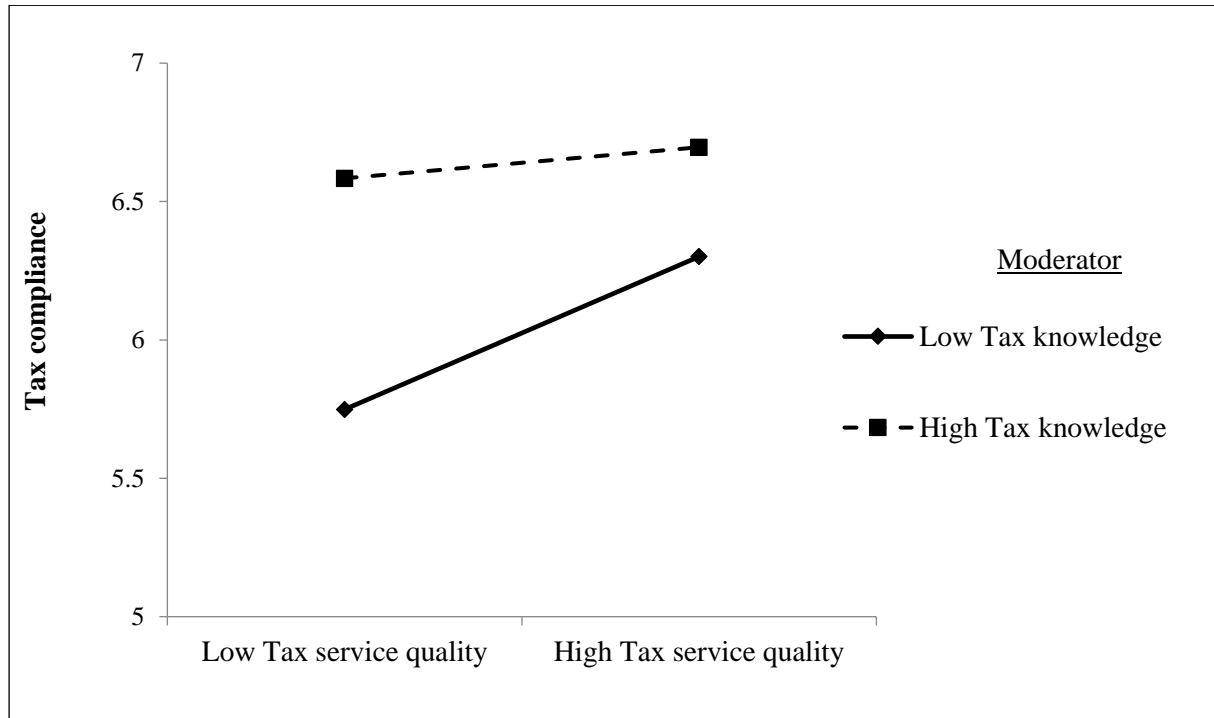
5.   DISCUSSION, IMPLICATIONS AND FUTURE RESEARCH

5.1   Discussion and theoretical implications

The findings of this study indicate that tax service quality positively affects trust, with responsive and professional tax service increasing the trust of SMEs in the tax authorities. Once the tax authority establishes a professional tax service capable of meeting its requirements for service, cooperation, fairness and a motivational environment, SMEs will trust the tax services of the tax authority and comply. In addition to having an indirect effect through trust, tax services also directly influence SMEs' tax compliance. This suggests that authorities' tax services provide tax information to assist SMEs in complying with tax regulations, making compliance simpler.

The findings reveal that tax knowledge has a negative moderating effect on the relationship between tax services and tax compliance. This suggests that taxpayers with low tax knowledge view the role of the authorities' tax services in their compliance as more crucial than their more knowledgeable counterparts. The results also show that taxpayer non-compliance might not stem from wilful ignorance or a lack of understanding about taxes. Tax services can help them acquire the necessary knowledge and information to prevent such mistakes. On the other hand, taxpayers with a high level

of tax knowledge find tax services less important, and these services are less likely to alter their compliance behaviour.

Previous research has focused on the direct effects of authorities' tax services on tax compliance (e.g., Kirchler & Wahl, 2010; Masari & Suartana, 2019; Sritharan et al., 2022; Yunianti et al., 2019). This study adds to the existing body of knowledge on tax compliance among SMEs by elucidating the mechanisms through which tax services influence tax compliance via direct, indirect, and interaction effects. The findings support the assumptions of the SSF. This framework and other research have shown that enhancing trust in authorities results in increased honesty regarding tax payments, which, in turn, promotes voluntary compliance (Kogler et al., 2013). Our study contributes to the literature by confirming the mediating role of trust on the influence of tax service quality on tax compliance among SMEs. Further, the present study confirms the effect of tax knowledge on the relationship between the quality of tax service provided by tax authorities and tax compliance. In doing so, this research connects tax service quality, trust and tax knowledge in a theoretically meaningful way. Additionally, while much of the literature on tax compliance has focused on developed countries (Alm et al., 2010; Gobena & Van Dijke, 2016), the present study supports the mechanisms of the SSF and the social and psychological approach in the context of a developing country.

5.2   Managerial implications

First, the findings indicate that tax authorities should invest more in their tax services for SMEs, as this improves SMEs' trust in tax authorities and increases their tax compliance. Tax services are crucial for SMEs with limited human resources and knowledge of taxation. As a result, tax authorities must provide comprehensive tax information, promptly address business issues, and satisfy business requirements to enhance tax compliance. They need to improve their commitment to tax services, the facilities related to online or offline tax services or associated equipment, and the demeanour of tax officers. Interoperable administration is essential for ensuring promptness and timeliness. Tax services from the tax authority are provided in most functional departments, so the synchronised coordination between departments must be connected to interact in a timely fashion with businesses. Moreover, cooperation with third parties related to tax services, such as the Treasury, central bank, Ministry of Public Security and Ministry of Planning and Investment, is important for resolving tax procedures.

Second, the findings indicate that when SMEs possess greater knowledge about taxation, tax authorities can save on costs related to their service. As a result, the government and tax authorities should improve taxation knowledge for SMEs by promoting tax policies, facilitating business dialogue, providing training and addressing business issues. Utilising various social media platforms is crucial for disseminating tax knowledge to the public.

Third, research results indicate that trust affects tax compliance. Thus, tax authorities should not only improve the quality of tax services but also ensure fairness in crafting tax policies to enhance the tax confidence of SMEs. Additionally, the government and tax authorities ought to maintain a business-friendly regulatory environment and bolster their fairness and transparency in decision-making to increase trust among SMEs toward government authorities.

5.3   Limitations and future research

Our research has limitations, suggesting a basis for further work. First, the research focuses solely on synergistic assumptions; future research should explore the combined effects of both dimensions of the SSF. Second, future research should investigate other factors such as tax ethics, tax perception, tax rates, or other macro factors affecting SMEs' tax compliance. Further research can examine additional influencing factors on voluntary tax compliance and mandatory tax compliance regarding the relationship between tax service quality and tax compliance. Third, this study has yet to define the quality of electronic tax services related to current 4.0 digital technology. Ongoing research on this trend will further clarify the quality of the e-tax service content to meet taxpayers' requirements to increase tax compliance.

Fourth, this study followed prior studies on tax compliance (e.g., Au et al., 2022; Sritharan et al., 2022) and used self-reported surveys to collect data. Although the survey was carefully designed and explained to participants, and all respondents' information was anonymous, the use of the self-reported survey could present some limitations regarding measuring SMEs' actual tax compliance due to respondent bias. Although the process for accessing the taxpayers' database in Vietnam was strict, future research should seek to generate tax compliance data from the actual database to measure tax compliance.

Lastly, this study examined the moderating role of tax knowledge rather than its direct influence; future studies should explore whether tax knowledge is a direct driver in the context of Vietnamese SMEs. Existing research has yielded mixed results regarding the relationship between tax knowledge and tax compliance. While tax knowledge may increase tax compliance by enhancing taxpayers' awareness of the social role played by tax, it could affect compliance negatively, as highly knowledgeable taxpayers might take advantage of the loopholes in the tax system to reduce their liability. Thus, the tax compliance of groups with high tax knowledge may depend on their personal sense of morality, which calls for more research on the moderating role of tax morality on the association between tax knowledge and tax compliance.

6.   REFERENCES

Agustiara, N K S & Jati, I K 2020, 'Knowledge of taxation as a moderation of the effects of tax sanctions and fiscal services on restaurant taxpayer compliance', *American Journal of Humanities and Social Sciences Research*, vol. 4, no. 8, pp. 127-135.

Aiken, L S, West, S G & Reno, R R 1991, *Multiple regression: Testing and interpreting interactions*, Sage, Newbury Park, CA.

Alabede, J O, Zainal Affrin, Z & Idris, M K 2011, 'Tax service quality and compliance behaviour in Nigeria: Do taxpayer's financial condition and risk preference play any moderating role?', *European Journal of Economics, Finance and Administrative Sciences*, vol. 35, pp. 90-108.

Alemika, E 2004, 'Corruption, governance performance and political trust in Nigeria', CSSR Working Paper No. 77, Centre for Social Science Research, University of Cape Town, Rondebosch.

Ali Al-Ttaffi, L H & Abdul-Jabbar, H 2016, 'Service quality and income tax non-compliance among small and medium enterprises in Yemen', *Journal of Advanced Research in Business and Management Studies*, vol. 4, no. 1, pp. 12-21.

Allingham, M G & Sandmo, A 1972, 'Income tax evasion: A theoretical analysis', *Journal of Public Economics*, vol. 1, nos 3-4, pp. 323-338.

Alm, J 2019, 'What motivates tax compliance?', *Journal of Economic Surveys*, vol. 33, no. 2, pp. 353-388.

Alm, J, Cherry, T, Jones, M & McKee, M 2010, 'Taxpayer information assistance services and tax compliance behavior', *Journal of Economic Psychology*, vol. 31, no. 4, pp. 577-586.

Alm, J, Kirchler, E & Muehlbacher, S 2012, 'Combining psychology and economics in the analysis of compliance: From enforcement to cooperation', *Economic Analysis and Policy*, vol. 42, no. 2, pp. 133-151.

Alm, J, Kirchler, E, Muehlbacher, S, Gangl, K, Hofmann, E, Kogler, C & Pollai, M 2012, 'Rethinking the research paradigms for analysing tax compliance behaviour', *CESifo Forum*, vol. 2/2012, pp. 33-40.

Alm, J, Sanchez, I & De Juan, A 1995, 'Economic and noneconomic factors in tax compliance', *Kyklos*, vol. 48, no. 1, pp. 1-18.

Artawan, I G P, Widnyana, I W & Kusuma, I G A T 2020, 'The effect of service quality to build taxpayer trust and satisfaction on increasing taxpayer compliance in Gianyar Regency', *International Journal of Contemporary Research and Review*, vol. 11, no. 9, pp. 21868-21883.

Au, L T N, Hoang, H T & Ho, L T H 2022, 'Tax service quality for enterprises: development of a valid measurement scale', *Asia-Pacific Journal of Business Administration*, vol. 15, no. 3, pp. 345-360.

Augustine, A A, Folajimi, A F & Ayodele, A L 2020, 'Quality of tax services, moderated by trust in State Internal Revenue Service and voluntary tax compliance behaviour among individual taxpayers in South-West, Nigeria', *Journal of Accounting, Business and Finance Research*, vol. 8, no. 2, pp. 47-57.

Awaluddin, I & Tamburaka, S 2017, 'The effect of service quality and taxpayer satisfaction on compliance payment tax motor vehicles at office one roof system in Kendari', *The International Journal of Engineering and Science (IJES)*, vol. 6, no. 11, pp. 25-34.

Baron, R M & Kenny, D A 1986, 'The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations', *Journal of Personality and Social Psychology*, vol. 51, no. 6, pp. 1173-1182.

Batrancea, L, Nichita, A, Olsen, J, Kogler, C, Kirchler, E, Hoelzl, E, Weiss, A, Torgler, B, Fooken, J, Fuller, J, Schaffner, M, Banuri, S, Hassanein, M, Alarcón-García, G, Aldemir, C, Apostol, O, Weinberg, D B, Batrancea, I, Belianin, A, Bello Gómez, F de J, Briguglio, M, Dermol, V, Doyle, E, Gcabo, R, Gong, B, Ennya, S, Essel-Anderson, A, Frecknall-Hughes, J, Hasanain, A, Hizen, Y, Huber, O, Kaplanoglou, G, Kudła, J, Lemoine, J E, Leurcharusmee, S, Matthiasson, T, Mehta, S, Min, S, Naufal, G, Niskanen, M, Nordblom, K, Öztürk, Pacheco, L, Pántya, J, Rapanos, V, Roland-Lévy, C, Roux-Cesar, A M, Salamzadeh, A, Savadori, L, Schei, V, Sharma, M, Summers, B, Suriya, K, Tran, Q, Villegas-Palacio, C, Visser, M, Xia, C, Yi, S & Zukauskas,

S 2019, 'Trust and power as determinants of tax compliance across 44 nations', *Journal of Economic Psychology*, vol. 74, 102191.

Becker, G S 1968, 'Crime and punishment: An economic approach', *Journal of Political Economy*, vol. 76, no. 2, pp. 169-217.

Bornman, M 2015, 'The determinants and measurement of trust in tax authorities as a factor influencing tax compliance behaviour', *Journal of Economic and Financial Sciences*, vol. 8, no. 3, pp. 773-790.

Bornman, M and Ramutumbu, P 2019, 'A conceptual framework of tax knowledge', *Meditari Accountancy Research*, vol. 27, no. 6, pp. 823-839.

Braithwaite, V 1995, 'Games of engagement: Postures within the regulatory community', *Law and Policy*, vol. 17, no. 3, pp. 225-255.

Bui, T N 2017, 'Factors affecting income tax compliance behavior of enterprises – An empirical research in Ho Chi Minh City' (in Vietnamese), *Hue University Journal of Science*, vol. 126, no. 5A, pp. 77-88.

Cahyonowati, N, Ratmono, D and Juliarto, A 2023, 'The role of social norms and trust in authority in tax compliance dilemmas', *Cogent Business and Management*, vol. 10, no. 1, 2174084.

Cialdini, R B 1989, 'Social motivations to comply: Norms, values, and principles', in Roth, J A & Scholz, J T (eds), *Taxpayer compliance, volume 2: Social science perspectives*, University of Pennsylvania Press, Philadelphia, pp. 200-207.

Cummings, R G, Martinez-Vazquez, J, McKee, M & Torgler, B 2009, 'Tax morale affects tax compliance: Evidence from surveys and an artefactual field experiment', *Journal of Economic Behavior and Organization*, vol. 70, no. 3, pp. 447-457.

Dang, T S, Le, K L & Do, V C 2013, 'Evaluating satisfaction level of taxpayers for service quality of support propagation in taxation department of Kien Giang province' (in Vietnamese), *Can Tho University Journal of Science*, vol. 25, pp. 17-23.

Da Silva, F P, Guerreiro, R & Flores, E 2019, 'Voluntary versus enforced tax compliance: The slippery slope framework in the Brazilian context', *International Review of Economics*, vol. 66, no. 2, pp. 147-180.

Delcourt, C, Gremler, D D, van Riel, A C R & van Birgelen, M 2013, 'Effects of perceived employee emotional competence on customer satisfaction and loyalty: The mediating role of rapport', *Journal of Service Management*, vol. 24, no. 1, pp. 5-24.

Dharma, G P E & Suardana, K A 2014, 'Pengaruh kesadaran wajib pajak, sosialisasi perpajakan, kualitas pelayanan pada kepatuhan wajib pajak', *E-Jurnal Akuntansi Universitas Udayana*, vol. 6, no. 1, pp. 340-353.

Dharmayanti, N 2023, 'The effect of tax office service quality and taxpayer income on land and building tax compliance', *Jurnal Akuntansi: Kajian Ilmiah Akuntansi*, vol. 10, no. 1, pp. 48-64.

Gangl, K, Hofmann, E, Hartl, B & Berkics, M 2020, 'The impact of powerful authorities and trustful taxpayers: Evidence for the extended slippery slope framework from Austria, Finland, and Hungary', *Policy Studies*, vol. 41, no. 1, pp. 98-111.

Gangl, K, Muehlbacher, S, de Groot, M, Goslinga, S, Hofmann, E, Kogler, C, Antonides, G & Kirchler, E 2013, '"How can I help you?" Perceived service orientation of tax authorities and tax compliance', *FinanzArchiv/Public Finance Analysis*, vol. 69, no. 4, pp. 487-510.

Gilligan, G & Richardson, G 2005, 'Perceptions of tax fairness and tax compliance in Australia and Hong Kong – a preliminary study', *Journal of Financial Crime*, vol. 12, no. 4, pp. 331-343.

Gobena, L B & Van Dijke, M 2016, 'Power, justice, and trust: A moderated mediation analysis of tax compliance among Ethiopian business owners', *Journal of Economic Psychology*, vol. 52, pp. 24-37.

Hair, J F, Black, W C, Babin, B J & Anderson, R E 2010, *Multivariate data analysis: A global perspective*, 7th edn, Pearson Prentice Hall, Upper Saddle River, NJ.

Haning, M T, Hamzah, H & Tahili, M H 2019, 'Investigating the effect of public trust on tax compliance', *Bisnis and Birokrasi: Jurnal Ilmu Administrasi dan Organisasi*, vol. 26, no. 2, pp. 96-105.

Hidayat, N R, Suhadak, Darminto, Handayani, S R & Otok, B W 2014, 'Measurement model of service quality, regional tax regulations, taxpayer satisfaction level, behavior and compliance using confirmatory factor analysis', *World Applied Sciences Journal*, vol. 29, no. 1, pp. 56-61.

Hofmann, E, Gangl, K, Kirchler, E & Stark, J 2014, 'Enhancing tax compliance through coercive and legitimate power of tax authorities by concurrently diminishing or facilitating trust in tax authorities', *Law and Policy*, vol. 36, no. 3, pp. 290-313.

Inasius, F 2019, 'Factors influencing SME tax compliance: Evidence from Indonesia', *International Journal of Public Administration*, vol. 42, no. 5, pp. 367-379.

Jaya, A, Ratnawati, T & Sardjono, S 2017, 'Analysis of effect of knowledge and service quality, accessibility of information, awareness and behavior of taxpayers and impact on satisfaction and compliance with taxpayers of land and buildings in the City Batam Island Riau Province', *International Journal of Business and Management Invention*, vol. 6, no. 8, pp. 73-83.

Kamleitner, B, Korunka, C & Kirchler, E 2012, 'Tax compliance of small business owners: A review', *International Journal of Entrepreneurial Behavior and Research*, vol. 18, no. 3, pp. 330-351.

Kastlunger, B, Lozza, E, Kirchler, E & Schabmann, A 2013, 'Powerful authorities and trusting citizens: The Slippery Slope Framework and tax compliance in Italy', *Journal of Economic Psychology*, vol. 34, no. pp. 36-45.

Kirchler, E 2007, *The economic psychology of tax behaviour*, Cambridge University Press, Cambridge.

Kirchler, E, Hoelzl, E & Wahl, I 2008, 'Enforced versus voluntary tax compliance: The "slippery slope" framework', *Journal of Economic Psychology*, vol. 29, no. 2, pp. 210-225.

Kirchler, E, Muehlbacher, S, Kastlunger, B & Wahl, I 2010, 'Why pay taxes? A review of tax compliance decisions', in Alm, J, Martinez-Vazquez, J & Torgler, B (eds), *Developing alternative frameworks for explaining tax compliance*, Routledge, London, pp. 15-31.

Kirchler, E & Wahl, I 2010, 'Tax compliance inventory TAX-I: Designing an inventory for surveys of tax compliance', *Journal of Economic Psychology*, vol. 31, no. 3, pp. 331-346.

Kock, N 2015, 'Common method bias in PLS-SEM: A full collinearity assessment approach', *International Journal of e-Collaboration*, vol. 11, no. 4, pp. 1-10.

Kogler, C, Batrancea, L, Nichita, A, Pantya, J, Belianin, A & Kirchler, E 2013, 'Trust and power as determinants of tax compliance: Testing the assumptions of the slippery slope framework in Austria, Hungary, Romania and Russia', *Journal of Economic Psychology*, vol. 34, pp. 169-180.

Krejcie, R V & Morgan, D W 1970, 'Determining sample size for research activities', *Educational and Psychological Measurement*, vol. 30, no. 3, pp. 607-610.

Kwok, B Y S & Yip, R W Y 2018, 'Is tax education good or evil for boosting tax compliance? Evidence from Hong Kong', *Asian Economic Journal*, vol. 32, no. 4, pp. 359-386.

Lederman, L 2003, 'The interplay between norms and enforcement in tax compliance', *Ohio State Law Journal*, vol. 64, no. 6, pp. 1453-1514.

Lestari, S M & Daito, A 2020, 'The influence of taxation knowledge, tax socialization and tax administration on taxpayer compliance (empirical study in micro small and medium enterprises (MSMEs) Tobat Village, Balaraja sub-district, Tangerang Regency, Banten province)', *Dinasti International Journal of Management Science*, vol. 1, no. 5, pp. 732-739.

Masari, N M G & Suartana, I W 2019, 'Effect of tax knowledge, service quality, tax examination, and technology of compliance regional tax mandatory', *International Research Journal of Management, IT and Social Sciences*, vol. 6, no. 5, pp. 175-183.

McAllister, D J 1995, 'Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations', *Academy of Management Journal*, vol. 38, no. 1, pp. 24-59.

Melton, H L & Hartline, M D 2013, 'Employee collaboration, learning orientation, and new service development performance', *Journal of Service Research*, vol. 16, no. 1, pp. 67-81.

Muhammad, S A & Saad, R A J 2016, 'Determinants of trust on zakat institutions and its dimensions on intention to pay Zakat: A pilot study', *Journal of Advanced Research in Business and Management Studies*, vol. 3, no. 1, pp. 40-46.

Mukhlis, I, Utomo, S H & Soesetio, Y 2015, 'The role of taxation education on taxation knowledge and its effect on tax fairness as well as tax compliance on handicraft SMEs sectors in Indonesia', *International Journal of Financial Research*, vol. 6, no. 4, pp. 161-169.

Nartey, E 2023, 'Tax compliance of small and medium sized enterprises in Ghana', *International Journal of Sociology and Social Policy*, vol. 43, no. 11/12, pp. 1063-1083.

Nguyen, T T D, Pham, T M L, Le, T T, Truong, T H L & Tran, M D 2020, 'Determinants influencing tax compliance: The case of Vietnam', *The Journal of Asian Finance, Economics and Business*, vol. 7, no. 2, pp. 65-73.

Nguyen, T Q 2021, 'Reform and modernization of the tax sector to create convenience for taxpayers' (in Vietnamese), *Finance Journal*, 1(9/2021). Available at: https://tapchitaichinh.vn/cai-cach-hien-dai-hoa-nganh-thue-tao-thuan-loi-cho-nguoi-nop-thue.html (accessed 21 May 2024).

Obid, S N b S & Mustapha, B 2014, 'Reengineering tax service quality using a second order confirmatory factor analysis for self-employed taxpayers', *International Journal of Trade, Economics and Finance*, vol. 5, no. 5, pp. 429-434.

Organisation for Economic Co-operation and Development (OECD) 2004, *Compliance risk management: Managing and improving tax compliance*, Guidance Note, OECD Publishing, Paris.

Organisation for Economic Co-operation and Development (OECD) 2010, *Understanding and influencing taxpayers' compliance behaviour*, Information Note, Forum on Tax Administration: Small/Medium Enterprise (SME) Compliance Subgroup, OECD Publishing, Paris.

Organisation for Economic Co-operation and Development (OECD) 2017, *Tax administration 2017: Comparative information on OECD and other advanced and emerging economies*, OECD Publishing, Paris.

Parasuraman, A, Zeithaml, V A & Berry, L L 1985, 'A conceptual model of service quality and its implications for future research', *Journal of Marketing*, vol. 49, no. 4, pp. 41-50.

Parasuraman, A, Zeithaml, V A & Berry, L L 1988, 'SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality', *Journal of Retailing*, vol. 64, no. 1, pp. 12-40.

Podsakoff, P M, MacKenzie, S B, Lee, J-Y & Podsakoff, N P 2003, 'Common method biases in behavioral research: A critical review of the literature and recommended remedies', *Journal of Applied Psychology*, vol. 88, no. 5, pp. 879-903.

Prichard, W, Custers, A, Dom, R, Davenport, S & Roscitt, M 2019, 'Innovations in tax compliance: Conceptual framework', World Bank Policy Research Working Paper 9032.

Puspita, A F, Subroto, B & Baridwan, Z 2016, 'The analysis of individual behaviour of corporate taxpayers' obedience: Tax compliance model (study of hotels in Malang and Batu)', *Review of Integrative Business and Economics Research*, vol. 5, no. 3, pp. 135-160.

Ritsatos, T 2014, 'Tax evasion and compliance; from the neo classical paradigm to behavioural economics, a review', *Journal of Accounting and Organizational Change*, vol. 10, no. 2, pp. 244-262.

Saad, N 2014, 'Tax knowledge, tax complexity and tax compliance: Taxpayers' view', *Procedia-Social and Behavioral Sciences*, vol. 109, pp. 1069-1075.

Sapiei, N S, Kasipillai, J & Eze, U C 2014, 'Determinants of tax compliance behaviour of corporate taxpayers in Malaysia', *eJournal of Tax Research*, vol. 12, no. 2, pp. 383-409.

Sithebe, N P 2022, *The relationship between tax knowledge and tax compliance: A survey of small and medium-sized enterprises in Durban*, Master's thesis, Durban University of Technology.

Srinivasan, T N 1973, 'Tax evasion: A model', *Journal of Public Economics*, vol. 2, no. 4, pp. 339-346.

Sritharan, N, Salawati, S, Sharon, C C S & Syubaili, M A 2022, 'Identifying the factors impacting upon personal tax compliance: A study involving tax affairs officers of Malaysian businesses', *eJournal of Tax Research*, vol. 20, no. 1, pp. 48-71.

Susuawu, D, Ofori-Boateng, K & Amoh, J K 2020, 'Does service quality influence tax compliance behaviour of SMEs? A new perspective from Ghana', *International Journal of Economics and Financial Issues*, vol. 10, no. 6, pp. 50-56.

Tabachnick, B G & Fidell, L S 1996, *Using multivariate statistics*, 3rd edn, Harper Collins, New York.

Tan, L M, Braithwaite, V & Reinhart, M 2016, 'Why do small business taxpayers stay with their practitioners? Trust, competence and aggressive advice', *International Small Business Journal*, vol. 34, no. 3, pp. 329-344.

Ul Albab, F N & Suwardi, E 2021, 'The effect of tax knowledge on voluntary tax compliance with trust as a mediating variable: A study on micro, small, and medium enterprises (MSMEs)', *The Indonesian Journal of Accounting Research*, vol. 24, no. 3, pp. 381-406.

Webley, P 2004, 'Tax compliance by businesses', in Sjögren, H & Skogh, G (eds), *New perspectives on economic crime*, Edward Elgar, Cheltenham, UK, pp. 95-126.

Wenzel, M 2002, 'The impact of outcome orientation and justice concerns on tax compliance: The role of taxpayers' identity', *Journal of Applied Psychology*, vol. 87, no. 4, pp. 629-645.

Wisudawaty, D A, Rura, Y & Kusumawati, A 2018, 'Influence of system quality, information quality, and tax service quality to taxpayer compliance and risk as a moderating variable', *Journal of Research in Business and Management*, vol. 6, no. 6, pp. 1-9.

Wong, R M K & Lo, A W Y 2015, 'Can education improve tax compliance? Evidence from different forms of tax education', Hong Kong Institute of Business Studies Working Paper Series No. 074-1415, Lingnan University, Hong Kong.

World Bank 2019, 'Small and medium enterprises (SMEs) finance: Improving SMEs' access to finance and finding innovative solutions to unlock sources of capital' (last updated 16 October). Available at: https://www.worldbank.org/en/topic/smefinance.

Yunianti, L N, Putri, N K, Sudibyo, Y A & Rafinda, A 2019, 'The influence of awareness, moral obligations, tax access, service quality and tax sanctions on taxpayer compliance in paying motor vehicle tax', *Journal of Accounting and Strategic Finance*, vol. 2, no. 1, pp. 1-13.

7.   APPENDIX

Questionnaire items

Tax knowledge

What is the extent to which you understand or not understand the following tax knowledge?

1. Knowledge of tax rights and obligations

2. Knowledge of the tax function and penalty

3. Knowledge of tax types and tariffs

4. Knowledge of tax mechanism and payments

5. Knowledge of tax measurements

Trust

What is the extent to which you agree or disagree with each of these statements?

6. Our enterprise and tax officials can both freely share our ideas, feeling and hopes.

7. Our enterprise can talk freely to the tax officials about our difficulties, and we know that they will want to listen.

8. If our enterprise shared our problems with the tax officials, we know they would respond constructively and caringly.

9. Our enterprise would have to say that both our enterprise and the tax authorities have not made considerable emotional investments in our working relationship (Reversed)

10. Given tax officials' track record, our enterprise sees no reason to doubt their competence and preparation for their job.

11. Our enterprise can rely on the tax officials not to endanger our business by careless work.

12. Most enterprises trust and respect tax officials.

13. Most enterprises consider tax officials to be trustworthy.

14. Our enterprise believes that the tax officials would always be concerned and monitor their performance closely, independent of the relationship between enterprises and tax officials.

15. Our enterprise would experience loss if we could no longer work with tax officials.

16. Tax officials approach their jobs with professionalism and dedication.

Tax service quality

What is the extent to which you agree or disagree with each of these statements?

Responsiveness

17. Tax staff is always ready to provide service.

18. The problems related to the tax support application system of the tax authority are regularly overcome in time.

19. Pages at this site do not freeze after order information is entered.

20. Unit functions of the tax authority are very well together as a team.

21. Tax authority actively cooperates with other units (such as banks) to solve problems for businesses when paying taxes.

Professionalism

22. Tax authority allows the implementation of service which does not distinguish the class or status of the communities

23. Tax authority delivers orders when promised.

24. Tax authority keeps its records accurately.

25. Tax authority makes accurate promises about delivery time of services.

26. Tax authority protects information about businesses

27. Tax authority has up-to-date equipment.

28. Tax staffs are well dressed and appear neat.

29. Tax authority is professional in its site which is visually appealing

Tax compliance

What is the extent to which you agree or disagree with each of these statements?

30. Our enterprise always register and supplement tax registration information on time.

31. Our enterprise always declare taxes fully and on time.

32. Our enterprise always pay taxes fully and on time.

33. Our enterprise always report tax obligations accurately and completely.