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# The geography of corporate tax avoidance

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We empirically examine the relation between firms' headquarters location and their level of tax avoidance. Employing multiple measures of tax avoidance, we consistently find significant location fixed effects on firms' tax behaviour across different geographic areas in the US, after controlling for firm fixed effects, time varying firm characteristics and state income tax rates. Additional analyses show that location fixed effects are more pronounced for firms that have been located in an area for a longer period and that have lower geographic diversification. We then explore a range of regional characteristics as determinants of location fixed effects and find some evidence that location specific resources and risks factors, but not cultural factors, are associated with time invariant differences in corporate tax avoidance across regions. Our study has important practical implications for tax authorities, suggesting that tax enforcement, education, and inspections should be tailored to take account of firms' geographical location.

: tax avoidance, geographic area, location fixed effects, location based characteristics

Geographical location affects individual decision-making, leading to uneven distributions of economic and social outcomes such as innovations, health, crime and violence, as well as pro- and anti-social behaviour (e.g., Shaw & McKay, 1942; Land, McCall & Cohen, 1990; Jaffe, Trajtenberg & Henderson, 1993; Glaeser, Sacerdote &

questionable tax strategies and legitimate means to reduce tax burdens, it is important

After establishing significant location fixed effects, we investigate whether these effects are associated with observable regional characteristics. Specifically, we regress the vectors of estimated MSA fixed effect coefficients obtained from the ETR, CETR, UTB, and CETR5 models on that particular MSA's: (1) information and resource factors (proxied by workforce population, education level, external accounting and finance expertise from audit firms, and geodesic proximity to Internal Revenue Service (IRS) local office); (2) economic, regulatory, and behavioural risk attitudes (as captured by average personal wage, GDP per capita, proximity to IRS, and weather pattern); and (3) social and cultural environment (including crime rates and religiosity).[1] We find

literature to examine whether firms' geographic locations help explain persistent variation in tax avoidance that prior research has found across firms (Dyreng et al., 2008).

Our study is related to two recent studies (Chen et al., 2022, and Su et al., 2019) which examine the relation between geographical location and tax avoidance. Su et al. (2019) finds a negative effect of geographic dispersion on tax avoidance as the result of increased difficulty in intra firm internal control and corporate governance. Chen et al. (2022), on the other hand, show a positive effect of geographic proximity between parent companies and subsidiaries on tax avoidance through intra group income shifting to low tax jurisdictions at lower costs. Both studies focus on the proximity/dispersion of firms or units in the same corporate group and how geography facilitates the internal information flow and coordination. Our study differs from their work as we focus our attention on investigating whether geography is an important factor influencing the tax avoidance of proximate firms regardless of whether they are in the same corporate structure. We also examine the relation of corporate tax avoidance with location based resource, economic, risk and culture factors, rather than the geography-related internal information and coordination effects on corporate tax strategies.


The geographical effects on corporate decision making have been well documented in many settings. For example, investors have stronger preferences for geographically local investment (e.g., Baik, Kang & Kim, 2010; Doukas & Pantzalis, 2003); auditors provide higher quality audit services to local clients (e.g., Choi et al., 2012; analysts are more accurate in forecasting the performance of geographically proximate firms (e.g., Malloy, 2005); and regulators are more likely to investigate firms that are located closer to their local offices (e.g., Kedia & Rajgopal, 2011). The systematic geographic differences are also present in firm performance and corporate decisions, including innovative activities (Audretsch & Feldman, 1996; Jaffe et al., 1993), dividend decisions (John et al., 2011) a risc   (

implementation of tax strategies. Thus, the information and resource channel suggests

$$\left( \begin{array}{c} 5 \\ \sim \end{array} \right)$$

$$= \quad + \quad\quad + \quad\quad\quad +$$

$$+ \quad\quad + \quad\quad\quad +$$

$$(1)$$

ETR , CETR , UTB  and CETR5  $_\sim$  are tax avoidance measures for a firm i in year t. LOC  is our main variable of interest, an indicator variable for the geographic unit, i.e, MSA, in our main regression, where we denote each specific unit (location fixed effects). If the coefficients on LOC  are jointly significant, the results will support our hypothesis. FIRM

squared by approximately 1.2 percentage points. The sizes of the incremental explanatory power from MSA fixed effects are similar for CETR and CETR5 as shown in Panels B and D. The impact of MSA fixed effects on the R-squared is consistently larger than that of year fixed effects, which could mean that regional variation is more

statistic on the particular coefficient is significant based on two-sided tests. Table 4 (Significance Levels of MSA Fixed Effects, Appendix) presents the numbers and percentages of individual MSAs with statistically significant fixed effects from Model 6 in Table 3 (for ETR, CETR, UTB, and CETR5 respectively).

geographical features tend to influence firms' tax decisions in a similar way. Results also indicate that there is no clear pattern of location fixed effects dominating in one period of time.

The fifth set of tests address omitted variable issues. We control for corporate governance factors, such as board size, percentage of independent directors, gender diversity on the board, CEO and chair duality, and CFOs' board membership and CEO total compensation (Armstrong et al., 2015; Gaertner, 2014). The location fixed effects remain significant after we include in Equation (1) executive fixed effects (Dyreng et al., 2010; Yonker, 2017).

We expect location fixed effects to be stronger for firms with lengthier durations in their current location and lower geographic diversification. We perform two cross-sectional tests by partitioning the sample based on how long the firm has been in a given location and whether it has material subsidiaries in another US state and/or foreign country. Table 5 (MSA Fixed Effects: Variation – Length of Unionisation and 5 Geographical Diversification, Appendix) presents the results.

First, we test location fixed effects on corporate tax avoidance when the firm has been located in the same MSA for more than three years (Long) or less than or equal to three years (Short). As shown in Panel A of Table 5, we find that the location fixed effects are highly significant for the Long sample and less or even not significant for the Short sample, which is consistent with location fixed effects being affected by the length of time a firm has been located in a given location.

We conjecture that the location fixed effects could attenuate for geographically diversified firms with a material presence in locations other than their headquarters location. This is because the location of those diversified firms' subsidiaries could dilute the location fixed effects from the headquarters. We examine this possibility using data collected by Scott D Dyreng from Exhibit 21 in 10-K filings for material subsidiary disclosures.[7] The main samples are divided into firms that have material subsidiaries in at least one state or country other than the headquarter location in a given year (Diversified) and those that do not (Non-...

So far, we have documented significant spatial variations in corporate tax avoidance. To further understand the geographic effects on tax avoidance behaviour, we examine some possible channels through which geographic locations might affect tax avoidance decisions. Accordingly, we obtain demographic, social, economic, regulatory, and

46,925 and the mean annual personal income USD 41,814. The weighted average education level of workforce population in our sample swings from 7.26 in the bottom percentile to 7.78 in the top percentile. The median average crime rate is 3.45% of the

Goetzmann, W N & Zhu, N 2005, 'Rain or shine: Where is the weather effect?', European Financial Management, vol. 11, no 5, pp 559-578

Guenther, D A, Matsunaga, S R & Williams, B M 2017, 'Is tax avoidance related to firm risk?', The Accounting Review, vol. 92, no 1, pp 115-136

Gupta, S & Newberry, K 1997, 'Determinants of the variability in corporate effective tax rates: Evidence from longitudinal data', Journal of Accounting and Public Policy, vol. 16, no 1, pp 1-34

Hanlon, M & Heitzman, S 2010, 'A review of tax research', Journal of Accounting and Economics, vol. 50, nos 2-3, pp 127-178

Hasan, I, Hoi, C K (S), Wu, Q & Zhang, H 2017a, 'Does social capital matter in corporate decisions?

| | | | | | |
|---|---|---|---|---|---|
| ETR | 29,298 | 0.315 | 0.174 | 0.241 | 0.335 | 0.381 |
| CETR | 29,298 | 0.259 | 0.227 | 0.102 | 0.241 | 0.349 |
| UTB | 18,925 | 0.012 | 0.023 | 0.000 | 0.004 | 0.013 |
| CETR5 | 20,707 | 0.256 | 0.119 | 0.180 | 0.268 | 0.338 |
| | | | | | | |
| SIZE | 29,298 | 5.988 | 2.004 | 4.616 | 6.083 | 7.364 |
| ROA | 29,298 | 0.129 | 0.107 | 0.057 | 0.102 | 0.169 |
| NOL | 29,298 | 0.412 | 0.492 | 0.000 | 0.000 | 1.000 |
| ΔNOL | 29,298 | 0.111 | 0.390 | 0.000 | 0.000 | 0.040 |
| LEV | 29,298 | 0.201 | 0.198 | 0.015 | 0.168 | 0.320 |
| FI | 29,298 | 0.018 | 0.037 | 0.000 | 0.000 | 0.021 |
| GPPE | 29,298 | 0.489 | 0.366 | 0.200 | 0.395 | 0.699 |
| INTANG | 29,298 | 0.164 | 0.182 | 0.010 | 0.098 | 0.267 |
| EQINC | 29,298 | 0.001 | 0.004 | 0.000 | 0.000 | 0.000 |
| MTB | 29,298 | 2.969 | 3.339 | 1.331 | 2.141 | 3.533 |
| R&D | 29,298 | 0.032 | 0.059 | 0.000 | 0.000 | 0.034 |
| CASH | 29,298 | 0.162 | 0.177 | 0.027 | 0.095 | 0.240 |
| CAPEX | 29,298 | 0.128 | 0.097 | 0.062 | 0.100 | 0.163 |
| ADV | 29,298 | 0.011 | 0.036 | 0.000 | 0.000 | 0.008 |
| SG&A | 29,298 | 0.239 | 0.167 | 0.112 | 0.212 | 0.330 |
| ΔSALES | 29,298 | 0.154 | 0.284 | 0.013 | 0.098 | 0.215 |
| INSTPERC | 29,298 | 0.575 | 0.328 | 0.413 | 0.695 | 0.823 |
| MKTPRES | 29,298 | 1.947 | 4.777 | 0.000 | 0.000 | 2.000 |
| ANALYST | 29,298 | 1.796 | 1.470 | 0.000 | 2.079 | 3.045 |
| ALOCAL | 29,298 | 0.594 | 0.590 | 0.000 | 1.000 | 1.000 |
| STR | 29,298 | 6.774 | 3.032 | 6.000 | 7.500 | 8.840 |

This Table reports descriptive statistics for the variables used in our main analyses. All continuous tax and control variables (except for STR) are winsorised at the 1% and 99% level to mitigate the influence of outliers. All variables are defined in Panel A of Table 7.

|          |            |            |            |            |            |            |
|----------|------------|------------|------------|------------|------------|------------|
|          | (–14.77)   | (–14.11)   | (–2.40)    | (–6.54)    | (–13.39)   | (0.21)     |
| INTANG   | –0.031***  | –0.015     | –0.051***  | –0.022*    | –0.032***  | –0.016     |
|          | (–3.44)    | (–1.69)    | (–2.69)    | (–2.12)    | (–3.53)    | (–0.89)    |
| EQINC    | –1.086**   | –0.989**   | –1.233**   | –0.839**   | –0.949**   | –1.131**   |
|          | (–3.49)    | (–3.39)    | (–2.79)    | (–2.69)    | (–3.16)    | (–2.55)    |
| MTB      | –0.001***  | 0.01***    |            |            |            |            |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (2.23) | (3.13) | (−1.44) | (1.30) | (2.09) | (−0.37) |
| SG&A | 0.077** | 0.078** | 0.028 | 0.056** | 0.074** | 0.088** |
| | (11.21) | (11.45) | (1.95) | (6.92) | (10.40) | (2.77) |
| SALES | −0.065** | −0.065** | −0.026** | −0.051*** | −0.061*** | −0.025** |
| | (−14.69) | (−14.36) | (−7.49) | (−11.83) | (−13.80) | (−7.17) |
| INSTPERC | 0.016** | 0.080** | −0.002 | 0.014*** | 0.014*** | 0.013** |
| | (5.36) | (9.54) | (0.83) | (4.57) | (4.75) | (4.18) |
| MKTPRES | 0.001*** | 0.001*** | 0.000 | 0.000* | 0.001*** | 0.000 |
| | (3.98) | (4.44) | (1.57) | (2.46) | (4.09) | (0.89) |
| ANALYST | −0.008** | −0.008** | | | | |
| | (−8.77) | | | | | |

| NLOCS | 198 | 198 | 198 | 198 | 147 | 130 | 156 | 146 |
| RSQ | 0.490 | 0.621 | 0.457 | 0.529 | 0.827 | 0.883 | 0.750 | 0.822 |

**Dependent Variables**

|  |  |  |  |  |  |
|---|---|---|---|---|---|
| 120 | 0.271 | 0.228 | 0.211 | 0.285 | 0.348 |
| 120 | 0.767 | 0.265 | 0.684 | 0.807 | 0.892 |
| 86 | 0.021 | 0.014 | 0.012 | 0.022 | 0.027 |
| 77 | 0.159 | 0.107 | 0.092 | 0.172 | 0.224 |

**Independent Variables**

| | | | | | |
|---|---|---|---|---|---|
| LPCI | 120 | 12.791 | 1.205 | 11.910 | 12.685 | 13.707 |
| LWAGES | 120 | 10.623 | 0.183 | 10.488 | 10.609 | 10.729 |
| LGDP | 120 | 10.718 | 0.270 | 10.551 | 10.723 | 10.872 |
| EDU | 120 | 7.510 | 0.362 | 7.264 | 7.475 | 7.784 |
| CRIMES | 120 | 3.436 | 1.080 | 2.728 | 3.445 | 4.024 |
| RELIGION | 120 | 0.653 | 0.082 | 0.607 | 0.650 | 0.705 |
| LAUDITOR | 120 | 0.656 | 0.767 | 0.000 | 0.347 | 1.409 |
| LDISTANCEIRS | 120 | 3.711 | 1.954 | 3.483 | 4.283 | 4.810 |
| LWEATHER | 120 | 9.696 | 0.110 | 9.595 | 9.678 | 9.797 |
| LOSTFIRMPCI | 120 | 0.067 | 0.082 | 0.014 | 0.035 | 0.082 |

|  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  | **1** |  |  |  |  |  |  |  |  |
|  |  |  |  | **1** |  |  |  |  |  |  |  |
|  |  |  |  | -0.012 | **1** |  |  |  |  |  |  |
|  |  |  |  |  | -0.013 | **1** |  |  |  |  |  |
| **LPOP** |  |  |  |  | -0.017 | **1** |  |  |  |  |  |
| **LWAGES** |  | 0.0353 |  |  | 0.051 |  | **1** |  |  |  |  |
| **LGDP** |  |  |  |  | -0.014 |  |  | **1** |  |  |  |
| **EDU** |  | 0.052 | -0.015 |  |  |  |  |  | **1** |  |  |
| **CRIMES** |  |  |  | -0.008 |  |  |  |  |  | **1** |  |  |
| **RELIGION** |  | 0.017 | -0.033 |  |  |  |  |  |  |  | **1** |  |
| **LAUDITOR** |  | -0.056 |  |  |  |  |  |  |  |  |  | **1** |
| **LDISTANCEIRS** |  |  |  |  |  |  |  |  |  |  |  |  |

| | | | | |
|---|---|---|---|---|
| RSQ | 0.084 | 0.098 | 0.168 | 0.076 |
| F-test | 1.17 | 1.65 | 2.43 * | 1.00 |

*, **, *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A reports descriptive statistics for regression of MSA fixed effects and MSA characteristics. Panel B reports Pearson correlation coefficients for the variables used in Equation (2). All variables are defined in Panel B of Table 7.

E1

The coefficients estimated when UTB is the dependent variable in Equation (1)
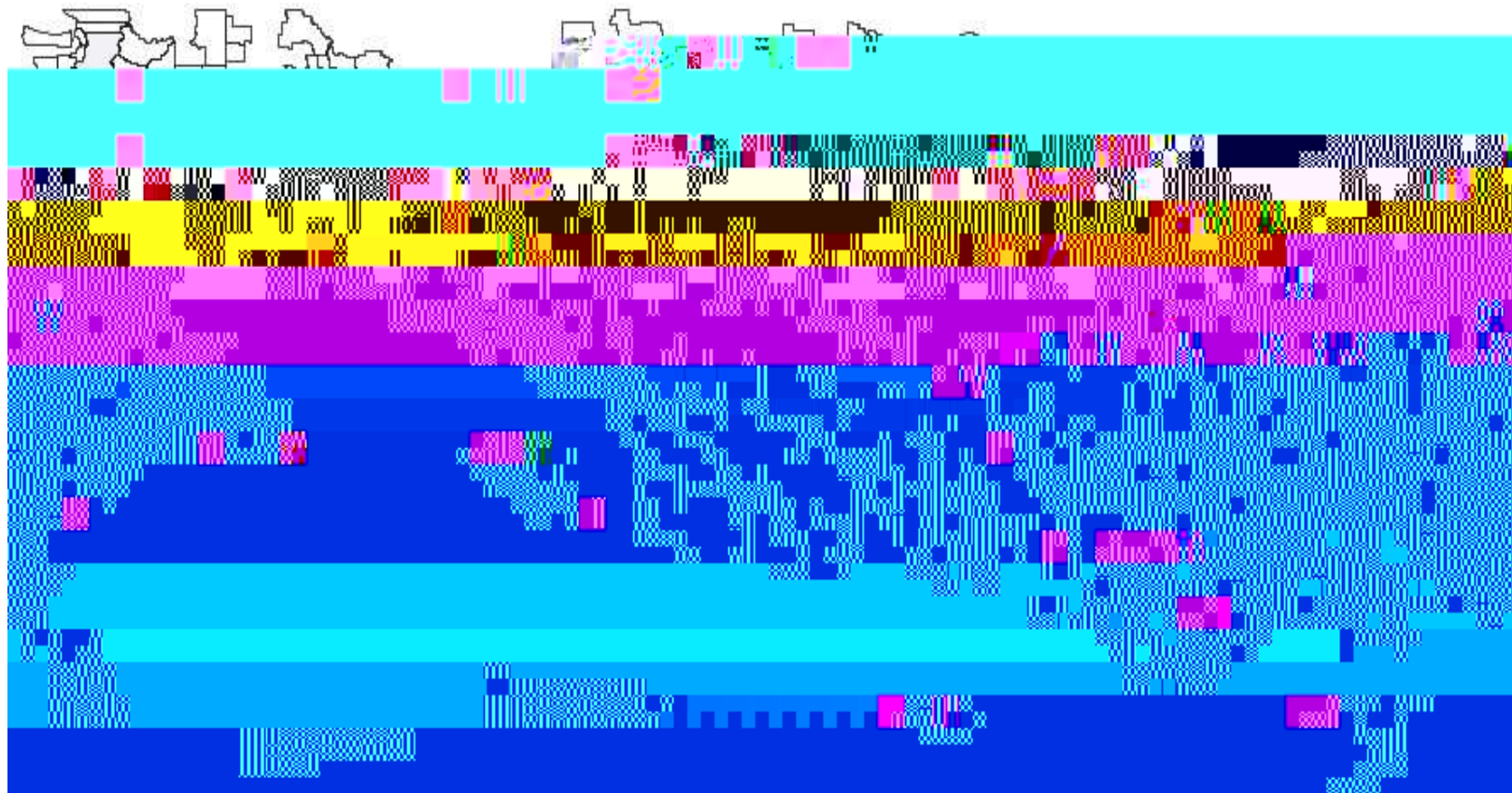
In our main sample, we exclude firm-year observations with negative pre-tax income following prior studies (Dyreng et al., 2010; Kubick et al., 2017), which results in a significant reduction in the sample size. This section tests the sensitivity of our results to including those loss observations. Specifically, we employ a measure of corporate tax avoidance that uses the market value of assets in place of pre-tax income in its denominator. Our measure, $CETR$, is calculated as the difference between cash taxes paid and the product of pre-tax income and the corporate statutory tax rate, scaled by market value of assets (Henry and Sansing, 2018). $ETR$ uses GAAP tax expense instead of cash taxes paid. $CETR5$ is $CETR$

| | | | | | | |
|---|---|---|---|---|---|---|
| N | 55,236 | 55,236 | 55,226 | 55,226 | 55,226 | 55,226 |
| NYEARS | | 24 | | | | 24 |
| NFIRMS | | | 7,559 | | | 7,559 |
| NINDS | | | | 371 | | ---------- |
| NLOCS | | | | | 330 | 330 |
| RSQ | 0.274 | 0.289 | 0.521 | 0.288 | 0.285 | 0.535 |

**Joint Significance (F-statistics)**

| | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | | 56.02*** | | | | 51.81*** |
| FIRM | | | 3.55** | | | 3.54** |
| INC | | | | 3.24*** | | ---------- |
| LOC (MSA) | | | | | 2.81*** | 2.26** |
| N | 55,226 | 55,226 | 55,226 | 55,226 | 55,226 | 55,226 |
| NYEARS | | 24 | | | | 24 |
| NFIRMS | | | 7,559 | | | 7,559 |
| NINDS | | | | 371 | | ---------- |
| NLOCS | | | | | 330 | 330 |
| RSQ | 0.308 | 0.318 | 0.554 | 0.318 | 0.314 | 0.569 |

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**Joint Significance (F-statistics)**

| | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | | 37.99*** | | | | 95.73*** |
| FIRM | | | 10.87*** | | | 10.92*** |
| INC | | | | 16.61*** | | ---------- |
| LOC (MSA) | | | | | 8.25** | 3.37*** |

Our main findings of the location fixed effect on corporate tax avoidance are based on the basic geographic unit, MSAs. We also consider alternative

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| YEAR | | 11.59** | | | | | | 12.21*** | 12.06** | 10.76** |
| FIRM | | | 2.54** | | | | | 2.54*** | 2.51*** | 2.52*** |
| IND | | | | 2.98** | | | | --------- | --------- | --------- |
| LOC (state) | | | | | 2.67** | | | 1.55* | | |
| LOC (county) | | | | | | 2.17** | | | 1.61*** | |
| LOC (zipcode) | | | | | | | 2.05** | | | 1.84** |
| CONTROLS | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| N | 29,29E | 29,29E | 29,29E | 29,29E | 29,29E | 29,29E | 29,29E | 29,29E | 29,29E | 29,29E |
| NYEARS | | 24 | | | | | | 24 | 24 | 24 |
| NFIRMS | | | 5,197 | | | | | 5,197 | 5,197 | 5,197 |
| NINDS | | | | 367 | | | | --------- | --------- | --------- |

| NINDS | | | | 254 | | ---------- |
| NLOCS | | | | | 164 | 164 |
| RSQ | 0.072 | 0.076 | 0.410 | 0.172 | 0.118 | 0.450 |

**Joint Significance (F-statistics)**

**N/A**

NINDS                                              168                              ----------

**Joint Significance (F-statistics)**

| | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | | 6.94*** | | | | 6.48*** |
| FIRM | | | 3.17** | | | ---------- |
| IND | | | | 3.04*** | | 2.96*** |
| LOC (MSA) | | | | | 1.86** | 1.71*** |
| Controls | YES | YES | YES | YES | YES | YES |
| N | 24,285 | 24,285 | 24,285 | 24,285 | 24,285 | 24,285 |
| NYEARS | | 24 | | | | 24 |
| NFIRMS | | | 4,253 | | | ---------- |
| NINDS | | | | 363 | | 363 |
| NLOCS | | | | | 212 | 212 |
| RSQ | 0.073 | 0.079 | 0.446 | 0.114 | 0.088 | 0.132 |

**Joint Significance (F-statistics)**

| | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | | 10.84*** | | | | 10.39*** |
| FIRM | | | 2.65*** | | | ---------- |
| IND | | | | 2.88*** | | 2.77*** |
| LOC (MSA) | | | | | 2.23** | 2.01*** |
| Controls | YES | YES | YES | YES | YES | YES |
| N | 24,285 | 24,285 | 24,285 | 24,285 | 24,285 | 24,285 |
| NYEARS | | 24 | | | | 24 |
| NFIRMS | | | 4,253 | | | ---------- |
| NINDS | | | | 363 | | 363 |

| | | | | | |
|---|---|---|---|---|---|
| N.OBS | | | | 162 | 162 |
| RSQ | 0.168 | 0.193 | 0.711 | 0.297 | 0.208 | 0.349 |

Prior studies find that governance factors such as board independence and CEO compensations are correlated with corporate tax avoidance (Armstrong et al., 2015; Gaertner, 2014). Thus, we additionally control for governance factors and CEO compensation to examine whether the geographic effects may work through the governance mechanisms. Specifically, we include measures of board size, percentage of independent directors, gender diversity on the board, CEO and Chair duality, and CFOs' board membership and CEO total compensation. These data are

**NYEARSh**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| INC | | | | 2.65*** | | | 1.92** |
| LOC (MSA) | | | | | 1.95*** | | 2.30*** |
| CEC | | | | | | 2.49*** | 2.40*** |
| Controls | YES | YES | YES | YES | YES | YES | YES |
| N | 12,289 | 12,289 | 12,289 | 12,289 | 12,289 | 12,289 | 12,289 |
| NYEARS | | 24 | | | | | 24 |
| NFIRMS | | | 1,676 | | | | ---------- |
| NINDS | | | | 306 | | | 306 |
| NLOCS | | | | | 172 | | 172 |
| NCEO | | | | | | 2,807 | 2,807 |
| RSQ | 0.088 | 0.096 | 0.354 | 0.145 | 0.112 | 0.475 | 0.498 |

Interest in the issue of tax compliance costs has grown significantly over the last two decades, in large part due to the work of academics and government agencies concerned about their incidence and perverse impacts.[1] Tax compliance costs are defined as 'the costs borne by businesses and individuals for complying with tax regulation, excluding the costs of the taxes themselves'.[2] Over time, a variety of approaches have been used to gauge the size and nature of the tax compliance burden.[3] Two prominent examples noted in the earlier value added tax (VAT) project include the 'Standard Cost Model'[4] (which is widely used by and on behalf of the European Commission) and the World Bank's 'Doing Business (DB)'[5] series. Additionally, jurisdictional revenue authorities may publish very limited data.[6] While each of these methodologies have several useful features, they also have conceptual and practical limitations,[7] which in part led to the commencement of exploratory work at the Organisation for Economic Co-operation and Development (OECD) in 2012-13 to develop a superior methodology. However, due to competing priorities, in particular the Base Erosion and Profit Shifting (BEPS) project, the OECD ceased exploratory work on the alternative methodology.[8] Subsequently, in 2015, tax academics at UNSW agreed that further exploration on the development of a diagnostic tool was warranted and initially focused on VAT with the intention to extend the diagnostic tool concept to other business taxes in due course. This culminated in the VAT compliance burden pilot project,[9] and its subsequent roll-out.[10]

The pilot study involved 13 countries and was launched by UNSW Sydney in early 2017, to test the VAT diagnostic tool. The findings broadly aligned with expectations and participants were generally of the view that the tool displayed merit in assessing the likely relative VAT compliance burden and its main drivers.[11] The project was then

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[1] Phil Lignier, Chris Evans and Binh Tran-Nam, 'Tangled Up in Tape: The Continuing Tax Compliance

burden diagnostic tool adopts the definition of CIT in the OECD's Revenue Statistics database.[19] Specifically, CIT refers to income tax that is levied on the profits of an entity, usually a company, not on the shareholders who own it.[20] However, given the adoption of the OECD definition, taxes paid on the profits of partnerships and the income of institutions, such as life insurance or pension funds, are also classified as CIT if they are charged on the partnership or institution as an entity.[21] In these cases, the term 'corporation' in this rating sheet includes these kinds of entities.

As a starting point, the framework for the diagnostic tool was established through the identification of four factors perceived to be the main drivers of aggregate CIT compliance costs at the individual jurisdiction level. Each of the four factors was then sub categorised into indicators. Whilst much of the groundwork for the CIT diagnostic tool was laid by the VAT compliance burden project, the CIT tool also incorporates specific indicators relevant for CIT which were conceived by participants of the original project at previous workshops in Sydney and Exeter.

The Sydney workshop, hosted at the Sydney offices of KPMG on 3-4 April 2018, was attended by many of participants from the original VAT pilot study to review the VAT diagnostic tool and identify areas for refinement. In addition, one of the objectives of the workshop was to explore, at a high level, on core ta         gton is eid

As outlined above, Step 1 required the identification of a four factor framework to

**Number of special CIT regimes that complicate tax computation and compliance            1-4**

practical experience. A consistent approach will also be adopted in any further rollout of the CIT study.

|  |  |
|---|---|
|  |  |

| | | | | | |
|---|---|---|---|---|---|
| A | 10 | 35 | 0.375 | 3.752 | 14.25 |
| B | 10 | 35 | 0.265 | 2.655 | 10.08 |
| C | 7 | 33 | 0.215 | 1.505 | 7.095 |
| D | 3 | 9 | 0.144 | 0.433 | 1.298 |

| | | | |
|---|---|---|---|
| | | | |
| **Range of total weighted scores:**<br><br>**8,344 to 32,738** | 8,344 – 10,783 | 1 | **Very Low** |
| | 10,784 – 13,223 | 2 | |
| | 13,224 – 15,662 | 3 | **Low** |
| | 15,663 – 18,102 | 4 | |
| | 18,103 – 20,541 | 5 | **Medium** |
| | 20,542 – 22,980 | 6 | |
| | 22,981 – 25,420 | 7 | **High** |
| | 25,421 – 27,859 | 8 | |
| | 27,860 – 30,299 | 9 | **Very High** |
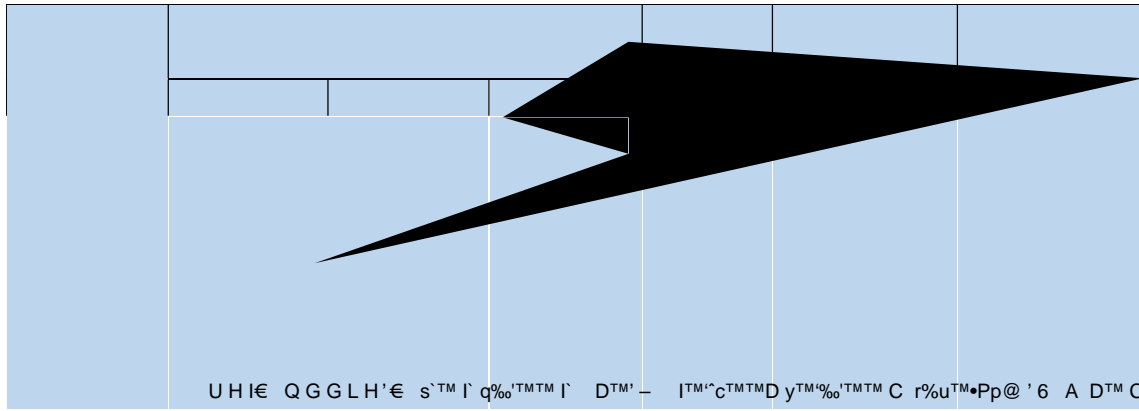
These two Tables also highlight that attempts to derive a definitive or precise quantification of the compliance burden may be problematic since reducing the compliance burden to a single figure index masks underlying heterogeneity in the scores. For example, China's compliance burden index of 4608 rounds up to      e

against comparative data to ascertain the reliability of the compliance burden classifications. The best available data for this exercise is the PwC Paying Taxes 2020 report which formed part of the World Bank's Doing Business study.[28] This report ranks the ease of paying taxes across 190 jurisdictions and includes data up to and including 2018.[29] The Paying Taxes indicator consists of several components, the most relevant of which for our validation purposes, is the 'total time to comply' which is expressed in hours.[30] This is disaggregated into the time to comply for the three major tax types being CIT, labour tax and consumption tax.

A comparison of the findings of the pilot study and the 'time to comply' data is provided in Table 11. For comparison purposes, the PwC data has been categorised into quintiles as follows: 0-23 hours = 'very low'; 24-37 hours = 'low'; 38-49 hours = 'medium'; 50-79 hours = 'high'; and 80+ hours = 'very high'.

jurisdictions (Australia, Egypt and New Zealand).[31] There are three 'outlier' jurisdictions (Hong Kong, South Africa and USA) with Hong Kong having vastly divergent results. A possible reason for the latter is that the results for Hong Kong included seven 'default indicators' compared to four for Germany and Japan and one for Australia, China and New Zealand. This may have unduly influenced the results for this jurisdiction.

| Country | |
|---|---|
| Organisation | |
| Completed by | |
| Email contact | |
| Phone number | |
| Other organisations who assisted with completion | 1) Ministry of Finance: Name and email address |
| | 2) Revenue body: Name and email address |
| | 3) |
| | 4) |
| | 5) |

## A.  Compliance Burden from Core Elements of CIT Policy

| Compliance burden indicators | Relevant rating |
|---|---|
| **Ease of tax computation** | |

**A1. Number of tax rates for different types of entities (e.g. base rate entities, small business entities, etc.) : (Note)**

1.  One rate
2.  Two rates
3.  More than two rates

**Note:** Some countries may impose different tax rates for different types of income or highly specialised entities including mining companies, life companies, credit unions,

| Compliance burden indicators | Relevant rating |
|---|---|
| A5 The CIT regime has the following special CIT regimes which <u>simplify</u> tax computation and compliance<br>    1. One regime (e.g. small business or group tax regimes)<br>    2. Two to three regimes<br>    3. More than three regimes<br>    4. No simplified regimes exist<br><br>_____ | 1<br>2<br>3<br>4 |
| A6 Percentage of taxpayers using the special CIT regimes identified in Question A5, which simplify tax computation and compliance:<br>    1. 75% or more<br>    2. 50% - 74%<br>    3. 25% - 49%<br>    4. Less than 25%<br>    5. No such regime | 1<br>2<br>3<br>4<br>5 |
| **CIT policies that complicate tax computation and compliance** | |
| A7 Alignment between financial accounts and tax returns: number of adjustments from financial accounts generally required in CIT returns:<br>1. No adjustment required<br>2. Fewer than 5 adjustments<br>3. 5 to 20 adjustments<br>4. More than 20 adjustments | 1<br>2<br>3<br>4 |
| A8 The CIT regime has the following special CIT regimes which <u>complicate</u> tax computation and compliance<br>    1. One regime (e.g. CFC, transfer pricing, anti-hybrid rules)<br>    2. Two to three regimes<br>    3. More than three regimes<br>    4. No simplified regimes exist<br><br>_____ | 1<br>2<br>3<br>4 |
| A9 Percentage of taxpayers using any of the special CIT regimes identified in Question A8, which complicate tax computation and compliance<br>1. No such regime<br>2. Less than 25%<br>3. 25% - 49%<br>4. 50% or more | 1<br>2<br>3<br>4 |
| A10 Frequency of legislative amendments of the CIT law during 2019 fiscal year:<br>    1. No amendments<br>    2. 1 to 5 a year<br>    3. 6 to 10 a year<br>    4. More than 10 a year | 1<br>2<br>3<br>4 |

| Compliance burden indicators | Relevant rating |
|---|---|
| **(If you wish to elaborate on any ratings in this section, please do so here. For instance, please highlight any rules or features in your country's CIT regime that are not covered in the above indicators, but have significant impact on compliance burden)** | |

## C. Revenue body capabilities in meeting taxpayers' service and compliance needs

| Compliance Burden Indicators | Relevant rating |
|---|---|
| **Online Services** | |
| **C1. Quality of revenue body's website for CIT (e.g. comprehensiveness and ease of navigation) is generally:**<br>1. Excellent<br>2. Good<br>3. Reasonable<br>4. Poor<br>5. Non existent | 1<br>2<br>3<br>4<br>5 |
| **C2. Percentage of CIT payments made directly through revenue body's online payment facilities rather than third party facilities (e.g. banks):**<br>1. 75% or more<br>2. Between 50% 74%<br>3. Between 25% 49%<br>4. Less than 25%<br>5. No online payment facility | 1<br>2<br>3<br>4<br>5 |

**C3 Percentage of taxpayers using revenue body's online filing facilities to file CIT**

| Compliance Burden Indicators | Relevant rating |
|---|---|
| (If you wish to elaborate on any ratings in this section, please do so here. For instance, please highlight any rules or features in your country's CIT regime that are not covered in the above indicators, but have significant impact on compliance burden) | |

## D. Monetary costs/benefits associated with compliance

| Compliance Burden Indicators | Relevant rating |
|---|---|
| D1. Time generally required for revenue body to process CIT refunds after taxpayers | |

identified in Question A8, which
complicate tax computation and
compliance

| B.9 | Percentage of verification actions that result in disputed CIT assessments | We appreciate that there might not be any statistical sources for the '% volume' aspect of this indicator. However, page 448 of Annex A (Tax Administration 2019 OECD) which details CIT verification/audit activity for CIT may provide some guidance. Page 67 of Annex A also details the audit hit rate for CIT.<br><br>Nonetheless, this indicator may require judgment call from experienced in country tax/accounting professionals. |
| --- | --- | --- |
| C.2 | Percentage of CIT payments made directly through revenue body's online payment facilities rather than third party facilities (eg, banks)<br><br>This does not include payments made through third parties but rather focuses on the revenue body's capabilities | See Tax Administration 2019 OECD referenced below (page 289 of Annex A) which details whether electronic payment times] f (                Ê ce |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Australia** | | | | | 1.5% | **2580** |
| **China** | | | | | 1.5% | **2580** |
| **Egypt** | | | | | 1.5% | **3440** |
| **Ge** | | | | | 1.5% | **3655** |
| | | | | | | **4300** |
| | | | | | | **3870** |
| **Japan** | **3** | | | | 21.5% | **3870** |
| **New Zealand** | **1** | | | | 21.5% | **3655** |

**Sou** **Zea**

# How tax gap can inform tax policy and administration: a case study of Australia's individual income tax

Richard Highfield and Neil Warren

An increasing number of revenue agencies are deploying 'tax gap' analysis to assess their overall performance. Tax gap – the

estimates that are both credible and reliable and which can be used to inform the wider community on the health of the tax system.[3] Over cycles of such research, the ATO is aiming to be able to assess the trend of its gap estimates over time and, in particular, to ascertain whether policy reforms and/or its compliance improvement strategies are, in net overall terms, having an impact. The tax gap framework displayed in Figure 1 highlights the key components of the overall gap estimation approach of the ATO for each tax.

Source: ATO, 'How we measure tax gaps', https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Principles-and-approaches-to-measuring-gaps/?page=4#Tax_gap_framework (accessed 25 January 2023).

The substantially higher net tax gap for the IISB segment (i.e., 12.6%), compared with the tax gap of the INB segment (i.e., 6.4%), is largely attributable to the fact that much of the income of these taxpayers is not subject

Grossing up the resulting values to the projected full population reveals how the income

While the analysis in Table 6 outlines the vertical equity impact of tax gap related income, it does not inform us on how TG impacts on individuals with seemingly equivalent income. This is the issue of horizontal equity or how the tax burden differs between individuals with similar incomes. Table 6 only illustrates how tax gap related income impacts the pre and post tax distribution of income between individuals similarly ranked. However, since horizontal equity is about ensuring the tax system exhibit equal tax treatment of equals, an important question about non compliance is whether it is broad based and common across all taxpayers. If it was then we could

What Figure 4 starkly demonstrates is the substantial re-ranking of tax filers when taxable income not reported to the ATO in lodgements is taken into consideration. Horizontal equity of the individual income tax is therefore severely compromised by non-compliance with the law. Furthermore, this finding must ultimately bring into question the vertical equity observations in Table 6 where TI is used to rank individuals because it does not acknowledge the substantial re-ranking of the individual filers when tax gap related income is taken into consideration. One approach to addressing this limitation is to rank individuals by TI+TGI and not TI. These results are presented in the final column of Table 6 and highlight how the inequality measure (G) is worsened for TI+TGI when individuals are ranked by TI+TGI instead of TI. Combined with the findings in Figure 2, while lower income groups might be engaged in non-compliance, it is far more significant for the higher income groups in terms of their share of TI+TGI. When the impact of tax paid (T) as against tax liable by law (T′ = T+TG) is taken from TI+TGI, it is shown that post-tax income inequality improves, which is to be expected given the progressive rate schedule (Table 5) and the greater benefit to higher income groups from non-compliance. Reducing the tax gap therefore not only improves vertical equity, it also significantly improves horizontal equity.

However, in practice tax gaps have no single source and occur in many ways as shown in Table 3. Understanding how those sources differentially impact different income groups is an important consideration not only to understanding the cause of any resulting inequality, but to appreciate the likely distributional impact of any strategy designed to reduce a particular source of tax gap, such as work-related expenses. Figure 5 outlines the contribution to total tax gap by over-claimed work-related deductions, under-reported business and rental income, and other forms of non-compliance.

In combination with Figure 2 (red section), Figure 5 illustrates how significantly the composition of non-compliance varies across taxable income groups. For those on lower incomes, work-related

Without the availability of tax gap data, revenue agencies have only limited, and more than likely unrepresentative, data on why and how individuals 'do not pay all tax liable' because it is obtained through compliance activities arising from risk-based models of non-compliance from a 'known'[8] population which are subject to infrequent review. The benefit of tax gap analysis is its holistic approach, forcing the estimation of non-compliance across both the 'known' (current taxpayers) and the unknown (or people outside the tax system (POTS)).

Explaining and understanding tax gap estimates therefore requires a broader view and understanding of the attributes and behaviour of both taxpayers and those outside the tax system. Here, tax gap studies can potentially benefit from strategies developed by

Deductions for WRE have been a problematic feature of Australia's income tax system for many decades. With the relevant tax law expressed in very broad terms, most employee taxpayers have, very often with the assistance of tax agents, identified opportunities for making WRE deduction claims in their tax returns. The average deduction claim in 2016-17 was AUD 2,495 with just under 50% of claims less than

income producing assets against other categories of income has led to extensive use of

measures (Table 7) that, once fully established, are expected to increase tax revenues by around AUD 1,400 million per year.

| 2017-18 | Extension of the Taxable Payments Reporting System (TPRS) to contractors in the courier & cleaning industries | 194 |
|---|---|---|
| | One year extension of funding for ATO compliance activities | 19 |
| 2018-19 | Expansion of the TPRS to the following industries: a) security providers and investigation services; b) road freight transport; and c) computer system design and related services | |

WRE claims contained in 2016-17 tax returns (drawing on the ATO sample file population) to identify their likely impact on income tax revenue, the assessment of loan repayments via the tax system, and any unusual patterns in the incidence of WRE deductions between HELP and non-HELP taxpayers.

| <20 | 67,000 | 70,440 | 200,341 | 65 |
|-----|--------|--------|---------|-----|
| 20-29 | 1,084,000 | 1,139,649 | 1,372,464 | 17 |
| 30-39 | 517,000 | 543,541 | 702,317 | 23 |
| 40-49 | 225,000 | 236,551 | 355,576 | 33 |
| 50-59 | 88,000 | 92,518 | 156,322 | 41 |
| 60-69 | 25,000 | 26,283 | 61,885 | 58 |
| 70- | 4,000 | 4,205 | 23,697 | 82 |

Sources: ATO Sample File and STSL tabulations, and authors' computations and assumptions.
/1. These data are estimates based on prior year patterns of tax return lodgement.

The ATO's published tax gap findings concerning people who should lodge returns but fail to do so – who the ATO describes as 'people outside the system' (POTS) – are extremely limited in detail and do not shed any light on the characteristics of POTS, including those with STSL debts. Furthermore, the ATO's individuals 2% sample only includes taxpayers who lodge returns and receive assessments within the 16 month period following the end of the relevant financial year. The topic of POTS at large is discussed in section 5.3.2.

Some individuals choose not to report their assessable income simply by not lodging a tax return. In its published tax gap research findings, the ATO uses m   !   roM

understood, increased substantially (i.e., +80%) in 2012-13 when the tax-free threshold was increased from AUD 6,000 to AUD 18,200. With the substantial increase in the tax-free threshold, one might reasonably have expected a reduced rate of growth in return lodgement (which in fact did occur) as more individuals are relieved of a tax burden and, as a result, withholding at source. The significant rise in the level of unclaimed tax or gr      fag d      x      18,      -d      d      e      ri      i      he      d]=      sdlaodan

| | | | | | | |
|---|---|---|---|---|---|---|
| Individuals who lodged a tax return | 50% (AUD ...billion) | | 1,875 | 1,250 | 938 | 750 |

be surprising to many observers, when viewed in a broader context the gap estimate can be easily explained

Over 2 million individuals taxpayers report net rental income in their returns each year and neither payments of rental income nor interest charged on mortgages, the major expense item in respect of such income, are subject to any form of systematic third party reporting to the ATO as is the case for most other significant categories of income. In the absence of such reporting and given the very low rates of audit coverage of these taxpayers, almost all this reported income and expenditure goes unverified each year. For the 2016-17 income year, the ATO Taxation Statistics (2019) indicate that over 2.2 million taxpayers reported around AUD 44 b  esrc       cat

**Does the definition of 'repayment income' require further adjustment?**

SILS repayments are calculated having regard to an individual's level of 'repayment income' which is broader than taxable income because it includes specific other amounts: i) total net investment losses (which includes rental income losses); ii) total reportable employee fringe benefits; iii) reportable super contributions; and iv) exempt

of tax agents in Australia[19]

The Australia's Future Tax System Review Panel report acknowledged that a major barrier to reform was the traditional 'agency-by-agency' approach to developing and delivering government services, which still appears to be much in place. It envisaged the need for a new more holistic (whole-of-system) approach that brought together policy design and implementation across agencies and portfolios to achieve the transformation envisaged.

In seeking to lay a path for future developments, the Australia's Future Tax System Review Panel report (2009) concluded that a focus on six enablers would position Australia to deliver an improved client experience when engaging with the tax and transfer system. In brief, these were:

1. The development of a tax and transfer client account for every citizen and the increased use of defaults and nudges, including prefilled tax returns.

2. Policy changes to align definitions and processes and to simplify rules for determining tax liabilities and transfer entitlements.

3. Greater use of real-time third party reporting.

4. Information standards to support interoperability.

5. A modern privacy and secrecy framework.

6. Institutional reform.

Adoption of these recommendations would do much to reduce the income tax gap, and a possible catalyst for such changes could be the development of a single client account applied across all governments – federal, state, and local. The Australia's Future Tax System Review Panel report (2009) recommended such a policy at the federal level in 2009, arguing that all citizens should have a single client account (or possibly a structure of accounts) with government, which could be viewed and managed online. This would provide convenient access to information about all their tax and transfer affairs and help them better and sooner understand the breadth of their obligations. The account would also provide access to all third party information reported to government that was relevant to their tax obligations and transfer entitlements.

While new and revamped third party reporting measures have been introduced in recent years (e.g., Taxable Payments Annual Reporting (TPAR)[22] and Single Touch Payroll[23]), tax gap analysis has shown that there is a strong case for expansion of reporting in respect of other important compliance risk areas such as rental incomes and further categories of business and self-employment income. The Australia's Future Tax System Review Panel report (2009, Pt 2, Vol. 2, p 711) emphasised that 'closer-to-real-time' reporting, as opposed to annual reporting, of such information and the visibility of these flows through a person's client account would enable the system to be more responsive to changes in circumstances and more transparent to individuals.

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[22] ATO, 'Taxable payments annual report (TPAR)', https://www.ato.gov.au/business/reports-and-returns/taxable-payments-annual-report/ (accessed 25 January 2023).
[23] ATO, 'Single Touch Payroll', https://www.ato.gov.au/Business/Single-Touch-Payroll/ (accessed 25 January 2023).

Hirschhorn, J (Second Commissioner of Taxation) 2019, 'Future of tax administration', paper delivered to the PricewaterhouseCoopers Global Tax Symposium, Paris, 14 November. Available at: https://www.ato.gov.au/Media-centre/Speeches/Other/Future-of-tax-administration/ (accessed 25 January 2023).

HM Revenue & Customs 2019, Measuring tax gaps 2019 edition: Tax gap estimates for 2017 to 2018. Available at: https://webarchive.nationalarchives.gov.uk/ukgwa/20200701215139/https://www.gov.uk/government/statistics/measuring-tax-gaps (accessed 25 January 2023).

House of Representatives Standing Committee on Economics 2017, Report on the inquiry into tax deductibility, Canberra, June, https://www.aph.gov.au/Parliamentary_Business/Committees/House/Economics/Taxdeductibility/Report (accessed 25 January 2023).

House of Representatives Standing Committee on Tax and Revenue 2018, Taxpayer engagement with the tax system, Canberra, August, https://www.aph.gov.au/Parliamentary_Business/Committees/House/Former_Committees/Tax_and_Revenue/Taxpayerengagement/Report_1 (accessed 25 January 2023).

Inspector General of Taxation 2018, The future of the tax profession, Sydney, November; https://www.igt.gov.au/wp-content/uploads/2021/07/172_20181101_-_The_Future_of_the_Tax_Prof.pdf (accessed 25 January 2023).

McManus, J & Warren, N 2006, 'The case for measuring tax gap', eJournal of Tax Research, vol. 4, no. 1, pp 61-79

Warren, N 2016, 'e-filing and compliance risk: Evidence from Australian personal income tax deductions', Australian Tax Forum, vol. 31, no 3, pp 577-602.

Warren, N 2019 'Estimating tax gap is everything to an informed response to the digital era', eJournal of Tax Research, vol. 16, no 3, pp 536-577.

Warren, N & McManus, J 2007, 'The impact of tax gap on future tax reforms', Australian Economic Review, vol. 40, no 2, pp 200-207.

248-250

For the INB population, the ATO reported that '[i]n the full sample of 1,408 cases the incidence of adjustment was 75%, with 80% of agent-prepared returns being adjusted
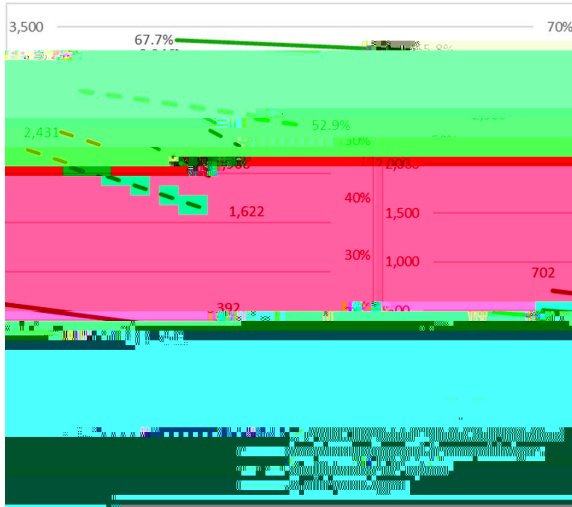
For all taxpayers, the data reveal only minor differences across the three regional groupings. Both the incidence rate and average claim value are broadly similar across the three regional groupings, while the marginally lower tax gap impact of WRE claims in regional urban areas is most likely attributable to the lower average incomes (and associated marginal rates of tax) of taxpayers in this regional grouping. For tax agent-prepared returns, the incidence of WRE claims, their average claim value, and average WRE tax gap are marginally higher in major urban regions.
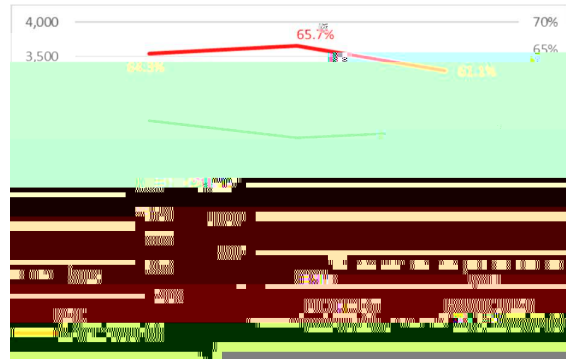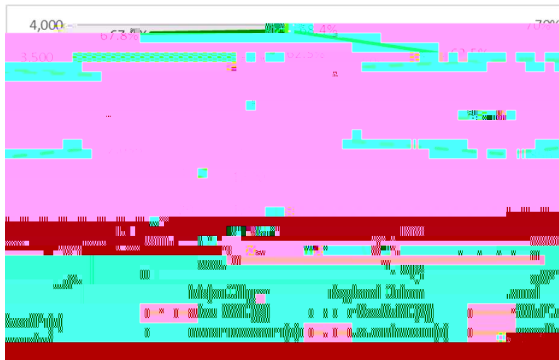
The average WRE claim value varies significantly (i.e, by a factor of 100%) across occupational groupings, with significantly higher averages observed mainly for taxpayers in 'white collar' groupings (i.e,
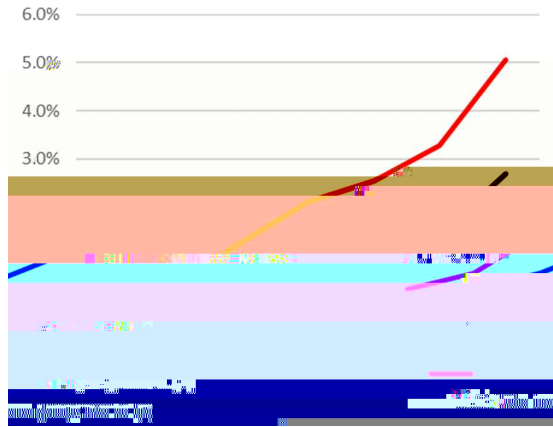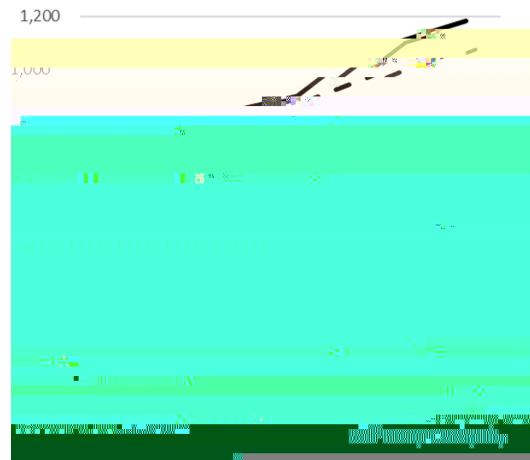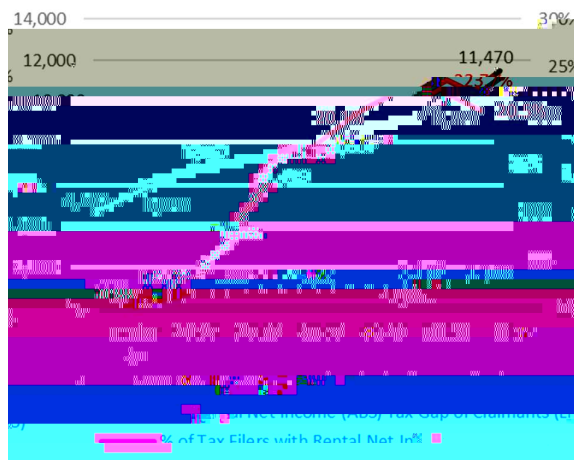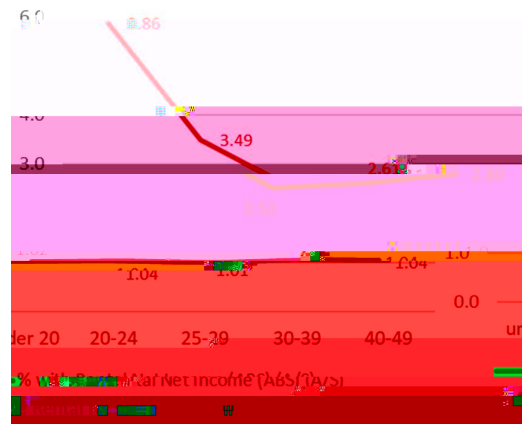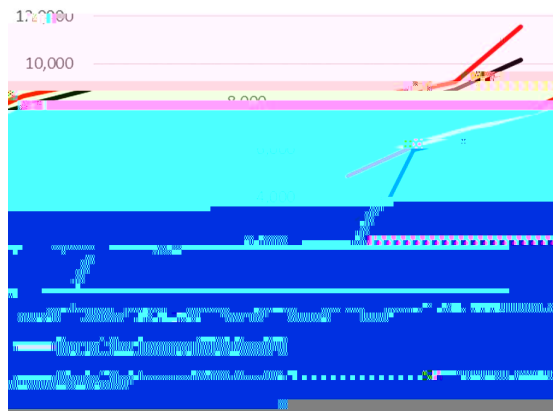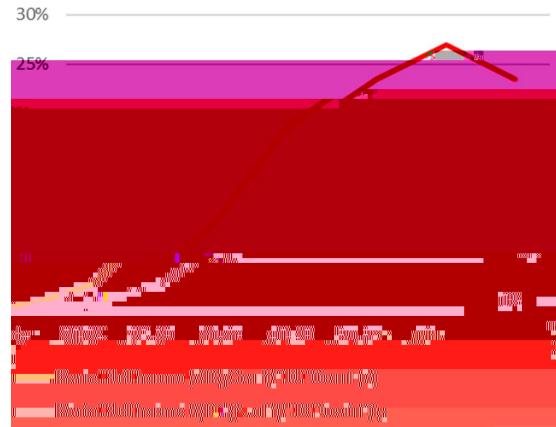
Excluding taxpayers aged under 25, both the incidence rate of reported business income and relative amount of average business income reported all increase consistently across age groups up to 50-59 years. However, average incomes reported peak in the 40-49 age grouping and fall thereafter, especially for users of tax agents. For tax agent prepared returns, both the incidence rate of net business income and amount of average business income reported are significantly higher than self-preparers across all age groupings. The projected average tax gaps as shown in Figure 18 are substantially higher relatively to those of self-preparers across all age groupings.
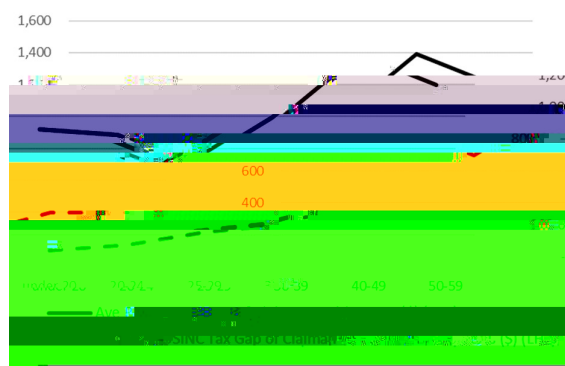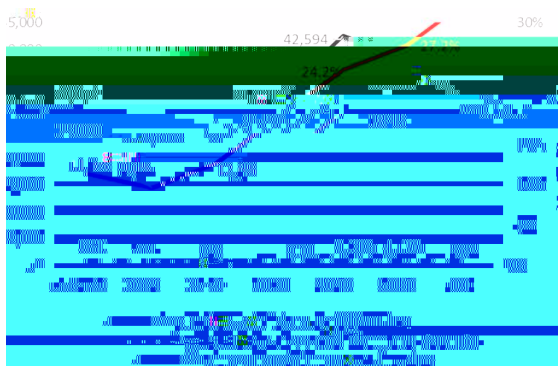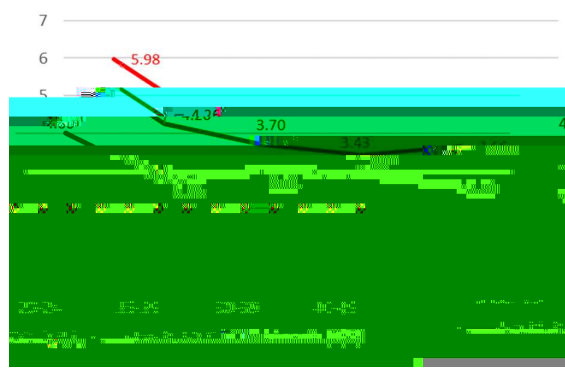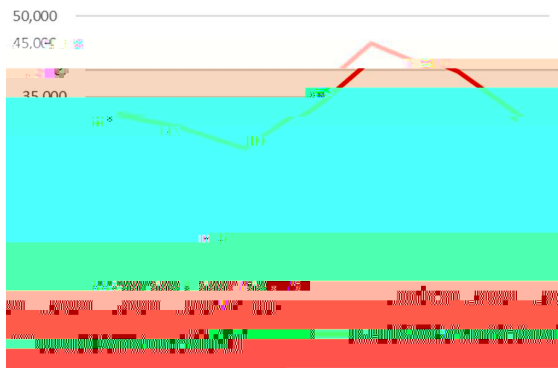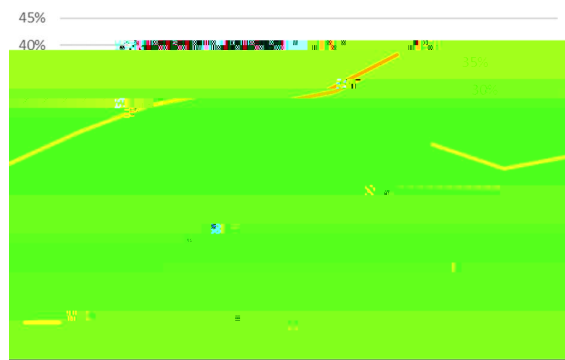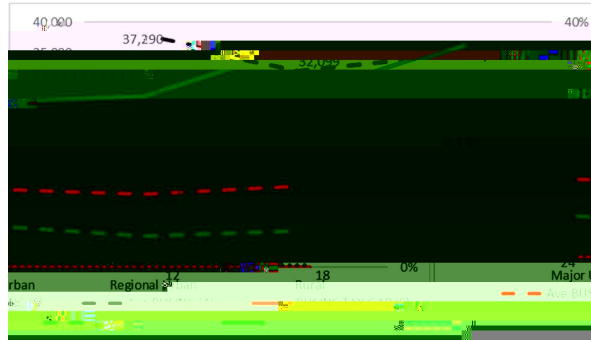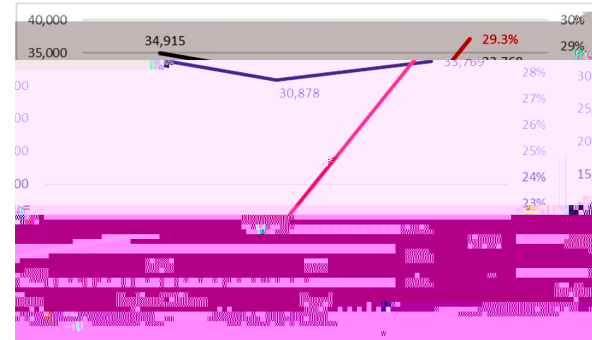
From 1 January 2019, students studying medicine, dentistry and veterinary science courses benefited from a substantial increase in their loan limit, from an estimated AUD 130,552 in 2019 to a new limit of AUD 150,000, an increase of 15 percent. Students studying all other courses have a loan limit of AUD 104,440. These amounts will continue to be indexed annually.
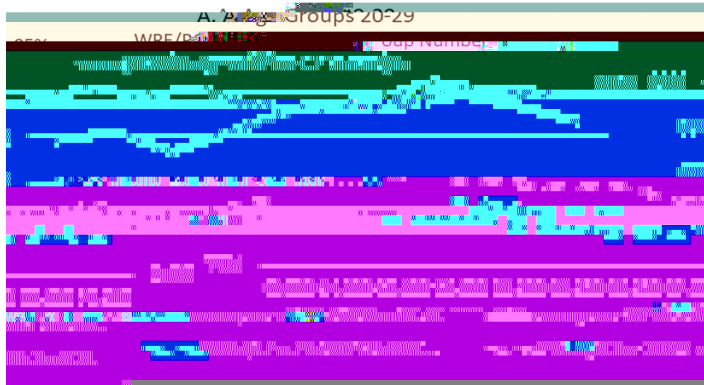
**Combined STSL loan limit**

A new combined STSL loan limit has been introduced, effective from 1 January 2020. Only new HELP-HECS-HELP borrowing counts towards a persons STSL loan limit, however existing FEE-STSL entitlements already incurred are being carried over (FEE-HELP).

The ATO sample file population of Study and Training Support Loans (STSL) is detailed in Table 20.

| | | | |
|---|---|---|---|
| **No. of records in sample file** | **40,201$** | **236,98** | **277,20** |
| **No. of taxpayer records with WRE claims - total** | **26,846 (66.8%)** | **149,555 (63.1%)** | **176,40** |
| **No. of taxpayer records with WRE claims - aged 20-29** | **14,616 (54.4%)** | **24,927 (16.7%)** | **39,54** |
| **No. of taxpayer records with WRE claims - aged 30-39** | **7,385 (18.4%)** | **36,796 (24.6%** | **44,18** |
| **No. of taxpayer records with WRE claims - aged 40-49** | **2,924 (10.9%** | | |

A. Age Groups 20-29



B. Age Groups 20-29
WRE AUD pa for those with Deduction



C. Age Groups 30-39



D. Age Groups 30-39
WRE AUD pa for those with Dedn

E. Age Groups 40-49

WRE/POP= WRE Claimants/Group Number

WRE/RI=Average WRE for Claimans/RI

F. Age Groups 40-49
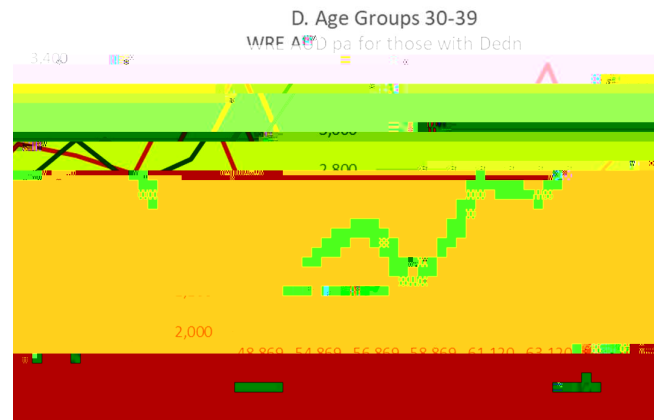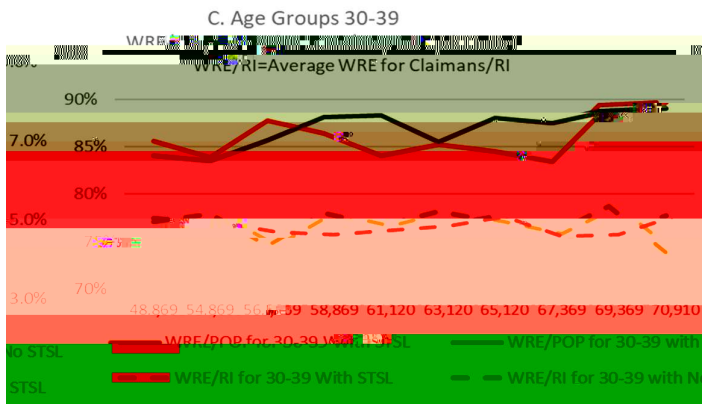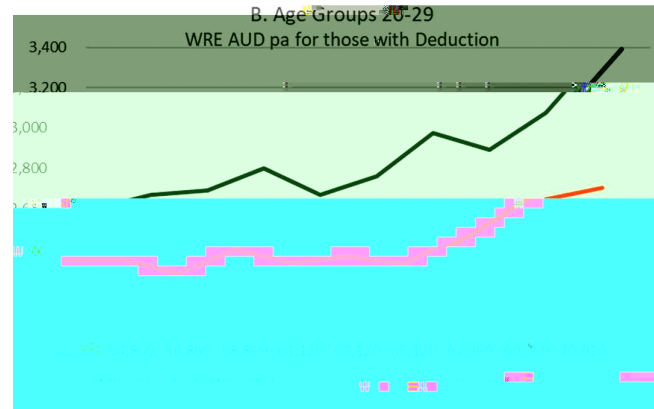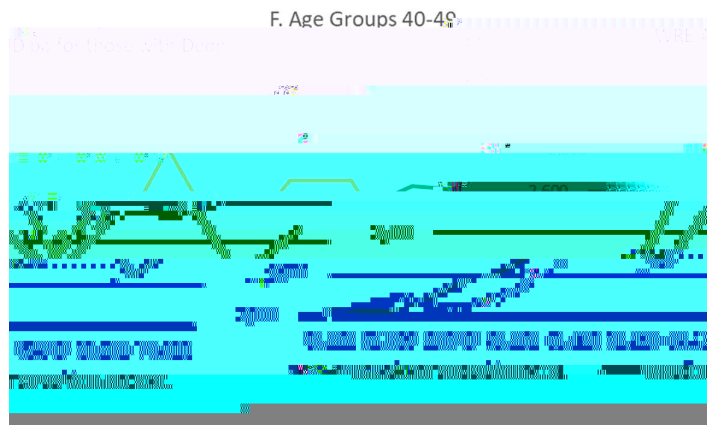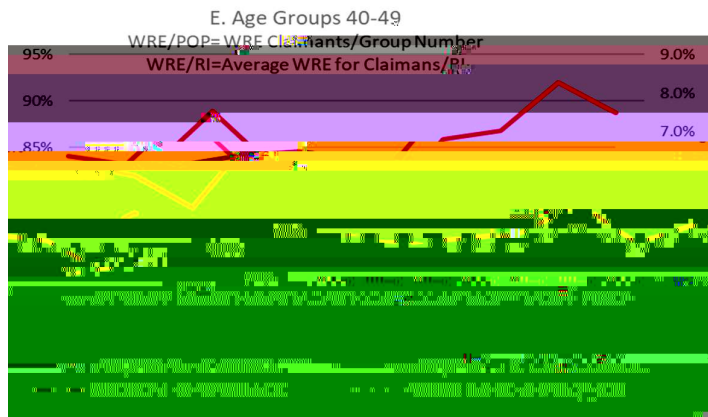
**6D  Partner Status**
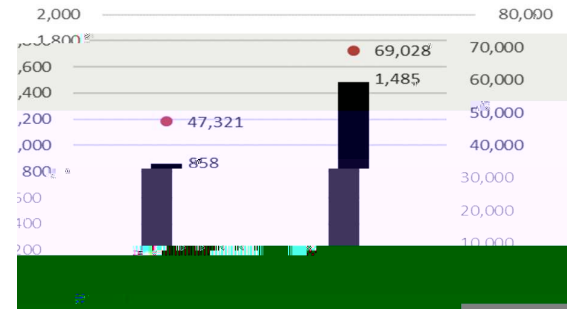


**6E  Geographical region**

| | | |
|---|---|---|
| | | |

**Table 8 Sources:**

**Column 1** - https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5204.0.30.1819;
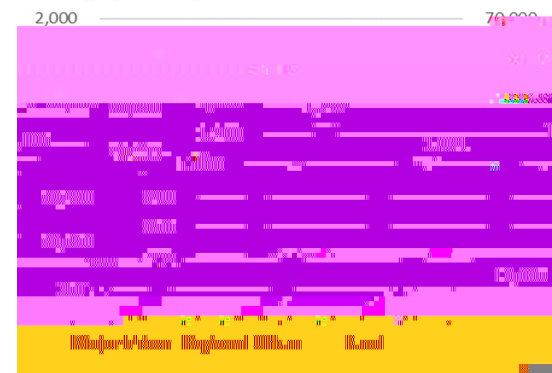
**Column 2** - https://www.ato.gov.au/Individuals/Tax-return/2019/Tax-return/Income-questions-1-12/;

**Column 3** - https://www.ato.gov.au/Individuals/Income-and-deductions/Income-tests/;

**Column 4** - https://www.ato.gov.au/Individuals/Study-and-training-support-loans/When-must-you-repay-your-loan/#Yourrepaymentincome;

**Column 5** - https://www.ato.gov.au/individuals/medicare-and-private-health-insurance/medicare-levy-surcharge/

**Column 6** https://www.humanservices.gov.au/individuals/services/centrelink/age-pension/how-much-you-can-get/assets-test and https://www.humanservices.gov.au/individuals/topics/what-adjusted-taxable-income/29571

**(accessed 25 January 2023)**

# The impact of demographic variables on value added tax compliance in South Africa

Anculien Schoeman

**Research into the impact of demographic variables – including gender, age, formal education and tax knowledge – on tax**

One of the economic deterrence factors identified as influencing tax compliance is tax

In general, the studies on individual taxpayer compliance argue that older taxpayers tend

A between subjects online experiment following a pre test and post test design was conducted, involving four treatment groups that were confronted with a VAT rate change from the current 15% rate:

> those with a five percentage point decrease in the VAT rate (10%): the large decrease group;

> those with a one percentage point decrease in the VAT rate (14%): the small decrease group;

> those with a one percentage point increase in the VAT rate (16%): the small increase group; and

> those with a five percentage point increase in the VAT rate (20%): the large increase group

The experiment commenced with questions to obtain the demographic profiles of the
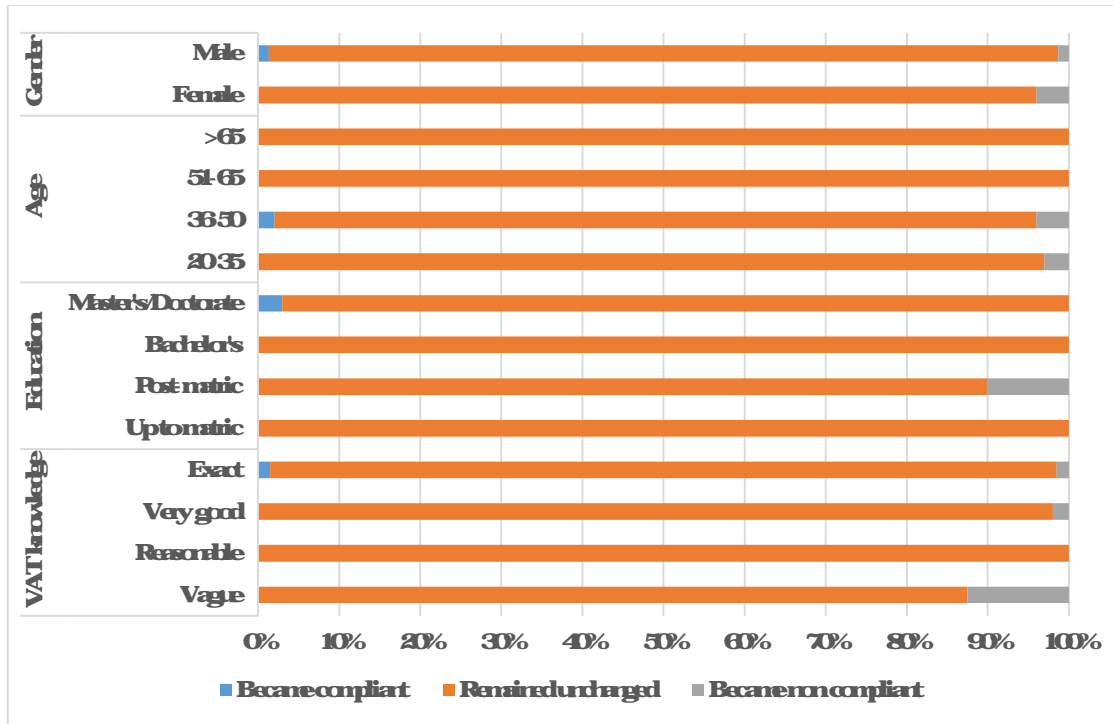
thus decide to participate or not and were asked to forward the message containing the link to people who they thought were qualifying participants (Saunders et al., 2016).

Between June 2018 and January 2019, 557 responses were received, with only 131 valid and usable for the analyses. Responses were invalid where: participants did not agree to participate in the study (8); participants did not meet the qualifying requirements (based on the income level of the business and being in a management, decision-making position in the business) (211); the attention checks were answered incorrectly (46); the experiment was not sufficiently completed for comparative purposes (160); and the participants' comments clearly indicated that they did not understand the experiment and therefore did not answer appropriately (1). The participants were randomly allocated by Qualtrics to the various treatment groups, as set out in Table 1.

| | |
|---|---|
| Large decrease group (10%) | 33 |
| Small decrease group (14%) | 30 |

Furthermore, it is evident that: females tend to be more compliant than males; individuals between 51 and 65 years of age tend to be the least compliant, but those over 65 tend to be the most compliant; individuals with the lowest qualifications tend to be the least compliant; and those with the best VAT knowledge tend to be the most compliant.

Figure 2 (sales) and Figure 3 (purchases) illustrate the compliance per item within each demographic variable after the change in VAT rate as     ite a              than an     c    t

| | | | |
|---|---|---|---|
| | | | |
| MdMf     Mf **Mplister**Lover | | 8 | 3844 |

Rupert, T J, Single, L E & Wright, A M 2003, 'The impact of floors and phase outs on taxpayers' decisions and understanding of marginal tax rates', Journal of the American Taxation Association, vol. 25, no. 1, pp. 72-86.

Saunders, M N K, Lewis, P & Thornhill, A 2016, Research methods for business students, 7th edn, Pearson Education, Harlow, UK.

Scotland, J 2012, 'Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms', English Language Teaching, vol. 5, no. 9, pp. 9-16.

Shadish, W R, Cook, T D & Campbell, D T 2002, Experimental and quasi-experimental designs for generalized causal inference, Wadsworth Cengage Learning, Belmont, CA.

Shafer, W E & Wang, Z 2018, 'Machiavellianism, social norms, and taxpayer compliance', Business Ethics, the Environment and Responsibility, vol. 27, no. 1, pp. 42-55.

Small Enterprise Development Agency 2019, SMME quarterly update: 3rd quarter 2018, Pretoria, March. Available at: http://www.seda.org.za/Publications/Publications/SMME%20Quarterly%202018-Q3.pdf.

Song, Y-d & Yarbrough, T E 1978, 'Tax ethics and taxpayer attitudes: A survey', Public Administration Review, vol. 38, no. 5, pp. 442-452.

South African Revenue Service (SARS) 2012, Compliance programme 2012/13-2016/17, Pretoria. Available at: https://www.gov.za/sites/default/files/gcis_document/201409/sarscomplianceprogram2012final230march.pdf.

South African Revenue Service (SARS) 2015, Guide for vendors, Pretoria.

South African Revenue Service (SARS) 2017, Annual performance plan 2017/18, Pretoria. Available at: https://www.sars.gov.za/wp-content/uploads/Enterprise/Strat/SARS-Strat-19.SARS-Annual-Performance-Plan-2017-to-2018-15-June-2017.pdf.

Statistics South Africa 2018, Quarterly labour force survey, quarter 3, 2018, Pretoria. Available at: http://www.statssa.gov.za/publications/P0211/P02113rdQuarter2018.pdf.

Theron, C 2016, '#VATMustRise: An unpopular solution to a very real problem', The Young Independents, 20 November. Available at: https://www.tyi.co.za/your-life/news/vatmustrise-an-unpopular-solution-to-a-very-real-problem.

Torgler, B 2003, 'Beyond punishment: A tax compliance experiment with taxpayers in Costa Rica', Revista de Análisis Económico, vol. 18, no. 1, pp. 22-56.

Van Oordt, M L 2016, A quantitative measurement of policy options to inform value added tax reform in South Africa, unpublished Doctoral thesis, University of Pretoria, Pretoria. Available at: http://repository.up.ac.za/handle/2263/53009.

Wenzel, M 2005, 'Motivation or rationalisation? Causal relations between ethics, norms and tax compliance', Journal of Economic Psychology, vol. 26, no. 4, pp. 491-508.

Wijayanti, P, Saraswati, N Kartika, I & Mutoharoh 2020, 'The improvement strategy of tax compliance

# Tax professionals' perceptions on Malaysian HNWIs' compliance behaviour

Natrah Saad, Abdul Salam Mas'ud, Saliza Abdul Aziz, Nor Aziah Abdul Manaf and Muhammad Aqbal Mashadi

Documented evidence has shown that a significant number of high net worth individuals (HNWIs) whose contribution accounted for more than 11% of personal income tax collections have been caught in tax malfeasance over the period of 2009-2013 through IRBM tax audits. Therefore, this article examines the influence of probability of detection, perceived severity of punishment, political affiliation, role of tax professionals, conditional cooperation, and vertical fairness on HNWIs' non compliance behaviour. Survey questionnaires were administered among tax professionals, and data was analysed using PLS software. The results reveal that the probability of detection, severity of punishment, political affiliation and role of tax professionals have a significant influence on tax non compliance behaviour among HNWIs.

: HNWIs; non compliance; probability of detection; severity of punishment; political affiliation

Since 2009, when the Organisation for Economic Co-operation and Development (OECD) first published a report about the engagement of High Net Worth Individuals (HNWIs) on tax compliance, this category of taxpayers has become an important subject in tax research. While there is no universal definition of HNWIs, the most commonly applicable definition is that of OECD (2009) which defined HNWIs as individuals with a net worth of at least USD 1 million held either directly or indirectly through trusts and controlled entities. OECD (2009) clarified that there are four considerations for the recent focus on HNWIs among revenue authorities. The first is the complex nature of

who have the ability to devise schemes for tax avoidance and evasion. Through audit data, Rosli et al. (2018) found a significant relationship between the influence of tax professionals and non-compliance; however, whether or not tax professionals aided aggressive tax planning that can result in tax non-compliance of HNWIs in Malaysia is an issue that needs further evidence. Therefore, the following hypothesis is developed:

: There is a positive relationship between the role of tax professionals in aggressive

relation to HNWIs, Rosli et al. (2018) examined the influence of tax rate on tax malfeasance in Malaysia, and the result revealed an insignificant relationship. It was concluded that the majority of HNWIs will pay tax irrespective of the rate imposed. However, Rosli et al. (2018) cautioned that when the rate is high, there could be a likelihood for HNWIs to take the risk for aggressive tax planning by shifting their wealth or income to lower tax jurisdictions. In fact, they concluded that the study of tax rate alone could not be the only factor influencing HNWIs' decisions to evade tax. Consequently, in view of this gap it is proposed that there needs to be an investigation on the perception regarding vertical fairness and whether HNWIs perceive that the rate is fair enough to encourage compliance. Consequently, the following hypothesis is developed.

: There is a negative relationship between vertical fairness and tax non-compliance of HNWIs in Malaysia.

This section describes the research model, research design, population and sample selection and data collection method and data analysis techniques.

The research model in this study is supported by Allingham and Sandmo's (1972) economic deterrence theory as well as suggestions made by Hasseldine and Bebbington (1991) and James and Alley (2002) for integrating socio-psychological and fiscal psychological factors in developing a tax compliance model. Specifically, the model is designed to explore the extent of the relationship between the probability of detection, perceived severity of punishment, political affiliation, role of tax professionals, conditional cooperation, and vertical fairness as independent variables and tax non-compliance of HNWIs as the dependent variable. The presentation of the model through both schematic presentations is as depicted in Figure 1 and through multiple regression analysis as derived in Equation 1.

## 3.3.1    Non-compliance behaviour

| | | |
|---|---|---|
| **Male** | **56** | **56%** |
| **Female** | **43** | **43%** |
| **Missing** | **1** | **1%** |

| | | |
|---|---|---|
| **Small Firm** | **60** | **60%** |
| **Mid-size Firm** | | |

| | | | | |
|---|---|---|---|---|
| **I believe HNWIs' political affiliation may not completely impact on paying taxes***. | **100** | **1** | **5** | **2.38** **0.99** |

| | | | | |
|---|---|---|---|---|
| I believe HNWIs would be more likely to pay tax if others within their income group are paying; | 100 | 1 | 5 | 3.96 | 0.92 |
| I believe HNWIs would also feel obligated to contribute and pay their taxes if many citizens pay their taxes | 100 | 1 | 5 | 3.94 | 0.86 |
| To my understanding some HNWIs wish to fulfil the social norm of paying their taxes by just behaving according to society's rules | 100 | 2 | 5 | 3.5 | 73 |

In view of vertical reciprocity, the overall mean reported is 3.5█ █████████████ on of 0.58. This means that tax professionals believe that th██████████████s to comply in paying tax is indirectly motivated based on the ███████████ith the government. Hence, willingness to contribute to ta████████████d on taxpayers perceiving that the public would be benefit█████

| | | | | |
|---|---|---|---|---|
| To my understanding HNWIs would agree to a tax increase if the extra money is used to finance the provision of better public goods and services | 100 | 1 | 5 | 3.64 | 1.11 |
| To my understand█ HNWIs perceive IRBM has been a supportive institution in dischar██████ ████obligations | | | 5 | | 0.85 |

To my understanding HNWIs perceive the central

### 4.3.2   Structural model result

The previous section presented the measurement model for under-reporting income which clearly showed that the data met the validity and reliability criteria which is a precondition for the structural model evaluations (Hair et al., 2014). There are four criteria for assessing the structural model result as pointed by Henseler et al. (2009) and Hair et al. (2011). These criteria are: (1) an assessment of path coefficient using 5,000 bootstrap sample; (2) an assessment of $R^2$; (3) the effects size ($f^2$) of all the independent variables to the dependent variable using 0.02, 0.13 and 0.35 as small, medium, and large, respectively (Cohen, 1988); and (4) the predictive relevance of the model using

Rather, it is more a result of self-interest or on an individual basis. This is logical considering that under-reporting of income is an illegal act which should not be disclosed to others.

The next hypothesis, H5b, deals with the relationship between vertical reciprocity and non-compliance. In this instance, it is proposed that good reciprocal cooperation between the HNWIs and the government leads to less engagement in under-reporting of incomes. However, the result as indicated in Table 13 ($\beta$ = -0.08, t = 0.38, p = 0.35) does not provide support to the postulation. Although the direction is consistent with the hypothesis, it is not significant. The potential explanation could be due to the fact that the respondents have different perceptions between their cooperation with the tax authority and government. They may have good perceptions with the government but not so with respect to IRBM as indicated in the descriptive results. To recap, the mean value for cooperation with the IRBM is 3.45, which is slightly lower than the mean values for cooperation with government which are 3.63 and 3.64.

Hypothesis 6 (H6) postulates that there is a negative relationship between vertical

The result of the $R^2$ as indicated in Table 14 was determined using the recommendation of Hair et al. (2011). Hair et al. (2014) stated that the $R^2$ value should be at least 0.10 for a good model. Specifically, $R^2$ of 0.26 and above is considered substantial, 0.13 is considered moderate and 0.02 is considered weak (Cohen, 1988). Based on this evidence, we can deduce that the $R^2$ value of 20.7% of the current model is considered moderate because the value is greater than 13% but less than 26% as recommended by Hair et al. (2014). This highlights that the exogenous latent construct can only explain 20.7% of the variance in the current model, indicating that there are other constructs which explain the remaining 79.3% of the variance.

**Tax Non-Compliance (Under-**

| Tax Non-Compliance (Under-Reporting Income) | 3.000 | 28.867 | 0.04 |

This article investigates the influence of probability of detection, severity of punishment, political affiliation, role of tax professionals, conditional cooperation and vertical fairness on tax non-compliance of HNWIs, from the perspective of tax professionals. Results indicate that tax professionals believe that probability of detection, severity of punishment, political affiliation and role of tax professionals each had an effect on the non-compliance behaviour of HNWIs in Malaysia, while conditional cooperation and vertical fairness had no significant influence on their behaviours. The findings suggest that probability of detection may play an important role in curbing non-compliance among HNWIs. Undoubtedly, tax professionals believe that the IRBM is capable of detecting under-reporting of a large amount of income committed by HNWIs. This is because the IRBM is perceived to have adequate mechanisms to detect under-reporting of small amounts of tax liability and also has the expertise that could easily detect the overstatement of a small deduction. Hence, a more aggressive tax audit should be conducted on this group of taxpayers with the IRBM's capability and ability of detecting non-compliance.

Similarly, severity of punishment appears to have a significant relationship with
=    n Ma ˝   li  s M

However, this response rate is a generally acceptable rate in Malaysia for a survey. Notwithstanding its limitations, this research indirectly enhances and improves the body of knowledge on the non-compliance of HNWIs. However, there is still room for improvements and gaps to be covered in future research. For instance, conducting a comparison study between countries may provide interesting findings. Conducting interviews with HNWIs may also offer explanations as to their compliance behaviour decision making.

Abodher, F M, Ariffin, Z Z & Saad, N 2018, 'Effect of political factors on tax non-compliance behaviour among Libyan self-employed taxpayers', *Academy of Accounting and Financial Studies Journal*, vol. 22, no. 4, pp 1-9.

Alkhatib, A A, Abdul-Jabbar, H & Marimuthu, M 2018, 'The effects of deterrence factors on income tax evasion among Palestinian SMEs', *International Journal of Academic Research in Accounting, Finance and Management Sciences*, vol. 8, no. 4, pp 144-152.

Earnhart, D & Friesen, L 2014, Certainty of punishment versus severity of punishment: Deterrence and the crowding out of intrinsic motivation, University of Kansas Department of Economics University of Queensland School of Economics working paper. Available at: https://corporate sustainability.org/wp content/uploads/Certainty of Punishment.pdf.

The Star 2017, 'Number of ultra high net worth Malaysians growing', 13 April. Available at: https://www.thestar.com.my/business/business-news/2017/04/13/number-of-ultra-high-net-worth-malaysians-growing/ (accessed 22 November 2018).

Torgler, B 2002, 'Speaking to theorists and searching for facts: Tax morale and tax compliance in experiments', Journal of Economic Surveys, vol. 16, no 5, pp 657-683

Torgler, B, Schaffner, M & Macintyre, A 2007, 'Tax compliance, tax morale and governance quality', Center for Research in Economics, Management and the Arts Working Paper No 2007-17, Basel.

Van Vuuren, C M J 2016, 'Tax authorities' detection and deterring of tax evasion of high net worth individuals: A comparative study', MCom dissertation, North West University, South Africa

Williams, C C & Horodnic, I A 2016, 'Tackling the undeclared economy in the European Union: An evaluation of the tax morale approach', Industrial Relations Journal, vol. 47, no 4, pp 322-340

Yankelovich, Skelly & White, Inc. 1984, Taxpayer Attitudes Survey: Final Report. Public Opinion Survey Prepared for the Public Affairs Division, Internal Revenue Service, New York.

Ya'u, A, Saad, N & Mas'ud, A 2020, 'Effects of economic deterrence variables and royalty rates on petroleum profit tax compliance in Nigeria: An empirical analysis', International Journal of Energy Sector Management, vol. 14, no 6, pp 1275-1296