

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

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Abstract

An increasing number of revenue agencies are deploying 'tax gap' analysis to assess their overall performance. Tax gap – the difference between the estimated amount of tax legally payable for each tax and what is actually collected in practice – is of interest as it focuses attention on tax gap estimation methodologies and their refinement and the associated prevalence and communication of tax non-compliance. For some agencies, tax gap findings may have implications for other areas of government administration (e.g., student loans).

Using the Australian Taxation Office (ATO) tax gap findings for the individual income tax, this article examines their implications for the main types of non-compliance, the perpetrators and their underlying behaviours along with possible responses. The analysis undertaken employs an innovative extrapolation of the ATO's individual income tax gap estimates for 2015-16 to its *2% individuals sample file* of taxpayers in 2016-17 and reviews the results by sources of tax gap across various socio-economic and demographic groupings. It also examines possible implications for the administration of student loans and transfers. Finally, the article outlines potential reforms to address key weaknesses in both policy design and revenue administration.

Keywords: income tax, tax gap, tax compliance, tax administration, tax policy reform, Australia

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1. BRINGING INCREASED KNOWLEDGE AND TRANSPARENCY TO TAX NON-COMPLIANCE

Traditionally, revenue agencies have relied on trends in revenue collections along with reporting on compliance yields as the central element of their performance reporting, together with a few efficiency-related measures. Generally, a trend of increasing revenue collections (ahead of budgeted forecasts) and rising compliance program outputs have been seen as indicators of a successful revenue agency and a healthier tax system. But is this necessarily the case? Do such indicators properly and adequately reflect the health of the tax system? If not, what might be done to provide a more balanced, informative, and transparent view of tax system performance?

Pioneering work to develop richer perspectives on tax system performance can be traced back to the 1970s when the United States Internal Revenue Service (IRS) introduced its Taxpayer Compliance Measurement Program (TCMP). TCMP was intended to be the IRS's primary program for gathering data on taxpayer compliance to measure compliance levels, estimate the tax gap, identify compliance issues, select returns for audit, and allocate audit resources. At its centre was a large program of random audit inquiries covering most taxpayers. While the IRS has adapted TCMP in subsequent years to meet its evolving circumstances, it continues to be a strong advocate of tax gap research.

More recently, a small but growing number of influential revenue agencies – including Australia, Canada, Denmark, Sweden, and the United Kingdom – have also introduced comprehensive programs of ‘tax gap’ research and analysis to help them better understand the compliance risks and associated revenue implications of the taxes they administer and the potential for improving tax compliance. In addition, and of particular significance, many have chosen to publish their findings and committed to use them as measures of their long-term performance. For example:

Australian Taxation Office (ATO):

Estimating tax gaps forms part of our broader accountability and transparency as a leading administrator (...). The community expects us to manage all aspects of the system, including advising on the tax gaps and what we are doing about them. As such, we measure and publish tax gaps where they are credible and reliable, to inject our perspective into the community debate. Tax gap estimates are also important for us to better understand levels of compliance and risk in the tax and superannuation systems. Insights gained from this work can guide us in determining priority risks and developing strategies, including administrative design, help and education, and audit strategies, which aim to sustainably reduce the tax gap.¹

HM Revenue and Customs (United Kingdom):

The tax gap provides a useful tool for understanding the relative size and nature of non-compliance. This understanding can be applied in many different ways: 1) it provides a foundation for HMRC's strategy – thinking about the tax gap helps the department to understand how non-compliance occurs and how HMRC can address the causes and improve the overall health

¹ ATO, 'Why we measure the tax gap', <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Australian-tax-gaps-overview/> (accessed 25 January 2023).

of the tax system; 2) drawing on information on how other countries manage their tax gaps, our tax gap analysis provides insight into which strategies are most effective at reducing the tax gap; and 3) though the tax gap isn't sufficiently timely or precise enough to set performance targets, it provides important information which helps us understand our long-term performance (HM Revenue and Customs, 2019).

A particular challenge for any government in an environment of considerable change is how it can bring transparency and understanding to otherwise complex change issues. In relation to taxation, the challenge is significant as it impacts every aspect of economic, social, and political life. Developing a framework capable of providing an understanding of the effectiveness of taxes in terms of the revenue raised and their associated risks is a long sought after goal. In recent years, tax gap analysis has been heralded as a tool capable of providing insight into complex tax issues. As Warren (2019, p. 536) noted, the concept of tax gap 'asks fundamental questions about data and its integrity as reported by the revenue agencies, the official statistician, and business and individual taxpayers. What tax gap estimates can therefore do is bring transparency and understanding to otherwise complex issues arising from the digital era and therein facilitate an informed evidence-based response to its impact through changes to tax policy design, legislation and administration'.

In this article, recent developments in individual income tax gap analysis in Australia are examined to demonstrate how they can illuminate complex tax issues and what these insights might also mean for managing mutually interdependent government revenue and expenditure systems (e.g., the payment of transfers, the collection of student loans). The analysis clearly reveals that tax gap research not only forces tax administrators to think beyond the tax system, but also to adopt a taxpayer-centric approach to the tax system where not only taxes are considered but also how those same taxpayers interact with the expenditure (and in particular the transfer) side of the government's budget.

The article begins in section 2 with an overview of the ATO's 2015-16 tax gap estimates for the individual income tax in respect of two major taxpayer segments – individuals not in business (INIB) and individuals in small business (IISB). Section 3 then develops a methodology for allocating the ATO's estimates of the individual income tax gap across individual income taxpayers in 2016-17, based on the ATO's 2% individuals sample file.² Section 4 examines a number of the complex insights that individual income tax gap estimates applied to the 2016-17 sample file can reveal in relation to non-compliance across various socio-economic and demographic groupings. Section 5 builds on the findings in section 4 by deconstructing each group's tax gap estimate into

² The ATO makes available each year a statistical file of anonymised individual income tax return records – the 2% individuals sample file – for external research purposes. The file approximates to 2% of individual income tax returns processed for each income year in the 16-month period after the end of the relevant income year. As described by the ATO in its publicly released documentation, the records in the sample are selected pseudo-randomly (i.e., in a way that can be replicated and reproduced). Identifiable information is removed, and some demographic information is kept for modelling purposes, namely gender, marital status (including de facto), age groupings (in five-year groups), occupation code – at the one-digit level, and region. ATO classified sensitive individuals are excluded from the possibility of selection in the sample and where a region has less than 20,000 individuals in the full population lodging an income tax return, that region is grouped into a different, but similar, region. The selected components of income, deductions, losses, and offsets are all randomly perturbed using a multivariate methodology.

its component parts to better understand its main sources and what issues it raises for revenue agency performance and the tax's interaction with other income-based taxes (and transfers).

Section 6 examines what broad lessons these findings have for policy reforms, both for approaches to revenue agencies and for tax and other policies which adopt income as their base. The article concludes in section 7 with the observation that tax gap analysis will ultimately force government agencies to adopt a more *holistic* approach to income-based systems, which could demand tax policy design be framed in such a way that different aspects of the same base are taxed in a way which is understood and responded to with appropriately broad, consistent, and targeted policy design responses.

However, a word of caution on tax gap estimation and analysis. The techniques and approaches that underpin tax gap research and analysis continue to evolve and the reader should not assume that they have matured to a point of providing absolute accuracy and certainty. This is because tax gap estimates involve numerous methodological assumptions and data sources which are subject to constant revision, so that tax gap estimates in any one year are subject to revision over time.

2. INDIVIDUAL INCOME TAX GAP IN AUSTRALIA: 2015-16

The ATO introduced a comprehensive program of tax gap research in 2014 following the completion of a detailed feasibility study. From all accounts, its introduction was and has been a profound move by the ATO, a point emphasised by Second Commissioner Jeremy Hirschhorn (2019):

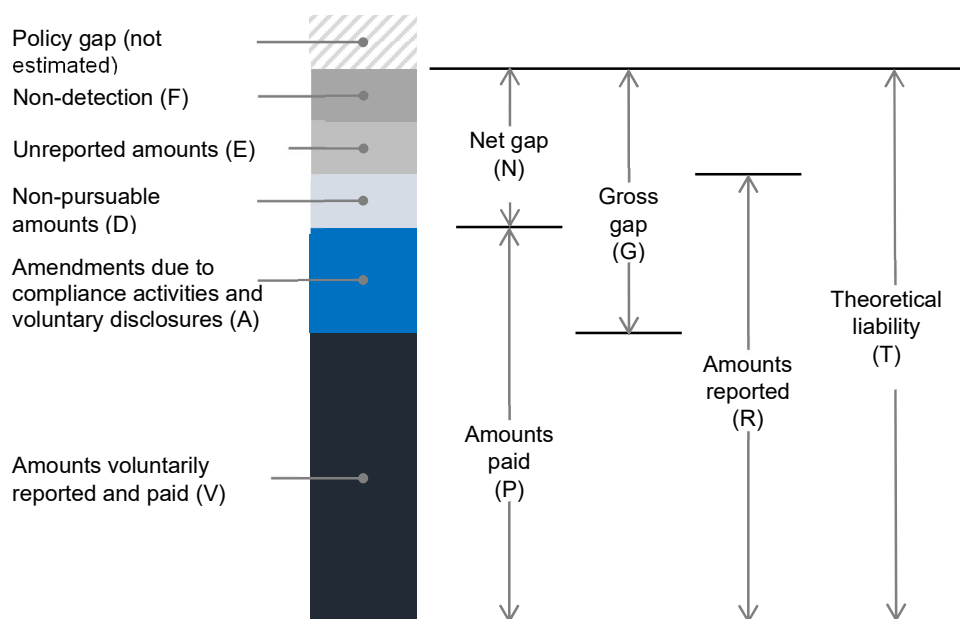
The ATO had of course always recognised that a focus on audit liabilities was not consistent with longer term success, reflected in some internal rules of thumb 'prevention over correction' and 'you can't audit your way to success'. However, we did not have the measurement tools to support this thinking, and were perhaps held back by our success under traditional metrics (and noting that, in practice, quantitative metrics will often be taken much more seriously by staff than qualitative metrics). The step change was to move to concepts of 'tax gap' (and its flip side, 'tax performance'), with a target of sustainable reductions in the tax gap.

With tax gap measuring the difference between actual tax collected and the estimated tax legally payable (Figure 1) (see HM Revenue and Customs, 2019; Warren, 2019), a focus on tax gap forces revenue agencies to think not from the inside out (revenue agency to taxpayer) but from the outside in (broader economy/all entities to the revenue agency). This different perspective on the task of revenue agencies is a frontier challenge because it requires a perspective beyond the traditional purview of administrators. This change in approach is being forced on agencies, requiring them to raise more revenue in a way which is both more transparent and accountable. It also forces consideration of issues which impact 'performance' and which can be beyond the control of those agencies, but which are critical to the success of their operation. Here policy design, taxpayer behaviour, market (domestic and international) changes, and technological changes are just some of those factors which can impact revenue performance and be beyond the control and influence of revenue agencies.

The ATO's tax gap program is currently structured to produce gap estimates on a year-by-year basis for all taxes administered, and designed and executed to produce gap

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.

Fig. 1: Tax Gap Concepts



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).

A key element of the ATO’s gap research program is the individual income tax, recognising that revenue from this tax constituted 51.4% of all net tax revenue collected by the ATO in 2020-21 (Commissioner of Taxation, 2022, Table 3.1). For administrative reasons, the ATO disaggregates the population of individual income taxpayers into four segments: 1) individuals not in business (INIB); 2) individuals in small business (IISB); 3) individuals in medium businesses; and 4) high net wealth individuals. Table 1 sets out details of the taxpayer populations and net tax paid for each of these segments.

³ See ATO, ‘Why we measure the tax gap’, https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Australian-tax-gaps-overview/?page=3#Why_we_measure_the_tax_gap (accessed 25 January 2023).

Table 1: Individual Income Tax: 2015-16

Taxpayer segment	Population		Net tax paid	
	No.	% of total	Amount (AUD million)	% of total
Individuals not in business	10,458,500	73.7	124,067	63.9
Individuals in small business	3,717,900	26.2	64,502	33.2
Individuals in medium business /1	6,700	0.04	1,178	0.6
High wealth individuals /1	9,500	0.06	4,424	2.3
Totals	14,192,600	100	194,171	100

/1. The data for these segments are described as indicative.

Source: https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Australian-tax-gaps-overview/?page=6#Overall_tax_performance (accessed 25 January 2023).

At the time of preparing the calculations in this article (January-March 2020), the ATO had released tax gap estimates in 2015-16 for only two segments of individuals (i.e., INIB and IISB). Together, these segments represent approximately 99.9% of all individual taxpayers and 97.1% of the net tax paid by individuals. Accordingly, the focus of this article will only be on the individual income tax gaps for INIB and IISB and therefore only include the income of individuals as an employee, a sole trader, a member of a partnership or a beneficiary of a trust. Excluded will be the tax gap of a small number of individuals classified as belonging to either a medium and emerging private groups or high wealth private groups.⁴

Table 2 details the individual income tax gap estimates released by the ATO for the financial year 2015-16 in respect of the INIB and IISB segments. The key observations are as follows:

- The estimated **gross** tax gap was AUD 19.1 billion, equivalent to 9.3% of the estimated tax base for these two segments of taxpayers.
- After taking account of compliance program outcomes and voluntary disclosures, the estimated **net** tax gap was AUD 17.8 billion, equivalent to 8.6% of the estimated tax base for these two segments of taxpayers.
- The estimated net tax gap was comprised of:
 - Understatements of liabilities in tax returns – AUD 16,332 million (92% of the gap).
 - Assessed taxes deemed uncollectible – AUD 640 million (3.6% of the gap).
 - Non-lodgement of returns – AUD 781 million (4.4% of the gap).

⁴ For a definition of these groups, see <https://www.ato.gov.au/Business/Business-bulletins-newsroom/Tax-avoidance/Tax-Avoidance-Taskforce-extended-and-expanded/#:~:text=The%20Taskforce%20has%20been%20extended,amount%20of%20tax%20in%20Australia> (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 INIB segment (i.e., 6.4%), is largely attributable to the fact that much of the income of these taxpayers is not subject to withholding at source and/or income reporting obligations.

Table 2: Tax Gap Estimation Steps (2015-16) – Individuals Not in Business and Small Business

Step	Description	Individuals not in business (INIB) (AUD m)	Individuals in small business (IISB) (AUD m)	INIB+IISB
1.1	Estimate unreported amounts for sample and extrapolate to population	7,208	5,047	12,255
1.2	Apply estimate for people outside the system	111	670	781
2.1	Apply estimate for non-detection (excluding hidden wages)	194	3,417	3,611
2.2	Apply estimate for hidden wages	1,362	484	1,846
3	<i>add</i> Non-pursuable debt	214	426	640
4	<i>equals</i> Gross gap	9,089	10,044	19,133
5.1	<i>subtract</i> Compliance outcomes and voluntary disclosures	645	735	1,380
5.2	<i>equals</i> Net gap	8,444	9,309	17,753
6.1	<i>add</i> Tax paid	124,067	64,502	188,569
6.2	<i>equals</i> Theoretical tax liability	132,511	73,811	206,322
6.3	Gross gap %	6.9	13.6	9.3
6.4	Net gap %	6.4	12.6	8.6

Source: <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Individuals-not-in-business-income-tax-gap/?anchor=Methodology#Updatesandrevisionstopreviousesimates> (see Table 6); <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Small-business-income-tax-gap/?page=5> (see Table 3) (accessed 25 January 2023).

In the following section, the article outlines a novel methodology for allocating these 2015-16 gap estimates across various economic, demographic, and social groupings of individual taxpayers in 2016-17, with a view to better understanding their distribution and implications.

3. METHODOLOGY FOR ALLOCATING 2015-16 INDIVIDUAL INCOME TAX GAP TO 2016-17 INDIVIDUALS SAMPLE FILE

To examine the distribution of the income tax gap across the individual population requires a representative sample of taxpayers. At the time of drafting this article (March 2020) the most recent taxpayer sample available was the ATO's 2% Individuals sample file for 2016-17, which was drawn from the population of all returns processed by 31 October 2018, 16 months after the end of the 2016-17 financial year. Allocating the tax gap estimates for INIB and IISB set out in Table 2 across this 2% *individuals sample file* in 2016-17 requires a three-step process (see Appendix 1, 'Methodology for allocating the individual income tax gap for 2016-17', for further details):

Step 1: Projecting the ATO's 2015-16 individual income tax gap estimates to the 2016-17 financial year.

Step 2: Adjusting the *2% individuals sample file* to reflect the overall number of taxpayers expected to ultimately lodge tax returns for the 2016-17 financial year.

Step 3: Allocating the 2016-17 tax gap estimates (in Step 1) across the adjusted 2% sample of taxpayers (derived in Step 2).

Applying the three-step process results in an *adjusted 2% individuals sample file* of taxpayers' return data which include, among other things, demographic characteristics, and their reported income sources and types of deductions and offsets, sufficient data in an overall context to be able to calculate their net tax (including Medicare Levy) liability, where applicable, student loan repayment along with sources of tax gap. Table 3 details the tax gap attributed by the ATO to the INIB and IISB segments and our projection of the aggregate tax gap estimate to 2016-17. Section 4 uses this sample file to examine the distribution of this gap across the INIB and IISB taxpayer segments, according to various social-economic and demographic groupings.

Table 2 outlines the ATO's 2015-16 tax gap estimates, and Table 3 presents these estimates disaggregated using information published on the ATO website. Most detail is available for the INIB segment with estimates of tax gap available for work-related expenses (WRE) (AUD 4.0 billion), rental properties (AUD 1.5 billion), and undeclared (mostly wage) income (AUD 1.4 billion).⁵ With the estimate of unreported tax for the population being (AUD 7.2 billion), this implies a residual not explained by the ATO of AUD 0.3 billion. For IISB, the estimate of unreported tax for the population is AUD 5.0 billion in 2015-16 with the ATO finding that 'For the individuals in business component, the main driver of the gap relates to omission of income (76%). We also recognise the influence of people outside the system contributing to the overall gap'.⁶ Other reported sources of the net tax gap are over-claimed deductions (14%), non-pursuable debt (4%) and 7% for people outside the tax system (POTS).

In the following section, the article examines insights that these individual gap estimates can reveal about non-compliance when viewed through the prism of certain socio-economic (e.g., vertical and horizontal equity) and demographic (e.g., age, gender, and region) groupings of individuals.

4. DISTRIBUTION ISSUES ARISING FROM INCOME TAX GAP

The patterns of tax non-compliance across the population for individuals has not only important socio-economic, demographic, and political implications, but important ramifications for policy design and revenue agencies. Often, evidence of non-compliance from ongoing tax administration programs is either partial in scope or anecdotal. In contrast, tax gap analysis can provide a comprehensive and evidence-based perspective into non-compliance and its distribution across the total population, including those who should but do not lodge tax returns.

Table 4 details the aggregate results across all individual income taxpayers when applying the tax gap allocation methodology outlined in section 3 to the 1.902% sample file of all individuals expected to ultimately lodge returns for fiscal year 2016-17.

⁵ https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Individuals-not-in-business-income-tax-gap/?page=4#Trends_and_latest_findings (accessed 25 January 2023).

⁶ <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Small-business-income-tax-gap/?anchor=Trendsandlatestfindings2#Trendsandlatestfindings2> (accessed 25 January 2023).

Grossing up the resulting values to the projected full population reveals how the income tax gap estimate of AUD 17,413 million is equivalent to understatement of taxable income by AUD 47,666 million. This is equivalent to increasing taxable income by 5.5% and individual income tax revenue by 8.4%. Implied is an effective marginal tax rate (MTR) on tax gap-related income of 36.5% which should be contrasted with the average tax rate on reported taxable income of 24.1%. The impact of the progressive individual income tax's rate schedule (Table 5) clearly highlights the fiscal benefit from actions designed to improve income tax compliance.

Table 3: Individual Income Tax Gap Allocation: 2016-17

TAX GAP ESTIMATION STEPS		VARIABLE USED IN ALLOCATION OF THE GAP	TAX GAP 2015-16 (ATO) (AUD M)	TAX GAP 2016-17 (PROJ'N) (AUD M)
Individuals not in Business (INIB)				
1.1	Estimate unreported amounts for sample and extrapolate to population	Work related expenses	4,000	3,997
		Rental Income: Loss	917	928
		Rental Income: Profit total)	583	608
		Non-Wage Market Income (unreported income)	1,400	1,435
		Total Ded'n (Residual estimate)	308	315
			<u>7,208</u>	<u>7,283</u>
2.1	Apply estimate for non-detection (excluding hidden wages)	Allocated based on (1.1)	194	199
2.2	Apply estimate for hidden wages	Wages	1,362	1,399
3	<i>add</i> Non-pursuable debt	All Taxes	214	219
4	<i>equals</i> Gross gap		<u>8,978</u>	<u>9,100</u>
5.1	<i>subtract</i> Compliance outcomes and voluntary disclosures	Allocated based on (4)	645	654
5.2	<i>equals</i> Net gap		<u>8,333</u>	<u>8,447</u>
	Apply estimate for people outside the system (POTS)		111	120
	Net Gap (incl POTS)		<u>8,444</u>	<u>8,566</u>
6.1	<i>add</i> Tax paid		124,067	133,688
6.2	<i>equals</i> Theoretical tax liability		<u>132,511</u>	<u>142,255</u>
	<i>Net Tax Gap</i>		<u>6.4%</u>	<u>6.0%</u>
Individuals in Business (ISB)				
1.1	Estimate unreported amounts for sample and extrapolate to population			
	Projected based on INIB trend	Work related expenses	785	785
	Projected based on INIB trend	Rental Income: Loss	529	535
	Projected based on INIB trend	Rental Income: Profit	469	490
	Residual	Business Income (Residual estimate)	3,102	3,261
	Projected based on INIB trend	Total Deductions	<u>161</u>	<u>165</u>
			<u>5,047</u>	<u>5,237</u>
2.1	Apply estimate for non-detection (excluding hidden wages)	Allocated based on (1.1)	3,417	3,545
2.2	Apply estimate for hidden wages	Wages	484	497
3	<i>add</i> Non-pursuable debt	All Taxes	426	436

4	<i>equals</i> Gross gap		9,374	9,716
5.1	<i>subtract</i> Compliance outcomes and voluntary disclosures	Allocated based on (4)	735	753
5.2	<i>equals</i> Net gap		8,639	8,962
	Apply estimate for people outside the system		670	764
	Net Gap (incl POTS)		9,309	9,726
6.1	<i>add</i> Tax paid		64,502	73,511
6.2	<i>equals</i> Theoretical tax liability		73,811	83,237
	<i>Net Tax Gap</i>		12.6%	11.7%
	Summary: Net Gap (incl POTS)		17,753	18,292
	<i>add</i> Tax paid		188,569	207,199
	<i>equals</i> Theoretical tax liability		206,322	225,492
	<i>Net Tax Gap</i>		8.6%	8.1%

Source: See Table 2 and Taxation Statistics 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17,

(<https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Taxation-statistics/> (accessed 25 January 2023)).

Table 4: Individual Income Tax Gap: 2016-17 (AUD)

Measure	Variable	Value
Average taxable income excluding TGI	TI	\$59,088
Average tax	T	\$14,219
Average income tax gap-related income	TGI	\$3,271
Average income tax gap	TG	\$1,195
Tax Gap Income as % Taxable Income (excl TGI)	TGI/TI	5.5%
Tax Gap as % Tax	TG/T	8.4%
Tax Gap as a % of Tax plus Tax Gap	TG/T' where T'=T+TG	7.8%
Average Tax Rate before Tax Gap	T/TI	24.1%
Average Tax Rate after Tax Gap	T'/TI' where TI'=TI+TGI	24.7%
Effective MTR on Tax Gap Income	TG/TGI	36.5%
Total Net Tax Gap (AUD b)		17,413 million
Tax Gap Equivalent Income (AUD b)		47,666 million

Source: Authors' calculations

Table 5: Individual Income Tax Schedule: Australian Residents 2016-17

Taxable income (AUD)	Tax on income (AUD)
0 – 18,200	Nil
18,201 – 37,000	19c for each 1 over 18,200
37,001 – 87,000	3,572 plus 32.5c for each 1 over 37,000
87,001 – 180,000	19,822 plus 37c for each 1 over 90,000
180,001 and over	54,232 plus 45c for each 1 over 180,000
Temporary Budget Levy	2c for each 1 over 180,000

The above rates do not include the Medicare levy of 2% or a Medicare levy surcharge (MLS) which, depending on the level of income for MLS purposes, has an MLS rate of 1%, 1.25% or 1.5%.

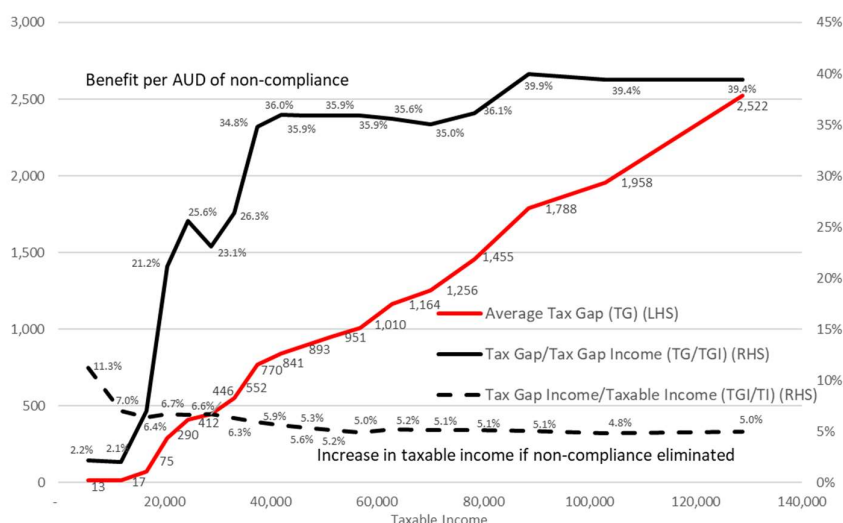
Source: <https://data.gov.au/data/dataset/540e3eac-f2df-48d1-9bc0-fbe8dfec641f/resource/9f1ae0cb-ef43-4867-87f7-4955440afcab/download/ts17snapshot01historicalratesofpersonalincometax.xlsx>;
<https://data.gov.au/data/dataset/taxation-statistics-2019-20/resource/c618d6db-5578-4c13-845c-f2f482059837> (accessed 25 January 2023).

4.1 Vertical and horizontal equity and tax gap

While the results in Table 4 are interesting, they raise questions about the detail which underlies these aggregate statistics. The first and obvious question is how these aggregate results might vary across income groups. Figure 2 examines the results in Table 4 by dividing all taxpayers into 5 percentage point population groupings after ranking them by their taxable income.

Figure 2 indicates that individual income tax non-compliance measured by tax gap income (TGI) is more important in boosting taxable income (TI) for those on lower incomes than for those on higher incomes (shown by TGI/TI). However, because of the progressive nature of the personal income tax rate schedule (Table 5), the effective marginal tax rate on TGI increases with tax gap (TG) which means that the tax benefit from non-compliance is greatest for the highest income individuals (TG/TGI).

Fig. 2: Taxable Income and Income Tax Gap

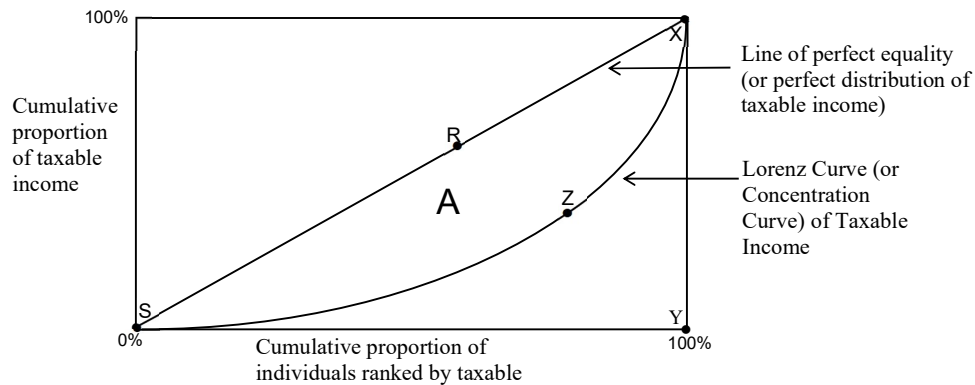


What is not immediately apparent from Figure 2 is the extent of any taxable income redistribution amongst taxpayers arising from the underreporting of taxable income evident in the tax gap estimates. This is important because typically, income inequality studies focus on income reported by respondents – not what they might have actually received whether cash, in-kind or imputed in some way (as with an accruals-based income measure). What tax gap estimates provide is an insight into the impact across individuals of that part of income which relates to non-compliance with the individuals’ income tax law.

The traditional approach to examining income redistribution arising from income taxation is to contrast the Gini index of pre-and post-tax income. With individuals ranked by their level of taxable income, the Gini index of taxable income is measured as 2*A in Figure 3 where A measures the difference between the concentration curve of taxable income (SZX) and the line of perfect equality of taxable income distribution

(SRX). If we have perfect equality, then the area A would be zero and the Gini index zero. The greater the area of A, the greater the inequality. A concentration curve which maps out perfect inequality (XYS) would have A equal to 0.5 and a Gini index (or concentration index) of unity. Between the two extremes is the normal case (XZS) where the Gini index (or concentration index) of taxable income inequality is greater than zero but less than unity.

Fig. 3: Lorenz Curve and the Gini Index



If the Gini index of pre-tax income is G and index of post-tax income is G^* , we have an indicator of the impact a tax has on income distribution. If G^*-G is negative then income inequality is being reduced by the tax and this is defined as an income inequality improving tax, sometimes loosely seen as a progressive tax. A situation where G^*-G is positive is one where a tax worsens income inequality and is possibly regressive.

If tax progressivity is defined as where $MTR/ATR > 1$ (a liability progression measure), a single number indicator of tax progressivity P can be defined as equal to twice the difference between the concentration index of tax (C) and the concentration index of pre-tax income (G) such that $P=C-G$. If P is positive, the tax is progressive since a tax which is more unequally distributed than income will improve income inequality. A value of P less than zero has the opposite effect, worsening income distribution, and is therefore regressive.

Table 6 presents measures of how G , G^* , C and P are impacted by including consideration of tax gap and related non-compliance. Three key observations can be made. Firstly, failing to rank individuals using an income concept inclusive of the income-equivalent benefits from tax non-compliance (TGI) can result in a potentially misleading view of income distribution both pre and post tax. Rows 1 and 2 of Table 6 report G when individuals in the ATO sample file are ranked either by taxable income (as reported to the ATO) or taxable income plus tax gap equivalent income where it is assumed this income is not reported to the ATO as implied in the tax gap estimate (and underlying TGI in Table 4). What is apparent is that using $TI+TGI$ rather than TI to rank individuals results in the apparent impact of TGI on taxable income distribution moving in a different direction. When ranking with TI , G falls from 0.4687 to 0.4658 while G for $TI+TGI$ increases from 0.4671 to 0.4675. This is likely caused by the combination

of the distribution of TGI and the reranking of individuals when TGI is included in the ranking measure (an issue examined further below and in Figure 4). Tax non-compliance is therefore an important consideration in any income distribution study.

Secondly, not taxing TGI appears to impact significantly on post-tax income distribution measures. Using TI+TGI as the appropriate income ranking measure, not taxing TGI would result in a distribution measure pre-tax falling from 0.4675 (G') to 0.4072 ($G^{*\wedge}$). However, if TGI was taxed then the post-tax measure would have been 0.4022 ($G^{*'}), implying an improved post-tax income distribution.$

Thirdly, and particularly important, is the observation from Table 6 that progressivity measures can provide a useful insight into how TGI and its taxing, impacts on G^* estimates. A well known issue with comparing G^* with G is that it is revealing the combined effects of two changes – the level of the tax and its progressivity. By measuring progressivity separately, we can better understand what change in post-tax income distribution is due to the level of the tax and what is due to changes in its progressivity. Table 6 presents these results and shows that while the post-tax income distribution improves when TGI is taxed (from 0.4072 to 0.4022), the progressivity of the individual income tax actually worsens (from 0.2044 to 0.1989). However, these results can be reconciled because the tax level has increased when TGI is taxed (from an average tax rate of 24.1% to 24.7% as shown in Table 4) and this combined with an overall less progressive income tax outcome, has resulted in an improved post-tax income distribution.

What the three observations above demonstrate is the important insights tax gap estimates can provide to our understanding of the distributional impact of non-compliance and the distributional benefits of improve tax compliance to the overall fairness of the tax system.

Table 6: Vertical Equity: Impact of Tax Gap on Concentration Indexes of Tax and Taxable Income

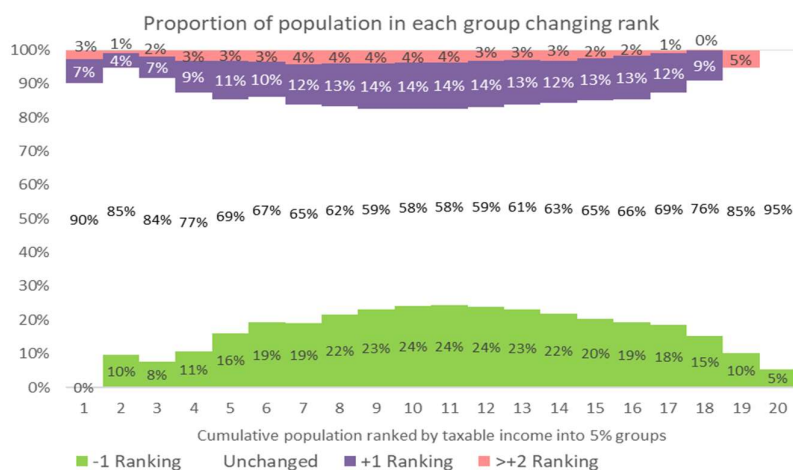
Measure	Definition	TI+TGI ranking of individuals	TI ranking of individuals
Concentration Index:			
1 Taxable Income excl TGI (G)	TI	0.4671	0.4687
2 Taxable Income incl TGI (G')	TI+TGI	0.4675	0.4658
3 Post-Tax Income excl TGI (G^*)	TI-T	0.4021	0.4037
4 Post-Tax Income incl TGI ($G^{*\wedge}$)	TI+TGI-T	0.4072	0.4043
5 Post-Tax Income incl TGI ($G^{*'}), implying an improved post-tax income distribution.$	TI+TGI-T'	0.4022	0.4007
6 Tax when TGI untaxed (C)	T	0.6719	0.6738
7 Tax when TGI also taxed (C')	T'	0.6664	0.6641
Income Tax Progressivity			
8 - when excluding all TGI effects	$P=C(T)-G$	0.2048	0.2051
9 - when excluding TGI effects on tax but including its effects and on income	$P^{\wedge}=C(T)-G'$	0.2044	0.2080
10 - when including tax and income effects of TGI	$P'=C(T')-G'$	0.1989	0.1983

Note: TI is Taxable Income; TGI is tax gap equivalent income, T is tax on TI and T' is tax on TI+TGI

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 expect no re-ranking of taxpayers to occur because of moving to include TGI in reported TI. If tax gap-related income is unevenly distributed then its inclusion will potentially result in individuals previously considered equal to no longer be equal, resulting in a re-ranking of them based on their taxable income pre- and post- inclusion of tax gap-related income. If re-ranking is significant, it means that the results in the first two columns of Table 6 are not comparable with those in the last column as there are two factors contributing to a change inequality, a re-ranking of the individuals and a change in the distribution of income.

Figure 4 presents evidence on the re-ranking of individuals by income when income either includes or excludes income not reported to the ATO in 2016-17. Here, individuals are first ranked by taxable income and then divided into 5% population groups and assigned a number (between 1 and 20) relating to the group in which they fall. The same process is then repeated but where income is defined as taxable income *plus* tax gap-related income. In the case of the middle-income group (10 and 11), 58% of taxpayers retain the same ranking they had before the addition of tax gap-related income into their original taxable income. Of those whose ranking changed, the majority experience a decline. When ranking increased, there was greater dispersion of individuals than when ranking declined. This is likely due to the impact of those whose non-compliance was substantial, and this appears to be the case in around 3% to 4% for the majority of the 5% individual groupings.

Fig. 4: Horizontal Equity: Tax Gap Income Induced Re-Ranking by Taxable Income

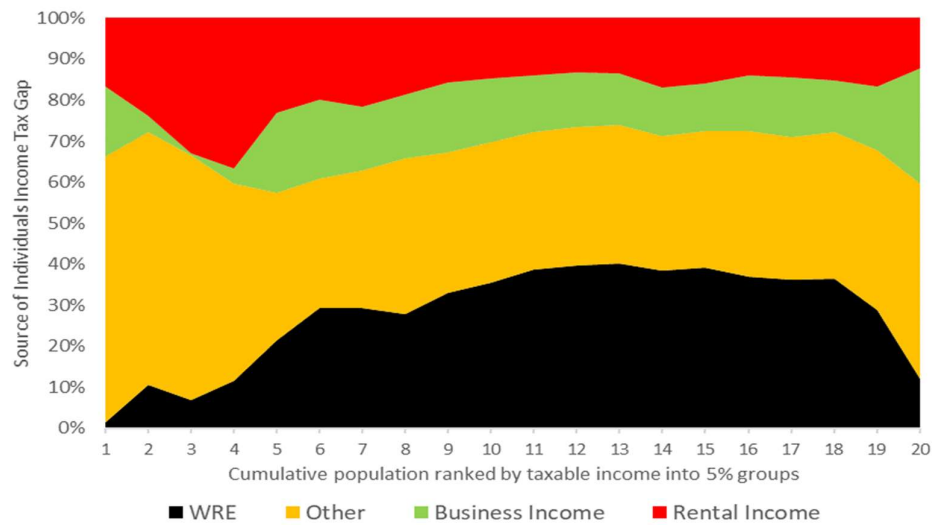


What Figure 4 starkly demonstrates is the substantial re-ranking of tax filers when taxable income not reported to the ATO in lodgements is taken into consideration. Horizontal equity of the individual income tax is therefore severely compromised by non-compliance with the law. Furthermore, this finding 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, underreported 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 expenses are far less important than underreporting of wages income or over-claiming of rental expenses deductions. As income increases business income underreporting becomes more important as do work-related expenses. Targeting non-compliance on one source such as work-related expenses has obvious distributional implications as would targeting the underreporting of cash wages.⁷

⁷ It is important to note that the pattern of results in Figures 2 and 5 are in part influenced by the assumptions set out in section 3 relating to taxpayer non-compliance. However, it is not expected that the pattern of results would be fundamentally changed applying different assumptions.

Fig. 5: Composition to Tax Gap by Taxable Income Across Tax Filers

4.2 Impact of tax gap across different population groupings

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 marketers designed to better understand customer behaviour. In marketing studies of customer behaviour, a common approach is to segment the market according to a range of criteria including demographic, geographic, psychographic, and behaviour.

Demography is important because studying the population by characteristics such as age, gender, education, partner status, dependents, ethnicity, religion, and income enables use of readily observable statistical data to provide insights into the overall aggregate trends observed. Geographic data on locality, region, and national location can also complement demographic statistical data. However, demographic and geographic statistical ‘hard’ data cannot provide indicators into the ‘soft’ data such as that on psychographics which relates to individuals’ activities, personalities, values, and attitudes; or behavioural data such as patterns of response or take-up rates.

Understanding tax gap therefore requires a study of both ‘hard’ and ‘soft’ data on all individuals in the total population, not just taxpayers and not just tax-related variables.

⁸ See discussion on this issue in Warren (2019, p. 546).

In the remainder of this section, a range of demographic and geographic statistics will be used to segment the population to better understand how tax gap varies across various population segments. Section 5 will investigate ‘soft’ data evidence for the behavioural response of taxpayers potentially underpinning those responses.

Figure 6 (‘Tax Gap and Its Source Across Different Tax Filer Groupings (AUD pa, % Share by Gap Source)’, Appendix 5) details the incidence of tax gap for 2016-17 across a range of demographic and geographic groupings including age, occupation, gender, partner status and geographical region, based on information derived from the ATO 2% sample file and enables the following observations to be made:⁹

- *Age*: The average tax gap rises consistently with age groupings up to 50-59 years and then declines, in line with the average incomes (and associated marginal rates of tax) of taxpayers in the respective age groupings.
- *Occupation*: The average tax gap varies significantly across occupational groupings, with significantly higher average gaps observed in the, on average, higher income ‘white collar’ groupings (i.e., managers and professionals) of taxpayers.
- *Gender*: The overall average tax gap for female taxpayers is around 60% of the average tax gap attributable to male taxpayers, which is consistent with their significantly lower average incomes and lower usage of tax agents.
- *Partner status*: The average tax gap for taxpayers with a spouse (i.e., married or de facto) is around 60% higher than the average tax gap attributable to single taxpayers, which is consistent with their substantially (i.e., over 40%) higher average income.
- *Geographical Region*: The overall average tax gap for taxpayers residing in major urban regions is roughly 10% higher than for their regional and rural counterparts, in line with their average incomes (and associated marginal rates of tax).

5. ADMINISTRATION AND POLICY ISSUES REVEALED BY INCOME TAX GAP

While the ‘hard’ statistics on tax gap outlined in Table 2 and illustrated in Figures 2, 5 and 6 detail ‘what is’, they do not explain ‘why’ and it is here that insights into the behavioural responses underpinning these ‘hard’ statistics are important. This section investigates whether tax gap trends could be explained by whether an individual has chosen to use a tax agent or not (section 5.1) and what this might mean for deductions claimed (such as work-related expenses) or how income (rental and business) is received; or how interaction between shared bases (e.g., income as a base for both taxation and entitlement to transfers) might compromise one or more of those bases (section 5.2); or whether tax design and administration have encouraged some people to go outside the tax system and become non-lodgers (section 5.3).

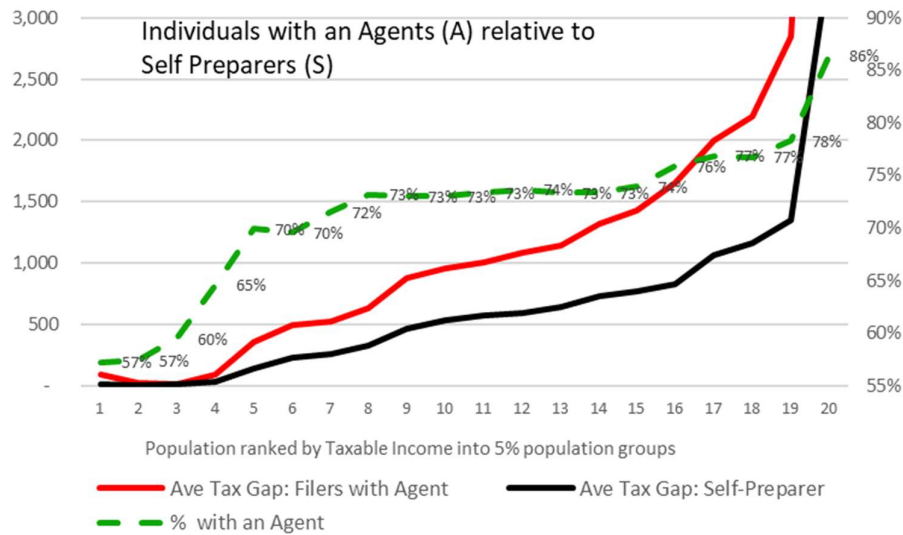
⁹ The authors acknowledge that there is a degree of uncertainty associated with the underlying approach for this analysis and related observations that is explained more fully in Appendix 2, ‘Demographic features and associated tax gap impacts of selected tax return items’.

5.1 Tax agent use impacts tax gap

Given the ATO offers a substantial level of support to individuals in the tax return preparation process (e.g., through its system of pre-filled tax returns) and the fact most individuals are employee taxpayers who pay virtually all of their tax via employer withholdings, the fact that 71.6% of individual taxpayers in 2016-17 saw the need to engage a tax agent to assist with their relatively simple tax affairs raises a number of questions about what might be the main drivers and motivations for this usage and whether there are any specific tax compliance related implications.

Figure 7 highlights how the extensive use of tax agents strongly correlates with a higher average tax gap as incomes rise, when contrasted with taxpayers who prepare their own tax returns. The ATO tax gap research program has clearly revealed a fair level of income and deduction non-compliance amongst individuals and a disproportionately and seemingly (at first glance) contradictory result of higher non-compliance amongst those using a tax agent. To provide deeper insights into the incidence and likely sources of this non-compliance, Appendix 2 ('Demographic features and associated tax gap impacts of selected tax return items') details relevant tax gaps for 2016-17 across various demographic groupings of taxpayers (i.e., by age, gender, partner status, region, and occupation) for work-related expenses (WRE), rental income and business income, using the methodology outlined in section 3. The remainder of this section will provide an overview of these findings.

Fig. 7: Income, Average Tax Gap, and Use of Tax Agents by Tax Filers



5.1.1 Work-related expenses

In the case of the 71.6% of individuals lodging a tax return who use an agent, they account for over 75.1% of WRE claims numbers, 79.8% of WRE claim value, 80.4% of WRE-related tax gap and 87.8% of all tax gap.

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 AUD 1,000. Spread over 9.3 million individuals these claims represent a significant cost to the revenue – WRE deductions for the 2016-17 financial year are projected to amount to around AUD 23 billion, at an estimated cost to the revenue of around AUD 8.3 billion. In its report, the Australia's Future Tax System Review Panel (2009) expressed concern for the complexities associated with WRE deduction claims and the resultant compliance burden on taxpayers, ATO administration costs, and the potential for significant revenue leakage from over-claimed deductions.

When the ATO released 2015-16 tax gap estimates for INIB and IISB in 2019, it indicated that the estimated value of tax forgone was AUD 4 billion (Table 3). While it did not quantify the tax forgone from over-claimed WRE deductions of taxpayers in the IISB market, based on an analysis of the deductions claimed in tax returns this amount is estimated to have been in the region of AUD 785 million, giving total revenue forgone of AUD 4,785 million from over-claimed WRE deductions for 2015-16 financial year (refer Table 3). Revenue leakage on this scale represents overall non-compliance for WRE deduction claims in the region of 50%, a level that in our view is entirely unacceptable and should be a priority for remedial action.

To better understand the incidence and sources of this non-compliance, Appendix 2 ('Demographic features and associated tax gap impacts of selected tax return items') sets out the results of analyses of WRE deductions in taxpayers' returns based on demographic and tax agent usage criteria, and related average tax gap projections derived from published findings of the ATO's tax gap research program. Key findings from these analyses are as follows:

- The incidence rate of WRE claims is highest for taxpayers aged 25-29, although the average value of claims is much higher for taxpayers aged 30-39 years; in line with their much higher on average incomes the average value of WRE claims and associated WRE tax gap projections are substantially higher for male taxpayers. There is also a distinct pattern of higher WRE claims and projected average WRE gaps among certain occupational groupings (e.g., managers, technicians, and machinery operators). On the other hand, both the 'regional location' and 'partner status' of taxpayers do not appear to be significant differentiating factors.
- Significantly, tax agent usage across all demographic factors is prominent, with a higher incidence of claims and average values across all age groupings, male taxpayers, and taxpayers located in major urban regions.

5.1.2 Net rental income

For the 71.6% of individuals lodging a tax return who use an agent, they account for over 89.5% of net rental income reported by numbers, 90.4% of net rental income by value, and 90.9% of net rental income related tax gap.

The favourable treatment of capital gains under Australia's income tax laws, coupled with the ability of taxpayers to offset any excess of expenditure over income from

income-producing assets against other categories of income has led to extensive use of the practice known as ‘negative gearing’. For the financial year 2016-17, some 2.2 million individuals reported in their returns gross rental income of around AUD 45 billion and claimed deductions in respect of this income just over AUD 48 billion. More than 1.3 million of these taxpayers (i.e., around 60%) reported a rental income loss (Australian Taxation Office, 2019).

Over recent years, the ATO has reported its concern for the incidence of over-claimed rental income deductions and in its 2017-18 Budget the government announced it would amend the income tax laws to disallow travel expenses in relation to residential rental properties. Once implemented, these measures were expected to increase tax revenues by between AUD 160-200 million per year.

In reporting its most recent tax gap findings for the INIB taxpayer segment, the ATO indicated that understated net rental income (i.e., gross rental income less deductions) is estimated to have resulted in revenue leakage of AUD 1.5 billion in respect of returns for the 2015-16 financial year. While the ATO did not quantify the tax forgone in this area in respect of taxpayers in the IISB taxpayer segment, based on an analysis of net rental income reported in their tax returns this amount is estimated at AUD 998 million (Table 3), giving a total estimate of revenue forgone of AUD 2,498 million.

To better understand the incidence and sources of this non-compliance, Appendix 2 (‘Demographic features and associated tax gap impacts of selected tax return items’) sets out the results of analyses of reported net rental income in taxpayers’ returns based on demographic and tax agent usage criteria, and related average tax gap projections derived from published findings of the ATO’s tax gap research program. Key findings from these analyses are as follows:

- Across all taxpayers, both the incidence rate of net rental income and amount of average rental income reported all rise consistently in line with increasing age up to 50-59 years, with the latter measure falling significantly once taxpayers reach 60 years (i.e., in/approaching retirement); while the incidence rate for males and females is broadly similar, male taxpayers report amounts that are, on average, almost 20% higher than females, while their average projected tax gap is around 30% higher. There is also a higher concentration of taxpayers located in major urban centres, reporting substantially higher amounts of rental incomes.
- The data, unsurprisingly, indicates that taxpayers reporting rental incomes have a strong tendency to use tax agents, particularly for ages groups 30-39, 40-49, and 50-59 years, with substantially higher claims on average, and higher average projected tax gaps.

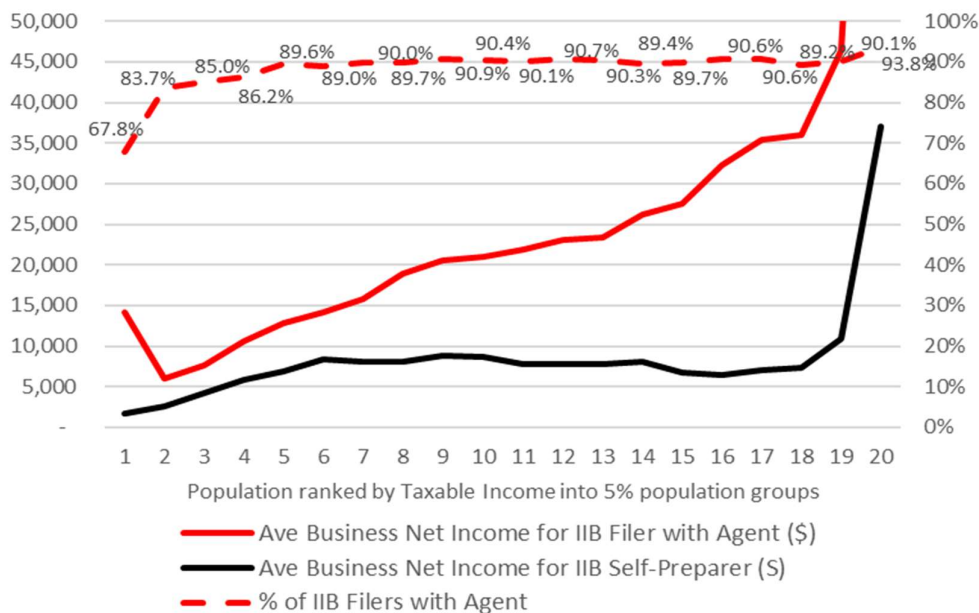
5.1.3 Net business income

Some 26.2% of individuals lodging a tax return are IISB and of them, 87.9% use an agent, and as a group account for 96.9% of business income reported by value, 97.2% of business income-related tax gap and 94.7% of total tax gap of all IISB.

The high use of tax agents by those individuals in business (IISB) shown in Figure 8 increases rapidly at first with taxable income but stabilises across higher income groups.

The average tax gap for IISB with tax agents is also consistently and substantially higher than taxpayers preparing their own returns across all income levels, due mainly to these persons having much lower average taxable income (AUD 46,537 in 2016-17 of which AUD 7,318 is business income) than those with tax agents (AUD 72,470 taxable income and AUD 31,455 business income).

Fig. 8: Income, Business Income, and Related Tax Gap by Tax Filers



Achieving high levels of income tax compliance from taxpayers operating in the small business sector is a significant and perennial challenge for governments and revenue bodies in all countries, particularly given the large numbers of actors typically involved and in the absence of comprehensive systems of tax withholding and third-party reporting. For the financial year 2015-16, the ATO reported that over 3.7 million individuals reported income in their returns from business activities, either directly from self-employment or from a distribution of a partnership or trust.¹⁰

Over many years, the ATO has reported its ongoing concerns for the incidence of unreported business income and the small business sector has been a prominent focus of its compliance improvement efforts. In support of these efforts and to improve overall tax system integrity, the government has over recent Budgets announced a range of

¹⁰ This number of individuals was included in 2015-16 released historical reports and has since in later years been revised where the current definition reports some 4.7m individuals as having some business activity and therefore in small business: see <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Small-business-income-tax-gap/?anchor=Latestestimateandtrends#Latestestimateandtrends> (accessed 25 January 2023).

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

Table 7: Recently Announced Measures to Improve Income Tax Integrity of Small Business

Budget	Announced measure	Estimated revenue (2020-21) AUD m
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.	330
	• Black Economy Package — new and enhanced ATO enforcement against the Black Economy	856

Sources: Budget papers (various years) (www.budget.gov.au).

In reporting its most recent tax gap findings for the IISB taxpayer segment, the ATO indicated that the total net tax gap for this taxpayer segment for 2015-16 was estimated at AUD 9.3 billion (equivalent to 12.6% of the tax base). It is important to note that this gap estimate represents all forms of non-compliance, not just unreported income from business activities. While the ATO did not separately quantify the tax forgone from unreported business income, this amount is likely to have been in the region of AUD 5-6 billion, based on the decomposition of non-compliance set out in Table 3.

To better understand the incidence and sources of this non-compliance, Appendix 2 ('Demographic features and associated tax gap impacts of selected tax return items') sets out the results of analyses of reported net business income in taxpayers' returns based on demographic and tax agent usage criteria, and related average tax gap projections derived from published findings of the ATO's tax gap research program. Key findings from these analyses are as follows:

- Both the incidence rate of reported business income and relative amount of average business income reported rise in line with increasing age up to 50-59 years. However, average reported incomes peak in the 40-49 age grouping and fall thereafter, especially for users of tax agents.
- In terms of regional location, average reported net business income varies by no more than around 10% across the three regional groupings, although the incidence rate is substantially higher in rural regions (29.3% compared to 20.9% in major urban and 22% in regional urban).
- Unsurprisingly, the usage of tax agents by taxpayers reporting net business income rises in line with increasing taxable incomes, exceeding 85% at the top end income ranges, and a similar pattern is observed for the average business income tax gap. The average tax gap for users of tax agents is consistently and substantially higher (in a relative sense) than that of taxpayers preparing their own returns across all income levels, genders, and age groupings.

5.2 Income tax gap directly impacts shared tax bases

Income forms the basis on which individual's ability to pay income tax is determined – but it is also the foundation on which other obligations and entitlement to various government in-kind and cash transfers are determined. In this section, two case study examples are presented to illustrate how the income tax gap can impact other obligations and entitlements.

5.2.1 Case Study 1: individual income tax design compromises government transfer income tests

In addition to determining overall income tax liabilities, income tests are also used to determine whether an individual: 1) can claim certain tax offsets and how much; 2) is entitled to a rebate for private health insurance premiums; 3) must pay a Medicare levy surcharge; 4) is required to make a repayment on their Study and Training Support Loans (STSL),¹¹ and 5) is entitled to government benefits or pensions and how much.

However, as shown in Table 8 ('Income Measures Adopted by a Range of Taxes and Transfers: 2016-17', Appendix 6), the definition of income used by various government agencies (e.g., by the ATO to determine tax liabilities, by government social service agency Centrelink when determining benefit and pension entitlements, and by the Australian Bureau of Statistics (ABS) in preparing the national accounts) varies widely. Clearly, tax gap will impact all these income-related measures as well as numerous State-based entitlements which use income to determine eligibility and level of benefit.

Table 9 presents estimates of how capturing all tax gap-related income would impact tax liabilities and transfer entitlements, assuming no behavioural response by those individuals as a result of all income sources being reported (such that tax gap reduces to zero). What is apparent is that capturing all income sources is not only important to income taxpayers, it is important also to their welfare entitlements. What Table 9 does not reveal is income received but not reported by non-taxpayers in receipt of transfer payments – or people outside the tax system (noted in Table 3 and discussed further in section 5.3). It is therefore critical in any tax gap study that every effort is made to capture not only taxpayers but also people outside the tax system.

¹¹ STSL comprises Higher Education Loan Program (HELP), VET Student Loan (VSL), Student Financial Supplement Scheme (SFSS), Student Start-up Loan (SSL), ABSTUDY Student Start-up Loan (ABSTUDY SSL), and Trade Support Loan (TSL). See <https://www.ato.gov.au/Individuals/Study-and-training-support-loans/Types-of-loans/> and <https://www.ato.gov.au/Rates/HELP,-TSL-and-SFSS-repayment-thresholds-and-rates/> (accessed 25 January 2023).

Table 9: No Behavioural Response Impact of Capturing All Tax Gap-Related Income on Income Tax, STSL Repayments and Transfers

Modelling Sample: 2016-17 ATO 2% Sample File

Transfer Modelling: When age<60yo, taxable government transfers are assumed to be from Newstart with a means test where up to income for the means test (Table 8, Appendix 6) if between AUD2,711 and AUD6,622 is reduced 50c in every AUD earned and 60c for every AUD earned above AUD6,622. Transfer recipients +60yo are assumed below pension means test threshold

Population Impacted	699,200 (4.8%)
Taxable Income Increase (AUD m/% Change)	47,175 (5.5%)
Tax Increase(AUD m)	17,285 (9.1%)
Govt Transfers Increase (AUD m)	-507
STSL Repayments Increase	281 (10.6%)

Source: authors' calculations using 2016-17 ATO 2% Sample file

5.2.2 Case Study 2: Student Loan Scheme design compromises individual income tax

The STSL scheme, which is designed to provide a loan to students to fund their tertiary education student fee contribution, adopts a much broader definition of income than taxable income (TI), as demonstrated in Table 8 ('Income Measures Adopted by a Range of Taxes and Transfers: 2016-17', Appendix 6). These loans can be repaid by individual debtors to government either voluntarily or through the income tax system when a borrower's 'repayment income' (RI) exceeds a legislated threshold (Table 10).

Highfield and Warren (2015) demonstrated how the system for collecting repayments of loans granted to students under STSL interacted with, and impacted on, the integrity of the individual income tax system. From examining patterns of income and deductions in a sample of tax returns for STSL debtors for the 2010-11 income year, evidence was found for the bunching of STSL debtors around STSL repayment thresholds, with indications of over-claimed deductions for work-related expenses highlighted as a likely significant contributing factor. The potential to defer the repayment of loans by failing to lodge tax returns was also recognised, along with numerous policy shortcomings that further impeded the collection of student loans. Since 2015, many reforms, including a number in line with recommendations in the 2015 article, have been enacted to improve the design of all student loan schemes and their collection by the ATO (Appendix 3, 'Recent STSL reforms and their rationale').

Table 10: STSL Repayments, 2016-17 (AUD)

Repayment Income	Assessed Loan Repayment	Repayment Income	Assessed Loan Repayment
0-54,868	NIL	76,223-82,550	6% of RI
54,869-61,119	4% of RI	82,551-86,894	6.5% of RI
61,120-67,368	4.5% of RI	86,895-95,626	7% of RI
67,369-70,909	5% of RI	95,627-101,899	7.5% of RI
70,910-76,222	5.5% of RI	101,900+	8% of RI

Note: RI repayment income is calculated using your taxable income, total net investment loss (including net rental losses), and amounts of reportable fringe benefits, reportable superannuation contributions and any exempt foreign employment income.

In the seven years up to 30 June 2019 since the analysis in Highfield and Warren (2015), the number of STSL debtors increased by 77% to around 3 million and the value of STSL debt grew by 161% to over AUD 66 billion. In addition, the ATO in its tax gap estimates for individuals not in business reported finding evidence of significant non-compliance, particularly in relation to deductions for work-related expenses (WRE). Given the large number of taxpayers involved and the significant incidence of WRE deductions, this non-compliance obviously has major implications for the assessment of STSL repayments which are determined by adopting a related income-based measure. However, typically the focus on individuals (the primary tax) non-compliance is largely exclusive when consideration should also be given to how this non-compliance impacts the collection of STSL repayments and also whether the operation of the STSL scheme itself in turn impacts the integrity of the individual income tax. Given the enormous size of this community asset and its significant degree of interaction with the income tax system, close management in a tax compliance context appears justified.

Since income tax gap estimates reflect non-compliance with income tax obligations and therefore reporting of TI, it will also reflect underreporting of RI (defined in Table 8, Appendix 6) and therefore under-repayment of STSL loans. Table 9 outlined the aggregate under repayment of STSL resulting from the underreporting of RI by personal income taxpayers. In the discussion below, attention is given to the over-claiming of WRE by STSL debtors and the issue of non-lodgement of returns by some STSL debtors.

Overclaimed work-related deductions by taxpayers who are STSL debtors

For this article, the issue of over-claimed WRE deductions is relevant in two respects: 1) what might be the impact of over-claimed WRE deductions on the rate of loan repayment via the income tax system?; 2) does the design of the repayment mechanism itself induce an even higher level of over-claimed deductions than might otherwise be the case?

To help answer these two questions, WRE deductions are examined for both STSL and non-STSL debtors by age and income levels from AUD 48,869 to AUD 67,369 (i.e., immediately prior to and the middle of STSL repayment threshold (Table 10)) using the ATO's 2% individuals sample file for 2016-17. In addition, adjustment rates for WRE deductions identified from the ATO's INIB gap estimates for 2015-16 are applied to

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 STSL and non-STSL taxpayers.¹² The relevant data are set out in Table 11 and Appendix 4 ('Estimated tax impacts of over-claimed WRE deductions by STSL debtors') while the key observations and findings are outlined below:

- WRE deductions of STSL debtors were overstated by around AUD 1.8 billion in 2016-17, resulting in AUD 603 million of forgone tax revenue and an estimated AUD 136 million of deferred loan repayments.
- By virtue of their WRE deduction claims, almost 23,000 taxpayers with STSL debts kept below the minimum repayment threshold, thus avoiding an obligation to make loan repayments and effectively deferring their repayments to another year.
- When examined in age groupings, there are indications of 'bunching' of WRE claims (i.e., an abnormal increase in average WRE claims around repayment thresholds) for STSL debtor taxpayers in the 30-39 and 40-49 age groups.

Table 11: STSL Debtors and Over-Claimed Work-Related Deductions, 2016-17

Metric	Number/ value
Number of STSL debtors lodging tax returns (000's)	2,114
Number of STSL debtors with STSL debt repayment (000's)	634
Value of STSL assessed debt repayments (AUD m): Estimated	2,644
Number of STSL debtors' returns with WRE (000's)	1,411
Value of STSL debtors' WRE deduction claims (AUD m) – Actual	3,142
– Estimated over-claimed WRE (AUD m)	1,823
Impact of eliminating over-claimed WRE by STSL debtors on:	
Income tax revenue (AUD m):	603
STSL assessed debt repayments (AUD m)	136
Number of STSL debtors with assessed debt repayments (000's)	22

Sources: ATO Statistics, ATO Sample File, and ATO individuals' income tax gap findings.

Non-lodgement of tax returns by STSL debtors

Some STSL debtors avoid or delay the repayment of their STSL debts by failing to lodge a tax return on time (or at all) where they have an obligation to do so and their income is above the minimum RI threshold (Table 8, Appendix 6) and above the TI tax free threshold (Table 5). As indicated in Table 12, STSL debtors who do not lodge tax returns account for over one-quarter of all STSL debtors.

¹² Using ATO statistical tabulations, the incidence of WRE claims (i.e., % of taxpayers making such a claim) was 63.9% in 2015-16 and 63.7% in 2016-17, while the average value of claims was \$2,548 and \$2,487 respectively.

Table 12: STSL Debtors by Age

Age group	STSL debtors who lodged 2016-17 returns	STSL debtors expected to lodge 2016-17 returns /1	Total STSL debtors as of 30 June 2017	STSL debtors not lodging returns (%)
<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
All	2,010,000	2,113,187	2,872,603	26

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.

5.3 Unreported income of non-lodgers is important

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 the (somewhat misleading) terminology 'people outside the system' (POTS) to refer to this population of individuals.¹³ This non-compliance risks detection in the ATO's enforcement programs that are undertaken to pursue 'at risk' individuals not lodging tax returns when required to do so.

The ATO publishes little information on the nature and scope of its programs to enforce the lodgement of tax returns (e.g., risk criteria, numbers pursued, and numbers lodged). However, it is known from information published by the ATO on its website and from published reports that it adopts a risk-based approach to undertaking lodgement enforcement action, relying on taxpayers' prior year tax levels (i.e., indicators of relative net tax liability) and other risk criteria such as third-party reports of income and assets.

¹³ As explained later in this article, many of the individuals who fall within this definition are registered with the ATO, have a tax file number, and pay their income tax via the employer withholding arrangements (PAYG Withholding); however, for a variety of reasons they do not lodge an income tax return. Past ATO experience indicates that many of these individuals (but an unknown proportion) would, in fact, receive a refund of excess tax credits if they chose to lodge a tax return. While the failure to lodge a return constitutes an act of non-compliance, describing this cohort of individuals as 'people outside the tax system' conveys a misleading description of their taxpaying status.

The published findings from the ATO's individuals' income tax gap research shed little light on non-compliance by POTS, disclosing only aggregate 'revenue forgone' data. From the published data set out in Table 13 it would appear, on the surface at least, that the failure to lodge returns does not represent a major compliance issue in terms of tax revenue at risk, especially for the INIB segment where most tax revenue is collected via employer wage withholding arrangements.

Table 13: Individual Income Tax Gap: People Outside the Tax System: 2015-16

Tax gap element	People outside the tax system		
	Individuals not in business	Individuals in small business	Total
Revenue forgone (AUD m)	111	670	781
Net gap (AUD m)	8,444	9,309	17,753
Revenue forgone/ total tax paid	1.3	7.2	4.4

Source: <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Individuals-not-in-business-income-tax-gap/?page=6#Step1Estimateunreportedamountsandextrapo> ; <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Small-business-income-tax-gap/?page=5#Step1Estimateunreportedamountsforsamplea> (accessed 25 January 2023).

However, the picture presented in Table 13 belies a more complicated compliance issue which appears to be related, in part, to the interaction of the PAYG withholding mechanism and the tax-free threshold of the individual income tax.

How many individuals fail to lodge tax returns when required to do so?

The income tax law requires a person who is an Australian resident to lodge a tax return if they derive income from a business or if their income from other sources exceeds the tax-free threshold (AUD 18,200 per year). Individuals are also expected to lodge a return to claim a refund of excess tax credits (e.g., tax withholdings or imputation credits) where their assessable income is below the tax-free threshold.¹⁴ Different rules apply to non-residents, including special provisions for working holiday makers (i.e., visa holders 417 and 462) that came into effect from 1 July 2017.¹⁵ In general, individuals falling into this category are not required to lodge a return unless their income exceeds AUD 37,000.

In its published tax gap materials, the ATO reports that it estimates the impact of people outside the system (non-registration or non-lodgement) by drawing on comparisons of Australian Bureau of Statistics (ABS) Census of Population and Housing (census) data to tax return data to estimate the number of non-lodging individuals who are not in business. It then estimates a dollar impact drawing on its random sample data (in respect

¹⁴ <https://www.ato.gov.au/Calculators-and-tools/Do-I-need-to-lodge-a-tax-return/> (accessed 25 January 2023).

¹⁵ In general, individuals defined as working holiday makers are taxed at a rate of 15% on all income from employment up to \$37,000 and are not required to lodge a tax return unless their income exceeds \$37,000.

of those lodging tax returns) to determine the final amount. However, the precise details of its analysis are not published.

For this study, the report simulates a comparison of ABS census data and published ATO statistical data. Table 14 details by age those individuals who can be expected to lodge and not lodge tax returns for 2016-17. As is evident from the data presented, approximately 14.6 million individuals are expected to lodge a tax return for the 2016-17 financial year, while roughly 10 million (including 5.4 million aged under 18 years and 1.8 million of working age (i.e., 25-64 years)) will not. While there are many factors that adequately explain the circumstances in which large numbers of adult individuals do not have income over the tax-free threshold (e.g., full-time students, at home spouses, invalids, prisoners, and retirees) and, therefore, do not have an obligation to lodge a return, their approximate number has not been quantified. Nor has the number who should lodge but fail to do so.

Table 14: Individuals Population, 2016-17

Age group	Number lodging tax returns/1	Number in population	Lodging tax returns (%)	Number not lodging tax return	% Males lodging tax returns	% Females lodging tax returns
0-15		4,922,404	0.0%	4,922,404	0.0%	0.0%
16-17	142,146	584,724	24.3%	442,578	24.2%	24.5%
18-24	1,716,924	2,333,668	73.6%	616,744	73.6%	73.6%
25-29	1,628,336	1,849,231	88.1%	220,895	90.2%	86.0%
30-34	1,644,796	1,833,059	89.7%	188,263	93.7%	85.8%
35-39	1,486,531	1,661,236	89.5%	174,705	93.7%	85.3%
40-44	1,417,372	1,604,013	88.4%	186,641	91.4%	85.3%
45-49	1,443,306	1,648,503	87.6%	205,197	90.6%	84.6%
50-54	1,324,157	1,535,714	86.2%	211,557	89.1%	83.4%
55-59	1,245,082	1,506,432	82.7%	261,350	86.0%	79.5%
60-64	981,363	1,332,034	73.7%	350,671	78.9%	68.7%
65-69	650,019	1,193,472	54.5%	543,453	59.9%	49.2%
70-74	388,181	958,102	40.5%	569,921	44.8%	36.4%
75 and over	514,610	1,635,412	31.5%	1,120,802	35.6%	28.3%
Totals	14,582,824	24,598,004	59.3%	10,015,180	61.5%	57.1%

/1. This number includes over 1 million individuals who lodged a return more than 12 months after the end of the 2016-17 financial year.

Source: ABS 3101 Demographic Statistics and ATO (2019).

To shed some light on the incidence of return non-lodgement, analysis is made of available (albeit, limited) data on the operation of the employer wage withholding arrangements which impact most individuals.

Table 15 sets out data concerning the aggregate value of income tax withholdings received from employers and the corresponding amounts claimed by individuals in their tax returns for each financial year over the period 2009-10 to 2016-17. The difference between these two amounts represents the value of tax withholdings not reported in tax returns, either because the individuals concerned failed to report corresponding wage income in their returns or because they did not lodge a tax return at all. Significantly, unclaimed tax withholdings are substantial in absolute terms and, for reasons not readily

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 credits in 2012-13 and its level in subsequent years is not readily explained, particularly considering the ATO's expansion of its tax return prefilling service.

Table 15: POTS and Unclaimed PIT PAYG-Withholding Tax Credits

Measure	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
PAYG w'holdings (AUD m)	119,965	129,498	141,172	152,667	159,069	169,180	175,720	183,353
PAYG w'holdings in tax returns (AUD m)	114,919	124,291	136,531	144,036	150,990	161,155	169,047	174,499
PAYG w'holdings not in tax returns (AUD m)	5,046	5,207	4,641	8,631**	8,079	8,025	6,673	8,854
(%)	4.2	4.0	3.3	5.7	5.1	4.7	3.8	4.8
Total tax paid (AUD m)	127,354	139,915	153,422	162,115	173,639	186,222	193,580	192,076

** The income threshold for the imposition of income tax was increased from AUD 6,000 to AUD 18,200 in 2012-13.

Source: 2016-17, 2017-18, and 2018-19 Taxation Statistics

Complementing the data in Table 15, Table 16 sets out a range of scenarios for the 2016-17 financial year that make projections of related non-compliance arising from omissions of income in returns received and processed and the non-lodgement of returns, under assumptions of their respective incidence and average amount per individual wage earner. For all the scenarios presented, it is assumed that the amount of employees' withholdings not disclosed in returns settles at AUD 7.5 billion.

Table 16: Modelling Scenarios: PAYG Withholdings Not Claimed in Tax Returns

Citizen category	Scenarios: % of unclaimed tax credit and share of total (AUD 7.5 billion)	Potential citizen population impacted (000's)				
		Average tax credit unclaimed per individual (AUD)				
		1,000	2,000	3,000	4,000	5,000
Individuals who lodged a tax return	Scenario 1: 50% (AUD 3.75 billion)	3,750	1,875	1,250	938	750
	Scenario 2: 60% (AUD 4.5 billion)	4,500	2,250	1,500	1,125	900
	Scenario 3: 75% (AUD 5.63 billion)	5,625	2,812	1,875	1,406	1,125
Individuals who did not lodge a tax return	Scenario 1: 50% (AUD 3.75 billion)	3,750	1,875	1,250	938	750
	Scenario 2: 40% (AUD 3.0 billion)	3,000	1,500	1,000	750	600
	Scenario 3: 25% (AUD 1.87 billion)	1,875	938	625	469	375

Source: Authors' computations and assumptions.

Drawing on the data presented and projections made it will be seen that the numbers of individuals who either omit some wage income from their returns or fail to lodge a return at all is significant under most scenarios and accompanying set of assumptions. For example:

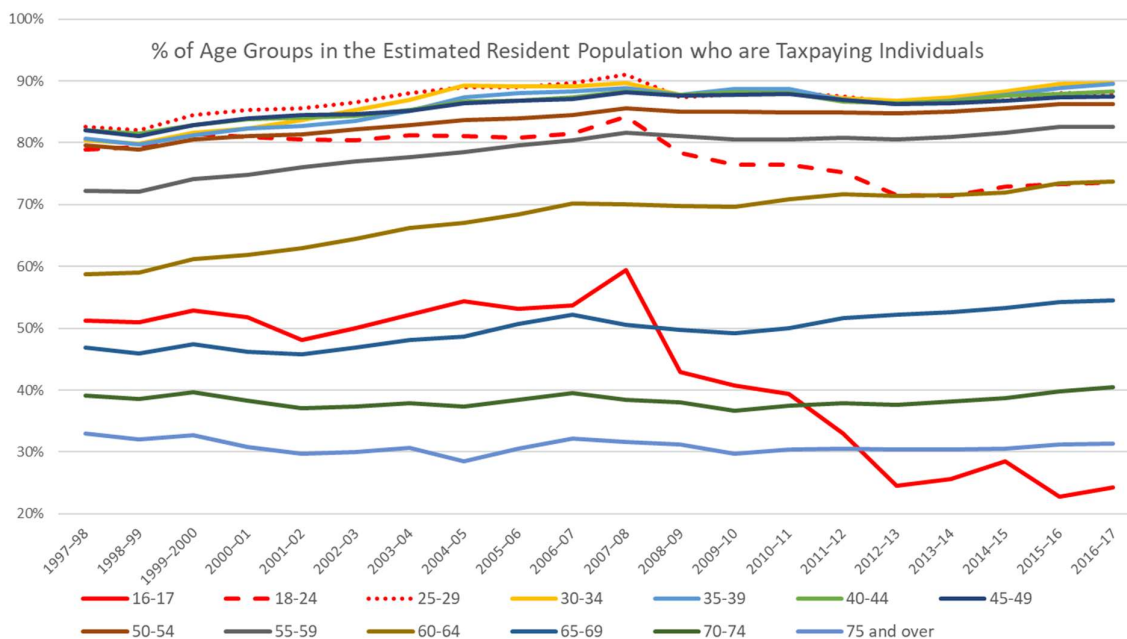
- **Scenario 1:** Assuming an average of AUD 1,000 unclaimed withholding for cases of omission and AUD 2,000 for non-lodgers, there were around 5.6 million 'non-compliers', admittedly with a likely high proportion of this number not having any net tax liability; and
- **Scenario 3:** Assuming an average of AUD 2,000 unclaimed withholding for cases of omission and AUD 4,000 for non-lodgers, there were more than 3.2 million 'non-compliers', admittedly with a likely high proportion of this number not having any net tax liability.

From the data presented and in the absence of any other public data it is not possible to conclude with any confidence which scenario comes closest to reality in terms of reflecting each population of non-compliers. However, for the purpose of further analysis and discussion in this article it is assumed that in the region of 40% of unclaimed credit is attributable to non-lodgers at an average amount of tax credit of AUD 2,000-3,000 per individual; applying these assumptions gives an estimate in the range of 1.0-1.5 million wage earning individuals who should lodge a tax return but fail to do so.

Should this estimate prove reasonably accurate, it is concerning that the tax affairs of such a large number of the individuals lack a level of official 'finality and certainty' for each financial year notwithstanding the fact that many of them may, at the end of the day, have no net tax liability. The income tax system relies fundamentally on the principle of self-assessment and, seemingly, many citizens are failing to meet the standard expected. This is especially relevant in circumstances where an individual's assessed taxable income (and related income measures) are used widely across government for a range of other purposes (e.g., transfers, loan repayments, and health insurance).

One group of individuals where there would appear to be an issue with the non-lodgement of returns concerns those aged under 24 as shown in Figure 9. Following the global financial crisis in 2007-08, the proportion of individuals under 30 years of age lodging returns declined although the rate of decline since 2012-13 appears to have stabilised following an increase in the tax-free threshold from AUD 6,000 to AUD 18,200. This decline in younger individuals filing returns could in part be associated with the large increase in unclaimed tax withholdings in that same year (shown in Table 15). Just why clearly needs further study as part of the tax gap project and could be related to the misconception that their aggregate income is less than the tax-free threshold despite already having substantial tax withholdings on income earned.

Fig. 9: Disappearing Young Tax Filers



Source: ABS 3101.0 Australian Demographic Statistics; ATO (2019).

One final aspect on individuals' compliance with their lodgement obligations concerns the requirement to lodge returns on time. The tax law sets out clear rules specifying the due date for the lodgement of tax returns, while the Commissioner of Taxation is empowered to grant extensions of time to individuals or certain classes of taxpayers where their circumstances justify such action. For example, in practice tax agents (who prepare over 70% of all individuals' tax returns) are granted extended periods of time (i.e., up to 11 months after the end of the financial year) to lodge the tax returns of their clients provided certain criteria are met. In general, individuals who prepare their own return are required to lodge a return by 31 October (i.e., within four months of the end of the financial year).

According to the ATO, between 82-83% of returns are lodged on time each year. However, this measure pays regard only to the population of individuals who lodge their returns within 12 months after the end of the relevant income year. When account is taken of the additional returns lodged more than 12 months after the end of the relevant income year (all of which can be considered ‘late’), the total population of returns lodged late is substantial in relative terms. Table 17 sets out data in respect of the 2014-15 year of income to indicate the scale of this recurring non-compliance issue – some 3.3 million individuals (almost 24% or roughly one in four individuals).

Table 17: Estimates of Individuals Income Tax Returns Lodged Late, 2014-15

Measure	2014-5 Returns Received and Processed			
	By 30 June 2016	By 31 Oct. 2016	By 31 Oct. 2017	By 31 Oct. 2018
Total returns processed (000)’s	12,900 (est.)	13,214	13,747	13,967
Total late returns processed (000)’s	2,257	2,571	3,104	3,324
Total returns lodged on time (%)	82.5	80.5	77.4	76.2

Sources: ATO Taxation Statistics 2014-15, 2015-17 and 2016-17; and Commissioner of Taxation (2017), p. 100.

By aggregating estimates of the population of returns lodged late and the number not lodged at all, it can be demonstrated that in the region of 5 million individuals (over 30% of the estimated total population of individuals) either lodge returns late or not at all. While the overall amount of revenue leakage associated with this non-compliance appears to be insignificant in relative terms given the operation of employer withholding arrangements, taxpayers’ tardiness in lodging their tax returns impedes proper functioning of the tax and transfer systems and would seem in need of reform. In particular, arrangements characterised by a more dynamic and timely use of technology and the ATO’s vast data holdings might potentially have a major role to play in transforming this area of tax administration. Ideas for responding to the deficiencies highlighted are set out in section 6.

6. ADDRESSING THE INCOME TAX GAP CHALLENGES

Measuring and identifying the causes of tax gap is only the beginning of our understanding of the important contribution tax gap research can provide to improving the design and administration of different taxes and their inter-relationships. In this section, attention is given to identifying potential policy reforms to the income tax system (section 6.1), changes in its administration (section 6.2), and to broader reforms designed to address how the income tax interacts with other taxes and transfers that use income as the base for determining entitlements (section 6.3).

6.1 Policy reforms needed to reduce the tax gap

The insights provided in this article, drawn from the ATO’s published tax gap findings and related projections and the ATO 2% individuals sample file, indicate that the individual income tax net tax gap of at least AUD 18 billion in 2016-17 is equivalent to 7.8% of total theoretical tax liability and 5.2% of all taxable income. When the ATO’s published findings and projections for other taxes are also considered the total revenue leakage exceeds AUD 30 billion for 2016-17. And these estimates of revenue leakage

do not account for the considerable flow-on impacts that result from the significant level of interactions between the income tax system and Australia's relatively large transfer system which includes many means-tested payments.

While it is not possible to eliminate all non-compliance, the reported tax gap findings highlight several areas ripe for policy reform, given the tax revenue at stake and potential numbers of taxpayers involved. These include deductions for work-related expenses, net rental income and the collection of student loans. Ideas for reform are discussed in the following sections.

6.1.1 *Deductions for work-related expenses*

As evident from the ATO's published tax gap findings and the additional insights provided in this article, reform of the rules concerning the deductibility of WRE should be a priority for government action. Simply put, considerable sums of tax revenue are lost annually because of over-claimed deductions and the associated non-compliance is too pervasive to be addressed in an effective and sustained manner using only administrative measures. There is also a significant compliance burden associated with existing arrangements where over 9 million citizens are engaged in efforts to understand their correct WRE entitlements, maintain records of expenditure, and/or visit tax agents and prepare claims in tax returns, very often for relatively small amounts of tax. More broadly, the very high incidence of itemised WRE deduction claims is a major impediment to fundamental reform that would enable significant automation of the personal income tax system for many millions of taxpayers, as recommended in the Australia's Future Tax System Review Panel's report (Pt 2, Vol. 1, 2009, p. 55) and in line with global best practice:

Under the current framework, there are significant difficulties in correctly quantifying work-related costs, in apportioning expenses between income-earning purposes and private purposes, and in defining and claiming the deductions. These complex arrangements constitute one of the impediments to further pre-filing of tax returns and, ultimately, removing the need to complete a tax return for many employees.

For the reasons indicated and in anticipation of recommended arrangements for total automation of tax returns, the Australia's Future Tax System Review Panel (2009) study recommended that the rules for WRE deductibility be tightened (Recommendation 12) and that a specific form of standard deduction be introduced to eliminate the majority of itemised WRE deduction claims (Recommendation 11).¹⁶ In its report, the Review Panel expressed concern for the complexities associated with WRE deduction claims and the resultant compliance burden on taxpayers, ATO administration costs, and the potential for significant revenue leakage from over-claimed deductions.

Further support for reform of WRE deductions can be found in the discussion paper for the government's 2015 tax reform exercise (Australian Treasury, 2015), in the report of the House of Representatives Standing Committee on Tax and Revenue report titled

¹⁶ The Australia's Future Tax System Review Panel report (2009) recommended a standard deduction that would consist of: 1) a nominal base amount available to those with labour and/or capital (non-business) income who do not elect to claim itemised expenses (WREs, including some self-education expenses, and cost of managing tax affairs) above a minimum claim threshold; and 2) a proportion of labour-related income up to a capped amount (the claims threshold).

Taxpayer engagement with the tax system (2018, p. iv) and in the Inspector-General of Taxation's recent study *The future of the tax profession* (2018, Recommendation 5.2). In its 2017 report titled *Report on the inquiry into tax deductibility*, the House of Representatives Standing Committee on Economics also acknowledged that there were major issues to be addressed concerning deductions for WRE and recommended more fact gathering to help determine the nature of the response required.

Having regard to ATO's tax gap findings and in line with the views in the Australia's Future Tax System Review Panel report (2009) regarding the need for simplification, several reform options that should be considered as a matter of some urgency are:

- 1) tighten the rules for deductibility of employees' WRE;
- 2) establish a minimum claim threshold, set at a level to eliminate the large volume (Table 18) of relatively small value claims (that cannot be verified administratively); and/or
- 3) introduce a standard deduction, along the lines recommended in the Australia's Future Tax System Review Panel report (2009).

If adopted, savings from these measures could contribute to a lowering of marginal tax rates and/or adjusting their respective thresholds. In addition to reducing income tax revenue leakage, reform of WRE could have flow-on impacts to the administration of other government revenue streams (e.g., the collection of student loans and the payment of various means-tested transfers).

Table 18: Individuals Not in Business (INIB) with WRE Deduction Claims

Value of WRE Deduction Claims (AUD)	Proportion of WRE Claims (%)	Proportion of Total WRE Claims (%)	Proportion of Total Taxable Income of WRE Claimants (%)	Proportion of Total Tax Relief from WRE Claims (%)
1-500	31	3	25	3
500-1,000	16	5	14	4
1000-1,500	10	5	10	4
1500-2,500	12	9	12	9
2,500+	31	78	39	80
All	100	100	100	100

Source: ATO 2% individuals sample file and authors' calculations

6.1.2 *Income from rental properties*

Section 5.1 of this article drew attention to the ATO's published tax gap research findings for the individual income tax and net rental income, wherein significant understatements were identified, pointing to estimated tax revenue leakage of AUD 1.5 billion in 2015-16. However, this amount understates the full value of the rental income tax gap for individuals as it excludes the taxpayer segment 'individuals in small business'. Assuming a similar rate of non-compliance for both taxpayer segments, the total rental income tax gap is estimated at around AUD 2.5 billion in 2016-17 (section 5.1.2). While at first glance this level of non-compliance and related tax leakage may

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 billion of rental income and claimed deductions against such income of over AUD 47 billion, including AUD 22 billion in respect of mortgage interest paid to lenders. And these amounts do not take account of the net rental income received by entities.¹⁷ The ATO has, in the past, drawn attention to non-compliance with net rental income; most recently, the government responded in the 2017-18 Budget to address one aspect of non-compliance with net rental income (i.e., proprietors' travel expenses). However, recent tax gap findings point to the need for further action.

Under current tax laws, a wide variety of income types and other amounts are subject to third-party reporting obligations to the ATO and a number of these (e.g., interest and dividends) are less significant in monetary terms than rental income, much of which is collected via real estate/property agents.¹⁸ While there is limited third-party reporting in the current tax system for items other than amounts of income, financial institutions are already obliged to report interest income paid to investors and it does not seem a significant additional burden to introduce a reporting obligation in respect of mortgage interest paid on investment-related properties, given the incidence of negative gearing and tax revenue at risk.

Third-party reporting obligations, supported by a robust system of matching with taxpayer records, are a proven means of detecting and deterring non-compliance and their extension to rental income and mortgage interest payments would, in addition, complement the ATO's current initiatives targeting the prefilling of tax returns.

6.1.3 *Collection of student loans*

As discussed in section 5.1.1, STSL debtors' tax returns are characterised by a fair incidence of deduction claims for WRE that have been shown to involve a high level of non-compliance. Given that Highfield and Warren (2015) highlighted that there was 'bunching' of HELP debtors around repayment thresholds (Table 19), any factors potentially contributing to tax revenue leakage directly impact repayment of STSL. With the potential of an increasing number of debtors having become eligible to make repayments from 2020 due to the reduced minimum threshold, there is the strong likelihood of even greater non-compliance in respect of WRE deduction claims along with a direct impact on the rate of repayment.

¹⁷ When account is taken of the rental income and deductions reported in partnership and trust returns, the value of income and deductions that potentially could be subject to third-party reporting is almost \$120 billion per year.

¹⁸ In line with this suggestion, the ATO has already taken administrative action to establish third-party reporting for digital platforms such as AirBnB to report rental income received on behalf of their clients.

Does the definition of ‘repayment income’ require further adjustment?

STLS 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 foreign employment income. However, because deductions for WRE claims reduce an individual’s level of repayment income any overstatement of such claims can directly reduce the amount of loan repayment properly payable on assessment (subject to the minimum repayment threshold criterion being met). This amount of deferred loans repayments is estimated at around AUD 136 million for 2016-17 (Table 11).

With the incidence of over-claimed WRE deductions by employees so high, there are strong grounds for reviewing the definition of ‘repayment income’. Highfield and Warren (2015) recommended that the definition of repayment income should be expanded and consideration given to writing back all WRE deductions, or at a minimum, deductions for self-education expenses. In the absence of any substantive reform to employees’ WRE deductions in their own right, a reform along these lines is considered highly desirable.

Table 19: Repayment Thresholds and Rates, 2016 to 2021

Income Year	Minimum Repayment Threshold (AUD)	Maximum Repayment Threshold (AUD)	Loan Repayment Rates (%)	Repayment at Min. Threshold (AUD)	Repayment at Max. Threshold (AUD)	Debtors Impacted (000’s)
2015-16	54,126	100,520	4 to 8	2,165	8,041	530
2016-17	54,869	101,900	4 to 8	2,195	8,152	634
2017-18	55,874	103,766	4 to 8	2,235	8,301	700 (est.)
2018-19	51,957	107,214	2 to 8	1,039	8,577	800-900 (est.)
2019-20	45,881	134,573	1 to 10	459	13,457	Over 1m (est.)

Source: ATO and authors’ calculations.

6.1.4 Automation of tax return preparation and assessment

Earlier sections of the article have drawn attention to the significant amounts of revenue leakage resulting from overclaimed WRE deductions and unreported rental income. And, as explained in section 5.3.2, there is a recurring compliance issue that sees over 3 million individuals lodge their returns late and potentially well over 1 million who simply opt out of the tax assessment process by not lodging a tax return at all. A further area of weakness results from the large compliance burden imposed on taxpayers (including those with relatively simple tax affairs), as indicated by the very high usage

of tax agents in Australia¹⁹ and as quantified in official reports.²⁰ In our view, these weaknesses together provide a strong case for fundamental reform of the tax return preparation and assessment process.

The Australia's Future Tax System Review Panel report (2009) proposed a system where most taxpayers would receive a fully completed prefilled tax return '*as a default method of settling their tax affairs each year*' (Recommendation 123, emphasis added).²¹ Leading up to the system envisaged, there would be a series of 'foundational' policy measures (e.g., reform of WREs along the lines outlined in section 6.1.1, the elimination of some small value deduction claims (e.g., gifts), an expanded system of (real-time) third-party income reporting, and a streamlining of some tax offsets (which has already partially occurred). With such reforms in place and the technology and data available, the ATO would be able to automatically generate tax returns for most individuals – returns that would be accurate and complete and, as a result, reflect an individual's correct tax liability. A model of how such a system could operate, drawing on knowledge of administrative approaches developed incrementally and operating for many years in overseas jurisdictions (e.g., Denmark, Norway, and Sweden) is set out in Box 1. With the arrangements envisaged, the need for this cohort of individuals to engage tax professionals would be significantly reduced.

Box 1: Transforming the Individual Income Tax Return and Assessment Process

- 1) Prescribed third parties (e.g., employers, financial institutions, and companies) would have an obligation to report relevant information to the ATO progressively over the course of a financial year, with final end-of-year reporting required shortly after the end of the financial year (e.g., within 14 days).
- 2) All taxpayers with simple affairs (as defined) would be eligible to receive a prefilled tax return.
- 3) Taxpayers would receive a prefilled tax returns online (e.g., accessed via the government internet portal, myGov), with their availability advised by electronic messaging. (NB: a paper version could be made available for taxpayers meeting prescribed criteria although these would be minimal in overall numbers.)

¹⁹ According to Taxation Statistics 2017 (ATO, 2019), the proportion of individuals that engage a tax professional to prepare their return is around 72%; this rate of usage has been relatively consistent over recent years and has not been impacted by the ATO's introduction and ongoing refinements to its system of prefiling returns as part of the electronic filing process.

²⁰ The most recent assessment of the magnitude of taxpayers' compliance burden for the income tax can be found in a report published by the Australian Treasury in 2015, *Stocktake of regulation: Final report*. In its report, Treasury estimated the compliance burden of individuals (not in business) at \$7.3 billion per year in 2014, equivalent to around \$560 for each citizen lodging an annual tax return.

²¹ A similar recommendation (i.e., Recommendation 5) is contained in the final report of the House of Representatives Standing Committee on Economics Inquiry into Tax Deductibility (2017, p. xiii).

- 4) Prefilled tax returns would set out full details of a taxpayer's income, the quantum of their standard deduction (if relevant), any tax offsets and credits. There would also be a preliminary computation of net tax liability, including details of any refund potentially payable.
- 5) Taxpayers would be required to simply confirm (electronically) the accuracy and completeness of the information displayed in their prefilled return. ***For most taxpayers, the prefilled return would be fully accurate and complete***; where this was not the case, taxpayers would be under an obligation to provide the further information required to determine their correct tax liability. In both situations, the requirements on taxpayers would constitute an act of 'self-assessment'.
- 6) Once taxpayers had confirmed the accuracy of their prefilled tax return, any refund due would be paid to them shortly thereafter, directly credited to their nominated bank account. Processes would be required to deal with taxpayers who did not respond.
- 7) The introduction of arrangements enabling the progressive reporting of taxpayers' incomes (as described in (1) above) would provide potential for a more dynamic form of in-year monitoring of taxpayers' affairs, in particular their tax withholdings, resulting in reduced potential for downstream non-compliance (e.g., tax debts). It would also facilitate the work of government agencies responsible for the payment of transfers by enabling the earlier detection of incorrect payments.

Given the scale and nature of the weaknesses highlighted, we strongly advocate adoption of the reforms required that provide the conditions for full automation of the tax return assessment process along the lines described.

6.2 A client experience model which is *holistic* in approach

As shown in Table 8 ('Income Measures Adopted by a Range of Taxes and Transfers: 2016-17', Appendix 6), a range of Commonwealth (Australian federal government) taxes and transfers are based on income-related measures (as are a number of State-based measures). While there is high level of citizen engagement with most categories of these taxes and transfers, the system is complex and prone to errors and non-compliance opportunities. Tax gap research has demonstrated that there is a 'tax cost' resulting from errors and non-compliance but there is also a similar cost to transfers (section 5.2.1 and Table 9).

In the Australia's Future Tax System Review Panel report (2009, Pt 2, Vol. 2, pp. 697, 701, emphasis added), it was envisaged that a tax and transfer system for the 21st century 'should allow individuals to engage with it in ways that meet their needs and preferences – *a citizen-centric design*. It should help people make informed decisions that are in their best interests. It should be transparent and trusted in its operation and aligned with the "natural systems" of individuals and businesses (the things they do anyway)'. For example, information held in in the systems of government agencies and flows between them should be visible to clients – people need to know what information provided by third parties has affected their taxation position or their transfer entitlements.

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 pre-filled 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 Payroll²³), 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.

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).

This third-party reporting of client data would also need to be timely; a current weakness of the existing tax legislation on the reporting of investment income (by financial institutions and public companies) is that it only needs to be reported on an annual basis. It should not be difficult in this digital age to require payments made to investors to be reported contemporaneously to the ATO, as is now the case with employers when reporting employment income.

7. CONCLUSION: TAX GAP SHOULD INFORM MAJOR TAX POLICY AND ADMINISTRATION REFORMS

As demonstrated in this article, the preparation of tax gap estimates provides broad-ranging and evidence-based insights into taxpayers' non-compliance with current income tax laws, as well as pointers to the design and administrative limitations of other taxes and transfers that use taxpayer's income as their base. Moreover, it highlights the complex ways in which individuals may behave in response to aspects of tax (and transfer) design. The net benefit, from a revenue agency perspective, is a substantially increased level of knowledge of taxpayer behaviour and administrative effectiveness, that supports its management of compliance and risks and ability to account for its performance. From a tax policy perspective, tax gap provides valuable feedback on the appropriateness of existing policy design and its administrability, and benchmarks against which to assess future policy reforms. By adding to the basket of indicators available to both policy-makers and administrators to assess tax system health, tax gap strengthens overall accountability for tax system performance.

Particularly in today's digital era, further exploitation of tax gap analysis methodologies can provide governments with whole-of-system insights into the overall effectiveness and health of the tax and transfer system and related compliance (and non-compliance) behaviour. As demonstrated in section 5, there are extensive linkages and relationships between the tax and transfers system, not to mention numerous other areas of citizens' responsibilities impacted by government regulation (e.g., superannuation, child support obligations, and student loans). And these relationships extend vertically to governments at the subnational level where taxes are applied on a similar base (e.g., employment income subject to State payroll tax). With the ongoing imperative for all governments, especially in the post-COVID 19 environment, to reduce burgeoning government debt balances by enhancing the management of their respective revenue and expenditure systems, it is inevitable that new ways must be found to manage these mutually independent revenue systems. Tax gap methodologies offer the tools to build the case for these new approaches.

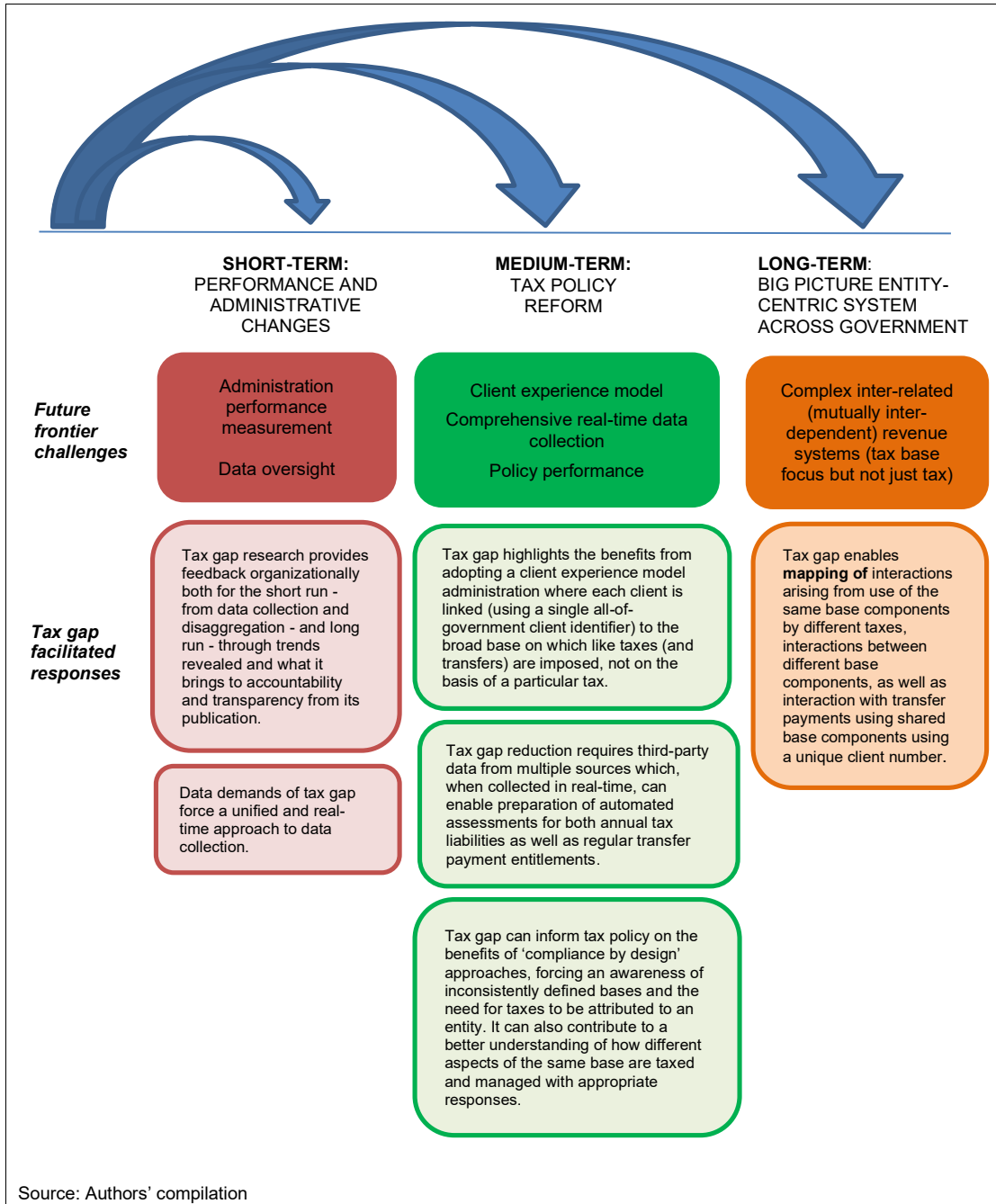
With the foregoing perspectives in mind, Figure 10 summarises the potential lessons from a comprehensive program of tax gap analysis for short-term, medium term and longer-term planning horizons that could help guide governments in their response to frontier challenges arising from the ascendancy of the digital economy and other developments.

In relation to INIB, the availability of individual income tax gap estimates (and those for other taxes) poses several obvious questions: are they of a sufficient scale to justify further attention? If so, are existing administrative responses adequate for their mitigation? If not, what additional administrative responses are required or is the non-compliance of sufficient magnitude (i.e., monetary scale and numbers of taxpayers impacted), complexity, and urgency as to warrant policy reform?

As set out in this article, much of the non-compliance evident from the individual income tax gap research findings to date and analyses in this article indicates that the issues are systemic and well entrenched and involve very large numbers of taxpayers, to the extent that their effective mitigation is beyond an administrative response only – policy reforms are required.

In this context, repair of the tax system to address longstanding and costly areas of weakness in tax compliance assumes high importance and warrants urgent consideration of appropriate policy responses. In particular, policy reforms concerning employees' work-related expenses and unreported rental property income justify urgent attention given the potential dual benefits that await to be reaped – significant additional tax revenues and a much-enhanced capacity to reform the income tax return preparation and assessment process for most individuals (section 6). With a sizeable and continuing large fiscal deficit confronting the Commonwealth government for the foreseeable future because of the impact of COVID-19 pandemic and more employees working from home, there is a clear priority to learn the lessons coming from income tax gap analysis and prioritise policy responses to reduce tax gap – not just administrative reforms.

Fig. 10: Tax Gap Insights into Frontier Challenges



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9. APPENDICES

Appendix 1: Methodology for allocating the individual income tax gap for 2016-17	248-250
Appendix 2: Demographic features and associated tax gap impacts of selected tax return items (including Figures 11-22)	251-260
Appendix 3: Recent STSL reforms and their rationale	261-262
Appendix 4: Estimated tax impacts of over-claimed WRE deductions by STSL debtors (including Table 20 and Figure 23)	263-266
Appendix 5: Figure 6: Tax Gap and Its Source Across Different Tax Filer Groupings (AUD pa, % Share by Gap Source) (from article text)	267-269
Appendix 6: Table 8: Income Measures Adopted by a Range of Taxes and Transfers: 2016-17 (from article text)	270-271

APPENDIX 1: METHODOLOGY FOR ALLOCATING THE INDIVIDUAL INCOME TAX GAP FOR 2016-17

Step 1: projecting the 2015-16 individual income tax gap to 2016-17

To allocate the net tax gap across the 2016-17 ATO 2% sample of income taxpayers, the 2015-16 estimates need to be projected up to the 2016-17 financial year. This is undertaken using data published by the ATO in its publication *Taxation Statistics 2016-17 (2019)*.²⁴ However, considerable care needs to be taken in using these data. This is because the data reported for 2016-17 represent only those returns processed within 16 months after the end of the financial year (to 31 October 2018) while the corresponding data for 2015-16 represents returns processed within 28 months of that income year. Only the data for 2014-15 in *Taxation Statistics 2016-17* approximates to the full population of taxpayers for a financial year. Using this knowledge and the *Taxation Statistics* published on the ATO website for 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17, the revisions apparent each year for the last two years of the data reported in each *Taxation Statistics* release are used to estimate the likely full population of taxpayers for the 2016-17 financial year after all taxpayers have lodged their returns.²⁵ The results of these projections for 2016-17 are in Table 3.

²⁴ ATO *Taxation Statistics* are reported at: <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Taxation-statistics/> (accessed 25 January 2023).

²⁵ For example, in the 2014-15 *Taxation Statistics*, the data reported for 2014-15 relates to that 16 months after the end of the 2014-15 fiscal year. In the 2015-16 *Taxation Statistics*, the data reported for 2014-15 relates to that 28 months after the end of the 2014-15 fiscal year while in the 2016-17 *Taxation Statistics* data reported for 2014-15 relates to all tax filers assumed to be filing returns for 2014-15. Using this

Step 2: adjusting the 2% individuals sample file

The tax gap estimated for 2016-17 must be allocated to a sample of all taxpayers. However, the 2016-17 ATO 2% individuals sample file²⁶ relates only to a sample of (277,202) individuals who had lodged their 2016-17 individual income tax returns by 31 October 2018, some 16 months after the end of the relevant financial year. This represents a population of 13.87 million individuals. To allocate the tax gap estimates in Table 3 for 2016-17 to all taxpayers, the sample needs to be reweighted to reflect the population of taxpayers after all filers have filed their returns. Using the methodology outlined in section 3.1, this results in an estimate of 14.58 million individuals, meaning that the coverage achieved by the 2016-17 ATO 2% individuals sample file is 95.117% of the population or equivalent to a sample of 1.902% of all tax filers. It is important to acknowledge that this approach assumes that those who have not yet lodged a tax return are similar in nature to those who lodged their returns within the 16-month period after the end of the financial year.

Step 3: allocating income tax gap to individuals lodging income tax returns

Table 3 details the tax gap attributed by the ATO to IISB and INIB filers in 2015-16 and our projection of the aggregate tax gap estimate to 2016-17. The tax gap for 2016-17 must now be allocated to the 1.902% individuals sample file for 2016-17. The approach adopted in this article involves first segmenting the sample into INIB and IISB and secondly, applying to each group the level of non-compliance reported by the ATO in the random enquiry program associated with their gap estimates.

The ATO defines the INIB taxpayer population as all those individuals with only salary and wages, government transfers and some simple passive income, such as dividend, interest, rental income annuities. Using this definition, 26.2% of the 1.902% sample of taxpayers (277,202) are attributed to the IISB taxpayer population and 73.8% to INIB. It is important to note that because of the ATO's definition of INIB any individual with more than AUD 1 of business income is assigned to the IISB population. The individuals sample file also only includes individuals who lodge tax returns, not people outside the tax system (POTS). The estimate of that part of the tax gap shown in Table 2 attributed to POTS cannot, therefore, be allocated to individuals in the sample file.

In terms of the assumptions about non-compliance by taxpayers, if it was assumed (unrealistically) that all individuals are non-compliant, then the tax gap estimated by the ATO could simply be distributed between individuals based on their share of the variable associated with the tax gap. However, in practice the incidence of non-compliance varies between groups of individuals and potentially between income, deductions, and tax reliefs.

knowledge, the average level of revisions across the variables in the taxation statistics for 4 years can be determined relating to revisions between (a) 16 months and the 28 months reporting period data and (b) 28 months and the outcome when individuals have lodged all returns. The averaged revisions to the taxation statistics variables estimated in (a) and (b) are then used to project the 16 months of data reported in 2016-17 Taxation Statistics results for 2016-17, to what they will be based on previous experience, when filers have lodged all returns for 2016-17 (the second column in Table 3).

²⁶ <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Taxation-statistics/Taxation-statistics---previous-editions/Taxation-statistics-2016-17/?anchor=Individualsamplefiles#Individualsamplefiles> (accessed 25 January 2023).

For the INIB population, the ATO reported that ‘[i]n the full sample of 1,403 cases the incidence of adjustment was 75%, with 80% of agent-prepared returns being adjusted. This compares with 61% of returns adjusted for people who prepared their own tax (self-preparers)’.²⁷

In allocating tax gap between taxpayers in the 1.902% sample file, it has been assumed that for INIB, 80% of those using an agent are non-compliant in their filed return and for self-preparers, 60% are non-compliant. Since there is no disaggregated information available on where this non-compliance originates, we have assumed it is across their whole filed return and proportional to the aggregate trend identified by the ATO in their tax gap estimates.

As a result, 80% of INIB taxpayers with a tax agent and 60% who are self-preparers are randomly selected and the aggregate tax gap for INIB is then distributed across INIB based in the randomly selected filers share of the variable assumed associated with this gap. There are a number of limitations of this approach including that non-compliance could be across 100% of filers but varying as to where it might be. Equally, some groups might be much more non-compliant than others. This will mean that any distributional impact analysis must be heavily qualified. Also, any revenue estimates are likely to be impacted as the effective average marginal tax rate is likely to vary (and therefore the estimate of associated income) between each case.

In the case of IISB, the allocation approach is more complex as the sources of the tax gap reported by the ATO are not disaggregated to the same level of detail. All that is reported is that 76% of net tax gap is related to income, 14% to deductions, 4% to non-pursuable debt, and 7% for individuals outside the tax system (as noted previously). To overcome this lack of data, the assumption is made that rates of mis-reporting evident for IINB taxpayers in respect of WRE and rental income and deductions apply equally to IISB taxpayers such that when this is applied, the residual relates directly to business income. The results from this approach are shown in Table 3 with AUD 3,102 million of AUD 6,928 million tax gap unreported by IISB being allocated to business income. This assumption is not unreasonable because assigning taxpayers with one or more dollars of business income to IISB means that there are many individuals whose circumstances are not too different from those classified within the INIB taxpayer population.

²⁷ <https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Tax-gap/Individuals-not-in-business-income-tax-gap/?anchor=Trendsandlatestfindings#Trendsandlatestfindings> (accessed 25 January 2023).

APPENDIX 2: DEMOGRAPHIC FEATURES AND ASSOCIATED TAX GAP IMPACTS OF SELECTED TAX RETURN ITEMS

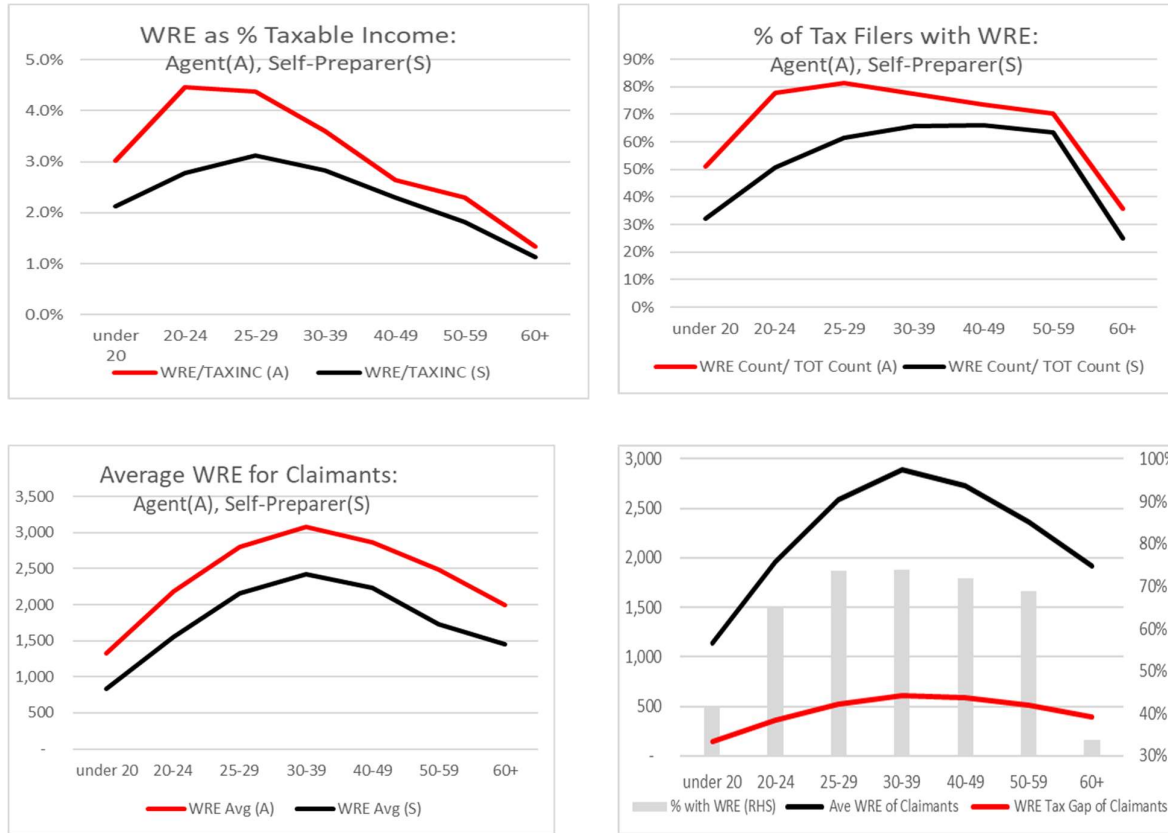
This Appendix sets out additional insights and supporting data concerning selected demographic features (e.g., age, gender, region of residence) of taxpayers' returns that disclose: 1) deduction claims for work-related expenses (WRE); 2) net rental income; and 3) net business income; and associated tax gap projections, drawing on the published findings of the ATO's tax gap research program.

The authors acknowledge that there is a degree of uncertainty associated with the underlying approach for this analysis and related observations. First, the ATO's tax gap sample for 2015-16 was fairly small and stratified only by income levels and agent/non-agent usage for return preparation purposes. While the overall size of the sample was sufficient to be assured that the overall gap estimates are representative of the population at large, examining each strata at a finer level entails the use of smaller sample sizes and, as a result, larger confidence levels. The highly skewed nature of tax gaps in practice, as reported by the ATO in its published findings, provides further uncertainty as to the representativeness of small sample sizes in a strata. Second, due to data limitations the authors were not able to confirm whether the tax gap sample used for 2015-16 was representative of other variables explored in Appendix 2 (i.e., age, gender, region (broadly defined), and occupation (broadly defined)). They could be, but they may not be.

Work-related expenses (WRE) deductions

Taxpayer age (Figure 11): Across all taxpayers, the incidence rate of WRE claims is at its highest level for taxpayers aged 20-29, 30-39 and 40-49 years and, not surprisingly, falls away significantly for taxpayers aged over 59 years. However, average WRE claims are much higher for taxpayers aged 30-39 years and the WRE tax gap is at its highest level for taxpayers in this age group. For tax agent-prepared returns, both the incidence of WRE claims and their relative value (% of taxable income) are higher than self-preparers across all age groupings and, in particular, for taxpayers aged 20-29 years.

Fig. 11: Age, WRE and Related Tax Gap



Taxpayer gender (Figure 12): Overall, average WRE claims of male taxpayers are some 50% higher than for female taxpayers, while the incidence rate of WRE claims is broadly similar (between 62-65%). These two factors contribute to a marginally higher (i.e., around 20%) average WRE tax gap for males. For tax agent-prepared returns, the incidence of WRE claims, their average claim value, and average WRE tax gap are substantially higher for male taxpayers.

Fig. 12: Gender, WRE and WRE Tax Gap



Region of residence (i.e., major urban, regional urban, or rural) (Figures 13 and 14): 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.

Fig. 13: Region, WRE and Related Tax Gap

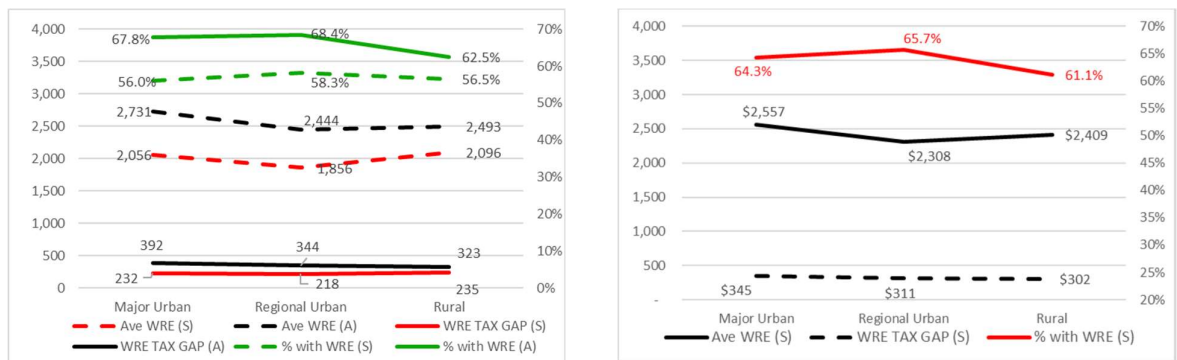
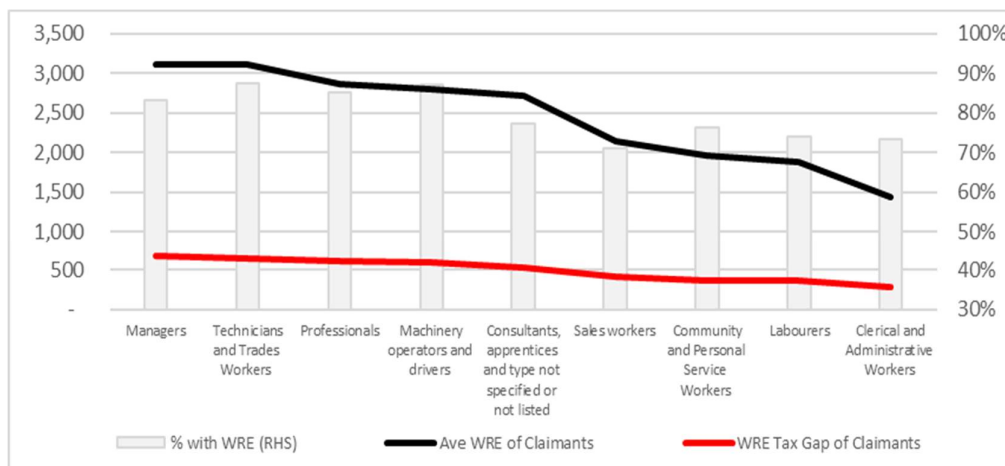


Fig. 14: WRE Tax Gap for Selected Demographic Groups of Taxpayers



Occupational groupings (Figure 15): 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., managers and professionals); similar but less pronounced differences are observed in relation to the incidence of WRE claims and the average WRE tax gap.

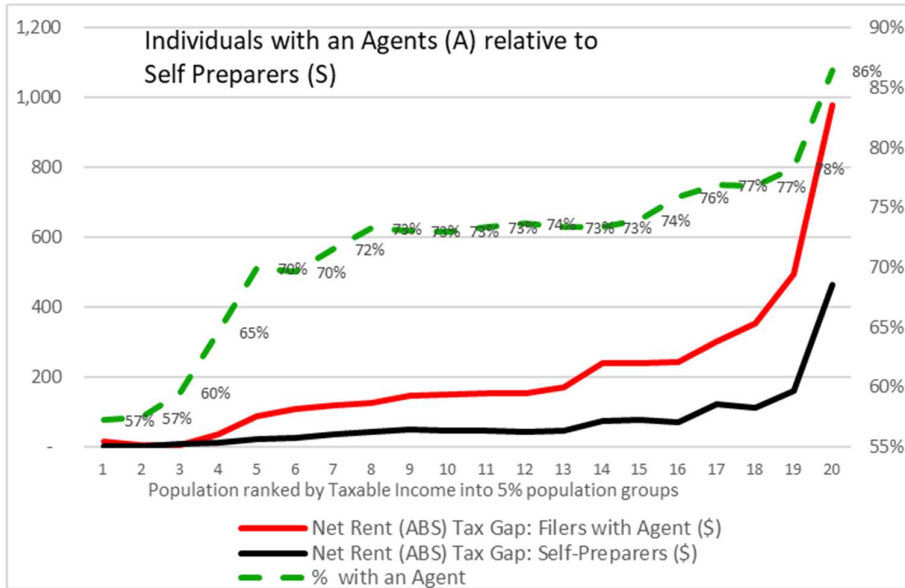
Fig. 15: Occupational Groupings, WRE and WRE Tax Gap



Net rental income

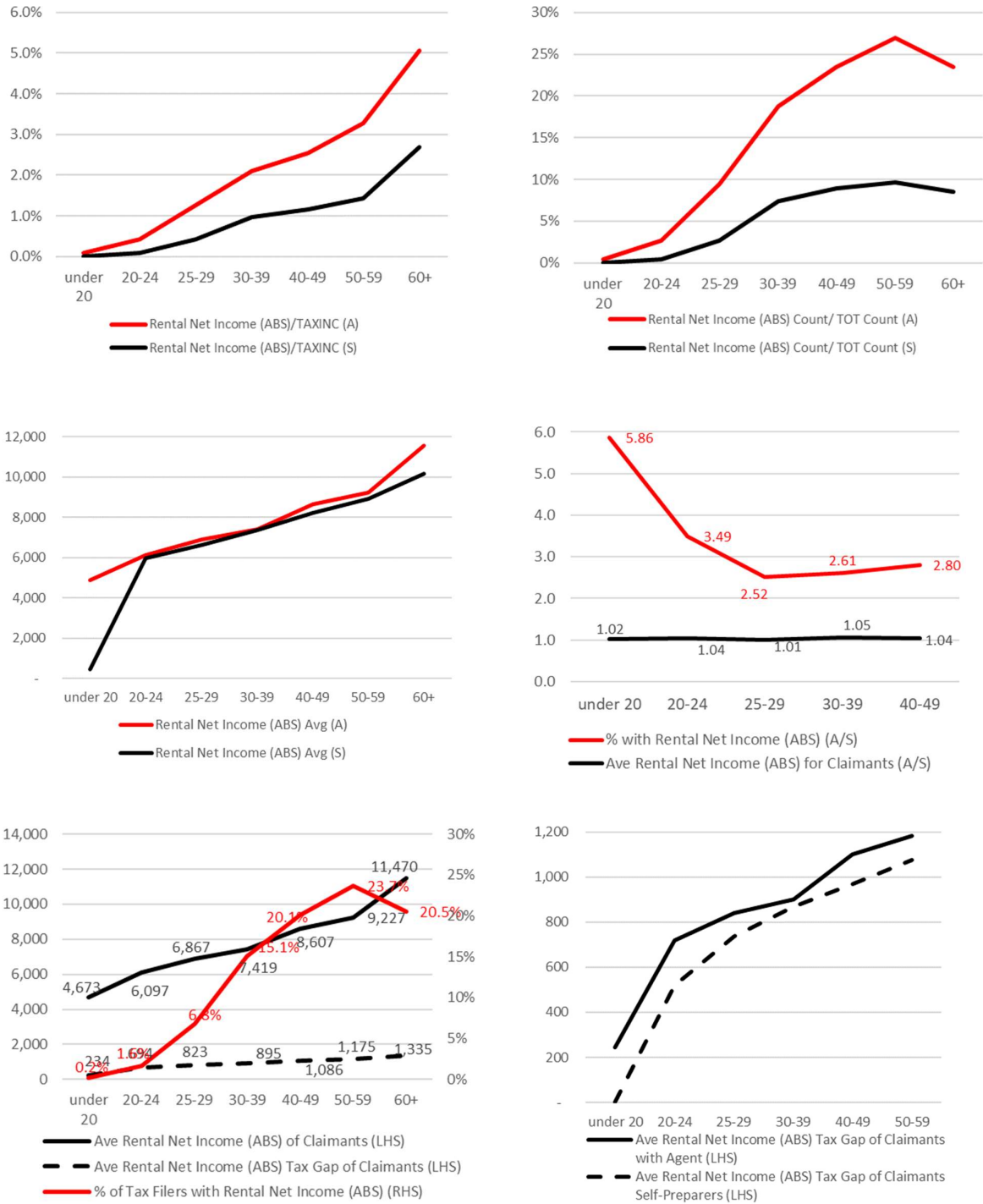
Taxpayer income and tax agent usage (Figure 16): Unsurprisingly, tax agent usage rises in line with increasing taxpayers’ incomes, exceeding 85% at the top end income ranges, and a similar pattern is observed for the average business income tax gap. The average tax gap for self-preparers is consistently and substantially lower (in a relative sense) than that of taxpayers using agents across all income levels.

Fig. 16: Income, Net Rental Income, and Related Tax Gap



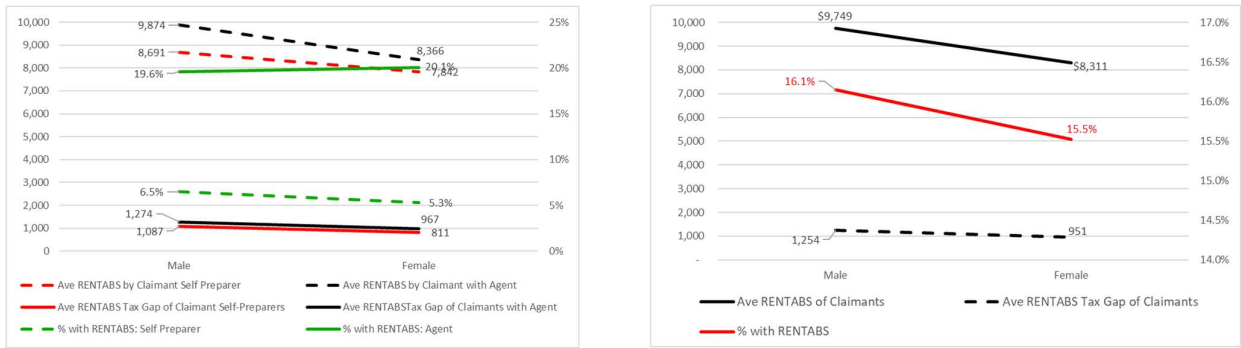
Taxpayer age (Figure 17): Across all taxpayers, both the incidence rate of net rental income and amount of average rental income reported all increase consistently across age groups up to 50-59 years, with the latter measure falling significantly for taxpayers over 60 (i.e., in/approaching retirement). For tax agent prepared returns, both the incidence rate of net rental income and amount of average rental income reported are significantly higher than self-preparers across all age groupings. While projected average tax gaps are higher than those of self-preparers across all age groupings the differences are not significant.

Fig. 17: Age, Net Rental Income, and Related Tax Gap



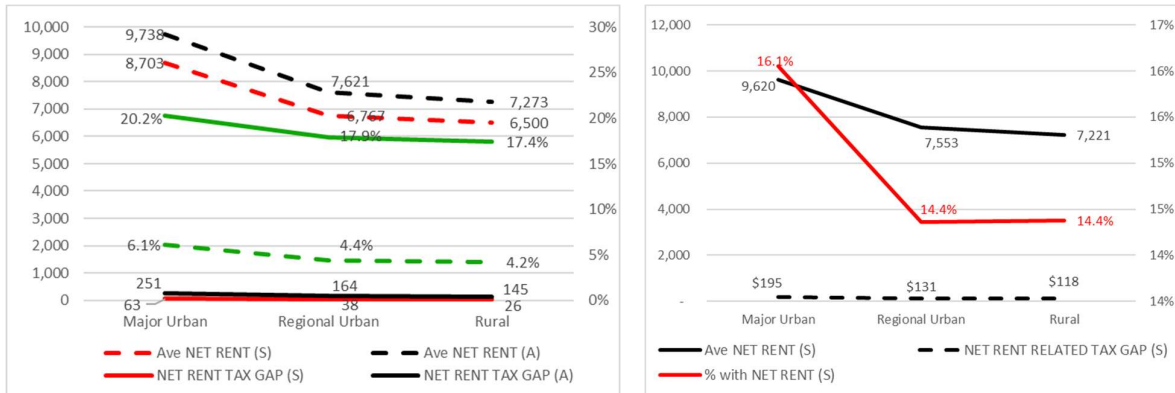
Gender (Figure 18): Overall, average net rental income of males is almost 20% higher than for female taxpayers, while the incidence rate is broadly similar (16.1% to 15.5%). With higher incomes in general, the average rental income tax gap is over 30% higher for male taxpayers. For tax agent prepared returns, the incidence of net rental income is marginally higher for female taxpayers (20.1% to 19.6%); however, both their average rental income reported and average rental income tax gaps are projected at between 10-20% lower.

Fig. 18: Gender, Net Rental Income and Tax Gap



Region of residence (i.e., major urban, regional urban, or rural) (Figure 19): Average rental income value, the incidence rate of average rental income, and the average rental income tax gap all are substantially higher for taxpayers living in major urban regions in contrast to taxpayers in rural regions.

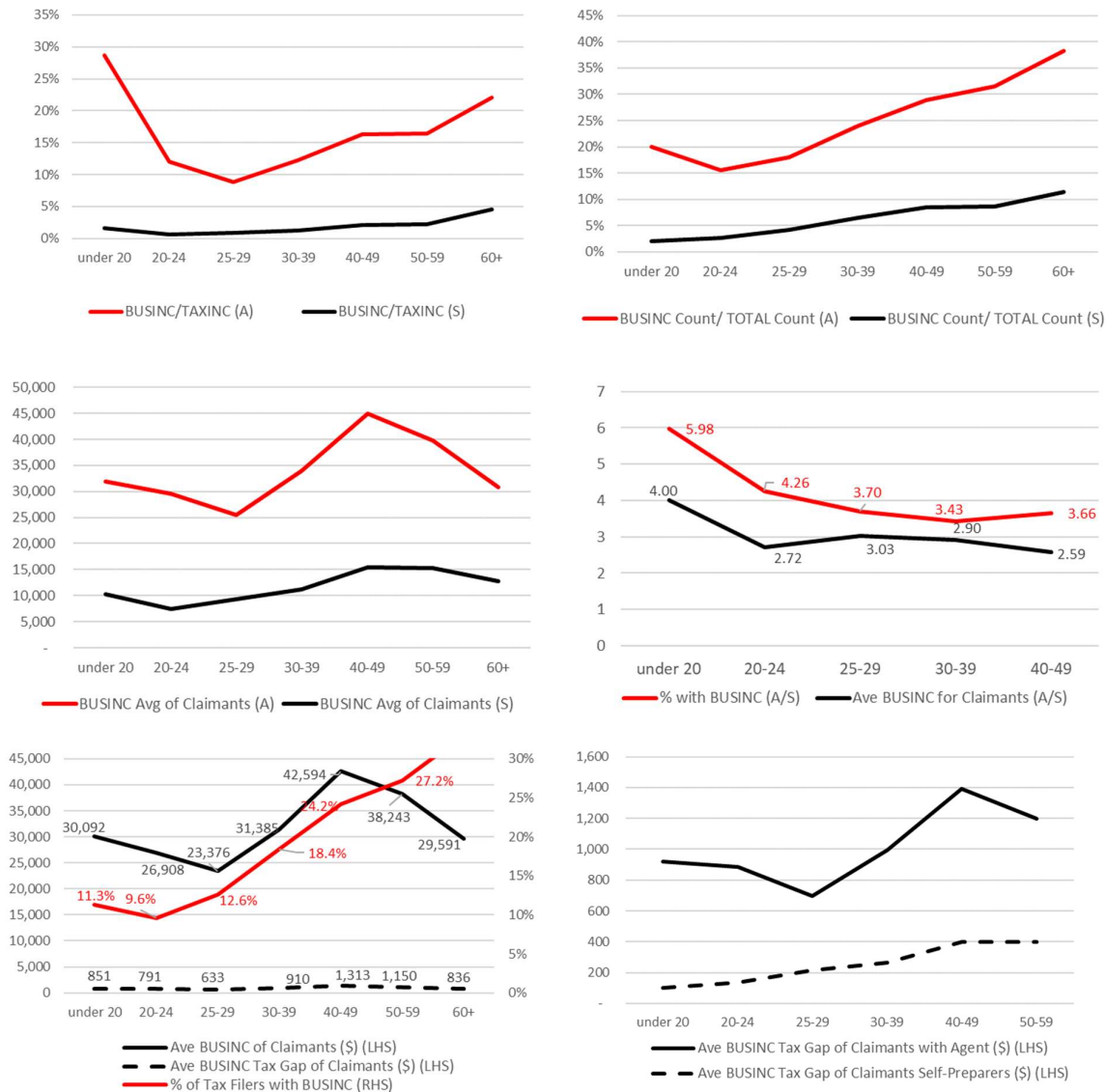
Fig. 19: Region, Net Rental Income and Tax Gap for Claimants (A: Agent, S: Self-Preparer)



Net business income

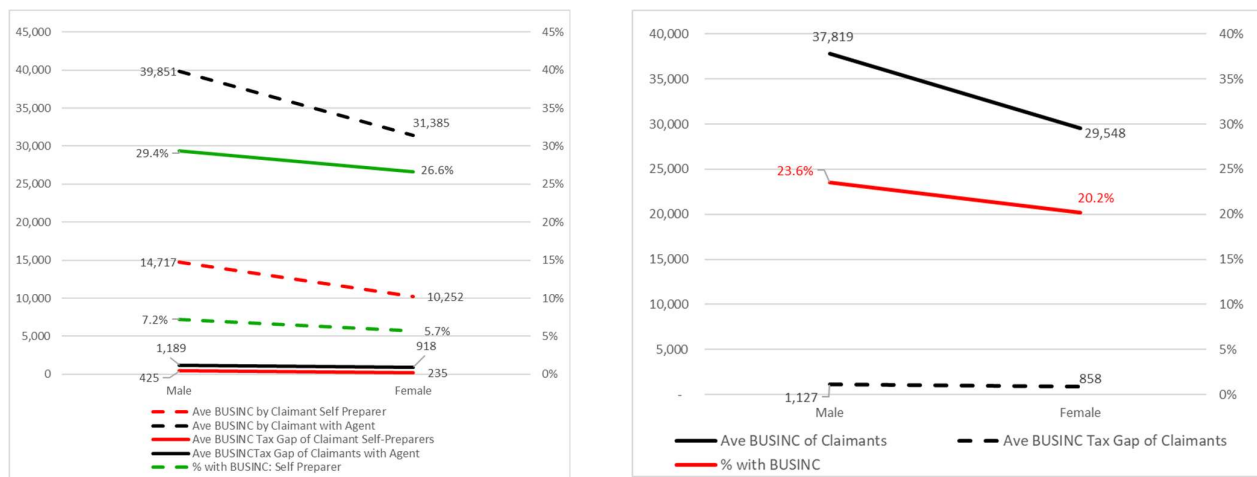
Taxpayer age (Figure 20): Excluding taxpayers aged under 25, both the incidence rate of reported business income and relative amount of average business income reported all increase consistently across age groups up to 50-59 years. However, average incomes reported peak in the 40-49 age grouping and 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.

Fig. 20: Age, Business Income, and Related Tax Gap



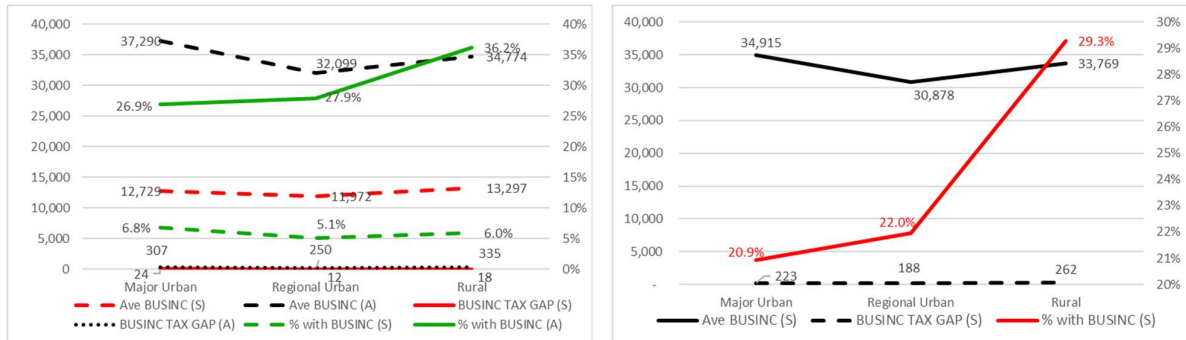
Gender (Figure 21): Overall, average net business income of male taxpayers (AUD 37,819) is around 25% higher than for female taxpayers (AUD 29,548), while the incidence rate is slightly higher (23.6% to 20.2%). With higher incomes in general, the average business income tax gap is around 30% higher for male taxpayers. For tax agent prepared returns, the incidence of net business income is marginally higher for male taxpayers (29.4% to 26.6%), while their average business income reported is over 25% higher. Average business income tax gaps are substantially higher relatively to those for both male and female taxpayers than for self-preparers.

Fig. 21: Gender, Business Income and Tax Gap



Region of residence (i.e., major urban, regional urban, or rural) (Figure 22): Overall, average reported net business income varies by no more than around 10% across the three regional groupings, although the incidence rate is substantially higher in rural regions (29.3% compared to 20.9% in major urban and 22% in regional urban). Average net business income tax gaps are broadly similar. For tax-agent prepared returns, the incidence rate is substantially higher in rural areas (36.2% compared to around 27% in other regions), while the average reported business income is some three times higher than for self-preparers. Average net business income tax gaps are marginally higher in rural regions.

Fig. 22: Region, Business Income and Tax Gap for Claimants (A: Agent, S: Self-Preparer)



APPENDIX 3: RECENT STSL REFORMS AND THEIR RATIONALE

Over recent years, a series of changes have been made to improve the sustainability of the STSL scheme. These are outlined in the following section.

1) Repayment schedule and rates of repayment

For the income years 2004-06 to 2015-16, the initial introductory rate of debt repayment stood at 2% while the maximum repayment rate was set at 8%. Effective from 2018-19, the initial introductory rate of repayment was reduced from 4% to 2%, with a reduction also in the initial repayment threshold – from AUD 55,874 in 2017-18 to AUD 51,957. The maximum repayment rate of 8% remained unchanged. This reform sought to increase the number of debtors making repayments while easing the burden of STSL debtors entering the repayment regime, recognising that the rate of repayment applies to a debtor's total RI, not the excess over the threshold entry level.

From 1 July 2019, a new (lower) minimum repayment threshold came into effect, set at AUD 45,881 with a 1% initial repayment rate, and with a further 17 thresholds and repayment rates, up to a top threshold of AUD 134,573 at which 10% of income is repayable (see Table 19).

2) Indexation of STSL repayment thresholds

From 1 July 2019, STSL repayment thresholds are indexed using the Consumer Price Index (CPI) instead of average weekly earnings. This change aims to ensure that repayment requirements are adjusted in line with the cost of living and streamlines the indexation factors used previously.

3) STSL debtors living and residing overseas

Up to the financial year ending 30 June 2016, STSL debtors living and working overseas without any obligation to lodge a tax return in Australia were not required under the law to make repayments of their STSL loans debts regardless of the level of their income outside of Australia. As observed in Highfield and Warren (2015) and by other researchers (e.g., Chapman & Higgins, 2013), this was an obvious weakness in the repayment regime, delaying the collection of STSL debt and was clearly inequitable *vis-à-vis* the treatment of debtors residing in Australia. Effective 1 July 2017, debtors planning to live and work overseas for over 183 days or more in any 12-month period are required to update their contact details with the ATO and submit an *overseas travel notification* within seven days of leaving Australia. They are also required to lodge information annually concerning their worldwide income for the purpose of determining any obligation to make STSL debt repayments.

4) Amending the order of repayment of some student loan debts

From 1 July 2019, Student Financial Supplement Scheme (SFSS) debts are repaid after STSL debts are discharged. Previously, SFSS debts were paid concurrently with STSL debts. The repayment thresholds for SFSS have also been brought into line with the STSL repayment thresholds from 2019–20, instead of the current three-tier repayment threshold.

5) Increasing the FEE-STSL loan limit for 2019

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.

6) Introduction of a new combined renewable STSL loan limit

Combined STSL loan limit

A new combined STSL loan limit has been introduced, effective from 1 January 2020. Only new HECS-HELP borrowing counts towards a person's STSL loan limit, however existing FEE-STSL entitlements already incurred are being carried over (FEE-HELP, VET FEE-HELP and VET Student Loans). The combined STSL loan limit amount, commencing on 1 January 2020, is the 2019 FEE-HELP loan limit amount indexed by CPI. From 1 January 2020, the FEE-HELP loan limit will become the combined HELP loan limit and a person's FEE-HELP balance will become their HELP balance.

Renewable STSL balance

The renewable component came into effect at the same time as the combined STSL loan limit, 1 January 2020. Repayments starting from the 2019–20 income year will be credited to a person's STSL balance. The ATO will advise the Department of Education of an individual's compulsory or voluntary repayment against their STSL debt. The department will use this repayment information to increase a person's STSL balance by the same amount reported.

Any compulsory or voluntary amounts that are repaid will be able to be re-borrowed in the future, up to the current HELP loan limit. This will enable individuals to pursue further study to retrain, change careers, or further specialise in their current profession. The same maximum loan limits, depending on the course of study, will continue to apply.

7) Removal of FEE-HELP loan fee for Table B providers

From 1 January 2019, students studying an undergraduate course of study at a Table B provider are no longer charged the 25% FEE-HELP loan fee. This only applies to courses of study with a census date on or after 1 January 2019.

APPENDIX 4: ESTIMATED TAX IMPACTS OF OVER-CLAIMED WRE DEDUCTIONS BY STSL DEBTORS

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

Table 20: ATO 2% Sample File: WRE Claims of STSL and Non-STSL Taxpayers, 2016-17

Metric	ATO sample file populations		
	STSL taxpayers	Non-STSL taxpayer	Totals
No. of records in sample file	40,2018	236,984	277,202
No. of taxpayer records with WRE claims-total	26,846 (66.8%)	149,555 (63.1%)	176,401
No. of taxpayer records with WRE claims- aged 20-29	14,616 (54.4%)	24,927 (16.7%)	39,543
No. of taxpayer records with WRE claims- aged 30-39	7,385 (18.4%)	36,796 (24.6%)	44,181
No. of taxpayer records with WRE claims- aged 40-49	2,924 (10.9%)	35,943 (24.0)	38,867

Source: ATO 2% Sample File, 2016-17

Analysis of WRE deduction claims of STSL debtors (by age groupings) is outlined in Figure 23 from which it is possible to make the following observations:

Age group 20-29

- STSL taxpayers in this age group exhibit a consistently lower average WRE claim value to non-STSL taxpayers across the income ranges specified.
- The incidence of WRE claims for STSL taxpayers, while initially lower than for non-STSL taxpayers, converges around the STSL repayment threshold level for 2016-17 (i.e., AUD 54,869) and is sustained for incomes up to around AUD 63,000.

Age group 30-39

- While subject to some degree of volatility, the average WRE claim value across the specified income ranges of STSL taxpayers in this age group is generally higher than non-STSL taxpayers; the volatility observed appears to be with consistent with the practice of ‘bunching’ (i.e., an abnormal increase in average claim values resulting taxpayers’ over-claiming deductions to avoid a higher rate of loan repayment).
- The incidence of WRE claims for STSL taxpayers, while initially marginally higher than for non-STSL taxpayers, falls below the corresponding rate for non-STSL taxpayers for the middle-income ranges specified, only to rise significantly at the higher end of the income ranges specified.

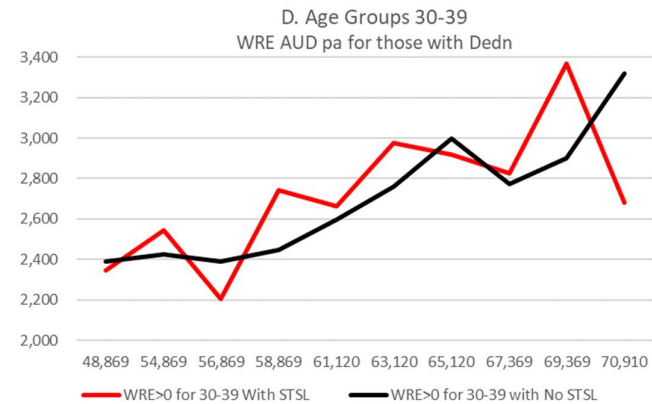
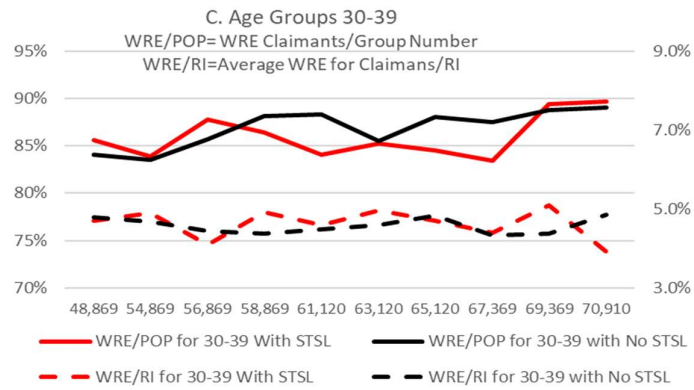
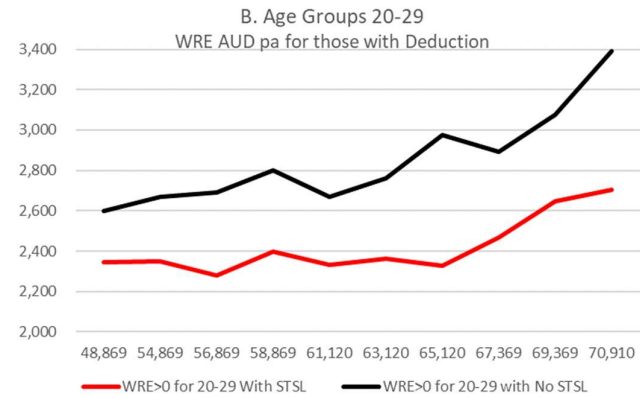
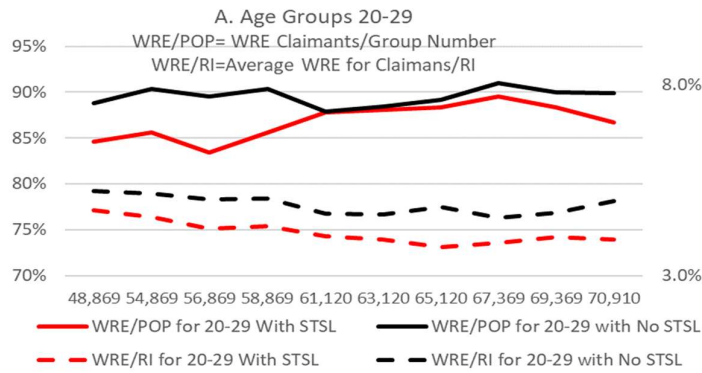
Age group 40-49

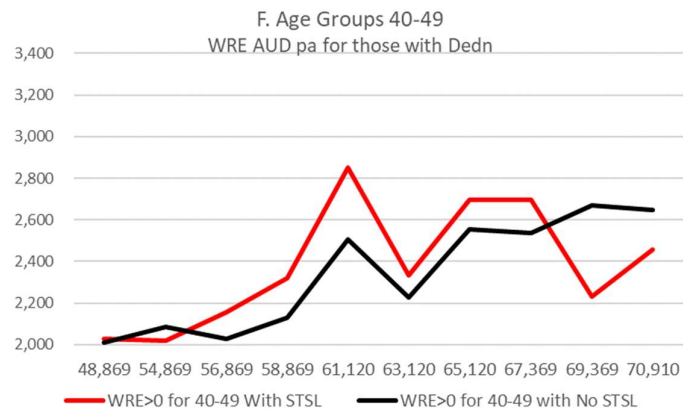
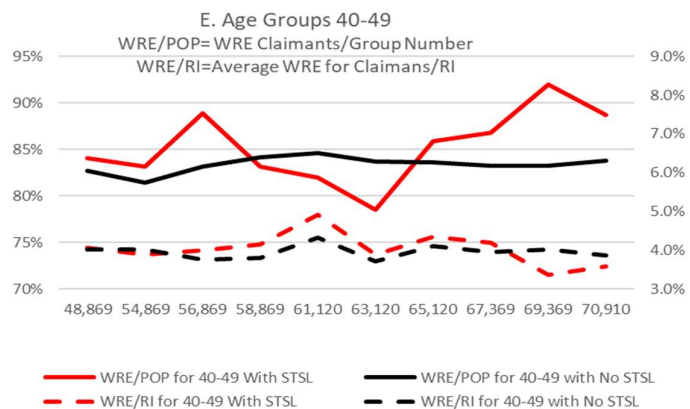
- While subject to some degree of volatility, the average WRE claim value across the specified income ranges of STSL taxpayers in this age group is generally higher than for non-STSL taxpayers; the volatility observed appears to be consistent with the practice of ‘bunching’ (i.e., an abnormal increase in average claim values resulting taxpayers’ over-claiming deductions to avoid a higher rate of loan repayment).
- The incidence of WRE claims for STSL taxpayers, while initially higher than for non-STSL taxpayers, falls below the corresponding rate for non-STSL taxpayers for the middle-income ranges specified, only to rise significantly at the higher end of the income ranges specified.

Across all age groups

- Applying the ATO’s tax gap findings for WRE in 2015-16 and projecting their impact for the 2016-17 financial year, it is likely that STSL taxpayers over-claimed WRE deductions by approximately AUD 1,823 million; the impact of these over-claims on the collection of STSL debts through the tax assessment system is estimated at AUD 136 million, including around 23,000 taxpayers who avoided assessed repayments and effectively deferred their repayment to another day (NB: these latter two amounts do not represent the full impact of deferred collections as other non-compliance has not been taken into account.)

Fig. 23: STSL Debtors and Work-Related Expenses

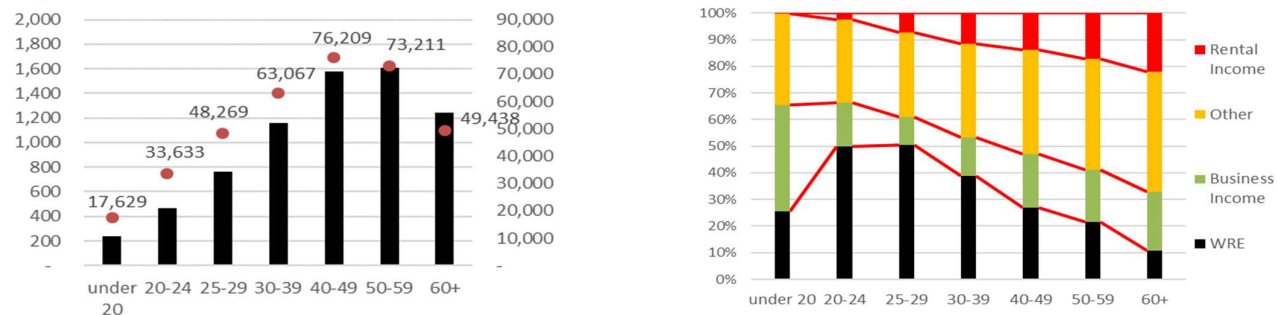




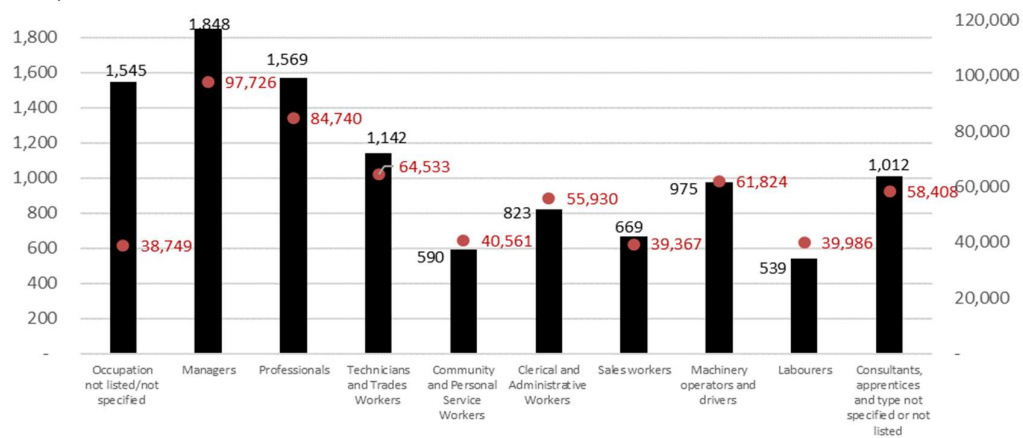
APPENDIX 5

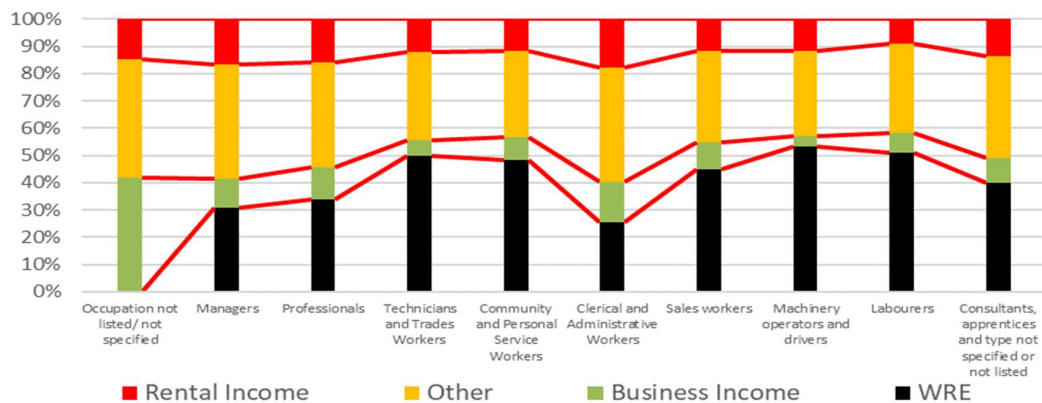
Fig. 6: Tax Gap and Its Source Across Different Tax Filer Groupings (AUD pa, % Share by Gap Source)

6A Age.

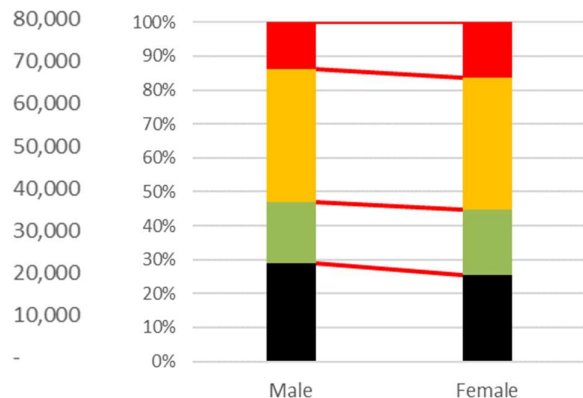
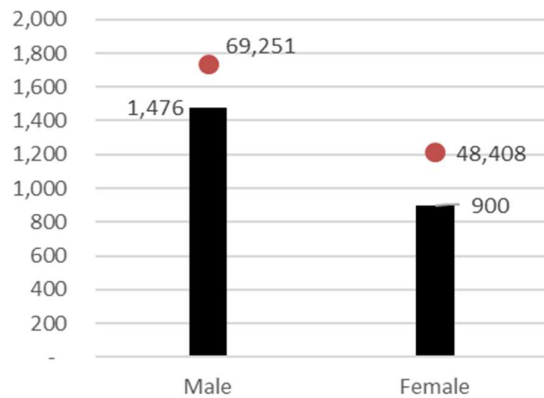


6B Occupation:

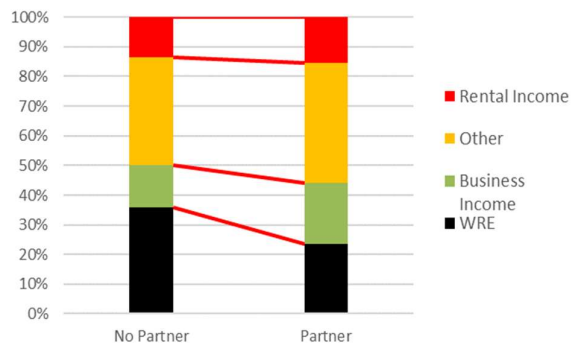
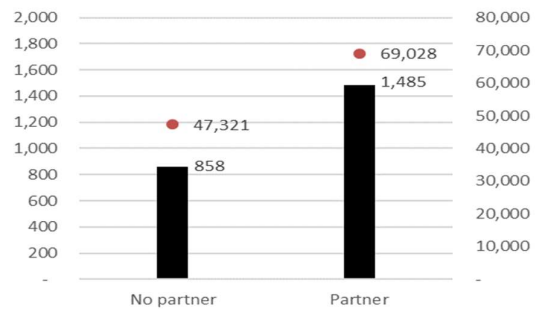




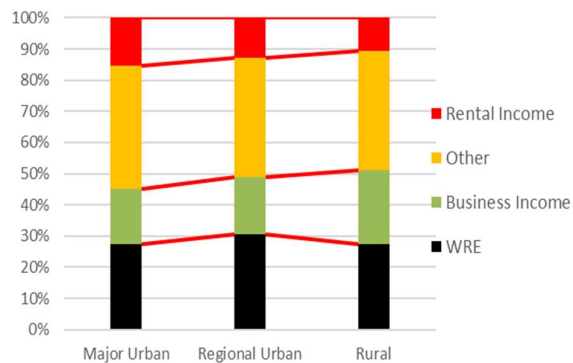
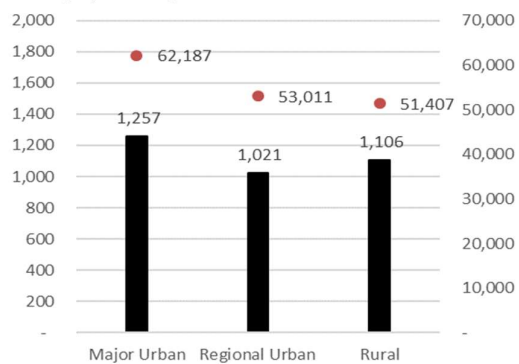
6C Gender



6D Partner Status



6E Geographical region



APPENDIX 6: TABLE 8: INCOME MEASURES ADOPTED BY A RANGE OF TAXES AND TRANSFERS: 2016-17

Household Income (National Accounts)	Individual Income Tax	Income Tax Offsets	STLS Repayments	Medicare Levy/PHI Insurance Rebate	Pension Income Test
HOUSEHOLD GROSS INCOME =	TAXABLE INCOME (TI) =	ADJUSTED TAXABLE INCOME (ATI) =	REPAYMENT INCOME (RI) =	INCOME BASES FOR LEVY AND REBATE	PENSION INCOME TEST (IT) -
Gross operating surplus: Dwellings owned by persons (e.g. Rent actual and imputed) + Gross mixed income (e.g. income from unincorporated enterprises) + Secondary income (e.g. public and private transfers) + Property income (Interest (actual and imputed), dividends, royalties) + Compensation of employees (Cash and in-kind payments for labour)	Salary or wages + Allowances, earnings, tips, directors fees etc + Employer lump sum payments + Employment termination payments (ETP) + Australian Government allowances and payments + Australian Government pensions and allowances + Australian annuities and superannuation income streams + Australian superannuation lump sum payments + Attributed personal services income + Gross interest + Dividends + Employee share schemes + Income less deductions and carry forward losses (supplementary section of tax return)	Taxable income + Total net investment loss (includes both net financial investment loss and net rental property loss) + Reportable fringe benefits from employers + Reportable employer superannuation contributions + Tax-free government pensions or benefits + Deductible personal superannuation contributions + Target foreign income + Assessable First Home Super Saver less Child Support paid	Taxable income + Total net investment loss (including net rental losses) + Reportable fringe benefits from employers + Reportable super contributions + Exempt foreign employment income amounts	Taxable income + Total net investment losses (including both net financial investment losses and net rental property losses) + Reportable fringe benefits from employers + Reportable super contributions (incl. reportable employer super contributions and deductible personal super contributions) + Net amount on which family trust distribution tax paid	Taxable income + Total net investment losses + Reportable fringe benefits from employers + Reportable superannuation contributions + Taxable and tax-exempt foreign income + Deemed income from assets tests applied to financial investments (excl. home), homeowners' home, superannuation income streams (non-assessable non-exempt income), and tax-free pensions or benefits.

Table 8 Sources:

Column 1 - <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5204.02018-19>;

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)