Effective Marginal Tax Rates Faced by Those on Disability Support Pension: A Western Australian Scenario

Prepared by the Centre for Social Impact, The University of Western Australia

June 2024

Zoe Callis and Paul Flatau

CENTRE for SOCIAL IMPACT

THE UNIVERSITY OF WESTERN AUSTRALIA

Acknowledgement of Country

In the spirit of reconciliation, CSI UWA acknowledges that their operations are situated on Noongar land, and that the Noongar people remain the spiritual and cultural custodians of their land, and continue to practise their values, languages, beliefs and knowledge. We acknowledge the Traditional Custodians of the country throughout Australia and their connections to land, sea and community. We pay our respect to their elders and extend that respect to all Aboriginal and Torres Strait Islander peoples.

Address for Correspondence

Paul Flatau
Centre for Social Impact the University of Western Australia
Business School
The University of Western Australia
35 Stirling Hwy, Crawley, WA, 6009 Australia
paul.flatau@uwa.edu.au

Centre for Social Impact

The Centre for Social Impact (CSI) is a national research and education centre dedicated to catalysing social change for a better world. CSI is built on the foundation of three of Australia's leading universities: UNSW Sydney, The University of Western Australia, and Swinburne University of Technology. Our **research** develops and brings together knowledge to understand current social challenges and opportunities; our postgraduate and undergraduate **education** develops social impact leaders; and we aim to **catalyse change** by drawing on these foundations and translating knowledge, creating leaders, developing usable resources, and reaching across traditional divides to facilitate collaborations.

Citation

Callis, Z., and Flatau, P. (2024). *Effective Marginal Tax Rates Faced by Those on Disability Support Pension: A Western Australian Scenario.* Perth: Centre for Social Impact The University of Western Australia. https://doi.org/10.60836/3dge-7d95

Contents

List of Figures

1. INTRODUCTION

The effective marginal tax rate (EMTR) measures the loss due to income taxation and reduction of welfare benefit for every additional dollar of income (Ingles & Plunkett, 2016). The simulation presented in this paper is based in the Western Australian context, was constructed in mid-2024, and assumes the individual is receiving the Disability Support Pension (DSP), is single, aged 21 or older, and meets the medical and assets eligibility tests (Services Australia, 2024a). No considerations have been made for benefits for family members (e.g., companion discounts). Further, the analysis does not account for Commonwealth rental assistance or any other form of housing subsidy support such as rent subsidies for social housing tenants. The EMTR is estimated up to an income from employment level of $100,000 per year.

1.1. Report Content

1.1.1. Assumptions

Section 2 presents the formulas used to estimate the amount of DSP received at each income level. Income taxes, levies, tax offsets, and levy reductions are detailed in Section 3. The assumptions and estimates for the benefits associated with the DSP and Pensioner Concession Card are presented in Section 4, this includes medical concessions (Section 4.1) such as GP bulk billing, pharmaceutical benefits, dental bulk billing, and ambulance rebates; public transport concessions (Section 4.2); and the energy assistance benefit (Section 4.3).

1.1.2. Results of the Simulation

The results of the simulation are presented and discussed in Sections 5 to 0. Specifically, this includes final income as conceptualised by the Australian Bureau of Statistics (ABS; ABS, 2022; Section 5), the effective tax rate (ETR; Section 6), the participation rate (PTR; Section 7), and finally, the effective marginal tax rate (EMTR; Section 8).

2. DISABILITY SUPPORT PENSION

2.1. Income Test

In addition to meeting the medical rules, Disability Support Pension (DSP) recipients must also meet the income and assets test. For the purposes of this simulation, it is assumed that the assets test is met. As of 20 March 2024, the maximum DSP rate per fortnight is $1,116.30 (includes basic rate: $1,020.60, maximum pension supplement: $81.60, and energy supplement: $14.10; Services Australia, 2024b). Recipients of DSP can earn up to $204 a fortnight, after which point the payment will be reduced by 50 cents for each dollar over $204. Further, the payments are cut off entirely once income per fortnight reaches $2,436.60 (Services Australia, 2024c).

Accordingly, the following figures and rates were used in the simulation:

- Maximum Total Annual DSP Payments: $(1{,}020.6 + 81.6 + 14.1) \times 26 = \$29{,}023.80$
- Minimum Annual Income before DSP is Reduced: $204 \times 26 = \$5{,}304.00$
- Annual Income DSP Cut Off Point: $2{,}436.60 \times 26 = \$63{,}351.60$
- DSP Reduction Rate: 50c of every dollar over $5,304.00
- Annual DSP Payment Based on Income:

Income	Annual DSP Payment Calculation
$0 - $5,304.00	$\text{DSP} = \text{Maximum DSP} = \$29{,}023.80$
$5,305.00 - $63,351.60	$\text{DSP} = \$29{,}023.80 - \big((\text{Income} - \$5{,}304.00) * 0.5\big)$
$63,352 - $100,000	$\text{DSP} = \$0$

2.1.1. DSP Lost

To calculate the amount of DSP forgone at each level of income, the following formula is used:

$$\text{DSP Lost} = \text{Maximum DSP} - \text{DSP at Income Level}$$

3. TAXES AND LEVIES

3.1. Income Tax

In line with the Australian Taxation Office (ATO) Australian residents tax rates for the 2024/2025 financial year, the following tax brackets were used (ATO, 2023a):

Tax Bracket	Income	Rate	Income Tax Formula
Tax Free	$0 - $18,200	$0	$\text{Income Tax} = \$0$
Tax Bracket 1	$18,201 - $45,000	16c of every dollar over $18,200	$\text{Income Tax} = (\text{Income} - \$18{,}200) * 0.16$
Tax Bracket 2	$45,001 - $100,000	$4,288 plus 30c of every dollar over $45,000	$\text{Income Tax} = ((\$45{,}000 - \$18{,}200) * 0.16) + ((\text{Income} - \$45{,}000) * 0.30)$

The DSP is not considered taxable income. Consequently, only employment income was included in the income tax calculation (ATO, 2023b).

3.2. Income Tax Offsets

Income tax offsets reduce the amount of tax payable. Tax offsets differ from taxable income deductions as the latter reduces the amount of taxable income before income tax payable is calculated (e.g., may move an individual into a lower tax bracket), whereas offsets are deducted from the amount of tax payable after the income tax has been calculated. In many cases, tax offsets are not refundable, that is, if the tax offset exceeds the amount of tax payable, the individual pays no income tax, but they do not receive the difference.

3.2.1. Seniors and Pensioners Tax Offset

Recipients of the DSP under the age-pension age with rebate income of less than $50,119 are eligible to receive the seniors and pensioners tax offset (SAPTO; ATO, 2023c). Rebate income includes reportable super contributions (i.e., employer or personal superannuation contributions other than super guarantee contributions), investment loss, and fringe benefits (ATO, 2023d). For the purposes of this simulation, it is assumed that income is equivalent to rebate income. Those with income of $32,279 or less, receive the maximum SAPTO of $2,230 (ATO, 2023c). As the SAPTO is a non-refundable tax offset, those with tax payable amounts less than the maximum SAPTO benefit (i.e., income tax payable on incomes of $32,137 or less is less than $2,230) effectively receive less SAPTO, however, they will pay no income tax. The SAPTO reduces by 12.5 cents for every dollar above $32,279.

Accordingly, the annual SAPTO benefit is calculated with the following formulas:

Income	Annual SAPTO Benefit Calculation
$0 - $18,200	$\text{SAPTO} = \$0$
$18,201 - $32,137	$\text{SAPTO} = \text{Income Tax}$
$32,138 - $32,279	$\text{SAPTO} = \text{Maximum SAPTO} = \$2{,}230$
$32,280 - $50,119	$\text{SAPTO} = \$2{,}230 - ((\text{Income} - \$32{,}279) * 0.125)$
$50,119 - $100,000	$\text{SAPTO} = \$0$

3.3. Medicare Levy

The Medicare Levy is an additional levy (2% of taxable income) that is separate to income tax (ATO, 2023e). Based on medical conditions or level of income, taxpayers may be eligible for an exemption or reduction of the Medicare Levy. For the purposes of this simulation, it is assumed that the DSP recipient is not eligible for a medical exemption (i.e., they were not a blind pensioner and/or are not entitled to full medical cover under Defence Force arrangements or Veterans' Affairs; ATO, 2023f).

3.3.1. Medicare Levy Reduction: Low Income Earners

The Medicare Levy is not payable if taxable income is $26,000 or less (ATO, 2024a). Those with taxable incomes between $26,001 and $32,500 are eligible for the Medicare Levy reduction. Specifically, the Medicare Levy is reduced to 10 cents on every dollar over $26,000 (*Medicare Levy Act 1986* (Cth) s. 7). The full Medicare Levy (i.e., 2% of taxable income) is payable for taxable incomes of $32,501 or more. Accordingly, the following rates were used to determine the Medicare Levy on incomes between $0 and $100,000:

Income	Annual Medicare Levy Calculation
$0 - $26,000	$\text{Medicare Levy: All} = \$0$
$26,001 - $32,500	$\text{Medicare Levy: All} = ((\text{Income} - \$26{,}000) * 0.1)$
$32,501 - $100,000	$\text{Medicare Levy: All} = \text{Income} * 0.02$

3.3.2. Medicare Levy Reduction: SAPTO

The Medicare Levy reduction is greater for those eligible for the SAPTO. Specifically, the Medicare Levy is not payable for those eligible for the SAPTO with taxable income of $41,089 or less (ATO, 2024a). For those with taxable incomes between $41,090 and $50,119, the Medicare Levy is reduced to 10 cents on every dollar over $41,089. The full Medicare Levy (i.e., 2% of taxable income) is payable for taxable incomes of $50,120 or more. Accordingly, the following rates were used to determine the Medicare Levy on incomes between $0 and $100,000:

Income	Annual Medicare Levy Calculation
$0 - $41,089	$\text{Medicare Levy: SAPTO} = \$0$
$41,090 - $50,119	$\text{Medicare Levy: SAPTO} = ((\text{Income} - \$41{,}089) * 0.1)$
$50,120 - $100,000	$\text{Medicare Levy: SAPTO} = \text{Income} * 0.02$

3.3.3. Net Medicare Levy Reduction

To determine the Medicare Levy reduction for recipients of DSP, the following formula was used:

$$\text{Medicare Levy Reduction} = \text{Medicare Levy: All} - \text{Medicare Levy: SAPTO}$$

3.4. Medicare Levy Surcharge

The Medicare Levy Surcharge is an additional levy for those with higher incomes that do not hold appropriate private health cover. For the 2024/2025 financial year, Base Tier incomes (i.e., taxable income between $0 - $97,000) pay no Medicare Levy Surcharge, Tier 1 incomes (i.e., $97,001-$113,000) pay 1%, Tier 2 incomes (i.e., $113,001 - $151,000) pay 1.25%, and Tier 3 incomes $151,001 or more) pay 1.5% (ATO, 2024b). As the simulation only covers incomes up to $100,000, only incomes between $97,001 and $100,000 fall within the Tier 1 threshold, and it is assumed that they did not hold private health cover.

Consequently, the following formulas were used:

Income	Annual Medicare Levy Calculation
$0 - $97,000	$\text{Medicare Levy Surcharge} = \$0$
$97,001 - $100,000	$\text{Medicare Levy Surcharge} = (\text{Income} * 0.01)$

3.5. Net Income

The figure displays income net of tax and levies. Net income is divided into three categories, net income for the counterfactual case (i.e., an individual not receiving DSP), SAPTO (formula at 3.2.1), and Medicare Levy Reduction (formula at 3.3.3).

3.5.1. Net Income Formula

To calculate the net income for the counterfactual case, the following formula is used:

$$\text{Net Income} = \text{Income} - \text{Income Tax} - \text{Medicare Levy: All} - \text{Medicare Levy Surcharge}$$

4. PENSIONER CONCESSION CARD

DSP recipients are eligible for the Pensioner Concession Card (PCC; Services Australia, 2023), which enables them to receive concessions (e.g., social transfers in kind; Australian Bureau of Statistics [ABS], 2022) for utilities, health, transport, and entertainment (ConcessionsWA, n.d.). As income increases and DSP recipients are no longer eligible the DSP (i.e., fortnightly income exceeds $2,397.40; Services Australia, 2024c), losing the PCC and associated benefits can result in an increase in cost-of-living expenses. Accordingly, these concessions are a component of final income (ABS, 2022).

It should be noted that DSP recipients can keep their PCC for 2 years if their employment situation reduces their DSP payments to $0 (Australian Government, 2024). However, for the purposes of this simulation, it is assumed that all benefits associated with the DSP are lost when income rises to the point where the recipient is no longer eligible for DSP.

4.1. Medical Concessions

4.1.1. Medical Appointments

As of 1 November 2023, only 10.3% of General Practitioner (GP) clinics in WA bulk-bill all adults (without concessions) for a standard consultation (Medicare Benefits Schedule Item 23; Cleanbill, 2024). Further, the average out-of-pocket cost of a GP appointment in WA is $42.08 (Department of Health and Aged Care, 2024). However, many GPs will bulk-bill patients who hold a PCC. For example, 80.5% of people with an intellectual disability reported they had seen a GP in the last 12 months and had no out-of-pocket expenses (Australian Institute of Health and Welfare, 2022). On average, DSP recipients have 7.7 GP visits a year (Collie et al., 2021). In light of the above, the following formulas were used to determine the benefit (and loss of benefit) associated with GP bulk-billing at different income levels:

- Mean number of GP visits per year for DSP recipients: 7.7
- Mean out-of-pocket cost: $42.08
- Bulk-billing rate for people with intellectual disability: 80.5%

Income	Annual GP Benefit Calculation
$0 - $63,351.60	$\text{GP Benefit} = 42.08 * .805 * 7.7 = \$260.83$
$63,352- $100,000	$\text{GP Benefit} = \$0$

Note. OOP = Out-of-pocket

4.1.1.1. GP Benefit Lost

To calculate the amount of GP Benefit lost at each level of income, the following formula is used:

$$\text{GP Benefit Lost} = \text{Maximum GP Benefit} - \text{GP Benefit at Income Level}$$

4.1.2. Pharmaceutical Benefits Scheme

The Pharmaceutical Benefits Scheme (PBS) subsidises a number of prescription medications. For those with a PCC, each medicine on the PBS costs $7.70 and for those without a PCC, this cost rises to $31.60 (Services Australia, 2024d). In addition to the PBS subsidy, there are PBS Safety Net Thresholds for those who have high out-of-pocket costs for PBS medicines in a calendar year (Services Australia, 2024d). For those with a PCC, the 2024 PBS Safety Net threshold is $277.20 and compared to $1,647.90 for general patients (Services Australia, 2024d). Once the PBS Safety Net threshold is met, PBS medicines are free for those with a PCC or $7.70 each for general patients (Services Australia, 2024d).

Over a two-week period, DSP recipients on average used 3.9 different medications (Collie et al., 2021). For the purposes of the simulation, it was assumed that all medications were covered by the PBS and that each medication had a one month supply (i.e., on average, 46.8 medications were purchased each year).

In light of the above, the following was used to determine the benefit (and loss of benefit) associated with the PBS at different income levels:

- Mean number of medicines per year for DSP recipients: $3.9 \times 12 = 46.8$
- Mean out-of-pocket cost without PCC: $46.8 \times 31.60 = \$1{,}478.88$
- Mean out-of-pocket cost with PCC: $277.20

Income	Annual PBS Benefit Calculation
$0 - $63,351.60	$\text{PBS Benefit} = (31.60 * 46.8) - 277.20 = \$1{,}201.68$
$63,352- $100,000	$\text{PBS Benefit} = \$0$

Notably, based on the usage above, DSP recipients would not meet the PBS Safety Net Threshold for general patients. Thus, those with incomes above $62,332.40 are paying $31.60 for each medication.

4.1.2.1. PBS Benefit Lost

To calculate the amount of PBS Benefit lost at each level of income, the following formula is used:

$$\text{PBS Benefit Lost} = \text{Maximum PBS Benefit} - \text{PBS Benefit at Income Level}$$

4.1.3. Dental Health Service

On average, DSP recipients go to the dentist 1.1 times each year (Collie et al., 2021). Those who have a PCC are eligible for a subsidy of 50% or 75% off the cost of the treatment and some Disability Services Commission Clients are eligible for fully covered dental treatment (Dental Health Services, n.d.; Parliament of Australia, 2023). The fee schedule is based on the Commonwealth Department of Veterans' Affairs (DVA) schedule of dental fees (Parliament of Australia, 2023). For the purposes of the simulation, it is assumed that DSP recipients receive a 75% subsidy. With respect to the cost of a typical dental appointment, the DVA schedule (DVA, 2024) and the Australian Dental Association Dental Fees Survey (Australian Dental Association, 2023) fees associated with items 012 (periodic oral examination), 022 (x-ray), 114 (removal of calculus), and 531 (small filling for a posterior tooth). As the Dental Fees Survey asked for fees as at 1 July 2022, the WA mean figures were adjusted for December 2023 dollars (ABS, 2024).

Item	Service	DVA Fee	Australian Dental Association Fee
012	Periodic oral examination	$49.65	$58.08
022	X-Ray	$42.10	$45.04
114	Removal of calculus	$101.90	$113.16
531	Adhesive 1 surface - posterior	$140.15	$173.43
Total		$333.80	$389.71
Adjust for CPI (136.1/126.1)			$420.61
Total OOP Cost		$83.45	$420.61

Note. OOP = Out-of-pocket

The dental benefit associated with the DSP was calculated as the difference between the out-of-pocket costs for a general patient and the out-of-pocket costs for a DSP recipient. Accordingly, the following was used to calculate the dental benefit:

- Mean number of Dentist visits per year for DSP recipients: 1.1
- Mean out-of-pocket cost without PCC:$420.61 \times 1.1 = \$462.67$
- Mean out-of-pocket cost with PCC: $(333.80 \times .25) \times 1.1 = \$91.80$

Income	Annual Dental Benefit Calculation
$0 - $63,351.60	$\text{Dental Benefit} = (420.61 - 83.45) * 1.1 = \$370.88$
$63,352- $100,000	$\text{Dental Benefit} = \$0$

4.1.3.1. Dental Benefit Lost

To calculate the amount of Dental Benefit lost at each level of income, the following formula is used:

$$\text{Dental Benefit Lost} = \text{Maximum Dental Benefit} - \text{Dental Benefit at Income Level}$$

4.1.4. Ambulance Rebate

DSP recipients who hold a PCC are entitled to a 50% rebate for medically necessary ambulance transport services (St John WA, n.d.). The service fee for life-threatening (Priority 1) and urgent (Priority 2) ambulance is $1,133 (St John WA, n.d.). On average, DSP recipients have 0.6 emergency presentations to hospital each year (Collie et al., 2021). Based on an analysis of transport mode of arrival at the emergency department for people with intellectual disabilities (Whittle et al., 2024), it is assumed that 42.62% of these admissions involved ambulance transport. Consequently, the simulation assumes that there are 0.26 ambulance transport per year. Accordingly, the following was used to calculate the ambulance rebate:

- Mean number of emergency department presentations per year for DSP recipients: 0.6
- Proportion of emergency department presentations by ambulance: $(301 + 369)/(619 + 953) = 0.43$
- Mean ambulance use per year for DSP recipients: $0.6 \times 0.43 = 0.26$
- Mean out-of-pocket cost without PCC: $1{,}133 \times 0.26 = \$289.74$
- Mean out-of-pocket cost with PCC: $1{,}133 \times 0.26 \times 0.50 = \$144.87$

Income	Annual Ambulance Rebate Calculation
$0 - $63,351.60	$\text{Ambulance Rebate} = 1{,}133 * 0.26 \times 0.50 = \$144.87$
$63,352- $100,000	$\text{Ambulance Rebate} = \$0$

4.1.4.1. Ambulance Rebate Lost

To calculate the amount of Ambulance Rebate lost at each level of income, the following formula is used:

$$\text{Ambulance Rebate Lost} = \text{Maximum Ambulance Rebate} - \text{Ambulance Rebate at Income Level}$$

4.2. Public Transport Concessions

Transperth public transport concessions for DSP recipients include unrestricted travel passes, free travel, and discounted travel. Unrestricted Half-Yearly Tickets may be issued to recipients of DSP (with a PCC) who are employed in a supported employment setting or those who are not engaged in supported employment but have a physical or intellectual disability that inhibits their ability to use the Transperth ticketing system (Transperth, 2018). The unrestricted ticket permits the ticketholder to travel on Transperth services free of charge at all times of the day. Transperth notes that they may grant unrestricted tickets to those with disabilities but who do not meet the eligibility criteria at their discretion.

For those with a Pensioner SmartRider, most Transperth services are free, except for peak week-day times (between 6.00am and 9.00am or 3.30pm and 7.00pm, Monday to Friday) where a concession fare applies (Transperth, n.d.a). For the purposes of the simulation, it is assumed that the DSP recipient makes three return trips per week using public transport with three rides taken during off-peak times, and three rides where the concession fare applies. Further, it is assumed that the 2 Zone SmartRider (with 10% discount) fare of $2.07 applies for the latter three rides (Transperth, n.d.b). The equivalent fare for a non-concession card holder is $4.59 (Transperth, n.d.b). Accordingly, the following were used to determine the Transperth public transport concession:

- Number of rides per week: 3 peak, 3 off-peak
- Annual out-of-pocket cost without PCC: $52 \times 6 \times 4.59 = \$1{,}432.08$
- Mean out-of-pocket cost with PCC: $52 \times 3 \times 2.07 = \$322.92$

Income	Annual Transperth Concession Calculation
$0 - $63,351.60	$\text{Transperth Concession} = 1{,}432.08 - 322.92 = \$1{,}109.16$
$63,352- $100,000	$\text{Transperth Concession} = \$0$

4.2.1. Public Transport Concession Lost

To calculate the amount of Transperth concession lost at each level of income, the following formula is used:

$$\text{Transperth Concession Lost} = \text{Maximum Transperth Concession} - \text{Transperth Concession at Income Level}$$

4.3. Energy Assistance

The WA Government Energy Assistance Program supports DSP recipients with a PCC by paying $326.32 of their energy bill each year (Synergy, n.d.).

Income	Annual Energy Assistance Calculation
$0 - $63,351.60	$\text{Energy Assistance} = \$326.32$
$63,352- $100,000	$\text{Energy Assistance} = \$0$

4.3.1. Energy Assistance Lost

To calculate the amount of Energy Assistance lost at each level of income, the following formula is used:

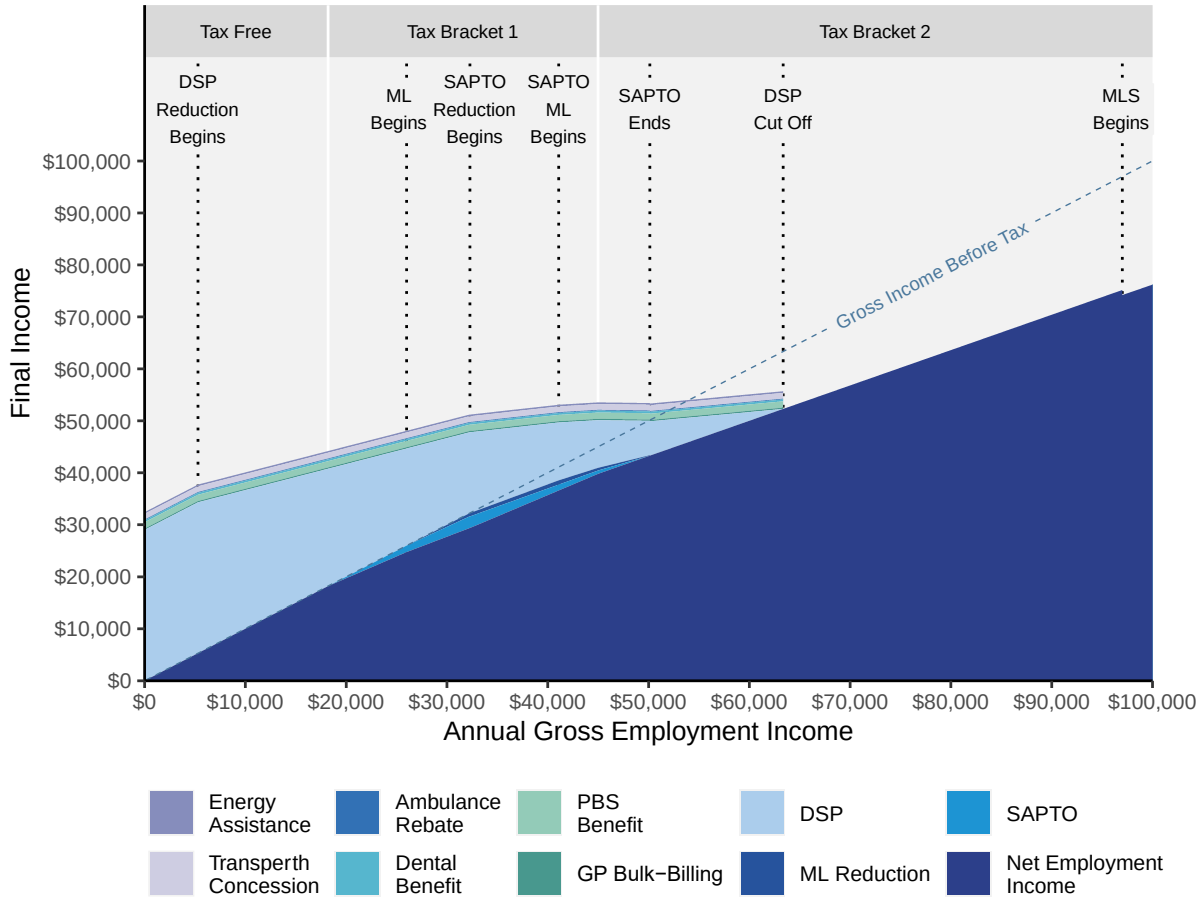
$$\text{Energy Assistance Lost} = \text{Maximum Energy Assistance} - \text{Energy Assistance at Income Level}$$

5. FINAL INCOME

Final income takes into account income from employment, government pensions (e.g., DSP), and PCC benefits and discounts, as well as taxes and levies, and tax offsets. This analysis can identify welfare traps, that is, points at which someone would end up worse off as their income from employment increases, due to lost benefits associated with lower income levels.

Figure 1 presents the components of final income across levels of pre-tax income from employment from $0 to $100,000 per year. Each component has been estimated with the formulas detailed in Sections 2 to 4.

Figure 1 Components of Final Income ($ per year, 2024 dollars)



Note. DSP = Disability Support Pension; ML = Medicare Levy; MLS = Medicare Levy Surcharge; SAPTO = Seniors and Pensioners Tax Offset; PBS = Pharmaceutical Benefits Scheme; GP = General Practitioner; DSP Reduction Begins = income level where DSP is reduced; ML Begins = income level where ML is payable (for those not eligible for SAPTO); SAPTO Reduction Begins = income level where SAPTO is reduced; SAPTO ML Begins = income level where ML is payable for SAPTO recipients; MLS Begins = income level where MLS is payable.

As can be seen in Figure 1, final income increases with every incremental dollar earned up until employment income reaches the second tax bracket at $45,000 per year (final income = $53,550.29), at which point final income starts reducing until employment income reaches $50,121 per year (final income = $53,323.32). It is not until employment income reaches $51,382 per year that final income (i.e., $53,550.30) returns to the level it was when employment income was $45,000 per year. At this point, final income increases up until DSP is cut off when employment

income exceeds $63,351 per year. Between $63,351 and $63,352, final income decreases from $55,704.72 to $52,291.36 as the remainder of the PCC benefits associated with the DSP are lost. In fact, the final income (i.e., $52,291.36) associated with an annual employment income of $63,352 is the same level as the final income (i.e., $52,291.29) when employment income is $37,325. That is, once DSP and benefits are lost, the individual is no better off (financially) than when they were earning almost $30,000 less from employment per year. It is not until income from employment increases to $68,372 that final income (i.e., $55,704.96) returns to the level it was before DSP was lost.

6. EFFECTIVE TAX RATE

The Effective Tax Rate (ETR) is estimated by dividing the sum of the taxes, levies, lost DSP, and lost benefits with the sum of the income, DSP, and received benefits. The ETR is essentially the proportion of income from all sources (i.e., employment, income supplements, and benefits) that is effectively taxed through income tax and loss of benefits.

Benefits (as detailed in Section 4) for each income level were summed with the following formula:

$$\begin{aligned}\text{Benefits} = {} & \text{GP Benefit} + \text{PBS Benefit} + \text{Dental Benefit} + \text{Ambulance Rebate} \\ & + \text{Transperth Concession} + \text{Energy Assistance}\end{aligned}$$

Similarly, lost benefits for each income level were estimated with the following formula:

$$\begin{aligned}\text{Lost Benefits} = {} & \text{GP Benefit Lost} + \text{PBS Benefit Lost} + \text{Dental Benefit Lost} + \text{Ambulance Rebate Lost} \\ & + \text{Transperth Concession Lost} + \text{Energy Assistance Lost}\end{aligned}$$

To estimate taxes and levies at each level for a DSP recipient, the following formula was used:

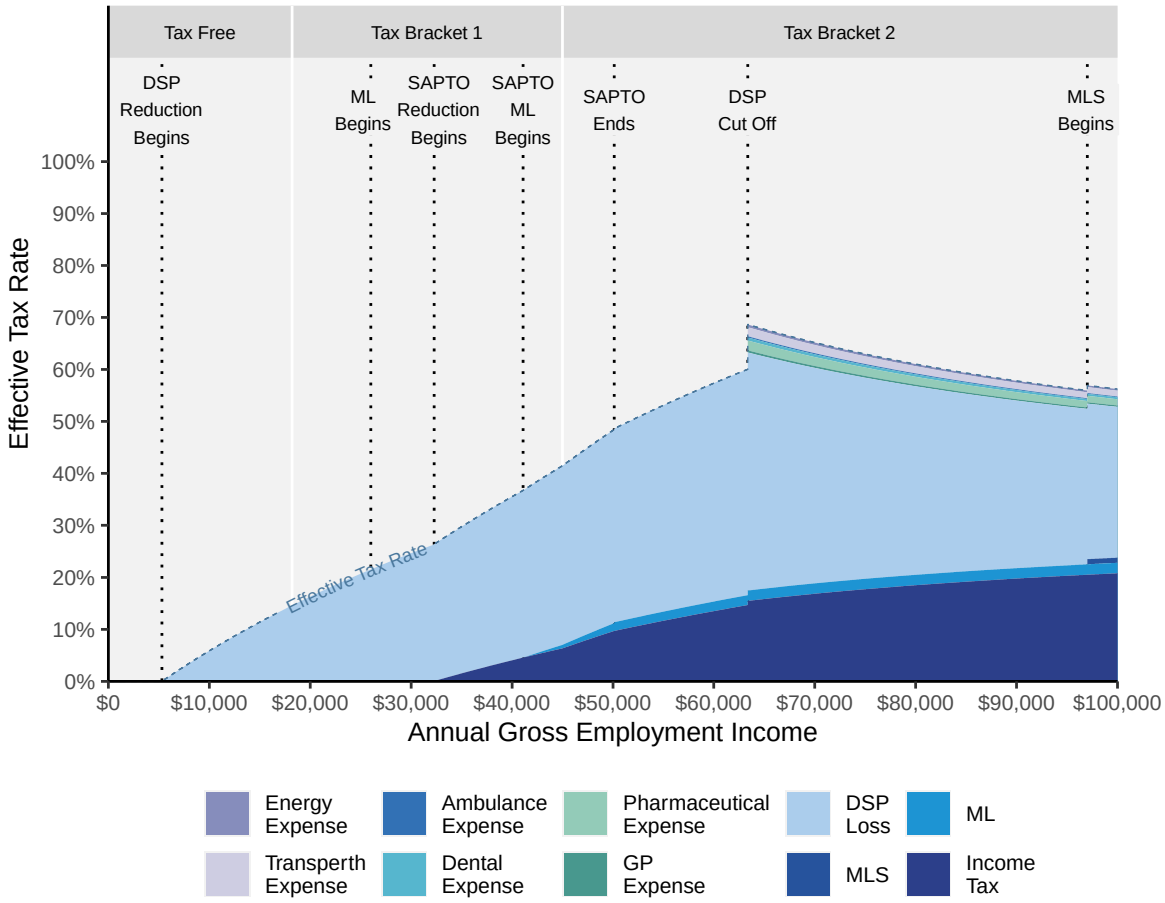
$$\text{Taxes and Levies} = \text{Income Tax} - \text{SAPTO} + \text{Medicare Levy: SAPTO} + \text{Medicare Levy Surcharge}$$

In line with the above, the ETR was estimated with the following formula:

$$\text{ETR} = \frac{(\text{Taxes and Levies} + \text{DSP Lost} + \text{Lost Benefits})}{(\text{Income} + \text{DSP} + \text{Benefits})}$$

Figure 2 presents the ETR across employment income levels between $0 and $100,000 per year. As can be seen in Figure 2, the loss of DSP is the largest component of effective tax. Further, due to income tax offsets, income taxation is not applicable until employment income reaches $32,138 per year. Finally, the ETR peaks at 68.66% when annual employment income reaches $63,352. This represents the full loss of the DSP (i.e., $29,023.80) at 45.81% of $63,352; the loss of all associated benefits including GP benefit (i.e., $260.83; 0.41%), PBS (i.e., $1,201.68; 1.90%), dental benefits (i.e., $370.88; 0.59%), ambulance rebate (i.e., $144.87; 0.23%), Transperth concessions (i.e., $1,109.16; 1.75%) and energy assistance (i.e., $326.32; 0.52%); income tax (i.e., $9,793.60; 15.46%); and the Medicare levy (i.e., $1267.04; 2.0%).

Figure 2 Effective Tax Rate



Note. DSP = Disability Support Pension; ML = Medicare Levy; MLS = Medicare Levy Surcharge; SAPTO = Seniors and Pensioners Tax Offset; GP = General Practitioner; DSP Reduction Begins = income level where DSP is reduced; ML Begins = income level where ML is payable (for those not eligible for SAPTO); SAPTO Reduction Begins = income level where SAPTO is reduced; SAPTO ML Begins = income level where ML is payable for SAPTO recipients; MLS Begins = income level where MLS is payable.

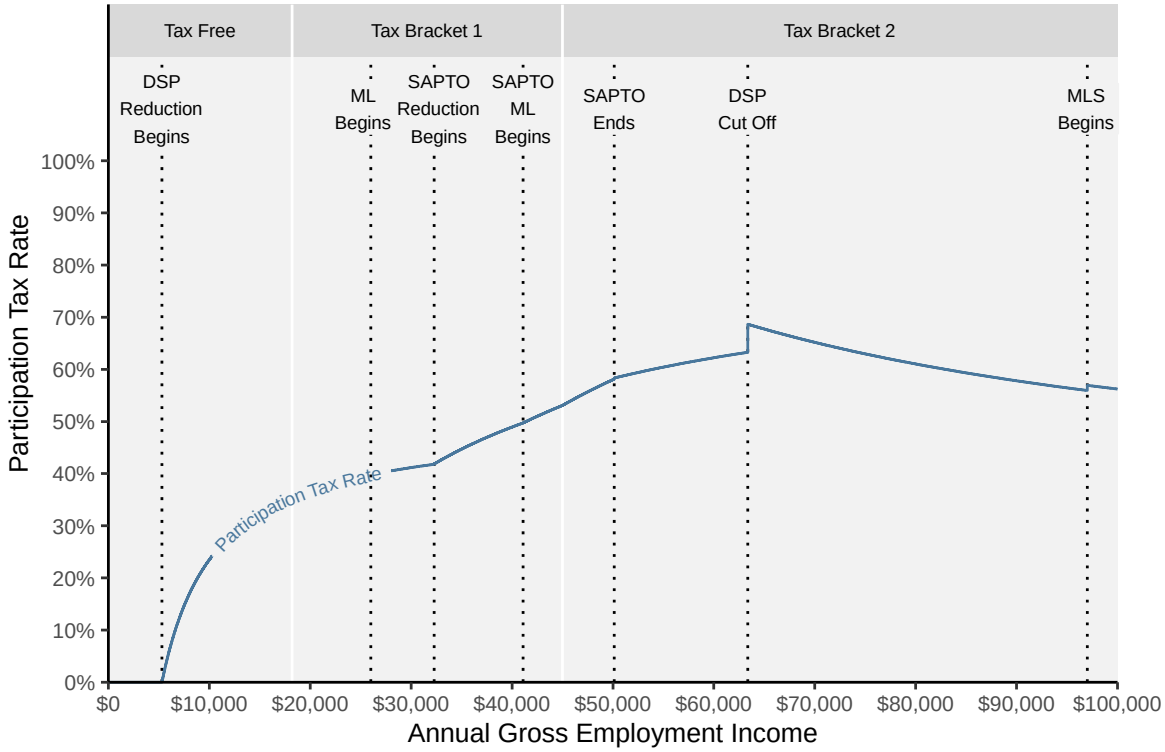
7. PARTICIPATION TAX RATE

The Participation Tax Rate (PTR) illustrates the cost of participating in the labour force at each annual employment income level compared to when employment income is $0. The PTR is estimated by dividing the sum of the taxes, levies, lost DSP, and lost benefits with income. This rate is similar to the ETR except the PTR is estimated as a proportion of employment income. Accordingly, the following formula is used:

$$\text{PTR} = \frac{(\text{Taxes and Levies} + \text{DSP Lost} + \text{Lost Benefits})}{\text{Income}}$$

Figure 3 presents the total PTR. As can be seen in Figure 3, the PTR is much higher than the equivalent ETR in Figure 2 up until the DSP is cut off. This is because the denominator of the of PTR does not include income from DSP or in the form of PCC benefits, as it does in the ETR. As can be seen in Figure 3, there is no PTR until employment income reaches $5,304. If an individual was to earn $15,000 from employment the PTR would be 32.32% despite having an income level below the income tax free threshold, due to the loss of DSP (i.e., $4,848). Stated alternatively, an individual was to earning $15,000 from employment is only $10,152 better off financially than if they were not to work at all.

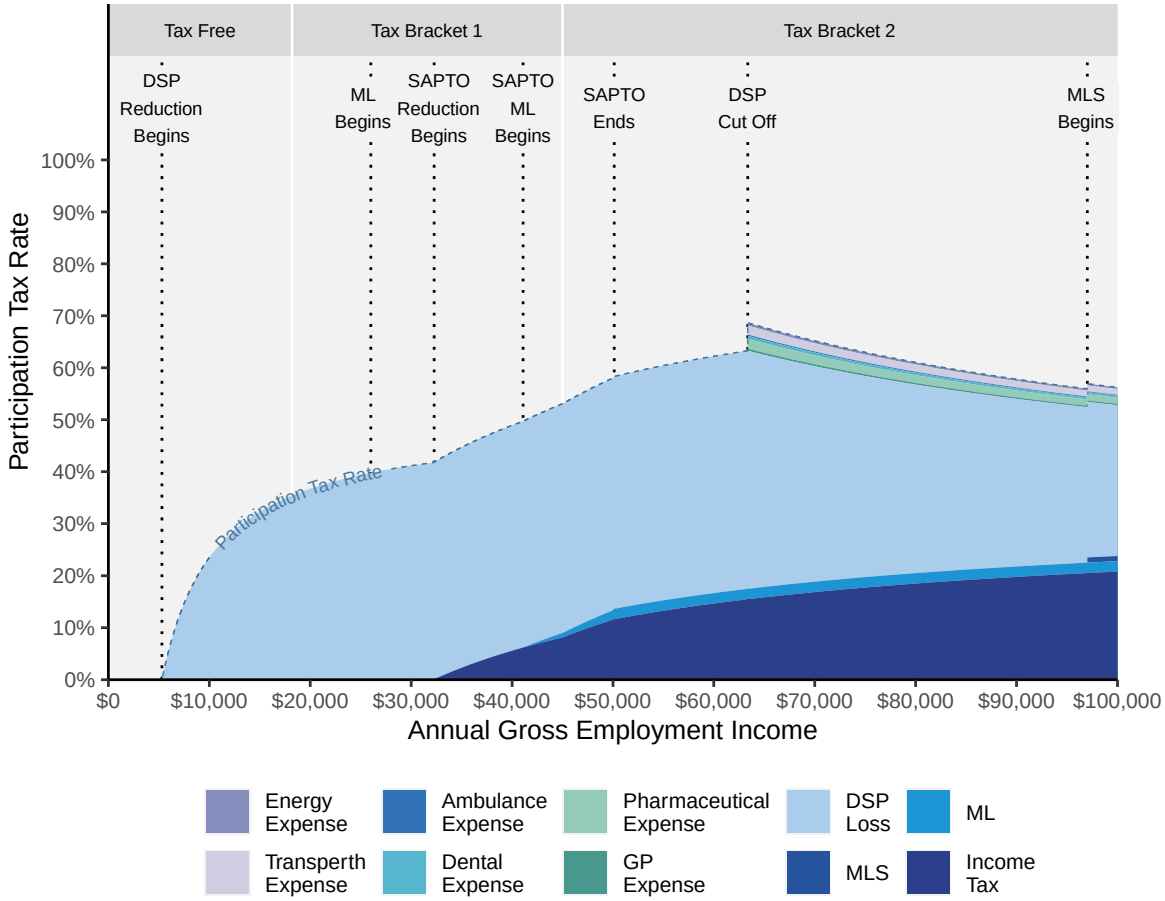
Figure 3 Participation Tax Rate



Note. DSP = Disability Support Pension; ML = Medicare Levy; MLS = Medicare Levy Surcharge; SAPTO = Seniors and Pensioners Tax Offset; DSP Reduction Begins = income level where DSP is reduced; ML Begins = income level where ML is payable (for those not eligible for SAPTO); SAPTO Reduction Begins = income level where SAPTO is reduced; SAPTO ML Begins = income level where ML is payable for SAPTO recipients; MLS Begins = income level where MLS is payable.

In Figure 4, the components of the PTR are illustrated. It can be seen that an individual with an annual income of $40,000 from employment has a PTR of 48.93%, meaning they are only financially better off by $20,428.88 compared to if they were not to work at all. The PTR at this income level is comprised of DSP loss of $17,348 (i.e., 43.37% of $40,000) and income tax at $2,223.13 (5.56%).

Figure 4 Components of Participation Tax Rate



Note. DSP = Disability Support Pension; ML = Medicare Levy; MLS = Medicare Levy Surcharge; SAPTO = Seniors and Pensioners Tax Offset; GP = General Practitioner; DSP Reduction Begins = income level where DSP is reduced; ML Begins = income level where ML is payable (for those not eligible for SAPTO); SAPTO Reduction Begins = income level where SAPTO is reduced; SAPTO ML Begins = income level where ML is payable for SAPTO recipients; MLS Begins = income level where MLS is payable.

8. EFFECTIVE MARGINAL TAX RATE

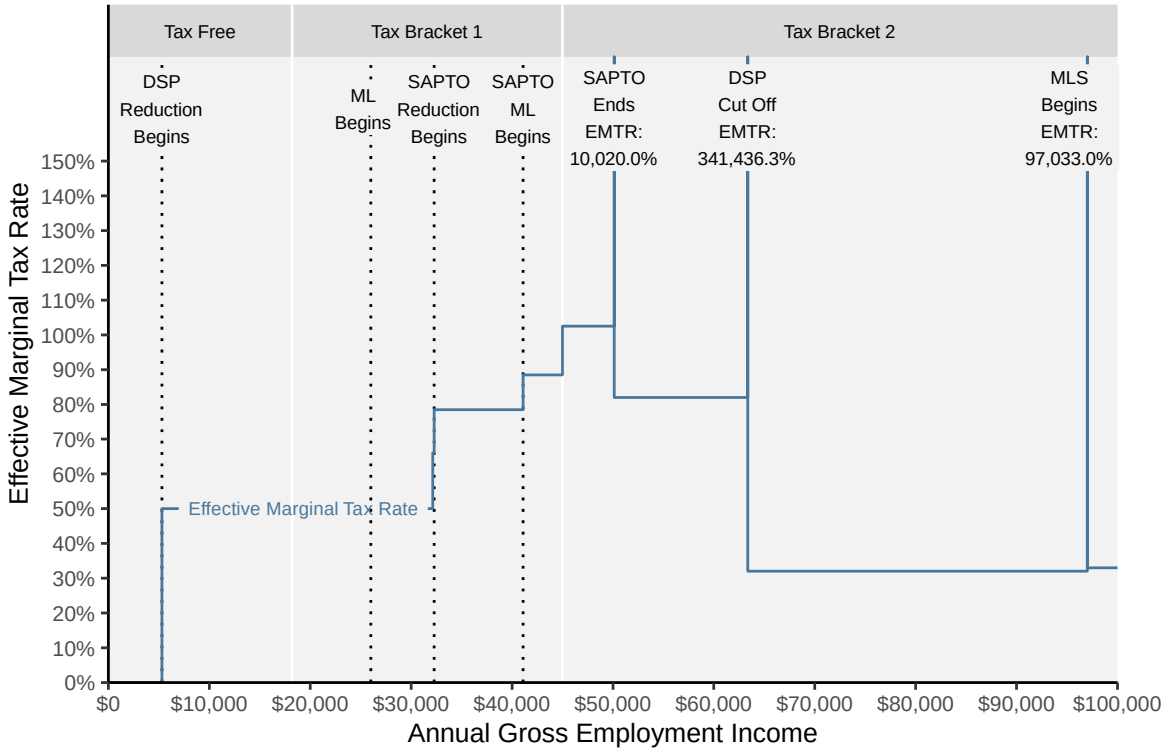
The effective marginal tax rate (EMTR) presents the marginal effective tax (i.e., loss due to income taxation and reduction of welfare benefit) for every incremental dollar of income (Ingles & Plunkett, 2016). The EMTR is estimated by dividing the difference between the sum of the taxes, levies, lost DSP, and lost benefits associated with the previous income level with and t the sum of the taxes, levies, lost DSP, and lost benefits associated with the current income level with the difference in income (i.e., $1).

Accordingly, the following formula is used:

$$\text{EMTR} = \frac{(\text{Taxes and Levies}_{T2} - \text{Taxes and Levies}_{T1}) + (\text{DSP Lost}_{T2-} - \text{DSP Lost}_{T1}) + (\text{Lost Benefits}_{T2} - \text{Lost Benefits}_{T1})}{1}$$

Figure 5 presents the EMTR for each level of annual employment income between $0 and $100,000. Each point demonstrates the proportion of the last dollar earned that is effectively taxed due to the income tax, levies, and loss of DSP and associated benefits incurred as a result of the increase in employment income by that dollar. While the PTR is the opportunity cost of labour force participation at a particular income level compared to $0, the EMTR is the opportunity cost of labour force participation at a particular income level compared to an income level of $1 less. As the increment used in Figure 5 is $1, the percentages can be easily converted to cents. Accordingly, where the EMTR exceeds 100%, this indicates that the effective marginal tax paid exceeds $1 and the individual is now in a worse position financially than they would be if they were to earn $1 less. In line with the ETR and PTR, it can be seen in Figure 5 that the EMTR is 0% when annual employment income is between $1 and $5,304. Between $5,305 and $32,137 the EMTR is 50% due to the reduction of DSP, meaning every additional dollar earned in this range is effectively taxed by 50c. Stated alternatively, for every additional dollar an individual earns within this range, they are only 50c better off financially. As can be seen in Figure 5, the EMTR fluctuates across levels of employment income. However, the underlying components of these fluctuations are better illustrated in Figure 6.

Figure 5 Effective Marginal Tax Rate

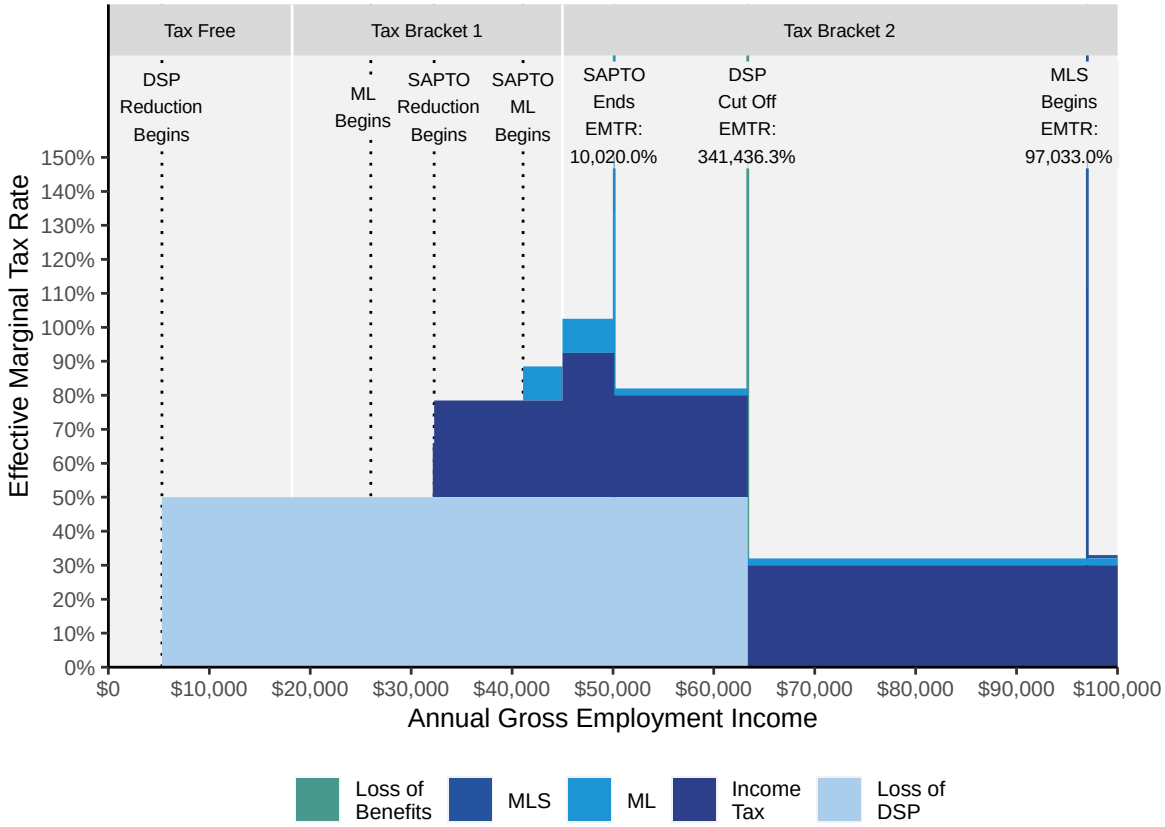


Note. DSP = Disability Support Pension; ML = Medicare Levy; MLS = Medicare Levy Surcharge; SAPTO = Seniors and Pensioners Tax Offset; DSP Reduction Begins = income level where DSP is reduced; ML Begins = income level where ML is payable (for those not eligible for SAPTO); SAPTO Reduction Begins = income level where SAPTO is reduced; SAPTO ML Begins = income level where ML is payable for SAPTO recipients; MLS Begins = income level where MLS is payable.

Figure 6 illustrates the components of the EMTR for each employment income level between $1 and $100,000 per year. As can be seen in Figure 6, the EMTR increases to 66% between $32,138 and $32,279 as taxable income exceeds the maximum SAPTO ($2,230) and each incremental dollar is subject to the income tax (i.e., 16% or 16c). At $32,280, the SAPTO reduction begins increasing the EMTR to 78.5% as with each dollar earned, SAPTO reduces by 12.5c which effectively increases the marginal income tax to 28.5%. That is, as employment income increases from $32,280 to $32,281, only 11.5c retained (i.e., final income is $51,206.6175 and $51,206.8325, respectively). This continues until employment income reaches $41,090 and the Medicare Levy is payable (EMTR: 88.5%).

As can be seen in Figure 6, employment income moves into tax bracket 2, there are a number of instances where the EMTR exceeds 100%. Between $45,001 and $50,119, the EMTR is 102.5%, which is consistent with the declining income for the same range depicted in Figure 1. Specifically, every dollar earned in this range actually decreases final income by 2.5c. The three largest EMTR peaks occur when the SAPTO eligibility and associated Medicare Levy reduction ends (EMTR: 10,020.0% or $100.20), DSP is cut off and associated benefits are lost (EMTR: 341,436.3% or $3,414.36), and the Medicare Levy Surcharge takes effect (EMTR: 97,0330% or $9,703.30).

Figure 6 Components of Effective Marginal Tax Rate



Note. DSP = Disability Support Pension; ML = Medicare Levy; MLS = Medicare Levy Surcharge; SAPTO = Seniors and Pensioners Tax Offset; Benefits Loss includes loss of concessions related to general practitioner appointments, dental appointments, pharmaceuticals, ambulance transport, public transport, and electricity; DSP Reduction Begins = income level where DSP is reduced; ML Begins = income level where ML is payable (for those not eligible for SAPTO); SAPTO Reduction Begins = income level where SAPTO is reduced; SAPTO ML Begins = income level where ML is payable for SAPTO recipients; MLS Begins = income level where MLS is payable.

9. REFERENCES

Australian Bureau of Statistics. (2022). *Income: Survey of Income and Housing, User Guide, Australia*. https://www.abs.gov.au/statistics/detailed-methodology-information/concepts-sources-methods/survey-income-and-housing-user-guide-australia/2019-20/income

Australian Bureau of Statistics. (2024). TABLES 1 and 2. CPI: All Groups, Index Numbers and Percentage Changes (December Quarter 2023). *Consumer Price Index, Australia*. https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/dec-quarter-2023#data-downloads

Australian Dental Association. (2023). *Dental Fees Survey Private Practice Members.* https://ada.org.au/getmedia/c7a55475-0494-4b36-8076-e895a98cf3f8/ADA_Survey_2022-ADA-Dental-Fees-Survey-Report.pdf

Australian Government. (2024). Social Security Guide: 1.2.8.20 Pensioner concession card (PCC) – description. *Guides to Social Policy Law.* https://guides.dss.gov.au/social-security-guide/1/2/8/20

Australian Institute of Health and Welfare. (2022). Table ACCE88: People aged 15–64 with disability who saw a family doctor or GP in the last 12 months, by whether had out-of-pocket expenses(a)(b) and disability group, 2017. *Data tables: People with disability in Australia 2022 – Access to health services*. https://www.aihw.gov.au/getmedia/4c062d51-779c-4de9-a019-6cdec73135e3/aihw-dis-72-2022-access-to-health-services.xlsx.aspx

Australian Taxation Office. (2023a). *Tax rates – Australian resident*. https://www.ato.gov.au/tax-rates-and-codes/tax-rates-australian-residents

Australian Taxation Office. (2023b). *Government payments and allowances*. https://www.ato.gov.au/individuals-and-families/income-deductions-offsets-and-records/income-you-must-declare/government-payments-and-allowances#ato-Taxfreegovernmentpensionsorbenefits

Australian Taxation Office. (2023c). *Seniors and pensioners tax offset*. https://www.ato.gov.au/individuals-and-families/income-deductions-offsets-and-records/tax-offsets/seniors-and-pensioners-tax-offset

Australian Taxation Office. (2023d). *Rebate income.* https://www.ato.gov.au/individuals-and-families/income-deductions-offsets-and-records/income-tests#Rebateincome

Australian Taxation Office. (2023e). *What is the Medicare levy?.* https://www.ato.gov.au/individuals-and-families/medicare-and-private-health-insurance/medicare-levy/what-is-the-medicare-levy

Australian Taxation Office. (2023f). *Medical exemption from Medicare levy?.* https://www.ato.gov.au/individuals-and-families/medicare-and-private-health-insurance/medicare-levy/medicare-levy-exemption/medical-exemption-from-medicare-levy

Australian Taxation Office. (2024a). *Medicare levy reduction or exemption.* https://www.ato.gov.au/individuals-and-families/your-tax-return/instructions-to-complete-your-tax-

return/paper-tax-return-instructions/2024/tax-return/medicare-levy-questions-m1-m2/m1-medicare-levy-reduction-or-exemption-2024

Australian Taxation Office. (2024b). *Medicare levy surcharge income, thresholds and rates.* https://www.ato.gov.au/individuals-and-families/medicare-and-private-health-insurance/medicare-levy-surcharge/medicare-levy-surcharge-income-thresholds-and-rates#ato-Incomethresholdandrates202425

Cleanbill. (2024). *Blue Report: National General Practitioner Listings*. https://cleanbill.com.au/wp-content/uploads/2024/01/Cleanbill-Blue-Report-January-2024-Updated.pdf

Collie, A., Sheehan, L., & McAllister, A. (2021). Health service use of Australian unemployment and disability benefit recipients: a national, cross-sectional study. *BMC Health Services Research*, *21*, 1-14. https://doi.org/10.1186/s12913-021-06255-0

ConcessionsWA. (n.d.). *Pensioner Concession Card*. https://concessions.communities.wa.gov.au/Pages/SearchResults.aspx?CardType=Pensioner%20Concession%20Card&termId=2d47ab6f-0ea7-4b53-a533-a12d8e998470

Department of Health and Aged Care. (2024). Medicare statistics – year-to-date summary tables (July to December 2023-24) [Data set]. *Medicare statistics collection*. https://www.health.gov.au/resources/publications/medicare-statistics-year-to-date-summary-tables-july-to-december-2023-24?language=en

Department of Veterans Affairs. (2024). *Fee Schedule of Dental Services for Dentists and Dental Specialists.* https://www.dva.gov.au/sites/default/files/2024-01/dentalfees-1-jan-2024.pdf

Dental Health Services. (n.d.). *Special services*. https://www.dental.wa.gov.au/Dental-Services/Special-services/

Ingles, D., & Plunkett, D. (2016). *Effective marginal tax rates*. Australian National University. Tax and Transfer Policy Unit, Canberra.-(TTPI Policy Brief 1/2016). https://taxpolicy.crawford.anu.edu.au/files/uploads/taxstudies_crawford_anu_edu_au/2016-08/ingles_plunkett_policy_brief_1_2016_last.pdf

Medicare Levy Act 1986 (Cth). http://classic.austlii.edu.au/au/legis/cth/consol_act/mla1986131/s7.html

Parliament of Australia. (2023). *Select Committee into the Provision of and Access to Dental Services in Australia: Interim Report.* The Senate. https://parlinfo.aph.gov.au/parlInfo/download/committees/reportsen/RB000080/toc_pdf/Interimreport.pdf

Services Australia. (2024a). *Who can get it.* https://www.servicesaustralia.gov.au/who-can-get-disability-support-pension?context=22276

Services Australia. (2024b). *Payment rates.* https://www.servicesaustralia.gov.au/payment-rates-for-disability-support-pension?context=22276

Services Australia. (2024c). *Income test.* https://www.servicesaustralia.gov.au/income-test-for-disability-support-payment?context=22276

Services Australia. (2024d). *PBS Safety Net thresholds.* https://www.servicesaustralia.gov.au/pbs-safety-net-thresholds?context=22016

Services Australia. (2023). *Who can get a card*. https://www.servicesaustralia.gov.au/who-can-get-pensioner-concession-card?context=22006

St John WA. (n.d.). *Ambulance fees*. https://stjohnwa.com.au/ambulance-and-health-services/metro-ambulance-service/metro-ambulance-fees

Synergy. (n.d.). *Rebates & concessions*. https://www.synergy.net.au/Your-home/Manage-account/Rebates-and-concessions

Transperth WA. (2018). *Application form for a Transperth Unrestricted Ticket.* https://www.transperth.wa.gov.au/Portals/0/Asset/Documents/SmartRider/Application%20for%20an%20Unrestricted%20Ticket.pdf

Transperth WA. (n.d.a). *Pensioner SmartRider.* https://www.transperth.wa.gov.au/SmartRider/Types-of-SmartRider/Pensioner-SmartRider

Transperth WA. (n.d.b). *Transperth Fares.* https://www.transperth.wa.gov.au/Tickets-Fares/Fares

Whittle, E. L., Fisher, K., Srasuekbul, P., & Trollor, J. (2024). The demographic and diagnostic profile of women with intellectual disability and mental health disorder in New South Wales and patterns of service use: A data linkage study. *British Journal of Learning Disabilities*. https://doi.org/10.1111/bld.12575

CENTRE for SOCIAL IMPACT

THE UNIVERSITY OF WESTERN AUSTRALIA