Transfer Facts

A knowledge-based series by the Tax and Transfer Policy Institute

What are effective marginal tax rates (EMTRs)?

Most income in Australia is subject to tax. Australia has a progressive personal income tax system, meaning that the marginal tax rate (the rate paid on an additional dollar of income) increases as taxable income increases **[see our related Tax Fact #19, "What is a progressive tax?"]**. This progressive income tax system is represented by a series of income tax brackets published by the Australian Taxation Office.

While the marginal tax rates of the personal income tax system are simple and transparent, there are a number of additional considerations that add complexity to the system – for example, the low income tax offset (LITO) and low and middle income tax offset (LMITO) reduce tax payable by low and middle income earners **[see our related Tax Fact #7, "Is the low income tax offset different to the tax-free threshold?"]**. At the same time, many Government transfer payments are assessed on household (rather than individual) income. Effective marginal tax rates (EMTRs) are used to analyse the interaction between Government transfers and the personal income tax system.

What is an EMTR?

EMTRs capture two things: (1) the percentage of a one dollar increase in income that is lost to income tax and (2) the amount of Government transfer payments lost due to income tests **[see our related Transfer Fact #1, "What are transfer payments?"]** [1]. That is, they tell us how much better off a taxpayer is – in income terms – once the payment of income tax and reduction of transfer payments are considered. The term "effective marginal tax rate" is somewhat misleading as higher EMTRs result from the combination of benefit (transfer payment) withdrawal and additional taxation.

Australia's transfer payment system is complex. Broadly, there are three main categories of transfer payments – pensions, allowances and family payments – with eligibility determined by a combination of income and/or assets tests. One example of a payment that is income tested is the JobSeeker payment – a fortnightly payment for those between 22 years old and the age of eligibility for the Age Pension (currently, 66 years and 6 months), who are looking for or are unable to work for a short period of time.

Every individual faces different EMTRs because they are based on personal circumstances that determine the taxes a person pays and the transfers they receive, such as whether an individual has a child or has private health insurance. Since EMTRs vary by individual, it is difficult to develop policy to address particular areas of concern. This is illustrated by calculating EMTRs for a single individual on JobSeeker who does not have private health insurance.

How are EMTRs calculated?

Before analysing the impact of JobSeeker on an additional dollar of income, consider the simple case of an individual earning $30,000 per annum subject to income tax, the Medicare levy, LITO and LMITO. What is the EMTR of earning an extra dollar?

Table 1. EMTR without Jobseeker

Taxable income (a)	Income tax (b)	Medicare levy (c)	LITO (d)	LMITO (e)	Total income tax (f) = (b) + (c) - (d) - (e)
$30,000	$2,242.00	$600.00	$700.00	$675.00	$1,467.00
$30,001	$2,242.19	$600.02	$700.00	$675.00	$1,467.21

Comparing the difference between the first and second row of column (f) in Table 1, it is apparent that for this individual, earning an extra dollar of income results in 21 cents more tax. The EMTR is therefore 21%. Table 2 adds JobSeeker (as at 20 March 2022) into this calculation for the same individual. JobSeeker is income tested each fortnight and is phased out as an individual begins to earn more. Income taxes are levied on total income for the individual, including JobSeeker, so first it is necessary to calculate their taxable income.

Table 2. EMTR with Jobseeker

Income (a)	Jobseeker (b)	Taxable income (c)
$30,000	$1,325.80	$31,325.80
$30,001	$1,325.20	$31,326.20

Income tax (d)	Medicare levy (e)	LITO (f)	LMITO (g)	Total income tax (h) = (d) + (e) - (f) - (g)
$2,493.90	$626.52	$700.00	$675.00	$1,745.42
$2,493.98	$626.52	$700.00	$675.00	$1,745.50

The individual pays 8 cents more of income tax by earning an extra dollar of income (row 2 minus row 1 of column h). However, the individual also loses 60 cents of JobSeeker support when earning an extra dollar (row 2 minus row 1 of column b). Adding these together, 68c of benefit is lost by earning an extra dollar – the EMTR is therefore 68%.

This individual can have their EMTRs graphed as in Figure 1 (see page 4). The 'jumps' in EMTRs are explained by changes in the variables mentioned above – that is income tax brackets, Medicare levy, LITO, LMITO and changes in the amount of the JobSeeker payment. For example, the drop at $66,668 for both EMTRs is explained by the completed phase out of LITO (taxpayers earning above $66,667 no longer receive this offset when they earn an additional dollar of income) and the final jump up at $180,001 is explained by the 45% tax bracket being applied at that point (a higher marginal tax rate results in more tax per dollar).

Understandably, the EMTRs with and without JobSeeker intersect and remain identical once JobSeeker is fully phased out ($32,211). Prior to this point, the EMTR with JobSeeker is considerably greater, peaking at 72% at the slight kink in the graph (at income of $24,701) which coincides with the point at which the full Medicare levy is applied on total taxable income including JobSeeker.

There are some points at which the EMTR exceeds 100%. At these points, the individual is worse off since an additional dollar of income results in a loss of disposable income. For example, if this individual earns $90,001 dollars instead of $90,000, they lose $900.38 of disposable income (as the Medicare levy surcharge takes effect), representing an EMTR of 90,038%. EMTRs near or over 100% may induce strong behavioural responses which could include working less, choosing not to report income, or making additional tax deductions. These high EMTRs only exist over very small ranges of income and may not be relevant if individuals are able to increase their incomes by amounts exceeding one dollar.

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[1] Senate Economic References Committee. (2004). The structure and distributive effects of the Australian taxation system (pp. 25-48). Canberra.

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More information

Contact the director at robert.breunig@anu.edu.au | Contact us at tax.policy@anu.edu.au
https://taxpolicy.crawford.anu.edu.au/
Visit our other Transfer Facts at https://taxpolicy.crawford.anu.edu.au/taxpolicy-publications/transfer-facts

Figure 1: EMTRs with and without JobSeeker