
Work-in-progress only

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What is an EMTR?

- The percentage of one dollar increase in private income that is lost to income tax and income tests on government cash payments.
- EMTR = 1 – (Change in family disposable income)/(Change in private earnings)
- An EMTR of 60 cents implies that a one dollar increase in private earnings leaves a family better off by just 40 cents.
- High EMTRs are often associated with the combination of taxes and one or more payments being reduced – Eg Newstart 70% taper for second threshold in 2000.
- This matters as can affect the decision to return to work, increase hours, incentive to work harder and get a promotion
- Focus here on working age (18 to 64) and don’t include the disabled or full-time students as they are not expected to be in the labour market.
- A high EMTR does not say much about how much tax is paid!
What does an EMTR typically include?

– Personal Income tax, medicare, tax offsets
– Means testing of family payments
– Means testing of pensions such as single parent pension
– Means testing of allowances – Newstart, Youth, Parenting Payment Partnered
– Childcare benefits
– Increasingly ‘sudden death’ payment losses (Eg FTB Supplements at $80K)
– Due to complexities of taper rates and thresholds it is feasible for increased taper rates to, on average, reduce distributional EMTRs – so interpretations can be complicated. Eg Newstart/FTB A.

– DOES NOT include
  • HECS
  • Increased working hours and increases in childcare hours
  • Public housing
  • Private health insurance
What are we modelling?

- Considering personal income tax and welfare changes since 2000 so comparing 2000 with 2015.
- 2000-01 was chosen as the financial year immediately after the GST – which had included a large number of changes
- We consider the period after these changes
  - Broadly expansionary for disposable incomes (modestly higher welfare, lower taxes period 2000-2015)
- Our focus is on the aggregate of policy change through this period rather than focussing on individual budgets or measures
- We use ANU’s recently developed ANU PolicyMod (microsimulation model of Australia’s tax and transfer system) to estimate the impact of policy.
How do we model the changes?

• PolicyMod models each financial year with a given set of rules for the tax and transfer system.
• This is applied to the 17,000 families in the ABS survey of income and housing 2013-14 (SIH) which has been updated to 2015 to account for population and dollar value changes.
• PolicyMod can apply alternative policies to this base data set and the difference for each family compared from one set of policies to another.
• The results can be sliced and diced amongst any of a vast range of variables such as age, sex, income level, family type, region and/or aggregated to assess overall impacts for broad groups or to calculate the aggregate fiscal impact.
• The impacts are ‘day-after’ so no second round effects.
How do we model the changes?

- Run PolicyMod for a $1 increase in private incomes of reference person and calculate overall impact on *family* income.
- Repeat $1 increase but for the spouse (where there is one).
- Create a adult data set (Reference and Spouse only) and attach all other characteristics such as family type, age, sex, weights, income quintile of household etc
- Summarise the EMTRs by variables of interest and apply weights.
Standard Output from PolicyMod

- Distributional and Fiscal impacts for past, current and future years (over forward estimates, but conceivably to 2055) for most of the Tax and Transfer system + GST and childcare.
- Comparison of tax and transfer policy from 2014 and beyond but can be tailored for earlier year (as done here)
- Cameo of hypothetical modelling of tax and transfer system
- Distributional modelling of EMTRs
- Analysis of inequality, poverty and income distribution from 2014 and into the future
Alternative Scenario 1 – 2000 Tax and Transfer System

- We model the 2000 TT system projected to 2015 and apply to our 2015 base data. The major differences from 2015 policy includes:
  - Pre-WTW rules for single parent pension (youngest child up to 16 (now 8)) – which resulted in many shifted to less generous Newstart allowance with higher taper but over smaller income range for 2015
  - Higher tax rates and less generous thresholds (even after indexing with wages growth to 2015) in 2000
  - Dependent Spouse Tax Offset included in 2000 policy, not 2015.
  - Less generous childcare rebate (max $4K, rate 30%) (now $7K/50%)
  - Less generous Allowance means testing in 2000
  - Family payments – a mixed bag of lower rates for older children but more generous means testing, particularly FTB part B. Education tax refund less generous than SKB.
  - Family payments taper rate was 30% now 20% from 2009 – this can have differing impacts over the income distribution.
## Tax Schedules 2000 vs 2015 (In 2015 Wages)

<table>
<thead>
<tr>
<th>Threshold</th>
<th>2000 Schedule</th>
<th>2015 Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold 1</td>
<td>11,400</td>
<td>18,200</td>
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<tr>
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<td>17%</td>
<td>19%</td>
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<tr>
<td>Threshold 2</td>
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<td>37000</td>
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<tr>
<td></td>
<td>30%</td>
<td>33%</td>
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<tr>
<td>Threshold 3</td>
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<td>80000</td>
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<td>42%</td>
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<td>Threshold 4</td>
<td>114000</td>
<td>180000</td>
</tr>
<tr>
<td></td>
<td>47%</td>
<td>45%</td>
</tr>
</tbody>
</table>
- Average EMTR slightly higher in 2000 compared to 2015
  28.2% compared to 27.8%
Beer 2002 – (24,7,40,21,7,1,..)
- Higher share in 20-40%, lower in 0-20% - driven by
  Small change in bottom marginal tax rate.
- Lower share in higher groups (40+%)  
- Very few with EMTRs above 60% (2.9% of population)
EMTR Distribution 2000 and 2015 by Family Type

- All groups (except single parents) greater share in 20-40%
- Fewer in the 40+ % groups
- Increased share of single parents in 40-60% group (possibly due to increased share of persons on Newstart)
- Very few singles and couples w/o kids in high EMTR categories
- Single parents the most likely to be in the higher EMTR categories.
- Single parents also most likely to be in the ‘0%’ EMTR category where they pay no tax and don’t earn enough to be means tested
EMTR Distribution by Income Quintile/Family Type of Person (Household based)

**Couple with Kids Results**
- Small increase in 0% group
- For quintile 1 families
  - Large shift to 40-60% away from 60-80% group (possibly reduction in FTB taper rates for Q2/Q3)
  - Q4/Q5 largely impacted by changes to tax rates with greater share in 20-40 and lower in 40-60.
Average EMTR Analysis

- Average EMTRs dominated by personal income tax
- FTB next largest component but largely for lower and middle income families with children
- Childcare plays only minor role – but that would be quite different where hours worked and childcare hours increased (for future research)
- Allowances most important for EMTRs of single parents and lone persons.
Trends in Average EMTR and Average EMTR components

EMTR Component Trend 2000-2015

- Little change in average EMTRs over time
- FTB component for couples with children is lower.
- Allowance EMTRs modestly lower for single parents.
- While average tax rates have come down it would appear that the average EMTRs for Personal income tax are similar when averaged across the population.
Future Research

• Add in new items
  – HECS
  – Public Housing
  – Private health insurance
  – Childcare – with hours worked

• Take different approach and focus on adding hours or days of work for special groups such as single parents, parents with children in childcare, older workers, public housing tenants.

• Further investigation into drivers of change

• Consideration of changes in EMTRs and employment participation
Main Findings

- EMTR analysis useful for considering workforce incentives be that increased hours worked, promotions, or effort. Naturally has limitations as there are many other considerations.
- Not clear how aware people are of their EMTRs.
- Important changes in tax and transfer policy include:
  - lower tax rates, increased thresholds for those rates
  - Lower taper rates for FTBA, BUT complicated by higher rates of payment, tighter thresholds eg freezing high income free area since 2008 and lower indexation meaning few receive the payment over time.
  - Allowance taper rates reduced for some
  - Those shifted onto Newstart (single parents) face higher taper rate but over small range of income.
Main Findings

• Overall little change in average EMTRs across population between 2000 and 2015
• Larger share in 20-40% category and fewer in the 0-20% group (but only at the margin here)
• Fewer persons with very high EMTRs (>40%)
• Most people have EMTR less than 40%
• EMTRs dominated by personal income tax rates as tightly means tested welfare means most either don’t get welfare or are full rate recipients.
• Single parents most likely to be in higher categories
• Very few single and couples without kids in higher categories
• Policy has done well at reducing share of persons in very high groups particularly for families with children.
Thankyou for your time.