

# Do earned income tax credits for older workers prolong labour market participation and boost earned income? Evidence from Australia's Mature Age Worker Tax Offset

Andrew Carter  
Robert Breunig

Crawford School of Public Policy  
Australian National University

July, 2018

# Mature Age Worker Tax Offset (MAWTO)

- ▶ The MAWTO was an Australian Government Earned Income Tax Credit (EITC) for older workers aged over 55 years.
- ▶ Intended to incentivise and reward workers to stay in the labour market for longer.
  - ▶ Offered a non-refundable tax credit of up to \$500 per year.
  - ▶ Available from 1 July 2005 and was repealed on 1 July 2014.
  - ▶ Administered by the ATO through the income tax return system.
  - ▶ Cost over \$4.3 billion across the 10 years it was available.
- ▶ We examine the effect of the MAWTO on labour market participation and 'earned income' using administrative data from the Australian Taxation Office, and ABS population estimates.

# Qualifying for the MAWTO

Three qualifying rules:

- ▶ Australian resident for tax purposes.
- ▶ Aged 55 years or older by the end of a given financial year.
  - ▶ The age was increased to 56 in 2012-13 and 57 in 2013-14 as the MAWTO was phased out.
- ▶ A work test – ‘Net income from working’ (NIFW) between \$0 and \$58,000 per financial year.
  - ▶ Conceptually, NIFW included all income that is a reward for personal effort or skills (as opposed to passive income flows), less any related deductions.
  - ▶ This income range was increased to \$0 and \$63,000 from 2005-06 and remained unchanged from this point.

## Results – find small effects using a D-i-D approach

- ▶ We detect the MAWTO increased participation by about 0.5 percentage points. These results mask some heterogeneity between men and women:
  - ▶ Males – larger and statistically significant effect at the introduction (0.6%), and a smaller and not significantly significant effect at the cessation.
  - ▶ Females – smaller and not statistically significant effect at the introduction, and a larger and statistically significant effect at the cessation (0.8%).
- ▶ For women only, it had a small impact on earnings of about 1.5 per cent.
- ▶ The findings are robust to a series of checks, including:
  - ▶ Different definitions of ‘working’; extending the age range; and the examination of parallel trends
  - ▶ We examine placebo tests in all other years.

## Previous EITC studies

- ▶ EITCs are commonly used on other countries to encourage labour supply for lower income cohorts, with no qualifying age restrictions.
  - ▶ A novel difference of the MAWTO is that it is targeting older workers.
- ▶ There is strong consensus that EITCs have a positive impact on labour supply (the extensive margin effect).
- ▶ There is mixed evidence of an impact of EITCs on individuals who are already in the labour market (the intensive margin effect).
  - ▶ Most studies find little or no evidence of intensive margin effects on labour supply.

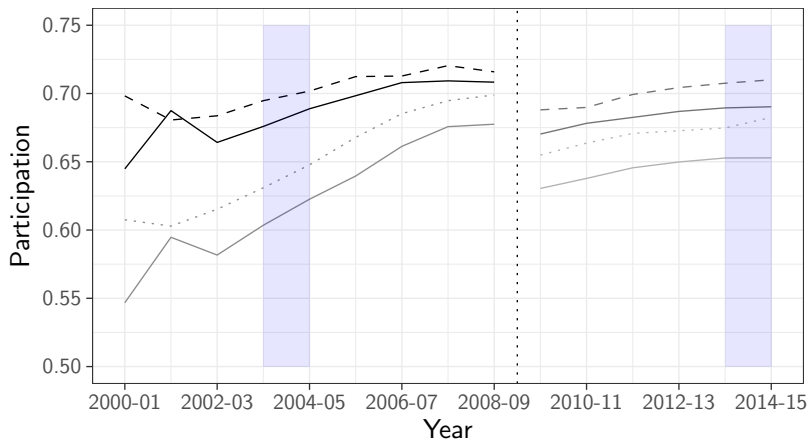
## D-i-D identification

- ▶ We focus on separate male and female estimates (although, we also examined pooled results).
- ▶ We exploit year and age cut-offs by comparing the labour supply outcomes of:
  - ▶ 54 (control) and **55 (treatment)** years olds in 2003-04 (control) and **2004-05 (treatment)**.
- ▶ We repeat this analysis at the cessation of the policy:
  - ▶ 56 (control) and **57 (treatment)** years olds in **2013-14 (treatment)** and 2014-15 (control).
- ▶ We repeat this analysis with the corresponding 'earned income' measures.

$$participation_{it} = \beta_0 + \beta_1 T_{it} + \beta_2 D_{it} + \beta_3 (T_{it} \cdot D_{it}) + \epsilon_{it} \quad (1)$$

$$\ln(income_{it}) = \beta_0 + \beta_1 T_{it} + \beta_2 D_{it} + \beta_3 (T_{it} \cdot D_{it}) + \beta_4 negative_{it} + \epsilon_{it} \quad (2)$$

## Parallel trends – NIFW indicator 3



-- 54M (control)   -- 56M (control)   ··· 54F (control)   ··· 56F (control)  
— 55M (treatment) — 57M (treatment) — 55F (treatment) — 57F (treatment)

# Participation results

	Males		Females	
<i>ITR, PAYG and ABS population estimates</i>				
2003-04 vs 2004-05				
<i>54 vs 55</i>				
NIFW 2 D-i-D	-0.0009	[0.0021]	-0.0018	[0.0026]
NIFW 3 D-i-D	0.0059**	[0.0026]	0.0023	[0.0027]
S&W D-i-D	0.0068***	[0.0026]	0.0025	[0.0027]
2013-14 vs 2014-15				
<i>56 vs 57</i>				
NIFW 2 D-i-D	0.0030	[0.0020]	0.0093***	[0.0023]
NIFW 3 D-i-D	0.0017	[0.0024]	0.0076***	[0.0025]
S&W D-i-D	0.0018	[0.0025]	0.0070***	[0.0025]

Notes: Coefficients are marginal probabilities from a linear OLS model. Robust standard errors are presented in brackets. \*\*\*, \*\* and \* denote statistical significance at the 0.01, 0.05 and 0.1 levels.



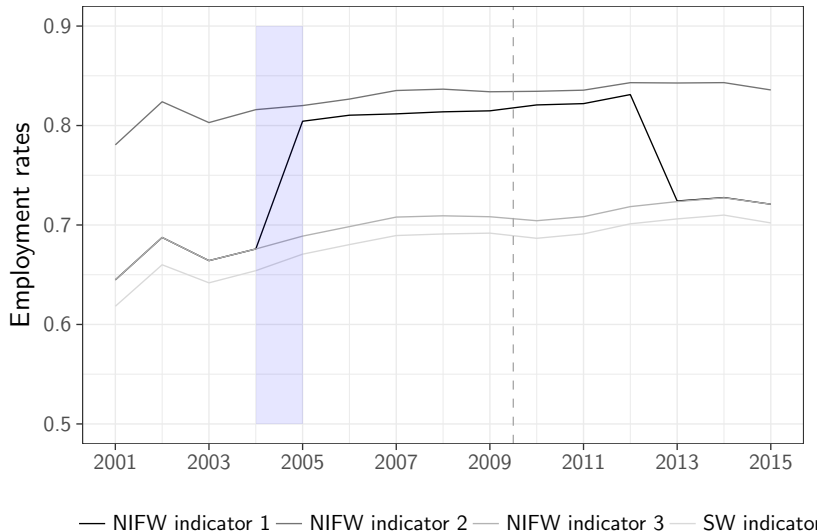
## What explains the size of the response?

- ▶ A \$500 offset may not have been large enough relative to other stage-of-life factors (e.g. health status of individuals and the desire for more leisure time).
- ▶ Targeted older workers who are more likely to have accumulated wealth which may reduce the attractiveness a modest tax credit.
- ▶ Non-refundable nature of the offset meant some qualifying individuals could not use it.
- ▶ The definition of 'earned income' was complicated, making it hard for individuals to optimise their behaviour.
- ▶ Studies have cited evidence that EITC recipients are often unaware of the program, or do not take it into consideration when making marginal earnings decisions.

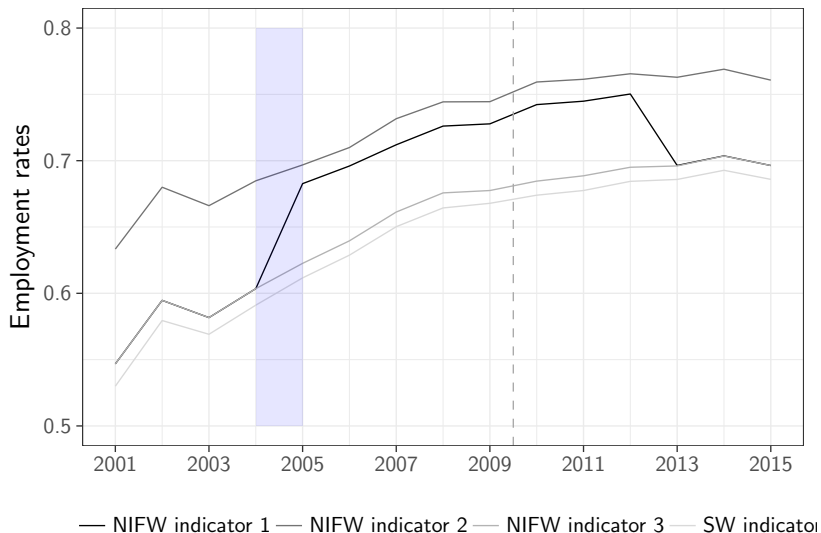
# Conclusion

- ▶ We find small positive effects of the MAWTO using Australian Government administrative data
  - ▶ Most MAWTO recipients would have remained in the workforce irrespective of receiving the offset.
- ▶ Overall, the results suggest that labour market participation increase around 0.5 percentage points.
  - ▶ Using our results, we estimate that the average cost for each person induced to work longer could be up to \$80,000.
- ▶ Our results are robust to different tests and suggest targeted tax credits for older workers are an expensive and relatively ineffective way to increase participation.

# A1: Derived employment rates, males aged 55 years



## A2: Derived employment rates, females aged 55 years



## A3: Data – deriving employment rates

- ▶ Compiled a database using ATO administrative data and ABS population estimates over a period that spans 15 years, from 2000-01 to 2014-15.
- ▶ Derived employment rates from the specific income components that are derived from working.

Table: A4: Data sources – accounting for the entire population

	Worked	Did not work
Lodged	Income tax return data	Income tax return data
Did not lodge	PAYG payment summary data (for salary & wage payments only)	Residual population calculated from ABS estimates

## A4: 'Net income from working' components

---

---

Net income from working	
= Total gross salary and wage payments	(1)
+ Income from allowances, earnings, tips, director's fees etc.	(2)
+ Attributed personal services income	(3)
+ Total reportable fringe benefits (RFB) amounts (if RFB $\geq$ RFB threshold)	(4)
+ Total assessable discount amount <sup>1</sup>	(5)
+ Excess concessional contributions amount for income	(6)
+ (Reportable employer superannuation contributions – Excess concessional contributions amount for income) (if result $< 0$ then set to 0)	(7)
– Work related car expenses	(8)
– Work related travel expenses	(9)
– Work related clothing expenses	(10)
– Work related self-education expenses	(11)
– Other work related expenses	(12)
– Low value pool deduction <sup>2</sup>	(13)
+ Net income from working (supplementary section) <sup>3</sup>	(14)

---

<sup>1</sup> This item relates to the discount amount for Employee Share Schemes.

<sup>2</sup> Low value pool deductions refer to 'low-cost' and 'low-value' assets used in the course of generating income. These are assets the cost less than \$1,000 which can be depreciated over multiple tax lodgement years.

<sup>3</sup> NIFW (supplementary section) refers to business and partnership income that is derived from working.

## A5: Earned income results

	Males		Females	
<i>ITR and PAYG data</i>				
	2003-04 vs 2004-05			
<i>54 vs 55</i>				
NIFW 2 D-i-D	0.0019	[0.0070]	-0.0022	[0.0080]
NIFW 3 D-i-D	0.0065	[0.0071]	0.0027	[0.0051]
S&W D-i-D	0.0064	[0.0071]	-0.0032	[0.0079]
	2013-14 vs 2014-15			
<i>56 vs 57</i>				
NIFW 2 D-i-D	0.0009	[0.0069]	0.0083	[0.0074]
NIFW 3 D-i-D	-0.0026	[0.0067]	0.0136**	[0.0068]
S&W D-i-D	0.0040	[0.0067]	0.0154**	[0.0067]

Notes: Coefficients are marginal probabilities from a linear OLS model. Robust standard errors are presented in brackets. \*\*\*, \*\* and \* denote statistical significance at the 0.01, 0.05 and 0.1 levels.