Australian Government
Department of Education

Benefits of Educational Attainment

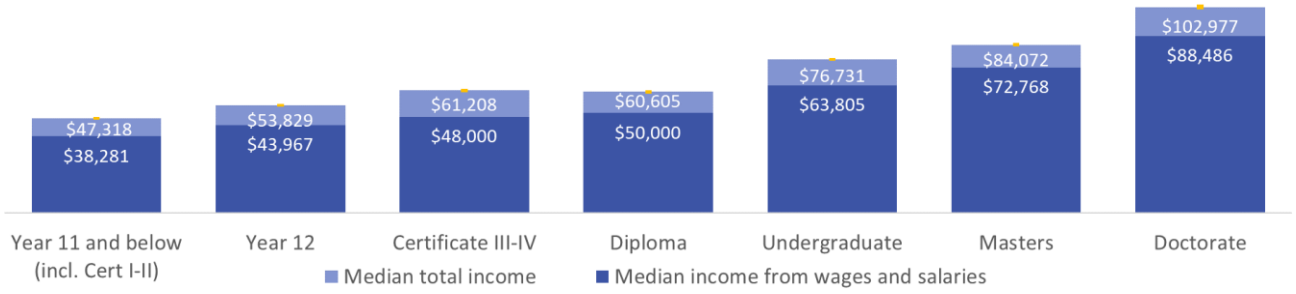
Income

Higher educational attainment leads to higher total incomes, more diverse sources of income and reduced reliance on the aged pension.

Income

A significant number of prior Australian studies[1] have shown that educational attainment has an important impact on employment and incomes but very few of these attempt to control for a wide range of demographic factors that might also explain incomes for working age adults. We use Multi-agency Data Integration Project data to show that increasing educational attainment is associated with higher median total income[2] and income from wages and salaries (Figure 1). Australians with a Doctorate, at 28 per cent, are up to six times more likely to be in the top ten percent of all incomes in Australia compared to other levels of educational attainment (see Introduction). These findings are consistent with prior Australian studies and hold even after controlling for a wide range of potential confounding variables such as age, occupation, labour force status and gender (see Data and Methodology).

Figure 1. Median derived total annual income and median income from wages and salaries for 30-64 year olds not currently studying, by highest level of educational attainment, 2015-16.



Source: Multi-Agency Data Integration Project 2016

Notes: Data filtered for persons aged 30-64, not studying who resided in Australia on Census night 2016, had a known level of educational attainment and submitted a tax return in the 2015-16 financial year. Post-matching Kruskal-Wallis rank sum test results show educational attainment is associated with median derived total income (χ^2 = 62,347, p <0.001, N = 2,549,694) and median income from wages and salaries (χ^2 = 187,480, p <0.001, N = 2,549,694). All groups were significantly different post-matching (Wilcoxon rank sum comparisons).

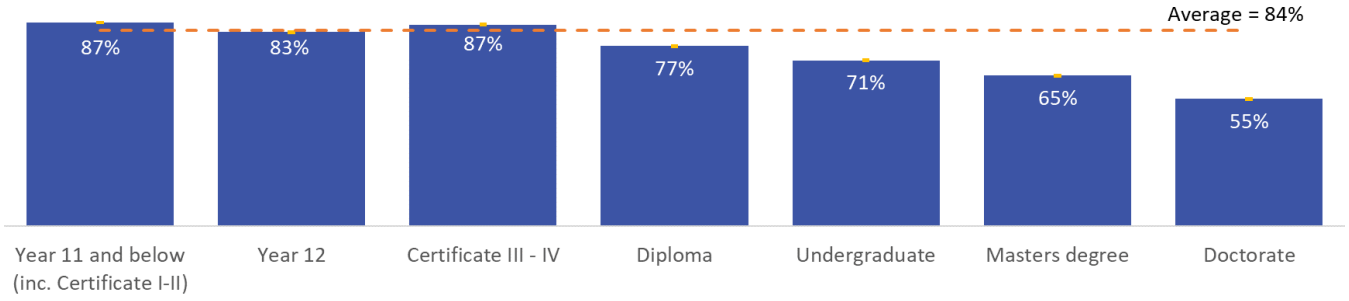
[1] Leigh A & Ryan C (2005) *Estimating returns to education: Three natural experiment techniques compared*. Australian National University Centre for Economic Policy Research Discussion Paper 493; Daly A *et al.* (2015) The private rate of return to a university degree in Australia, *Australian Journal of Education* **59**(1) 97–112; Deloitte Access Economics (2016) *Estimating the public and private benefits of higher education*; Leigh A (2008) Returns to education in Australia, *Economic Papers* **27** (3): 233–249.

[2] Total income has been calculated as a combination of income from wages and salaries, government payments, superannuation, business income and income from capital such as rents or shares.

Income before and after retirement

These total income differences are persistent over people's lives. By the time people with higher levels of educational attainment reach retirement age they are significantly less likely to receive the aged pension (Figure 2). This finding is consistent with our wealth factsheet that shows increasing asset wealth by educational attainment.

Figure 2: Proportion of Australians 65 years and over that were in receipt of the aged pension, by highest level of educational attainment, 2016.

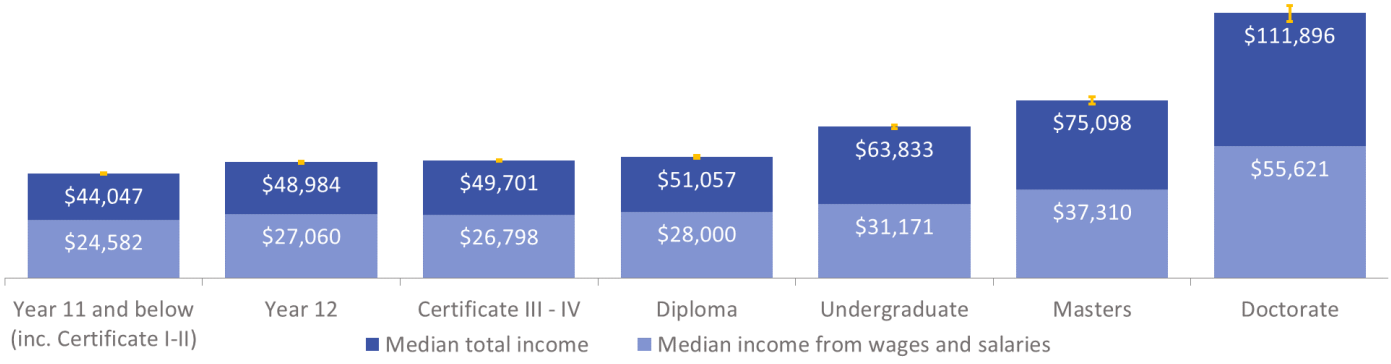


Source: Multi-Agency Data Integration Project 2016

Notes: Data filtered by persons aged 65 and over who resided in Australia on Census night 2016, and had a known level of educational attainment. Post-matching likelihood ratio test results show educational attainment is associated with receiving the aged pension (χ^2 = 33,198, p <0.001, N = 1,710,976). All groups were significantly different post-matching (labour force status and occupation covariates were omitted).

The result in Figure 2 partly reflects the likelihood of working post-retirement age (65-69 years) with 41 per cent of people with a highest level of attainment of Year 11 and below being not in the labour force compared to 23 per cent of those with postgraduate qualifications. In the five years pre- and post-retirement age,[3] median income from sources other than wages and salaries increased with level of educational attainment. This difference is greater for employed 65-69 year olds (Figure 3). For 65-69 year old part-time workers, wage and salary income is the same across all levels of educational attainment but Other income increases with educational attainment (data not shown).

Figure 3: Median derived total annual income and median income from wages and salaries for employed 65-69 year olds, by highest level of educational attainment, 2015-16.



Source: Multi-Agency Data Integration Project 2016

Notes: Data filtered by age (65-69 year olds), resided in Australia on Census night 2016, were employed, submitted an income tax return in 2015-16 and had a known level of educational attainment. Data includes both full time and part time workers.

Data and Methodology

The analysis in this paper used linked records from the MADIP Basic Longitudinal Extract 2011-2016 (2016 Cohort) (Cat. No. 1700.0, Microdata: Multi-Agency Data Integration Project, Australia). The fact sheet examines those who resided in Australia on Census night (excluding overseas visitors) and had reported their highest level of educational attainment. The income section filters to persons aged 30 to 64 years (inclusive),

[3] These were 60-64 and 65-69 year olds, respectively. Note that retirement ages have historically varied by gender.

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who were also not currently studying and had submitted a tax return in the 2015-16 financial year. The income nearing and during retirement section examines persons aged 65 years and over. Figure 3 has additional filters of those who were 65-69 years old, employed and submitted a tax return in the 2015-16 financial year. To control for confounding factors, Figures 1 and 2 used simulated randomised control trials by finding groups of statistically identical people across the following covariates: occupation, labour force status, age, gender, indigenous status, remoteness by state/territory, English-speaking country of birth and family type (coupled or single person with or without dependent children). This method provides the strongest possible evidence of cause and effect in cross-sectional data.