

Labour market outcomes of tertiary education: a census analysis

This fact sheet provides information on the labour market outcomes of tertiary education for the New Zealand usually resident population aged 15 years or over, using data from Statistics New Zealand's Census of Population and Dwellings 2006.

The tertiary qualifications include non-degree tertiary qualifications (level 1 to 4 certificates and level 5 to 6 diplomas), bachelors degrees (including level 7 diplomas) and postgraduate qualifications (postgraduate certificates and diplomas, honours, masters and doctorates).

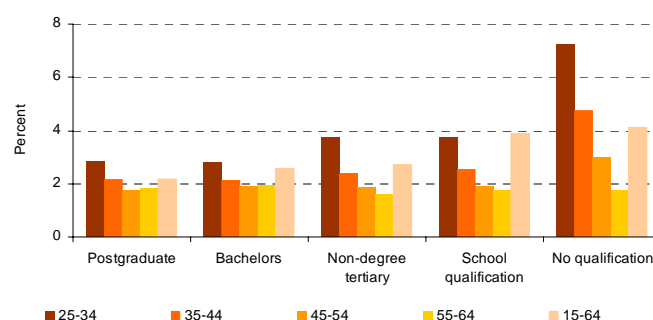
This analysis does not consider invalid responses such as 'not stated', 'refused to answer' or 'not elsewhere included' when calculating the percentage figures. Hence, the proportions stated in this fact sheet may not match with the proportions published by Statistics New Zealand.

People with tertiary qualifications have lower unemployment

The attainment of tertiary qualifications results in a lower chance of unemployment, especially for people aged under 35 years. In 2006, the unemployment rate for those with a highest qualification at the postgraduate level was 2.2 percent. This compares with an unemployment rate of 2.6 percent for those with a highest qualification at bachelors level, 2.7 percent at non-degree tertiary level and 4.1 percent for those with no qualifications.

For the 25 to 34 age group, the unemployment rate for those with a highest qualification at the postgraduate level was 2.8 percent, compared with 7.2 percent for no qualifications. The figures for the 55 to 64 year age group were same with 1.8 percent each.

Unemployment rates by highest qualification and age group



Unemployment varies by field of study

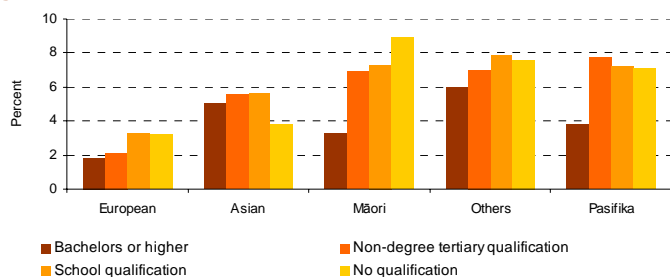
People who have a tertiary qualification were more likely to be in employment, but the employment advantage varied according to the subject of study. People who had a tertiary qualification in health studies, agriculture or education faced the lowest likelihood of unemployment (less than 2 percent), compared with an unemployment rate of more than 4.6 percent in the fields of creative arts and information technology.

Unemployment varies by ethnic group

The attainment of higher tertiary qualifications reduces the variation in unemployment rates between ethnic groups. In 2006, Europeans with a bachelors or higher qualification were less likely to be unemployed than the other ethnic groups - less than 2 percent of this group were unemployed. This compares with an unemployment rate of 3.3 percent for Māori with the same level of tertiary qualification, 3.8 percent for Pasifika, 5.0 percent for Asian and 6.0 percent for the 'Other' ethnic group.

For those with no qualifications, the difference in unemployment between ethnic groups was much greater. Europeans with no qualifications had an unemployment rate of 3.2 percent, compared with 8.9 percent for Māori, 7.1 percent for Pasifika, 3.8 percent for Asians and 7.6 percent for the 'Other' ethnic group.

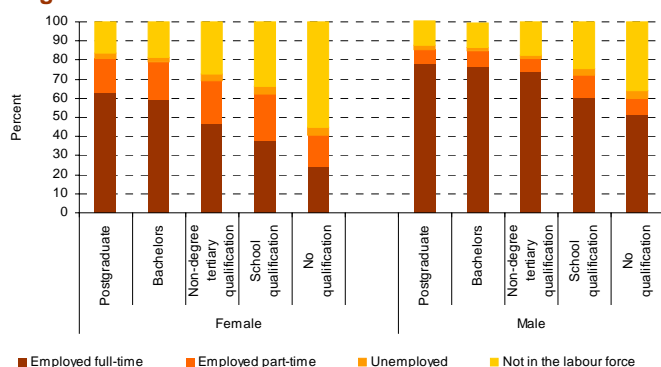
Unemployment rates by highest qualification and ethnic group



Tertiary qualifications increase the chances of full-time employment

In 2006, 78 percent of men and 63 percent of women with a highest qualification at the postgraduate level were in full-time employment. This compares with 77 percent and 60 percent for men and women with a highest qualification at the bachelors levels, 74 percent and 47 percent for men and women with a highest qualification at the non-degree tertiary level and 24 percent and 51 percent for men and women with no qualifications.

Work and labour force status by highest qualification level and gender



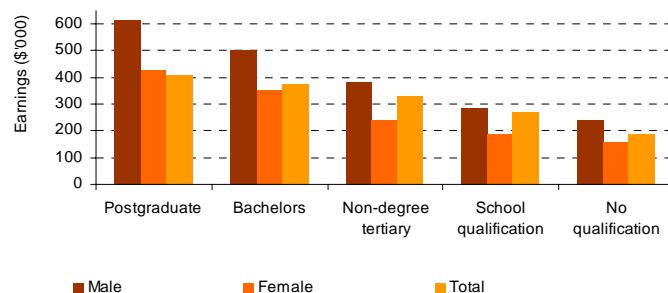
Tertiary education reduces differences in women's and men's earnings

In 2006, the median earnings¹ of women with a bachelors or higher qualification were about 70 percent of those of men with the same level of qualification. However, the gap was wider for those with no qualifications where the median earnings for women was 64 percent those for men.

The relative earnings gap due to gender should be treated with caution because of the lower workforce participation by females, as seen in the figure above. More women were employed part-time or were not in the labour force – which would have lowered their earnings. Higher qualifications is associated with a greater likelihood of full-time work for women. The choice of

occupation and field of study can also influence the earnings of men and women.

Median annual personal earnings by highest qualification and gender



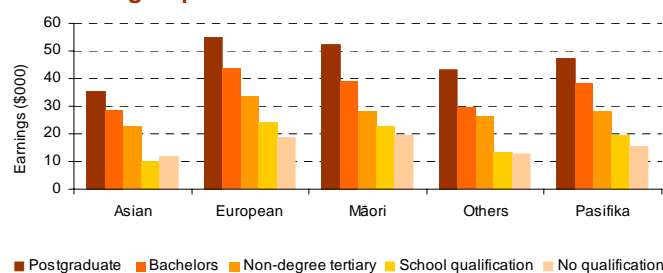
Earnings by highest qualification and ethnic group

In 2006, those with the highest median annual earnings for people with a highest qualification at the postgraduate level were the Europeans with median annual earnings of \$55,100. This compares with the lowest earning ethnic group, Asian, with median annual earnings of \$35,200. Māori, Pasifika and the 'Other' ethnic group had median earnings of \$52,500, \$43,000 and \$47,100 respectively.

For those with a highest qualification at the bachelors level, the highest median annual earnings were achieved by Europeans with earnings of \$43,800. This compares with the lowest median earnings of \$28,600 for Asians. The earnings for Māori, Pasifika and the 'Other' ethnic group with a similar level of qualification were \$39,100, \$38,300 and \$30,000, respectively.

Among those with a highest qualification at the non-degree tertiary level, Europeans had median earnings of \$33,700. This compares with the lowest median earnings of \$22,700 for Asians. The annual personal earnings for Māori, Pasifika and 'Others', with this level of highest qualification were \$28,300, \$28,400 and \$26,200, respectively.

Median annual personal earnings by highest qualification and ethnic group

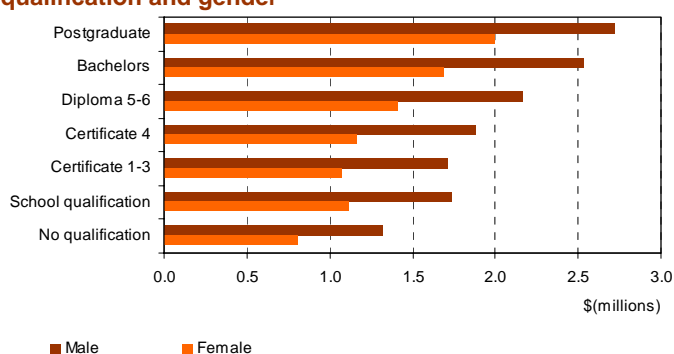


¹ Earnings includes income from salaries, wages and bonuses but excludes income from benefits and investments

Synthetic work-life earnings¹ of the New Zealand population with a tertiary qualification

Participation in tertiary education can have significant long-term effects on an individual's earning potential. Completing a tertiary qualification increases the present value of a person's work-life earnings compared with someone with a lower level of highest qualification. The average net work-life earnings (in 2006 dollar terms) for men with a highest qualification at the postgraduate level was estimated to be \$2.7 million – about twice that of men with no qualifications, whose average potential earnings are \$1.3 million – see the following graph.

Estimated work-life earnings for the population by highest qualification and gender



Women with a highest qualification at the postgraduate level were estimated to earn 2.5 times the earnings of women with no qualifications – \$2 million compared with \$0.85 million. Among those with a highest qualification at the postgraduate level, men were estimated to earn 36 percent on average more than women with the same level of qualification.

The smallest difference between the work-life earnings of men and women was achieved by people with a bachelors or higher qualification. The ratio of men's average work-life earnings to women's with a highest qualification at the postgraduate level was 1.36. For a highest qualification at the bachelors level the ratio was 1.50. This compares with a ratio of 1.65 for people with no qualifications.

Premium of work-life earnings by highest qualification and gender compared with no qualifications

Qualifications	Male	Female	Male : Female*
Postgraduate	2.1	2.5	1.36
Bachelors	1.9	2.1	1.50
Diploma 5-6	1.6	1.7	1.54
Certificate 4	1.4	1.4	1.62
Certificate 1-3	1.3	1.3	1.59
School qualification	1.3	1.4	1.55
No qualification	1.0	1.0	1.65

* The premium is calculated separately for men and women, as a ratio of earnings with any qualification to no qualifications. For example, men with a highest qualification at the bachelors level are compared with men with no qualification as a ratio. The premium between men and women is computed as a ratio of men's earnings to women's earnings within the same level of qualification.

Regional differences in earnings

Where people live and work also influences their earnings. Regional differences in the median earnings of men and women by level of highest qualification are shown in the tables below. The highest annual median earnings for people with a highest qualification at the postgraduate level was observed in the Wellington region – with earnings of about \$68,500 and \$52,000 per annum for men and women respectively. This compares with a national average of \$61,700 for men and \$46,200 for women. The Tasman region again had the lowest earnings - 30 percent lower than the highest earning region, Wellington.

For people with a highest qualification at the bachelors level, those in the Wellington region recorded the highest earnings - \$59,400 for men and \$42,300 for women. This compares with the national average of \$54,700 and \$38,300. The Otago region had the lowest earnings for this level of highest qualification – 36 percent lower than the Wellington region.

Men with highest qualifications at the non-degree tertiary level earned above the national average of \$42,800 in the Auckland, Wellington and the Waikato regions. Women with this level of highest qualification earned above the national average of \$29,000 only in the Auckland and Wellington regions. The West Coast region had the lowest earnings for this level of highest qualification - 24 percent lower than the highest earning region.

Median annual earnings (\$) for men by highest qualification and region

Region	Postgraduates	Bachelors	Non-degree tertiary	School qualification	No qualification
Auckland	61,435	55,474	46,414	35,549	29,193
Bay of Plenty	61,005	55,544	40,650	33,278	27,839
Canterbury	58,728	51,812	42,004	33,278	27,993
Gisborne	59,248	53,233	37,714	30,606	24,695
Hawke's Bay	62,987	54,571	40,445	33,205	27,155
Manawatu-Wanganui	59,737	49,624	38,398	31,048	26,607
Marlborough	61,523	54,651	39,824	33,359	28,029
Nelson	57,761	52,483	38,938	31,868	26,320
Northland	55,976	52,127	37,601	31,405	26,007
Otago	55,258	46,473	39,300	28,169	27,575
Southland	58,388	54,128	41,919	35,132	30,205
Taranaki	65,483	57,318	42,656	34,234	29,922
Tasman	51,281	47,759	39,881	31,644	27,145
Waikato	60,593	52,841	43,015	33,777	30,013
Wellington	68,474	59,402	44,425	35,566	27,381
West Coast	59,299	50,103	37,159	32,870	28,068
National	61,747	54,691	42,840	33,873	28,269

Source: Statistics New Zealand, Census of Population and Dwellings 2006

Median annual median earnings (\$) for women by highest qualification and region

Region	Post-graduates	Bachelors	Non-degree tertiary	School qualification	No qualification
Auckland	46,870	39,906	31,852	25,946	20,620
Bay of Plenty	46,094	37,228	27,243	23,221	18,295
Canterbury	42,096	34,626	27,500	22,396	18,025
Gisborne	46,044	36,034	26,567	21,833	17,229
Hawke's Bay	43,376	36,985	26,442	22,250	17,820
Manawatu-Wanganui	44,395	35,096	26,553	21,260	17,857
Marlborough	42,140	35,836	26,528	22,769	18,088
Nelson	41,145	34,609	26,094	22,027	17,897
Northland	44,130	36,925	27,249	22,880	17,921
Otago	39,824	32,678	26,413	19,375	18,297
Southland	44,808	37,544	26,604	22,262	17,838
Taranaki	46,897	37,137	27,794	23,552	18,861
Tasman	36,775	30,912	24,452	21,210	17,356
Waikato	44,713	37,474	28,617	23,919	19,314
Wellington	51,991	42,255	30,881	25,728	19,959
West Coast	43,471	36,560	25,405	21,464	16,338
National	46,211	38,340	28,995	23,883	18,987

Source: Statistics New Zealand, Census of Population and Dwellings 2006

Endnote:

¹ Synthetic estimates of work-life earnings are created by using the working population's one-year annual earnings and summing their age-specific average earnings for people ages 25 - 64 years. The resulting totals represent what individuals with the same educational level could expect to earn, on average, in 2006 dollars, during a hypothetical 40-year working life. A typical work-life is defined as the period from age 25 through ages 64. While many people stop working at an age other than 65, or start before age 25, this range of 40 years provides a practical benchmark for many people.

The method used to construct the synthetic estimates of work-life earnings derived from that used by Day and Newburger (2002) *The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings*, Current Population Reports. U.S. Department of Commerce Economics and Statistics Administration, U.S. Census Bureau. The work-life earnings estimated in this report depend upon the following assumptions:

- The estimates assume current cross-sectional earnings are representative of the patterns in future earnings.
- The average earnings of individuals in each age group have been based on all members within an age group without regard to their study field, industry of employment, ethnicity, or other factors which may affect individual earnings.
- Uninterrupted labour force participation from age 25 to 64 is assumed in estimating the work-life earnings. Work-life earnings do not take into account the life time events like probability of survival etc.
- These factors would alter the life-time earnings. Therefore the work-life estimate may not represent the future productivity in the economy and may be underestimates.

Tertiary Sector Performance Analysis & Reporting,
Strategy and System Performance,
Ministry of Education.

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