

Building on strengths: Generalist

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The results are based in part on tax data supplied by Inland Revenue to Stats NZ under the Tax Administration Act 1994 for statistical purposes. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

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Abstract

This is one of 15 “specialty profiles” associated with the report “Building on strengths: Educational pathways that benefit Māori students” (2023). In this specialty profile we investigate the pathways through education associated with strong labour market outcomes for Māori men and women who passed credits in a broad range of subjects at NCEA level 2 without specialising in any particular subject. Approximately half these students gained NCEA level 2 after leaving school, which suggests the education system may have failed them the first time around.

Although the small sample size limits what we can say about successful pathways for these students, several patterns emerge. Women seem able to achieve comparative success through either of two pathways. The first is an academic pathway, which involves gaining a level 7 qualification, likely from a university. Education or Management and Commerce could be good fields of study, but data are insufficient to comprehensively compare the outcomes of women who study in different fields. The second is a practical pathway that involves industry training and a lower level of qualification.

The main pathway men seem to take to success is through industry training. Men are more likely to do comparatively well if they gain a level 4 qualification, achieve their highest qualification in Engineering and Related Technologies, or attend an industry training organisation. Early work experience in the Construction industry also appears to boost their labour market success. This pathway is similar to the more practical of the two pathways through which women achieve success, though the greater number of men following this route enable us to fill out more detail about the characteristics of the route for men than for women.

Despite a career in school that may not have been particularly successful, men and women who are Generalists at level 2 can do very well in the labour market through these routes: the 80th percentile of men’s cumulative savings 12 years after they gain NCEA level 2 is \$275,000 and the 80th percentile of women’s is \$175,000.

JEL codes

I20, I30, I23, I26, J15, J24

Keywords

education, Māori, tertiary study, New Zealand education system, employment, labour market

Contents

1. Introduction	3
2. Overview of the students who were Generalists	3
3. How do savings vary with level of qualifications?	7
3.1 Cumulative and annual savings by level of highest qualification	7
3.2 Qualification levels of top cumulative and annual savers	11
4. How do savings vary with fields of study in higher education?	13
4.1 Cumulative and annual savings by fields of study	13
4.2 Fields of higher study of top cumulative and annual savers	15
5. How do savings vary with pathways through life outside education?	15
6. Conclusions	16

Tables and Figures

<i>Figure 1: Distribution of level of highest qualification</i>	4
<i>Figure 2: Distribution of field of highest qualification</i>	5
<i>Figure 3: Cumulative savings over time by gender</i>	6
<i>Figure 4: Annual savings over time by gender</i>	7
<i>Figure 5: Savings over time by level of highest qualification for men</i>	8
<i>Figure 6: Savings over time by level of highest qualification for women</i>	9
<i>Figure 7: Cumulative savings 12 years after NCEA level 2 by gender and level of highest qualification</i>	10
<i>Figure 8: Annual savings 12 years after NCEA level 2 by gender and level of highest qualification</i>	11
<i>Figure 9: Cumulative savings 12 years after NCEA level 2 by gender and field of highest qualification</i>	14
<i>Figure 10: Annual savings 12 years after NCEA level 2 by gender and field of highest qualification</i>	14
<i>Appendix Table 1: Qualification levels of men who are top savers</i>	18
<i>Appendix Table 2: Qualification levels of women who are top savers</i>	19
<i>Appendix Table 3: Non-education characteristics of men who are top savers</i>	20
<i>Appendix Table 4: Non-education characteristics of women who are top savers</i>	21

1. Introduction

This report details the pathways through education that are associated with strong labour market outcomes for Māori students in Aotearoa New Zealand who gained credits in a broad range of subjects at NCEA level 2, but who did not specialise in any particular subject area. We refer to these students as Generalists. The report is one of 15 “specialty profiles” associated with the main report “Building on strengths: Educational pathways that benefit Māori students” (2023). The goals of the overall project are to support the development of policy that improves Māori outcomes and inform advice that will help Māori students choose beneficial pathways through education. See the main report for a description of the project and detailed explanations of the study population, outcomes, and pathway variables.

The first measure of labour market success we consider is cumulative savings, which measures the financial resources the students could have accumulated since gaining NCEA level 2.¹ This captures the opportunity cost of higher education as well as any earnings benefit it provides within the 12-year window after NCEA level 2 that we study. However, students who gain higher qualifications may have low cumulative savings even 12 years after NCEA level 2, but high annual income. This would mean they have the potential to rapidly increase their cumulative savings in subsequent years. We thus also consider annual savings, which captures the rate at which students’ financial resources could be increasing each year.

The remainder of this report proceeds as follows. Section 2 describes the backgrounds and labour market outcomes of students who were Generalists. Section 3 shows the levels of highest qualification that are associated with strong outcomes. Section 4 shows the fields of study at each level of education that are associated with strong outcomes. Section 5 shows the pathways outside education that are associated with strong outcomes. Finally, Section 6 summarises the pathways through education and life that look likely to lead to strong labour market outcomes for men and women who were Generalists at school.

2. Overview of the students who were Generalists

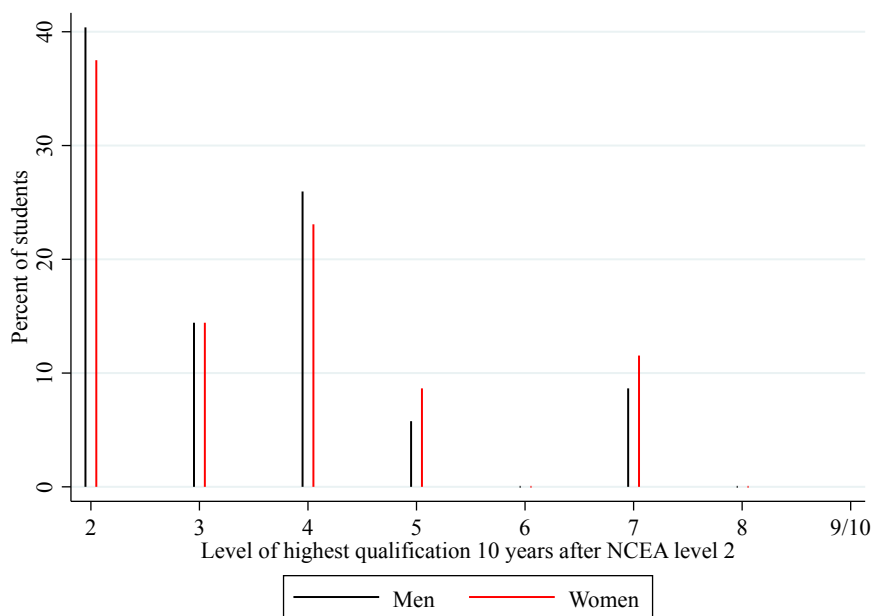
Māori students who were Generalists are defined as students who gained credits in a broad range of subjects at NCEA level 2, but who did not specialise in any particular subject area. The sample is limited to those who achieved NCEA level 2 between 2004 and 2007 when aged 16 to 19, and who were not in the top 10% of their year academically. A total of 195 students were

¹ The overall magnitude of savings is sensitive to the assumptions we use to calculate it, so the dollar values should not be taken too seriously. However, differences between students are relatively robust, so more weight can be put on the comparisons between students with different characteristics.

Generalists, 49% of whom are female, and 50% of whom gained NCEA level 2 at a tertiary institute.

Figure 1 shows the highest level of qualification attained within 10 years of gaining NCEA level 2 by men and women who were Generalists. On average, students in the specialty attain low qualifications. The most common highest qualification level for both genders is NCEA level 2, which is attained by 40% of men and 38% of women. The second most common highest qualification level is level 4, attained by 26% of men and 23% of women. Around 10% of both men and women attain qualifications at level 7, and no students attain a highest qualification above this level.² Men and women are equally likely to attain highest qualifications at level 3 (14%), and women are slightly more likely to attain level 5 qualifications (9% compared to 6% for men).

Figure 1: Distribution of level of highest qualification



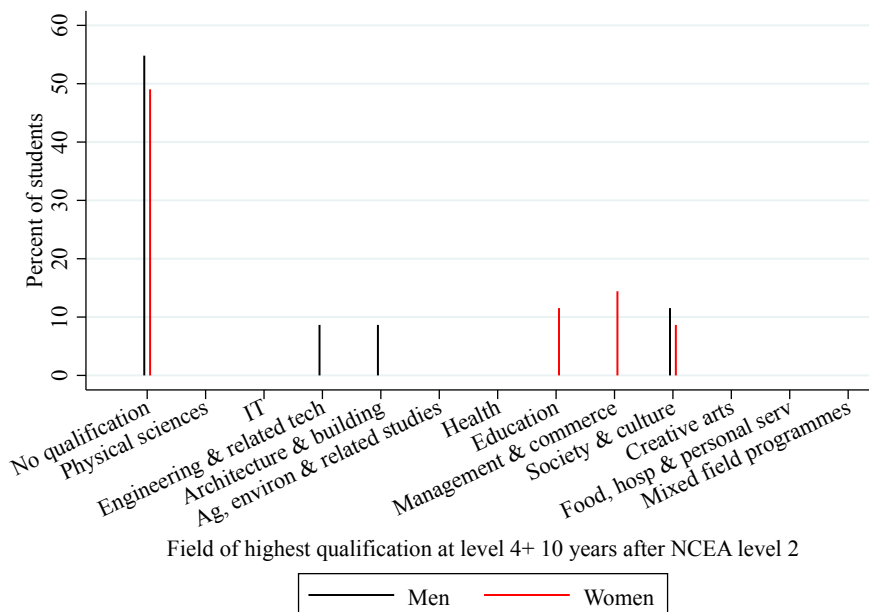
Notes: This figure shows the highest level of qualification gained by men and women who were Generalists. To be counted, qualifications must have been gained within 10 years of achieving NCEA level 2. Small but non-zero values may be presented as zeros for confidentiality reasons.

Figure 2 shows the distribution across fields of study of the highest qualifications of men and women who were Generalists at level 2. A substantial proportion of men and women in this specialty do not gain qualifications at level 4 or above, 55% and 49% of men and women respectively. The most common field of study for women is Management and Commerce, with

² The number of students attaining qualifications above level 7 may be non-zero but very small. Such values would be suppressed under Statistics New Zealand’s confidentiality rules.

14% of students gaining a highest qualification at level 4 or above in this field. Society and Culture is the most common field for men (12%). Men are considerably more likely than women to gain highest qualifications in Engineering and Related Technologies and Architecture and Building. Women are more likely than men to gain highest qualifications in Education and Management and Commerce.

Figure 2: Distribution of field of highest qualification



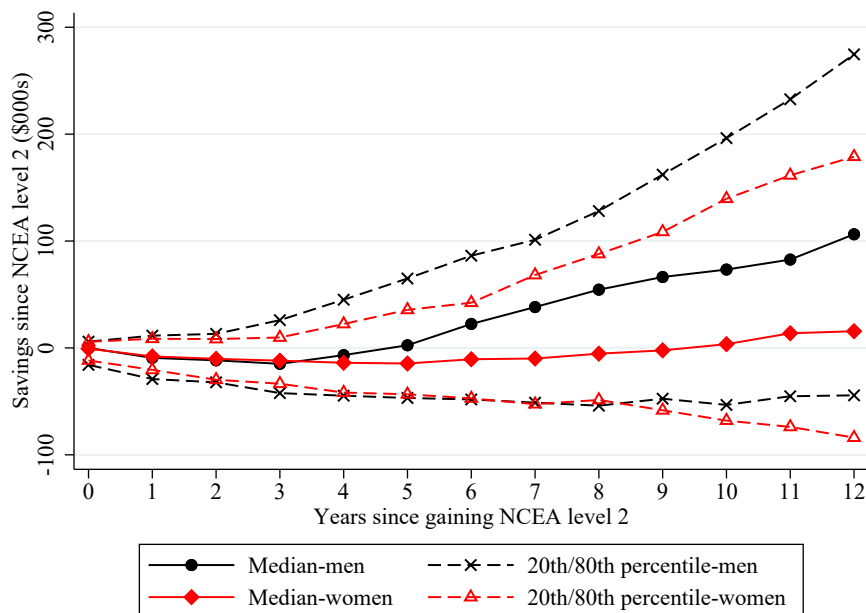
Notes: This figure shows the percentage of students whose highest qualification (at level 4 or above) is in each field among those who were Generalists. Students may be included in more than one field if they have multiple highest qualifications at the same level. Those whose highest qualification is below level 4 are included in the “No qualification” category. To be counted, qualifications must have been gained within 10 years of achieving NCEA level 2. Small but non-zero values may be presented as zeros for confidentiality reasons.

Figure 3 shows the evolution over time of the distribution of cumulative savings for men and women who were Generalists. Median cumulative savings for men are negative for the first 5 years, indicating any earnings the median students have over these years are insufficient to cover their estimated living costs and tertiary fees. Median cumulative savings for women remain negative until year 9. The median savings of the two genders begin to diverge 5 years after NCEA level 2, with men’s savings pulling ahead. By 12 years after NCEA level 2, median men’s cumulative savings are around \$100,000, whereas women’s are only about \$15,000. Men at the upper end of the savings distribution do substantially better than women as well, and men at the lower end of the savings distribution do somewhat better than women. Although median

women’s cumulative savings after 12 years are barely above 0, some women who are Generalists do very well: the 80th percentile of women’s cumulative savings after 12 years is around \$175,000.

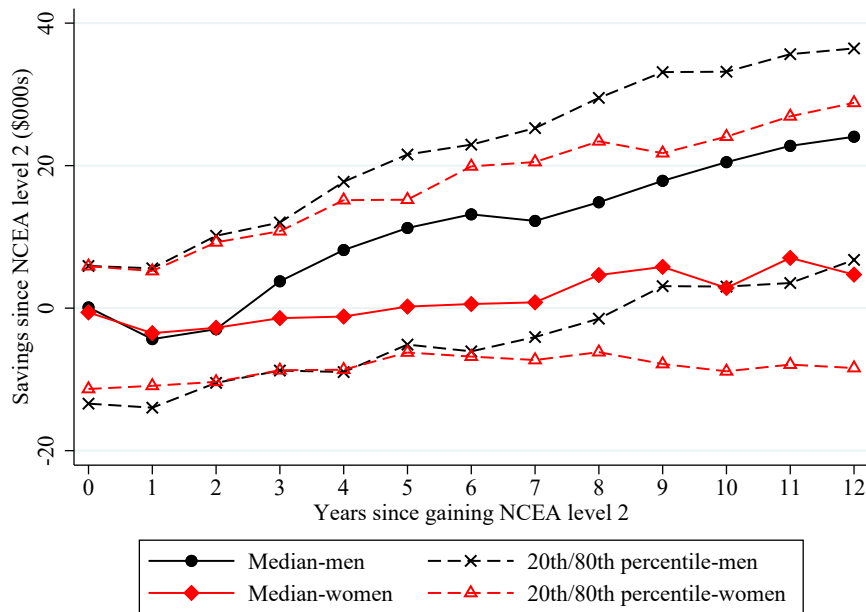
Figure 4 similarly shows how the distribution of annual savings changes over time for men and women who were Generalists. It shows median men’s annual savings begin to pull ahead of median women’s 3 years after NCEA level 2 and maintain their lead every year after. By year 12, median men’s annual savings are \$20,000 higher than women’s. In fact, median annual savings for women are below the 20th percentile of annual savings for men. The large annual savings gap in year 12 suggests men’s cumulative savings in later years will continue to pull further ahead of women’s.

Figure 3: Cumulative savings over time by gender



Notes: This figure shows how the median, 20th percentile, and 80th percentile of cumulative savings since gaining NCEA level 2 change over time for men and women who were Generalists.

Figure 4: Annual savings over time by gender



Notes: This figure shows how the median, 20th percentile, and 80th percentile of annual savings change over time for men and women who were Generalists.

3. How do savings vary with level of qualifications?

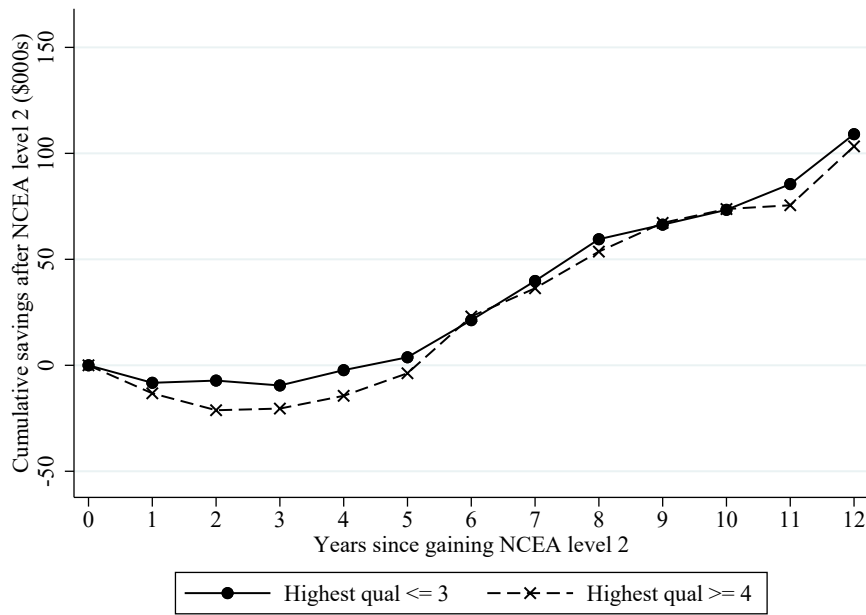
This section shows how the cumulative and annual savings of students who were Generalists vary with their highest level of qualification.

3.1 Cumulative and annual savings by level of highest qualification

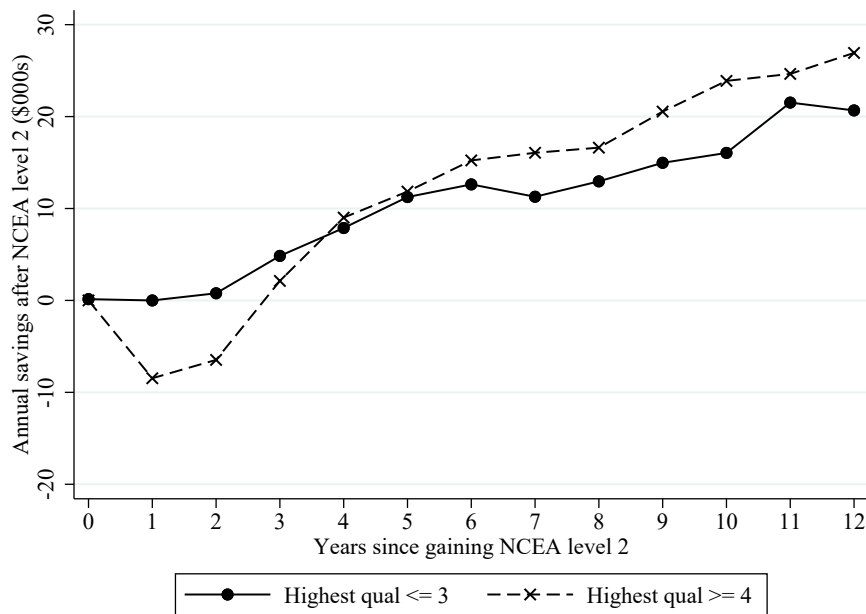
Figures 5 and 6 show how median cumulative and annual savings change over time after gaining NCEA level 2 for men and women who achieve different levels of highest qualification. Figure 5 shows men with higher qualifications (levels 4 and above) initially have low median annual savings for two years while they study. Their annual savings then grow rapidly as they enter the labour market, and overtake the median annual savings of men with low qualifications (level 2 or 3). From this point on, their annual savings are consistently higher than the savings of men with low qualifications. By year 12, their annual savings are \$6,000 above the annual savings of men with low qualifications. In terms of cumulative savings, we see opportunity cost of education causes men with high qualifications to have negative cumulative savings for five years, but their cumulative savings then grow and catch up with the cumulative savings of less qualified men. Twelve years after NCEA level 2, the cumulative savings of the two groups are similar, just over \$100,000.

Figure 5: Savings over time by level of highest qualification for men

Panel A: Cumulative savings

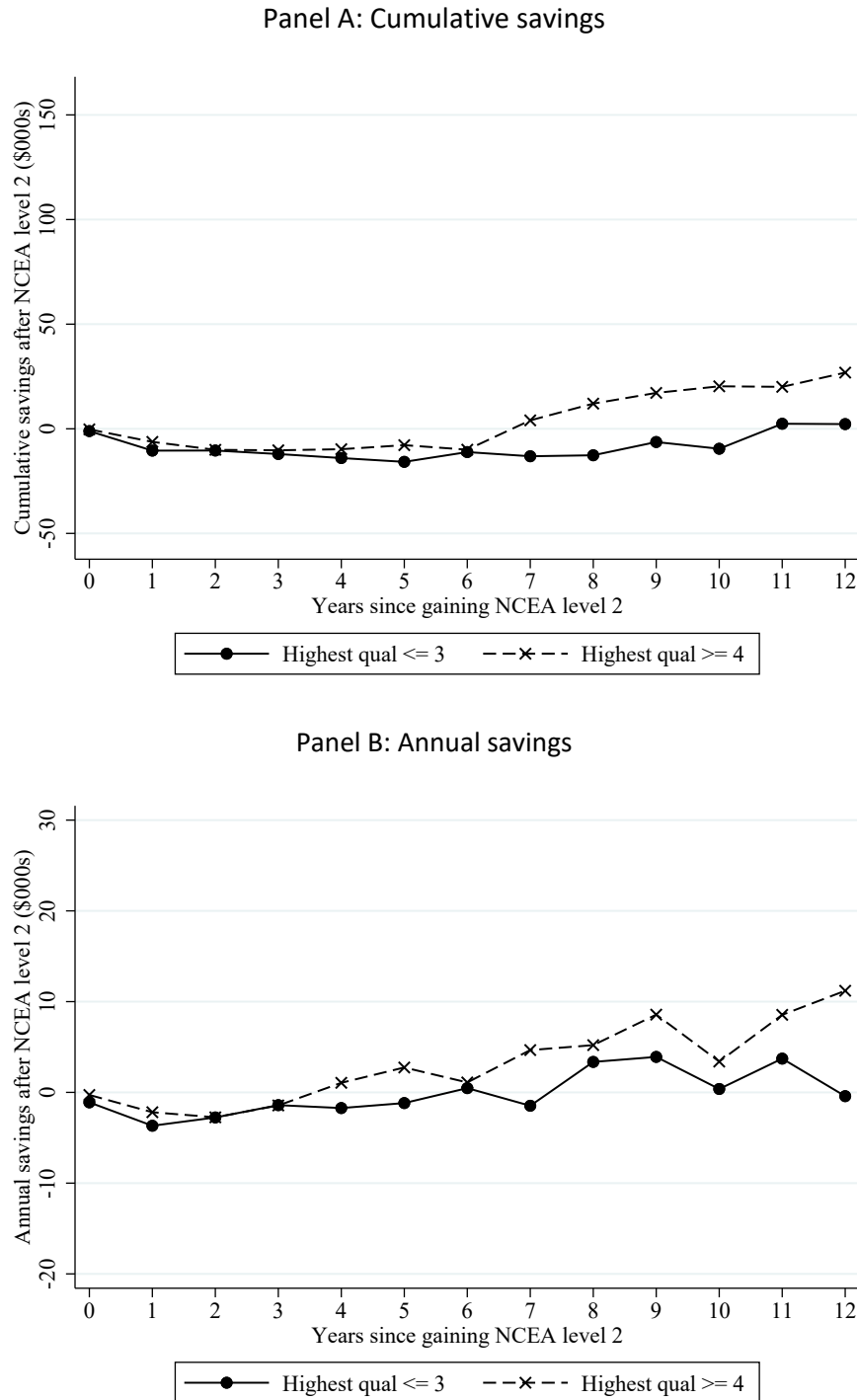


Panel B: Annual savings



Notes: This figure shows changes over time in the median of cumulative savings since gaining NCEA level 2 (Panel A) and median of annual savings (Panel B) for men who were Generalists and achieved different levels of highest qualification. Qualifications are included if they were gained within 10 years of NCEA level 2.

Figure 6: Savings over time by level of highest qualification for women



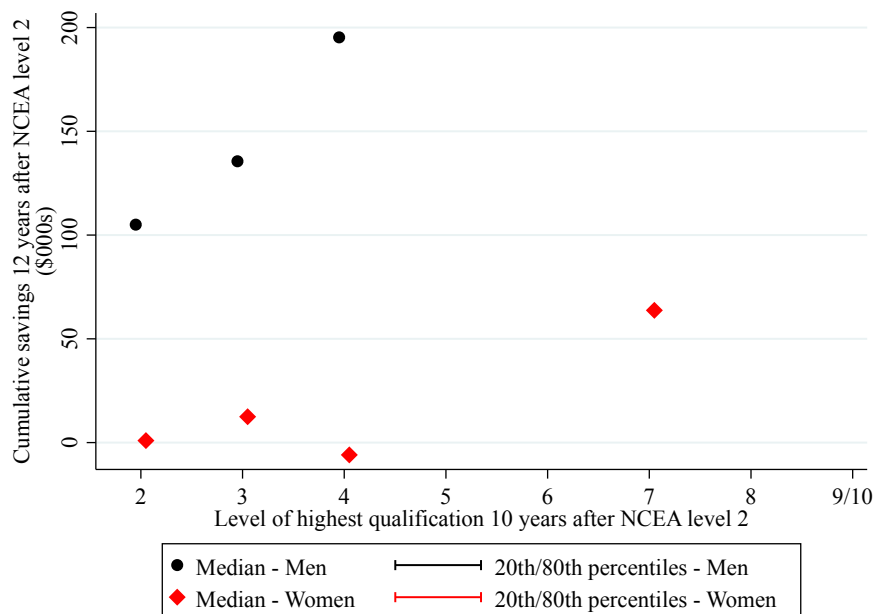
Notes: This figure shows changes over time in the median of cumulative savings since gaining NCEA level 2 (Panel A) and median of annual savings (Panel B) for women who were Generalists and achieved different levels of highest qualification. Qualifications are included if they were gained within 10 years of NCEA level 2.

Figure 6 reveals a different story for women to the story for men. Women who obtain qualifications at level 4 or above consistently see equal or higher annual savings than low-qualified women. While the median annual savings of more qualified women remain negative

until year 4, those of low-qualified women remain negative until year 8. Consequently, the more qualified women have higher cumulative savings, and the gap is large after year 6. By year 12, women with higher level qualifications have cumulative savings \$25,000 higher than women with lower level qualifications.

Taken together, these findings show men who were Generalists tend to have higher annual savings if they receive education to level 4 or higher, but by year 12 more qualified men still have slightly lower cumulative savings because of the opportunity cost of studying. However, their higher annual savings suggest in subsequent years their cumulative savings will overtake those of less qualified men. On the other hand, women with qualifications at level 4 or above do substantially better in the labour market than women without. When comparing the genders, we see high qualified women have only half the annual savings of men with low qualifications 12 years after NCEA level 2.

Figure 7: Cumulative savings 12 years after NCEA level 2 by gender and level of highest qualification

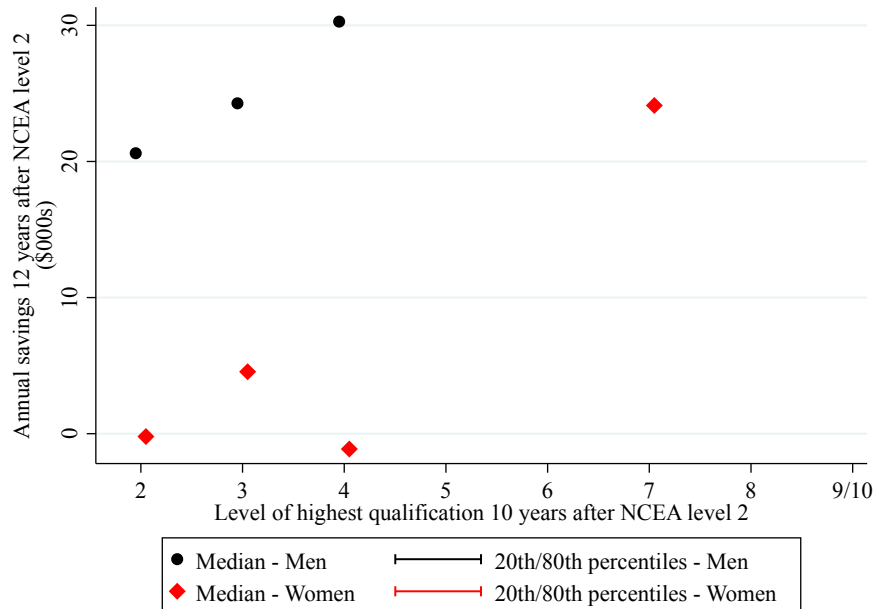


Notes: This figure shows the median and 20th and 80th percentiles of cumulative savings 12 years after NCEA level 2 of men and women who were Generalists by the detailed level of their highest qualification. Qualifications are included if they were gained within 10 years of NCEA level 2. Note the median is plotted if the number of observations is 10 or larger, and the 20th and 80th percentiles are plotted if the number of observations is 50 or larger.

Figures 7 and 8 explore the distribution of cumulative and annual savings after 12 years for men and women by disaggregated level of highest qualification. They show women’s savings

benefit significantly from qualifications at level 7 compared with qualifications at level 4 or below, and men’s savings benefit from each level up qualification they gain up to level 4.³

Figure 8: Annual savings 12 years after NCEA level 2 by gender and level of highest qualification



Notes: This figure shows the median and 20th and 80th percentiles of annual savings 12 years after NCEA level 2 of men and women who were Generalists by the detailed level of their highest qualification. Qualifications are included if they were gained within 10 years of NCEA level 2. Note the median is plotted if the number of observations is 10 or larger, and the 20th and 80th percentiles are plotted if the number of observations is 50 or larger.

3.2 Qualification levels of top cumulative and annual savers

In this section we categorise men and women who were Generalists by whether they are top cumulative savers or top annual savers, and show the level of qualifications and types of education providers attended that are associated with being a top saver. A student is considered a top cumulative (or annual) saver if their cumulative (annual) savings 12 years after NCEA level 2 are in the top 20% of cumulative (annual) savings for Māori students of their gender who were Generalists. Note the comparisons in this section are all with other students of the same gender in the same specialty, so being a top saver means a student does well in the labour market compared with similar students. This can be but is not necessarily the same as doing well in absolute terms.

³ The numbers of men and women with other level of qualification are too low for us to say anything about their savings.

Appendix Tables 1 and 2 show for men and women respectively the characteristics associated with being a top cumulative saver or top annual saver. The left-hand side of each table describes each characteristic. Column (1) gives the percentage of students who are *not* top cumulative savers who have the characteristic, and column (2) gives the percentage of students who *are* top savers who have the characteristic. Column (3) is the odds ratio, defined as the proportion of students *with* the characteristic who are top cumulative savers divided by the proportion of students *without* the characteristic who are top savers. Thus an odds ratio of 1 means the probability of being a top cumulative saver is unrelated to whether a student has the characteristic, an odds ratio above 1 means a student is *more* likely to be a top cumulative saver if they have the characteristic, and an odds ratio below 1 means a student is *less* likely to be a top cumulative saver if they have the characteristic. Asterisks on the odds ratio indicate whether it is statistically significantly different to 1. Columns (4) to (6) replicate columns (1) to (3) but for annual instead of cumulative savings. Because the numbers of men and women in this specialty are small, we do not use regressions to analyse the correlates of being a top saver. The remainder of this section discusses the results from Appendix Tables 1 and 2.

Most men and women who are Generalists do not achieve a level 3 NCEA certificate within 5 years of their level certificate. Our best evidence of the level of qualification men and women who are Generalists should obtain comes from Figures 7 and 8, which suggest men with level 4 qualifications and women with level 7 qualifications are most likely to do well in the labour market. However, we can see here that 43% of men and 18% of women achieve some industry training credits within 10 years, and nearly a quarter of men gain an industry training qualification at level 2 or above. Industry training appears highly beneficial for men and women in terms of both cumulative and annual savings. For instance, the men who achieve any industry training credits are 3.2 times as likely as other men to be top cumulative savers and 3.2 times as likely to be top annual savers; the women who achieve any industry training credits are 3.3 times as likely as other women to be top cumulative savers, and 1.7 times as likely to be top annual savers. For men, the only place we can observe this, industry training *qualifications* are particularly beneficial for annual savings and somewhat beneficial for cumulative savings.

Accordingly, men who attend an industry training organisation are much more likely than other men to be top cumulative and top annual savers. This relationship is much smaller and not significant for women. However, the 25% of women who attend university are 2.3 times as likely as other women to be top cumulative savers and 4.0 times as likely to be top annual savers. Men are less likely than women to attend university, and there is no evidence men who do so are more likely than other men to be top savers. However, women who attend an institute of

technology of polytechnic are only just over half as likely as other women to be top cumulative savers and are not more likely to be top annual savers.

4. How do savings vary with fields of study in higher education?

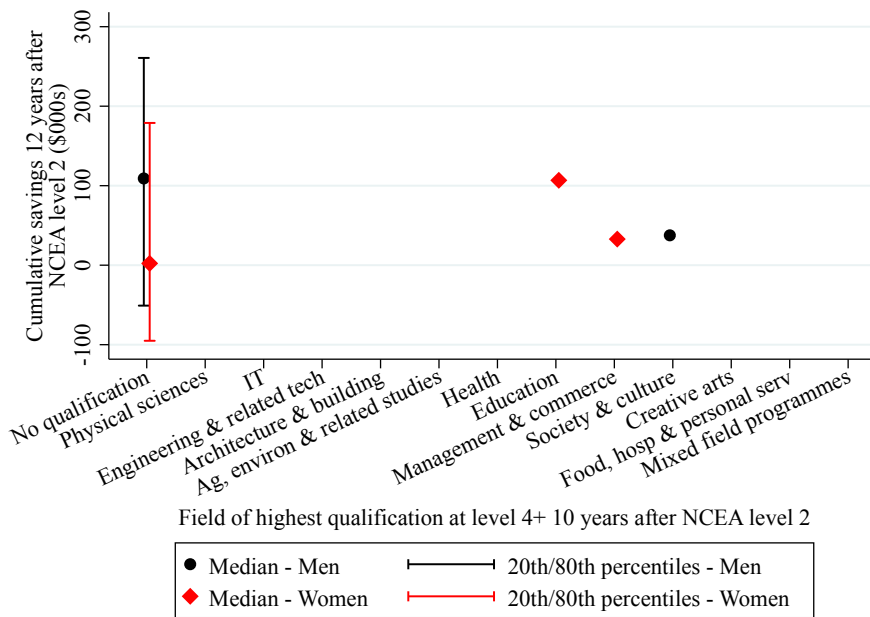
This section shows how the cumulative and annual savings of students who were Generalists vary with the fields in which they study at various levels and gain qualifications.

4.1 Cumulative and annual savings by fields of study

Figure 9 shows how the cumulative savings after 12 years differ for men and women whose highest qualifications at level 4 or above are in the few fields where data are sufficient to examine. Figure 10 shows the same but for annual rather than cumulative savings. As Figure 2 showed, the highest proportion of men and women have no qualification at level 4 or above. Such men have relatively high cumulative savings, nearly \$110,000 at the median, compared with barely above \$0 for women. These men have median annual savings of just over \$20,000, compared with approximately \$0 for women. Although zero annual or cumulative savings is a very low value in absolute terms, a person who had no income would have negative savings because we assume everyone must pay some minimal cost of living. The median Generalist woman with no qualification above level 3, therefore, does not have zero income.

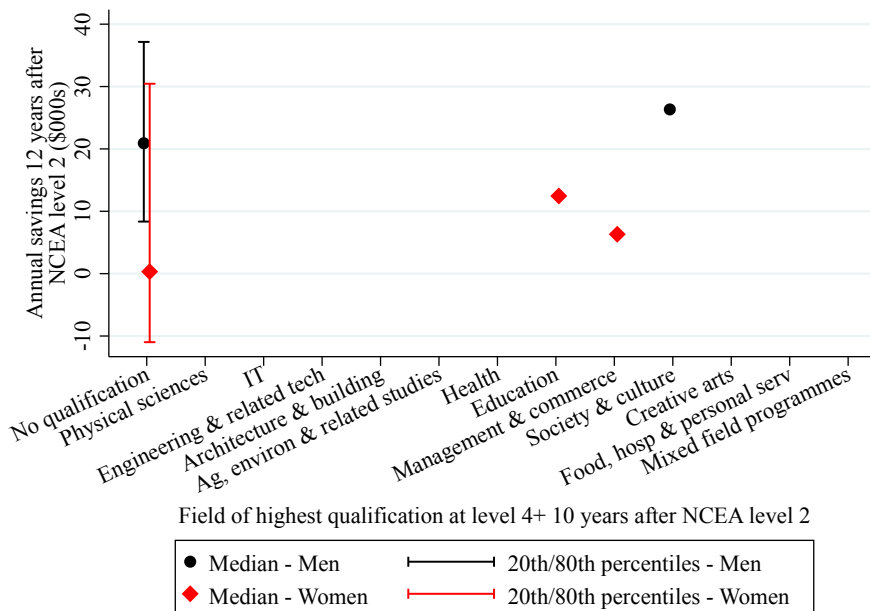
The only fields of higher qualification for which we can compare savings are Education and Management and Commerce for women, and Society and Culture for men. In either Education or Management and Commerce, women do better at the median than they would without any qualifications at this level, and their cumulative and annual savings are higher in Education than in Management and Commerce. Men with a qualification in Society and Culture have lower median cumulative savings but higher annual savings than those with no qualifications at level 4 or above.

Figure 9: Cumulative savings 12 years after NCEA level 2 by gender and field of highest qualification



Notes: This figure shows the median and 20th and 80th percentiles of cumulative savings 12 years after NCEA level 2 of men and women who were Generalists by the field of their highest qualification at level 4 or above gained within 10 years of NCEA level 2. “No qualification” includes qualifications at level 3 and below. The median is plotted if the number of observations is 10 or larger, and the 20th and 80th percentiles are plotted if the number of observations is 50 or larger.

Figure 10: Annual savings 12 years after NCEA level 2 by gender and field of highest qualification



Notes: This figure replicates Figure 9 but presents annual savings rather than cumulative savings.

4.2 Fields of higher study of top cumulative and annual savers

In this section we again categorise men and women who were Generalists by whether they are top cumulative savers or top annual savers, and show in the few places where data are sufficient how the fields in which they study and gain qualifications are associated with being a top saver of either kind. As in Section 3.2, we conduct bivariate analysis only. Again, being a top saver means doing well compared with other students of the same gender in the same specialty, and is not a statement about how well the student is doing in absolute terms. This section discusses results not presented in tables because only one or two results per table were not suppressed for confidentiality reasons.

Twenty-four percent of men pass at least 0.5 EFTS of courses in Engineering and Related Technologies at level 2 or above, and 15% do so at level 4 or above. When considered at either level, men who pass these EFTS are more than twice as likely to be top cumulative savers and more than twice as likely to top annual savers as men who do not pass these EFTS. Along similar lines, 29% of men who are top cumulative savers and a similar percentage of men who are top annual savers have their highest qualification in Engineering and Related Technologies, compared with 8% or less of men who are not top savers of each kind. A highest qualification in Engineering and Related Technologies, even if it's below level 4, strongly predicts being a top saver for men.

Thirty-seven percent of women pass at least 0.5 EFTS of courses in Management and Commerce at level 2 or above. Such women are over twice as likely as other women to be top annual savers, but the sample size is not large enough for this difference to be statistically significant.

5. **How do savings vary with pathways through life outside education?**

This section shows how the cumulative and annual savings of students who were Generalists vary with their fertility decisions, overseas experience, and work experience in the first five years after NCEA level 2. We again categorise men and women by whether they are top cumulative savers or top annual savers, and show how the pathways they take outside education are associated with being a top saver of either kind. As in previous sections, we conduct bivariate analysis only. Again, being a top saver means doing well compared with other students of the same gender in the same specialty.

The bivariate analysis is presented in Appendix Tables 3 and 4. As previously, these tables show the proportion of top and non-top savers who have each characteristic and the odds ratio

(calculated as the probability a student with the characteristic is a top saver divided by the probability a student without the characteristic is a top saver). Many of the characteristics shown in these tables relate to work experience. In particular, we look at whether the student worked for a certain type of employer for at least one year or at least three years in the first five years after NCEA level 2. Note here we limit the sample considered to those students who had at least that many years of work experience for some employer. For example, when considering whether students had at least 3 years of experience working in the Construction industry, the students without the characteristic are those who have at least three years of work experience, but who do not have three years of experience working in Construction. The remainder of this section discusses the results from Appendix Tables 3 and 4.

Women who are Generalists have high fertility in the first ten years after NCEA level 2. Forty-nine percent of them compared with less than 15% of men have a child in the fifth year after NCEA level 2 or earlier, and 52% of women compared with 27% of men have a child in years 6 to 10. Despite the small sample size, having child by five years after NCEA level 2 is significantly negatively associated with being a top saver for women, with those who have a child in this period less than 35% as likely as other women to be top cumulative savers. Such women are also substantially but insignificantly less likely to be top annual savers.

Thirty-eight percent of men and 35% of women have at least a year of work experience by the end of the year they gain NCEA level 2. Such women are nearly two-and-a-half times as likely as other women to be top cumulative and annual savers. Such men are only insignificantly more likely to be top savers of each type. Women who get at least three years of work experience in years 1 to 5 after NCEA level 2 are over three times as likely as other women to be top cumulative savers and 2.5 times as likely to be top annual savers.

Nearly a quarter of men who get any work experience in years 1 to 5 work in the Construction industry for at least one year. Men with this industry experience are 2.4 times as likely as men with work experience but not in Construction to be top annual savers. Women's only common industry of work experience is Retail Trade; this experience is associated with insignificantly low probabilities of being a top cumulative or annual saver.

6. Conclusions

In this specialty profile, we focussed on Māori men and women who were Generalists at NCEA level 2, and who achieved a level 2 NCEA certificate by age 19 even though they were not top academic performers. Where observation counts permitted, we investigated separately by gender the pathways through education and life that are associated with strong labour market

outcomes for these students, measuring labour market outcomes with cumulative and annual savings 12 years after NCEA level 2.

Students who are Generalists, who at level 2 may have been disengaged with education or undecided on where their interests lay, tend to achieve low levels of qualification. Around 40% of these men and women do not gain any qualification above level 2, only around 10% of each gender gain level 7, and essentially none gain qualifications above level 7. Accordingly, they have low median cumulative savings, around \$100,000 for men 12 years after NCEA level 2 and \$10,000 for women. However, some students who are Generalists do very well in the labour market. The 80th percentile of men's cumulative savings at 12 years is around \$275,000 and the 80th percentile of women's is about \$175,000.

The data available for this small specialty are limited, but those that are available suggest men have the highest probability of being top savers if they gain a level 4 qualification. Men tend to do comparatively well if they do industry training, even at a low level, if their highest qualification (regardless of level) is in Engineering and Related Technologies, or if they attend an industry training organisation. Experience in the Construction industry appears valuable for men.

In contrast, women have the highest probability of doing well in the labour market if they gain a level 7 qualification. As a less academic alternative to a level 7 qualification, industry training seems to be associated with comparatively strong outcomes for women, though fewer women than men take this path. Women who attend university are more likely to do well in the labour market than are women who don't, and women who attend an institute of technology or polytechnic are less likely to do well. There is weak evidence that women who study Education tend to do well, and to some extent also women who study Management and Commerce.

Appendix Table 1: Qualification levels of men who are top savers

Characteristic	Cumulative savings			Annual savings			Students
	% of students with characteristic among:		Odds ratio	% of students with characteristic among:		Odds ratio	
	Non-top savers	Top savers		Non-top savers	Top savers		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
School qualifications gained:							
NCEA cert level 3 within 1 yr	<12 have characteristic			<12 have characteristic			99
NCEA cert level 3 within 5 yrs	15.4	<28.6	<1.80	15.4	<28.6	<1.80	99
University Entrance within 1 yr	<12 have characteristic			<12 have characteristic			99
Level of highest qualification gained within 10 years:							
Level 2	40.7	42.9	1.07	44.4	28.6	0.57	99
Level 3	18.5	<25.0	<1.33	18.5	<28.6	<1.54	99
Level 4	23.1	28.6	1.25	19.2	42.9	2.34*	99
Level 5	<12 have characteristic			<12 have characteristic			99
Level 6	<12 have characteristic			<12 have characteristic			99
Level 7	<12 have characteristic			<12 have characteristic			99
Level 8	<12 have characteristic			<12 have characteristic			99
Level 9 or 10	<12 have characteristic			<12 have characteristic			99
Industry training credits gained within 10 years:							
Any credits	36.0	71.4	3.21***	36.0	71.4	3.21***	99
Any credits at level 4+	19.2	28.6	1.49	15.4	42.9	2.79***	99
50+ credits	18.5	42.9	2.44**	18.5	50.0	3.13***	99
50+ credits at level 4+	11.1	28.6	2.32**	7.7	42.9	4.20***	99
Level of highest industry training qualification gained within 10 years:							
Level 2+	19.2	42.9	2.34*	18.5	50.0	3.13***	99
Level 3+	15.4	28.6	1.80*	11.5	42.9	3.38***	99
Level 4+	7.7	<28.6	<2.90*	<7.7	28.6	>2.90***	99
Types of tertiary institute where student enrolled within 10 years (for students who enrolled in any tertiary):							
Industry Training Organisation	34.6	>71.4	>3.39***	34.6	>71.4	>3.39***	99
Institute of Technology/Polytech	80.8	71.4	0.67	76.9	71.4	0.80	99
Private Training Establishment	72.0	71.4	0.98	66.7	>75.0	>1.38	99
University	33.3	<28.6	<0.84	34.6	<25.0	<0.70*	99
Wananga	18.5	<22.2	<1.18M	18.5	<22.2	<1.18	99
Other Tertiary Provider	<12 have characteristic			<12 have characteristic			99
Locations of education providers where student enrolled within 10 years (including schools):							
Main urban area	<12 do not have characteristic			<12 do not have characteristic			99
Secondary urban area	28.0	28.6	1.02	33.3	<25.0	<0.73	99
Minor urban area	23.1	28.6	1.25	23.1	28.6	1.25	99
Rural centre or rural area	18.5	28.6	1.54*	19.2	28.6	1.49	99
Different region to school	<12 do not have characteristic			<12 do not have characteristic			93

Notes: The odds ratio is calculated as (probability a student with the characteristic is a top saver)/(probability a student without the characteristic is a top saver). Population percentages are expressed as bounds where affected by confidentialisation of values under 6. Asterisks denote the odds ratio is different to one at: * p<0.10, ** p<0.05, *** p<0.01, M p is missing.

Appendix Table 2: Qualification levels of women who are top savers

Characteristic	Cumulative savings			Annual savings			Students
	% of students with characteristic among:		Odds ratio	% of students with characteristic among:		Odds ratio	
	Non-top savers	Top savers		Non-top savers	Top savers		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
School qualifications gained:							
NCEA cert level 3 within 1 yr	<12 have characteristic			<12 have characteristic			96
NCEA cert level 3 within 5 yrs	16.0	<22.2	<1.33	12.0	<25.0	<1.87	96
University Entrance within 1 yr	<12 have characteristic			<12 have characteristic			96
Level of highest qualification gained within 10 years:							
Level 2	41.7	28.6	0.63	41.7	28.6	0.63	96
Level 3	16.0	<25.0	<1.50	16.0	<25.0	<1.50	96
Level 4	24.0	28.6	1.20	28.0	<28.6	<1.02	96
Level 5	<12 have characteristic			<12 have characteristic			96
Level 6	<12 have characteristic			<12 have characteristic			96
Level 7	<12 have characteristic			<12 have characteristic			96
Level 8	<12 have characteristic			<12 have characteristic			96
Level 9 or 10	<12 have characteristic			<12 have characteristic			96
Industry training credits gained within 10 years:							
Any credits	12.0	42.9	3.25***	16.0	28.6	1.73*	96
Any credits at level 4+	<12 have characteristic			<12 have characteristic			96
50+ credits	<12 have characteristic			<12 have characteristic			96
50+ credits at level 4+	<12 have characteristic			<12 have characteristic			96
Level of highest industry training qualification gained within 10 years:							
Level 2+	<12 have characteristic			<12 have characteristic			96
Level 3+	<12 have characteristic			<12 have characteristic			96
Level 4+	<12 have characteristic			<12 have characteristic			96
Types of tertiary institute where student enrolled within 10 years (for students who enrolled in any tertiary):							
Industry Training Organisation	24.0	37.5	1.60	20.8	28.6	1.37	96
Institute of Technology/Polytech	76.0	57.1	0.52**	72.0	57.1	0.61	96
Private Training Establishment	72.0	71.4	0.98	72.0	71.4	0.98	96
University	20.0	42.9	2.25**	16.0	57.1	4.00***	96
Wananga	28.0	<25.0	<0.89	29.2	<22.2	<0.76*	96
Other Tertiary Provider	<12 have characteristic			<12 have characteristic			96
Locations of education providers where student enrolled within 10 years (including schools):							
Main urban area	<12 do not have characteristic			<12 do not have characteristic			96
Secondary urban area	20.8	<22.2	<1.06	28.0	<22.2	<0.79M	96
Minor urban area	20.0	37.5	1.88*	24.0	28.6	1.20	96
Rural centre or rural area	<12 have characteristic			<12 have characteristic			96
Different region to school	81.8	>71.4	>0.65	81.0	>71.4	>0.68	81

Notes: The odds ratio is calculated as (probability a student with the characteristic is a top saver)/(probability a student without the characteristic is a top saver). Population percentages are expressed as bounds where affected by confidentialisation of values under 6. Asterisks denote the odds ratio is different to one at: * p<0.10, ** p<0.05, *** p<0.01, M p is missing.

Appendix Table 3: Non-education characteristics of men who are top savers

Characteristic	Cumulative savings			Annual savings			Students
	% of students with characteristic among:		Odds ratio	% of students with characteristic among:		Odds ratio	
	Non-top savers	Top savers		Non-top savers	Top savers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Years student had any children:							
Fifth year after NCEA level 2 or earlier	11.5	<28.6	<2.24	15.4	<28.6	<1.80	99
Years 6 to 10 after NCEA level 2	28.0	<28.6	<1.02	26.9	28.6	1.07	99
Years 11 to 12 after NCEA level 2	19.2	<25.0	<1.29	22.2	<28.6	<1.30	99
Years of early work experience:							
Any work experience in year of NCEA level 2 or earlier	34.6	42.9	1.31	34.6	50.0	1.67	99
Any work experience in years 1 to 5 after NCEA level 2	81.5	>77.8	>0.84M	81.5	>77.8	>0.84M	99
Three+ years of work experience in years 1 to 5	65.4	>77.8	>1.60M	65.4	>77.8	>1.60M	99
Sectors of work experience in years 1 to 5 after gaining NCEA level 2:							
Central government in at least one year	<12 have characteristic			<12 have characteristic			87
Central government in at least 3 years	<12 have characteristic			<12 have characteristic			72
Other government in at least one year	<12 have characteristic			<12 have characteristic			87
Other government in at least 3 years	<12 have characteristic			<12 have characteristic			72
Non-profit organisation in at least one year	<12 have characteristic			<12 have characteristic			87
Non-profit organisation in at least 3 years	<12 have characteristic			<12 have characteristic			72
Firm size of work experience in years 1 to 5 after gaining NCEA level 2:							
Small employer (<10 employees) in at least one year	47.8	28.6	0.52	45.5	28.6	0.57	87
Small employer (<10 employees) in at least 3 years	27.8	<28.6	<1.03	23.5	<25.0	<1.06	72
Medium employer (10-99 employees) in at least one year	40.9	42.9	1.06	40.9	42.9	1.06	87
Medium employer (10-99 employees) in at least 3 years	17.6	<25.0	<1.33	12.5	<28.6	<1.90	72
Large employer (100+ employees) in at least one year	52.2	71.4	1.91	54.5	57.1	1.08	87
Large employer (100+ employees) in at least 3 years	35.3	57.1	1.87*	41.2	57.1	1.58	72
Industries of work experience in years 1 to 5 after gaining NCEA level 2:							
Agriculture, Forestry, Fishing in at least one year	<12 have characteristic			<12 have characteristic			87
Agriculture, Forestry, Fishing in at least 3 years	<12 have characteristic			<12 have characteristic			72
Manufacturing in at least one year	27.3	28.6	1.05	22.7	<28.6	<1.26	87
Manufacturing in at least 3 years	<12 have characteristic			<12 have characteristic			72
Construction in at least one year	22.7	28.6	1.26	18.2	42.9	2.36**	87
Construction in at least 3 years	17.6	<28.6	<1.52	17.6	28.6	1.52	72
Wholesale Trade in at least one year	<12 have characteristic			<12 have characteristic			87
Wholesale Trade in at least 3 years	<12 have characteristic			<12 have characteristic			72
Retail Trade in at least one year	18.2	<25.0	<1.33	22.7	<25.0	<1.10	87
Retail Trade in at least 3 years	<12 have characteristic			<12 have characteristic			72
Accommodation & Food Services in at least one year	<12 have characteristic			<12 have characteristic			87
Accommodation & Food Services in at least 3 years	<12 have characteristic			<12 have characteristic			72
Transport, Post, Warehousing in at least one year	<12 have characteristic			<12 have characteristic			87
Transport, Post, Warehousing in at least 3 years	<12 have characteristic			<12 have characteristic			72
Financial & Insurance Services in at least one year	<12 have characteristic			<12 have characteristic			87
Financial & Insurance Services in at least 3 years	<12 have characteristic			<12 have characteristic			72
Professional, Scientific, Technical Services in at least 1 year	<12 have characteristic			<12 have characteristic			87
Professional, Scientific, Technical Services in at least 3 years	<12 have characteristic			<12 have characteristic			72
Administrative & Support Services in at least one year	<12 have characteristic			<12 have characteristic			87
Administrative & Support Services in at least 3 years	<12 have characteristic			<12 have characteristic			72
Public Administration & Safety in at least one year	<12 have characteristic			<12 have characteristic			87
Public Administration & Safety in at least 3 years	<12 have characteristic			<12 have characteristic			72
Education & Training in at least one year	<12 have characteristic			<12 have characteristic			87
Education & Training in at least 3 years	<12 have characteristic			<12 have characteristic			72
Health Care & Social Assistance in at least one year	<12 have characteristic			<12 have characteristic			87
Health Care & Social Assistance in at least 3 years	<12 have characteristic			<12 have characteristic			72
Arts & Recreation Services in at least one year	<12 have characteristic			<12 have characteristic			87
Arts & Recreation Services in at least 3 years	<12 have characteristic			<12 have characteristic			72
Other industry in at least one year	18.2	<28.6	<1.53	18.2	<25.0	<1.33	87
Other industry in at least 3 years	<12 have characteristic			<12 have characteristic			72

Notes: Employment counts as work experience if it is by the highest-paying employer in the year and wages are at least \$10,000. Work experience in at least one year characteristics are defined only for those with at least a year of work experience. Work experience in at least three years characteristics are defined only for those with at least three years of work experience. The odds ratio is calculated as (probability a student with the characteristic is a top saver)/(probability a student without the characteristic is a top saver). Population percentages are expressed as bounds where affected by confidentialisation of values under 6. Asterisks denote the odds ratio is different to one at: * p<0.10, ** p<0.05, *** p<0.01, M p is missing.

Appendix Table 4: Non-education characteristics of women who are top savers

Characteristic	Cumulative savings			Annual savings			Students
	% of students with characteristic among:		Odds ratio	% of students with characteristic among:		Odds ratio	
	Non-top savers	Top savers		Non-top savers	Top savers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Years student had any children:							
Fifth year after NCEA level 2 or earlier	56.0	<25.0	<0.35**	53.8	28.6	0.42	96
Years 6 to 10 after NCEA level 2	53.8	42.9	0.71	53.8	42.9	0.71	96
Years 11 to 12 after NCEA level 2	19.2	<25.0	<1.29	20.0	<22.2	<1.10	96
Years of early work experience:							
Any work experience in year of NCEA level 2 or earlier	29.2	57.1	2.42**	29.2	57.1	2.42*	96
Any work experience in years 1 to 5 after NCEA level 2	70.8	>77.8	>1.31M	72.0	>77.8	>1.26*	96
Three+ years of work experience in years 1 to 5	36.0	>71.4	>3.21***	44.0	71.4	2.50**	96
Sectors of work experience in years 1 to 5 after gaining NCEA level 2:							
Central government in at least one year	<12 have characteristic			<12 have characteristic			72
Central government in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Other government in at least one year	<12 have characteristic			<12 have characteristic			72
Other government in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Non-profit organisation in at least one year	<12 have characteristic			<12 have characteristic			72
Non-profit organisation in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Firm size of work experience in years 1 to 5 after gaining NCEA level 2:							
Small employer (<10 employees) in at least one year	22.2	<25.0	<1.11	22.2	<25.0	<1.11	72
Small employer (<10 employees) in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Medium employer (10-99 employees) in at least 1 yr	47.1	42.9	0.89	50.0	42.9	0.81	72
Medium employer (10-99 employees) in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Large employer (100+ employees) in at least one year	63.2	>75.0	>1.50	66.7	71.4	1.18	72
Large employer (100+ employees) in at least 3 yrs	50.0	60.0	1.31	54.5	60.0	1.17	45
Industries of work experience in years 1 to 5 after gaining NCEA level 2:							
Agriculture, Forestry, Fishing in at least one year	<12 have characteristic			<12 have characteristic			72
Agriculture, Forestry, Fishing in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Manufacturing in at least one year	<12 have characteristic			<12 have characteristic			72
Manufacturing in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Construction in at least one year	<12 have characteristic			<12 have characteristic			72
Construction in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Wholesale Trade in at least one year	<12 have characteristic			<12 have characteristic			72
Wholesale Trade in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Retail Trade in at least one year	41.2	37.5	0.90	44.4	28.6	0.60	72
Retail Trade in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Accommodation & Food Services in at least one year	<12 have characteristic			<12 have characteristic			72
Accommodation & Food Services in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Transport, Post, Warehousing in at least one year	<12 have characteristic			<12 have characteristic			72
Transport, Post, Warehousing in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Financial & Insurance Services in at least one year	<12 have characteristic			<12 have characteristic			72
Financial & Insurance Services in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Professional, Scientific, Technical Services in at least 1 yr	<12 have characteristic			<12 have characteristic			72
Professional, Scientific, Technical Services in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Administrative & Support Services in at least one year	<12 have characteristic			<12 have characteristic			72
Administrative & Support Services in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Public Administration & Safety in at least one year	<12 have characteristic			<12 have characteristic			72
Public Administration & Safety in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Education & Training in at least one year	<12 have characteristic			<12 have characteristic			72
Education & Training in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Health Care & Social Assistance in at least one year	<12 have characteristic			<12 have characteristic			72
Health Care & Social Assistance in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Arts & Recreation Services in at least one year	<12 have characteristic			<12 have characteristic			72
Arts & Recreation Services in at least 3 yrs	<12 have characteristic			<12 have characteristic			45
Other industry in at least one year	<12 have characteristic			<12 have characteristic			72
Other industry in at least 3 yrs	<12 have characteristic			<12 have characteristic			45

Notes: Employment counts as work experience if it is by the highest-paying employer in the year and wages are at least \$10,000. Work experience in at least one year characteristics are defined only for those with at least a year of work experience. Work experience in at least three years characteristics are defined only for those with at least three years of work experience. The odds ratio is calculated as (probability a student with the characteristic is a top saver)/(probability a student without the characteristic is a top saver). Population percentages are expressed as bounds where affected by confidentialisation of values under 6. Asterisks denote the odds ratio is different to one at: * p<0.10, ** p<0.05, *** p<0.01, M p is missing.

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