MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
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The impact of further education on the employment outcomes of beneficiaries

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Disclaimer: This report was undertaken while the authors were on secondment to Statistics New Zealand. The results in this report are not official statistics – they have been created for research purposes from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand. On-going work within Statistics New Zealand to develop the IDI means it will not be possible to exactly reproduce the data presented here.

The opinions, findings, recommendations and conclusions expressed in this report are those of the authors. Statistics New Zealand and the Ministry of Business, Innovation and Employment (the Ministry takes no responsibility for any omissions or errors in the information contained here).

Access to the data used in this study was provided by Statistics New Zealand in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, business or organisation. The results in this report have been confidentialised to protect individual people and businesses from identification.

Careful consideration has been given to the privacy, security and confidentiality issues associated with using administrative data in the IDI prototype. Further detail can be found in the Privacy impact assessment for the Integrated Data Infrastructure available from Statistics New Zealand.[1]

The results are based in part on tax data supplied by Inland Revenue to Statistics New Zealand under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, and no individual information may be published or disclosed in any other form or provided to Inland Revenue for administrative or regulatory purposes.

Any person who has had access to the unit-record data has certified that they have been shown, have read and have understood section 81 of the Tax Administration Act 1994, which relates to secrecy. Any discussion of data limitations or weaknesses is in the context of using the IDI prototype for statistical purposes and is not related to the data's ability to support Inland Revenue's core operational requirements.

[1] http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/integrated-data-infrastructure/privacy-impact-assessment-for-the-idi.aspx

Executive summary

Further education and training can assist beneficiaries to gain skills, improve their chances of gaining employment and reduce long-term benefit dependence.

This study examines the impact of undertaking further education on beneficiaries' labour market outcomes. It focuses on those who had been receiving a benefit for at least 6 months when they newly enrolled at a tertiary institution over the period 2003–2005 and their outcomes 5 years later.[2] Some results for those who started studying in 2008–2010 and outcomes 1–3 years later are also included.

The study addresses the following questions:

- What impact does participating in further education have on beneficiaries' outcomes?
- What impact does completing a qualification have on beneficiaries' outcomes?
- How do these vary by level and field of study and the demographic characteristics of participants?

A range of outcomes are considered, including subsequent employment, earnings and receipt of income support.

Impacts are estimated by comparing the outcomes of participating beneficiaries with the outcomes of matched comparison groups of beneficiaries who did not study. Matching is done using the method of propensity score matching.

The study uses recently linked administrative data from the tax, benefit and education systems, which provides information on all beneficiaries who enrol in tertiary education.

Main findings

In 2010, about 40,000 or approximately 15% of beneficiaries who had been receiving benefit for at least 6 months enrolled in tertiary education,[3] down from about 47,000 or 20% in 2005.

Of those who newly enrolled over the period 2003–2005, about 65% enrolled in qualifications at level 1–3, 17% enrolled at level 4 and 19% enrolled at level 5 (diploma) or above. The median age at enrolment was 32 years. About 73% were women, 42% were Māori and half had received benefit for 6 or more of the previous 10 years. Most studied for 1 year, often part-time, and about 40% completed a qualification.

Overall, enrolling in further education led to small improvements in employment and earnings 5 years later. The largest gains were experienced by those who completed qualifications in particular levels and fields of study. Those who started studying but did not complete a qualification experienced no improvement in outcomes 5 years later, with the exception of those who studied in a small number of fields and levels.

[2] Those who participated in Training Opportunities are excluded.

[3] An additional 15,000 people participated in the Training Opportunities programme in 2010.

Those who started studying at level 1–3 were 2.5 percentage points more likely to be employed 5 years later, but were no less likely to be receiving income support. Those who started studying at level 4 and above were 7 percentage points more likely to be employed and 5 percentage point less likely to be receiving income support 5 years later. The favourable impacts of studying at level 4 and above were evident for most subgroups defined by demographic characteristics (age, gender and ethnicity), type of benefit received and benefit duration.

Overall about 40% completed a qualification. Those who completed qualifications at level 1–3 were 5 percentage points more likely to be employed 5 years after starting studying, while those who completed level 4 certificates, diplomas and degrees were 9, 13 and 19 percentage points more likely to be employed. There was substantial variation by field of study, with those who completed qualifications in particular fields at level 1–3 and level 4 between 10–20 percentage points more likely to be employed 5 years after starting studying, while those completing qualifications in some other fields at these levels were no more likely to be employed. The favourable impacts of completing qualifications were evident for nearly all demographic subgroups. Women benefited more from completing diplomas or degrees, and younger age groups benefited more than older age groups from completing qualifications below degree level.

The shorter-term impacts of further study for beneficiaries who started studying during 2008–2010 are very similar to those for beneficiaries who started studying during 2003–2005 by level of study, level of highest qualification completed and field of study, suggesting that the benefits of further study are likely to be similar for those who started studying more recently over the medium term.

There are several possible reasons why the overall benefits of further study were relatively small. First, the amount of study undertaken was fairly limited in some cases, and most beneficiaries did not complete a qualification. Second, those who completed some types of qualifications experienced no improvement in outcomes compared to those who didn't study, suggesting that some qualifications were not particularly valued by employers. Finally, this study is only able to consider outcomes 5 years after enrolment and impacts appear to be increasing over time, particularly for those who completed qualifications at higher levels, so that the full benefits will not be apparent for several more years.

While the overall benefits of undertaking further study were relatively small, those who completed some types of qualifications substantially improved their chances of future employment.

Beneficiaries who choose to study are likely to be more able and motivated than those who do not study and hence may have had better employment outcomes than non-participants, even if they had not studied.[4] More able students are also likely to select more demanding or more employment focussed courses, and other beneficiary students may not achieve as good outcomes if they enrolled in these courses. For example, restricting study at lower levels in the hope that those who would have enrolled in these will now undertake study at higher levels would likely lead to higher non-completion rates.

[4] The matching method used only controls for characteristics recorded in the various administrative datasets.

Contents

Tables

Figures

Overview

Further education and training can assist beneficiaries to gain skills, improve their chances of gaining employment and reduce long-term benefit dependence.

This study examines the impact of undertaking further education on beneficiaries' labour market outcomes. It focuses on those who had been receiving a benefit for at least 6 months when they newly enrolled at a tertiary institution over the period 2003–2005 and their outcomes 5 years later.[5] Some results for those who started studying in 2008–2010 and outcomes 1–3 years later are also included.

Key findings

Overall, enrolling in further education led to small improvements in employment and earnings 5 years later. The largest gains were experienced by those who completed qualifications in particular levels and fields of study. Those who started studying but did not complete a qualification experienced no improvement in outcomes 5 years later, with the exception of those who studied in a small number of fields and levels.

Those who started studying at level 1–3 were 2.5 percentage points more likely to be employed 5 years later, but were no less likely to be receiving income support. Those who started studying at level 4 and above were 7 percentage points more likely to be employed and 5 percentage point less likely to be receiving income support 5 years later. The favourable impacts of studying at level 4 and above were evident for most subgroups defined by demographic characteristics (age, gender and ethnicity), type of benefit received and benefit duration.

Overall about 40% completed a qualification. Those who completed qualifications at level 1–3 were 5 percentage points more likely to be employed 5 years after starting studying, while those who completed level 4 certificates, diplomas and degrees were 9, 13 and 19 percentage points more likely to be employed. There was substantial variation by field of study, with those who completed qualifications in particular fields at level 1–3 and level 4 at least 10 percentage points more likely to be employed 5 years after starting studying, while those completing qualifications in some other fields at these levels were no more likely to be employed. The favourable impacts of completing qualifications were evident for nearly all demographic subgroups. Women benefited more from completing diplomas or degrees, and younger age groups benefited more than older age groups from completing qualifications below degree level.

Research questions and contribution

The study addresses the following questions:

- What impact does participating in further education have on beneficiaries' outcomes?
- What impact does completing a qualification have on beneficiaries' outcomes?
- How do these vary by level and field of study and the demographic characteristics of participants?

[5] Those who participated in the MSD funded Training Opportunities programme are excluded.

A range of outcomes are considered, including subsequent employment, earnings and receipt of income support.

The study uses recently linked data from the tax, benefit and education systems, which provides unique information on the characteristics of beneficiaries who study, including the level and field of study, and those who complete qualifications.[6] Information on income from wages and salary, self-employment, benefits, student allowances and loans is also available.

The current study extends previous evaluations of further education for beneficiaries in a number of important ways:

- Examining the impacts of further study on all participants,[7] not just the minority who receive employment assistance to study.[8] The current study included those who transfer to a Student Allowance or take out a Student Loan, as well as those who do not receive assistance to study.
- Examining impacts on employment and earnings in addition to the more commonly examined measure of benefit receipt.
- Examining the impacts for those who successfully complete qualifications and those who do not, in addition to examining the overall impacts of participating in further education.
- Providing detailed results by level and field of study and for various demographic subgroups.

Data sources

The study uses Statistics New Zealand's prototype Integrated Data Infrastructure (IDI), which combines administrative data from the tax system with information from the benefit and education systems. The dataset provided longitudinal monthly information on individuals' employment, earnings and receipt of a Student Allowance or a main benefit over the period 1999–2011, and comprehensive information on tertiary enrolments, including the level and field of study, over the period 2003–2010. Those who take out a Student Loan can be identified, as can those who receive some types of employment assistance, in particular, those who receive a Training Incentive Allowance or participate in Training Opportunities.

Study population

We primarily focused on those who had been in receipt of a benefit for at least 6 months when they started a new study spell between January 2003 and December 2005. Those who studied in a given calendar year but not in the previous calendar year were considered to have started a new study spell. The study spell comprises consecutive enrolments separated by no more than 1 calendar year.

[6] More limited information is available on Training Opportunities participants. There is no information of level or field of study or whether participants completed any credits, courses or qualifications.

[7] The current study includes all those who newly enrolled in tertiary education, with the exception of those who participated in Training Opportunities.

[8] Those who received a Training Incentive Allowance or who participate in Training Opportunities can be identified.

The main study population comprised about 62,000 people. We exclude those who participated in Training Opportunities.[9]

This choice of study period ensured that we had information on benefit and employment status for at least 36 months prior to the start of the study spell and for at least 60 months following the start of the study spell[10].

We also looked at those who started a new study spell between January 2008 and December 2010 and outcomes 12–36 months following the start of the study spell[11]. We provide some comparative results on shorter-term outcomes to show whether results for 2008–2010 are consistent with those for 2003–2005. The results in the paper relate to the 2003–2005 study population unless indicated otherwise.

Methods

The impact of studying on subsequent outcomes was estimated using the method of propensity matching. Participants are matched to non-participants on the basis of the estimated probability of starting a new study spell. A wide range of variables are included in the model, including demographic characteristics, prior employment and earnings, and benefit receipt. A separate model is estimated for each type of benefit. Differences in subsequent benefit, employment and earnings of participating and matched beneficiaries indicate the impact of studying on subsequent outcomes.

Main findings

The study examines the impacts for all who enrolled in further education by level of study, field of study and differences by benefit type and demographic subgroup. It then goes on to identify impacts for those who did and did not complete a qualification, by level and field of study.

Who studied and what did they study?

Beneficiaries who started studying were more likely to be female, younger and to have been receiving the Domestic Purposes Benefit rather than the Sickness or Invalid's Benefit. Participants' median age was 32 years, 73% were female and 42% were Māori. Nearly half received the Domestic Purposes Benefit. About 38% had been on a benefit for less than 24 months and 29% had been on a benefit for at least 6 years. About half had spent 6 or more of the previous 10 years on a benefit.

About two-thirds of participants enrolled in programmes at level 1–3, 17% enrolled at level 4 and 19% enrolled at level 5 (diploma) or above. Employment and social skills programmes, management and commerce, society and culture, and information technology were the most common fields of study at level 1–3. Society and culture, management and commerce, health and creative arts were the most common fields of study at level 4. Society and culture, education, health and creative arts were the most common fields of study at diploma level and above.

[9] We excluded Training Opportunities because the linked data does not provide information on the level and field of study or whether any credits or qualifications were achieved. Training Opportunities has been the subject of a recent evaluation, which found that participants were no less likely to be receiving main benefits 7 years later (MSD, 2012).

[10] The main analysis used data up to the end of 2010.

[11] When this analysis was done data was available up to end of 2011.

Most beneficiaries studied for 1 year, including many of those who enrolled in diplomas or degrees. One-quarter studied in the following year, one-fifth studied for a third year and about 10% were still studying 6 years later. The majority of those studying at level 1–3 were enrolled in qualifications that required half a year of full-time study to complete, and many studied part-time.

About 25% received a Training Incentive Allowance, 10% transferred to a Student Allowance and 40% took out a Student Loan. Only those receiving the Domestic Purposes Benefit or Invalid's Benefit were eligible for a Training Incentive Allowance – 44% and 26% of Domestic Purposes Benefit and Invalid's Benefit recipients received this respectively, with negligible numbers transferring to a Student Allowance. About 28% and 18% of those receiving the Unemployment Benefit or Sickness Benefit respectively transferred to a Student Allowance when they started studying.

Overall, 40% of participants gained a qualification, with considerable variation by the level and field of study. For example 30% of those studying towards level 1–3 qualifications in information technology completed them, compared to 40% in management and commerce and 60% in health. Those who studied at level 4 or diploma level were more likely to complete a qualification than those studying at other levels, as were females, those aged 35–64, those with prior qualifications and those who received the Unemployment Benefit or Domestic Purposes Benefit.

Did studying improve outcomes?

Overall, compared to those who did not study, those who started studying were slightly more likely to be employed and slightly less likely to be receiving income support 5 years later. On average, studying at level 4 and above was more beneficial than studying at level 1–3, although there was considerable variation by field of study.

Compared to those who did not study, those who studied were more slightly more likely to be receiving income support and less likely to be employed over the first year or so. Employment rates were slightly lower for participants during the first year compared to matched comparisons, while receipt of income support was higher during the first 3 years only for those who studied towards diplomas or degrees. However, gains in employment were evident about 1 year after enrolment for those who studied towards level 1–3 or level 4 qualifications, after about 2 years for those who studied towards diplomas and after about 3 years for those who studied towards degrees. These patterns reflect the 'locking in' effect of further study, whereby participants are more likely to be receiving income support and less likely to be employed while they are studying, particularly those studying at higher levels, and the time taken to complete qualifications at the different levels.

We focus on impacts 5 years after starting study, reflecting the relatively short time period for which we have data. The full benefits of further study are unlikely to be apparent 5 years later, given that many beneficiaries studied part-time, some certificates and diplomas take the equivalent of 2 years of full-time study to complete, and overall about 10% of beneficiaries were still studying 5 years later. Where study has a positive impact 5 years later, the indication is that the impacts will increase or at least persist over time. Hence cumulative impacts will improve over time, for example, the additional amount of time spent employed over a given number of years will increase as the number of years included in the outcome period increases.

Table S1 shows selected outcomes for the study population and matched comparison group. For example, 5 years after the start of the study spell, 37.5% of beneficiary students were employed

compared to 33.5% of matched comparisons – a difference of 4 percentage points. About 55% of were receiving income support compared to 56% of matched comparisons – a difference of 1 percentage point.[12] Thus, compared to matched comparisons, those who started studying were 4 percentage points more likely to be employed and 1 percentage point less likely to be receiving income support 5 years after they started studying. Overall the reduction in income support were smaller than the increase in employment reflecting that some of the gains were in part-time employment, but mainly that those who studied were less likely to be neither employed nor receiving income support, compared to those who did not study.

Overall studying at level 4 and above was more beneficial than studying at level 1–3 however there was considerable variation by field of study.

Study at level 1–3

- Those who studied at level 1–3 were 4 percentage points more likely to be employed but no less likely to be receiving income support 5 years later.
- The most popular fields of study at level 1–3 were employment, social and general education,[13] management and commerce, information technology, and society and culture.
- Those who studied engineering, health or education at level 1–3 were 7–13 percentage points more likely to be employed 5 years later and 5–11 percentage points less likely to be receiving income support.
- Those who studied management and commerce, society and culture, or information technology were about 3 percentage points more likely to be employed but no less likely to be receiving income support 5 years later.
- Those who enrolled in employment, social or general education programmes were no more likely to be employed and 4 percentage points *more* likely to be receiving income support 5 years later.
- Too few people studied science, architecture and building or creative arts to reliably estimate impacts for these fields.
- Overall men appeared to benefit slightly more than women from studying at level 1–3.

Study at level 4 and above

- Those who studied at level 4 and above were 7 percentage points more likely to be employed and 5 percentage points less likely to be receiving income support 5 years later compared to matched comparisons.
- The most popular fields of study at level 4 and above were society and culture and management and commerce.
- Those who studied society and culture, management and commerce, education, health or engineering at level 4, society and culture, management and commerce, or education

[12] We use the term 'income support' to refer to receipt of a Student Allowance or benefit. The term 'benefit' refers to Work and Income assistance in the form of main benefits, which include the Unemployment Benefit, Sickness Benefit, Invalid's Benefit, Youth Payment, Training Incentive Allowance, Domestic Purposes Benefit and Widow's Benefit. They do not include supplementary assistance such as the Accommodation Supplement or IRD tax credits.

[13] The vast majority enrolled in employment skills or life skills courses.

at diploma level, education, health or management and commerce at degree levels were 5–23 percentage points more likely to be employed 5 years later.
- Those who studied society and culture at degree level or creative arts at diploma or degree level were no more likely to be employed 5 years later.
- The favourable impacts of studying at level 4 and above were evident for most subgroups defined by demographic characteristics (age, gender and ethnicity), type of benefit received and benefit duration.
- Overall younger age groups benefited slightly more than older age groups from studying at level 4 and above and women benefitted more than men from studying at degree level.

Did studying without gaining a qualification improve outcomes?

The benefits of further study were largely experienced by those who completed qualifications. Recall that only about 40% of participants gained a qualification. Those who started studying but did not complete qualifications experienced no improvement in outcomes 5 years later, with the exception of those who studied in a small number of fields and levels.

Overall those who enrolled at level 1–3 but did not complete qualifications experienced no improvement in outcomes 5 years later on average, while those enrolled at level 4 and above experienced small improvements in outcomes on average.

- Those who began studying at level 1–3 were no more likely to be employed and 2 percentage points *more* likely to be receiving income support 5 years later. Studying towards qualifications in engineering or health appeared to be beneficial even when a qualification was not completed, while study in other fields was not beneficial.
- Those who began studying at level 4 and above were 3 percentage points more likely to be employed and 3 percentage points less likely to be receiving income support 5 years later. Studying towards qualifications at level 4 and above in education and towards diplomas in health, management and commerce or society and culture had a beneficial effect even when a qualification was not completed, while study in other fields was not beneficial.

Did gaining a qualification improve outcomes?

Those who gained new qualifications were more likely to be employed 5 years after they first enrolled compared to those who didn't enrol in further study. Gains generally increased with the level of qualification, although there was considerable variation by field of study.

Gains in employment were evident from about 12 months post-enrolment for those who gained level 1–3 and level 4 qualifications, from around 2 years for those who gained diplomas and from around 3 years post-enrolment for those who gained diplomas or degrees. Reductions in income support were evident after about 5 years post-enrolment for those who gained level 1–3 qualifications and from about 3 years post-enrolment for those who gained qualifications at level 4 and above. These patterns reflect the 'locking in' effect of studying, whereby those who study are more likely to be receiving income support and less likely to be employed while they are studying compared to those who do not study, and the time taken to complete qualifications at the different levels.

Table S2 shows the estimated impacts for those who completed a qualification by level of highest qualification gained. For example, those who completed level 1–3 qualifications were 5 percentage points more likely to be employed 5 years after starting studying, while those who completed level 4 certificates, diplomas and degrees were 9, 13 and 19 percentage points more likely to be employed respectively. Reductions in the receipt of income support were slightly smaller for those who completed level 1–3 and level 4 certificates, reflecting that some of the gains were in part-time employment. Those who completed level 1-3 certificates, level 4 certificates, diplomas and degrees earned $110, $210, $430 and $940 more per month on average from wages and salaries 5 years after starting studying compared to those who did not study.

Table S3 show the estimated impacts for those who completed a qualification by level and field of the highest qualification gained. There was considerable variation in outcomes by field of study.

- Those who completed level 1–3 qualifications in engineering, health or education were 10–12 percentage points more likely to be employed, while those who completed qualifications in management and commerce, society and culture, or food hospitality and personal services were 5–8 percentage points more likely to be employed. Those who completed qualifications in information technology or agriculture were no more likely to be employed, while those who completed employment skills or life skills programmes were no more likely to be employed and 4% *more* likely to be receiving income support 5 years after they started studying. Too few students completed qualifications in creative arts, science or architecture and building to reliably estimate impacts for these fields.
- Those who completed level 4 qualifications in engineering, health, education, management and commerce, or society and culture were between 9–23 percentage points more likely to be employed 5 years after they started studying. Those who completed qualifications in creative arts were no more likely to be employed. Too few students completed qualifications in science, information technology, architecture and building, agriculture or food and hospitality to reliably estimate impacts for these fields.
- Those who completed diplomas in health, management and commerce, society and culture or food, hospitality and personal services were 13–32 percentage points more likely to be employed. Those who completed diplomas in health and creative arts were no more likely to be employed. Very few students completed diplomas in other fields.
- Completing a degree or a graduate certificate in education, health or society and culture improved the likelihood of being employed by 13–33 percentage points. Those who completed qualifications in management and commerce or creative arts were no more likely to be employed. Very few students completed degrees in other fields.

The favourable impacts of gaining qualifications were evident for nearly all subgroups defined by demographic characteristics, including age, gender, ethnicity, the type of benefit received and benefit duration. Women benefited more from completing diplomas or degrees, and younger age groups benefited more than older age groups from completing qualifications below degree level. Māori, Pacific peoples and Europeans benefitted similarly from completing qualifications at a given level.

Did those who studied more recently have better outcomes?

The shorter-term impacts of further study for beneficiaries who started studying during 2008–2010 were very similar to those for beneficiaries who started studying during 2003–2005 by level of study, level of highest qualification gained and field of study, suggesting that the benefits of further study are likely to be similar for those who started studying more recently over the medium term.

For those who started studying during 2003–2005, the impacts 2–3 years after starting study were smaller than the impacts at 5 years. This reflects the time taken to complete qualifications at different levels and that the full benefits of gaining new qualifications are typically not evident for some years afterwards.

While most beneficiaries who started studying at levels 1–3 or level 4 studied for 1 year or less, about 15% studied for more than 2 years, including some who progress to higher levels of study. In comparison, about 30–40% of those newly enrolling and studying towards diplomas or degrees studied for more than 2 years. Overall, about 10% of beneficiary students were still studying 5 years later, so that the benefits of further study for this group will take many more years to become fully apparent.

Discussion and conclusion

Overall, we find that enrolling in further study led to a small improvement in employment rates 5 years later. The largest gains were experienced by those who completed qualifications in some particular fields and levels. Gains increased with the level of qualification gained, although there was substantial variation by field of study. Those who studied but didn't complete qualifications experienced no improvements in outcomes, with the exception of those who studied in a small number of fields and levels.

On average, those who started studying at level 4 and above benefited more than those who studied at level 1–3. Those who studied towards level 1–3 certificates were 3 percentage more likely to be employed but no less likely to be receiving income support 5 years later, while those who studied at level 4 and above were 7 percentage points more likely to be employed and 5 percentage points less likely to be receiving income support 5 years later. Impacts varied greatly by level and field of study, with those who enrolled in particular fields much more likely to be employed 5 years later, compared to those who didn't study, while those enrolled in some other fields were no more likely to be employed 5 years later.

Those who completed qualifications experienced more substantial labour market benefits on average. Those who completed level 1–3 certificates were 5 percentage points more likely to be employed 5 years after they started studying, while those who completed level 4 certificates, diplomas or degrees were 9, 13 and 19 percentage points more likely to be employed respectively. Impacts varied considerably by field of study, with those completing qualifications in particular fields at level 1–3 and level 4 10–20 percentage points more likely to be employed, while those who completed qualifications in some other fields were no more likely to be employed.

There are several reasons why the overall benefits of further education were relatively small. Firstly, the amount of study undertaken was fairly limited in many cases. The majority of beneficiaries studied for 1 year, with many studying part-time. Most were enrolled in lower level qualifications

that required 1 year or less of full-time study to complete. Second, most did not complete a qualification, and while completion rates were very similar to that for other adults studying at comparable levels, those who did not complete a qualification experienced no improvement in outcomes, with the exception of those who study in a small number of levels and fields. Thirdly, some of the qualifications completed may not have been particularly employment focused or valued by employers. While this cannot be determined based on level and field of study alone, we do observe that those who completed some types of qualifications were no or only slightly more likely to be employed than those who didn't study, including those who completed qualifications in information technology at level 1–3 and creative arts at level 4 and above. A significant minority enrolled in employment skills and social skills programmes at level 1–3, with those who completed them experiencing worse outcomes compared to those who didn't study.[14] Finally, this study was only able to examine impacts up to 5 years after starting study, and the indication is that impacts will continue to improve over time for those who completed qualifications at level 4 and above. In addition around 10% of beneficiary students were still studying 5 years later, so any gains will take longer than 5 years to become apparent for this group.

While the overall benefits of enrolling in further study were relatively small, those who completed qualifications in some particular levels and fields substantially improved their chances of future employment.

Beneficiaries who choose to study are likely to be more able and motivated than those who choose not to study and hence may have had better outcomes than non-participants, even if they had not studied. Similarly, more able students are likely to select more challenging and/or employment focused courses, and other beneficiaries may not achieve as good outcomes if they were directed into these courses. For example, restricting study at level 1–3 in the hope that those people who would have enrolled in these will now undertake higher level study would likely lead to higher non-completion rates.

[14] The proportion of beneficiaries enrolling in these types of programmes declined substantially between 2003–2005 and 2010 from about 24% to 6%.

Table S1: Outcomes and estimated impacts 5 years after starting study by the level of study

Level of study	Number of participants	Percentage receiving income support			Percentage employed			Percentage employed and not receiving income support			Average monthly gross earnings (dollars)		
		Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact
Total	50,106	55.1	56.4	-1.3	37.5	33.5	3.9	25.5	22.5	3.1	770	653	116
Level 1-3 certificate	33,339	59.3	58.7	# 0.6	34.4	31.9	2.5	22.1	20.8	1.3	660	612	48
Level 4 certificate	8,118	51.1	54.9	-3.8	40.9	34.8	6.1	28.5	23.7	4.8	852	691	161
Diploma	4,551	45.4	51.2	-5.8	44.6	37.2	7.4	33.6	26.3	7.3	996	733	263
Degree	3,858	40.6	47.2	-6.6	48.0	40.1	7.9	38.0	29.1	8.9	1238	821	417

Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand. Numbers of participants have been randomly rounded to base 3. All impact estimates are statistcially significant at the 95% confidence level unless denoted by hash(#). Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Dollar figures are expressed in March 2010 dollars.

Table S2: Outcomes and estimated impacts 5 years after starting study for those who completed a qualification by the level of highest qualification gained

Level of highest qualification gained	Number of participants	Percentage receiving income support			Percentage employed			Percentage employed and not receiving income support			Average gross monthly earnings (dollars)		
		Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact
Total	19,212	50.7	54.7	-4.0	42.4	34.2	8.1	30.3	23.3	6.9	926	671	254
Level 1-3 certificate	10,641	56.0	57.5	-1.5	36.3	31.5	4.8	24.3	20.8	3.5	715	605	111
Level 4 certificate	4,203	51.0	55.2	-4.1	44.7	35.2	9.4	30.7	23.9	6.8	902	690	212
Diploma	2,298	41.1	49.6	-8.4	50.1	37.5	12.6	39.2	27.3	11.9	1193	768	425
Degree	1,770	33.7	46.3	-12.7	61.2	42.5	18.7	50.8	30.8	20.1	1793	857	936

Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand. Numbers that completed qualifactions have been randomly rounded to base 3. All impact estimates are statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Dollar figures are expressed in March 2010 dollars.

Table S3: Estimated impacts 5 years after starting study for those who completed a qualification by the level and field of highest qualification gained

Level and field of highest qualification gained	Number	Percentage receiving income support (percentage point impact)	Percentage employed (percentage point impact)	Percentage employed and not receiving income support (percentage point impact)	Average monthly gross earnings (dollar impact)
Level 1-3 certificate					
Natural and physical sciences	24	s	s	s	s
Information technology	801	-2	2	3	70
Engineering and related technologies	489	-6 *	12 *	11 *	400 *
Architecture and building	81	-7	1	6	170
Agriculture, environmental and related studies	426	-7	4	4	120
Health	342	-11 *	11 *	11 *	270 *
Education	246	-3	12 *	6	160
Management and commerce	2877	-5 *	7 *	6 *	180 *
Society and culture	1644	2	5 *	2	80
Creative arts	198	-8	9	11	260
Food, hospitality and personal services	624	-7 *	8 *	6 *	160 *
Employment, social and general education	2889	4 *	0	-2	-30
Level 4 certificate					
Natural and physical sciences	s	s		s	s
Information technology	165	9	6	1	120
Engineering and related technologies	117	-9	17 *	16 *	690 *
Architecture and building	96	-17 *	6	11	220
Agriculture, environmental and related studies	162	-4	4	0	130
Health	306	-8	17 *	10 *	340 *
Education	240	-2	23 *	10 *	220 *
Management and commerce	969	-8 *	11 *	10 *	340 *
Society and culture	1488	-3	9 *	5 *	160 *
Creative arts	321	3	-1	1	-60
Food, hospitality and personal services	270	-6	4	4	120

Table S3: Estimated impacts 5 years after starting study for those who completed a qualification by the level and field of highest qualification gained (continued)

Level and field of highest qualification gained	Number of participants	Percentage receiving income support (percentage point impact)	Percentage employed (percentage point impact)	Percentage employed and not receiving income support (percentage	Average monthly gross earnings (dollar impact)
Diploma					
Natural and physical sciences	21	s	s	s	s
Information technology	234	-4	12 *	13 *	530 *
Engineering and related technologies	33	s	s	s	s
Architecture and building	21	s	s	s	s
Agriculture, environmental and related studies	33	s	s	s	s
Health	207	-4	1	2	50
Education	366	-22 *	32 *	31 *	1090 *
Management and commerce	201	-9	15 *	12 *	510 *
Society and culture	630	-8 *	12 *	12 *	450 *
Creative arts	429	-1	3	1	20
Food, hospitality and personal services	117	-18 *	14 *	11	270
Degree					
Natural and physical sciences	54	s	s	s	s
Information technology	45	s	s	s	s
Engineering and related technologies	s	s	s	s	s
Architecture and building	s	s	s	s	s
Agriculture, environmental and related studies	s	s	s	s	s
Health	297	-15 *	23 *	26 *	1360 *
Education	588	-24 *	33 *	35 *	1510 *
Management and commerce	111	-10	3	8	470
Society and culture	429	-4	13 *	12 *	530 *
Creative arts	216	2	-2	1	50

Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand. Numbers who completed qualifications have been randomly rounded to base 3. Asterisk (*) denotes that the estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Dollar figures are expressed in March 2010 dollars. Counts less than 20 and estimates based on fewer than 80 participants have been suppressed (s).

1. Introduction

Further education and training can assist beneficiaries to gain skills and improve their chances of gaining employment and reduce long-term benefit dependence.

Previous evaluations of the effectiveness of further education and training for beneficiaries in New Zealand have focused on the impacts for those who receive direct assistance to study from the government's employment agency Work & Income, which is part of the Ministry of Social Development (MSD).

The two main training programmes operating between 2000 and 2010 were Training Opportunities and the Training Incentive Allowance.[15] The evaluation evidence suggests that participating in Training Opportunities results in no reduction in the likelihood of being on a benefit 7 years later, while those who receive a Training Incentive Allowance are slightly less likely to be on a benefit 7 years later. Previous evaluations have not been able to identify the level or field of study or whether credits, courses or qualifications were completed or not.

Newly linked administrative data from the tax, welfare and education systems has revealed that a large number of beneficiaries are studying. In 2010, in addition to the 15,000 beneficiaries who participated in Training Opportunities and the 4,000 who received a Training Incentive Allowance, a further 36,000 people who had been on benefit for at least 6 months enrolled at tertiary institutions. In June 2010, there were about 270,000 working-age people who had been receiving benefit for at least 6 months.

This study focuses on the impact of further education on the labour market outcomes of those who had been receiving benefits for at least 6 months when they newly enrolled at a tertiary institution over the period January 2003 to December 2005. This was about 62,000 people, excluding those who participated in Training Opportunities.[16] About one-quarter received a Training Incentive Allowance, 10% transferred to a Student Allowance and 40% took out a Student Loan. We consider the impact of further education on benefit receipt, employment and earnings up to 5 years later.

We use data from Statistics New Zealand's prototype Integrated Data Infrastructure (IDI), which contains information for all individuals in New Zealand on taxable income received from employment and social benefits. This enabled us to estimate the impacts of further education by comparing outcomes of beneficiaries who studied with those of comparison groups with similar characteristics who did not study. Comparison groups were defined using the method of propensity score matching.

The key original contributions of the current study are threefold. First, it extends previous New Zealand studies of the impact of education on beneficiaries' outcomes by examining the impacts on

[15] In recent years, there has been an increasing focus on linking training to employment opportunities though the development of local industry partnerships, targeted training and placement support. In 2010/11, about 3,000 beneficiaries participated in such programmes.

[16] We excluded Training Opportunities because the linked data does not provide any information on level and field of study or whether any credits or qualifications were achieved. The programme has been the subject of recent evaluation which found participants were no less likely to be receiving benefit 7 years later (MSD, 2010).

subsequent employment and earnings, in addition to the impacts on unemployment or subsequent benefit receipt. Second, it presents evidence about the benefits of education undertaken by a much larger group of beneficiaries than previously considered, including those who do not receive employment assistance to study. Third, it provides results by detailed level and field of study, benefit type and demographic characteristics for those who complete qualifications as well as all those who enrol in further study.

Current policy is increasingly focused on reducing long-term benefit dependence. Given the costs associated with long-term benefit dependence to beneficiaries as well as to the government, there is a clear interest in policies such as education and training programmes that have the potential to assist long-term beneficiaries into employment.

The next section describes the main education and training programmes available to beneficiaries and discusses the key findings from New Zealand and international literature on the effectiveness of further education for beneficiaries. This is followed by a detailed description of the data and methods we used and main results. We conclude with a discussion of our findings.

2. Background

Previous evaluations of further education and training for beneficiaries in New Zealand have focused on of the impacts for those who directly receive assistance to study or train from the government's employment agency Work and Income, either through participating in programmes fully funded by Work and Income or through the provision of allowances that cover the cost of studying at a tertiary institution.[17] This focus is understandable given that Work and Income directly assists some beneficiaries to study and wants to know the return on its investment.

This study is the first to examine tertiary education and training undertaken by long-term benefit recipients who do not receive direct assistance from Work and Income to study as well as those who do. The newly linked administrative data has revealed that a large number of other beneficiaries are choosing to enrol in tertiary education, with a significant minority taking out a Student Loan.

This section outlines the main education and training programmes provided by Work and Income and summarises the previous evaluations findings. We also examine the international evidence on the effectiveness of further education and training for beneficiaries.

Education and training programmes for beneficiaries

Two main Work and Income-funded training programmes operated over the period we examine – Training Opportunities and the Training Incentive Allowance.

Training Opportunities was the main training programme for beneficiaries until December 2010. The programme mainly focused on improving the foundation skills of people, which form the base on which higher-level generic, vocational and technical skills are built and include basic literacy and numeracy skills. Courses could also involve vocational or industry-focused training for people lacking relevant labour market skills. Courses typically lasted 22 weeks, but many clients would participate in several Training Opportunities programmes with a mix of foundational and vocational components. During 2003–2005, there were about 20,000 participations in Training Opportunities each year. In 2010, there were about 15,000 participations. In 2011, Training Opportunities was split into two programmes – Training for Work and Foundation Focused Training Opportunities.

The Training Incentive Allowance provides financial assistance to study for people receiving the Domestic Purposes Benefit, Invalid's Benefit or Widow's Benefit. The goal of the Training Incentive Allowance is to enable participants to undertake employment-related training or study to improve their work skills and increase their prospects of getting full-time or part-time employment. A Training Incentive Allowance can contribute towards fees, course costs and associated costs (eg transport and childcare). It may be paid as a lump sum, as an on-going entitlement, or a combination of the two. Those who receive Training Incentive Allowance are also able to take out a Student Loan to cover course fees and course related costs and use the Allowance to cover other study related costs.

[17] Students pay course fees that reflect only part of the costs of providing tertiary education – the majority are covered by the government's funding of the tertiary education system.

In 2007, MSD restricted the eligibility of the Training Incentive Allowance to those courses that qualify for student component funding. In 2009, courses eligible for Training Incentive Allowance funding were further restricted to courses at level 3 or below (equivalent to secondary school qualifications). During 2003–2005, about 21,000 people received an allowance each year, and in 2010 about 6,200 people received an allowance. Most people received the maximum amount of $4,000 per year.

Course Participation Assistance was introduced in April 2007, which provides financial assistance towards the costs of participating in short-term (generally less than 12 weeks) employment-related training courses or programmes. In 2011/12, about 8,300 grants were awarded. The maximum payment towards tuition or enrolment fees is $200, and towards caring and transport costs is $80 per week[18].

Some other smaller programmes have an education or training component, but are more strongly linked to employment opportunities. The main one, Straight to Work, provides training for a predetermined employment opportunity, with participants given relevant training and placement support. In 2011/12, there were about 1,700 participants.

Beneficiaries can enrol with tertiary education providers without any direct support from Work and Income however they are expected to meet any work test obligations. These vary depending on an individual's circumstances (for example, the type of benefit received and the age of youngest child). During the 2003–2005 period we focus on, primary recipients of the Sickness Benefit or the Invalid's Benefit and recipients of the Domestic Purposes Benefit were not subject to work testing and were able to study full-time. Partners of primary recipients of Sickness Benefit or Invalid's Benefit were expected to seek full-time or part-time work depending on the age of their youngest child. Those receiving the Unemployment Benefit also expected to be seek full-time or part-time work depending on the age of their youngest child. Approved training undertaken while on a benefit usually counts towards fulfilling work test obligations.

Those on Invalid's Benefit or Domestic Purposes Benefit who undertake approved study may also receive a Training Incentive Allowance. They can also take out a Student Loan to cover course fees and other course-related costs. Those on a Domestic Purposes Benefit wanting to study full-time also have the option of transferring to a Student Allowance, although very few did this, because sole parents receive much greater financial support through the benefit system than the Student Allowance system. Those receiving a Sickness Benefit or Unemployment Benefit are not eligible for a Training Incentive Allowance, but can take out a Student Loan to cover course fees and other course-related costs. Those wanting to study full-time also have the option of transferring to a Student Allowance, and about 10% did this.

Newly linked administrative data from the tax, welfare and education systems has revealed that a large number of beneficiaries are studying. In 2010, about 20,000 beneficiaries participated in Training Opportunities, about 4,000 received a Training Incentive Allowance and a further 36,000[19]

[18] 2011 Statistical Report, Ministry of Social Development.

[19] This is the number of beneficiaries who have been on a benefit for at least 6 months when they enrolled and is obtained from the IDI. This group will include some of those who received Course Participation Assistance.

people enrolled at a tertiary institution. In June 2010, there were about 270,000 working-age people who had been receiving benefit for at least 6 months.

Previous studies of the impacts of education and training for beneficiaries

A small number of prior New Zealand studies on the impacts of further education and training for beneficiaries have been undertaken, including Mare (2002), Perry & Maloney (2008) and the Ministry of Social Development (2011).

The earlier studies have used administrative data on registered jobseekers to examine the impacts of training programmes and employment assistance provided by the New Zealand Employment Service on subsequent register status.

Mare (2002) found that jobseekers who participated in Training Opportunities[20] spent 20 more weeks registered unemployed or participating in employment programmes over the following 3 years compared to matched comparison with those who did not participate in any programme during the reference quarter. All subgroups, defined by age, sex, prior education, ethnicity, unemployment duration and location, experienced negative impacts. Interestingly, the unfavourable impacts appeared to increase over the 3-year follow-up period, which seems to reflect that most participants undertook further training during the 3-year follow-up period.[21]

Perry & Maloney (2008) used the same data source to look at those who participated in Training Opportunities during 2003 and 2004. They restricted their analysis to males who had not received any other intervention in the 4 years preceding the reference year or the 3 years afterwards.[22] They found that, while there was a short-term beneficial impact overall, this was not consistent across all subgroups, and the beneficial effect dissipated by the second year after receiving the training. On average, participants spent 7% (or about 30 days) less time registered as unemployed in the year following training but no less time unemployed during the 2 years after that.

More recent studies undertaken by MSD have used administrative data on benefit recipients to examine the impacts of the MSD-funded training programmes on subsequent benefit receipt.

The Ministry of Social Development undertook an evaluation of the impact of the Training Incentive Allowance on subsequent benefit receipt (MSD, 2004). The study looked at the impacts on DBP and Invalid's Benefit recipients who received a Training Incentive Allowance during 1997 and 1998. Those who received a Training Incentive Allowance spent, on average, 6 months less on a benefit and 7 months more working part-time while receiving a benefit during the 6-year follow-up period than those in the matched comparison group. Invalid's Benefit recipients were no less likely to

[20] The study population comprised 12,600 jobseekers who started training in the third quarter of 1993, of which 93% participated in Training Opportunities. Participants tended to be younger (26 years on average) and less well educated (62% had no qualifications) than non-participants.

[21] About one-third of participants had undertaken training during the previous 3 years, and 94% undertook further training during the 3-year follow-up period.

[22] The study population comprised about 900 people. Those who had previously or subsequently participated in training, wages subsidy or work experience programmes were excluded from both the study and comparison groups.

receive a benefit or work part-time than those in the matched comparison group. More recent analysis of those who received a Training Incentive Allowance during 2002 shows that recipients were more likely to be off a benefit than matched comparisons after about 4 years, but that it took 7–10 years after starting the programme before participants spent more cumulative time off a benefit than the comparison group (MSD, 2012). Analysis of impacts for those who received a Training Incentive Allowance between 2000 and 2009 showed that it was generally taking longer for the positive impacts to become apparent.

The Ministry of Social Development recently undertook an evaluation of Training Opportunities and related training programmes (MSD, 2011). The study looked at the impact of participation in Training Opportunities during 2000–2007 on benefit receipt up to 7 years later.[23] Those who participated in Training Opportunities during 2000/01 spent an average of 3 weeks more on a benefit during the following year and the same number of weeks on a benefit during the following 7 years than those in the matched comparison group. Those who participated in Training Opportunities during 2007 spent an average of 6 more weeks receiving a benefit during the following year. Participation in Training Opportunities had a larger negative effect for those predicted to be least likely to be long-term benefit recipients, i.e. those most work-ready. The post-training follow-up survey found that about one-third of participants participated in further Training Opportunities or other training immediately afterwards.

The overseas evidence on the effectiveness of further education for beneficiaries is mixed. A recent meta-analysis of employment programmes concluded that training (both on-the-job and classroom) had positive impacts after 2 years (Card, Kluve & Weber, 2009). Dench et al. (2006) undertook a systematic review of the evidence on the impacts of learning on unemployed low-qualified adults. Twelve studies were included in their final research synthesis. The learning provided on the programmes varied, and in some cases, the programmes included a mix of approaches rather than learning only. Four studies explored whether the chances of obtaining employment improved following a learning intervention and included comparative data. These showed that participating in a learning intervention did result in low or unqualified out-of-work adults being more likely to be in employment compared to those not participating in the short term. The one study that looked at longer-term outcomes (Hamilton et al., 2001) found that, after 5 years, those in the programme group had been employed for more time. Five studies reported the impact of programme participation on earnings. The findings were also mixed. A group of highly rated evaluations of welfare-to-work in the USA (Ore et al., 1996; Michalopoulos et al., 2000) did find a statistically significant impact on the earnings of participants. However, this varied between different types of programme. Programmes placing more focus on job search and obtaining work rather than largely focusing on learning were found to have a stronger impact on earnings in the shorter term. After 5 years, those on learning-focused programmes were beginning to catch up with those on employment-focused ones. Other studies show no statistically significant impacts on earnings.

[23] The educational achievement of course participants is not reliably known, although around a third may achieve no credits and a similar proportion fewer than 20 credits (TEC, 2008).

A recent study by Heinrich et al. (2008) uses matching methods to evaluate the impacts of further education[24] on average earnings up to 4 years later. Administrative data from 12 states in the USA was used to evaluate the impact of classroom-based training (both occupational and basic skills training, which lasted up to 2 years) on two groups of jobseekers. The first group were disadvantaged adults aged 22 years or more, and the second group were those who had recently lost their jobs. Those who had recently lost their jobs and received training were no more likely to be employed and had the same average earnings 4 years after programme entry as those who did not receive training. Among the disadvantaged adults, females who received training were about 8% more likely to be employed 4 years after programme entry compared to those who did not receive training. Males were no more likely to be employed but had higher average earnings 4 years after programme entry compared to those who did not receive training.

In summary, the evaluation evidence in New Zealand suggests there are fairly limited benefits from participating in further tertiary education, with only a small reduction in likelihood of being on a benefit 5–10 years later, while participating in Training Opportunities, which has a greater focus on foundation and employment skills, did not reduce the likelihood of being in receipt of a benefit 5 years later. International evidence is mixed, with some programmes benefiting some groups of jobseekers and others having no impact.

[24] Education and training provided under the Workforce Investment Act, which is the largest federally funded training programme in operation.

3. Data

We use data from the Statistics New Zealand prototype IDI dataset. This dataset contains linked administrative data from the tax, education, benefit and immigration systems, including information on active labour market policies, participation and achievement in tertiary education and receipt of Student Allowances and Student Loans.

Monthly employment and earnings data are available from April 1999 until December 2010. We focus on tertiary education spells that started between January 2003 and December 2005 to ensure that we have 3 years of prior information and 5 years of subsequent information on employment and receipt of income support covering January 2000 to December 2010.

The dataset includes information on receipt of Student Allowances and main benefit payments (which are taxable) but not second or third-tier benefit payments. (The main second and third-tier benefits are the Accommodation Supplement and hardship grants.) Hence, it is not possible to determine the total amount of benefits an individual received in any month.

For each person who participates in tertiary education, the dataset contains information on the enrolment dates, level and field of study, the EFTS associated with the proposed programme of study in the current year and the total EFTS associated with the qualification enrolled in. Complete information on all tertiary enrolments is available from January 2003. For individuals who studied in 2003 or later, information on enrolments and achievement back to 1997 is available.

It is not possible to distinguish qualifications at level 1, 2 and 3 and thus we can only present aggregate results for level 1–3. The majority of programmes in this category are at level 3. Information on field of study in the enrolment data is reliable at broad field but not at detailed field level, whereas detailed field of study is available for completed qualifications. Those who formally withdraw from a course in the first few weeks do not attract government funding and are not included in the enrolment data, however it is not possible to identify students who drop out after this. Information on course completion is somewhat incomplete, so we focus only on qualification completion.

Beneficiaries who take out a Student Loan can be identified, as can those who receive some types of employment assistance[25], in particular those who receive a Training Incentive Allowance or participate in Training Opportunities.

[25] The data on employment assistance in IDI is restricted to participation in wage subsidy and work experience programmes, Training Opportunities and receipt of Training Incentive Allowance.

4. The impact of further education on participants' labour market outcomes

Method

The research uses Statistics New Zealand's prototype IDI database, which combines unit record administrative data from the tax system with information from the benefit and education systems. The dataset provides linked longitudinal information on individuals' employment, earnings, benefit receipt and participation and achievement in tertiary education over 1999–2010.

The impact of studying on subsequent outcomes is estimated using the method of propensity matching. Participants are matched to similar non-participants on the basis of the estimated probability of starting a new study spell. Differences in subsequent benefit receipt, employment and earnings of the treated and matched beneficiaries indicate the impact of studying on subsequent employment and earnings.

Analytical sample

We focus attention on those who had been in receipt of a benefit for at least 6 months when they started a new study spell between January 2003 and December 2005. Those who studied in any given calendar year but not in the previous calendar year were considered to have started a new study spell. The study spell comprises consecutive enrolments separated by no more than 1 calendar year. This choice of study period ensures that we have information on benefit and employment status for at least 36 months prior to the start of the study spell, and for at least 60 months following the study spell start.

We identify those who had been in receipt of a benefit for at least 6 months when they started a new study spell between January 2003 and December 2005. This was about 62,000 people, nearly all of whom had one study spell over the 3-year period. We exclude those who participated in Training Opportunities.[26]

The average duration of the study is relatively short, with most studying for 3–11 months (i.e. for 1 academic year or less). About one-quarter of beneficiary students study in the following year and about one-fifth study for a third year. About two-thirds enrol in programmes at level 1–3, which typically involve between 0.25 and 1.0 EFTs. Most of those studying for more than 1 year are enrolled at higher levels.

We refer to the study population as 'participants' and to those who did not undertake further study as 'non-participants'. A 1% random sample of non-participants was drawn from the beneficiary population in each calendar month over the 3-year study period. (Non-participants were required to have been in receipt of a benefit for at least 6 months, i.e. the same requirement imposed on participants.)

[26] We exclude Training Opportunities because it has been the subject of recent evaluation (CSRE, 2010) and the linked data does not provide any additional information on participants, in particular, level and field of study or credits or qualifications achieved

Table 1 shows the characteristics of participants and non-participants in the month prior to their enrolment. (For participants, the reference month is the month prior to enrolment, while for non-participants, it corresponds to the month before they were selected into the sample.) On average, participants were much younger than non-participants and were more likely to be receiving DBP and less likely to be receiving an Invalid's Benefit. Participants were also slightly more qualified than non-participants prior to enrolment and were more likely to have been on a benefit for less than 4 years. Participants' median benefit duration was 2.9 years compared to 4.9 years for non-participants.

Table 2 provides information on the demographic and study characteristics of participants by level of study (i.e. the level of the qualification enrolled in). 64% enrolled in a level 1–3 qualification, 17% enrolled in a level 4 qualification, 10% enrolled in a diploma (level 5–6), 9% enrolled in a degree (level 7) and 0.6% enrolled in a postgraduate level qualification. 40% of participants gained a qualification during the study spell.[27] Completion rates varied to some extent by sex, ethnicity and age, with greater variation by field of study (Appendix Table 5).

Table 3 provides information on the demographic and study characteristics of participants by the type of benefit they received when they enrolled. About 44% of those on a Domestic Purposes Benefit and 26% of those on an Invalid's Benefit received a Training Incentive Allowance. About 28% of those on an Unemployment Benefit and 18% of those on a Sickness Benefit left main benefits and transferred to a Student Allowance in the month or two after they started studying, with most taking out a Student Loan. Overall, about 40% of beneficiary students took out a Student Loan, with 37% borrowing for fees.

Appendix Figure 1 shows the proportion of the total study population that were studying in each of in each of the months 36 months before and 60 months after the reference month. Outcomes are shown relative to the reference month, i.e. the beginning of the study spell, labelled '0' in the figures. (Note that, by construction, all participants were studying in the reference month and none were studying in the previous calendar year). Most students enrolled for 1 year or less, reflecting that the majority enrol in level 1–3 qualifications, which take 1 year or less to complete. In addition, most individual courses involve a half year of study, typically about 5 calendar months. About one-quarter of beneficiary students enrolled in the following year, and one-fifth in the year after that. About 10% were still studying in the 5th year.

The proportions receiving a Student Allowance, Training Incentive Allowance and income support (defined here as receiving either a main benefit or Student Allowance) in each of the 36 months before and 60 months after they enrolled are also shown in Appendix Figure 1.

Figure 1 shows the percentage studying in each of the months before and after the reference month by level of study (i.e. the level of the qualification enrolled in). Those who enrolled at lower levels were most likely to study for 1 year or less. About 80% of those who studied at level 1–3 studied for 1 year or less, while about 60% of those who studied at diploma level studied for 1 year or less and about 20% studied for 2 or 3 years. About 10% of those who enrolled in a level 1–3 qualification

[27] We include qualifications awarded in the calendar year following the year the study spell ended to ensure that all qualifications are captured. Recall that, by construction, participants did not enrol in the year following the year the study spell ended.

were studying 5 years later, while about 15% of those who enrolled in a diploma were studying 5 years later.

Within the study population, approximately 10% transferred to a Student Allowance at the beginning of the study spell and 25% received a Training Incentive Allowance. About 7% were independent of MSD support (i.e. they were not receiving a benefit or Student Allowance) when they started studying. About 40% took out a Student Loan. Those participating in Training Opportunities[28] have been excluded from the study population. The study population comprises 62,382 study spells and 61,725 individuals.

The number of beneficiaries who enrol in any given year is much greater than the number that newly enrol as defined here, as it includes those who were enrolled in the previous calendar year. For example, in 2005, about 47,000 beneficiaries who had been in receipt of a benefit for at least 6 months enrolled in tertiary education (excluding those who participated in tertiary education through the Ministry of Social Development's Training Opportunities programme). Of these, about 12,000 received a Training Incentive Allowance. Only 17,600 individuals started a new study spell in 2005. Of these around, 4,400 received a Training Incentive Allowance.

In 2010, about 40,200 beneficiaries who had been in receipt of a benefit for at least 6 months enrolled in tertiary education. Of these, about 10% or 4,000 received a Training Incentive Allowance. Of the 17,600 individuals who started a new study spell in 2010, about 7% or 1,200 received a Training Incentive Allowance.

Only those receiving a Domestic Purposes Benefit or an Invalid's Benefit are eligible to receive a Training Incentive Allowance. Within this group, the proportion that started a new study spell and received a Training Incentive Allowance declined from 38% in 2005 to 13% in 2010, and the proportion transferring to a Student Allowance remained negligible at 1% or less. Among Unemployment Benefit and Sickness Benefit recipients, the proportion that started a new study spell and transferred to a Student Allowance increased from 23% in 2005 to 37% in 2010.

The number and characteristics of all long-term beneficiaries who studied in 2005 and 2010 are reported in Appendix Table 1–2, and the characteristics of those who newly enrolled in 2005 and 2010 in Appendix Table 3–4.

Propensity matching

The impact of studying on subsequent outcomes is estimated using the method of propensity matching. Participants are matched to similar non-participants on the basis of the estimated probability of starting a new study spell. Differences in subsequent benefit receipt, employment and earnings of the treated and matched beneficiaries indicate the impact of studying on subsequent employment and earnings. The method is implemented in three stages.

[28] Training Opportunities-funded enrolments in the tertiary enrolment data were excluded, as were those who were recorded as participating in Training Opportunities in the MSD administrative data on programme participation. In 2005, about 18,600 beneficiaries participated in Training Opportunities according to the MSD administrative data.

First, a pool of potential matches is identified for each calendar month, referred to as the reference month. Adopting terminology from the evaluation literature, we classify all individuals who start a new study spell in the month as part of the 'treatment group'. A 'potential comparison group' contains all other individuals. Both treatment and comparison groups are restricted to individuals who have been receiving a benefit for at least 6 months prior to the reference month. In addition comparisons are restricted to those who had not enrolled during the current year, or in the previous or subsequent calendar year.

Second, we estimate a logistic regression model to obtain a predicted probability for each beneficiary of starting a study spell. The probability of treatment is modelled as a function of past benefit history, employment patterns and demographic and other characteristics recorded in the administrative data. A separate logistic regression model is estimated for each type of main benefit, pooled across years. Separate models for different types of benefits are estimated to allow for differences in the study patterns among different client groups and for diversity of their employment and benefit histories. The regression models are estimated on a sample comprising all members of the treatment group and a 1% sample of other beneficiaries who have been in receipt of a benefit for at least 6 months prior to the reference month. Predicted probabilities are derived for all members of the treatment and comparison groups and are referred to as 'propensity scores', following the terminology of Rosenbaum and Rubin (1983).

The third stage of the method is to match each participant to a subset of similar comparison individuals. Matches are made only between individuals observed in the same reference month and of the same sex, age class, ethnicity, benefit duration class and educational attainment to facilitate subsequent subgroup comparisons.[29] Within those constraints, each treated individual is matched to five comparison group individuals with the closest values of the propensity score. (Fewer than five matches may be selected if the difference in propensity scores is greater than 1.0%). Outcomes for the treated individual are compared with the average outcomes of the five matched individuals. Each comparison group individual may be matched to more than one treated individual, and many comparison group members are not matched to any treated individual. Those that are matched at least once are referred to as the 'matched comparison group'. We drop individuals who have no comparators or those with propensity scores outside the region of common support.

This three-stage matching method serves to balance the average characteristics of the treatment and matched groups. The validity of this balancing is tested by comparing means of the variables that are entered in the regression model and confirming that, within the matched treatment and comparison groups, participants cannot be identified on the basis of the matching variables.

We model the probability of starting a subsidised job based on demographic and other information available in the IDI. This includes information on age, sex, ethnicity, location, migrant status, prior educational attainment, partnership status, number of dependent children, age of youngest child, current benefit duration, cumulative benefit receipt over the last 10 years, employment status and earnings over the previous 3 years and participation in wage subsidy and training programmes over the last 3 years. For those who received a Sickness Benefit or an Invalid's Benefit, information on

[29] Domestic Purposes Benefit recipients were also matched exactly on age of youngest child.

incapacities recorded over the last 3 years was included. Appendix Table 6 lists the variables included in the propensity score models.

Unfortunately we were not able to include information on recent prior enrolment or achievement in tertiary education in the propensity models. While this information was available for participants, it was not available for most non-participants. Comprehensive information on tertiary enrolments is only available from 2003 onwards, and hence we did not observe enrolments prior to 2003 for those who did not enrol over the 2003–2010 period. By construction those in the study population did not study in the previous calendar year, but about 10 percent of those enrolling at level 1–3 and about 20 percent of those enrolling in diplomas or degrees had been enrolled during the 2 years before that. We also observed the information on prior educational attainment recorded in the benefit system was rarely updated, in particular many of the records for those who acquired new qualifications over 2003–2005 and received benefits during 2010 did not appear to have been updated.

We dropped individuals who have no comparators or those with propensity scores outside the region of common support. These restrictions reduce the number of participants from 62,382 to 50,106 – a match rate of 80.3%. The total number of beneficiaries in the matched comparison group is about 214,000.

This matching method serves to balance the average characteristics of the treatment and matched groups. We test this by comparing means of the variables that are entered in each regression model and confirming that, within the matched treatment and comparison groups, participants cannot be identified on the basis of the matching variables. A logistic regression of treatment on all covariates, using the matched treatment and comparison groups, resulted in a χ^2 from a likelihood ratio test of joint insignificance of all matching variables in the regression, having an associated *p*-value of 1.000 in each case. In 2 out of four cases, there were no individual covariates for which there was a significant difference in means between the treatment and matched comparison groups ($p<0.05$). In the other 2 cases, fewer than three of the 350 or so individual covariates were significantly different.

Appendix Table 7 shows the characteristics of participants who were matched to at least one non-participant. There are some difference between those who were matched and those who were not. The degree of exact matching meant that small population subgroups were less likely to be matched, in particular those aged 16–17 years and those who had post-school qualifications. Comparing the last two columns in Appendix Table 7 shows that overall difference between participants and matched participants are mainly fairly small. For example, those aged 16–17 years accounted for 0.9% of all participants compared to 0.6% of all matched participants, and 7.9% of those who had post-school qualifications, compared to 5.5% of matched participants.

Outcome measures

We examine the impacts of undertaking further study on outcomes over the following 5 years. Various outcomes are considered, including the proportion receiving main benefits, the proportion receiving income support (defined as receiving a main benefit or Student Allowance), the proportion employed, the proportion employed and not receiving income support and average total earnings in the months and years after starting studying.

We consider outcomes relative to the enrolment month, for example, the proportion employed 60 months later and total number of months employed during the 60 months after starting the study spell. Measuring outcomes relative to the intervention start date is standard practice in the programme evaluation literature, as it is the relevant measure when considering the costs and benefit of an intervention from the perspective of case managers who have to decide whether it is likely to be effective or not for a particular client.

We focus on five main outcomes measures:

- **Benefit receipt:** the proportion receiving a main benefit or wage subsidy 60 months later (i.e. after the beginning of the study spell).
- **Income support:** the proportion receiving a benefit, wage subsidy or Student Allowance 60 months later.
- **Employment:** the proportion employed 60 months later.
- **Independent employment:** the proportion employed and not receiving income support 60 months later.
- **Monthly earnings:** average monthly earnings from wages and salary (including those with no earnings and earnings while receiving a benefit) 60 months later.

In addition to employment, benefit status and earnings 60 months after starting the study spell, we also consider the cumulative impacts over the 60 months:

- **Months receiving income support:** the average number of months receiving income support over the subsequent 60 months.
- **Months employed:** the average number of months employed over the subsequent 60 months.
- **Months independently employed:** the average number of months employed while not receiving income support over the subsequent 60 months
- **Total earnings:** average total earnings from wages and salary (including those with no earnings and earnings while receiving a benefit) over the subsequent 60 months.

We focus mainly on the impacts at 5 years after starting study rather than cumulative impacts over 5 years. This is because impacts appear to be are either stable or increasing 5 years following the start of the study spell and hence cumulative impacts will increase as the observation period increases. Cumulative impacts may be relatively small over the first five years but larger over 10 or 20 years.

Results

We report results for two groups:

- The total study population, i.e. all those who started a new study spell, irrespective of whether they completed a qualification or not, with results by the level and field of the qualification first enrolled in. We also define various subgroups within this based on the type of benefit received, whether a Training Incentive Allowance was received or not and whether the individual transferred to a Student Allowance when they started studying or not.

- All those who completed a qualification with results by the level and field of the highest qualification completed and demographic subgroup.

Impacts of further study

First, we consider all those who enrolled in further education, irrespective of whether they completed a qualification or not, and estimate impacts by the level and field of the qualification first enrolled in, referred to as the level and field of study.

Figure 2 shows various outcomes for participants and matched comparisons over time, relative to the reference month, i.e. the beginning of the study spell, labelled '0' in the figures. These figures show the outcomes for the entire study population, which includes those who did not complete a qualification. The estimated impacts of studying are given by the differences in subsequent benefit, employment and earnings of participants and matched comparisons.

In the first 12 month after starting the study spell, participants were slightly less likely to be employed than matched comparisons, but more likely to be employed after about 18 months. Participants were slightly more likely to be receiving income support over the first 36 months compared to matched comparisons, but slightly less likely to receiving income support after about 60 months.

Compared to those who did not study, those who started studying were slightly more likely to be employed and slightly less likely to be receiving main benefits 5 years later. However, there was little difference in the total number of months employed and over the subsequent 5 years and no reduction in the number of months receiving income support. During the subsequent 5-year period, participants spent 1.2 more months employed, 0.8 fewer months receiving a benefit, 0.6 more months receiving income support and earned $2,340 more than matched comparisons. (All dollar figures are expressed in March 2010 dollars.)

Impacts by level of study

Figures 3–6 show selected outcomes for participants and the matched comparisons over time by level of study (i.e. the level of the qualification first enrolled in).

Those studying at level 1–3 were no less likely to be receiving income support but slightly more likely to be employed and to be employed and independent of income support 5 years later. Those studying at level 4 or above were less likely to be receiving a benefit, and more likely to be employed and employed and not receiving income support 5 years later.

Overall impacts generally increased with the level of study. Study at level 1–3 had no impact on the likelihood of receiving income support but increased the likelihood of employment 5 years later. Studying at level 1–3 slightly improved both part-time employment (i.e. being employed while receiving a benefit) and full-time employment. Studying at level 4 and above significantly reduced the likelihood of receiving income support and improved the likelihood of full-time employment.

Overall the reduction in income support were smaller than the increase in employment reflecting that some of the gains were in part-time rather than full-time employment, but mainly that those who studied were less likely to be neither employed nor receiving income support, compared to those who did not study.

For those enrolled at level 4 and above, differences between participants and the matched comparisons increased during the following 5 years. It is unclear whether the gains will increase over time or not, although the rate of increase seems to be declining, with differences 5 years post-enrolment similar or only slightly greater than those 4 years post-enrolment.

Table 4 contains estimated impacts for the total study population by level of study. The standard errors were estimated using bootstrapping methods (100 replications, sampled at the individual level prior to propensity estimation).

- Those studying at level 1–3 were 2.5% more likely to be employed but no less likely to be receiving a benefit or income support 5 years later. During the 5-year period after first enrolling, they spent 0.9 more months employed and 1 more month receiving income support and earned $1,270 more than matched comparisons.
- Those studying at level 4 were 6.1% more likely to be employed and 3.8% less likely to be receiving income support 5 years later. During the 5-year period after enrolling, they spent 2.1 more months employed and 0.5 less months receiving income support and earned $3,900 more than matched comparisons.
- Those enrolled in diplomas were 7.4% more likely to be employed and 5.8% less likely to be receiving income support 5 years later. During the 5-year period after enrolling, they spent 2.3 more months employed and 0.5 less months receiving income support and earned $5,450 more than matched comparisons.
- Those who enrolled in degrees were 7.9% more likely to be employed and 6.6% less likely to be receiving income support 5 years later. During the 5-year period after enrolling, they spent 1 more month employed and 0.9 more months receiving income support and earned $4,045 more than matched comparisons.

Impacts by level and field of study

Within level of study, impacts varied considerably by the field of study. Impacts by level and broad field of study are reported in Table 5. Differences in impacts by field of study partly reflect differences in completion rates across fields of study (Appendix Table 5)[30] although in a few cases enrolling but not completing a qualification was still beneficial. (These results are examined in a subsequent section.)

Study in some fields at a given level improved the likelihood of being employed and reduced the likelihood of receiving income support 5 years later, while study in other fields had only a small or no impact on outcomes.

Study in some fields at level 1–3 had a positive impact on outcomes 5 years later, while study in other fields had only a very small or no impact on outcomes. Enrolling in employment skills and life skills programmes increased the likelihood of receiving income support 5 years later. Study in some fields at level 4 and above had a large positive impact on outcomes while study in some other fields had only a small or no impact.

30 For example, completion rates for level 1–3 qualifications varied from 23% for natural and physical sciences to 29% for information technology, 43% for society and culture, 58% for creative arts and 59% for health-related fields.

Level 1–3

Those who studied engineering, health, or education were 7–13% more likely to be employed and 5–11% less likely to be receiving income support 5 years later. Those who studied information technology, management and commerce and society and culture were 3–4% more likely to be employed but no less likely to be receiving income support 5 years later. Those who studied agriculture and environment were 3% more likely to be employed and 5% less likely to be receiving income support 5 years later. Those who studied food, hospitality and personal services were no more likely to be employed and no less likely to be receiving income support 5 years later.

Too few people studied architecture and building, science, or creative arts to be able to reliably estimate impacts for these fields. Those who studied in these fields were not significantly more likely to be employed or significantly less likely to be receiving income support 5 years later.

Enrolling in employment, social and general education programmes increased the likelihood of receiving income support 5 years later. These accounted for a significant proportion of enrolments at level 1–3 (37%). About 60% were enrolments in employment skills courses, with life skills courses and general education courses accounting for 20% and 10% respectively.[31] The negative result for these programmes has a material impact on the overall result level 1–3 study.

Level 4

Those who studied engineering, health, education were 10–20% more likely to be employed 5 years and 5–10% less likely to be receiving income support. The impacts on receipt of income support were not statistically significant, reflecting that relatively few people studied in these fields and the impacts are not precisely estimated.

Those who studied management and commerce or society and culture were 5–7% more likely to be employed 5 years and 4–6% less likely to be receiving income. These fields of study accounted for about 60% of all enrolments at level 4.

Those who studied agriculture, architecture and building, creative arts, food, hospitality and personal services were no more likely to be employed or no less likely to be receiving income support 5 years later, although few people studied in these fields and the impacts are not precisely estimated.

Diploma

Those who studied education, management and commerce or society and culture were 10–17% more likely to be employed and 6–14% less likely to be receiving income support 5 years later.

Those who studied information technology, agriculture, or food, hospitality and personal services were 5–7% more likely to be employed and 2–5% less likely to be receiving income support 5 years later, although few people studied in these fields and the impacts are not precisely estimated and are not statically significant.

31 In 2010, the proportion of level 1–3 enrolments in these types of programmes have reduced to about 13%.

Those who studied health, engineering or creative arts were no more likely to be employed and no less likely to be receiving income support 5 years later, although impacts for these fields are not very precisely estimated.

Degree

Those who studied health, education, information technology or management and commerce were 8–23% more likely to be employed and 14–19% less likely to be receiving income support 5 years later, while those who studied science, society and culture or creative arts were no more likely to be employed and no less likely to be receiving income support 5 years later.

Very few people studied engineering, architecture and building or agriculture at degree level and impact estimates cannot be reliably estimated for these fields.

Impacts by level of study and type of benefit received

Table 6 gives estimated impacts for subgroups defined by the type of benefit received at the start of the study spell.

Overall those receiving an Invalid's Benefit or a Sickness or Unemployment Benefit benefitted more from studying at level 1–3 than those receiving a Domestic Purposes Benefit. Those receiving a Invalid's, Sickness or Unemployment Benefit were 3–4% more likely to be employed but no less lightly to be receiving income support 5 years after starting study, while those receiving a Domestic Purposes Benefit and studying at level 1–3 were 1% more likely to be employed but no less likely to be receiving income support.[32]

All groups benefited from studying at level 4, diploma or degree level. Recipients of a Domestic Purposes Benefit who studied at degree level benefit slightly more than recipients of other types of benefits.

Impacts by level of study and demographic subgroup

Table 6 also contains impact estimates by level of study for various demographic subgroups.

Recall that overall those who studied at level 1–3 were no less likely to be receiving income support and 2.5% more likely to be employed 5 years later, while those studying at level 4 and above were 7 percentage points more likely to be employed and 5 percentage points less likely to be receiving income support 5 years later.

Differences were evident by gender at level 1-3 and degree level. Women who studied at level 1-3 were 1% more likely to be receiving income support and 2% more likely to be employed, while men who studied at level 1-3 were no more likely to be receiving income support and 4% more likely to be employed. Women studying at degree level were 9% less likely to be receiving income support and 10% more likely to be employed, while men were 2% less likely to be receiving income support and 3% more likely to be employed. Neither of the estimated impacts for men is statistically significant.

[32] Those who received a Training Incentive Allowance did benefit overall, which may reflect the higher completion rates for this group. These results are presented in the next section.

The favourable impacts of studying at level 4 and above were evident for nearly all subgroups defined by demographic characteristics (age, gender and ethnicity), type of benefit received and benefit duration. Overall men benefitted more from studying at level 1–3 and women benefitted more from studying at degree level. Younger age groups benefited slightly more than older age groups from studying at level 4 and above.

Impacts by level of study, type of benefit and type of assistance received

The Ministry of Social Development provides direct assistance to some beneficiaries to study through a Training Incentive Allowance, which can be used to cover course fees and other course-related costs, childcare and transport costs. Only beneficiaries in receipt of a Domestic Purposes Benefit or an Invalid's Benefit are eligible to receive a Training Incentive Allowance, with beneficiaries able to study part-time or full-time. Table 3 shows that about 44% of those on a Domestic Purposes Benefit and 26% of those on an Invalid's Benefit received a Training Incentive Allowance.

Beneficiaries who want to study are also able to access the Student Allowance and Student Loan system. Table 3 shows that about 28% of those on an Unemployment Benefit and 18% of those on a Sickness Benefit left main benefits and transferred to a Student Allowance in the month or two after they started studying, with most also taking out a Student Loan. About one-third of those who did not transfer to a Student Allowance took out a Student Loan, with most borrowing for fees.

Those who transferred to a Student Allowance when they started studying were more likely to complete a qualification but experienced similar gains in employment and reduction in the income support as those who did not transfer to a Student Allowance 5 years later.

Those on a Domestic Purposes Benefit who studied at level 1–3 and received a Training Incentive Allowance were more likely to complete a qualification than those who did not receive an allowance. They were also more likely to be employed (by about 5 percentage points) compared to matched comparisons, while those who didn't receive a Training Incentive Allowance were no more likely to be employed. Those who studied at level 4 and above had very similar outcomes 5 years later, irrespective of whether they received a Training Incentive Allowance or not.

Training Incentive Allowance

Table 7 and Appendix Figures 2–5 present results by benefit type (Domestic Purposes Benefit and Invalid's Benefit), level of study and whether a Training Incentive Allowance was received or not. Outcomes varied to some extent depending on whether they received a Training Incentive Allowance or not.

Those on a Domestic Purposes Benefit who received a Training Incentive Allowance and studied at level 1–3 were about 2% less likely to be receiving income support 5 years later, compared to matched comparisons, while those who did not receive a Training Incentive Allowance were about 2% more likely to be receiving income support 5 years later. Those who received a Training Incentive Allowance were also 5% more likely to be employed 5 years later, while those who did not receive a Training Incentive Allowance were no more likely to be employed 5 years later. The better result for Training Incentive Allowance recipients likely reflects higher completion rates among Training

Incentive Allowance recipients who studied at level 1–3 compared to non-recipients (48% compared to 33%).

For Domestic Purposes Benefit recipients who studied at level 4 and above, the impacts of studying on outcomes 5 years later were very similar irrespective of whether they received a Training Incentive Allowance or not. Those who received a Training Incentive Allowance spent 1–2 more months receiving income support during the subsequent 5 years on average, while those who did not receive a Training Incentive Allowance spent 1–3 fewer months receiving income support. Completion rates were only slightly higher among Training Incentive Allowance recipients who studied at level 4 and above compared to non-recipients, which likely explains why the impacts for recipients and non-recipients were similar.

Invalid's Benefit recipients who studied at all levels and received a Training Incentive Allowance were only slightly less likely to be receiving income support 5 years later compared to matched comparisons but were more likely to be employed 5 years later.

In comparison, those who studied at level 1–3 and did not receive a Training Incentive Allowance were no less likely to be receiving income support 5 years later, although they were more likely to be employed. Those who studied at level 4 and above were less likely to be receiving income support and more likely to be employed 5 years later compared to matched comparisons. Impacts on subsequent employment and income support were larger for those who did not receive a Training Incentive Allowance.

Completion rates were higher among Training Incentive Allowance recipients who studied at level 1–3 compared to non-recipients (49% compared to 29%) but very similar for level 4 certificates and diplomas (about 43%) and degree level study (about 30%).

Student Allowance

Table 8 and Appendix Figures 6–9 presents results by benefit type (Sickness Benefit and Unemployment Benefit) and whether the beneficiary transferred to a Student Allowance or not. Outcomes varied to some extent depending on whether the beneficiary transferred to a Student Allowance or not. Those who transferred to a Student Allowance were much less likely to study at level 1–3.

Unemployment Benefit recipients who transferred to a Student Allowance were more likely to complete a qualification, with completion rates between 48% and 54% compared to 34% to 41% for those who did not transfer to a Student Allowance.

Unemployment Benefit recipients who transferred to a Student Allowance spent more time over the following 5 years in receipt of income support compared to matched comparisons, while those who did not transfer to a Student Allowance spent less time in receipt of income support compared to matched comparisons. This was particularly the case for those who studied at degree level. However outcomes 5 years post-enrolment were very similar for those who transferred to a Student Allowance and those who did not, with both groups more likely to be employed compared to matched comparisons 5 years later.

Sickness beneficiaries who transferred to a Student Allowance and studied at level 1–3 were less likely to be receiving income support 5 years later and were more likely to be employed compared to matched comparisons. In comparison, those who did not transfer to a Student Allowance were no less likely to be receiving income support 5 years later and slightly more likely to be employed compared to matched comparisons. Those who transferred to a Student Allowance were more likely to complete a qualification, with a completion rate of 54% compared to 33% for those who did not transfer to a Student Allowance.

Sickness beneficiaries who studied at level 4 and above were less likely to be receiving income support 5 years later and were more likely to be employed compared to matched comparisons, irrespective of whether they transferred to a Student Allowance or not. Although those who transferred to a Student Allowance were much more likely to be receiving income support during the first 12 months post-enrolment, the impact on the total number of months receiving income support during the subsequent 5 years was very similar. Those who transferred to a Student Allowance and studied at diploma or degree level experienced greater employment and lower level of income support compared to those who didn't transfer to a Student Allowance, which may well reflect higher completion rates, particularly for diplomas.

Student Loans

A relatively high proportion of beneficiary students took out a Student Loan. Of the 10% who transferred to a Student Allowance, nearly all also took out a Student Loan. Of those who didn't transfer to a Student Allowance, about 30% took out a Student Loan. Nearly half of those who received a Training Incentive Allowance also took out a Student Loan, irrespective of level of study. In comparison, one-quarter of those who didn't receive a Training Incentive Allowance or transfer to a Student Allowance took out a Student Loan, with those studying at diploma level or higher more likely to take out a Student Loan (about half did so).

Table 9 compares impacts for those who did and did not take out a Student Loan, with those who transferred to a Student Allowance identified separately. Overall, those who studied at diploma level or below and who took out a Student Loan seemed to benefit less than those who didn't take out a Student Loan, even though completion rates were slightly higher for those who took out a Student Loan. This result was evident across all levels of study.

Impacts for those who did not complete a qualification

Recall that about 40% of participants completed a qualification during the study period[33], with considerable variation by the level and field of study. The benefits of further study were largely experienced by those who completed qualifications. Studying without gaining a qualification was only beneficial in a few particular fields and levels.

Those who enrolled at level 1-3 but did not complete qualifications experienced no improvement in outcomes 5 years later on average, while those enrolled at level 4 and above experienced small

[33] A qualification was completed during the study period or in the calendar year following it. In the administrative data some qualifications were recorded as completed in the early period of the subsequent year. The s[tudy period comprises consecutive enrolments separated by no more than 1 calendar year], so by construction the end of the study period is followed by at least a one year break in enrolment.

improvements in outcomes on average. Studying without gaining a qualification was only beneficial in a few particular fields. Table 10 reports the estimated impacts 5 years after starting study those who did not complete a qualification by level of study. Table 11 reports the estimated impacts 5 years after starting study those who did not complete a qualification by level and field of study.

- Those who began studying at level 1–3 were no more likely to be employed and 2 percentage points *more* likely to be receiving income support 5 years later. Studying towards qualifications in engineering and health appeared to be beneficial even when a qualification was not completed.
- Those who began studying at level 4 and above were about 3 percentage points more likely to be employed and 3 percentage points less likely to be receiving income support 5 years later.
- Studying towards qualifications at level 4 and above in education and towards diplomas in health, management and commerce and society and culture had a beneficial effect even when a qualification was not completed.

Studying without gaining a qualification was only beneficial in a few particular fields and levels, and the vast majority of those who studied without gaining a qualification did not experience an improvement in outcomes. It may be that employment prospects in some fields were particularly good, for example care workers or teacher aides, and those wanting to work in these occupations may not be required to have a relevant qualification to do so.

Characteristics associated with completing a qualification

Overall 40% of participants gained a qualification during the study period, with considerable variation by the level and field of study, and some variation by demographic characteristics. Appendix Table 5 shows completion rates by level of study, field of study and selected demographic characteristics.

Those who studied at level 4 or diploma level were more likely to complete a qualification than those studying at other levels. The overall completion rate for those studying towards level 1–3 qualifications was 38%, level 4 46%, diplomas 43%, degrees 40% and post-graduate certificates 52%.

About 30% of those who studied towards level 1–3 qualifications in information technology completed them, compared to 40% in management and commerce and 60% in health. A similar degree of variation was observed at higher levels.

Women were more likely to complete a qualification than men at level 1–3, level 4 and degree level. In general, those aged 35–64, those with prior qualifications, and those who received the Unemployment or Domestic Purposes benefit were more likely to complete.

Regression analyses showed that completion rates varied by level controlling for other factors, and that within level of study, completion rates differed by sex, age, prior educational attainment and benefit type.

Impacts by level of highest qualification gained

Next, we consider the impacts of further education for those who completed a qualification.

Figures 7–10 show that those who successfully completed a qualification at all levels were more likely to be employed and less likely to be receiving income support 5 years later and that the impacts increased with the level of qualification gained. Table 12 contains the estimated impacts by level of highest qualification gained.

Those who completed a level 1–3 qualification were 4.8% more likely to be employed, 3.5% more likely to be employed and not receiving income support and 1.5% less likely to be receiving income support 5 years later. During the 5-year period after first enrolling, they spent 1.9 more months employed, 1.1 more months employed and not receiving income support and 0.5 more months receiving income support and earned $3,435 more than matched comparisons.

- Those who completed a level 4 qualification were 9.4% more likely to be employed, 6.8% more likely to be employed and not receiving income support and 5.1% less likely to be receiving income support 5 years later. During the 5-year period after first enrolling, they spent 3.4 more months employed, 1.6 more months employed and not receiving income support and 0.2 more months receiving income support and earned $6,232 more than matched comparisons.
- Those who completed a diploma were 12.6% more likely to be employed, 11.9% more likely to be employed and not receiving income support and 9.0% less likely to be receiving income support 5 years later. During the 5-year period after first enrolling, they spent 3.0 more months employed, 1.8 more months employed and not receiving income support and 0.8 more months receiving income support and earned $6,147 more than matched comparisons.
- Those who completed a degree were 19% more likely to be employed, 20% more likely to be employed and not receiving income support and 14% less likely to be receiving income support 5 years later. During the 5-year period after first enrolling, they spent 2 more months employed, the same number of months employed and not receiving income support and 4 more months receiving income support and earned $7,590 more than matched comparisons.

Overall, those who successfully completed a qualification at level 4 and above were more likely to be employed and less likely to be receiving income support 5 years later than matched comparisons, and the impacts increased with the level of qualification gained. Those who successfully completed a qualification at level 1–3 were no more likely to be receiving income support 5 years later but were more likely to be employed and more likely to be employed and independent of income support 5 years later.

Impacts by level and field of highest qualification gained

Table 13 contains estimated impacts by level and field of the highest qualification gained. Impacts varied considerably by the field of the highest qualification gained.

Level 1–3 qualifications in some particular fields had a positive impact on future employment and earnings, while qualifications in other fields had a small impact or no impact. Those who completed qualifications in engineering, health or education were 10–12 percentage points more likely to be employed 5 years after they started studying, while those who completed qualifications in management and commerce, society and culture, or food hospitality and personal services were 5–8

percentage points more likely to be employed. Those who completed qualifications in information technology or agriculture were not significantly more likely to be employed, while those who completed employment skills or life skills programmes were no more likely to be employed and 4% *more* likely to be receiving income support 5 years after they started studying. Too few students completed qualifications in creative arts, science or architecture and building to reliably estimate impacts for these fields.

Those who completed level 4 qualifications in engineering, health, education, management and commerce, or society and culture were between 9–23 percentage points more likely to be employed 5 years after they started studying. Those who completed qualifications in creative arts were no more likely to be employed. Too few students completed qualifications in science, information technology, architecture and building, agriculture or food and hospitality to reliably estimate impacts for these fields.

Those who completed diplomas in health, management and commerce, society and culture or food, hospitality and personal services were 13–32 percentage points more likely to be employed. Those who completed diplomas in health and creative arts were no more likely to be employed. Very few students completed diplomas in other fields.

Those who completed a degree or a graduate certificate in education, health or society and culture were 13–33 percentage points more likely to be employed. Those who completed qualifications in management and commerce or creative arts were no more likely to be employed. Very few students completed degrees or graduate certificates in other fields.

Appendix Table 8 reports impacts by the level and field of the highest qualification gained by sex and Appendix Table 9 reports results by more detailed field of the highest qualification gained.

There were some differences within broad field of study, for example those who completed level 1–3 certificates in human society or language and literature were 3% more likely to be employed, but 4% *more likely* to be receiving income support 5 years after starting study, while those who completed certificates in human welfare were 16% more likely to be employed and 5% less likely to be receiving income support.

Impacts by level of highest qualification gained and demographic subgroup

Table 14 contains impact estimates by level of highest qualification gained for various demographic subgroups.

Overall, the favourable impacts of gaining a qualification at all level were evident for nearly all subgroups defined by demographic characteristics (age, gender and ethnicity), type of benefit received and benefit duration.

Women benefited more from studying at diploma or degree level, and younger age groups benefited more than older age groups from gaining qualifications below degree level. Māori, Pacific peoples and Europeans benefitted similarly from completing qualifications at a given level.

Women who completed diplomas were 10% less likely to be receiving income support and 14% more likely to be employed, while men were 3% less likely to be receiving income support and 5% more

likely to be employed. Women who completed degrees were 22% more likely to be employed and independent of income support while men were 13% more likely to be so.

Impacts for those who started studying during 2008–2010

So far we have focused on those who newly enrolled at a tertiary institution over the period 2003 to 2005 and their outcomes 5 years later. We now provide some comparative results for those who started studying in 2008 to 2010 and outcomes 18 months to 3 years later.

The characteristics of those who started studying in 2010 are reported in Appendix Table 3 and are fairly similar to the characteristics of the main study population, those who started studying in 2003–2005, reported in Table 3. Those who those who started studying in 2010 were more likely to have been on a benefit for less than 2 years, male, and to study at level 4 and above. These changes mainly reflect the large increase in the number of people receiving benefit during 2008–2010.

Overall, impacts up to 3 years later for those who started studying during 2008–2010 were very similar to those for beneficiaries who started studying during 2003–2005 by level of study, level of highest qualification gained and field of study.

For those who started studying during 2003–2005 the estimated impacts 2–3 years after starting study were smaller than the impacts at 5 years. This is hardly surprising given the time it takes to complete qualifications at different levels and that the full benefits of gaining new qualifications are not likely to be evident for many years afterwards. While most beneficiaries who started studying at levels 1–3 or level 4 studied for 1 year or less, about 15% studied for more than 2 years. About 30–40% of those studying towards diplomas or degrees studied for more than 2 years. Overall about 10% were still studying 5 years later, so any gains for this group will take longer than 5 year to become apparent.

Table 15 reports outcomes and estimated impacts 18 months to 5 years after starting study, by level of study and year of enrolment. Table 16 reports outcomes and estimated impacts 18 months to 5 years after starting study, by level of study and year of enrolment, for those who completed a qualification by the end of the study spell (or by 2011 if the study spell was on-going at the end of 2011). Only results for levels 1–3 and level 4 are included in the tables.

The results at 18 months and 3 years for those who started studying during 2008–2010 were very similar to those for beneficiaries who started studying during 2003–2005 by level of study and level of highest qualification gained. Results by level and field of study were also very similar were there was sufficient numbers of participants to provide a reasonably reliable indication of short-term impacts. Overall the benefits of further study for those who studied more recently appear to be very similar to the benefit experienced by those who studied in the earlier period.

5. Summary of main findings

This study examines the impact of further education on beneficiaries' labour market outcomes. It mainly focuses on those who newly enrolled at a tertiary institution over the period January 2003 to December 2005 and outcomes up to 5 years later.

The main study population comprises the 62,000 beneficiaries who started studying at a tertiary institution between January 2003 and December 2005, and excludes those who participated in the Ministry of Social Development-funded Training Opportunities. About 10% transferred to a Student Allowance and about 40% took out a Student Loan.[34]

Beneficiaries who started studying were more likely to be female, younger and to have been on a benefit for a shorter period of time when they enrolled. 64% enrolled at level 1–3, 17% at level 4, 10% at level 5–6 (diploma) and 9% at level 7 (degree) or above. Employment and social programmes, management and commerce, and society and culture were the most common fields of study at level 1–3, and society and culture, education, management and commerce, and creative arts were the most common fields of study at level 4 and above. Overall, about 40% gained a qualification, with considerable variation by the level and field of study.

About 80% of those newly enrolled in level 1–3 programmes studied for 1 year or less, as did many of those enrolled in diploma and degrees. Overall, three-quarters studied for one year or less, one-quarter studied in the following year, one-fifth studied for a third year and about one-tenth studied for a fifth year. The majority of those studying at level 1–3 enrolled in qualifications that took half a year of full-time study to complete, while level 4 certificates and diplomas usually required one or two years of full-time study to complete. Many beneficiaries enrolled part-time particularly those studying at level 1-3.

The impact of further education on outcomes was estimated using the method of propensity matching, whereby participants are matched to similar beneficiaries who did not study on the basis of the estimated probability of starting a new study spell. Differences in subsequent benefit, employment and earnings of the two groups indicate the impact of further study on subsequent employment and earnings. We considered a range of outcomes, including the likelihood of being employed, in receipt of income support, employed and independent of income support 5 years post-enrolment, the amount of time spent employed over the 5 years post-enrolment and total earnings from wages and salaries over the same period.

Overall, enrolling in tertiary education led to small improvements in outcomes 5 years later. The largest gains were experienced by those who completed qualifications in particular levels and fields of study. Those who studied without completing a qualification experienced no or very little gain, with the exception of those who studied in a small number of fields at particular levels.

Those who started studying were slightly more likely to be employed and less likely to be receiving income support 5 years later compared to those who did not study. In particular, 5 years after starting a new study spell, 38% of beneficiary students were employed compared to 34% of matched

34 Most beneficiaries are entitled to take out Student Loan to cover course fees and course-related costs. Those who are studying part-time are usually not able to borrow to cover living costs.

comparisons, while 55% were receiving income support compared to 56% of matched comparisons.[35] Those who studied at level 4 and above experienced greater benefits on average than those who studied at level 1–3.

Employment gains were evident after about 18 months for those who studied at level 1–3 and level 4 and after about 2 to 3 years those who studied towards diplomas or degrees, largely reflecting the time taken to complete qualifications at the different levels, and that those who study are more likely to be receiving income support and less likely to be employed while they are studying, compared to those not studying, particularly those studying at higher levels.

Those who studied at level 1–3 were 2.5% more likely to be employed but no less likely to be receiving income support 5 years later. Impacts varied greatly by field of study, for example, those who studied engineering, agriculture and environment, health, education or creative arts were 5–10% less likely to be receiving income support, while those who enrolled in employment skills and life skills programmes were 4% more likely to be receiving income support 5 years later. (The proportion of beneficiary students enrolling in employment and social skills programmes at level 1–3 declined from about 24% to 6% between 2005 and 2010.)

Those who studied at level 4 and above were 7% more likely to be employed and 5% less likely to be receiving income support 5 years later. Those who studied engineering, health or education at level 4 or architecture and building, education or management and commerce at level 5–6 were at least 10% more likely to be employed and not receiving income support 5 years later.

Overall, men benefitted more from studying at level 1–3 and women benefitted more from studying at degree level. Younger age groups benefited slightly more than older age groups from studying at level 4 and above.

Impacts varied to some degree by the type of benefit and the type of financial assistance received, likely reflecting the different circumstances of different groups of beneficiaries. For example, those on an Unemployment Benefit who transferred to a Student Allowance when they started studying were more likely to complete a qualification but experienced similar gains in employment and reduction in income support as those who did not transfer to a Student Allowance. Those on a Domestic Purposes Benefit who studied at level 1–3 and received a Training Incentive Allowance were more likely to complete a qualification than those who did not receive an allowance, and they were also more likely to be employed compared to matched comparisons. Those receiving Domestic Purposes Benefit who studied at level 4 and above had very similar outcomes 5 years later, irrespective of whether they received a Training Incentive Allowance or not.

Overall, about 40% of long-term beneficiaries who started studying completed a qualification during the study period. This is very similar to the completion rate for other adult students. Completion rates varied to some extent by sex, ethnicity and age, with greater variation by level and field of study. Those who studied at level 4 or diploma level were more likely to complete a qualification than those studying at other levels, as were females, those aged 35–64, those with prior qualifications and those who received the Unemployment Benefit or Domestic Purposes Benefit.

35 The term 'income support' refers to receipt of a Student Allowance or main benefit. It does not include supplementary assistance like the Accommodation Supplement or IRD tax credits.

Those who studied without completing a qualification experienced no or very little gain, with the exception of those who studied in a small number of fields at particular levels.

Those who completed a qualification were considerably more likely to be employed and less likely to be receiving income support 5 years later compared to those who did not study. On average, gains increased with qualification level, although there was significant variation by field of study, with those completing qualifications in some particular fields much more likely to be employed and those completing qualifications in some other fields no more likely to be employed 5 years after starting study.

Employment gains were evident after about 1 year post-enrolment for those who gained level 1–3 or level 4 qualifications and after about 2 years and 3 years post-enrolment for those who gained diplomas or degrees, reflecting the time taken to complete qualifications at the various levels. Reductions in income support took were evident after about 3 or 4 years for those who gained qualifications at level 4 and above.

Those who completed level 1–3 certificates were 5% more likely to be employed and 1.5% less likely to be receiving income support 5 years later, while those who completed degrees were 19% more likely to be employed and 13% less likely to be receiving income support 5 years later. The reductions in income support were smaller than the increase in employment reflecting that some of the gains were in part-time employment, but mainly that those who studied and completed qualifications were less likely to be neither employed nor receiving income support, compared to those who did not study, particularly those who completed degrees.

Within the level of qualification gained, benefits varied considerably by field of study. Completing level 1–3 qualifications in engineering, health or education improved the likelihood of employment by about 10%. Completing qualifications in other fields at level 1–3 had a smaller impact, while the completion of employment skills and social skills programmes had no impact on the likelihood of subsequent employment and increased the likelihood of receiving income support.

Completing level 4 qualifications in engineering, health, education, management and commerce and society and culture improved the likelihood of employment by 10–20%, qualifications in other fields had smaller impacts, while the completion of qualifications in creative arts had no impact on the likelihood of employment. Completing diplomas and degrees in many fields improved the likelihood of employment by 10–30%, the exceptions being diplomas in health and diplomas and degrees in creative arts, which had little or no significant impact on employment.

The favourable impacts of gaining qualifications are evident for nearly all subgroups defined by demographic characteristics, the type of benefit received and benefit duration. Women benefited more from completing diplomas or degrees, and younger age groups benefited more than older age groups from completing qualifications below degree level. Māori, Pacific peoples and Europeans benefitted similarly from completing qualifications at a given level.

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Tables and figures

Table 1: Characteristics of participants and non-participants

	Participants	Non-participants
Number of observations	62,382	431,208
Demographic characteristics		
Median age (years)	32.0	42.6
Male	27.4	41.5
Māori	42.2	25.8
Pacific	7.4	8.9
Partnered	12.5	21.7
Have dependant children	58.1	37.9
Prior educational attainment		
None	44.0	47.4
Few school qualifications (less than 3 SC subjects, <80 credits at NQF level 1)	18.1	14.1
Lower school qualifications (3 or more SC subjects, 80+ credits at NQF level 1)	10.1	8.5
Higher school qualifications (UE or 80+ credits at NQF level 2)	9.8	5.9
Other school qualifications	3.1	3.1
Post school qualifications	3.8	3.3
Degree or professional qualifications	4.0	3.0
Not specified	6.6	14.7
Benefit type		
Domestic Purposes	47.1	26.3
Invalid's	13.7	29.3
Sickness	10.0	14.8
Unemployment	25.8	24.2
Training	1.3	1.1
Widow's	1.2	2.7
Independent Youth	1.0	0.4
Program participation in the last three years		
Training Incentive Allowance (TIA)	17.6	5.3
Training Opportunities (TOPs)	9.6	5.8
Wage subsidy	4.9	3.5
Work experience subsidy	3.5	2.4
Current benefit duration		
6 months -< 1 year	18.3	14.9
1 -< 2 years	20.4	14.0
2 -< 4 years	20.4	17.9
4 -< 6 years	11.1	12.0
6 -< 10 years	13.8	16.4
10 years or more	15.3	24.9
Mean current benefit duration (years)	4.4	5.8
Median current benefit duration (years)	2.9	4.9
Benefit history over the last 10 years		
Less than 2 years	16.1	10.5
2 -< 4 years	18.0	14.4
4 -< 6 years	15.1	14.0
6 -< 10 years	34.9	35.4
10 years	15.3	24.9
Median cumulative benefit duration (years)	6.1	7.6

Notes: Counts have been randomly rounded to base 3.
Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 2: Characteristics of participants by level of study

	Certificate level 1-3	Certificate level 4	Diploma level 5-6	Degree/ Post-graduate level 7+	Total
Number of observations	40,215	10,407	6,069	5,691	62,382
Demographic characteristics					
Average age (years)	33.9	34.6	33.3	32.2	33.6
Male	27.0	27.6	28.6	31.0	27.4
Māori	45.5	45.7	33.4	23.3	42.2
Pacific	7.6	8.1	7.2	5.9	7.4
Partnered	13.6	12.0	10.4	8.4	12.5
Have dependant children	59.2	60.0	56.9	52.1	58.1
Migrant (after 1997)	4.8	3.3	3.6	4.3	4.4
Prior educational attainment					
None	50.5	42.0	31.2	16.3	44.0
Few school qualifications	18.9	19.0	17.6	11.9	18.1
Lower school qualifications	8.6	11.6	14.5	13.5	10.1
Higher school qualifications	6.6	10.5	16.1	25.7	9.8
Other school qualifications	3.0	3.1	3.4	3.7	3.1
Post school qualifications	3.0	4.3	5.7	7.0	3.8
Degree or professional qualifications	2.5	3.6	6.1	14.6	4.0
Not specified	7.0	5.9	5.5	7.2	6.6
Program participation in the last three years					
Training Incentive Allowance (TIA)	15.2	20.9	23.9	23.4	17.6
Training Opportunities (TOPs)	10.3	9.1	9.3	6.2	9.6
Wage subsidy	4.9	4.9	4.9	4.9	4.9
Work experience	3.5	3.5	3.5	3.5	3.5
Current benefit duration					
6 months -< 1 year	16.8	19.2	21.3	25.3	18.3
1 -< 2 years	19.0	20.7	23.7	27.4	20.4
2 -< 4 years	20.4	21.0	21.5	20.3	20.4
4 -< 6 years	11.5	11.1	10.6	9.0	11.1
6 -< 10 years	14.8	13.5	12.2	10.3	13.8
10 years or more	17.4	14.5	10.7	7.6	15.3
Mean current benefit duration (years)					
Median current benefit duration (years)	3.2	2.8	2.3	1.8	2.9
Benefit history over the last 10 years					
Less than 2 years	14.3	16.3	19.5	26.8	16.1
2 -< 4 years	16.7	18.4	21.3	24.1	18.0
4 -< 6 years	14.8	15.4	16.7	15.7	15.1
6 -< 10 years	36.8	35.4	31.8	25.7	34.9
10 years or more	17.4	14.4	10.7	7.6	15.3
Mean cumulative benefit duration (years)					
Median cumulative benefit duration (years)	6.6	6.0	5.1	3.9	6.1
Recent employment history in previous 36 months					
Employed and off-benefit for at least one month	31.1	37.0	41.6	46.1	34.2
Employed and off-benefit for more than six months	15.9	20.4	22.8	27.9	18.2
Employed while on-benefit for at least one month	58.4	64.9	66.9	67.8	60.8
Employed while on-benefit for more than six months	29.3	34.4	35.7	36.7	31.2

Notes: Counts have been randomly rounded to base 3.
Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 2: Characteristics of participants by level of study (continued)

	Certificate level 1-3	Certificate level 4	Diploma level 5-6	Degree/ Post-graduate level 7+	Total
Number of observations	40,215	10,407	6,069	5,691	62,382
Type of Tertiary Institution					
University or college of education	1.3	5.4	12.5	73.2	9.6
Institute of technology or polytechnic	42.1	44.7	47.3	22.0	41.2
Wananga	29.9	30.5	12.2	2.8	25.8
Private training establishment	26.8	19.4	28.1	2.0	23.4
Field of study enrolled in					
Science	0.5	s	0.8	6.0	1.0
Information technology	12.1	s	8.6	2.2	9.1
Engineering and related technologies	4.9	2.2	4.3	0.6	4.0
Architecture and building	1.0	2.2	1.8	s	1.2
Agriculture and environment	4.4	3.8	1.6	0.9	3.7
Health	1.4	5.1	6.1	8.9	3.1
Education	2.1	5.1	15.7	18.4	5.3
Management and commerce	20.0	26.2	14.1	9.5	19.5
Society and culture	11.8	35.1	28.2	40.0	19.7
Creative arts	1.4	8.1	14.3	8.2	4.4
Food, hospitality and personal services	3.7	5.8	3.5	s	3.7
Employment, social and general education	36.6	5.0	1.0	4.8	25.1
Number of EFTS enrolled in during the first year					
less than 0.1	15.0	6.6	6.1	2.3	11.7
[0.1-0.25)	21.6	16.6	16.4	14.9	19.6
[0.25-0.5)	35.0	19.5	18.5	23.1	29.8
[0.5-1.0)	20.8	21.6	28.2	32.8	22.8
1.0 or more	7.4	35.8	30.8	27.0	16.1
Median number of EFTS enrolled in	0.34	0.51	0.54	0.60	0.40
Average number of EFTS enrolled in	0.37	0.61	0.61	0.63	0.46
Number of EFTS of qualifications enrolled in					
less than 0.1	3.1	1.4	0.2	s	2.3
[0.1-0.25)	2.3	4.4	0.5	s	2.3
[0.25-0.5)	15.4	4.9	2.7	s	11.0
[0.5-1.0)	61.9	27.0	8.3	0.8	45.6
[1.0-2.0)	16.7	40.6	44.7	13.5	23.3
[2.0-3.0)	s	18.9	30.4	s	6.7
3.0 or more	s	2.8	13.2	85.5	8.1
Median number of EFTS	0.51	1.00	1.00	3.00	0.56
Average number of EFTS	0.58	1.06	1.56	2.81	0.95
Percentage that completed a qualification	37.5	45.3	42.8	40.0	39.6
Level of highest qualification completed:					
Certificate level 1-3	80.8	8.9	18.1	7.3	53.5
Certificate level 4	11.3	74.4	4.9	4.4	22.0
Diploma (level 5-6)	5.2	10.1	66.7	5.7	12.7
Degree (level 7)	2.6	5.9	9.5	66.9	10.0
Post-graduate (level 8+)	0.2	0.6	0.8	15.6	1.8
Field of highest qualification completed					
Science	0.3	0.8	1.1	3.2	0.8
Information technology	6.0	2.3	17.4	4.1	6.3
Engineering and related technologies	4.5	2.1	2.5	1.5	3.5
Architecture and building	0.9	1.8	s	s	1.1
Agriculture and environment	3.6	3.6	s	s	3.1
Health	4.5	8.9	8.8	11.5	6.5
Education	4.0	7.2	14.2	26.5	7.8
Management and commerce	26.2	19.2	10.1	9.0	21.5
Society and culture	17.9	35.6	22.5	27.3	22.6
Creative arts	3.0	10.1	15.3	13.3	6.7
Food, hospitality and personal services	5.9	5.9	3.9	0.9	5.2
Employment, social and general education	23.1	2.7	1.5	1.2	14.9

Notes: Counts have been randomly rounded to base 3.
Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 2: Characteristics of participants by level of study (continued)

	Certificate level 1-3	Certificate level 4	Diploma level 5-6	Degree/ Post-graduate level 7+	Total
Number of observations	40,215	10,407	6,069	5,691	62,382
Subgroup Type					
Received TIA	18.9	32.2	38.5	39.1	24.6
Transferred to Student Allowance	6.9	10.4	17.8	21.7	9.9
Did not receive TIA or transfer to SA	74.3	57.4	43.7	39.1	65.1
Student loans and allowances (during first year)					
Student Allowance	7.9	12.1	20.6	24.4	11.4
Student Loan	33.9	38.1	56.5	63.6	39.5
Student Loan - fees	31.5	35.1	52.8	60.0	36.8
Student Loan - course costs	29.3	31.2	45.5	48.7	32.9
Student Loan - living costs	6.1	8.5	14.2	16.5	8.3
Student Loan - median amount borrowed	4,886	3,910	4,349	3,720	4,352
Student Loan - average amount borrowed	4,756	4,303	4,820	4,069	4,592
SLA status (during first year)					
Transferred to Student Allowance	6.9	10.4	17.8	21.7	9.9
Did not transfer to SA, took out Student Loan	27.7	28.6	40.1	43.5	30.5
Did not transfer to SA or take out SL	65.5	61.0	42.1	34.8	59.7
Student loans and allowances (during the study spell)					
Student Allowance	10.5	14.8	24.2	30.1	14.4
Student Loan	42.5	46.4	63.1	73.2	48.0
Student Loan - median number of years borrowed	1.0	1.0	1.0	2.0	1.0
Student Loan - mean number of years borrowed	1.6	1.7	2.0	2.5	1.8
Student Loan - median amount borrowed	6,127	5,450	6,813	7,190	6,212
Student Loan - mean amount borrowed	7,439	7,661	9,136	11,003	8,188
SLA status (during the study spell)					
Student Allowance	10.5	14.9	24.2	30.1	14.4
No Student Allowance, Student Loan	32.9	32.5	40.5	44.7	34.7
No Student Allowance or Loan	56.6	52.6	35.4	25.2	51.0

Notes: Counts have been randomly rounded to base 3.
Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 3: Characteristics of participants by type of benefit received

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	30,102	8,523	17,520	6,240	62,382
Demographic characteristics					
Average age (years)	32.4	39.8	36.8	32.3	34.6
Male	5.7	43.9	51.4	44.8	27.6
Māori	46.9	32.7	42.1	34.2	42.3
Pacific	8.3	8.3	8.3	8.3	8.3
Partnered	0.2	25.1	23.3	24.3	12.5
Have dependant children	96.6	23.5	22.3	23.7	58.5
Migrant (after 1997)	1.8	0.4	10.3	5.9	4.4
Prior educational attainment					
None	46.2	42.1	42.4	41.6	44.1
Few school qualifications	21.0	12.0	17.4	15.0	18.2
Lower school qualifications	12.5	7.5	8.0	8.6	10.1
Higher school qualifications	10.1	7.0	11.2	9.4	9.9
Other school qualifications	2.6	2.0	4.5	3.2	3.1
Post school qualifications	3.4	3.2	4.7	4.6	3.8
Degree or professional qualifications	2.7	2.5	6.8	5.4	4.1
Not specified	1.6	23.7	5.1	12.3	6.7
Program participation in the last three years					
Training Incentive Allowance (TIA)	30.6	17.6	1.3	1.7	17.7
Training Opportunities (TOPs)	7.3	6.3	15.7	8.5	9.6
Wage subsidy	3.3	3.0	7.8	6.2	4.8
Work experience	2.7	3.8	5.4	3.4	3.7
Enrolled during the last three years	25.5	19.0	23.6	22.0	23.7
Number of EFTS enrolled in during the last 3 years					
less than 0.25	13.2	16.0	8.6	12.3	12.2
[0.25-0.5)	20.8	19.4	16.9	18.4	19.2
[0.5-1.0)	35.6	31.7	37.2	34.8	35.5
1.0 or more	23.5	24.3	32.6	27.5	26.5
Current benefit duration					
6 months -< 1 year	12.3	5.2	32.4	26.5	18.4
1 -< 2 years	17.3	9.8	29.5	25.5	20.5
2 -< 4 years	21.3	18.6	19.8	22.0	20.6
4 -< 6 years	13.3	12.6	7.5	8.6	11.1
6 -< 10 years	17.5	20.4	6.2	9.5	13.9
10 years or more	18.2	33.4	4.4	7.7	15.4
Median current benefit duration (years)	3.9	6.6	1.9	1.5	3.5
Benefit history over the last 10 years					
Less than 2 years	10.5	5.7	28.1	12.4	15.0
2 -< 4 years	16.6	11.9	22.4	22.0	18.1
4 -< 6 years	15.7	12.3	15.4	16.2	15.2
6 -< 10 years	39.1	36.7	27.7	34.6	35.1
10 years	18.2	33.4	4.3	7.6	15.3
Median cumulative benefit duration (years)	6.9	8.9	3.7	5.0	6.1
Recent employment history in previous 36 months					
Employed and off-benefit for at least one month	30.1	14.8	47.9	44.7	34.5
Employed and off-benefit for more than six months	16.1	6.7	25.1	26.8	18.4
Employed while on-benefit for at least one month	63.6	45.6	64.7	61.2	61.2
Employed while on-benefit for more than six months	36.3	24.3	28.4	26.5	31.4
Recorded incapacities during the last two years					
Stress	-	9.3	-	28.6	-
Depression	-	16.7	-	30.5	-
Other mental health condition	-	33.2	-	36.3	-
Accident or injury	-	5.3	-	6.8	-
Substance abuse	-	6.0	-	13.4	-
Metabolic	-	9.4	-	11.9	-
Musculoskeletal	-	17.6	-	25.0	-
Fractures or Back	-	8.0	-	16.6	-
Congenital	-	6.0	-	1.3	-
Nervous system	-	13.6	-	8.0	-
Sensory	-	5.5	-	3.0	-
Intellectual disability	-	13.1	-	1.0	-
Other	-	25.5	-	28.8	-

Notes: Counts have been randomly rounded to base 3.
Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 3: Characteristics of participants by type of benefit received (continued)

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	30,102	8,523	17,520	6,240	62,382
Type of Tertiary Institution					
University or college of education	8.9	7.3	11.9	9.7	9.6
Institute of technology or polytechnic	40.2	49.0	39.1	41.1	41.2
Wananga	25.7	27.4	24.6	27.2	25.8
Private training establishment	25.1	16.3	24.4	22.1	23.4
Level of study					
Certificate level 1-3	64.1	70.1	62.5	64.4	64.5
Certificate level 4	17.5	15.0	16.2	16.5	16.7
Diploma (level 5-6)	9.9	7.9	10.4	9.7	9.7
Degree (level 7)	8.2	6.7	9.9	8.9	8.5
Post-graduate (level 8+)	0.4	0.5	1.0	0.6	0.6
Field of study					
Science	0.8	1.0	1.4	1.1	1.0
Information technology	8.5	12.2	8.5	9.5	9.1
Engineering and related technologies	1.8	3.8	7.1	5.4	3.9
Architecture and building	1.0	1.0	1.8	1.4	1.3
Agriculture and environment	2.0	4.3	5.8	4.2	3.6
Health	3.9	2.8	2.3	3.0	3.2
Education	6.7	3.1	4.5	4.5	5.4
Management and commerce	24.4	14.6	15.6	16.2	19.7
Society and culture	18.1	21.5	21.1	21.7	19.8
Creative arts	3.3	4.1	6.6	4.9	4.5
Food, hospitality and personal services	4.1	1.8	4.4	3.0	3.8
Employment, social and general education	25.2	29.8	21.1	25.2	24.7
Number of EFTS enrolled in during the first year					
less than 0.1	10.5	14.9	9.5	13.6	11.1
[0.1-0.25)	21.2	23.7	14.3	19.6	19.4
[0.25-0.5)	32.4	27.0	26.9	29.8	29.8
[0.5-1.0)	21.8	18.3	27.5	21.4	22.9
1.0 or more	13.8	15.8	21.7	15.2	16.4
Median number of EFTS enrolled in	0.39	0.34	0.50	0.39	0.4
Average number of EFTS enrolled in	0.44	0.42	0.53	0.44	0.5
Number of EFTS of qualifications enrolled in					
less than 0.1	1.6	3.1	2.3	2.8	2.1
[0.1-0.25)	2.5	2.5	1.7	2.8	2.3
[0.25-0.5)	11.5	13.5	9.1	11.6	11.1
[0.5-1.0)	47.9	42.4	42.2	45.1	45.2
[1.0-2.0)	21.1	23.3	28.2	21.4	23.4
[2.0-3.0)	6.2	8.3	6.6	7.2	6.7
3.0 or more	9.3	6.9	10.0	9.1	9.1
Median number of EFTS	0.53	0.53	0.70	0.53	0.58
Average number of EFTS	0.94	0.90	1.00	0.94	0.95
Percentage that completed a qualification	40.5	35.1	41.4	37.4	39.7

Notes: Counts have been randomly rounded to base 3.
Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 3: Characteristics of participants by type of benefit received (continued)

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	30,102	8,523	17,520	6,240	62,382
Percentage that completed a qualification	40.5	35.1	41.4	37.4	39.7
Level of first qualification completed:					
Certificate level 1-3	58.9	64.4	60.0	60.9	60.2
Certificate level 4	22.7	21.0	18.7	20.5	21.1
Diploma (level 5-6)	9.7	9.2	10.7	10.5	10.0
Degree (level 7)	8.1	4.8	8.8	7.1	7.8
Post-graduate (level 8+)	0.6	0.6	1.8	1.0	1.0
Level of highest qualification completed:					
Certificate level 1-3	51.5	58.8	54.0	55.4	53.6
Certificate level 4	23.7	22.3	19.5	21.0	22.0
Diploma (level 5-6)	12.5	11.4	13.3	13.3	12.6
Degree (level 7)	10.9	6.4	10.4	8.4	9.9
Post-graduate (level 8+)	1.4	1.1	2.8	1.9	1.8
Field of highest qualification completed:					
Science	0.7	s	1.0	s	0.8
Information technology	5.3	7.0	7.4	7.6	6.3
Engineering and related technologies	2.1	3.0	5.7	5.0	3.5
Architecture and building	0.5	s	2.0	s	1.1
Agriculture and environment	1.8	3.0	5.0	3.7	3.1
Health	7.9	6.0	4.4	6.0	6.5
Education	10.0	4.4	6.0	6.0	7.8
Management and commerce	26.2	18.4	16.0	18.1	21.5
Society and culture	21.5	27.4	22.2	23.7	22.6
Creative arts	5.2	6.1	9.1	7.3	6.7
Food, hospitality and personal services	6.5	2.2	4.8	3.9	5.2
Employment, social and general education	12.3	20.8	16.3	16.4	14.9

Notes: Counts have been randomly rounded to base 3.
Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 3: Characteristics of participants by type of benefit received (continued)

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	30,102	8,523	17,520	6,240	62,382
Subgroup Type					
Received TIA	43.8	26.4	0.2	0.5	24.8
Transferred to Student Allowance	0.5	0.3	27.8	17.9	9.9
Did not receive TIA or transfer to SA	55.7	73.3	72.0	81.6	65.3
Student loans and allowances (during first year)					
Student Allowance	0.7	0.5	31.6	20.6	11.4
Student Loan	37.4	23.5	50.7	39.9	39.5
Student Loan - fees	34.1	21.8	48.2	38.3	36.8
Student Loan - course costs	31.4	19.4	42.1	33.2	32.9
Student Loan - living costs	0.8	0.3	23.2	13.2	8.3
Student Loan - median amount borrowed	3,570	3,514	5,425	5,010	4,352
Student Loan - average amount borrowed	3,862	3,887	5,519	5,058	4,592
SLA status (during first year)					
Transferred to Student Allowance	0.5	0.3	27.8	17.9	9.9
Did not transfer to SA, took out Student Loan	27.7	28.6	40.1	43.5	30.5
Did not transfer to SA or take out SL	65.5	61.0	42.1	34.8	59.7
Student loans and allowances (during the study spell)					
Student Allowance	2.4	1.2	37.4	25.3	14.4
Student Loan	47.8	30.4	57.2	47.1	48.0
Student Loan - fees					
Student Loan - course costs					
Student Loan - living costs					
Student Loan - median number of years borrowed	1.0	1.0	1.0	1.0	1.0
Student Loan - mean number of years borrowed	1.8	1.8	1.8	1.8	1.8
Student Loan - median amount borrowed	5,340	5,424	7,250	6,694	6,212
Student Loan - mean amount borrowed	6,928	6,911	10,119	8,908	8,188
SLA status (during the study spell)					
Student Allowance	2.4	1.2	37.4	25.3	14.4
No Student Allowance, Student Loan	45.5	29.4	22.5	23.7	34.7
No Student Allowance or Loan	52.1	69.4	40.1	51.1	51.0

Notes: Counts have been randomly rounded to base 3.
Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 4: Outcomes and estimated impacts by level of study

Level of study	Number of participants	Percentage receiving benefit 5 years later			Percentage receiving income support 5 years later			Percentage employed 5 years later			Percentage employed and not receiving income support 5 years later		
		Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)
Total	50106	54.5	56.0	-1.5 * (0.3)	55.1	56.4	-1.3 * (0.3)	37.5	33.5	3.9 * (0.3)	25.5	22.5	3.1 * (0.3)
Level 1-3 certificate	33339	58.8	58.3	0.5 (0.4)	59.3	58.7	0.6 (0.4)	34.4	31.9	2.5 * (0.3)	22.1	20.8	1.3 * (0.3)
Level 4 certificate	8118	50.6	54.6	-4.0 * (0.8)	51.1	54.9	-3.8 * (0.7)	40.9	34.8	6.1 * (0.7)	28.5	23.7	4.8 * (0.6)
Diploma	4551	44.7	50.9	-6.2 * (1.1)	45.4	51.2	-5.8 * (1.2)	44.6	37.2	7.4 * (1.1)	33.6	26.3	7.3 * (1.2)
Degree	3858	38.9	46.5	-7.6 * (1.1)	40.6	47.2	-6.6 * (1.1)	48.0	40.1	7.9 * (1.3)	38.0	29.1	8.9 * (1.1)

Level of study	Number of participants	Number of months receiving main benefits over the following 5 years			Number of months receiving income support over the following 5 years			Number of months employed over the following 5 years			Number of months employed and not receiving income support over the following 5 years		
		Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)
Total	50106	40.2	41.0	-0.8 * (0.1)	41.4	40.9	0.6 * (0.1)	21.1	19.8	1.2 * (0.1)	10.9	10.4	0.5 * (0.1)
Level 1-3 certificate	33339	42.4	42.1	0.2 (0.2)	43.0	42.1	1.0 * (0.2)	19.8	18.9	0.9 * (0.2)	9.8	9.6	0.3 * (0.1)
Level 4 certificate	8118	38.5	40.4	-1.9 * (0.3)	39.8	40.3	-0.5 (0.3)	22.8	20.7	2.1 * (0.3)	12.0	10.9	1.1 * (0.2)
Diploma	4551	35.1	38.3	-3.2 * (0.4)	37.7	38.2	-0.5 (0.4)	24.2	22.0	2.3 * (0.5)	13.7	12.2	1.5 * (0.4)
Degree	3858	32.3	35.8	-3.5 * (0.5)	36.8	35.8	0.9 (0.5)	24.5	23.4	1.0 (0.5)	14.3	13.9	0.4 (0.4)

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 4: Outcomes and estimated impacts by level of study (continued)

Level of study	Number of participants	Average gross monthly earnings 5 years later (dollars)				Average total gross earnings over the following 5 years (dollars)			
		Participants	Matched comparisons	Impact (standard error)		Participants	Matched comparisons	Impact (standard error)	
Total	50106	770	653	116 *	(8)	36160	33820	2340 *	(325)
Level 1-3 certificate	33339	660	612	48 *	(9)	32780	31510	1270 *	(350)
Level 4 certificate	8118	852	691	161 *	(17)	39790	35890	3900 *	(760)
Diploma	4551	996	733	263 *	(31)	44060	38600	5450 *	(1100)
Degree	3858	1238	821	417 *	(37)	46840	42800	4040 *	(1300)

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 5: Estimated impacts 5 years after starting study by level and broad field of study

	Number of participants	Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Level 1-3 certificate											
Natural and physical sciences	180	-5.0	5.2	-3.4	5.1	8.0	4.9	6.0	4.5	168	128
Information technology	4110	-0.4	1.1	-0.2	1.1	3.5 *	1.0	2.7 *	0.8	61 *	21
Engineering and related technologies	1539	-5.1 *	1.8	-4.9 *	1.8	7.0 *	1.4	6.5 *	1.6	261 *	48
Architecture and building	336	-2.3	4.3	-1.1	4.2	-3.0	3.5	-3.6	3.1	-78	92
Agriculture, environmental and related studies	1437	-4.5 *	1.7	-4.8 *	1.6	3.2	1.8	3.0	1.6	74	47
Health	465	-10.9 *	3.5	-11.1 *	3.6	8.1 *	3.1	9.1 *	3.1	235 *	84
Education	693	-8.2 *	2.4	-7.5 *	2.4	12.6 *	2.7	10.6 *	2.2	270 *	70
Management and commerce	6729	-0.3	0.9	-0.1	0.9	2.9 *	0.8	1.7 *	0.7	83 *	19
Society and culture	3720	-0.3	1.3	0.2	1.3	3.1 *	1.1	1.9 *	0.9	76 *	26
Creative arts	429	-4.9	3.1	-4.9	3.2	7.0	3.5	4.3	3.1	91	91
Food, hospitality and personal services	1233	-1.5	2.1	-1.2	2.1	3.4	2.2	2.9	2.0	45	52
Employment, social and general education	12462	4.2 *	0.7	4.1 *	0.7	0.1	0.6	-1.4	0.5	-32 *	13
Level 4 certificate											
Natural and physical sciences	s	s		s		s		s		s	
Information technology	102	7.7	8.2	7.7	8.4	5.1	6.9	3.6	7.0	86	180
Engineering and related technologies	171	-12.3 *	5.8	-10.4	5.8	11.8 *	5.5	12.4 *	5.2	399 *	148
Architecture and building	180	-6.1	5.1	-5.7	5.1	0.4	5.7	2.3	4.9	49	147
Agriculture, environmental and related studies	315	0.1	4.0	-0.5	4.0	4.3	4.0	0.5	3.2	66	103
Health	411	-6.8	3.4	-6.6	3.5	13.9 *	3.5	9.0 *	3.1	284 *	88
Education	402	-5.4	4.1	-4.6	4.1	19.7 *	3.4	10.1 *	3.5	241 *	89
Management and commerce	2097	-5.6 *	1.3	-5.8 *	1.3	4.5 *	1.5	4.4 *	1.4	191 *	38
Society and culture	2910	-4.2 *	1.2	-3.6 *	1.2	6.9 *	1.2	5.5 *	1.1	169 *	31
Creative arts	657	1.9	2.6	2.2	2.6	-0.2	2.7	0.4	2.4	-70	69
Food, hospitality and personal services	495	-2.7	3.2	-2.3	3.2	-1.1	2.6	1.1	2.7	70	72

Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand. Numbers of participants have been randomly rounded to base 3. Estimated impacts are percentage point differences. Asterisk (*) denotes that the estimate is statistically significant at the 95% confidence level. Estimates based on fewer than 80 participants have been suppressed (s).

Table 5: Estimated impacts 5 years after starting study by level and broad field of study (continued)

	Number of participants	Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Diploma											
Natural and physical sciences	30	s		s		s		s		s	
Information technology	375	-3.9	3.6	-2.2	3.6	5.3	3.8	7.3 *	3.7	316 *	109
Engineering and related technologies	201	-1.6	5.0	-2.0	4.9	-0.9	4.9	2.2	4.9	117	148
Architecture and building	84	-16.6 *	7.3	-15.4 *	7.5	4.9	8.9	10.0	8.4	335	246
Agriculture, environmental and related studies	81	4.6	8.7	5.1	8.8	7.2	9.6	-2.7	8.3	110	244
Health	273	-0.1	4.1	1.1	4.2	-3.0	4.6	-1.6	4.4	-17	105
Education	735	-14.1 *	2.6	-14.0 *	2.6	16.7 *	2.5	16.2 *	2.3	565 *	74
Management and commerce	648	-9.4 *	3.1	-9.2 *	3.1	11.5 *	3.0	9.9 *	2.7	387 *	76
Society and culture	1272	-6.0 *	2.3	-5.9 *	2.3	9.6 *	2.2	8.4 *	2.2	281 *	63
Creative arts	645	-0.1	3.1	0.4	3.1	-3.0	2.9	-0.8	2.8	-78	78
Food, hospitality and personal services	162	-3.0	5.6	-3.6	5.5	6.1	5.2	5.9	5.4	229	141
Degree											
Natural and physical sciences	231	-2.1	4.3	0.3	4.4	2.8	4.6	2.7	4.4	104	130
Information technology	75	-15.0 *	7.7	-15.9 *	7.6	13.1	8.8	14.0	8.7	722 *	295
Engineering and related technologies	s	s		s		s		s		s	
Architecture and building	s	s		s		s		s		s	
Agriculture, environmental and related studies	42	s		s		s		s		s	
Health	327	-17.6 *	4.3	-17.8 *	4.3	18.0 *	4.2	20.2 *	4.1	905 *	140
Education	723	-19.9 *	2.7	-19.4 *	2.7	22.7 *	2.7	24.7 *	2.8	1004 *	90
Management and commerce	354	-12.9 *	3.5	-13.6 *	3.6	7.8 *	3.7	8.0 *	3.5	363	240
Society and culture	1593	-1.9	1.8	-0.1	1.8	1.3	1.6	2.3	1.4	181 *	53
Creative arts	318	0.8	3.7	1.5	3.7	2.1	4.5	1.1	3.7	50	117

Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand. Numbers of participants have been randomly rounded to base 3. Estimated impacts are percentage point differences. Asterisk (*) denotes that the estimate is statistically significant at the 95% confidence level. Estimates based on fewer than 75 participants have been suppressed (s).

Table 6: Estimated impacts 5 years after starting study by level of study, benefit type and demographic subgroup

	Number of participants	Qualification completion rate	Level 1-3									
			Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
			Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Total	33339	38	0.5	0.4	0.6	0.4	2.5 *	0.3	1.3 *	0.3	48 *	9
Sex												
Male	8727	34	-0.6	0.8	-0.3	0.8	3.8 *	0.6	2.8 *	0.6	84 *	19
Female	24612	39	0.9	0.5	1.0 *	0.5	2.0 *	0.4	0.8 *	0.3	35 *	10
Ethnicity												
Asian	1125	69	2.9	2.8	4.2	2.8	2.1	2.4	0.2	2.1	24	58
Māori	15864	36	0.9	0.6	0.9	0.6	1.5 *	0.6	0.8	0.5	24	14
European	13224	34	-0.2	0.7	-0.1	0.7	3.7 *	0.5	2.2 *	0.5	83 *	13
Other	900	49	0.6	2.4	1.2	2.4	4.6	2.4	2.2	1.8	63	52
Pacific	2142	36	0.6	1.8	1.4	1.8	1.1	1.5	0.1	1.4	23	42
Qualifications												
None	24654	35	0.2	0.4	0.4	0.4	2.1 *	0.4	1.1 *	0.4	43 *	10
Lower school	2517	42	-0.3	1.6	-0.5	1.5	3.2 *	1.5	2.0	1.2	81 *	39
Higher school	2739	48	3.9 *	1.6	4.0 *	1.5	2.8 *	1.4	0.1	1.5	9	41
Post school	1233	46	1.4	2.2	1.8	2.2	5.9 *	2.3	5.1 *	2.0	145 *	64
Age												
18-19 years	1857	32	-3.8 *	1.6	-3.8 *	1.5	4.0 *	1.4	2.4	1.3	56	35
20-24 years	6345	34	1.1	0.8	1.2	0.8	2.1 *	0.8	1.1	0.7	56 *	21
25-34 years	10686	37	1.5	0.7	1.7	0.7	2.4 *	0.6	0.9	0.6	38	16
35-44 years	8100	40	0.8	0.9	0.9	0.9	1.8	0.9	0.6	0.8	36	22
45-54 years	3678	39	-1.5	1.1	-1.5	1.1	3.2 *	1.0	2.4 *	0.9	82 *	25
55-64 years	2424	45	0.5	1.5	0.7	1.5	3.6 *	0.9	3.6 *	0.8	62 *	19
Benefit type												
DPB/Widow's benefit	16524	37	0.8	0.5	0.9	0.5	1.3 *	0.5	0.5	0.4	22	15
Invalid's benefit	4890	32	0.8	0.8	0.8	0.8	3.4 *	0.9	0.9	0.5	44 *	15
Sickness benefit	3069	36	-1.9	1.2	-1.6	1.2	3.9 *	1.1	3.1 *	0.9	107 *	31
Unemployment benefits	8856	40	0.6	0.7	0.8	0.7	3.6 *	0.7	2.5 *	0.7	78 *	20
Benefit duration												
6-<24 months	11169	38	0.4	0.8	0.6	0.8	3.4 *	0.6	2.3 *	0.6	80 *	18
2-<4 years	6327	39	0.5	0.9	0.6	0.9	1.5	0.8	1.0	0.7	36	20
4 years +	15726	37	0.6	0.5	0.7	0.5	2.1 *	0.5	0.7	0.4	30 *	12

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 6: Estimated impacts by level of study, benefit type and demographic subgroup (continued)

	Number of participants	Qualification completion rate	Level 4									
			Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
			Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Total	8118	46	-4.0 *	0.8	-3.8 *	0.7	6.1 *	0.7	4.8 *	0.6	161 *	17
Sex												
Male	2199	39	-3.2	1.6	-2.9	1.5	4.7 *	1.4	3.7 *	1.3	84	44
Female	5919	48	-4.3 *	0.9	-4.1 *	0.9	6.6 *	0.8	5.3 *	0.8	190 *	21
Ethnicity												
Asian	168	51	0.4	6.0	0.4	6.1	2.9	6.5	4.3	5.9	186	186
Māori	3909	46	-4.6 *	1.1	-4.2 *	1.1	6.0 *	1.0	4.3 *	0.9	133 *	25
NZ or other European	3282	44	-3.9 *	1.2	-3.7 *	1.2	5.9 *	1.2	4.9 *	1.2	174 *	30
Other	174	53	-10.4	6.8	-10.4	6.9	9.9	6.6	9.5	5.2	214	140
Pacific	555	46	-0.5	3.1	-0.6	3.1	6.9 *	2.8	6.5 *	2.8	268 *	85
Qualifications												
None	5421	44	-4.5 *	1.0	-4.2 *	0.9	7.1 *	0.9	5.5 *	0.8	182 *	21
Lower school	852	46	-3.1	2.6	-2.8	2.7	2.2	2.8	3.2	2.4	144 *	66
Higher school	1002	50	-2.7	2.6	-2.7	2.6	6.0 *	2.7	3.8	2.4	147 *	66
Post school	435	47	1.1 *	3.6	1.0 *	3.7	0.4	4.4	0.9	3.9	-22	124
Age												
18-19 years	387	41	-8.2 *	3.6	-6.5	3.8	7.8 *	3.7	6.2	3.5	202 *	100
20-24 years	1404	42	-3.9 *	1.8	-3.7 *	1.8	7.2 *	2.0	4.7 *	1.8	163 *	55
25-34 years	2592	46	-3.0 *	1.3	-2.8 *	1.3	5.5 *	1.4	4.9 *	1.2	170 *	35
35-44 years	2085	48	-5.5 *	1.6	-5.5 *	1.6	6.7 *	1.4	5.8 *	1.3	196 *	36
45-54 years	1002	47	-5.4 *	2.5	-4.8	2.5	4.8 *	2.5	4.1 *	2.3	141 *	63
55-64 years	606	48	1.2	2.3	1.8	2.4	4.0	2.2	1.4	1.8	-4	40
Benefit type												
DPB/Widow's benefit	4179	47	-4.5 *	1.0	-4.4 *	1.0	6.0 *	1.1	4.7 *	1.0	187 *	27
Invalid's benefit	951	44	-1.5	2.1	-1.4	2.0	4.9 *	1.9	3.5 *	1.4	117 *	37
Sickness benefit	747	44	-7.8 *	2.7	-7.5 *	2.7	6.5 *	2.4	7.3 *	2.1	155 *	57
Unemployment benefits	2235	45	-3.0 *	1.3	-2.4	1.4	6.5 *	1.6	4.8 *	1.5	134 *	46
Benefit duration												
6-<24 months	3066	44	-4.0 *	1.3	-3.9 *	1.4	5.7 *	1.4	5.9 *	1.2	171 *	37
2-<4 years	1554	44	-3.7	1.9	-3.5	2.0	6.8 *	2.0	5.0 *	1.8	183 *	50
4 years +	3474	47	-4.2 *	1.3	-3.8 *	1.2	6.1 *	1.2	3.9 *	1.0	145 *	28

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 6: Estimated impacts by level of study, benefit type and demographic subgroup (continued)

	Number of participants	Qualification completion rate	Diploma									
			Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
			Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Total	4551	43	-6.2 *	1.1	-5.8 *	1.2	7.4 *	1.1	7.3 *	1.2	263 *	31
Sex												
Male	1254	42	-4.1 *	1.9	-3.2	1.9	6.2 *	2.0	5.5 *	1.8	223 *	53
Female	3297	44	-7.0 *	1.4	-6.8 *	1.4	7.8 *	1.4	8.0 *	1.4	278 *	36
Ethnicity												
Asian	84	52	1.0	9.4	0.2	9.5	13.3	9.2	5.8	8.8	436	274
Māori	1590	47	-5.5 *	1.8	-5.2 *	1.8	5.4 *	1.7	5.6 *	1.6	174 *	45
European	2502	40	-6.3 *	1.6	-5.8 *	1.6	7.2 *	1.5	7.7 *	1.6	277 *	40
Other	90	51	-6.7	8.5	-5.6	8.4	4.8	8.5	0.9	7.2	69	214
Pacific	270	44	-10.5 *	5.0	-10.3 *	5.0	17.8 *	4.3	15.9 *	4.3	621 *	144
Qualifications												
None	2274	41	-5.7 *	1.5	-5.4 *	1.5	6.3 *	1.4	5.7 *	1.4	232 *	38
Lower school	831	42	-4.4	3.1	-4.1	3.1	6.6 *	3.2	7.3 *	2.9	241 *	88
Higher school	852	45	-7.9 *	2.6	-7.2 *	2.6	9.7 *	3.0	9.7 *	3.2	337 *	86
Post school	387	48	-6.2	3.5	-4.9	3.4	6.9	4.3	8.0 *	4.0	292 *	135
Age												
18-19 years	255	43	-10.9 *	4.6	-8.3	4.5	9.5 *	4.5	10.9 *	4.0	317 *	112
20-24 years	897	40	-5.4 *	2.2	-5.0 *	2.2	7.5 *	2.5	8.0 *	2.4	269 *	63
25-34 years	1593	42	-5.9 *	2.0	-6.0 *	2.0	7.0 *	1.9	7.5 *	1.7	248 *	49
35-44 years	1107	45	-7.1 *	2.5	-6.6 *	2.5	7.9 *	2.4	6.4 *	2.5	284 *	66
45-54 years	465	47	-5.6	3.4	-5.3	3.4	7.5 *	3.1	7.0 *	2.9	293 *	90
55-64 years	216	44	-1.4	4.7	-1.4	4.7	3.3	3.7	3.9	3.3	118	82
Benefit type												
DPB/Widow's benefit	2265	42	-7.1 *	1.8	-7.0 *	1.8	8.1 *	1.6	8.0 *	1.7	292 *	42
Invalid's benefit	462	42	-5.9	3.1	-5.9	3.1	9.6 *	2.7	6.5 *	2.0	238 *	60
Sickness benefit	426	41	-6.2	4.2	-5.6	4.2	9.6 *	3.5	5.7	3.3	251 *	99
Unemployment benefits	1398	46	-4.7 *	1.9	-3.9	2.0	4.8 *	2.1	7.0 *	2.1	228 *	58
Benefit duration												
6-<24 months	1974	43	-5.3 *	1.6	-4.7 *	1.6	7.5 *	1.8	7.0 *	1.7	255 *	49
2-<4 years	897	43	-6.6 *	3.0	-7.0 *	2.9	6.3 *	2.5	7.7 *	2.8	249 *	72
4 years +	1662	42	-7.1 *	1.8	-6.7 *	1.9	7.8 *	1.7	7.6 *	1.7	277 *	46

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 6: Estimated impacts by level of study, benefit type and demographic subgroup (continued)

	Number of participants	Qualification completion rate	Degree									
			Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
			Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Degree	3858	40	-7.6 *	1.1	-6.6 *	1.1	7.9 *	1.3	8.9 *	1.1	417 *	37
Sex												
Male	1185	35	-3.9	1.9	-2.4	1.9	3.4	2.4	3.9	2.0	154 *	65
Female	2676	42	-9.2 *	1.4	-8.5 *	1.4	9.9 *	1.4	11.1 *	1.4	534 *	45
Ethnicity												
Asian	90	49	-11.8	7.4	-14.8	7.4	24.4 *	8.9	30.1 *	8.3	906 *	318
Māori	963	37	-9.3 *	2.4	-8.7 *	2.5	8.2 *	2.4	9.6 *	2.0	405 *	67
European	2508	41	-6.6 *	1.3	-5.3 *	1.3	7.5 *	1.7	8.1 *	1.5	418 *	51
Other	93	44	-4.3	7.6	-3.2	7.8	1.5	8.5	1.5	8.0	64	250
Pacific	183	38	-7.8	6.2	-9.1	6.1	7.3	6.1	8.6	6.0	386	207
Qualifications												
None	1320	32	-9.9 *	2.1	-9.3 *	2.2	4.8 *	2.2	6.9 *	2.0	346 *	62
Lower school	525	40	-9.1 *	3.2	-7.4 *	3.3	8.8 *	3.6	9.6 *	3.4	385 *	98
Higher school	1245	44	-5.3 *	2.1	-3.8	2.1	8.5 *	2.4	9.3 *	2.2	456 *	77
Post school	558	45	-3.0	3.0	-3.1	3.1	12.0 *	3.9	10.1 *	3.8	473 *	123
Age												
18-19 years	165	57	-13.1 *	5.0	-12.5 *	5.2	14.5 *	6.8	13.6 *	6.2	563 *	186
20-24 years	945	37	-7.8 *	2.0	-6.1 *	2.0	8.4 *	2.5	8.4 *	2.3	374 *	69
25-34 years	1413	39	-7.6 *	1.9	-6.8 *	1.8	9.4 *	2.0	10.0 *	1.8	433 *	57
35-44 years	906	42	-7.8 *	2.6	-6.8 *	2.6	5.7 *	2.6	8.6 *	2.6	480 *	83
45-54 years	327	40	-5.3	4.5	-5.8	4.5	3.8	3.9	5.0	3.9	327 *	119
55-64 years	102	26	0.5	7.2	2.5	7.3	3.7	6.4	6.3	5.9	97	125
Benefit type												
DPB/Widow's benefit	1800	43	-9.6 *	1.7	-9.3 *	1.7	10.4 *	1.8	12.2 *	1.6	561 *	55
Invalid's benefit	357	30	-4.6	3.8	-4.7	3.8	2.6	3.3	2.8	2.5	234 *	83
Sickness benefit	384	33	-9.5 *	4.5	-6.6	4.3	5.3	4.0	7.5	3.6	291 *	130
Unemployment benefits	1320	41	-5.0 *	1.8	-3.5	1.8	6.6 *	2.1	6.4 *	1.9	307 *	57
Benefit duration												
6-<24 months	1968	42	-6.2 *	1.5	-5.1 *	1.5	6.7 *	1.8	7.5 *	1.7	399 *	52
2-<4 years	732	40	-9.8 *	2.8	-8.8 *	2.8	9.0 *	2.9	10.3 *	2.6	423 *	84
4 years +	1134	37	-8.5 *	2.1	-8.0 *	2.1	9.3 *	2.3	10.5 *	2.0	457 *	67

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 7: Estimated impacts by level of study and benefit type for those who received a Training Incentive Allowance

	N	Qualification completion rate	Percentage receiving main benefits 5 years later	Percentage receiving income support 5 years later	Percentage employed 5 years later	Percentage employed and not receiving income support 5 years later	Average monthly earnings 5 years later	Number of months receiving main benefits over the following 5 years	Number of months receiving income support over the following 5 years	Number of months employed over the following 5 years	Number of months employed and not receiving income support over the following 5 years	Average total gross earnings over the following 5 years
DPB/Widows: did not receive TIA												
Level 1-3 certificate	11391	33	2.2	2.2	-0.4	-1.1	-29	1.7	1.7	-0.6	-0.8	-2106
Level 4 certificate	1935	43	-4.1	-4.1	4.1	4.1	129	-0.7	-0.7	2.2	0.8	3810
Diplomas	753	39	-9.0	-8.9	8.6	7.7	242	-2.6	-2.3	3.2	1.9	6564
Degree	405	38	-10.5	-9.4	4.6	6.8	479	-2.8	-2.4	1.2	2.4	13514
DPB/Widows: received TIA												
Level 1-3 certificate	5100	48	-2.1	-1.9	5.2	3.8	137	0.6	0.7	1.3	0.7	2729
Level 4 certificate	2232	49	-4.8	-4.7	7.7	5.3	241	0.6	0.7	1.3	0.5	3347
Diplomas	1497	44	-6.1	-6.1	8.0	8.3	319	0.3	0.5	2.0	0.8	5511
Degree	1377	45	-9.1	-9.0	11.9	13.5	578	1.9	2.3	0.7	-0.1	5215
IB: did not receive TIA												
Level 1-3 certificate	4101	29	0.7	0.7	3.5	0.8	46	0.2	0.3	1.9	0.6	2638
Level 4 certificate	702	43	-3.3	-3.3	6.1	4.1	139	-1.2	-1.1	3.8	1.3	6376
Diplomas	276	40	-7.1	-7.3	15.2	8.8	353	-2.4	-2.2	4.5	2.9	11297
Degree	180	30	-12.1	-12.1	8.7	9.3	350	-4.0	-3.7	3.3	2.1	9762
IB: received TIA												
Level 1-3 certificate	780	49	1.8	1.7	2.7	0.9	31	1.5	1.5	0.3	0.1	93
Level 4 certificate	246	44	3.6	3.9	1.1	2.1	54	1.3	1.2	2.4	1.1	3414
Diplomas	186	46	-3.1	-2.9	1.4	2.5	62	-0.2	0.0	0.7	1.3	2329
Degree	177	30	2.5	2.3	-4.2	-4.0	114	0.6	0.8	-3.0	-0.6	1380

Notes: Number of participants have been randomly rounded to base 3. Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 8: Estimated impacts by level of study and benefit type for those who transferred to a Student Allowance

	N	Qualification completion rate	Percentage receiving main benefits 5 years later	Percentage receiving income support 5 years later	Percentage employed 5 years later	Percentage employed and not receiving income support 5 years later	Average monthly earnings 5 years later	Number of months receiving main benefits over the following 5 years	Number of months receiving income support over the following 5 years	Number of months employed over the following 5 years	Number of months employed and not receiving income support over the following 5 years	Average total gross earnings over the following 5 years
UB: did not transfer to SA												
Level 1-3 certificate	7077	37	0.6	0.8	3.4	2.4	64	-0.2	0.6	1.6	1.0	3084
Level 4 certificate	1581	41	-4.0	-3.0	7.0	4.9	133	-4.1	-2.8	2.9	2.5	5699
Diplomas	771	39	-4.9	-4.3	6.7	8.0	250	-5.8	-3.7	2.5	3.4	8229
Degree	681	34	-5.0	-3.4	6.4	6.5	250	-6.8	-3.3	1.7	2.2	-24
UB: transferred to SA												
Level 1-3 certificate	1758	51	0.4	0.5	4.5	2.8	134	-5.4	2.7	0.6	-0.2	1024
Level 4 certificate	651	53	-1.0	-1.1	5.4	4.6	143	-5.4	5.1	-0.8	-1.4	-3538
Diplomas	621	54	-4.7	-3.6	2.4	6.0	198	-8.5	3.8	0.0	-0.5	-1735
Degree	636	48	-4.9	-3.5	7.0	6.4	370	-8.9	7.7	-0.4	-3.2	-3228
SB: did not transfer to SA												
Level 1-3 certificate	2712	33	-1.9	-1.6	3.8	2.9	98	-1.0	-0.6	2.8	1.4	5431
Level 4 certificate	609	42	-7.7	-7.5	5.8	6.1	130	-4.6	-3.7	3.3	2.7	7038
Diplomas	258	33	-5.7	-5.5	8.5	4.0	211	-1.7	-0.3	2.1	0.7	3577
Degree	222	30	-8.3	-6.7	6.3	8.1	290	-4.9	-2.7	2.2	1.8	5976
SB: transferred to SA												
Level 1-3 certificate	345	54	-1.5	-1.0	5.0	5.2	188	-9.0	-2.2	5.2	4.0	8839
Level 4 certificate	135	54	-6.9	-6.7	8.9	11.4	248	-12.7	-1.6	4.5	3.2	7888
Diplomas	165	55	-7.0	-5.7	10.0	8.5	308	-12.4	-1.1	6.2	3.0	12200
Degree	156	37	-12.6	-7.7	4.4	7.9	323	-16.9	-1.1	5.4	2.3	8520

Notes: Number of participants have been randomly rounded to base 3. Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 9: Estimated impacts by level of study and receipt of a Student Allowance and Student Loan

	N	Qualification completion rate	Percentage receiving main benefits 5 years later	Percentage receiving income support 5 years later	Percentage employed 5 years later	Percentage employed and not receiving income support 5 years later	Average monthly earnings 5 years later	Number of months receiving main benefits over the following 5 years	Number of months receiving income support over the following 5 years	Number of months employed over the following 5 years	Number of months employed and not receiving income support over the following 5 years	Average total gross earnings over the following 5 years
Level 1-3 certificate												
Transferred to SA	2148	51	-0.3	0.0	4.5	3.3	141	-6.1	1.7	1.3	0.5	2340
Did not transfer to SA, took out SL	9267	41	2.2	2.5	0.5	-0.4	15	1.0	1.5	-0.8	-0.6	-1339
Did not transfer to SA or take out SL	21921	35	-0.1	-0.1	3.1	1.8	53	0.5	0.6	1.6	0.6	2266
Level 4 certificate												
Transferred to SA	801	53	-2.0	-2.0	5.8	5.4	154	-6.8	3.8	0.0	-0.7	-1997
Did not transfer to SA, took out SL	2325	48	-2.6	-2.5	4.0	4.2	188	-0.7	0.0	0.2	0.4	1650
Did not transfer to SA or take out SL	4992	43	-5.0	-4.6	7.0	5.0	150	-1.6	-1.4	3.3	1.7	5896
Diploma												
Transferred to SA	804	54	-5.5	-4.4	3.7	6.6	220	-9.5	2.5	1.2	0.3	1093
Did not transfer to SA, took out SL	1848	50	-4.7	-4.4	5.5	5.9	226	-1.3	-0.2	0.6	0.9	2846
Did not transfer to SA or take out SL	1896	32	-7.9	-7.8	10.7	9.1	317	-2.4	-2.1	4.3	2.6	9844
Degree												
Transferred to SA	816	47	-6.9	-4.8	7.2	7.4	379	-10.7	5.7	0.9	-1.9	-353
Did not transfer to SA, took out SL	1674	41	-9.3	-8.6	9.3	11.1	471	-2.9	-1.3	0.4	1.2	3829
Did not transfer to SA or take out SL	1368	35	-5.8	-5.2	6.6	7.1	374	0.1	0.7	1.8	0.7	6937

Notes: Number of participants have been randomly rounded to base 3. Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 10: Estimated impacts for those who did not complete a qualification by level of study

	Number of participants	Percentage receiving benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Total	30897	0.4	0.4	0.4	0.4	1.3 *	0.4	0.6	0.3	30 *	9
Level 1-3 certificate	21273	2.0 *	0.5	1.9 *	0.5	0.6	0.5	-0.4	0.4	-6	11
Level 4 certificate	4506	-2.1 *	1.0	-2.2 *	1.0	2.8 *	0.9	2.3 *	0.8	84	22
Diploma	2649	-3.5 *	1.5	-3.1 *	1.5	4.0 *	1.5	3.8 *	1.5	126 *	35
Degree	2355	-4.1 *	1.5	-3.6 *	1.5	2.0 *	1.5	3.0 *	1.4	136 *	42

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 11: Estimated impacts for those who did not complete a qualification by level and field of study

	Number of participants	Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Level 1-3 certificate											
Natural and physical sciences	138	-5.5	5.7	-3.6	5.6	7.0	5.5	3.5	4.7	83	129
Information technology	2937	0.5	1.2	0.6	1.3	2.9 *	1.1	1.9	0.9	29	26
Engineering and related technologies	1029	-4.2	2.2	-4.5	2.3	5.4 *	1.8	4.7 *	2.0	206 *	59
Architecture and building	243	1.8	5.2	2.7	5.0	-4.5	4.0	-7.5 *	3.6	-148	113
Agriculture, environmental and related studies	915	-3.9	2.0	-4.7 *	1.9	3.2	2.1	3.3	2.0	69	56
Health	192	-8.9	5.9	-9.2	5.8	6.8	5.1	5.2	4.9	154	126
Education	435	-9.3 *	3.3	-8.6 *	3.3	10.5 *	3.4	11.0 *	2.8	263 *	86
Management and commerce	4122	2.3 *	1.1	2.4	1.1	0.3	1.0	-0.9	0.8	0	22
Society and culture	2112	0.6	1.5	0.7	1.5	0.3	1.4	-0.5	1.2	-8	34
Creative arts	192	-0.7	4.5	-0.2	4.6	2.4	5.3	-1.6	4.2	-41	116
Food, hospitality and personal services	666	4.6	2.7	5.0	2.6	-0.8	2.5	-1.4	2.2	-74	57
Employment, social and general education	8289	4.9 *	0.8	4.7 *	0.8	-1.5 *	0.7	-2.4 *	0.6	-65 *	16
Level 4 certificate											
Natural and physical sciences	s	s		s		s		s		s	s
Information technology	45	2.9	11.7	4.0	11.8	7.2	11.1	6.9	10.3	83	287
Engineering and related technologies	102	-13.1	7.8	-13.1	7.7	9.4	7.4	11.2	6.8	281	208
Architecture and building	135	-1.5	6.1	-0.7	6.1	-4.4	5.8	-2.2	4.8	-32	151
Agriculture, environmental and related studies	192	-0.7	4.7	-0.9	4.8	4.9	5.1	0.1	4.2	21	121
Health	159	5.7	4.9	6.1	4.9	0.1	6.0	-4.7	5.2	-105	142
Education	198	-5.5	5.5	-5.8	5.4	16.4 *	4.8	7.6	5.0	254 *	126
Management and commerce	1371	-4.5 *	1.6	-5.0 *	1.6	3.2	1.7	3.0	1.6	132 *	43
Society and culture	1488	-2.6	1.8	-2.3	1.8	3.1	1.7	3.4	1.6	92 *	45
Creative arts	294	6.5	4.2	6.0	4.3	-2.5	4.1	-2.2	3.6	-133	97
Food, hospitality and personal services	294	2.3	4.3	2.2	4.2	-3.0	3.7	-1.8	3.3	51	98

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 11: Estimated impacts for those who did not complete a qualification by level and field of study (continued)

	Number of participants	Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Diploma											
Natural and physical sciences	s	s		s		s		s		s	
Information technology	201	0.2	4.6	1.6	4.2	-0.7	4.9	-0.5	4.3	46	139
Engineering and related technologies	138	-3.7	5.8	-3.7	5.9	3.3	5.8	4.5	5.6	142	164
Architecture and building	57	s		s	0.0	s		s		s	
Agriculture, environmental and related studies	51	s		s	0.0	s		s		s	
Health	150	6.6	5.5	7.8	5.6	-4.0	5.6	-4.7	5.4	-81	142
Education	351	-10.8 *	3.5	-10.3 *	3.5	10.7 *	3.2	9.6 *	2.9	285 *	94
Management and commerce	456	-7.3 *	3.6	-7.4 *	3.7	10.0 *	3.4	8.4 *	3.2	313 *	84
Society and culture	738	-4.9	3.0	-4.8	2.9	6.3 *	2.8	5.6 *	2.7	135 *	69
Creative arts	363	3.8	4.1	5.3	4.2	-7.5	4.0	-4.9	3.8	-185	107
Food, hospitality and personal services	87	4.3	8.2	4.3	8.1	1.6	7.7	2.2	7.5	140	207
Degree											
Natural and physical sciences	144	1.8	5.8	1.9	6.1	1.3	5.7	3.1	5.5	20	164
Information technology	54	s		s		s		s		s	
Engineering and related technologies	s	s		s		s		s		s	
Architecture and building	s	s		s		s		s		s	
Agriculture, environmental and related studies	27	s		s		s		s		s	
Health	180	-11.9	6.0	-11.7	6.0	7.3	5.6	7.2	5.3	225	148
Education	282	-10.1 *	4.6	-9.4 *	4.5	14.1 *	4.6	10.6 *	4.5	341 *	134
Management and commerce	237	-12.3 *	4.5	-13.0 *	4.6	4.5	4.4	5.1	4.0	200	240
Society and culture	1110	-1.3	2.0	-0.2	2.0	-2.3	2.1	-0.2	1.8	75	59
Creative arts	174	3.2	5.2	2.5	5.2	1.4	5.9	1.1	5.3	-12	154

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 12: Estimated impacts for those who completed a qualification by the level of highest qualification completed

	Number	Percentage receiving benefit 5 years later			Percentage receiving income support 5 years later			Percentage employed 5 years later			Percentage employed and independent of income support 5 years later		
		Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)
Total	19212	49.8	54.3	-4.6 * (0.6)	50.7	54.7	-4.0 * (0.6)	42.4	34.2	8.1 * (0.5)	30.3	23.3	6.9 * (0.4)
Level 1-3 certificate	10641	55.4	57.1	-1.7 * (0.7)	56.0	57.5	-1.5 * (0.7)	36.3	31.5	4.8 * (0.6)	24.3	20.8	3.5 * (0.5)
Level 4 certificate	4203	49.9	55.0	-5.1 * (1.1)	51.0	55.2	-4.1 * (1.1)	44.7	35.2	9.4 * (1.0)	30.7	23.9	6.8 * (1.0)
Diploma	2298	40.3	49.3	-9.0 * (1.7)	41.1	49.6	-8.4 * (1.7)	50.1	37.5	12.6 * (1.6)	39.2	27.3	11.9 * (1.7)
Degree	1770	31.4	45.6	-14.2 * (1.6)	33.7	46.3	-12.7 * (1.7)	61.2	42.5	18.7 * (1.7)	50.8	30.8	20.1 * (1.7)

	Number	Number of months receiving main benefits over the following 5 years			Number of months receiving income support over the following 5 years			Number of months employed over the following 5 years			Number of months employed and independent of income support over the following 5 years		
		Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)
Total	19212	38.8	40.3	-1.5 * (0.2)	41.1	40.3	0.8 * (0.2)	22.5	20.1	2.3 * (0.2)	11.8	10.7	1.1 * (0.2)
Level 1-3 certificate	10641	41.2	41.8	-0.6 * (0.3)	42.2	41.7	0.5 (0.3)	20.4	18.6	1.9 * (0.3)	10.6	9.5	1.1 * (0.2)
Level 4 certificate	4203	39.1	40.7	-1.6 * (0.4)	40.8	40.6	0.2 (0.4)	24.4	20.9	3.4 * (0.5)	12.4	10.8	1.6 * (0.4)
Diploma	2298	34.5	37.9	-3.4 * (0.6)	38.7	37.9	0.8 (0.7)	25.0	22.0	3.0 * (0.7)	14.2	12.4	1.8 * (0.5)
Degree	1770	32.5	35.6	-3.2 * (0.8)	39.8	35.7	4.1 * (0.7)	26.4	24.2	2.2 * (0.7)	14.3	14.2	0.0 (0.6)

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 12: Estimated impacts for those who completed a qualification by the level of highest qualification completed (continued)

	Number	Average monthly earnings 5 years later			Average total earnings over the following 5 years		
		Participants	Matched comparisons	Impact (standard error)	Participants	Matched comparisons	Impact (standard error)
Total	19212	926	671	254 * (14)	39245	34525	4720 * (556)
Level 1-3 certificate	10641	715	605	111 * (17)	34556	31121	3435 * (620)
Level 4 certificate	4203	902	690	212 * (28)	41693	35461	6232 * (1170)
Diploma	2298	1193	768	425 * (51)	45641	39494	6147 * (1620)
Degree	1770	1793	857	936 * (55)	51230	43641	7589 * (1660)

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 13: Estimated impacts by level and field of highest qualification gained

	Number of participants	Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Level 1-3 certificate											
Natural and physical sciences	24	s		s		s		s		s	
Information technology	801	-2.0	2.4	-1.7	2.4	1.6	2.4	3.2	1.9	69	52
Engineering and related technologies	489	-6.2 *	2.8	-5.5 *	2.7	11.6 *	3.3	10.7 *	3.0	402 *	97
Architecture and building	81	-7.3	6.9	-7.3	6.3	0.6	7.3	6.3	6.8	170	192
Agriculture, environmental and related studies	426	-7.0	3.6	-6.7	3.4	4.4	3.8	4.1	3.3	125	101
Health	342	-11.2 *	3.6	-11.0 *	3.6	11.4 *	3.7	10.6 *	3.5	266 *	97
Education	246	-3.2	4.8	-2.9	4.8	12.4 *	4.7	5.9	4.0	162	119
Management and commerce	2877	-4.9 *	1.5	-4.8 *	1.5	6.6 *	1.3	6.0 *	1.2	183 *	34
Society and culture	1644	1.5	1.9	1.8	1.9	5.5 *	1.6	2.1	1.5	79	40
Creative arts	198	-8.5	5.2	-8.1	5.3	8.6	5.6	11.2	5.6	262	154
Food, hospitality and personal services	624	-7.2 *	3.2	-6.8 *	3.2	8.2 *	3.1	6.3 *	2.9	158 *	76
Employment, social and general education	2889	4.4 *	1.3	4.3 *	1.3	0.0	1.1	-1.5	1.0	-31	28
Level 4 certificate											
Natural and physical sciences	s	s		s		s		s		s	
Information technology	165	8.9	5.7	8.9	5.7	6.0	5.1	1.1	5.5	122	136
Engineering and related technologies	117	-10.5	7.1	-8.7	7.5	17.3 *	7.3	15.8 *	6.4	690 *	189
Architecture and building	96	-17.6 *	6.9	-17.4 *	7.0	6.2	6.7	10.6	6.2	216	216
Agriculture, environmental and related studies	162	-5.5	4.9	-4.4	5.1	4.1	5.7	-0.5	4.6	135	141
Health	306	-8.8 *	3.9	-8.1	3.7	17.2 *	4.4	10.4 *	3.3	345 *	107
Education	240	-1.6	5.3	-1.8	5.2	22.8 *	5.1	9.9 *	4.8	223 *	113
Management and commerce	969	-8.6 *	2.6	-7.7 *	2.6	10.5 *	2.3	10.1 *	2.2	342 *	62
Society and culture	1488	-3.6 *	1.8	-2.7	1.8	8.7 *	1.7	5.4 *	1.5	158 *	42
Creative arts	321	1.0	3.2	2.6	3.4	-0.8	3.5	0.9	3.5	-64	91
Food, hospitality and personal services	270	-7.8	4.7	-5.7	4.8	4.1	4.4	4.3	4.3	122	114

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 13: Estimated impacts by level and field of highest qualification gained (continued)

	Number of participants	Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Diploma											
Natural and physical sciences	21	s		s		s		s		s	
Information technology	234	-5.7	5.3	-4.4	5.4	12.1 *	5.4	13.2 *	5.2	528 *	172
Engineering and related technologies	33	s		s		s		s		s	
Architecture and building	21	s		s		s		s		s	
Agriculture, environmental and related studies	33	s		s		s		s		s	
Health	207	-6.4	5.1	-4.4	5.2	1.0	4.6	1.7	4.8	50	118
Education	366	-22.1 *	3.9	-21.8 *	4.0	32.3 *	4.0	31.4 *	4.2	1094 *	137
Management and commerce	201	-8.7	5.4	-8.5	5.4	15.1 *	5.5	12.4 *	5.1	511 *	166
Society and culture	630	-8.4 *	2.8	-8.3 *	2.8	12.5 *	2.6	12.2 *	2.8	451 *	80
Creative arts	429	-0.8	3.5	-0.6	3.6	3.0	3.9	1.3	3.6	21	97
Food, hospitality and personal services	117	-17.6 *	6.9	-18.5 *	7.1	14.2 *	6.3	11.3	6.0	273	145
Degree											
Natural and physical sciences	54	s		s		s		s		s	
Information technology	45	s		s		s		s		s	
Engineering and related technologies	s	s		s		s		s		s	
Architecture and building	s	s		s		s		s		s	
Agriculture, environmental and related studies	s	s		s		s		s		s	
Health	297	-15.2 *	4.3	-15.2 *	4.3	23.0 *	4.2	25.9 *	4.0	1360 *	138
Education	588	-25.4 *	2.7	-24.3 *	2.8	32.6 *	3.0	34.5 *	3.0	1512 *	105
Management and commerce	111	-10.3	6.4	-9.8	6.9	3.4	7.8	8.5	7.3	475	240
Society and culture	429	-5.8	4.1	-3.8	4.0	12.9 *	3.2	11.8 *	3.3	532 *	101
Creative arts	216	-1.1	4.5	1.6	4.4	-1.5	4.6	0.5	4.2	47	121

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 14: Estimated impacts by level of highest qualification gained and demographic subgroup

	Number	Level 1-3									
		Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Total	10641	-1.7 *	0.7	-1.5 *	0.7	4.8 *	0.6	3.5 *	0.5	111 *	17
Sex											
Male	2637	-1.8	1.2	-1.3	1.2	5.3 *	1.2	4.7 *	1.1	153 *	35
Female	8007	-1.6	0.9	-1.6	0.9	4.6 *	0.8	3.2 *	0.6	97 *	19
Ethnicity											
Asian	753	2.6	3.2	3.9	3.2	1.2	2.5	-0.3	2.1	4	60
Māori	5064	-2.1 *	0.9	-2.2 *	0.9	3.8 *	1.0	3.0 *	0.8	86 *	24
European	3810	-2.3	1.2	-2.2	1.2	6.4 *	1.1	5.0 *	0.9	155 *	26
Other	375	2.6	3.9	4.1	3.8	2.7	3.8	1.7	2.8	21	81
Pacific	612	-2.4	3.1	-1.4	3.1	8.2 *	2.9	4.7	2.6	211 *	78
Qualifications											
None	7476	-2.2 *	0.8	-2.0 *	0.8	4.9 *	0.8	3.4 *	0.6	106 *	17
Lower school	840	-0.7	2.9	-0.4	2.9	1.7	2.5	2.5	2.3	88	69
Higher school	1068	-0.5	2.5	-0.5	2.4	5.3 *	2.1	4.2	2.1	114	62
Post school	456	-1.1	3.8	-0.5	4.0	9.9 *	3.6	9.4 *	3.4	247 *	108
Age											
18-19 years	495	-10.5 *	2.8	-10.0 *	2.8	10.9 *	3.2	7.0 *	2.7	214 *	78
20-24 years	1857	-2.6	1.7	-2.6	1.7	5.8 *	1.7	4.5 *	1.5	154 *	40
25-34 years	3378	-1.3	1.1	-1.0	1.1	4.7 *	1.1	3.1 *	1.0	100 *	29
35-44 years	2652	-0.9	1.5	-0.6	1.5	4.5 *	1.4	3.6 *	1.2	115 *	35
45-54 years	1209	-1.3	2.1	-1.6	2.1	3.9 *	1.9	2.2	1.7	79	46
55-64 years	993	0.8	2.4	1.1	2.4	2.3	1.5	2.6	1.3	44	33
Benefit type											
DPB/Widow's benefit	5226	-1.9	1.0	-1.9	1.0	4.2 *	1.0	2.7 *	0.8	82 *	26
Invalid's benefit	1374	0.0	1.6	0.2	1.6	5.7 *	1.7	1.7	1.1	68 *	30
Sickness benefit	3090	-1.7	2.4	-1.3	2.5	5.5 *	2.5	5.5 *	2.1	158 *	62
Unemployment benefits	951	-2.4	1.4	-2.7	1.4	4.4 *	1.2	4.4 *	1.2	175 *	33
Benefit duration											
6-<24 months	3612	-2.2	1.2	-2.1	1.2	5.7 *	1.1	5.5 *	1.0	177 *	34
2-<4 years	2067	-0.7	1.8	-0.5	1.8	3.1 *	1.5	2.0	1.3	66	37
4 years or more	4938	-1.5	1.0	-1.4	1.0	4.7 *	0.9	2.7 *	0.7	82 *	19

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 14: Estimated impacts by level of highest qualification gained and demographic subgroup (continued)

	Number	Level 4									
		Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Total	4203	-5.1 *	1.1	-4.1 *	1.1	9.4 *	1.0	6.8 *	1.0	212 *	28
Sex											
Male	933	-5.8 *	2.3	-4.4	2.4	10.6 *	2.3	7.9 *	2.2	225 *	67
Female	3267	-4.9 *	1.2	-4.1 *	1.2	9.1 *	1.2	6.5 *	1.1	208 *	30
Ethnicity											
Asian	96	1.4	8.2	3.5	8.1	10.0	8.5	10.0	8.8	322	253
Māori	2130	-5.5 *	1.5	-4.4 *	1.5	9.9 *	1.4	6.4 *	1.3	181 *	34
European	1572	-5.3 *	1.7	-4.5 *	1.7	9.0 *	2.0	6.5 *	1.8	216 *	51
Other	96	-8.1	9.7	-8.3	10.1	4.2	8.2	1.6	7.1	166	212
Pacific	294	-2.5	4.5	-1.8	4.4	11.0 *	4.1	12.4 *	3.6	405 *	113
Qualifications											
None	2814	-6.4 *	1.2	-5.5 *	1.2	9.9 *	1.2	7.8 *	1.2	232 *	28
Lower school	438	-2.6	3.8	-2.8	3.6	6.6	3.9	5.2	3.2	191 *	91
Higher school	519	0.3	3.3	2.3	3.3	8.5 *	3.6	1.3	3.2	88	89
Post school	219	-3.2	6.0	-2.2	6.1	8.7	6.5	6.0	6.1	198	189
Age											
18-19 years	171	-19.2 *	5.2	-16.7 *	5.6	12.3 *	6.3	11.2 *	6.0	403 *	164
20-24 years	663	-8.5 *	2.8	-7.7 *	2.9	12.1 *	2.8	10.1 *	2.5	226 *	70
25-34 years	1341	-5.5 *	2.2	-4.4 *	2.2	10.8 *	2.0	8.0 *	1.9	267 *	54
35-44 years	1170	-4.2 *	2.0	-3.7	2.0	8.5 *	2.2	4.9 *	1.8	191 *	52
45-54 years	531	-3.4	3.1	-2.4	3.3	7.4 *	3.3	5.5	3.1	173 *	81
55-64 years	309	7.4	3.8	8.0	3.7	3.4	3.3	1.2	2.7	-14	58
Benefit type											
DPB/Widow's benefit	2256	-4.5 *	1.5	-3.8 *	1.4	8.9 *	1.7	6.2 *	1.4	214 *	37
Invalid's benefit	501	1.5	3.2	1.4	3.2	11.6 *	2.7	6.4 *	2.0	242 *	58
Sickness benefit	1098	-7.9	3.9	-6.2	3.7	9.8 *	3.8	8.0 *	3.7	191 *	99
Unemployment benefits	348	-9.4 *	2.1	-8.3 *	2.1	8.4 *	2.0	7.5 *	2.1	221 *	66
Benefit duration											
6-<24 months	1428	-5.8 *	2.1	-4.9 *	2.2	9.9 *	1.9	9.5 *	2.0	235 *	56
2-<4 years	801	-7.1 *	2.7	-6.5 *	2.7	9.1 *	2.8	7.3 *	2.5	218 *	71
4 years or more	1959	-3.8 *	1.5	-2.7 *	1.5	9.3 *	1.4	4.7 *	1.3	191 *	34

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 14: Estimated impacts by level of highest qualification gained and demographic subgroup (continued)

	Number	Diploma									
		Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Total	2298	-9.0 *	1.7	-8.4 *	1.7	12.6 *	1.6	11.9 *	1.7	425 *	51
Sex											
Male	561	-3.5	2.7	-2.6	2.7	7.2 *	3.1	4.9	2.8	238 *	98
Female	1737	-10.7 *	2.1	-10.3 *	2.1	14.4 *	1.8	14.1 *	2.0	485 *	59
Ethnicity											
Asian	69	4.9	10.6	7.3	10.5	11.1	11.2	5.0	10.9	439	315
Māori	876	-9.1 *	2.4	-9.0 *	2.4	10.4 *	2.6	10.6 *	2.3	323 *	72
European	1143	-10.3 *	2.4	-9.7 *	2.5	13.0 *	2.0	12.5 *	2.2	466 *	63
Other	54	-1.0	11.9	4.5	12.5	8.6	12.1	4.4	10.2	157	307
Pacific	147	-8.1	8.0	-7.5	7.7	24.8 *	7.3	20.0 *	7.2	805 *	206
Qualifications											
None	1224	-10.2 *	2.2	-9.9 *	2.2	14.0 *	2.0	13.3 *	2.0	467 *	63
Lower school	300	-13.8 *	4.9	-12.9 *	4.8	10.5 *	4.2	12.5 *	4.5	366 *	127
Higher school	432	-5.4	3.9	-4.6	3.9	11.9 *	3.7	11.6 *	3.9	440 *	123
Post school	210	-1.0	5.5	0.0	5.6	6.0	5.7	4.0	5.5	283	179
Age											
18-19 years	123	-19.6 *	7.1	-18.9 *	7.3	18.7 *	7.0	18.5 *	6.1	430 *	163
20-24 years	408	-12.0 *	3.7	-10.3 *	3.9	19.2 *	3.8	17.7 *	3.9	610 *	108
25-34 years	768	-8.2 *	2.5	-8.2 *	2.5	10.0 *	2.7	10.3 *	2.4	365 *	78
35-44 years	588	-5.8	3.2	-4.8	3.1	9.4 *	3.1	8.2 *	2.7	371 *	83
45-54 years	255	-10.3 *	4.6	-10.6 *	4.5	16.4 *	4.4	15.1 *	4.0	536 *	133
55-64 years	135	-3.2	6.0	-3.2	6.0	5.0	5.4	3.3	4.7	124	124
Benefit type											
DPB/Widow's benefit	1143	-9.6 *	2.4	-9.0 *	2.4	12.9 *	1.8	12.6 *	2.2	467 *	65
Invalid's benefit	231	-8.1	4.2	-8.6	4.3	10.8 *	3.9	8.4 *	3.0	295 *	93
Sickness benefit	699	-7.7	5.8	-7.2	5.9	10.9 *	5.6	11.4	5.1	352 *	148
Unemployment benefits	225	-10.6 *	2.9	-8.8	2.9	18.5 *	3.1	13.1 *	3.1	570 *	86
Benefit duration											
6-<24 months	1002	-9.2 *	2.5	-7.9 *	2.5	13.0 *	2.6	12.5 *	2.5	453 *	79
2-<4 years	417	-9.6 *	4.8	-10.1 *	4.7	12.3 *	3.9	10.6 *	4.2	386 *	117
4 years or more	867	-8.7 *	2.4	-8.5 *	2.4	12.9 *	2.4	12.4 *	2.3	427 *	68

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 14: Estimated impacts by level of highest qualification gained and demographic subgroup (continued)

	Number	Degree									
		Percentage receiving main benefits		Percentage receiving income support		Percentage employed		Percentage employed and not receiving income support		Average monthly gross earnings (dollars)	
		Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Percentage points	Standard error	Dollars	Standard error
Total	1770	-14.2 *	1.6	-12.7 *	1.7	18.7 *	1.7	20.1 *	1.7	936 *	55
Sex											
Male	378	-13.1 *	3.4	-10.4 *	3.4	15.6 *	3.5	13.2 *	3.4	538 *	116
Female	1392	-14.4 *	1.8	-13.3 *	1.9	19.6 *	1.9	22.0 *	1.9	1044 *	62
Ethnicity											
Asian	57	s		s		s *		s *		s *	
Māori	414	-10.2 *	3.5	-8.3 *	3.6	13.5 *	3.2	15.8 *	3.3	766 *	106
European	1140	-14.7 *	2.1	-13.0 *	2.1	20.4 *	2.3	21.5 *	2.4	987 *	75
Other	45	s		s		s		s		s	
Pacific	99	-24.3 *	7.9	-24.8 *	8.0	18.8 *	8.7	23.7 *	8.3	1154 *	299
Qualifications											
None	552	-17.1 *	3.1	-14.9 *	3.2	20.0 *	3.3	22.3 *	3.1	985 *	145
Lower school	270	-16.1 *	4.3	-15.9 *	4.5	13.6 *	4.8	18.1 *	4.5	994 *	93
Higher school	573	-12.4 *	3.4	-11.6 *	3.5	17.7 *	3.1	18.9 *	3.3	896 *	178
Post school	270	-6.4	4.0	-4.7	4.2	22.1 *	5.6	18.9 *	5.4	922 *	230
Age											
18-19 years	102	-19.4 *	6.7	-17.4 *	6.7	20.5 *	8.1	19.0 *	7.5	789 *	251
20-24 years	387	-12.3 *	3.5	-10.7 *	3.9	16.3 *	3.8	17.5 *	3.4	867 *	103
25-34 years	669	-13.4 *	3.0	-12.2 *	3.2	21.1 *	2.8	22.0 *	3.0	977 *	97
35-44 years	438	-17.7 *	3.1	-16.4 *	3.1	19.8 *	3.5	23.4 *	3.5	1126 *	118
45-54 years	147	-8.7	6.8	-6.9	6.7	12.0	6.5	10.8	5.7	568	186
55-64 years	21	s		s		s		s		s	
Benefit type											
DPB/Widow's benefit	972	-13.6 *	2.1	-12.9 *	2.1	19.5 *	2.4	22.4 *	2.3	1074 *	82
Invalid's benefit	108	-19.8 *	7.8	-19.0 *	7.8	27.5 *	6.7	22.8 *	6.9	984 *	198
Sickness benefit	552	-11.9	8.3	-10.1	8.2	15.1 *	6.8	14.9 *	6.4	742 *	210
Unemployment benefits	132	-23.2 *	2.8	-16.6 *	2.6	20.9 *	3.0	22.6 *	2.9	691 *	94
Benefit duration											
6-<24 months	906	-11.6 *	2.3	-9.9 *	2.4	15.6 *	2.3	16.6 *	2.3	833 *	75
2-<4 years	348	-13.9 *	4.4	-11.9 *	4.4	19.6 *	4.1	21.7 *	4.4	940 *	134
4 years or more	510	-18.8 *	3.1	-17.9 *	3.2	23.1 *	3.2	24.9 *	3.3	1112 *	103

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Earnings do not include income from self-employment. Dollar figures are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 15: Selected outcomes and impacts by level of study and year of enrolment

	N	Percentage employed 18 months later			Percentage employed 2 years later			Percentage employed 3 years later			Percentage employed 5 years later		
		Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact
Level 1-3													
2003-05	33339	31.5	30.3	1.2 *	33.5	31.3	2.2 *	35.1	32.6	2.5 *	34.4	31.9	2.5 *
2008	6105	22.9	21.5	1.5	23.5	21.7	1.7 *	23.9	22.9	1.0			
2009	6942	24.1	22.3	1.8 *	24.5	22.9	1.6 *						
2010	7893	26.4	24.8	1.6 *									
Level 4													
2003-05	8118	36.3	32.8	3.5 *	38.2	34.4	3.9 *	40.6	35.8	4.8 *	40.9	34.8	6.1 *
2008	1770	23.3	23.5	-0.1	24.1	24.0	0.1	26.6	25.5	1.1			
2009	2409	25.3	22.3	3.0 *	26.3	23.0	3.2 *						
2010	2898	28.0	26.1	1.9									

	N	Percentage employed and not receiving income support 18 months later			Percentage employed and not receiving income support 2 years later			Percentage employed and not receiving income support 3 years later			Percentage employed and not receiving income support 5 years later		
		Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact
Level 1-3													
2003-05	33339	13.6	13.9	-0.3	16.4	15.8	0.5	20.0	19.1	0.9 *	22.1	20.8	1.3 *
2008	6105	7.8	7.3	0.5	8.7	8.2	0.5	10.3	10.0	0.3			
2009	6942	9.3	8.3	1.0	10.6	9.9	0.8						
2010	7893	12.5	12.5	0.0									
Level 4													
2003-05	8118	16.8	15.9	0.9	20.0	18.2	1.8 *	23.9	21.5	2.4 *	28.5	23.7	4.8 *
2008	1770	8.1	8.4	-0.2	10.1	9.1	1.1	12.1	11.6	0.6			
2009	2409	9.3	8.0	1.2	10.7	10.0	0.7						
2010	2898	13.9	12.6	1.3									

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 15: Selected outcomes and impacts by level of study and year of enrolment (continued)

	N	Percentage receiving income support 18 months later			Percentage receiving income support 2 years later			Percentage receiving income support 3 years later			Percentage receiving income support 5 years later		
		Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact
Level 1-3													
2003-05	33339	77.3	75.0	2.4 *	73.2	71.1	2.1 *	66.1	64.6	1.5 *	59.3	58.7	0.6
2008	6105	85.4	84.6	0.8	83.3	82.3	1.0	78.4	77.8	0.6			
2009	6942	83.1	83.2	-0.1	79.5	79.8	-0.3						
2010	7893	76.8	75.7	1.1									
Level 4													
2003-05	8118	72.7	72.2	0.5	68.1	67.8	0.2	60.3	61.5	-1.1	51.1	54.9	-3.8 *
2008	1770	84.3	83.6	0.7	81.6	81.6	0.1	76.1	76.5	-0.4			
2009	2409	82.1	82.7	-0.6	78.1	79.1	-1.0						
2010	2898	74.3	74.7	-0.5									

Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 16: Selected outcomes and impacts for those who completed a qualification by level of qualification and year of enrolment

	N	Percentage employed											
		18 months after starting study			2 years after starting study			3 years after starting study			5 years after starting study		
		Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact
Level 1-3													
2003-05	10641	32.1	29.7	2.4 *	34.6	30.8	3.8	37.1	32.1	5.0 *	36.1	31.3	4.7 *
2008	2115	23.5	22.1	1.4	24.5	22.6	1.9	26.5	23.6	2.9 *			
2009	2820	25.0	23.1	1.9	25.2	23.3	1.9						
2010	3489	28.5	25.4	3.2 *									
Level 4													
2003-05	4203	38.1	33.6	4.5 *	40.8	34.9	6.0 *	44.6	36.2	8.3 *	44.3	35.0	9.2 *
2008	1080	25.1	24.6	0.5	27.3	24.9	2.5	28.5	24.7	3.7			
2009	1443	28.2	22.1	6.1 *	29.3	24.2	5.1 *						
2010	1728	29.0	27.4	1.6									

	N	Percentage employed and not receiving income support											
		18 months after starting study			2 years after starting study			3 years after starting study			5 years after starting study		
		Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact
Level 1-3													
2003-05	10641	14.1	13.8	0.3	17.6	15.6	2.0 *	22.1	18.9	3.2 *	24.3	20.8	3.5 *
2008	2115	7.8	7.3	0.5	9.3	8.3	1.0	11.9	10.0	1.9			
2009	2820	9.7	8.6	1.1	11.0	9.8	1.2						
2010	3489	13.3	13.0	0.3									
Level 4													
2003-05	4203	15.8	15.8	0.0	19.4	17.7	1.7	25.7	21.3	4.4 *	30.7	23.9	6.8 *
2008	1080	9.1	7.9	1.2	10.6	9.6	0.9	13.1	11.6	1.5			
2009	1443	9.4	8.5	1.0	11.9	10.5	1.4						
2010	1728	12.4	12.9	-0.5									

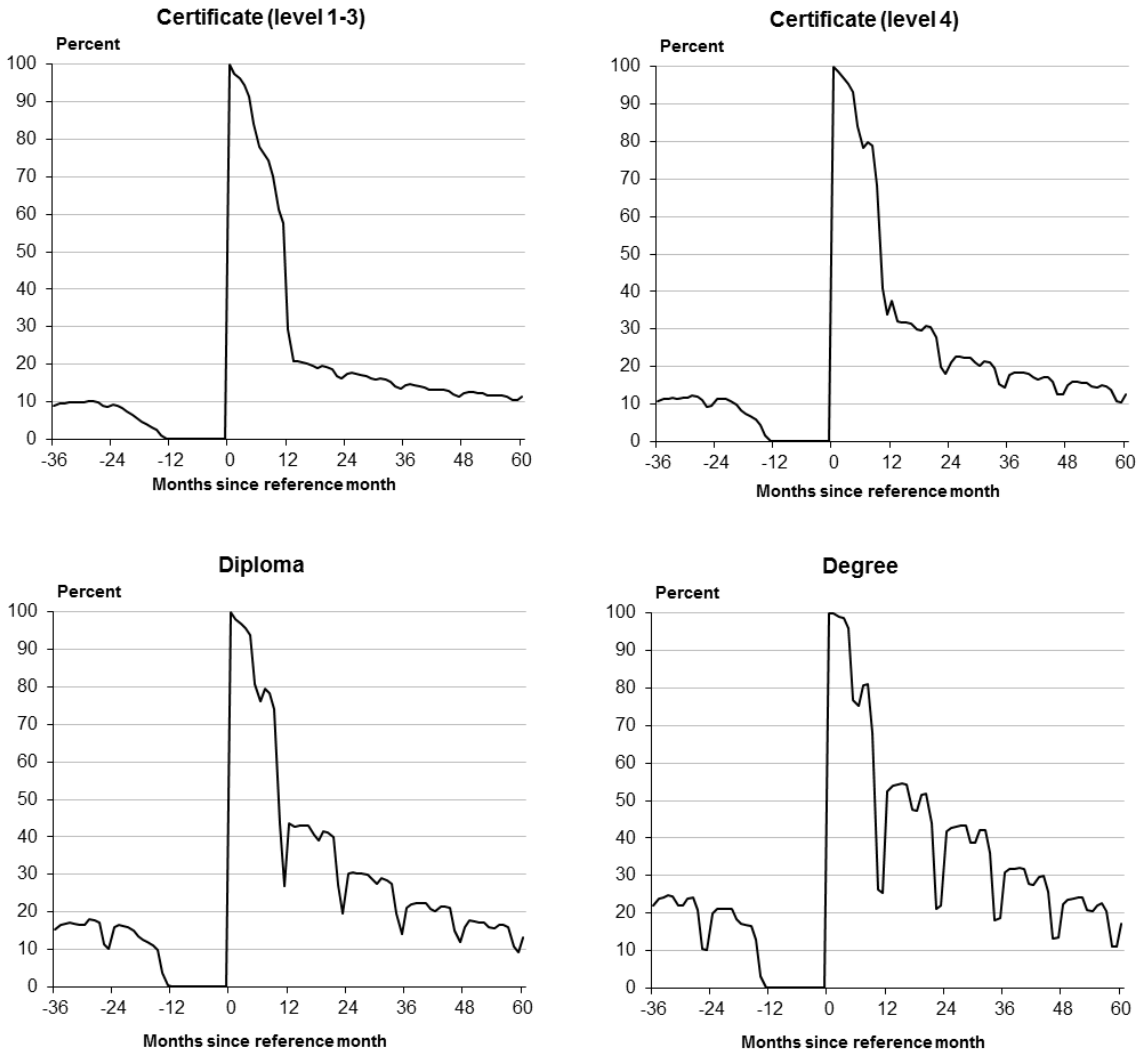
Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Table 16: Selected outcomes and impacts for those who completed a qualification by level of qualification and year of enrolment (continued)

	N	Percentage receiving income support											
		18 months after starting study			2 years after starting study			3 years after starting study			5 years after starting study		
		Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact	Participants	Matched comparisons	Impact
Level 1-3													
2003-05	10641	76.9	74.5	2.4 *	71.9	70.9	1.0	64.5	63.9	0.6	56.0	57.5	-1.5 *
2008	2115	85.9	84.6	1.3	83.2	81.5	1.7	77.6	78.1	-0.5			
2009	2820	83.0	82.9	0.1	79.3	79.8	-0.5						
2010	3489	77.3	74.7	2.6 *									
Level 4													
2003-05	4203	76.3	72.8	3.5 *	71.3	68.7	2.6 *	61.9	62.2	-0.3	51.0	55.2	-4.1 *
2008	1080	84.4	83.9	0.5	83.0	81.3	1.7	76.7	75.7	1.0			
2009	1443	84.5	82.7	1.7	79.1	79.3							
2010	1728	76.8	75.1	1.7									

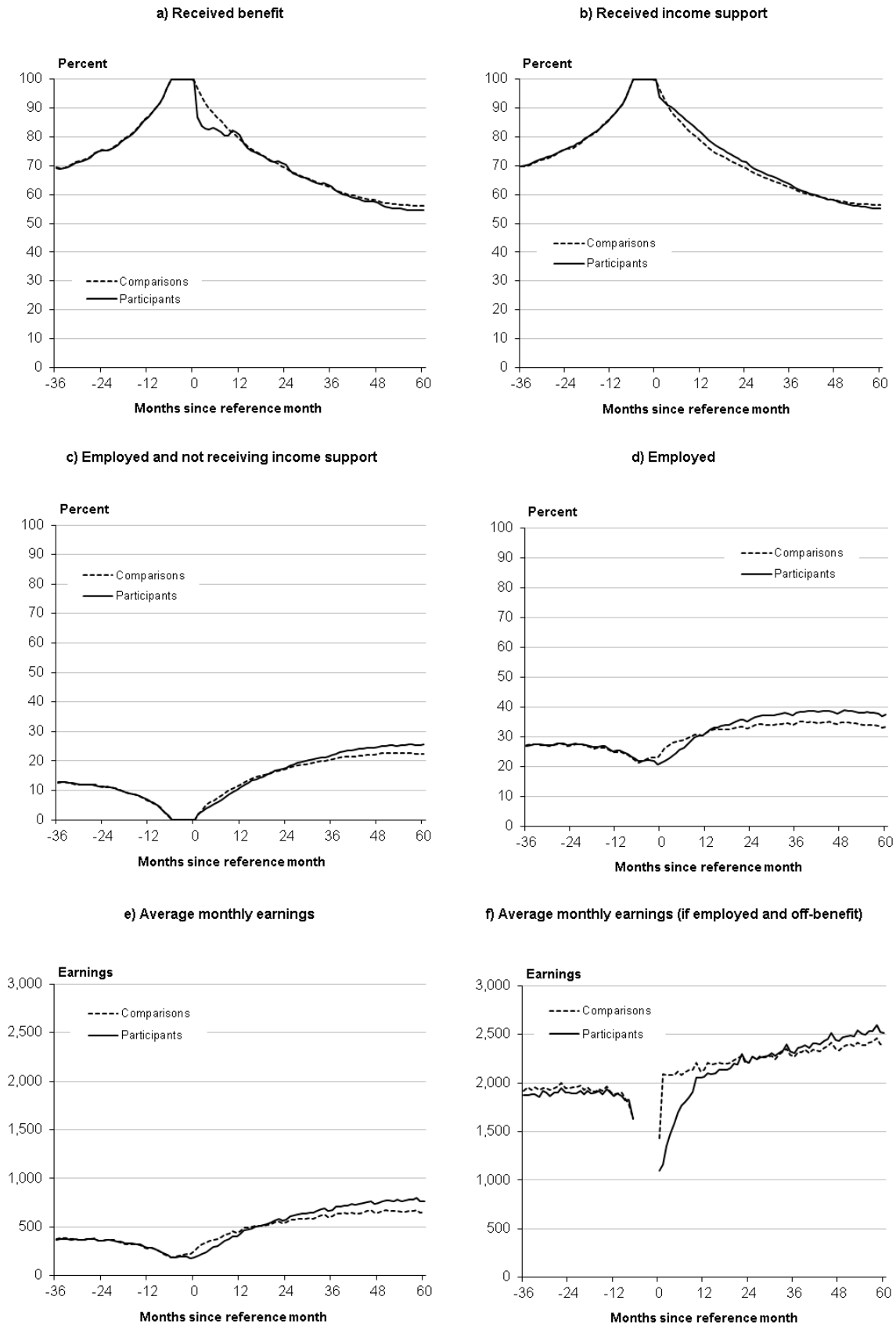
Notes: Number of participants have been randomly rounded to base 3. Asterisk (*) indicates that the impact estimate is statistically significant at the 95% confidence level. Statistical significance is based on bootstrap standard errors (100 replications, sampled at the individual level prior to propensity estimation). Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 1: Percentage studying each month by level of study



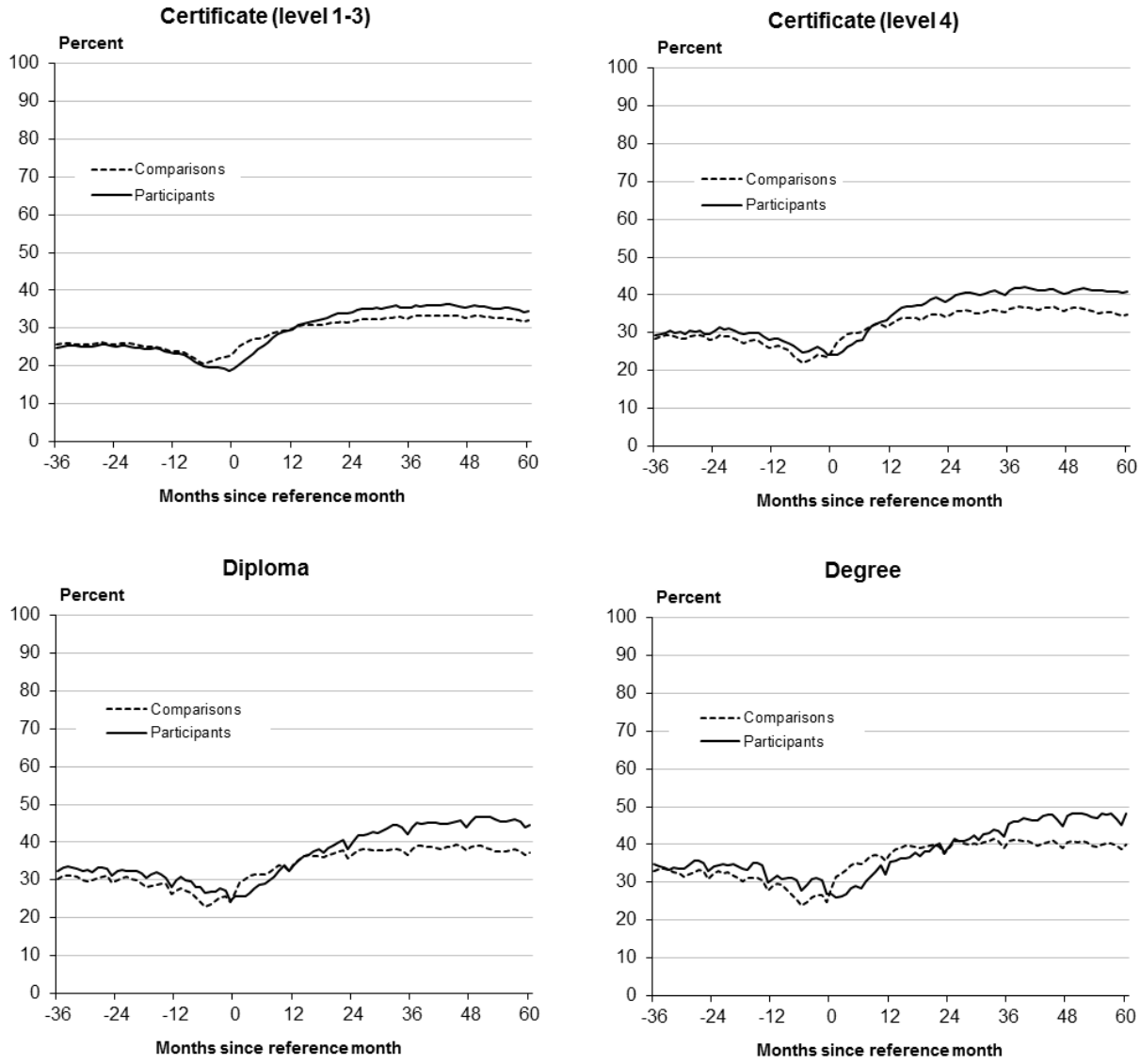
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 2: Selected outcomes, participants and matched comparisons



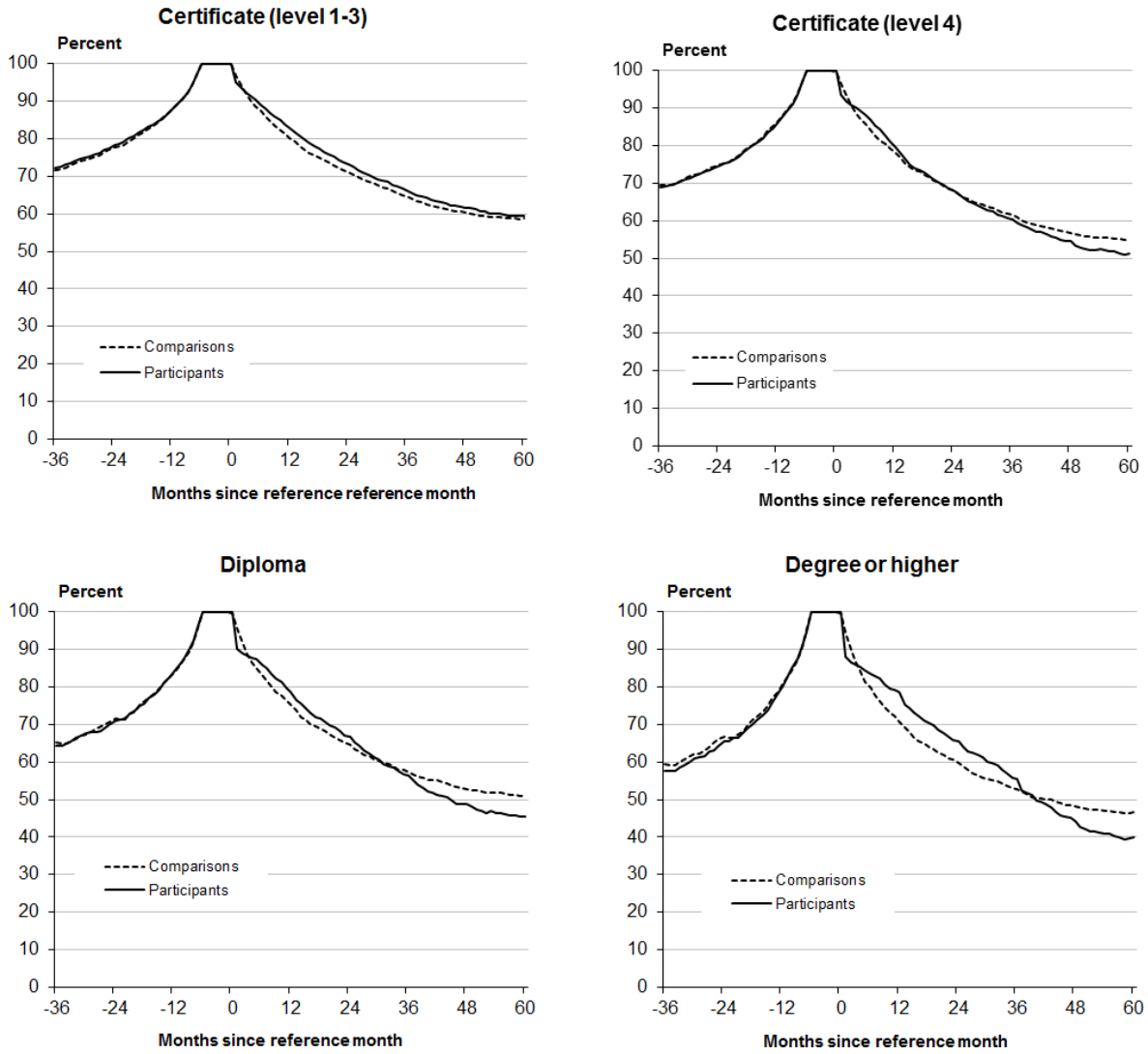
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 3: Percentage employed by level of study, participants and matched comparisons



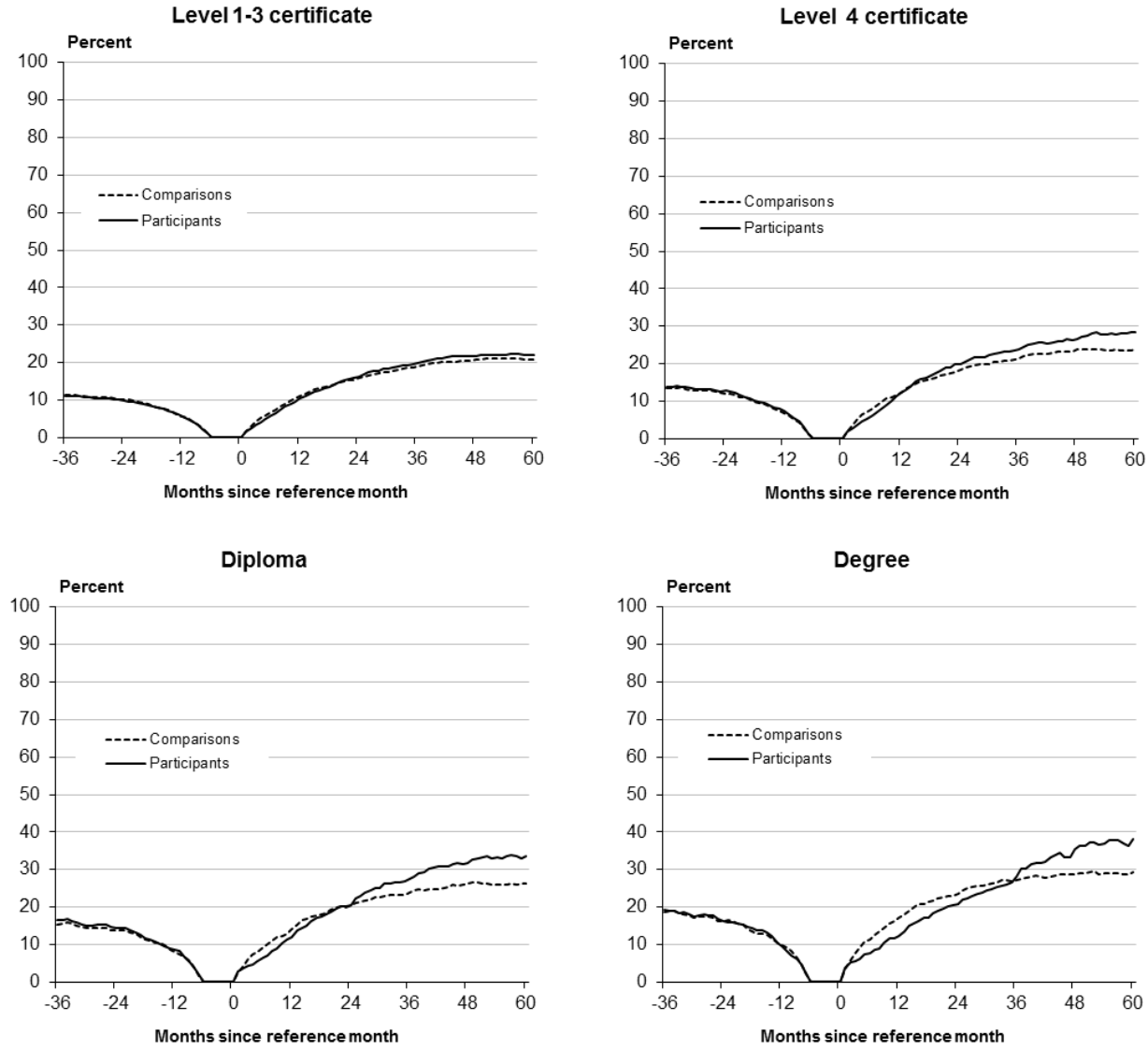
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 4: Percentage receiving income support by level of study, participants and matched comparisons



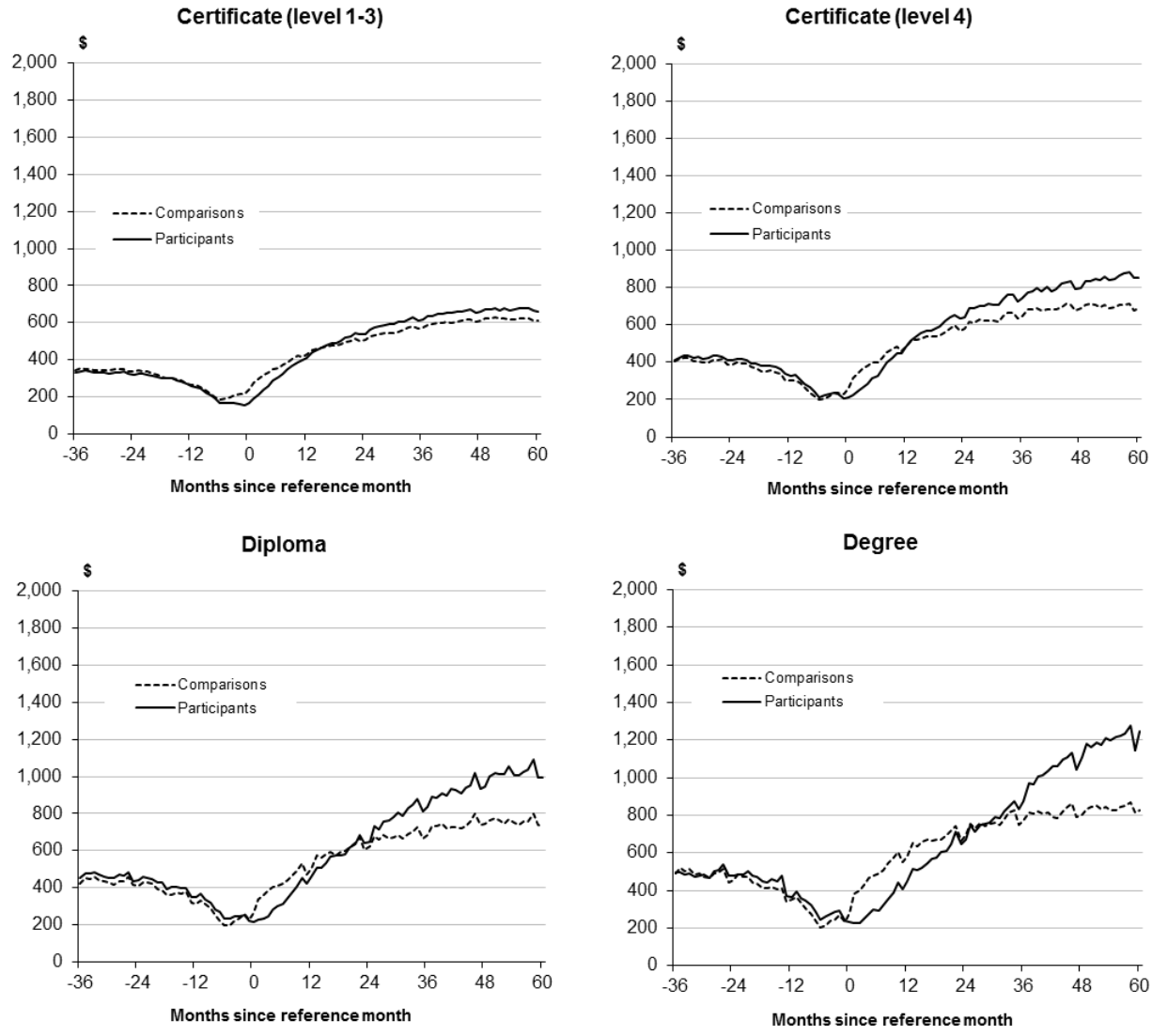
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand. Study rates for matched comparisons are not fully observed before the reference month and are not included.

Figure 5: Percentage employed and independent of income support by level of study, participants and matched comparisons



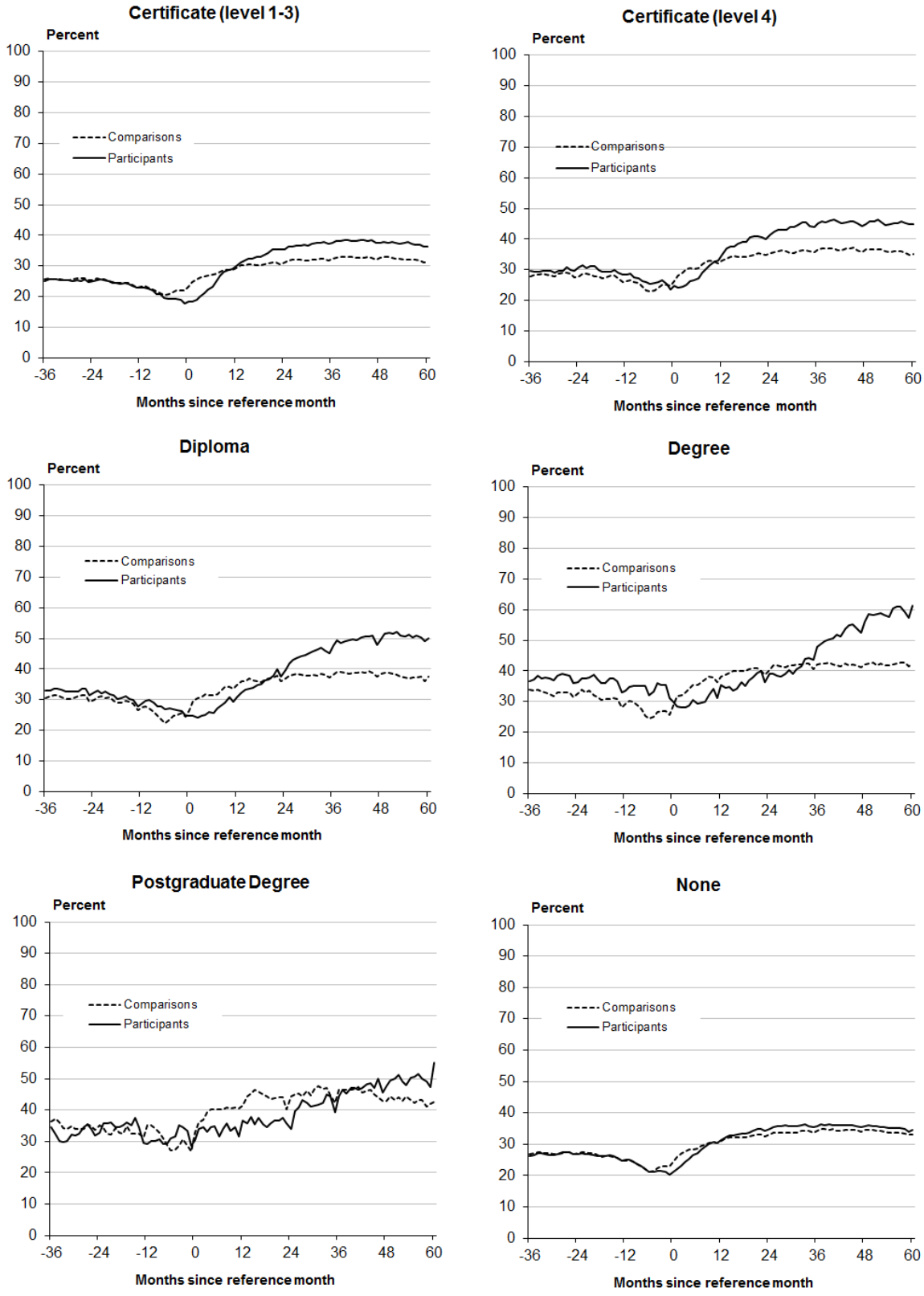
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 6: Average monthly gross earnings by level of study, participants and matched comparisons



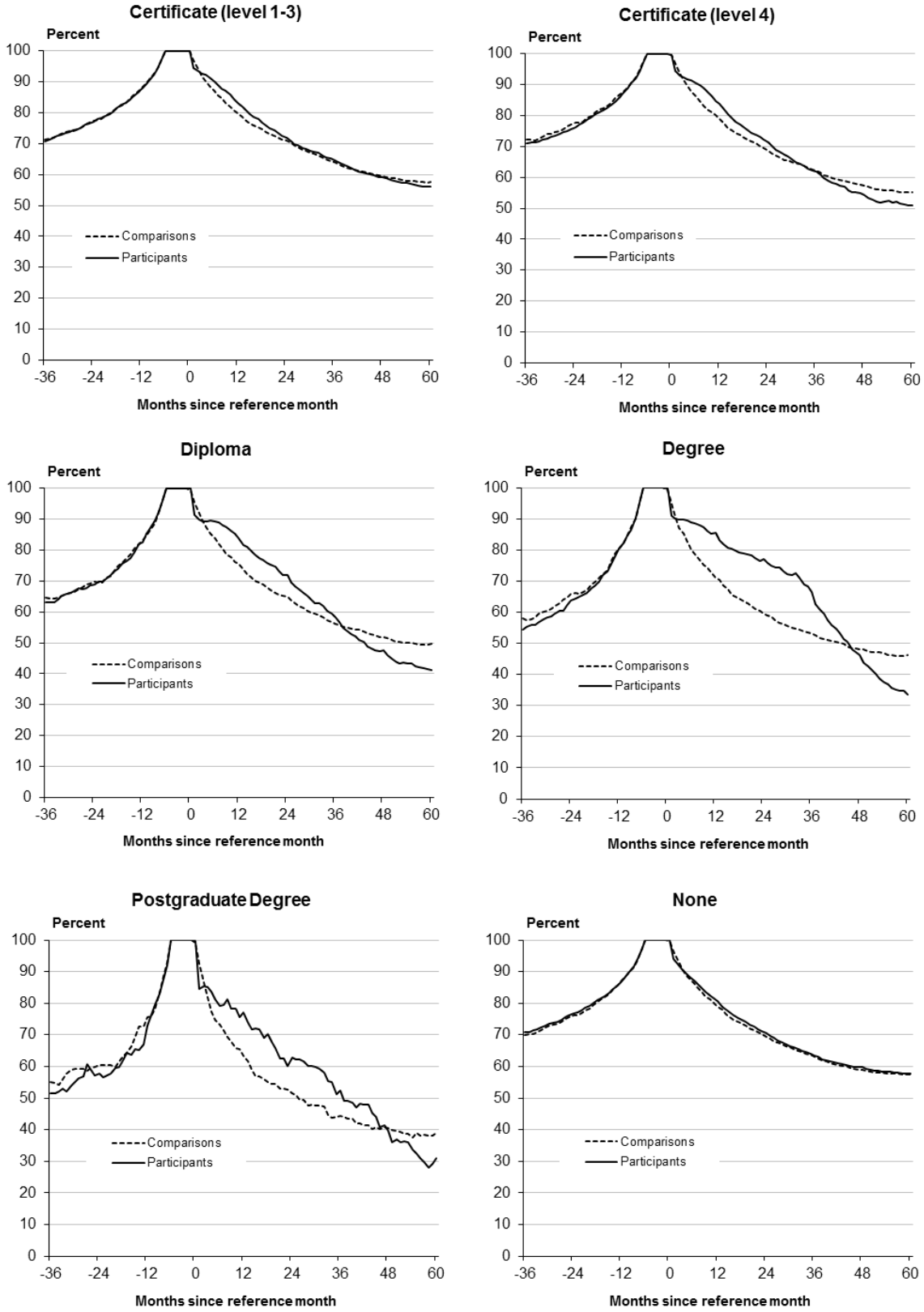
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 7: Percentage employed by level of highest qualification gained, participants and matched comparisons



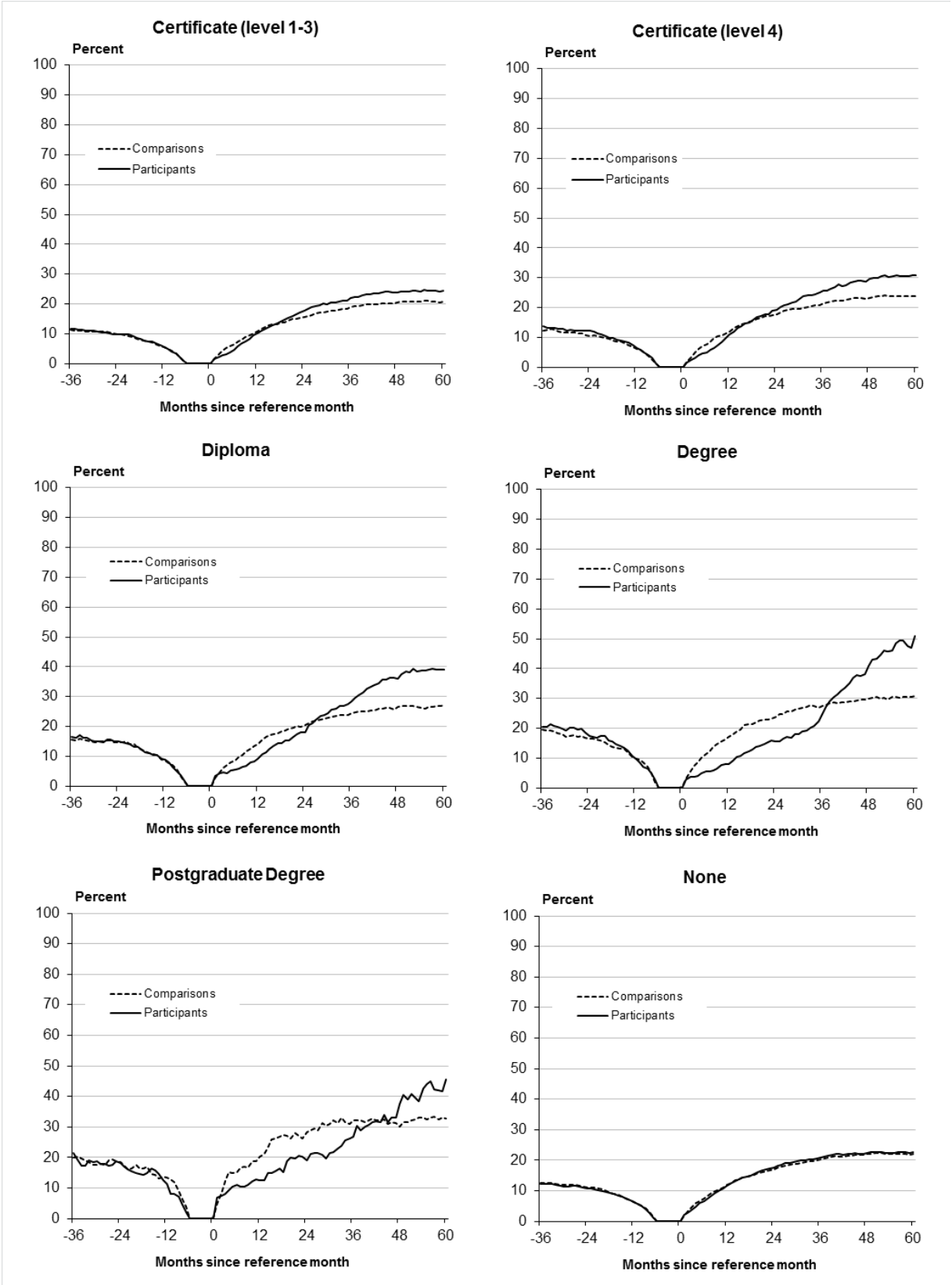
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 8: Percentage receiving income support by level of highest qualification gained, participants and matched comparisons



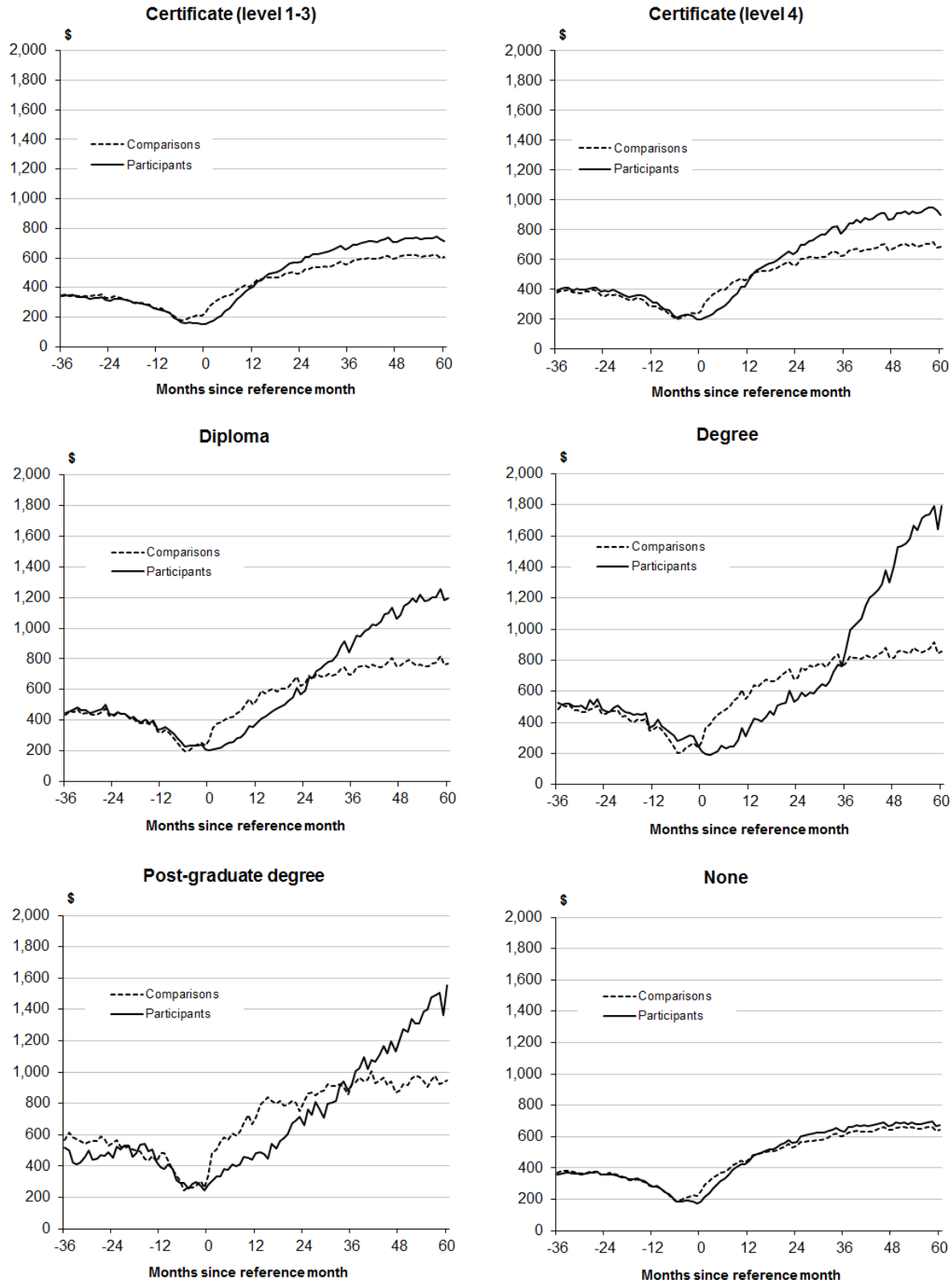
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 9: Percentage employed and independent of income support by level of highest qualification gained, participants and matched comparisons



Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Figure 10: Average monthly gross earnings by level of highest qualification gained, participants and matched comparisons



Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix

Appendix Table 1: Beneficiaries enrolled in tertiary education in 2010

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	19,317	5,709	8,619	4,878	40,191
Subgroup Type					
Received Training Incentive Allowance	15.8	12.0	na	na	9.6
Transferred to Student Allowance	1.0	0.3	32.0	22.6	10.5
Residual	83.2	87.7	68.0	77.4	80.0
Demographic characteristics					
Male	6.5	40.7	54.8	44.8	27.3
Māori	51.0	34.9	43.2	38.7	45.4
Pacific	10.2	4.7	12.7	6.3	9.4
Partnered	0.2	18.8	20.6	19.6	9.5
Have dependant children	96.1	19.4	18.6	17.5	55.0
Migrant (after 1997)	4.8	3.0	11.3	7.4	6.3
Age					
18-19 years	3.4	6.9	15.2	5.4	6.8
20-24 years	20.9	15.4	28.1	21.6	21.6
25-34 years	35.4	19.4	24.1	25.8	29.1
35-44 years	27.3	21.2	15.7	21.0	23.1
45-64 years	13.0	37.1	14.8	26.0	18.8
Average age (years)	32.8	38.5	30.0	35.2	33.4
Prior educational attainment					
None	38.8	37.5	40.4	38.8	39.0
Few school qualifications	18.2	12.3	16.7	15.7	16.7
Lower school qualifications	9.2	7.5	8.4	7.8	8.7
Higher school qualifications	13.8	11.9	22.9	14.3	15.5
Post secondary qualifications	3.3	3.3	3.7	4.2	3.5
Degree or professional qualifications	2.4	3.3	6.3	4.3	3.6
Not specified	14.4	24.3	1.6	14.9	13.0
Program participation in the last three years					
Training Incentive Allowance (TIA)	36.2	28.5	1.6	2.0	22.6
Training Opportunities (TOPs)	5.5	6.9	16.7	8.4	8.5
Wage subsidy	1.6	1.8	3.9	3.4	2.4
Work experience	0.2	1.2	0.6	0.4	0.5
Current benefit duration					
6 months -< 12 months	13.1	5.3	52.7	33.7	23.8
1 -< 2 years	21.6	11.1	31.5	30.2	23.3
2 -< 4 years	24.3	21.9	9.2	19.1	19.8
4 -< 6 years	13.2	14.7	2.6	7.1	10.2
6 -< 10 years	13.4	17.6	2.1	5.3	10.4
10 years or more	14.4	29.3	2.0	4.6	12.5
Median current benefit duration (years)	3.0	5.6	1.0	1.4	2.2
Benefit history over the last 10 years					
Median cumulative benefit duration (years)	7.2	10.1	2.1	4.9	6.1
Less than 2 years	11.9	6.0	47.9	24.4	20.6
2 -< 4 years	17.1	13.0	17.2	19.1	16.7
4 -< 6 years	13.6	11.0	9.2	12.9	12.0
6 -< 10 years	22.2	19.1	11.3	17.8	18.7
10 years	35.3	50.8	14.4	25.8	31.6

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 1: Beneficiaries enrolled in tertiary education in 2010 (continued)

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	19,317	5,709	8,619	4,878	40,191
Level of study					
Certificate level 1-3	45.1	50.4	56.4	53.2	49.9
Certificate level 4	19.1	15.8	20.6	19.4	19.1
Diploma (level 5-6)	15.5	14.6	11.0	12.7	14.0
Degree (level 7)	19.0	17.0	10.1	13.0	15.4
Post-graduate (level 8+)	1.3	2.2	1.8	1.7	1.6
Field of study					
Science	1.4	2.4	1.5	2.3	1.7
Information technology	7.6	11.9	9.9	12.7	9.4
Engineering and related technologies	1.5	2.6	8.3	5.8	3.7
Architecture and building	1.1	1.4	3.3	2.3	1.8
Agriculture and environment	2.7	5.1	7.8	5.4	4.6
Health	8.6	3.8	3.5	4.5	6.1
Education	8.9	4.5	3.5	3.9	6.4
Management and commerce	27.7	18.0	22.1	22.3	24.6
Society and culture	24.9	30.3	21.0	25.0	24.7
Creative arts	4.8	7.6	6.0	6.0	5.5
Food, hospitality and personal services	5.6	2.1	5.1	3.4	4.7
Employment, social and general education	5.3	10.2	8.1	6.4	6.7
Type of Tertiary Institution					
Universities	12.3	15.3	10.8	11.7	11.9
Institutes of technology and polytechnics	40.2	44.1	48.5	46.9	43.5
Wananga	19.4	22.8	17.4	20.2	19.7
Private training establishments	28.1	17.7	23.2	21.2	24.8
Number of EFTS enrolled in					
less than 0.1	12.4	14.0	11.7	14.6	12.7
[0.1-0.25)	16.9	18.7	14.2	18.6	17.0
[0.25-0.5)	23.9	25.7	22.8	23.9	24.2
[0.5-1.0)	28.9	24.9	31.8	28.7	28.8
1.0 or more	17.9	16.7	19.5	14.1	17.4
Median number of EFTS enrolled in	0.45	0.39	0.50	0.41	0.45
Average number of EFTS enrolled in	0.49	0.46	0.51	0.44	0.48
Number of EFTS of qualification enrolled in					
less than 0.1	1.0	1.3	1.1	1.5	1.2
[0.1-0.25)	1.2	1.7	2.8	2.0	1.8
[0.25-0.5)	9.1	11.6	12.8	13.5	11.2
[0.5-1.0)	35.9	33.6	38.0	39.3	36.6
[1.0-2.0)	27.9	28.6	31.8	26.8	28.8
[2.0-3.0)	4.3	5.8	3.6	3.5	4.2
3.0 or more	20.6	17.4	9.9	13.3	16.3
Median number of EFTS	1.00	1.00	0.70	0.70	0.80
Average number of EFTS	1.25	1.20	0.98	1.04	1.14
Enrolled in the previous year	61.3	64.0	40.3	46.5	54.1
Enrolled during the previous 3 years	74.5	75.1	58.5	62.7	68.7

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 2: Beneficiaries enrolled in tertiary education in 2005

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	26,916	7,323	8,292	4,446	47,274
Subgroup Type					
Received Training Incentive Allowance	35.0	22.7	0.1	0.3	23.5
Transferred to Student Allowance	0.4	0.2	18.5	12.1	4.7
Residual	64.6	77.1	81.4	87.5	71.8
Demographic characteristics					
Male	4.9	39.7	45.7	40.4	20.9
Māori	50.1	34.9	45.9	36.3	45.5
Pacific	7.4	3.9	6.8	5.9	6.6
Partnered	na	24.4	26.5	26.2	11.0
Have dependant children	96.7	24.1	25.7	26.5	65.8
Migrant (after 1997)	2.1	0.4	13.4	8.4	4.4
Age					
18-19 years	2.7	4.2	10.2	4.3	4.4
20-24 years	17.4	11.0	20.9	14.4	16.7
25-34 years	39.0	20.2	25.4	25.9	32.3
35-44 years	29.8	26.5	18.1	24.2	26.8
45-64 years	11.0	38.1	22.4	31.2	19.3
Average age (years)	33.1	39.9	33.5	37.6	34.7
Prior educational attainment					
None	43.4	44.1	44.7	43.7	43.7
Few school qualifications	20.0	13.5	17.6	15.5	18.1
Lower school qualifications	12.5	8.3	7.2	7.9	10.5
Higher school qualifications	14.4	11.4	15.6	13.6	14.1
Post secondary qualifications	4.1	4.0	4.5	4.9	4.2
Degree or professional qualifications	3.2	3.1	7.7	6.7	4.3
Not specified	2.3	15.7	2.7	7.7	5.0
Program participation in the last three years					
Training Incentive Allowance (TIA)	49.9	29.7	2.6	3.0	33.8
Training Opportunities (TOPs)	6.8	6.1	16.0	8.7	8.5
Wage subsidy	2.8	3.0	7.1	5.3	3.8
Work experience	1.9	2.6	3.8	1.8	2.4
Current benefit duration					
6 months -< 12 months	9.9	4.9	35.3	26.0	15.6
1 -< 2 years	16.0	9.3	26.5	24.8	17.5
2 -< 4 years	22.7	18.9	19.1	22.5	21.3
4 -< 6 years	14.1	13.2	7.5	9.4	12.3
6 -< 10 years	17.9	20.1	6.4	9.0	15.3
10 years or more	19.5	33.6	5.1	8.3	18.0
Median current benefit duration (years)	4.2	6.6	1.4	2.0	3.4
Benefit history over the last 10 years					
Median cumulative benefit duration (years)	7.2	9.0	4.0	5.3	3.7
Less than 2 years	8.9	5.0	28.4	18.8	12.6
2 -< 4 years	15.8	11.5	21.3	19.8	16.4
4 -< 6 years	15.9	12.2	14.9	16.3	15.1
6 -< 10 years	40.0	37.7	30.4	36.8	37.5
10 years	19.5	33.6	5.1	8.2	18.0

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 2: Beneficiaries enrolled in tertiary education in 2005 (continued)

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	26,916	7,323	8,292	4,446	47,274
Level of study					
Certificate level 1-3	57.0	64.3	66.5	65.4	60.5
Certificate level 4	14.3	13.1	14.7	15.1	14.3
Diploma (level 5-6)	12.8	9.7	9.4	8.6	11.3
Degree (level 7)	14.9	11.6	8.0	9.8	12.7
Post-graduate (level 8+)	1.0	1.4	1.4	1.3	1.2
Field of study					
Science	1.0	1.5	1.0	1.3	1.1
Information technology	8.9	11.4	9.1	10.0	9.4
Engineering and related technologies	1.4	2.9	5.5	4.0	2.6
Architecture and building	1.1	0.9	1.8	1.6	1.3
Agriculture and environment	1.7	3.9	5.5	3.6	2.9
Health	5.5	2.8	2.0	3.1	4.2
Education	9.0	3.8	4.5	4.6	7.0
Management and commerce	25.4	16.8	19.2	19.4	22.4
Society and culture	20.2	23.4	21.3	21.7	21.0
Creative arts	3.4	4.6	4.7	3.3	3.8
Food, hospitality and personal services	3.2	1.5	3.0	2.3	2.8
Employment, social and general education	19.2	26.6	22.3	25.2	21.4
Type of Tertiary Institution					
Universities	12.2	11.4	9.6	10.3	11.5
Institutes of technology and polytechnics	38.0	45.5	37.6	40.6	39.3
Wananga	23.9	25.7	26.7	26.9	24.9
Private training establishments	25.9	17.4	26.2	22.1	24.3
Number of EFTS enrolled in					
less than 0.1	14.1	15.6	13.6	17.1	14.5
[0.1-0.25)	20.8	22.9	20.2	22.9	21.2
[0.25-0.5)	29.4	29.7	27.3	29.8	29.1
[0.5-1.0)	21.6	18.6	23.3	19.2	21.2
1.0 or more	14.1	13.3	15.7	11.1	14.0
Median number of EFTS enrolled in	0.37	0.33	0.39	0.33	0.36
Average number of EFTS enrolled in	0.44	0.41	0.45	0.39	0.43
Number of EFTS of qualification enrolled in					
less than 0.1	1.1	2.3	2.2	2.0	1.6
[0.1-0.25)	2.1	2.5	1.9	2.8	2.2
[0.25-0.5)	10.8	12.6	11.5	12.3	11.3
[0.5-1.0)	42.0	39.6	44.8	46.6	42.5
[1.0-2.0)	19.5	22.7	25.7	19.7	21.1
[2.0-3.0)	7.7	8.6	5.7	6.4	7.4
3.0 or more	16.7	11.8	8.2	10.1	13.9
Median number of EFTS	0.66	0.60	0.58	0.53	0.60
Average number of EFTS	1.16	1.05	0.93	0.95	1.08
Enrolled in the previous year	64.8	58.1	50.3	51.3	60.0
Enrolled during the previous 3 years	77.9	70.2	66.1	66.1	73.5

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 3: Beneficiaries newly enrolled in tertiary education in 2010

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	7,089	1,974	4,929	2,502	17,604
Subgroup Type					
Received Training Incentive Allowance	13.5	10.0	na	na	7.0
Transferred to Student Allowance	1.1	0.6	40.1	31.7	16.8
Residual	85.4	89.4	59.8	68.3	76.3
Demographic characteristics					
Male	7.4	43.3	59.2	49.8	33.4
Māori	51.0	36.6	42.5	38.7	45.0
Pacific	11.5	5.2	13.5	6.7	10.5
Partnered	0.2	20.8	18.7	18.6	10.3
Have dependant children	95.9	20.1	16.9	16.1	47.9
Migrant (after 1997)	4.5	3.5	10.8	7.0	6.6
Age					
18-19 years	4.6	7.9	16.3	6.0	8.6
20-24 years	23.5	12.8	28.7	22.4	23.4
25-34 years	35.1	20.2	24.3	26.1	28.7
35-44 years	25.1	21.7	14.9	21.6	21.2
45-64 years	11.7	37.5	13.6	23.9	17.6
Average age (years)	32.0	38.7	29.5	34.5	32.6
Prior educational attainment					
None	40.7	38.4	40.8	40.4	40.4
Few school qualifications	18.6	13.5	17.3	15.6	17.2
Lower school qualifications	8.2	7.9	8.8	7.6	8.4
Higher school qualifications	11.9	9.9	23.1	13.3	15.0
Post secondary qualifications	2.9	3.0	3.4	4.0	3.3
Degree or professional qualifications	1.9	3.2	5.2	3.8	3.3
Not specified	15.8	24.2	1.5	15.3	12.4
Program participation in the last three years					
Training Incentive Allowance (TIA)	17.9	15.3	0.7	1.0	9.9
Training Opportunities (TOPs)	5.9	7.4	17.5	8.6	9.8
Wage subsidy	1.6	1.8	4.1	4.0	2.7
Work experience	0.2	1.2	0.7	0.5	0.5
Current benefit duration					
6 months -< 12 months	14.7	6.5	49.7	33.1	27.2
1 -< 2 years	23.8	11.6	34.8	33.2	26.9
2 -< 4 years	23.1	22.6	9.6	19.7	18.4
4 -< 6 years	12.4	12.8	2.7	5.9	8.6
6 -< 10 years	12.5	16.9	1.8	4.6	8.5
10 years or more	13.5	29.5	1.5	3.6	10.4
Median current benefit duration (years)	2.7	5.4	1.0	1.4	1.8
Benefit history over the last 10 years					
Median cumulative benefit duration (years)	6.8	10.4	2.1	4.5	5.2
Less than 2 years	14.3	6.7	48.7	26.0	25.2
2 -< 4 years	17.6	13.2	18.3	19.5	17.5
4 -< 6 years	12.8	10.0	9.1	13.1	11.4
6 -< 10 years	21.7	18.4	11.1	17.1	17.5
10 years	33.5	51.5	13.0	24.1	28.2

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 3: Beneficiaries newly enrolled in tertiary education in 2010 (continued)

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	7,089	1,974	4,929	2,502	17,604
Level of study					
Certificate level 1-3	54.9	60.5	57.7	55.4	57.1
Certificate level 4	22.1	17.6	21.2	20.5	21.1
Diploma (level 5-6)	12.8	11.9	10.3	11.6	11.7
Degree (level 7)	9.8	9.1	9.3	11.3	9.2
Post-graduate (level 8+)	0.4	0.9	1.5	1.3	0.9
Field of study					
Science	1.3	1.7	1.4	2.3	1.5
Information technology	8.0	13.2	8.2	12.0	9.3
Engineering and related technologies	2.3	3.8	11.2	7.9	5.9
Architecture and building	0.9	1.7	3.3	2.6	2.0
Agriculture and environment	3.2	7.3	8.9	6.4	6.0
Health	7.3	3.6	3.7	4.9	5.3
Education	6.4	4.1	3.0	3.0	4.6
Management and commerce	29.8	18.4	20.1	20.7	24.8
Society and culture	22.2	27.4	20.6	22.4	22.2
Creative arts	4.9	6.8	6.9	6.6	5.9
Food, hospitality and personal services	7.2	2.7	6.4	4.8	6.0
Employment, social and general education	6.6	9.4	6.3	6.2	6.6
Type of Tertiary Institution					
Universities	7.7	9.1	10.7	10.8	8.7
Institutes of technology and polytechnics	45.7	51.5	51.6	51.8	48.9
Wananga	18.9	22.3	15.7	16.8	18.2
Private training establishments	27.7	17.0	22.0	20.5	24.2
Number of EFTS enrolled in					
less than 0.1	8.7	11.7	7.2	9.5	8.8
[0.1-0.25)	16.5	18.7	12.1	16.9	16.0
[0.25-0.5)	23.7	23.3	21.1	21.8	23.0
[0.5-1.0)	33.3	27.7	35.3	33.6	32.8
1.0 or more	17.7	18.8	24.3	18.1	19.4
Median number of EFTS enrolled in	0.50	0.46	0.50	0.50	0.50
Average number of EFTS enrolled in	0.50	0.48	0.56	0.50	0.51
Number of EFTS of qualification enrolled in					
less than 0.1	1.7	2.3	1.5	1.9	1.8
[0.1-0.25)	1.5	2.1	3.0	2.3	2.4
[0.25-0.5)	13.0	15.8	12.7	14.7	14.0
[0.5-1.0)	40.4	36.9	36.0	37.9	38.5
[1.0-2.0)	29.9	30.2	33.8	28.5	30.7
[2.0-3.0)	3.0	4.1	3.3	3.5	3.2
3.0 or more	10.5	8.5	9.6	11.0	9.5
Median number of EFTS	0.71	0.71	0.72	0.67	0.71
Average number of EFTS	0.97	0.93	0.97	0.97	0.95
Enrolled in the previous year	na	na	na	na	na
Enrolled during the previous 3 years	30.4	28.0	27.4	27.1	28.6

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 4: Beneficiaries newly enrolled in tertiary education in 2005

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	8,697	2,880	3,903	2,016	17,589
Subgroup Type					
Received Training Incentive Allowance	41.4	26.6	na	na	24.9
Transferred to Student Allowance	0.4	0.3	25.6	17.9	8.0
Residual	58.2	73.2	74.3	81.8	67.0
Demographic characteristics					
Male	5.9	43.8	50.8	44.9	26.7
Māori	47.9	32.7	44.9	33.5	43.0
Pacific	8.1	3.6	7.5	6.8	7.1
Partnered	0.1	24.0	23.1	23.4	11.8
Have dependant children	95.8	22.6	21.3	22.9	58.4
Migrant (after 1997)	2.3	0.5	11.0	7.4	4.5
Age					
18-19 years	3.8	5.4	12.1	4.0	5.9
20-24 years	19.4	10.9	21.0	15.0	17.8
25-34 years	36.5	20.1	24.5	26.0	29.9
35-44 years	28.8	25.5	16.2	22.3	24.7
45-64 years	11.6	38.1	21.8	32.3	20.7
Average age (years)	32.9	39.7	32.9	37.8	34.6
Prior educational attainment					
None	44.8	43.9	44.0	41.5	44.0
Few school qualifications	21.3	14.2	17.8	16.8	18.8
Lower school qualifications	11.8	7.9	7.8	8.2	9.9
Higher school qualifications	12.8	10.7	16.3	14.0	13.4
Post secondary qualifications	3.4	3.0	4.8	4.8	3.8
Degree or professional qualifications	2.7	2.9	6.9	6.5	4.2
Not specified	3.1	17.4	2.4	8.2	5.9
Program participation in the last three years					
Training Incentive Allowance (TIA)	28.5	17.0	1.3	1.8	17.4
Training Opportunities (TOPs)	6.9	6.6	16.4	7.7	9.0
Wage subsidy	2.9	3.4	8.1	6.0	4.5
Work experience	1.8	2.8	3.8	1.6	2.4
Current benefit duration					
6 months -< 12 months	12.5	5.1	34.4	26.6	18.1
1 -< 2 years	17.9	9.9	28.1	26.0	19.7
2 -< 4 years	20.8	19.8	19.2	22.2	20.3
4 -< 6 years	13.4	12.4	7.7	8.9	11.4
6 -< 10 years	17.1	20.1	6.1	8.5	14.1
10 years or more	18.4	32.8	4.5	7.9	16.4
Median current benefit duration (years)	3.8	6.5	1.4	1.9	3.0
Benefit history over the last 10 years					
Median cumulative benefit duration (years)	6.9	8.9	3.7	5.1	6.3
Less than 2 years	11.7	5.8	29.9	20.1	15.7
2 -< 4 years	16.5	12.7	21.6	21.9	17.6
4 -< 6 years	15.2	12.6	15.0	15.2	14.6
6 -< 10 years	38.3	36.0	29.0	35.3	35.3
10 years	18.4	32.8	4.5	7.7	16.3

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 4: Beneficiaries newly enrolled in tertiary education in 2005 (continued)

	Benefit type				Total
	Domestic Purposes/ Widow's	Invalid's	Unemployment/ Training	Sickness	
Number of observations	8,697	2,880	3,903	2,016	17,589
Level of study					
Certificate level 1-3	62.4	70.4	62.0	63.4	63.8
Certificate level 4	18.1	14.9	17.5	17.3	17.3
Diploma (level 5-6)	10.9	8.3	10.7	9.5	10.3
Degree (level 7)	8.2	6.0	8.5	9.1	8.0
Post-graduate (level 8+)	0.4	0.4	1.2	0.9	0.6
Field of study					
Science	0.8	1.0	1.2	1.2	0.9
Information technology	9.4	13.2	8.8	10.1	10.0
Engineering and related technologies	2.1	4.7	8.3	6.8	4.5
Architecture and building	1.2	0.9	2.4	1.6	1.5
Agriculture and environment	2.4	5.4	7.8	4.9	4.4
Health	3.7	2.8	2.1	3.6	3.2
Education	7.3	3.3	4.5	5.2	5.8
Management and commerce	28.8	18.5	18.3	20.4	23.9
Society and culture	20.9	21.0	23.0	22.3	21.5
Creative arts	3.3	4.5	6.6	4.5	4.4
Food, hospitality and personal services	4.4	1.9	4.5	3.3	3.9
Employment, social and general education	15.6	22.6	12.8	16.2	16.2
Type of Tertiary Institution					
Universities	8.8	6.9	10.1	9.7	8.9
Institutes of technology and polytechnics	39.4	51.9	42.1	44.0	42.6
Wananga	22.5	22.0	20.3	21.9	21.8
Private training establishments	29.3	19.3	27.4	24.4	26.6
Number of EFTS enrolled in					
less than 0.1	11.5	17.0	11.6	15.3	12.9
[0.1-0.25)	21.3	24.6	15.3	19.8	20.3
[0.25-0.5)	30.3	25.1	22.4	26.8	27.3
[0.5-1.0)	22.3	18.0	29.1	22.8	23.1
1.0 or more	14.6	15.3	21.6	15.5	16.4
Median number of EFTS enrolled in	0.39	0.33	0.50	0.39	0.40
Average number of EFTS enrolled in	0.45	0.41	0.52	0.45	0.46
Number of EFTS of qualification enrolled in					
less than 0.1	1.9	4.3	3.2	3.4	2.8
[0.1-0.25)	2.9	3.5	2.5	3.9	3.1
[0.25-0.5)	14.1	16.8	11.6	13.8	13.9
[0.5-1.0)	43.3	35.8	36.8	39.7	40.2
[1.0-2.0)	22.2	25.5	31.3	24.0	24.9
[2.0-3.0)	6.1	7.9	6.0	6.7	6.5
3.0 or more	9.5	6.1	8.5	8.9	8.7
Median number of EFTS	0.60	0.58	0.72	0.59	0.60
Average number of EFTS	0.95	0.88	0.97	0.93	0.94
Enrolled in the previous year	na	na	na	na	na
Enrolled during the previous 3 years	31.7	24.2	27.9	25.3	28.9

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 5: Qualification completion rates by level of study and demographic subgroup

	Level of study				
	Level 1-3	Level 4	Diploma	Degree	Post-graduate
Number of observations	40,215	10,407	6,069	5,316	375
Total	38	46	43	40	52
Sex					
Male	34	39	42	35	51
Female	39	48	44	42	53
Ethnicity					
Asian	69	51	52	49	62
Maori	36	46	47	37	59
European	34	44	40	41	50
Other	49	53	51	44	50
Pacific	36	46	44	38	s
Not stated	35	44	35	48	s
Prior highest qualification					
No qualification	34	43	41	32	s
Few school qualifications	37	46	41	32	s
Lower school qualifications	42	47	41	40	29
Upper school qualifications	47	50	45	44	55
Other post school qualifications	41	47	47	44	63
Degree or professional qualifications	51	48	49	46	54
Unknown	41	49	48	45	56
Age					
18-19	32	41	43	57	s
20-24	34	42	40	37	64
25-34	37	46	42	39	58
35-44	40	48	45	42	49
45-54	39	47	47	40	53
55-64	45	48	44	26	30
Benefit duration					
6-<24 months	38	44	43	42	55
2-<4 years	39	44	43	40	48
4 years or more	37	47	42	37	48
Benefit Type					
Domestic Purposes/Widow's	37	47	42	43	55
Invalid's	32	44	42	30	25
Sickness	36	44	41	33	44
Unemployment	40	45	46	41	55
Field of study					
Natural and physical sciences	22	s	63	38	67
Information technology	29	57	48	33	s
Engineering and related technologies	35	42	34	30	s
Architecture and building	28	30	31	43	s
Agriculture, environmental and related studies	36	39	36	35	s
Health	59	61	48	45	38
Education	38	52	53	61	47
Management and commerce	40	36	28	34	42
Society and culture	45	50	44	32	48
Creative arts	58	56	45	46	75
Food, hospitality and personal services	47	44	51	s	s
Mixed field programmes	35	40	10	26	33

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 6: Variables included in the propensity score models

Variable	Categories
Gender	Female, Male
Age group (years)	16–17, 18–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64
Ethnicity	Māori, NZ European, Pacific people, Other
Migrant in the last 10 years	Yes, No
Prior educational attainment	None, Few school qualifications (less than 3 SC subjects, <80 credits at NQF level 1), Lower school qualifications (3 or more SC subjects, 80+ credits at NQF level 1), Higher school qualifications (UE or 80+ credits at NQF level 2), Other school qualifications, Post-secondary qualifications, Degree or professional qualifications
Partner	Yes, No
Age of youngest child	No child, 0–5 years, 6–13 years, 14+ years
Number of children	No child, 1 child, 2 children, 3 children, 4+ children
Identified incapacity in the previous 2 years (recorded for Sickness and Invalid's Benefit recipient only): 14 incapacities	Yes, No
Territorial local authority area	64 territorial local authority areas
Reference month (i.e. month started studying)	January 2003 – December 2005
Receiving a main benefit or wage subsidy in each of the 36 months prior to the reference month (36 variables)	Yes, No
Receiving a main benefit/wage subsidy and income from wages and salaries in each of the 36 months prior to the reference month (36 variables)	Yes, No
Number of months received income from wages and salaries in the previous 24 months	Number of months (none, 1–3 months, 4–6 months, 7–12 months, 13–24 months)
Average monthly gross income from wages and salaries (conditional on being off benefit) in the previous 24 months	None, $1-<$500, $500-<$1000, $1000-<$1500, $1500-<$2000, $2000-<$3000
Type of benefit received (in the month before the reference month)	Unemployment/Independent Youth, Domestic Purposes/Widow's/Emergency, Sickness, Invalid's
Current benefit duration	6–<12 months, 1–<2 years, 2–<4 years, 4–<6 years, 6–<10 years, over 10 years
Time spent on a benefit during the previous 10 years	6 months–<2 years, 2–<4 years, 4–<6 years, 6–<10 years, 10 years
Received benefit when aged 18 years	Yes, No, Unknown
Received wage subsidy during the previous 3 years	Yes, No
Participated in work experience during the previous 3 years	Yes, No
Received Training Incentive	Yes, No

Variable	Categories
Allowance during the previous 3 years	
Enrolled in tertiary education in the previous 3 years*	Number of months (none, 1–3 months, 4–6 months, 7–12 months, 13–24 months)
Number of EFTS enrolled in during the previous 3 years*	Less than 0.1, 0.1–<0.25, , 0.25–<0.50, 0.50–<1.0, 1.0–<2.0

Asterisk (*): enrolment in tertiary education during the previous 3 years is only known for those that started a new study spell in 2006 or later.

Appendix Table 7: Characteristics of matched and unmatched participants

	Unmatched	Matched	Total	Unmatched	Matched	Total
Number of observations	12,273	50,109	62,382	12,273	50,109	62,382
Total	19.7	80.3	100.0	100.0	100.0	100.0
Sex						
Male	21.9	78.1	100.0	30.8	26.9	27.6
Female	18.8	81.2	100.0	69.3	73.1	72.4
Age						
16-17 years	47.6	52.4	100.0	2.2	0.6	0.9
18-19 years	30.3	69.7	100.0	9.4	5.3	6.1
20-24 years	18.3	81.7	100.0	17.6	19.2	18.9
25-34 years	16.2	83.8	100.0	25.8	32.7	31.3
35-44 years	19.5	80.5	100.0	24.2	24.5	24.4
45-54 years	25.9	74.2	100.0	15.6	11.0	11.9
55-64 years	15.8	84.3	100.0	5.1	6.7	6.4
Highest previous qualification						
No formal school qualifications	10.0	90.0	100.0	22.5	49.4	44.1
Few school qualifications	28.4	71.5	100.0	14.7	9.0	10.2
Lower school qualifications	19.2	80.8	100.0	17.7	18.3	18.2
Higher school qualifications	24.7	75.2	100.0	12.4	9.3	9.9
Other school qualifications	36.4	63.6	100.0	5.7	2.5	3.1
Other post secondary qualifications	47.0	53.1	100.0	9.2	2.5	3.8
Degree or professional qualifiactions	41.9	58.1	100.0	8.7	3.0	4.1
Unknown	26.8	73.2	100.0	9.1	6.1	6.7
Benefit type						
Domestic Purposes/Widow's	17.5	82.5	100.0	42.9	49.6	48.3
Invalid's	21.5	78.5	100.0	14.9	13.4	13.7
Sickness	25.6	74.4	100.0	13.0	9.3	10.0
Training	74.2	25.4	100.0	4.7	0.4	1.3
Unemployment	16.6	83.4	100.0	21.7	26.8	25.8
Independent Youth	52.9	47.6	100.0	2.7	0.6	1.0
Benefit duration						
6-<24 months	22.0	78.0	100.0	42.0	36.6	37.6
2-<4 years	25.6	74.4	100.0	26.7	19.0	20.6
4 years or more	12.5	87.5	100.0	25.6	44.0	40.4
Level of study						
Level 1-3 certificate	17.1	82.9	100.0	56.0	66.5	64.5
Level 4 certificate	22.0	78.0	100.0	18.7	16.2	16.7
Diploma	25.0	75.0	100.0	12.4	9.1	9.7
Degree	27.6	72.4	100.0	12.0	7.7	8.5
Post-graduate degree	32.5	67.5	100.0	1.0	0.5	0.6
Field of study						
Natural and physical sciences	27.4	72.1	100.0	1.4	0.9	1.0
Information technology	17.8	82.2	100.0	8.3	9.3	9.1
Engineering and related technologies	20.9	79.1	100.0	4.2	3.9	3.9
Architecture and building	22.8	77.6	100.0	1.5	1.2	1.3
Agriculture, environmental and related studies	16.8	83.2	100.0	3.1	3.7	3.6
Health	25.5	74.5	100.0	4.2	3.0	3.2
Education	23.0	77.0	100.0	6.3	5.2	5.4
Management and commerce	20.0	80.0	100.0	20.1	19.6	19.7
Society and culture	22.4	77.6	100.0	22.5	19.1	19.8
Creative arts	25.5	74.5	100.0	5.8	4.2	4.5
Food, hospitality and personal services	19.5	80.5	100.0	3.7	3.8	3.8
Mixed field programmes	15.1	84.9	100.0	19.0	26.1	24.7
Completed a qualification	22.5	77.5	100.0	45.3	38.3	39.7

Notes: Numbers of observations have been randomly rounded to base 3. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 8: Estimated impacts 5 years after starting study by level and field of highest qualification gained by sex

	Number of participants	Females				
		Percentage receiving main benefits 5 years later (percentage point impact)	Percentage receiving income support 5 years later (percentage point impact)	Percentage employed 5 years later (percentage point impact)	Percentage employed and independent 5 years later (percentage point impact)	Average monthly earnings 5 years later (dollar impact)
Level 1-3 certificate						
Natural and physical sciences	24	s	s	s	s	s
Information technology	561	-2.0	-1.8	0.8	2.1	35
Engineering and related technologies	162	-6.2	-5.2	10.8	8.6	278
Architecture and building	s	s	s	s	s	s
Agriculture, environmental and related studies	135	-13.8	-13.4	8.7	8.1	182
Health	221	-10.2	-10.3	11.8	10.3	339
Education	228	-2.2	-2.4	11.8	5.3	142
Management and commerce	2454	-5.3	-5.2	7.4	6.7	200
Society and culture	1260	0.8	0.8	5.2	1.7	54
Creative arts	135	-12.3	-10.0	6.9	10.2	200
Food, hospitality and personal services	519	-6.1	-5.8	7.4	4.8	121
Employment, social and general education	2286	4.5	4.3	-0.5	-1.8	-32
Level 4 certificate						
Natural and physical sciences	s	s	s	s	s	s
Information technology	105	4.4	4.9	4.0	1.0	177
Engineering and related technologies	51	-6.1	-5.1	19.0	12.7	699
Architecture and building	21	s	s	s	s	s
Agriculture, environmental and related studies	69	-1.5	-2.7	2.7	-2.8	83
Health	261	-9.2	-8.1	16.2	10.0	349
Education	231	-1.2	-1.0	21.0	9.1	188
Management and commerce	855	-8.7	-8.3	10.6	10.5	364
Society and culture	1116	-3.0	-2.1	8.6	4.7	140
Creative arts	243	0.4	1.7	-5.5	-1.7	-117
Food, hospitality and personal services	249	-8.6	-6.2	5.3	5.9	171
Diploma						
Natural and physical sciences	s	s	s	s	s	s
Information technology	90	-7.2	-6.2	11.3	11.1	369
Engineering and related technologies	s	s	s	s	s	s
Architecture and building	s	s	s	s	s	s
Agriculture, environmental and related studies	s	s	s	s	s	s
Health	180	-4.0	-1.7	1.5	1.4	61
Education	336	-23.5	-23.1	33.9	33.5	1171
Management and commerce	180	-10.1	-9.9	17.2	14.2	611
Society and culture	492	-9.1	-9.3	12.0	14.1	481
Creative arts	279	-2.6	-2.2	5.6	3.6	86
Food, hospitality and personal services	108	-18.5	-19.4	13.2	10.4	247
Degree						
Natural and physical sciences	30	s	s	s	s	s
Information technology	s	s	s	s	s	s
Engineering and related technologies	s	s	s	s	s	s
Architecture and building	s	s	s	s	s	s
Agriculture, environmental and related studies	s	s	s	s	s	s
Health	276	-15.4	-15.1	23.1	26.2	1385
Education	534	-26.9	-25.9	33.2	36.1	1540
Management and commerce	72	-3.7	-0.9	-3.7	3.3	336
Society and culture	318	-4.1	-2.6	12.3	12.4	588
Creative arts	135	0.9	3.0	-7.0	-3.1	41

Notes: Numbers of participants have been randomly rounded to base 3. Estimates based on fewer than 50 students have been suppressed(s). Fields of study with no students have been omitted. Dollar figure are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 8: Estimated impacts 5 years after starting study by level and field of highest qualification gained by sex (continued)

	Number of participants	Males				
		Percentage receiving main benefits 5 years later (percentage point impact)	Percentage receiving income support 5 years later (percentage point impact)	Percentage employed 5 years later (percentage point impact)	Percentage employed and independent 5 years later (percentage point impact)	Average monthly earnings 5 years later (dollar impact)
Level 1-3 certificate						
Natural and physical sciences	s	s	s	s	s	s
Information technology	237	-1.9	-1.4	3.6	6.0	148
Engineering and related technologies	330	-6.2	-5.7	11.9	11.8	462
Architecture and building	66	-9.8	-8.3	4.2	9.6	274
Agriculture, environmental and related studies	288	-3.7	-3.5	2.3	2.2	98
Health	123	-13.0	-12.2	10.7	11.1	138
Education	s	s	s	s	s	s
Management and commerce	420	-2.5	-2.3	2.1	1.9	86
Society and culture	384	3.7	5.1	6.2	3.6	159
Creative arts	60	-0.2	-4.1	12.2	13.4	398
Food, hospitality and personal services	105	-12.3	-11.8	12.4	13.2	340
Mixed field programmes	600	3.9	4.4	1.8	-0.6	-27
Level 4 certificate						
Natural and physical sciences	s	s	s	s	s	s
Information technology	60	17.1	16.2	9.6	1.4	24
Engineering and related technologies	66	-14.0	-11.5	15.9	18.2	683
Architecture and building	75	-18.8	-18.6	10.5	13.1	324
Agriculture, environmental and related studies	90	-8.6	-5.8	5.2	1.3	175
Health	45	s	s	s	s	s
Education	s	s	s	s	s	s
Management and commerce	114	-8.4	-3.4	9.8	6.8	174
Society and culture	372	-5.3	-4.5	9.0	7.7	213
Creative arts	78	2.6	5.5	14.0	8.9	103
Food, hospitality and personal services	21	s	s	s	s	s
Mixed field programmes	s	s	s	s	s	s
Diploma						
Natural and physical sciences	s	s	s	s	s	s
Information technology	141	-4.7	-3.3	12.6	14.7	630
Engineering and related technologies	21	s	s	s	s	s
Architecture and building	s	s	s	s	s	s
Agriculture, environmental and related studies	s	s	s	s	s	s
Health	24	s	s	s	s	s
Education	30	s	s	s	s	s
Management and commerce	s	s	s	s	s	s
Society and culture	138	-5.7	-4.6	14.1	5.3	340
Creative arts	150	2.5	2.5	-2.0	-3.0	-102
Food, hospitality and personal services	s	s	s	s	s	s
Mixed field programmes	s	s	s	s	s	s
Degree						
Natural and physical sciences	24	s	s	s	s	s
Information technology	33	s	s	s	s	s
Engineering and related technologies	s	s	s	s	s	s
Architecture and building	s	s	s	s	s	s
Agriculture, environmental and related studies	s	s	s	s	s	s
Health	21	s	s	s	s	s
Education	54	-10.3	-8.8	26.2	18.4	1239
Management and commerce	39	s	s	s	s	s
Society and culture	111	-10.4	-7.1	14.8	10.0	368
Creative arts	81	-4.6	-0.8	7.9	6.8	57
Mixed field programmes	s	s	s	s	s	s

Notes: Numbers of participants have been randomly rounded to base 3. Estimates based on fewer than 50 students have been suppressed(s). Fields of study with no students have been omitted. Dollar figure are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 9: Estimated impacts 5 years after starting study by level and detailed field of highest qualification gained

Level 1-3 certificates	Number of participants	Percentage receiving main benefits 5 years later (percentage point impact)	Percentage receiving income support 5 years later (percentage point impact)	Percentage employed 5 years later (percentage point impact)	Percentage employed and independent 5 years later (percentage point impact)	Average monthly earnings 5 years later (dollar impact)
Natural and Physical Sciences						
Mathematics	s	s	s	s	s	s
Chemical Sciences	s	s	s	s	s	s
Biological Sciences	s	s	s	s	s	s
Other Sciences	s	s	s	s	s	s
Information Technology						
Computer Science	84	-7.1	-6.9	2.8	5.1	86
Information Systems	411	-0.6	-0.6	0.7	3.4	72
Other Information Technology	303	-2.4	-1.7	2.6	2.5	60
Engineering						
Manufacturing Engineering	51	1.9	5.9	4.1	4.1	150
Process Engineering	s	s	s	s	s	s
Automotive Engineering	207	-12.3	-12.1	13.1	14.1	468
Mechanical Engineering	84	-2.1	-1.0	3.9	3.8	264
Civil Engineering	21	15.0	14.0	23.0	13.3	892
Electrical Engineering	36	-6.4	-4.3	28.4	24.6	823
Aerospace Engineering	s	s	s	s	s	s
Maritime Engineering	60	-5.1	-6.1	5.3	1.1	175
Other Engineering	s	s	s	s	s	s
Architecture and Building						
Architecture	s	s	s	s	s	s
Building	81	-6.9	-6.9	1.5	7.4	187
Agriculture and Environment						
Agriculture	75	-16.9	-16.9	17.1	16.4	360
Horticulture	87	-13.0	-13.0	5.2	9.5	258
Forestry	156	0.0	-0.1	-4.8	-5.8	-136
Fisheries	s	s	s	s	s	s
Environmental	21	14.8	20.8	5.0	-5.0	37
Other Agriculture	81	-8.7	-8.6	8.3	6.7	219
Health						
Nursing	57	-10.4	-10.4	20.6	14.7	257
Pharmacy	s	s	s	s	s	s
Veterinary	42	-7.1	-7.1	4.1	1.5	151
Public Health	150	-12.0	-11.2	12.3	10.2	313
Rehabilitation	30	-9.8	-9.8	-6.4	0.0	39
Complementary	s	s	s	s	s	s
Other Health	45	-23.6	-24.1	17.0	23.7	456
Education						
Teacher Education	183	-1.7	-1.3	9.6	3.9	135
Education Studies	33	-21.3	-21.9	18.5	17.9	217
Other Education	27	10.6	10.6	23.3	4.2	272
Management and Commerce						
Accountancy	s	s	s	s	s	s
Business & Management	612	-9.2	-8.5	6.3	7.5	194
Sales & Marketing	162	-2.1	-2.5	5.9	0.8	212
Tourism	240	-4.5	-3.3	10.1	8.5	276
Office Studies	1818	-3.8	-4.0	6.4	5.5	163
Banking & Finance	s	s	s	s	s	s
Other Management & Commerce	21	3.6	8.2	6.8	15.5	549
Society and Culture						
Human Society	735	4.4	4.0	2.8	0.5	34
Human Welfare	273	-5.2	-4.7	16.2	8.2	267
Behavioural	s	s	s	s	s	s
Justice & Law Enforcement	s	s	s	s	s	s
Language & Literature	360	2.3	4.3	3.6	-0.2	-1
Philosophy & Religion	s	s	s	s	s	s
Sport & Recreation	159	-1.4	-0.8	0.7	3.2	-24
Other Society & Culture	90	3.2	1.6	9.6	-1.0	277
Creative Arts						
Performing Arts	30	15.7	16.3	-1.9	-6.5	-247
Visual Arts & Crafts	78	-9.5	-12.8	8.1	10.1	132
Graphic & Design	42	-5.2	-2.4	8.1	10.2	174
Communications & Media	45	-24.7	-20.2	19.8	26.9	969
Other Creative Arts	s	s	s	s	s	s
Food, Hospitality and Personal Services						
Food & Hospitality	396	-7.0	-6.5	10.8	8.5	267
Personal Services	228	-7.4	-7.5	3.8	2.4	-32
Other						
General Education	291	6.3	5.9	-4.2	-5.6	-119
Social Skills	798	5.7	6.9	-0.8	-2.3	-61
Employment Skills	1800	3.5	2.9	1.0	-0.5	-3

Notes: Numbers of participants have been randomly rounded to base 3. Estimates based on fewer than 20 students have been suppressed(s). Fields of study with no students have been omitted. Dollar figure are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 9: Estimated impacts 5 years after starting study by level and detailed field of highest qualification gained (continued)

Level 4 certificates	Number of participants	Percentage receiving main benefits 5 years later (percentage point impact)	Percentage receiving income support 5 years later (percentage point impact)	Percentage employed 5 years later (percentage point impact)	Percentage employed and independent 5 years later (percentage point impact)	Average monthly earnings 5 years later (dollar impact)
Natural and Physical Sciences						
Mathematics	s	s	s	s	s	s
Chemical Science	s	s	s	s	s	s
Biological Science	s	s	s	s	s	s
Information Technology						
Computer Science	36	1.6	-1.1	5.5	7.2	185
Information Systems	87	6.2	8.0	9.8	4.8	205
Other Information Technology	42	20.9	19.7	-1.4	-11.6	-103
Engineering						
Manufacturing Engineering	s	s	s	s	s	s
Automotive Engineering	s	s	s	s	s	s
Mechanical Engineering	33	-9.7	-10.9	14.6	17.1	718
Civil Engineering	s	s	s	s	s	s
Electrical Engineering	s	s	s	s	s	s
Aerospace Engineering	27	-8.2	-11.8	21.3	13.8	812
Maritime Engineering	s	-8.6	-2.6	27.5	19.5	853
Architecture and Building						
Architecture	s	s	s	s	s	s
Building	87	-18.1	-17.8	7.1	12.8	282
Agriculture and Environment						
Agriculture	s	s	s	s	s	s
Horticulture	51	-7.2	-7.2	2.1	-2.9	4
Forestry	s	-2.1	0.1	4.1	-0.8	142
Fisheries	s	s	s	s	s	s
Health						
Nursing	60	-7.3	-4.5	9.4	8.7	382
Veterinary	27	-24.3	-24.3	42.8	39.7	1005
Public Health	90	-13.7	-13.4	22.4	15.8	424
Rehabilitation	57	-4.4	-2.7	15.9	3.9	207
Complementary	s	s	s	s	s	s
Other Health	57	1.7	0.4	6.8	-2.0	173
Education						
Teacher Education	48	-8.7	-11.3	12.7	15.0	352
Education Studies	s	s	s	s	s	s
Other Education	180	-0.2	0.3	24.2	8.2	151
Management and Commerce						
Accountancy	27	-2.3	-2.3	8.3	8.1	305
Business & Management	450	-5.8	-4.0	3.8	1.6	11
Sales & Marketing	33	-16.2	-16.2	10.3	10.3	584
Tourism	51	-16.0	-14.4	20.1	19.7	680
Office Studies	372	-10.4	-10.2	16.9	18.0	646
Other Management & Commerce	33	-14.2	-15.4	17.1	22.3	675
Society and Culture						
Human Society	57	19.7	21.4	5.3	-5.6	-207
Human Welfare	429	-7.5	-6.8	13.2	9.4	288
Behavioural	s	s	s	s	s	s
Language & Literature	861	-3.1	-2.2	7.7	4.7	127
Philosophy & Religion	21	-0.5	0.5	10.8	10.8	154
Sport & Recreation	84	-4.6	-3.3	2.2	4.2	125
Other Society & Culture	33	-1.7	-1.7	0.9	-5.7	35
Creative Arts						
Performing Arts	48	-5.5	-5.5	11.4	4.2	96
Visual Arts & Crafts	177	3.4	4.5	-5.8	-1.9	-136
Graphic & Design	48	-3.3	-0.3	-1.0	8.2	-37
Communication & Media	45	2.1	6.1	9.3	2.1	69
Other Creative Arts	s	s	s	s	s	s
Food, Hospitality and Personal Services						
Food & Hospitality	81	-9.9	-5.2	8.7	5.3	167
Personal Services	186	-6.9	-5.9	2.1	3.8	103
Other						
General Education	42	-8.9	-10.2	12.3	13.8	276

Notes: Numbers of participants have been randomly rounded to base 3. Estimates based on fewer than 20 students have been suppressed(s). Fields of study with no students have been omitted. Dollar figure are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 9: Estimated impacts 5 years after starting study by level and detailed field of highest qualification gained (continued)

Diploma	Number of participants	Percentage receiving main benefits 5 years later (percentage point impact)	Percentage receiving income support 5 years later (percentage point impact)	Percentage employed 5 years later (percentage point impact)	Percentage employed and independent 5 years later (percentage point impact)	Average monthly earnings 5 years later (dollar impact)
Natural and Physical Sciences						
Earth Science	s	s	s	s	s	s
Biological Science	s	s	s	s	s	s
Information Technology						
Computer Science	117	-9.1	-7.4	13.2	13.6	587
Information Systems	111	-2.8	-1.7	11.8	13.5	495
Other Information Technology	s	s	s	s	s	s
Engineering						
Manufacturing Engineering	s	s	s	s	s	s
Automotive Engineering	s	s	s	s	s	s
Mechanical Engineering	s	s	s	s	s	s
Civil Engineering	s	s	s	s	s	s
Electrical Engineering	s	s	s	s	s	s
Maritime Engineering	s	s	s	s	s	s
Other Engineering	s	s	s	s	s	s
Architecture and Building						
Architecture	s	s	s	s	s	s
Building	s	s	s	s	s	s
Agriculture and Environment						
Agriculture	s	s	s	s	s	s
Horticulture	s	s	s	s	s	s
Forestry	s	s	s	s	s	s
Fisheries	s	s	s	s	s	s
Environmental	s	s	s	s	s	s
Other Agriculture	s	s	s	s	s	s
Health						
Medical	s	s	s	s	s	s
Nursing	s	s	s	s	s	s
Dental	s	s	s	s	s	s
Veterinary	27	-1.3	2.6	24.7	22.1	545
Public Health	24	-6.7	-5.3	14.4	14.0	334
Rehabilitation	47	-13.8	-9.3	-0.5	0.1	98
Complementary	69	-0.5	-1.2	-11.3	-9.5	-306
Other Health	24	-19.9	-15.7	-3.1	1.0	34
Education						
Teacher Education	348	-23.4	-23.0	32.6	32.3	1127
Education Studies	s	s	s	s	s	s
Other Education	s	s	s	s	s	s
Management and Commerce						
Accountancy	30	0.9	0.9	21.1	15.1	480
Business & Management	108	-5.8	-5.4	12.8	9.5	500
Sales & Marketing	21	-19.4	-19.4	13.8	12.2	176
Tourism	s	s	s	s	s	s
Office Studies	21	-11.0	-11.9	12.9	11.0	544
Banking & Finance	s	s	s	s	s	s
Other Management & Commerce	s	s	s	s	s	s
Society and Culture						
Human Society	132	-6.8	-7.5	1.7	4.0	126
Human Welfare	195	-16.5	-15.6	24.4	25.2	1005
Behavioural	s	s	s	s	s	s
Law	s	s	s	s	s	s
Justice & Law Enforcement	s	s	s	s	s	s
Librarianship	s	s	s	s	s	s
Language & Literature	168	-3.3	-3.3	3.8	3.1	72
Philosophy & Religion	24	-11.9	-11.0	21.2	22.0	505
Economics	s	s	s	s	s	s
Sport & Recreation	45	-8.6	-9.4	20.8	6.7	343
Other Society & Culture	24	12.3	11.4	-3.9	2.3	298
Creative Arts						
Performing Arts	54	5.1	5.5	11.6	-0.3	149
Visual Arts & Crafts	189	0.0	0.7	-3.3	-1.6	-208
Graphic & Design	90	-1.4	-3.3	7.1	4.5	285
Communication & Media	87	-5.8	-4.4	2.8	3.6	75
Other Creative Arts	s	s	s	s	s	s
Food, Hospitality and Personal Services						
Food & Hospitality	24	-15.2	-15.2	31.6	14.4	595
Personal Services	96	-18.2	-19.3	10.0	10.5	195

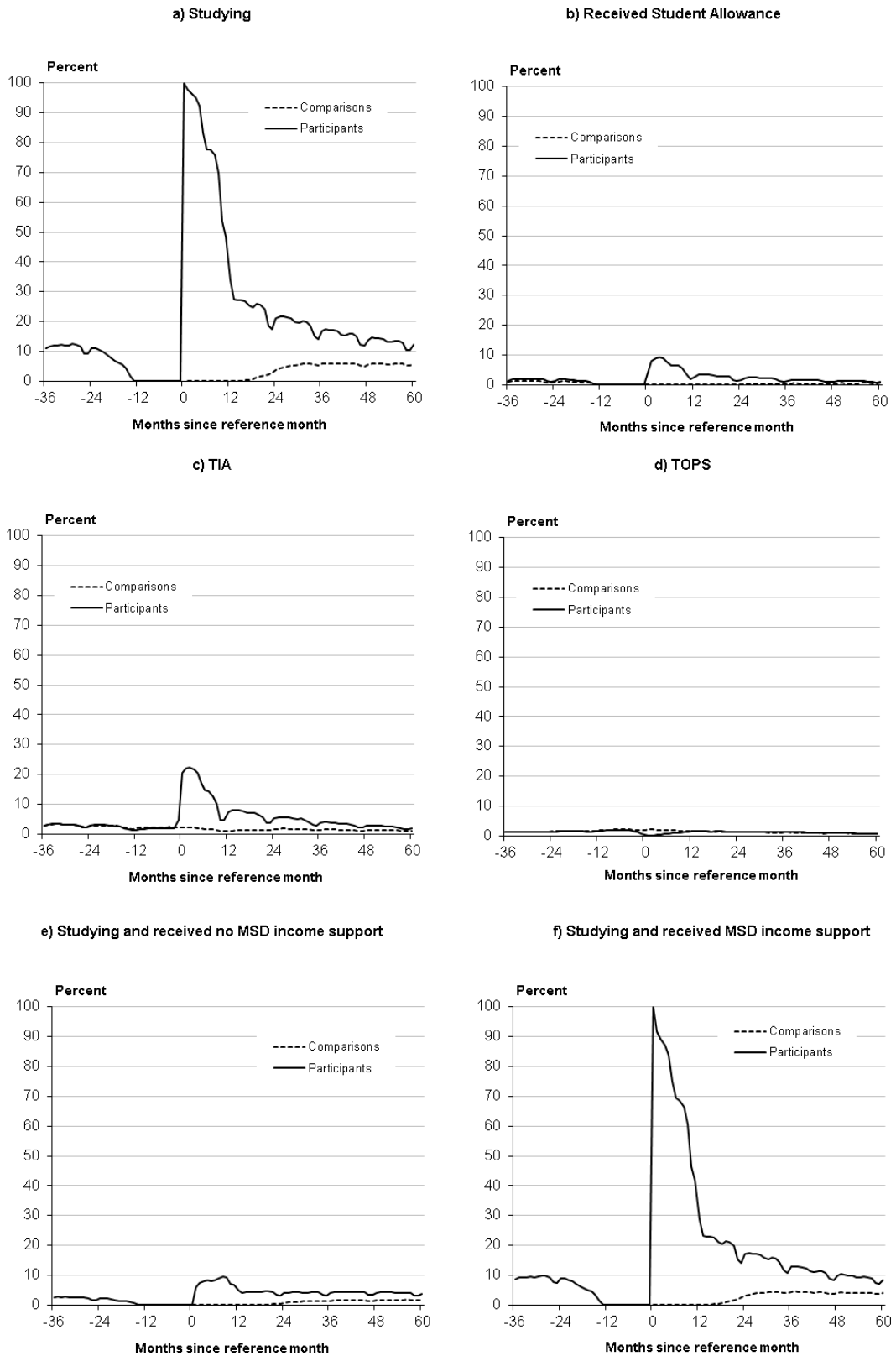
Notes: Numbers of participants have been randomly rounded to base 3. Estimates based on fewer than 20 students have been suppressed(s). Fields of study with no students have been omitted. Dollar figure are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Table 9: Estimated impacts 5 years after starting study by level and detailed field of highest qualification gained (continued)

Degree	Number of participants	Percentage receiving main benefits 5 years later (percentage point impact)	Percentage receiving income support 5 years later (percentage point impact)	Percentage employed 5 years later (percentage point impact)	Percentage employed and independent 5 years later (percentage point impact)	Average monthly earnings 5 years later (dollar impact)
Natural and Physical Sciences						
Mathematics	s	s	s	s	s	s
Physics	s	s	s	s	s	s
Chemical Science	s	s	s	s	s	s
Earth Science	s	s	s	s	s	s
Biological Science	24	-8.7	7.8	-7.1	-1.3	179
Other Sciences	s	s	s	s	s	s
Information Technology						
Computer Science	s	s	s	s	s	s
Information Systems	24	-16.7	-17.6	26.3	26.5	1171
Other Information Technology	s	s	s	s	s	s
Engineering						
Mechanical Engineering	s	s	s	s	s	s
Civil Engineering	s	s	s	s	s	s
Geomatic Engineering	s	s	s	s	s	s
Electrical Engineering	s	s	s	s	s	s
Architecture and Building						
Architecture	s	s	s	s	s	s
Building	s	s	s	s	s	s
Agriculture and Environment						
Horticulture	s	s	s	s	s	s
Forestry	s	s	s	s	s	s
Environmental	s	s	s	s	s	s
Health						
Nursing	228	-17.6	-17.9	23.9	28.8	1519
Pharmacy	s	s	s	s	s	s
Dental	s	s	s	s	s	s
Veterinary	s	s	s	s	s	s
Public Health	30	-32.4	-32.4	34.3	37.6	1376
Radiography	s	s	s	s	s	s
Rehabilitation	s	s	s	s	s	s
Other Health	s	s	s	s	s	s
Education						
Teacher Education	540	-26.7	-25.7	32.4	35.6	1563
Education Studies	48	-10.6	-8.9	35.9	22.2	971
Other Education	s	s	s	s	s	s
Management and Commerce						
Accountancy	21	7.9	3.1	-9.5	5.7	258
Business & Management	51	-7.0	-5.5	6.3	4.8	301
Sales & Marketing	24	-23.2	-19.0	4.9	15.3	739
Tourism	s	s	s	s	s	s
Office Studies	s	s	s	s	s	s
Banking & Finance	s	s	s	s	s	s
Other Management & Commerce	s	s	s	s	s	s
Society and Culture						
Political Science & Policy Studies	s	s	s	s	s	s
Human Society	69	-0.6	-0.6	0.3	-1.2	62
Human Welfare	162	-10.8	-9.0	20.3	20.0	842
Behavioural	42	-8.3	-4.0	13.1	18.3	684
Law	s	s	s	s	s	s
Justice & Law Enforcement	s	s	s	s	s	s
Librarianship	s	s	s	s	s	s
Language & Literature	63	2.8	5.3	6.9	4.8	294
Philosophy & Religion	27	-1.4	2.4	10.8	-1.8	92
Economics	s	s	s	s	s	s
Sport & Recreation	s	s	s	s	s	s
Other Society & Culture	21	4.9	3.9	14.3	10.0	132
Creative Arts						
Performing Arts	39	11.3	13.9	17.3	5.8	235
Visual Arts & Crafts	78	-0.6	0.1	-8.0	-4.3	-133
Graphic & Design	39	-18.6	-14.0	-0.9	6.8	301
Communication & Media	60	1.7	6.0	-7.5	-1.2	-17
Other Creative Arts	s	s	s	s	s	s

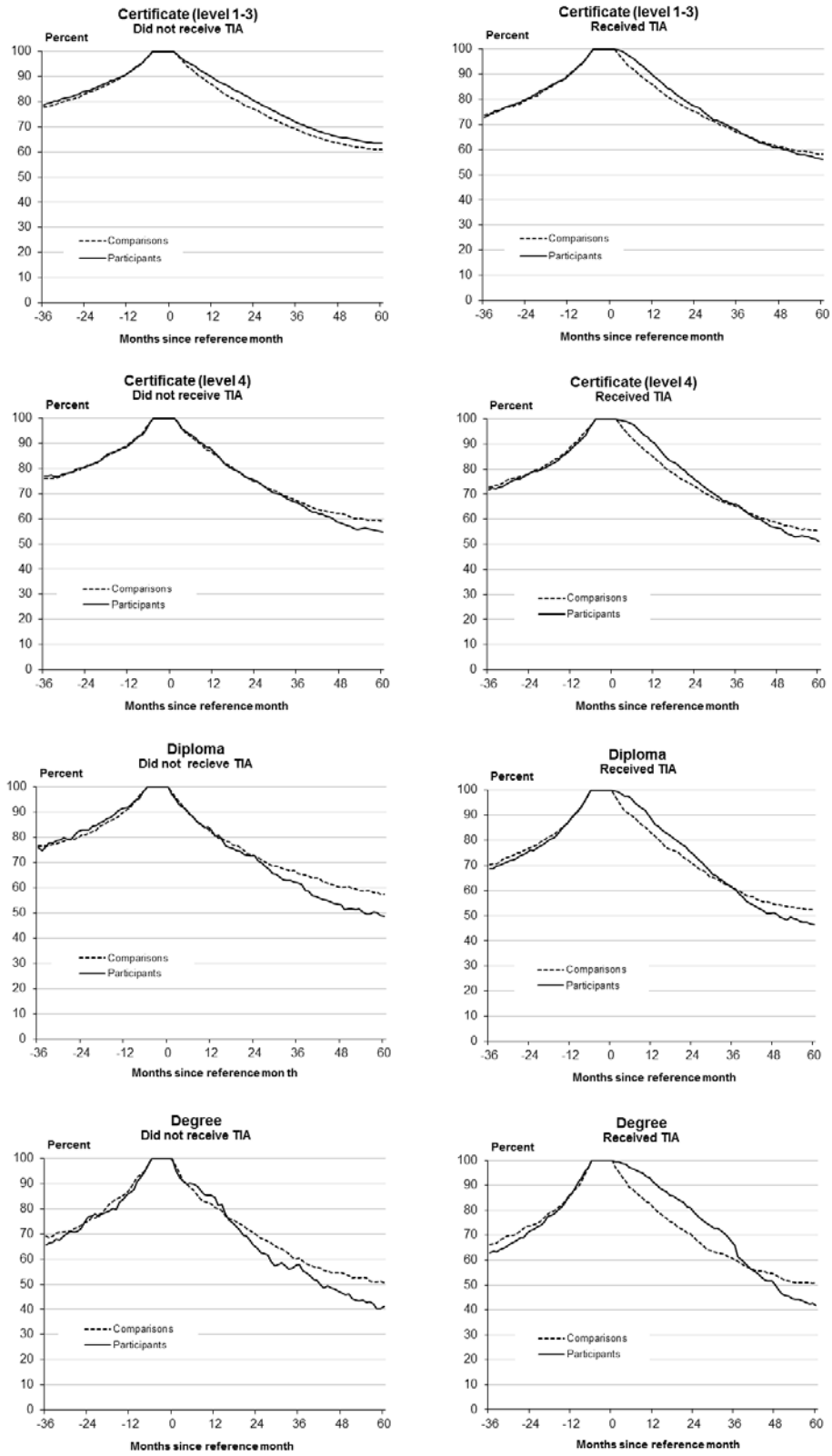
Notes: Numbers of participants have been randomly rounded to base 3. Estimates based on fewer than 20 students have been suppressed(s). Fields of study with no students have been omitted. Dollar figure are expressed in March 2010 dollars. Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Figure 1: Selected characteristics, participants and matched comparisons



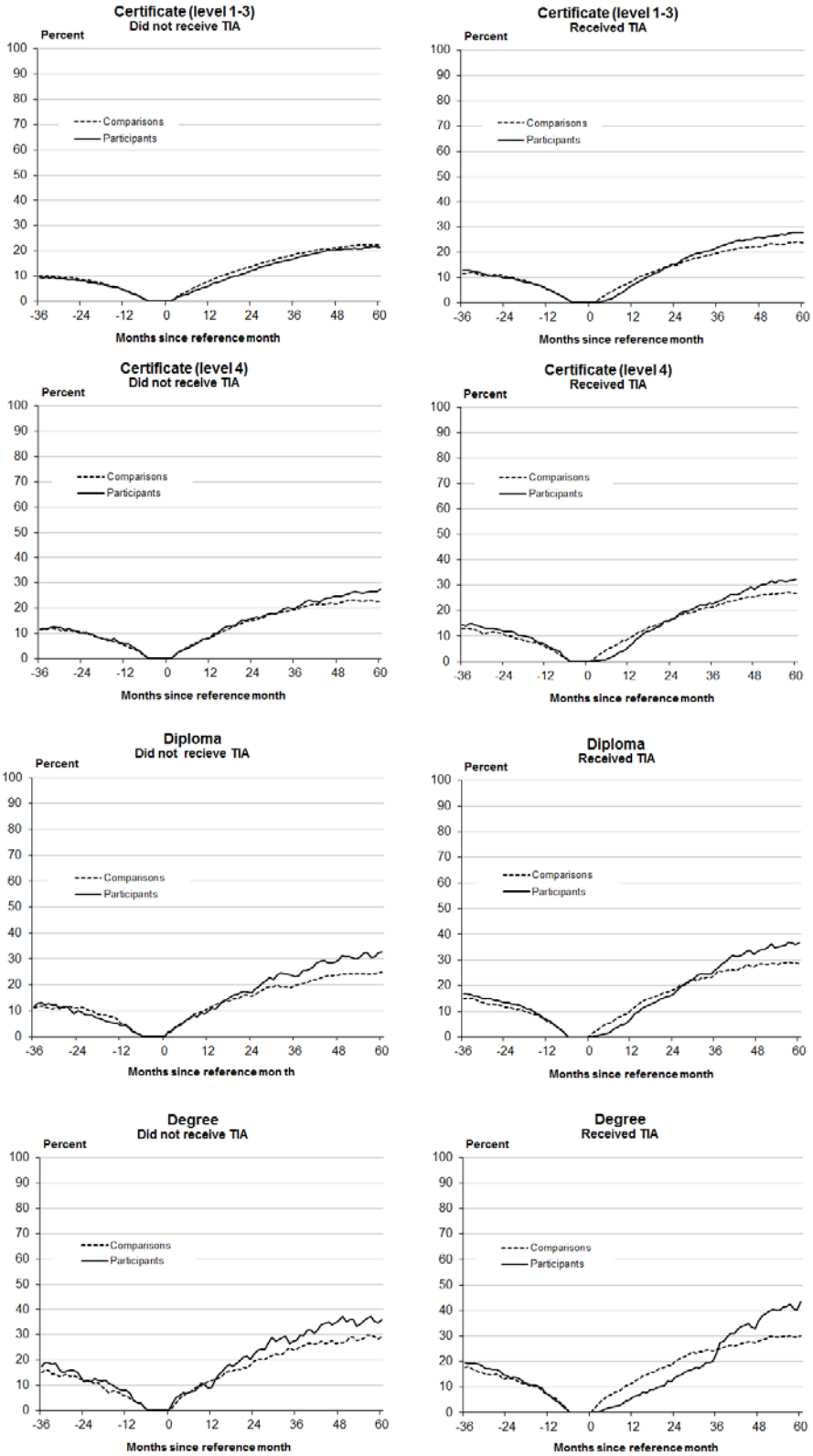
Note: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand

Appendix Figure 2: Percentage receiving income support by level of study, receipt of Training Incentive Allowance, Domestic Purposes Benefit recipients and matched comparisons



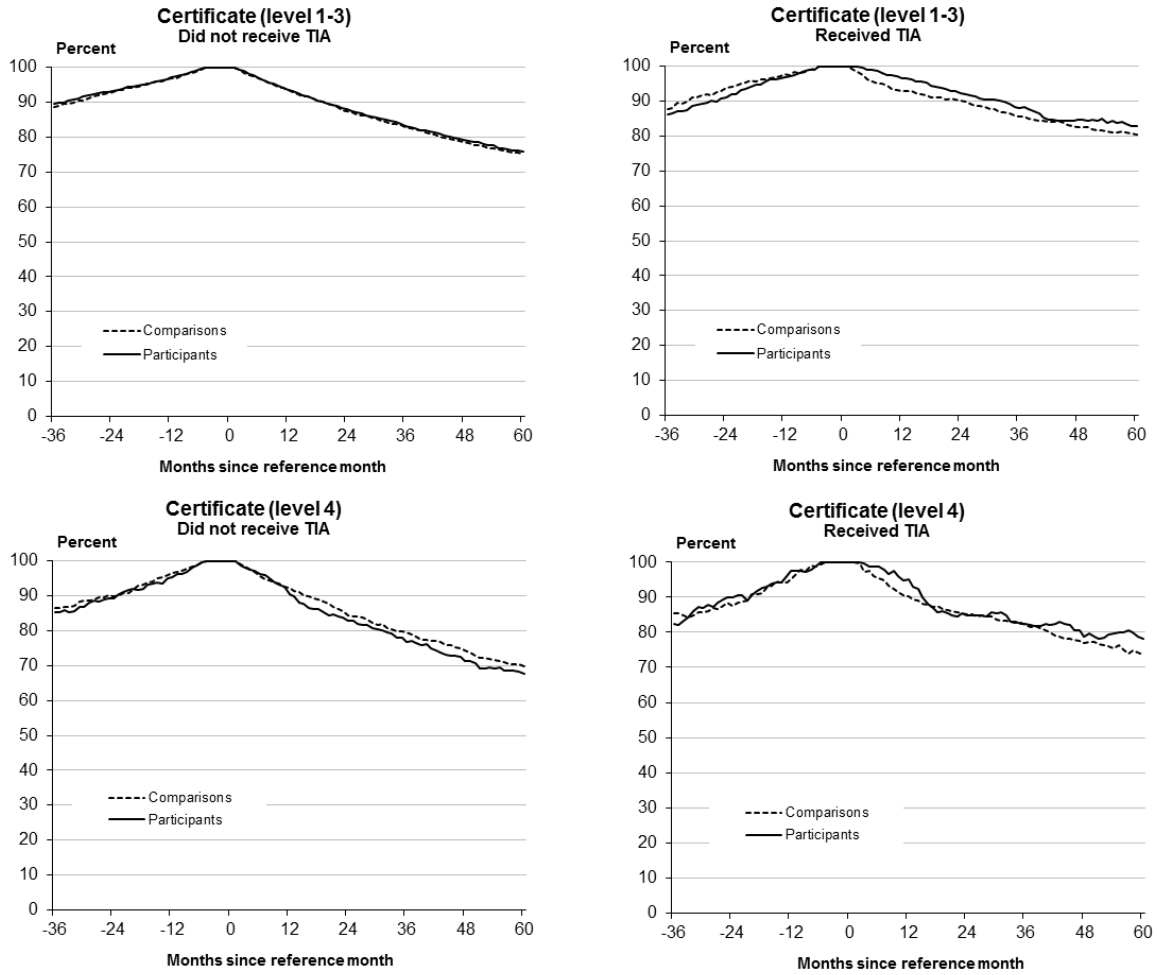
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Figure 3: Percentage employed and independent of income support by level of study, receipt of Training Incentive Allowance, Domestic Purposes Benefit recipients and matched comparisons



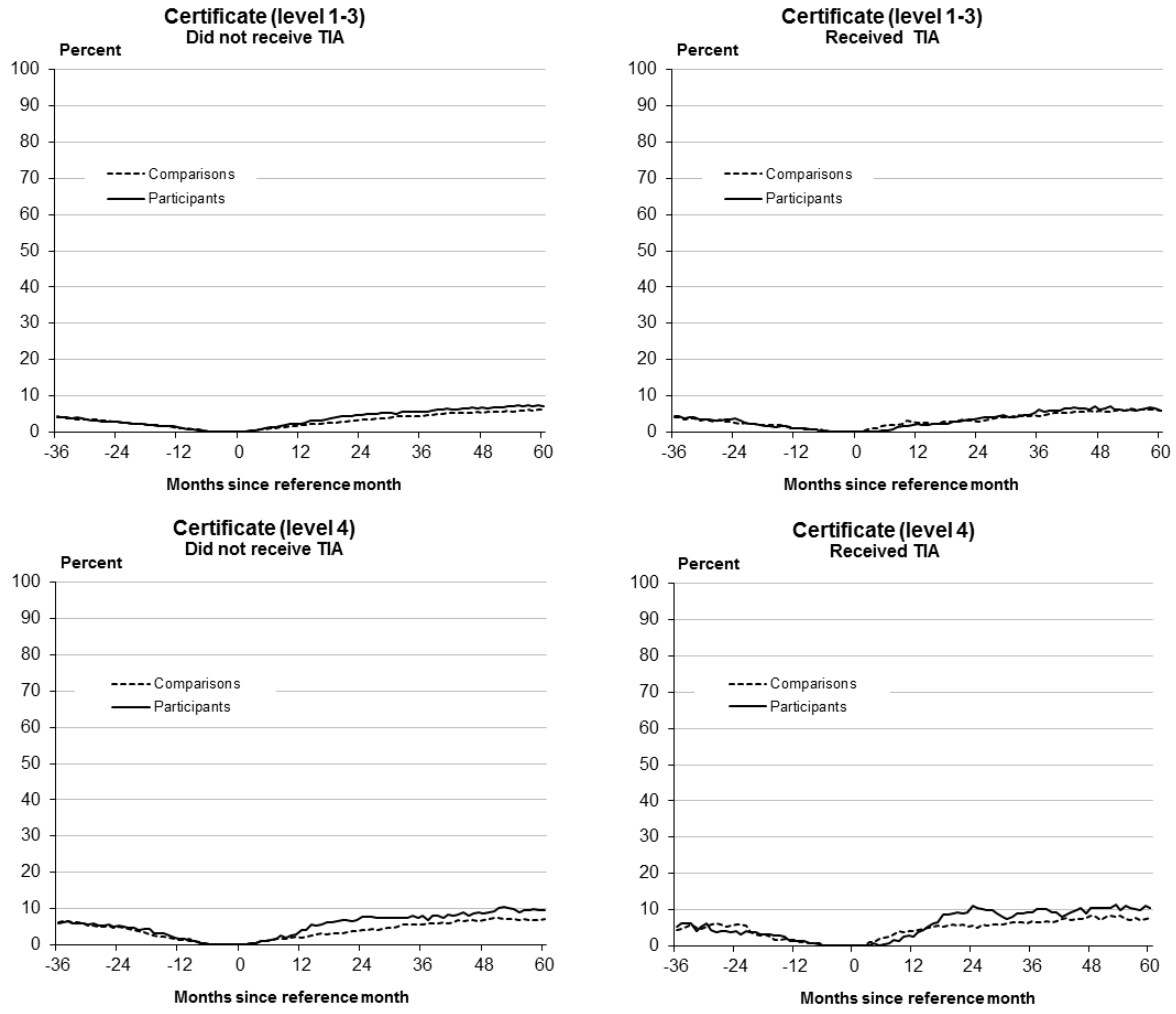
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Figure 4: Percentage in receipt of income support by level of study, receipt of Training Incentive Allowance, Invalid's Benefit recipients and matched comparisons



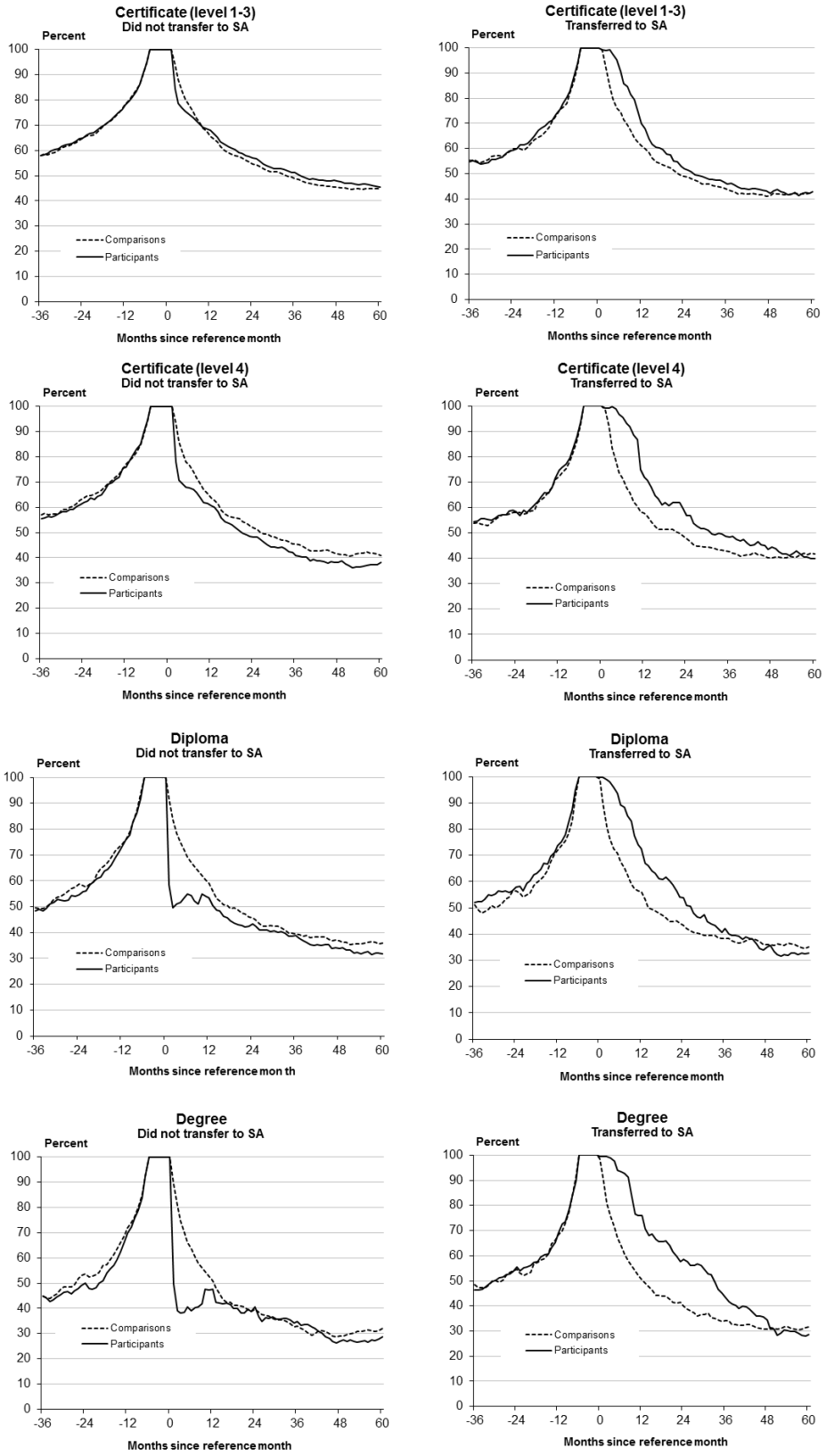
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Figure 5: Percentage employed and independent of income support, receipt of Training Incentive Allowance, Invalid's Benefit recipients and matched comparisons



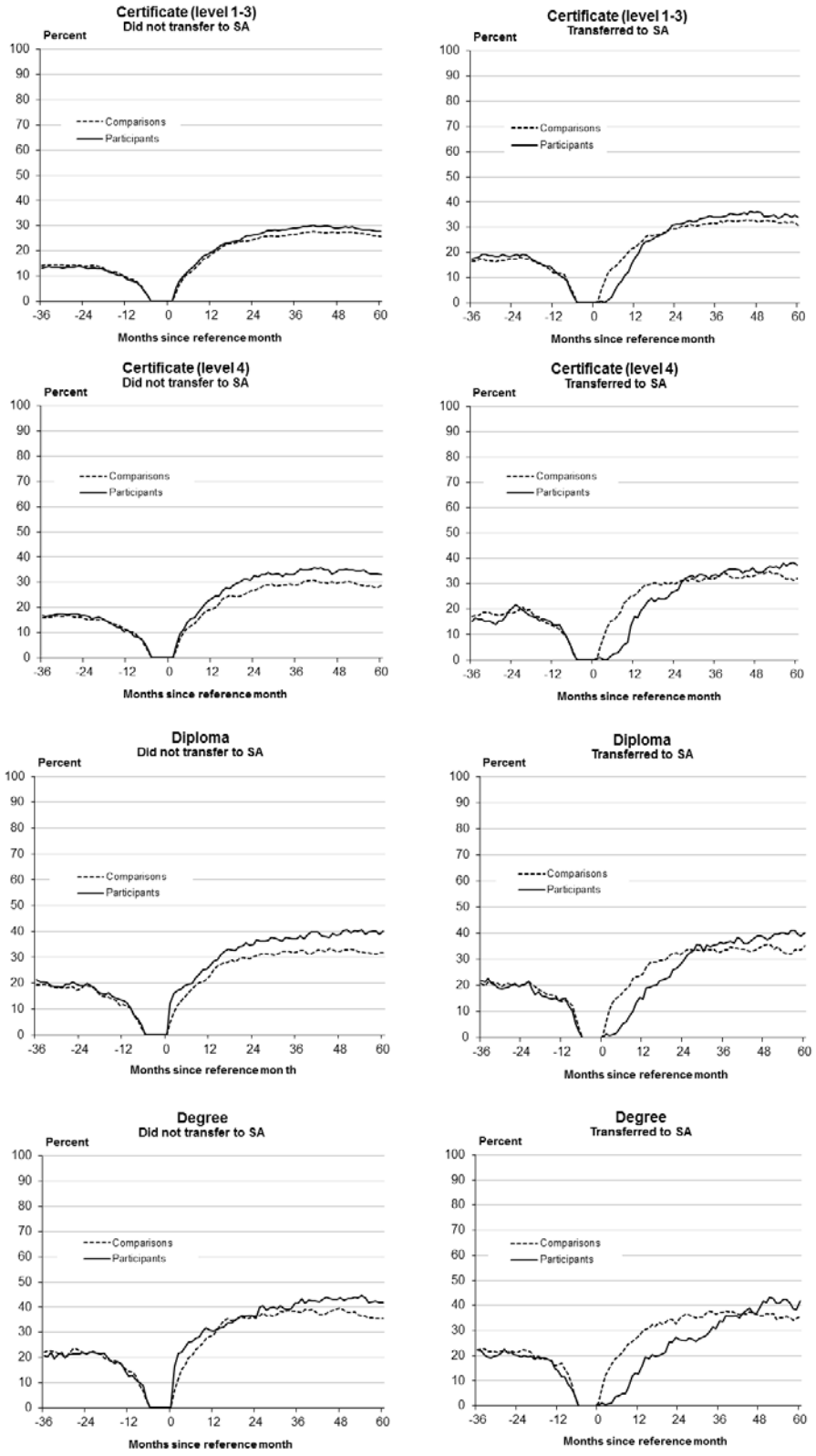
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Figure 6: Percentage in receipt of income support by level of study, receipt of Student Allowance, Unemployment Benefit recipients and matched comparisons



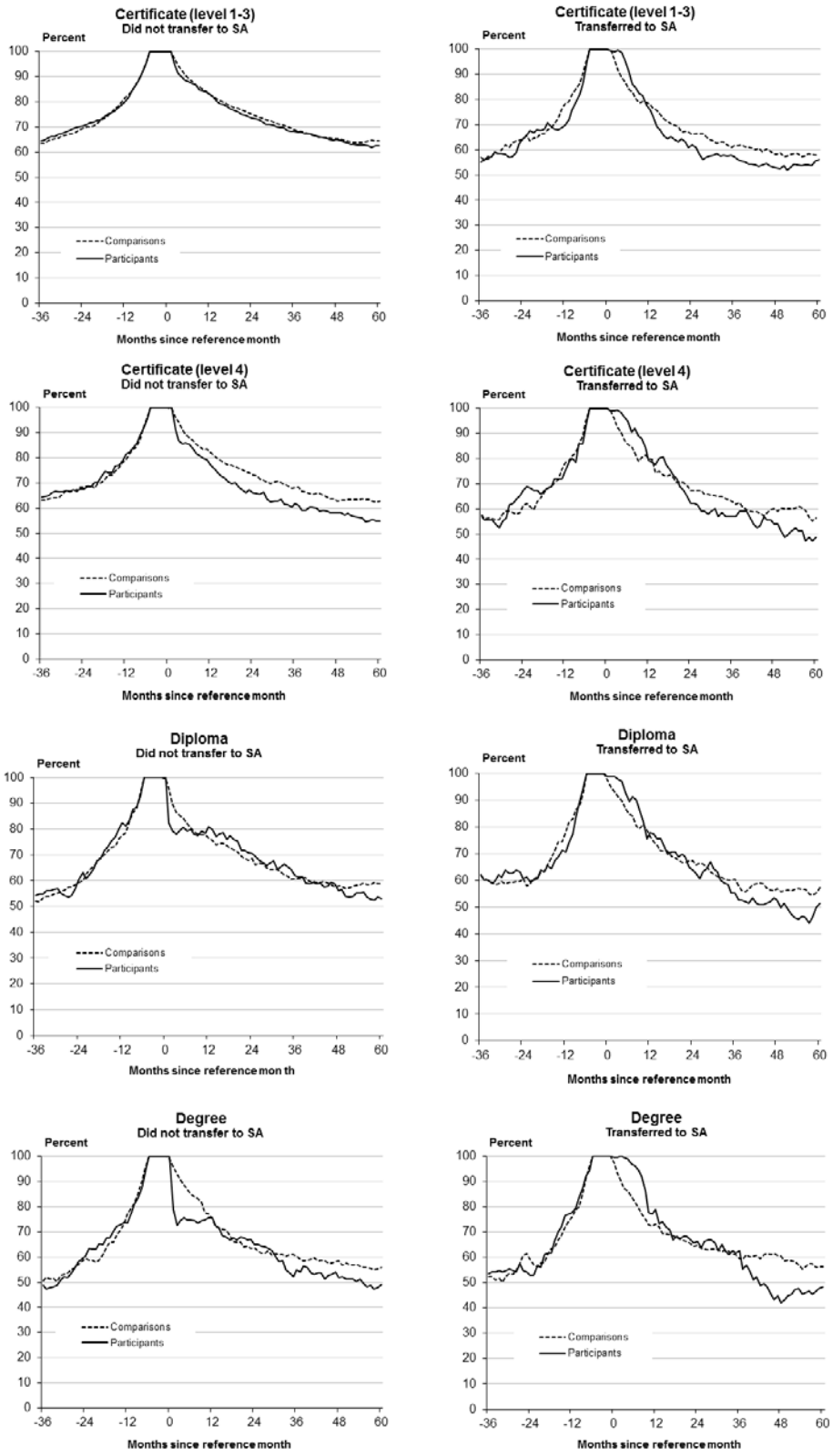
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Figure 7: Percentage employed and independent of income support, by level of study, receipt of Student Allowance, Unemployment Benefit recipients and matched comparisons



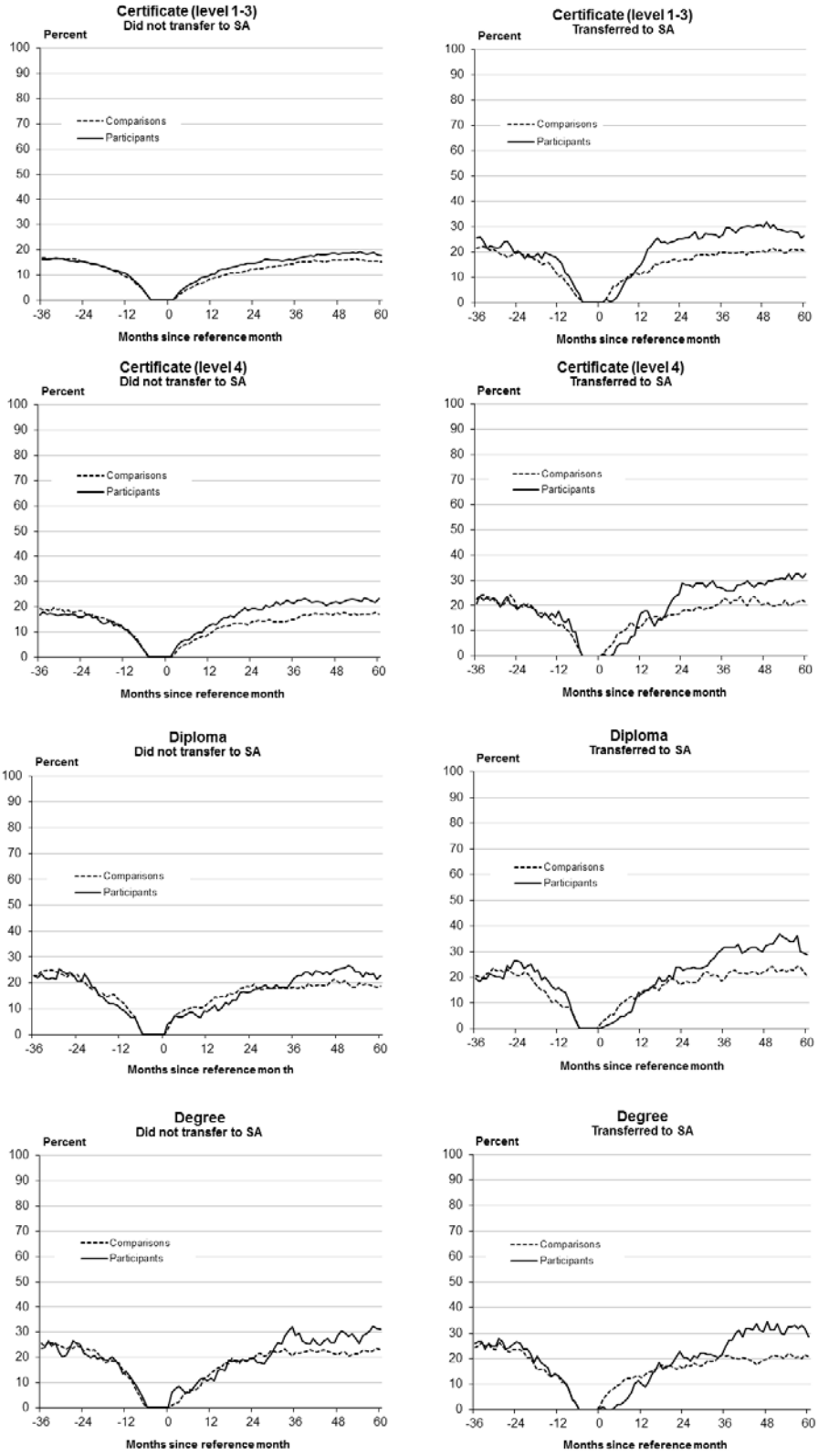
Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Figure 8: Percentage in receipt of income support by level of study, receipt of Student Allowance, Sickness Benefit recipients and matched comparisons



Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.

Appendix Figure 9: Percentage employed and independent of income support by level of study, receipt of Student Allowance, Sickness Benefit recipients and matched comparisons



Notes: Figures have been derived from the Integrated Data Infrastructure (IDI) prototype managed by Statistics New Zealand.