



MINISTRY OF EDUCATION
TE TĀHUHU O TE MĀTAURANGA

How does New Zealand's education system compare?

OECD's Education at a Glance 2015



Author

Simon Crossan

Email: simon.crossan@education.govt.nz

Telephone: 04-463 8260

The author gratefully acknowledges comments provided by David Scott from the Ministry of Education.

Published by

Evidence, Data & Knowledge

MINISTRY OF EDUCATION

© Crown Copyright

This work is licensed under the Creative Commons Attribution 3.0 New Zealand licence. You are free to copy, distribute and adapt the work, as long as you attribute the work to the copyright holder and abide by the other licence terms. To view a copy of this licence, visit www.creativecommons.org/licenses/by/3.0/nz/

November 2015

ISSN 2463-3747

NEW ZEALAND'S EDUCATION SYSTEM AT A GLANCE

Early Childhood Education (ECE) and Schooling

- *New Zealand continues to perform well on ECE indicators – participation, funding and teacher-child ratios are all in the top third of countries and well above OECD averages.*
- *Enrolment rates for 15 to 19 year-olds are still in the bottom half of OECD countries, but are now closer to the median than they were five years ago.*
- *Compared with other countries, young New Zealanders are more likely to leave school sooner, and work, or go on to further education, or enter further education when they're older.*
- *The level of young New Zealanders not in employment, education or training (NEET) in 2014 has improved and is now at 2008 pre-recession levels. This improvement has been ahead of many other OECD countries over this period and NEET rates for 15 to 19 year-olds are now closer to the OECD average.*
- *New Zealand spends less per student than the OECD average, but relative to national wealth, public expenditure on education as a percentage of GDP is high, as is public expenditure on tertiary education as a percentage of total public spending.*
- *There are 16 full-time equivalent children per full-time equivalent primary teacher and 15 per full-time equivalent secondary teacher, both slightly higher than their respective OECD averages.*
- *Teachers with 15 years experience earn about the same as equivalent qualified adults. Teacher statutory salaries increase faster than the OECD average, but reach a maximum which is lower than the average maximum in other OECD countries.*
- *New Zealand teachers have longer statutory hours than the average statutory hours of their OECD counterparts.*
- *New Zealand school teachers are older on average and the proportion of teachers over 50 years old has been increasing.*
- *New Zealand has a low ratio of students to computers and our 15 year-olds accessed the internet sooner than many other OECD countries. New Zealand 15 year-olds spent about the same amount of time using computers at school as the OECD average.*

Tertiary and international education and the post-study outcomes of education

- *The proportion of New Zealand adults with a degree or above (at 30%) is just above the OECD average. The proportion with a level 4 qualification or higher (at 52%) is one of the highest.*
- *Female attainment now exceeds that of males in the majority of OECD countries, and in New Zealand this difference is one of the largest.*
- *New Zealand has above average levels of participation at core tertiary ages (18 to 20) and relatively very high tertiary participation at older ages (30 and over). Participation in vocational programmes, especially at level 4 is also very high, as are levels of part-time study.*
- *New Zealand students are more likely to enter science, mathematics and computing programmes than students in other OECD countries, but are less likely to enter engineering, manufacturing and construction programmes.*
- *Public investment in tertiary education is high, but more of it goes to students as loans and grants than as direct funding to institutions than it does in other countries. Public expenditure on tertiary education as a percentage of GDP is high, as is public expenditure on tertiary education as a percentage of total public spending.*
- *At degree level, New Zealand has more students per teacher on average, and more women teaching.*
- *International students remain a key feature of New Zealand's education system. New Zealand has one of the largest proportions of tertiary students who are international students, especially at doctoral level where 43% of students were international students.*
- *The employment rate and earnings increase with education, as with all countries in the OECD, but the relative benefits between the least and most educated are smaller in New Zealand.*
- *A range of social indicators are positively associated with higher levels of education across OECD countries, including self-reported health, volunteering, trust and political efficacy.*

INTRODUCTION

Every year, the Organisation for Economic Cooperation and Development (OECD) publishes *Education at a Glance* (EAG), a set of indicators that compares the education systems of 34 member countries, and other participating partner and G20 countries. The indicators within *Education at a Glance* are considered to "reflect a consensus among professionals on how to measure the current state of education internationally", and are a key reference for assessing New Zealand's education system in an international context.

This is the 23rd edition of *Education at a Glance*. This year's report reflects 2014 data on attainment and labour market indicators, and 2013 data for other non-financial indicators. Financial indicators are for 2012 data (which for New Zealand is the 2012/13 financial year). The report includes over 400 country comparison tables and graphs covering 31 education system indicators including:

- Educational attainment in the population
- Participation and achievement
- Expenditure on education
- Transitions from school to work
- Employment and earnings, and returns on educational investment
- Social outcomes of education
- International education
- Staffing: teacher to student ratios, salaries and demographics
- Public versus private education
- Student financial support and tertiary tuition fees
- What evaluation and assessment mechanisms are there in the schools
- How early childhood systems differ around the world
- Information and Communication Technology (ICT) used in teaching and learning.

The last indicator uses New Zealand results from the *Teaching and Learning International Survey* (TALIS). The focus is on information and communication technology (ICT) use by students and the participation of teachers in professional development activities about ICT and new technologies in the workplace.

The indicator also draws on New Zealand PISA 2012 data looking at students internet use, the number of computers for each student and gender gaps in digital and print reading.

Education at a Glance uses the *International Standard Classification of Education* (ISCED) as the common standard for comparing levels of education across countries. ISCED was updated in 2011, and EAG 2015 reflects this standard. The main changes see the introduction of early childhood educational development programmes (ECE for under threes), the introduction of home-based provision into ECE levels and the splitting of bachelor's and master's degrees into two separate levels.

This summary presents highlights in relation to New Zealand. Readers are encouraged to check out the full report. The report, and all tables and graphs, are available online. Over 140 tables are only available online at <http://www.oecd.org/education/eag.htm>.

The OECD GPS and OECD.stat are useful resources enabling further comparisons of New Zealand with specific countries and indicators. These are available at <http://gpseducation.oecd.org/> and <http://stats.oecd.org/> respectively.

EARLY CHILDHOOD EDUCATION

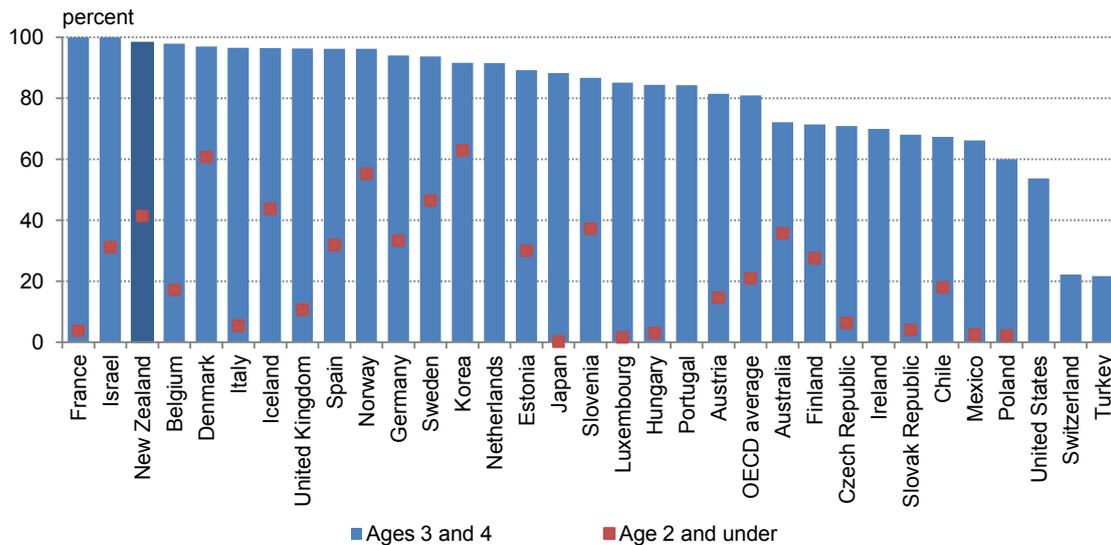
The *International Standard Classification of Education (ISCED) 2011*, introduced for the first time into EAG 2015, has two key changes at ECE level. The introduction of 'early childhood educational development programmes' brings ECE for very young children into scope, alongside existing 'pre-primary education' for older children. The distinction between these two ECE levels is typically operationalised by age, with pre-primary relating to ECE at ages 3 and above. The new ISCED changes also now include formal home-based ECE provision. Both these changes have a noticeable impact on New Zealand's results. Consequently, New Zealand's results in EAG 2015 (based on ISCED 2011) can no longer be compared with those in EAG 2014 (based on ISCED 1997).

New Zealand has relatively high participation in early childhood education

New Zealand has relatively high participation in ECE. It is one of 12 countries where over 95% of 4 year-olds are enrolled in pre-primary education and one of 13 countries where over 90% of 3 year-olds are enrolled in ECE. Participation at younger ages is also relatively high, although data on participation at these younger ages is reported for less than half of OECD countries¹.

The introduction of formal *home-based* ECE into the international standard means the results from EAG 2015 are not comparable with those in previous editions of EAG.

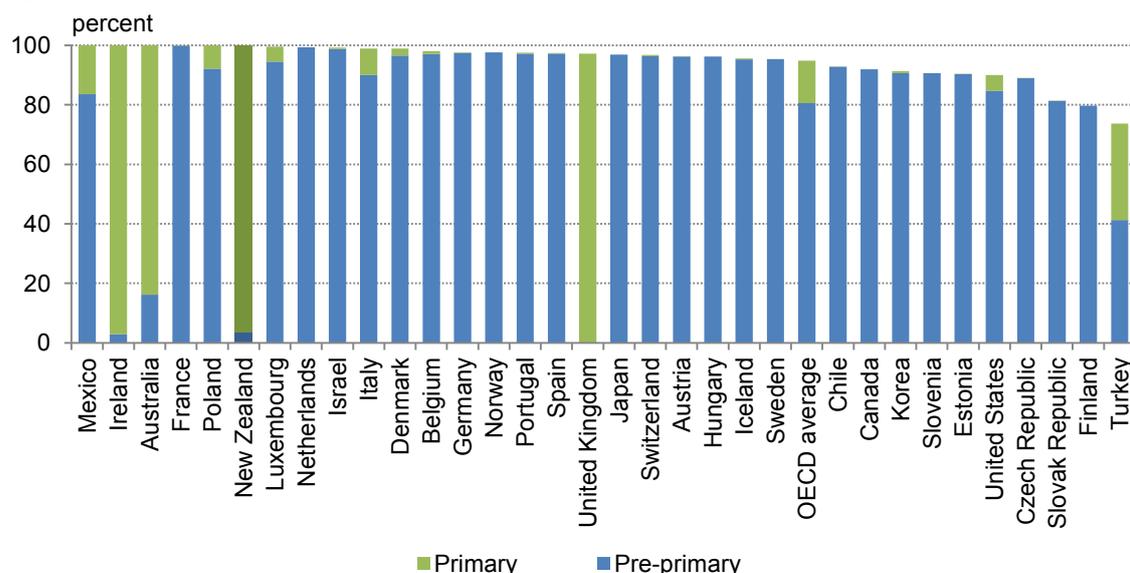
Figure 1 Enrolment rates in early childhood education (2013)



While participation in schooling is compulsory from age 6, most children in New Zealand start at age 5. New Zealand is one of a small group of countries where primary schooling starts at age 5. In most countries ECE continues at age 5, whereas in New Zealand, less than 4% of 5 year-olds are enrolled in ECE.

¹ Results for New Zealand are inflated to some extent by double counting of children who are enrolled in more than one ECE service. When adjusted for this New Zealand level of ECE participation is still in the top third of OECD countries.

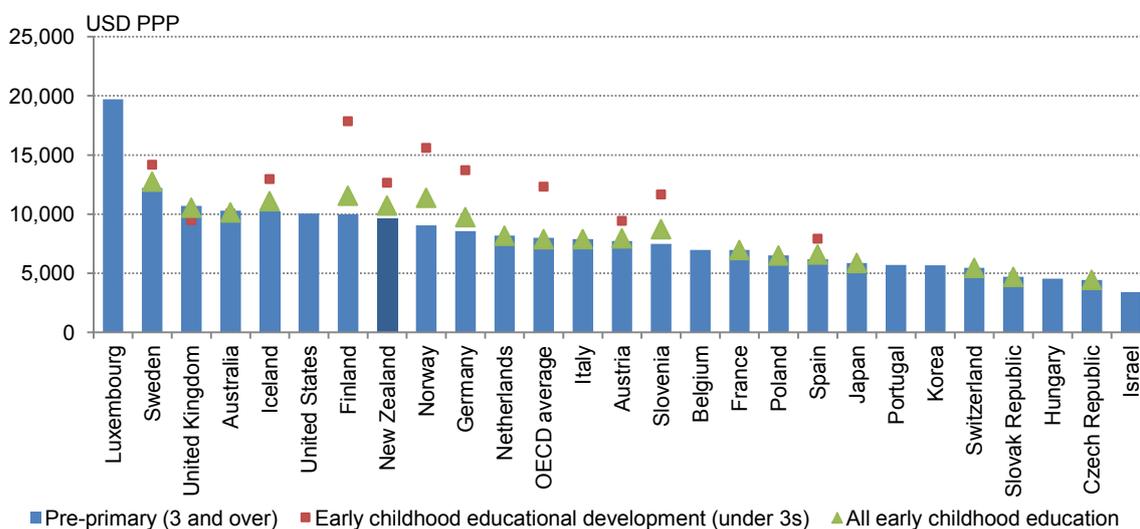
Figure 2 Enrolment rates in of 5 year-olds in education (2013)



Many countries' investment in ECE lasts an extra year compared with New Zealand; however New Zealand's investment in ECE is still high

New Zealand's investment in ECE is relatively large. Total ECE expenditure per child from public and private sources is in the top third of countries at the pre-primary level (ages 3 and above). Data on investment at earlier ages (the new 'early childhood educational development' level) was reported by 11 countries.

Figure 3 Annual expenditure per child in early-childhood education institutions (2012)



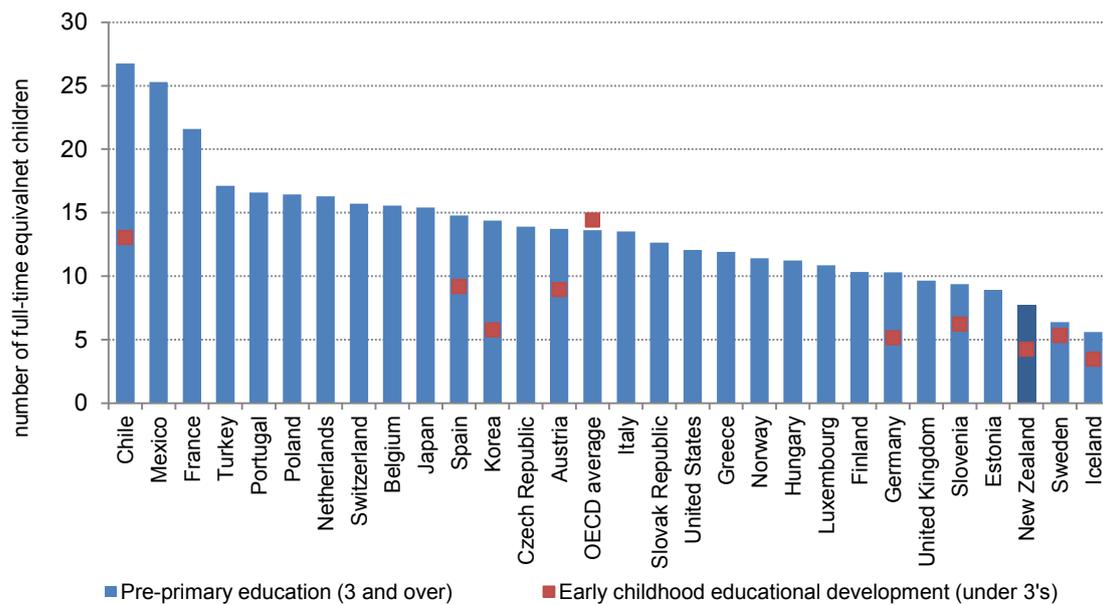
Relative to the domestic economy, public and private spending by ECE institutions at the pre-primary level is 0.6% of GDP, the same as the OECD average. This comparison reflects the fact that most 5 year-olds are in primary school in New Zealand, whereas they are part of the ECE system in most other countries.

The public share of expenditure on pre-primary ECE is also relatively high at 87%, above the OECD average of 80%. Twenty-one countries reported data for this indicator, with the median proportion being 83%.

The ratio of ECE children to teachers is low in New Zealand

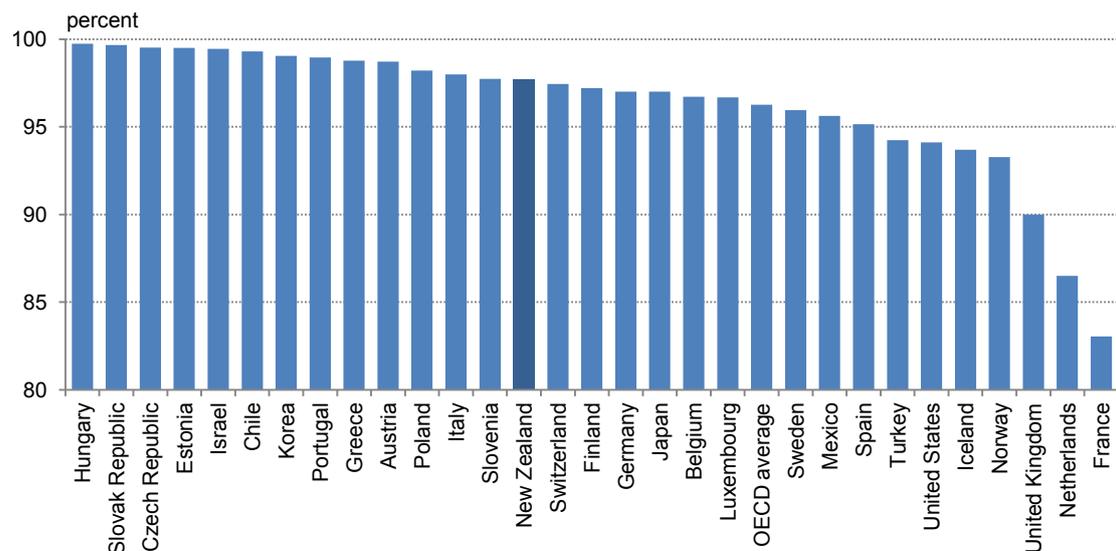
In New Zealand, maximum child-teacher ratios are regulated. In actual terms, New Zealand has the third lowest ratios of children to teachers in ECE. On average there are 4.2 children per teaching staff member in early childhood educational development programmes (under 3 years old), and 7.7 children per teaching staff member at pre-primary (3 and over), compared to 14.4 children per teaching staff member at both levels across the OECD².

Figure 4 Ratio of full-time equivalent children to teaching staff in early childhood education (2013)



In all OECD countries, early childhood teachers are more likely to be female. In New Zealand, 98% of teachers are female, compared to 96% on average across the OECD. All countries, apart from the Netherlands and France had rates over 90%.

Figure 5 The percentage of pre-primary teaching staff who are female (2013)



² Note that ratios as reported in EAG are measured in full-time equivalent child and teacher terms. As such, they don't necessarily provide a true indicator of class or group size.

In New Zealand almost all early childhood education is delivered by private providers, with these providers receiving large subsidies from government. Across the OECD on average, 61% of ECE institutions are publicly owned and 24% receive some funding from the government. Independently funded private institutions make up the remaining 15%.

New Zealand is one of 25 OECD countries where integrated programmes are provided. Integrated programmes include both education and childcare components.

SCHOOLING

Upper secondary retention is improving, but is still lower than the OECD median

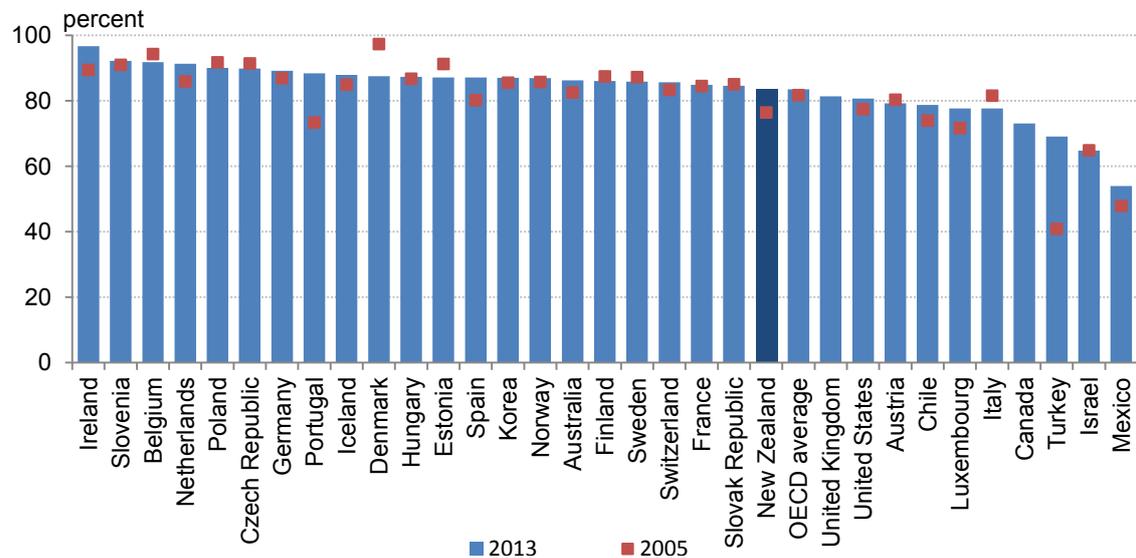
Education at a Glance uses the *International Standard Classification of Education* (ISCED) 2011. Primary education in ISCED covers Years 1 to 6, lower-secondary covers Years 7 to 10, and upper-secondary covers Years 11 to 13 including levels 1 to 3 post-secondary education.

While upper-secondary covers enrolment in all programmes at levels 1 to 3 on the New Zealand Qualification Framework, upper-secondary attainment only includes those with at least a Year 12 equivalent school qualification (i.e. at level 2 or above). People with Year 11 qualifications, such as NCEA Level 1, or other level 1 certificates, or those with the older School Certificate are included in the 'below upper-secondary' group.

In New Zealand, in 2013, 84% of 15 to 19 year-olds were enrolled in education. While this was the same as the OECD average, New Zealand is still placed in the bottom half of OECD countries, below the OECD median.

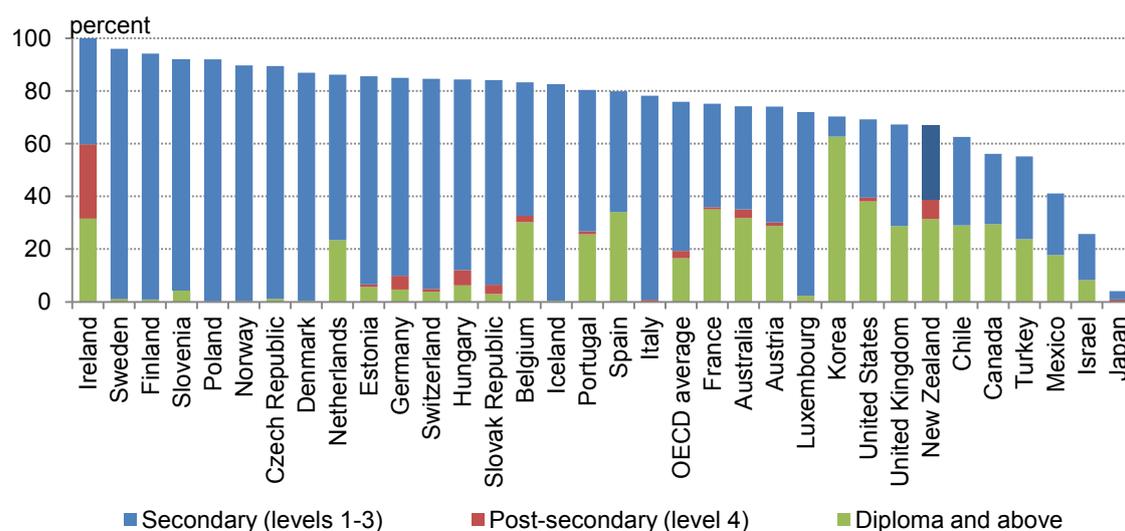
However, more of our 15 to 19 year-olds are staying in education past NCEA Level 1. The relative improvement has been ahead of that of other countries. The enrolment rate for 15 to 19 year-olds increased from 74% to 84% between 2008 and 2013 (and from 26th out of 29 countries to 22nd out of 32 countries), and this growth has been ahead of many other OECD countries over this period.

Figure 6 Enrolment rates of 15 to 19 year-olds in education (2005, 2013)



Enrolment rates for 17 to 20 year-olds in New Zealand in secondary education are below OECD averages. In New Zealand, students tend to leave school earlier to enter employment or post-secondary education. In New Zealand 3% of 17 year-olds and 31% of 18 year-olds were enrolled in tertiary education, compared to the OECD averages of 2 and 17% respectively. A similar pattern is also observed in Canada, the United States, the United Kingdom and Australia.

Figure 7 Percentage of 18 year-olds in education, by level (2013)



Upper secondary attainment remains below the OECD average

For 25 to 34 year-olds, 81% have at least an upper-secondary qualification, which is below the OECD average of 83%³. There was no difference in the rate between men and women in this age group.

In New Zealand, 74% of adults aged between 25 and 64 have at least an upper-secondary⁴ qualification as their highest achieved qualification level. This places New Zealand in the bottom half of countries and is lower than the OECD average of 76%.

The percentage of New Zealand men with at least upper-secondary attainment is 75%, compared to the OECD average of 77%. For New Zealand women, 73% have at least an upper-secondary qualification, which is below the OECD average of 76%.

In 2013, 78% of New Zealanders can expect to graduate with a general upper-secondary education, this is higher than the OECD average of 52%. This indicator however, has a number of issues⁵.

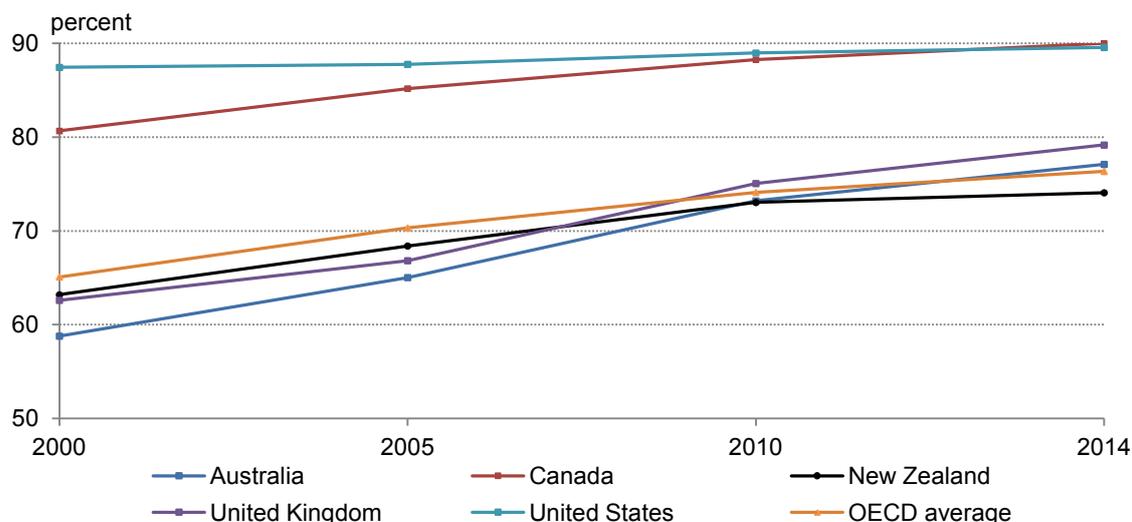
Since 2000, New Zealand's educational attainment for those with at least an upper-secondary education has grown and has been tracking just below the OECD average over the same period. Growth in educational attainment for women has been faster across the OECD, although in New Zealand growth between men and women has been similar.

³ Upper-secondary does not include level 1 NCEA qualifications.

⁴ Upper-secondary does not include level 1 NCEA qualifications.

⁵ The higher levels of older students gaining upper-secondary-equivalent post-school certificates is not well catered for in the OECD methodology and leads to artificially-inflated graduation rates near or above 100 percent. To improve the interpretability the data are separated into general (school) programmes and vocational programmes.

Figure 8 Attainment rate for adults with at least an upper-secondary education (2000 to 2014)

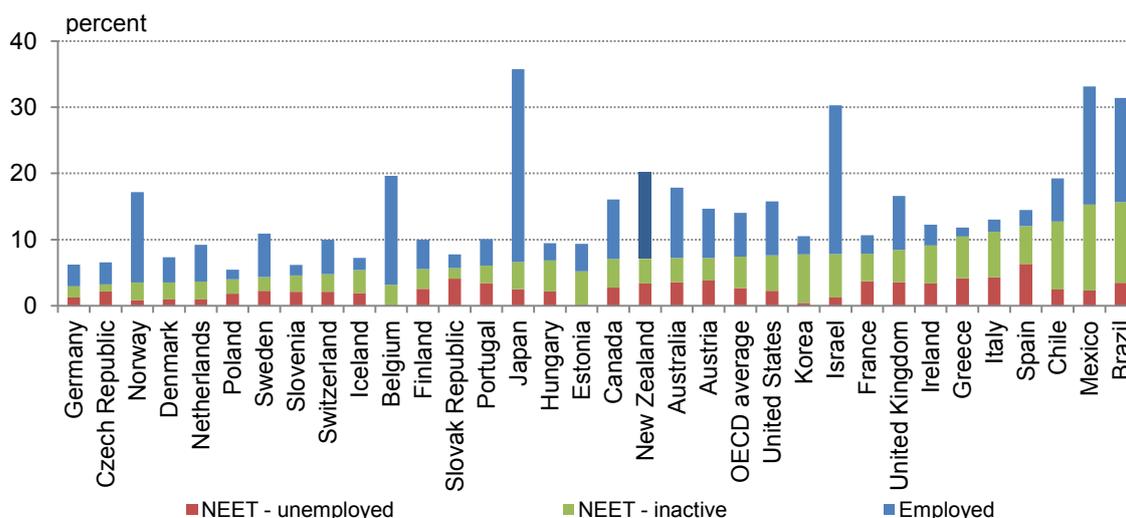


Young New Zealanders not in education are more likely to be working than their OECD counterparts

New Zealand had a relatively large proportion of young people who were not in education but were in employment, at 13% compared to the OECD average of 6.6%. New Zealand's profile is relatively similar to those in Canada, Australia, the United States and the United Kingdom. A number of countries with very high levels of employment for young people have compulsory military service for one year or more, e.g. Brazil, Israel, Korea and Mexico.

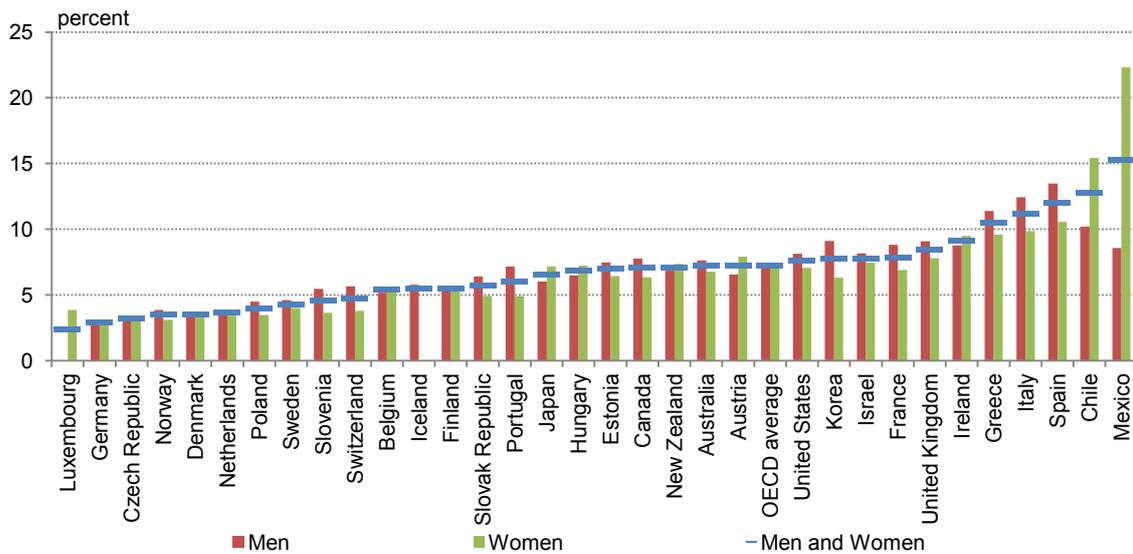
However, the level of 15 to 19 year-olds not in employment, education or training (NEET) was still above the OECD median. New Zealand had a NEET rate for 15 to 19 year-olds of 7.1% compared to the OECD average of 7.2%. The rate was below the OECD average for both young men and women.

Figure 9 Not in education – NEET and employed among 15 to 19 year-olds (2014)



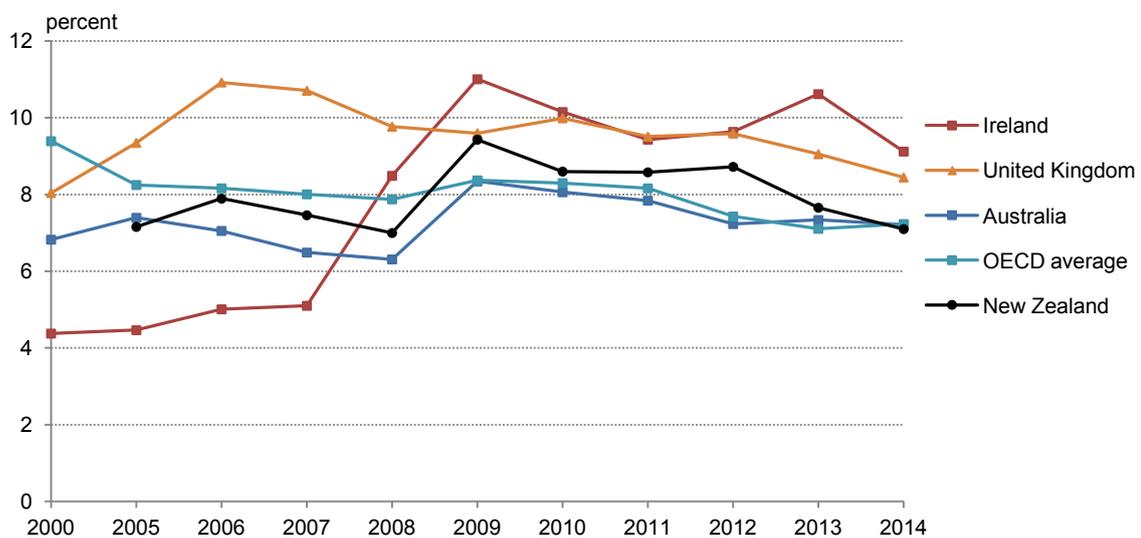
New Zealand sits mid-table with 11 other countries with NEET between 6 and 8%. Fourteen countries had a rate below 6%, while eight countries had a rate greater than 8%.

Figure 10 NEET population among 15-19 year-olds, by gender (2014)



The NEET rate for 15 to 19 year-olds has improved steadily since peaking at 9.4% in 2009, and is now back to pre-recession levels, where it was below the OECD average. The impacts of the global financial crisis often affect the youngest and least qualified first in terms of reduced employment and earnings, encouraging many to stay on or go back to education.

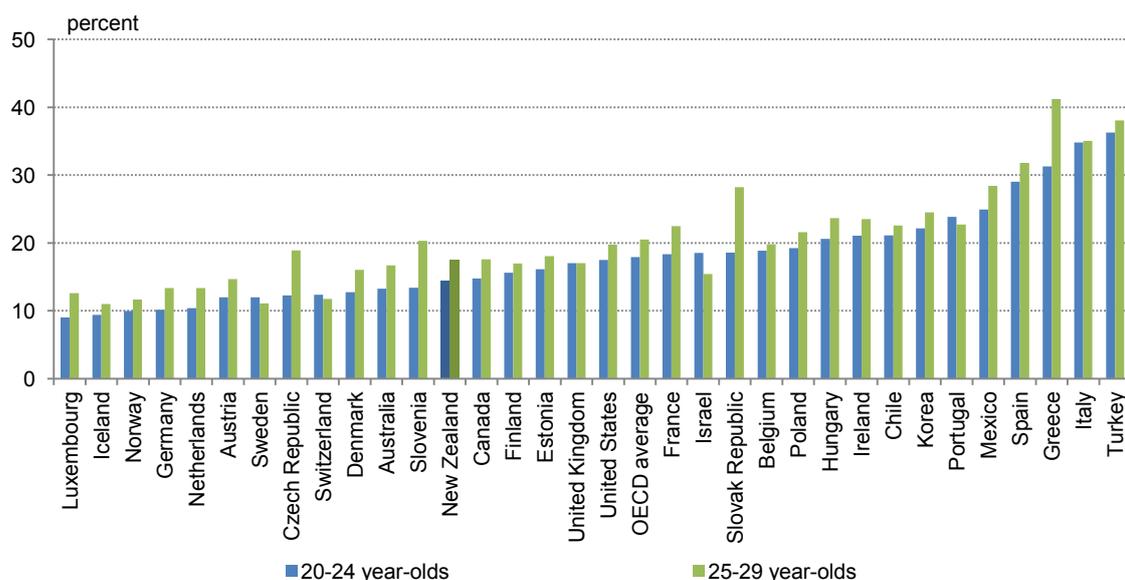
Figure 11 NEET rates for 15 to 19 year-olds in selected OECD countries (2000 to 2014)



Across adults aged 20 to 29, New Zealand has a NEET rate below the OECD average. The NEET rate for New Zealanders aged 20 to 24 was 14.4%, below the OECD average of 17.9%. For 25 to 29 year olds, 17.5% were NEET, compared to the OECD average of 20.5%.

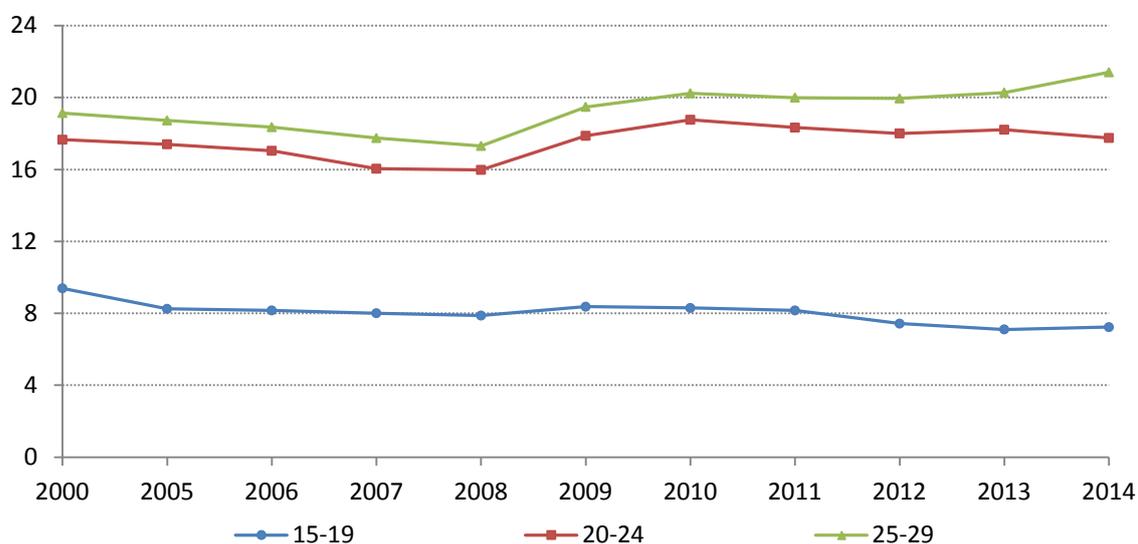
New Zealand was in a group of countries including Australia, Germany and the Czech Republic where NEET rates were low overall, but were noticeably lower for men and higher for women.

Figure 12 NEET rates for 20 to 24 and 25 to 29 year-olds (2014)



NEET rates for 20 to 29 year-olds are naturally higher than those of 15 to 19 year-olds as many in the younger group will still be enrolled in compulsory schooling. The impacts of a global financial crisis often affect the youngest and least qualified first and hardest in terms of reduced employment and earnings. Many of the younger group will stay on or go back to education. As a result, the greatest overall average OECD changes in NEET rates over the period of the global financial crisis were seen in 20 to 29 year-olds.

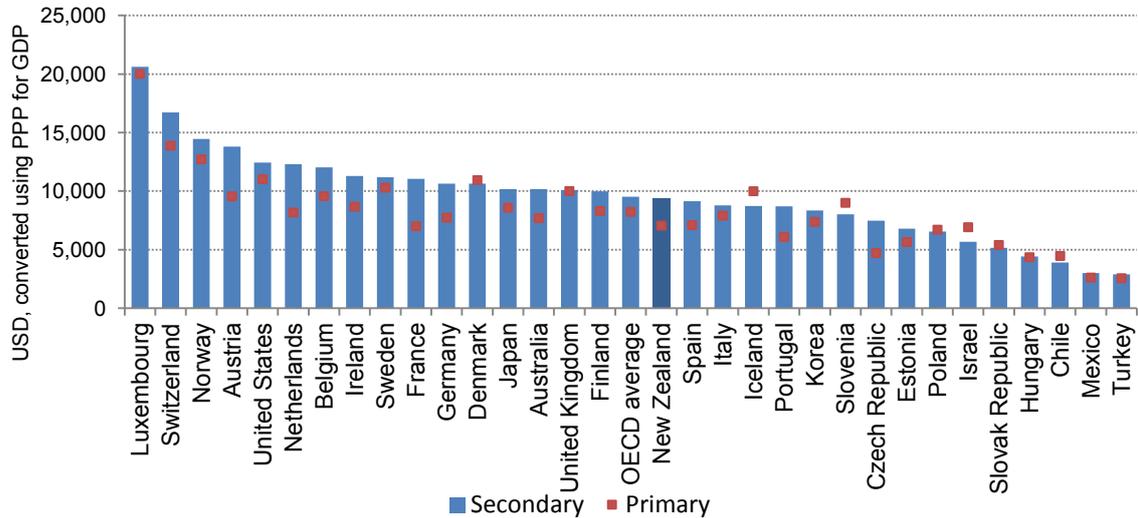
Figure 13 Trends in the OECD average NEET population, by age group (2000 to 2014)



New Zealand spends less than average per student, but relative to national wealth, public investment is high

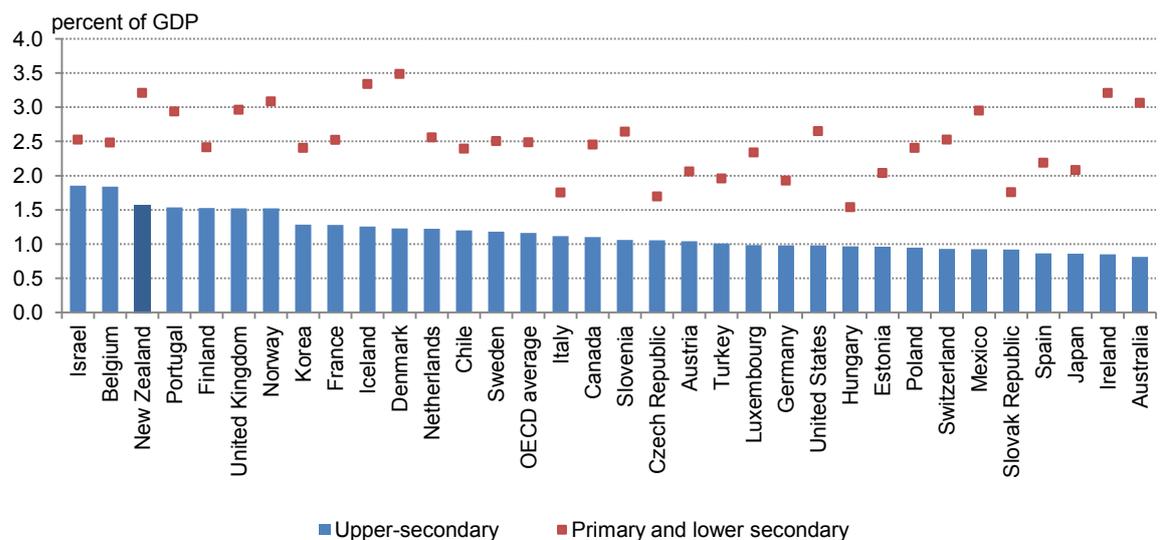
In the 2012/2013 financial year, New Zealand's expenditure from public and private sources per student at primary and secondary levels was below the OECD average. Spending at the primary level was 14% below the OECD average, while spending at the secondary level was 1% below the OECD average.

Figure 14 Annual expenditure per student by educational institutions (2012)



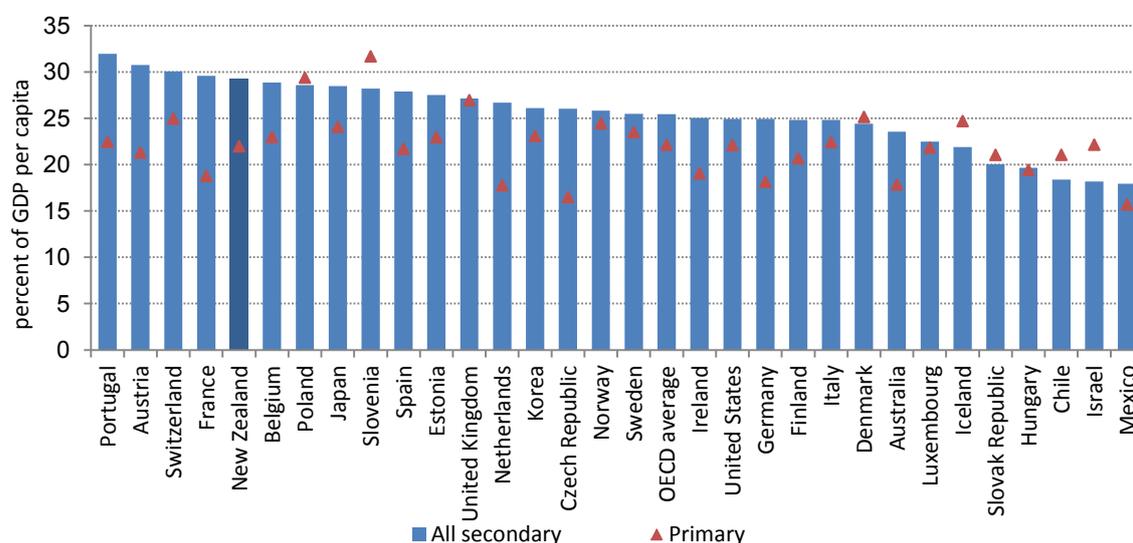
New Zealand's wealth as measured by gross domestic product (GDP) is in the bottom half of OECD countries. Relative to national wealth, expenditure on educational institutions as a percentage of GDP in New Zealand was above average. At the primary and lower-secondary level New Zealand spent 3.2% of GDP, compared to the OECD average of 2.5%. At the upper-secondary level, New Zealand spent 1.6% of GDP, above the OECD average of 1.2%. New Zealand ranked in the top three at both of these levels.

Figure 15 Expenditure on educational institutions as a percentage of GDP (2012)



Spending per student relative to GDP per capita allows investment to be viewed after accounting for differences in relative national wealth and national demographic differences. At the primary level, annual expenditure per student relative to GDP per capita was 22%, the same as the OECD average. At the secondary level, annual expenditure per student relative to GDP per capita was 29%, above the OECD average of 25%. On these measures New Zealand ranked 18th and 5th respectively.

Figure 16 Annual expenditure per student by educational institutions relative to GDP per capita (2012)



Education at a Glance 2015 did not include the proportion of total primary and secondary school funding coming from public sources. It provides a figure for this for all schooling and post-schooling levels below diploma combined. This proportion in New Zealand was 83% compared to the OECD average of 91%.

Public expenditure on education as a percentage of total public expenditure in New Zealand is relatively high at 4.8% at the primary level, and 7.9% at the secondary level. This compares with 3.6% and 4.7% respectively across the OECD.

Public expenditure as a percentage of GDP is also relatively high, with 1.6% of GDP invested at the primary level, and 2.6% invested at the secondary level. This compares with 1.5% and 2.0% respectively across the OECD.

Student-teacher ratios are a little higher in New Zealand

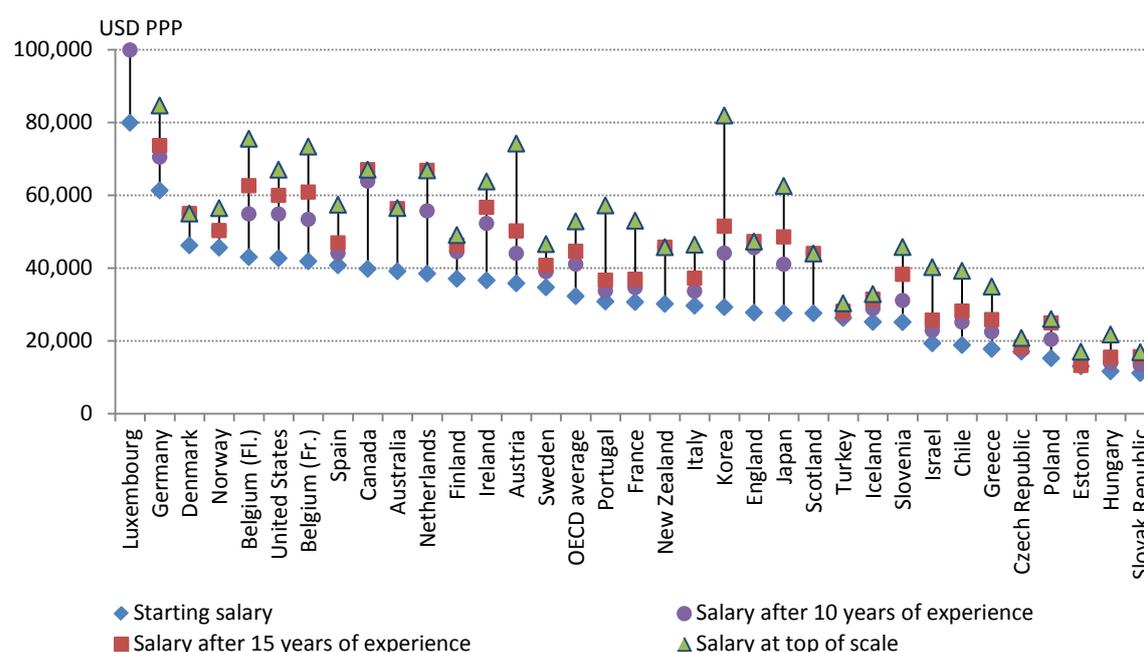
Student-teacher ratios, as reported in EAG, take the number of full-time equivalent students and divide by the number of full-time equivalent teachers. As such, the measure is one of resource allocation, rather than an indication of average class size.

At the primary level, there were 16 FTE students for every FTE teacher, compared to the OECD average of 15. At the lower-secondary level there are 16 FTE students for every FTE teacher compared to 13 across the OECD. At the upper-secondary level there are 13 FTE students per FTE teacher, the same as the OECD average. These rates were similar to those seen in Australia and Ireland, and below the rates observed in the United Kingdom.

Teachers' salaries start lower but increase faster than their OECD counterparts

Teachers at primary, lower-secondary and upper-secondary have slightly lower starting statutory salaries than the OECD averages⁶. However, after 10 years of experience, New Zealand teachers have reached their maximum statutory salary on average and will earn around 10% more than the average OECD counterpart. After 15 years, the salaries of New Zealand teachers are still above their respective OECD averages. At the top of the scale, the New Zealand salaries are below the OECD average. When considered relative to national wealth, New Zealand teacher salaries as a proportion of GDP per capita were above the OECD average.

Figure 17 Upper-secondary teachers' salaries at different points in their careers (2013)

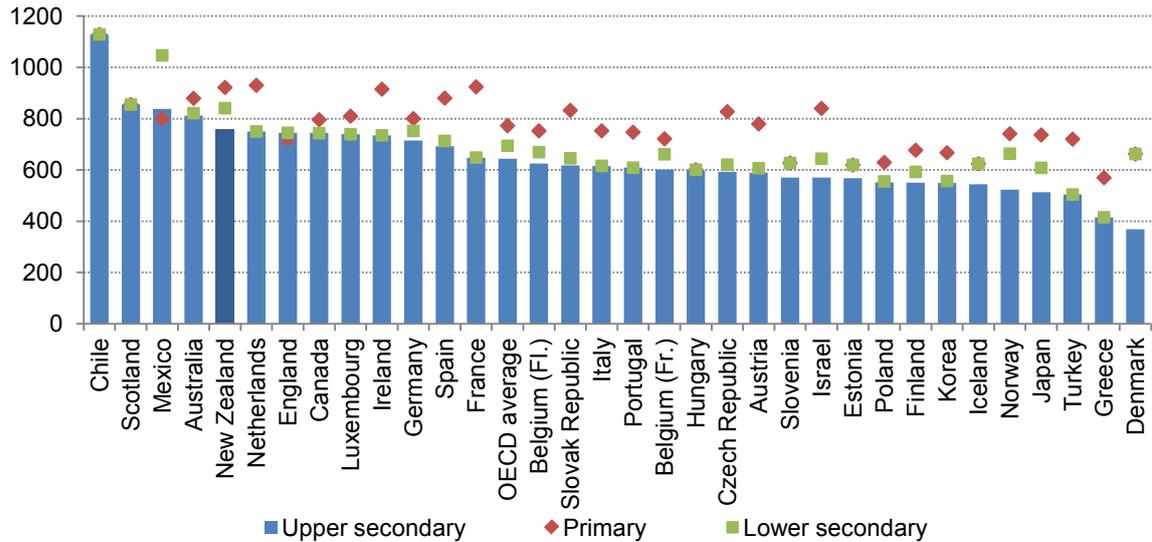


In most OECD countries, tertiary educated teachers earn less than other tertiary educated workers. Across the OECD, teachers earn a little over 80% of what equivalently educated workers earn. New Zealand was one of nine countries where teachers with 15 years experience earned about the same or higher than the average for tertiary qualified adults aged 25 to 64. At the primary level, statutory teacher salaries in New Zealand were slightly lower than average annual earnings for tertiary-educated adults, while at secondary level, they were slightly higher.

New Zealand teachers have more statutory days teaching per year than the OECD average across all school levels. Teachers in New Zealand also spend more hours teaching per year. Teachers at the primary level are required to teach 922 hours per year, compared to 772 across the OECD. Teachers at upper-secondary teach 760 hours a year, compared to 643 across the OECD.

⁶ This section relates to statutory (i.e. contracted) salary rate comparisons.

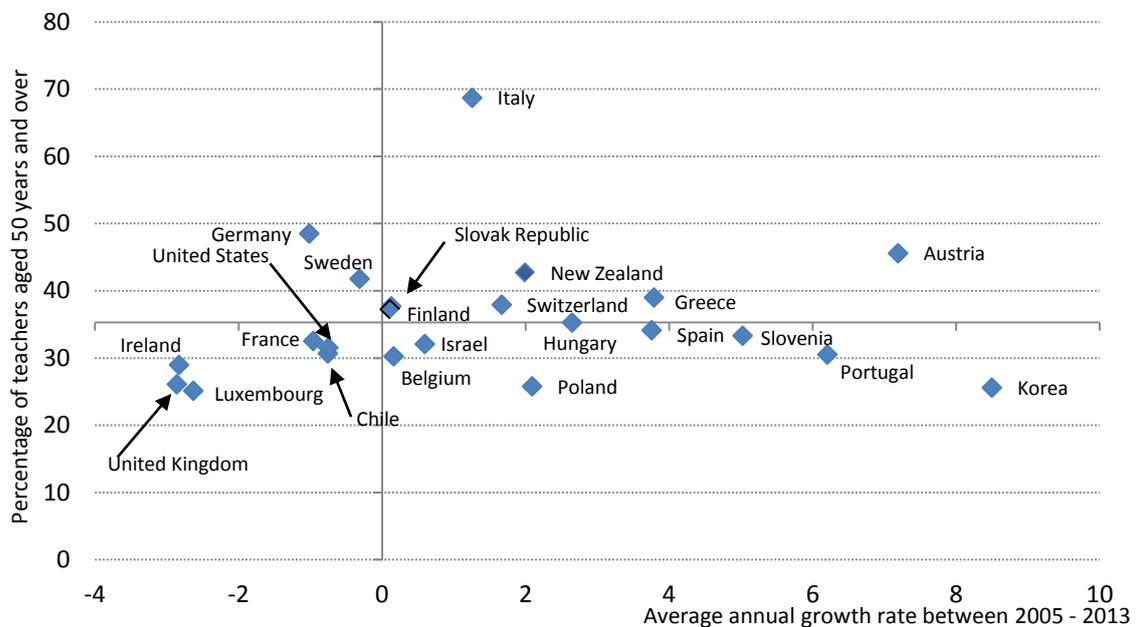
Figure 18 The number of net statutory teaching hours per year (2013)



School teachers across the OECD are more likely to be female. In New Zealand, the proportion of teachers who are female were similar to OECD averages; 83% at the primary level, 65% at lower-secondary and 60% at upper-secondary.

Teachers in New Zealand are a little older than teachers across the OECD countries. Over 40% were aged 50 or over compared to the OECD average of 35%. The 50 plus group has grown as a share of all teachers by 2% on average per year since 2005, with this growth concentrated in the 60 plus age group. Around 10% of New Zealand teachers were under the age of 30, about the same share as the OECD average.

Figure 19 Secondary school teachers aged 50 years and over and the average annual growth rate (2005-2013)



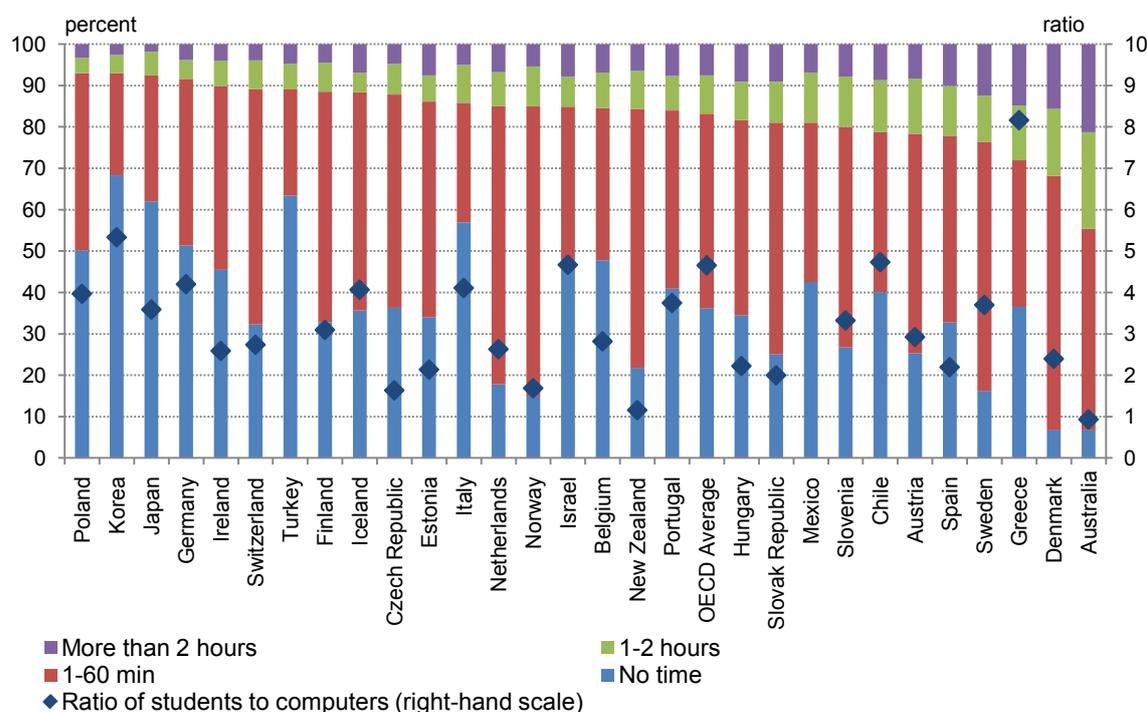
ICT use in teaching and learning

New Zealand and Australia have the lowest ratios of students per computer. Our 15 year-olds have also accessed the internet sooner than many other OECD countries (over 70% before the age of 10 compared with an OECD average of 57%).

New Zealand 15 year-olds spent about the same amount of time using computers at school as the OECD average (25 minutes per weekday), with 16% spending more than one hour per day, compared with a 17% OECD average; and 85% spending an hour or less per day, compared with an 83% OECD average. Compared with other countries, fewer of our school principals reported that a lack of ICT resources impacted negatively on the ability of their school to teach.

New Zealand TALIS data features in EAG 2015 for the first time. More of our Year 7 to 10 teachers say their students use ICT frequently (55% compared with 40%) placing us in the top 10 behind Australia. More of our teachers participated in professional ICT skills for teaching training, and slightly less than average reported a high need for professional development in this area. Of those that did participate in such professional development, 70% found it had had a moderate or large positive impact.

Figure 20 The time spent on the internet at school, and the ratio of students to computers (2012)



Evaluation and assessment in schools

New to *Education at a Glance 2015* is an indicator on evaluation and assessment practices in schools. This includes system-level descriptive comparisons of:

- examinations and assessments, including subjects covered
- whether or not the results are shared and with whom
- if the results are used to create school league tables
- school inspection and school self-evaluation.

New Zealand is similar to many countries in terms of national examinations and assessments. For example, almost all OECD countries have national examinations at the upper-secondary level, while national assessments are more common at the lower-secondary and primary level. The main purpose given for examinations at the upper-secondary level is to determine access to tertiary education.

The number of subjects included in national examinations at the upper-secondary level varies widely between OECD countries. New Zealand is in a group of five countries with 10 or more subjects included. Reading, writing and literature was examined by all 28 reporting OECD countries, followed by mathematics (27), and natural sciences (24).

The sharing of examination and assessment results is common across the OECD. New Zealand is one of a few countries that make results at a school level publicly available. No countries reported that they published school ranking tables. However, of the countries that make school-level examination results public, five countries, including New Zealand, reported that outside groups prepare and make available school-level rankings of upper secondary examination results. A couple of other countries take measures to prohibit the publication of rankings.

School inspections at upper-secondary level were reported as a feature in almost all OECD countries. For most countries these are completed every three or more years. About half of OECD countries, including New Zealand, report that the school inspections target low-performing schools. A majority of countries who conduct these inspections make the results publicly available.

School self-evaluations at the upper-secondary level are done in most OECD countries, and these are mostly done on an annual basis. The most common areas that are covered by these self-assessments are: student performance, quality of instruction, quality of curriculum and instructional materials, and compliance with rules and regulations.

Teacher and school leader appraisal

Monitoring and appraising teachers is central to improving schools and learning environments. The majority of OECD countries have legislated teacher and school leader appraisal, with most of these countries completing appraisals for all teachers and school leaders.

For most of the countries who reported this, including New Zealand, teacher appraisal was mandatory both for teacher registration and completion of probation, as well as for regular ongoing appraisal. Teacher appraisals in most countries covered planning and preparation, instruction, classroom environment and professional development.

Appraisals of school leaders are usually completed every three years or more for the 16 countries with available data. The most common reason given for school leader appraisal was in relation to a decision on their employment status. Other reasons given for the undertaking of appraisals were: at the discretion of the school board or education authority, in relation to a complaint, and voluntary appraisal.

School leader appraisals typically cover a wide variety of areas, with the vast majority of reporting countries including the following in their appraisals: general leadership, pedagogical/instructional leadership, organisational development, school climate, community relations, evaluation and accountability, resource management and interpersonal skills.

In New Zealand, school leader appraisal may inform professional development activities, but not directly career advancement. In some OECD countries, a one-off financial bonus and a permanent salary increment were common.

Outcomes for underperformance vary between OECD countries. New Zealand was in a group of countries where underperformance may lead to further appraisal, suspension or dismissal. In other OECD countries, in addition to further appraisal, deferral of promotion and having a salary increment withheld were common outcomes of underperformance.

TERTIARY EDUCATION

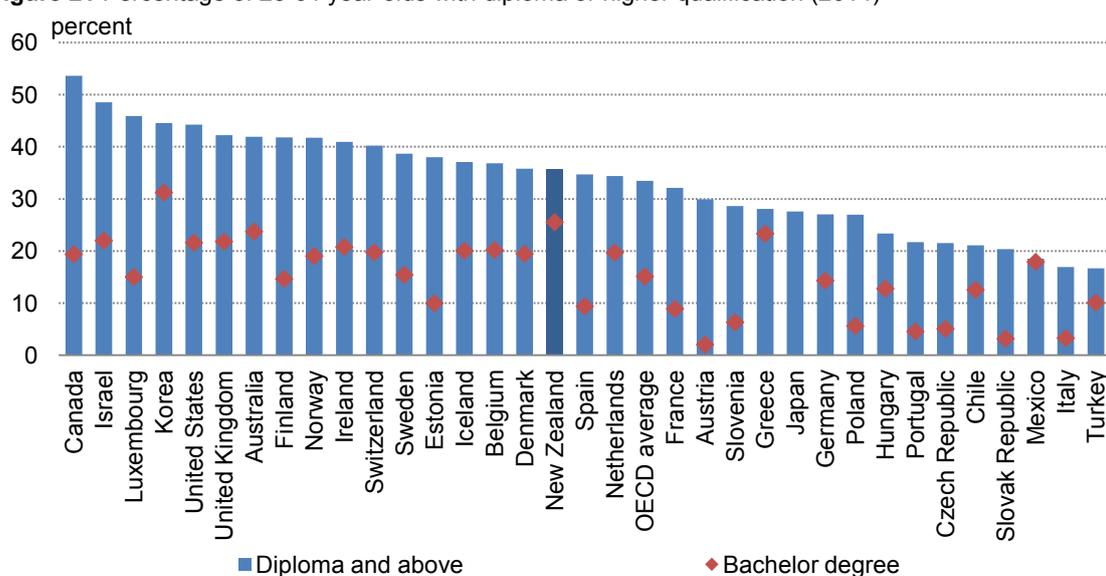
Education at a Glance uses the *International Standard Classification of Education* (ISCED) to define the levels of education. Under ISCED 2011, ‘tertiary education’ corresponds to diploma level and above. All post-secondary education at levels 1 to 3 on the New Zealand Qualification Framework are grouped with ‘upper secondary’ under ISCED, while education at level 4 is classified as ‘post secondary non-tertiary’. While the term ‘tertiary education’ as used in New Zealand can cover any level done in a post-school setting, in *Education at a Glance* comparisons it relates to just diploma level and above.

Tertiary attainment

New Zealand also has slightly above average levels of tertiary attainment at degree level or higher, with 30% compared to the OECD average of 28%.

New Zealand has a slightly above average proportion of adults with a diploma or higher-level qualification. Thirty-six percent of New Zealand adults aged 25 to 64 have a diploma or higher qualification compared to 33% across the OECD. Diploma or above attainment rates for New Zealand men and women were also both above their respective OECD averages.⁷

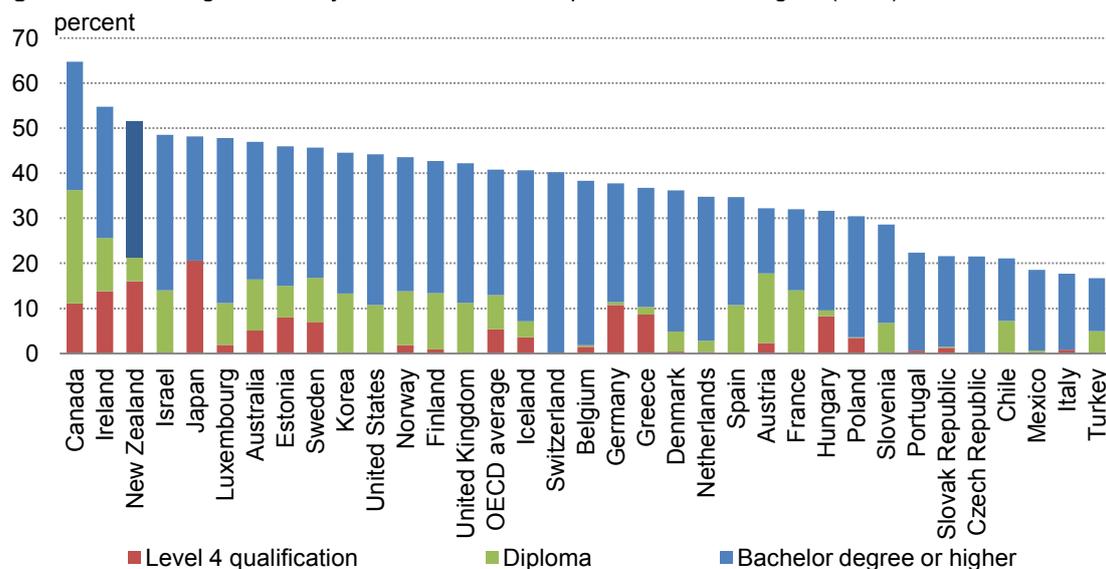
Figure 21 Percentage of 25-64 year-olds with diploma or higher qualification (2014)



When level 4 qualifications are included New Zealand has a relatively high attainment rate, and is in the top three countries with Canada and Ireland. New Zealand has a large proportion of adults with post-secondary non-tertiary (level 4 certificates) qualifications at 16%, above the OECD average of 5%. The proportion of adults with at least a level 4 qualification is 52%, compared to the OECD average of 41%.

⁷ Changes made in 2013 to New Zealand’s Household Labour Force Survey (HLFS) see a shift in the proportion with diplomas to level 4 and therefore an apparent (i.e. non-real) drop in diploma attainment when compared with previous editions.

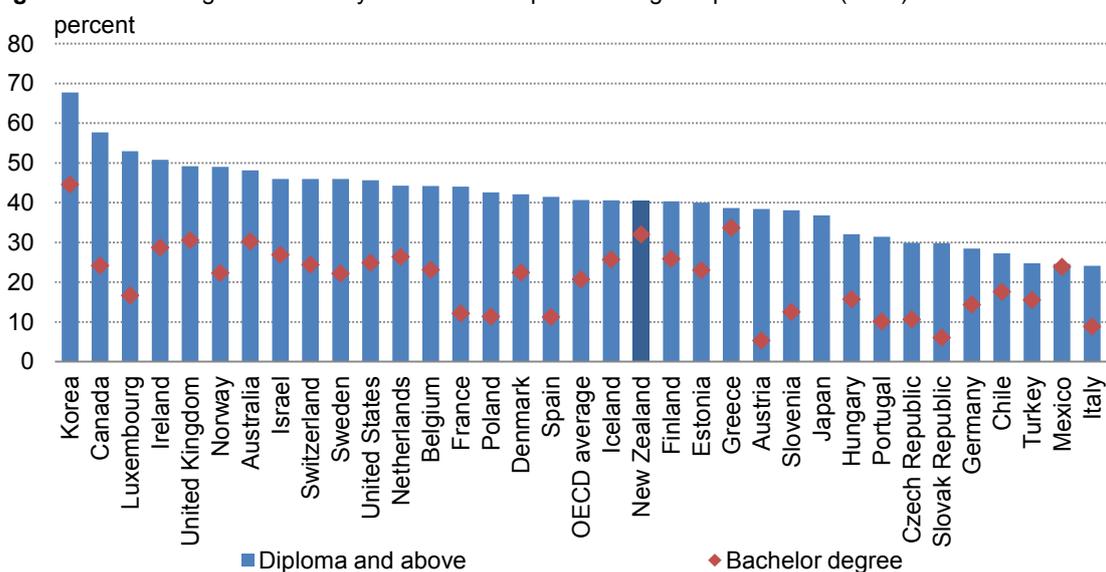
Figure 22 Percentage of 25-64 year-olds with level 4 qualifications and higher (2014)



It is less common for New Zealanders to hold a master's degree. New Zealand has more bachelor's degree qualified adults, 26% compared to the OECD average of 16%, but fewer master's degree qualified adults, 4% compared to 11% over the OECD.

Younger adults have higher levels of tertiary educational attainment in New Zealand and across the OECD. In New Zealand, 40% of 25 to 34 year-olds have a diploma or above qualification compared to 36% of 25 to 64 year-olds.

Figure 23 Percentage of 25 to 34 year-olds with diploma or higher qualification (2014)



However, New Zealand's older adults have higher tertiary attainment compared to the OECD averages than younger New Zealand adults. New Zealanders aged 30 to 64 had tertiary attainment above the respective OECD averages, by between 2 and 4 percentage points. For younger adults aged 25 to 34, tertiary attainment is 0.3% below the OECD average.

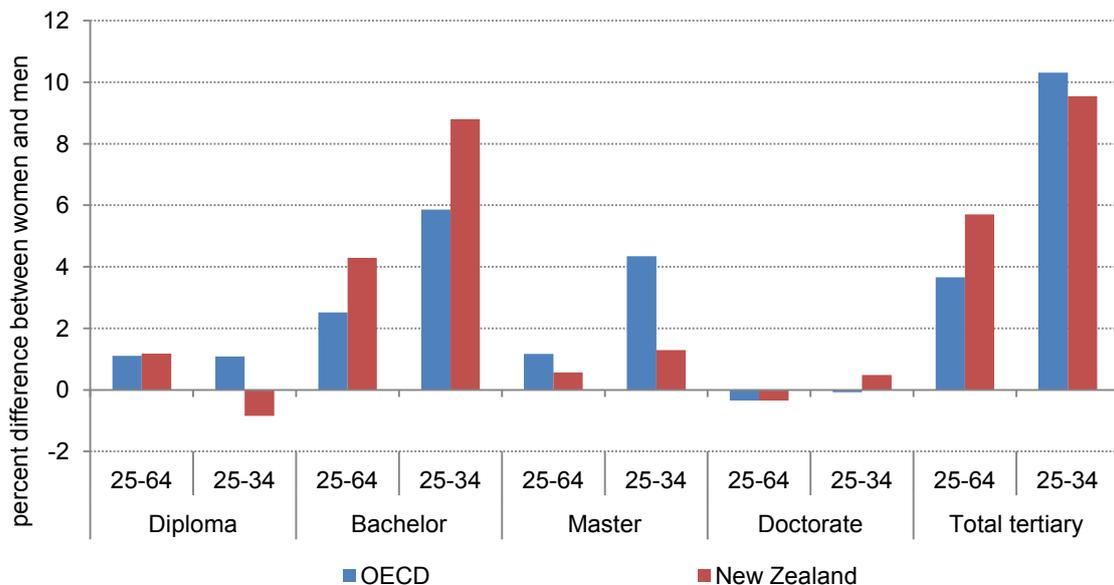
Women are more likely to have a tertiary qualification

Across the OECD, 35% of women have a tertiary qualification, compared to 32% of men. In only nine OECD countries was the proportion of men with a tertiary qualification higher than that of women. This holds for all levels except doctorate level, where attainment rates for men and women were about the same.

In New Zealand, the proportion of women that have a diploma or higher-level qualification was 5.7 percentage points higher than that for men. The difference was largest at bachelor's level where attainment is 4.3 percentage points higher for women, compared to 2.5 percentage points across the OECD.

Among young adults aged 25 to 34, the gender differences across the OECD are much larger, with 10% more women than men having a diploma or higher-level qualification. There were just three countries in the OECD where the proportion of men with a diploma or higher qualification was higher than that for women. In New Zealand, 45% of women aged 25 to 34 have a diploma or higher qualification, compared to 35% of men in the same age group. At the bachelor's degree level, the attainment rate for women aged 25 to 34 is 8.8 percentage points higher than that for men, this compares with an average of 5.9 percentage points across the OECD.

Figure 24 Differences in gender tertiary attainment – by level and age group (2014)



Participation in tertiary education in New Zealand is above average

New Zealand has above average levels of participation at core tertiary ages (18 to 20) and relatively very high participation at older ages. New Zealand has relatively high participation in vocational programmes, especially at level 4, and has one of the highest levels of part-time study.

New Zealand, along with Australia, Iceland, Sweden and Finland all have enrolment rates for ages 30 to 39 over 10%. In all of these countries, and on average in the OECD, women are more likely than men to be enrolled in this age group. For people aged 40 to 64, New Zealand had the third highest enrolment rate, at 5.1%, behind Finland and Australia. New Zealand has the 3rd largest proportion of first-time entrants that are over 25 years old, at 30%.

Enrolment of young adults in New Zealand is high, being in the top ten. Enrolment at ages 19 and 20 are also above their respective OECD averages and similar to Australia, Spain and France.

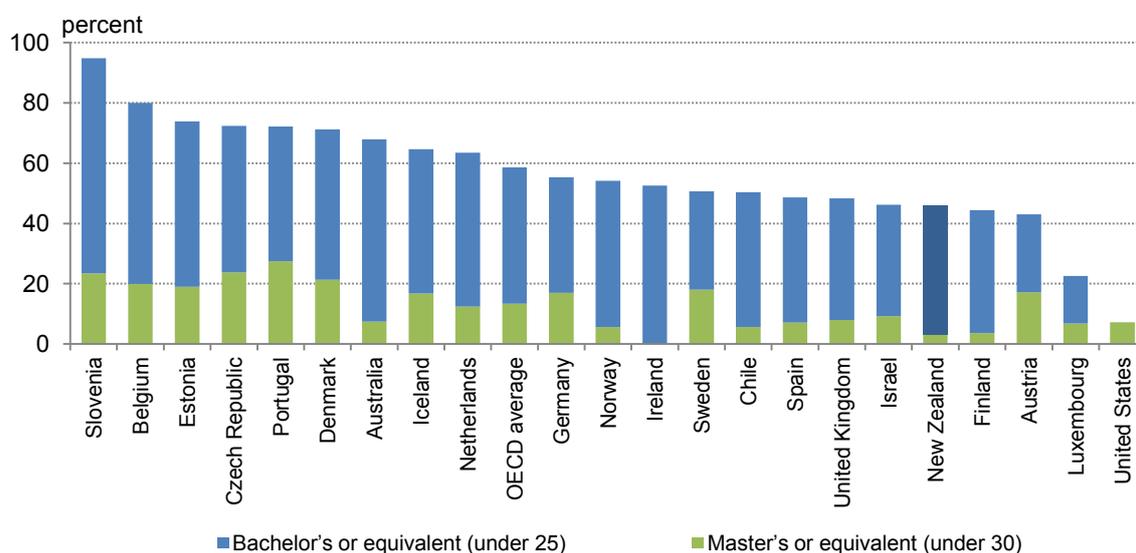
Around 28% of 20 to 29 year-olds were enrolled in education in 2013, similar to the OECD average. By age 39, New Zealanders will have completed an average of 18.0 years of education, above the OECD average of 17.4 years.

In part, this reflects the fact that master's study is more common in some countries for gaining professional qualifications, whereas in New Zealand these are often delivered at bachelor's degree level.

New Zealand has relatively high participation in vocational programmes, especially at level 4, and has one of the highest levels of part-time study. New Zealand ranks in the top five countries for enrolments into part-time study at all levels of tertiary education.

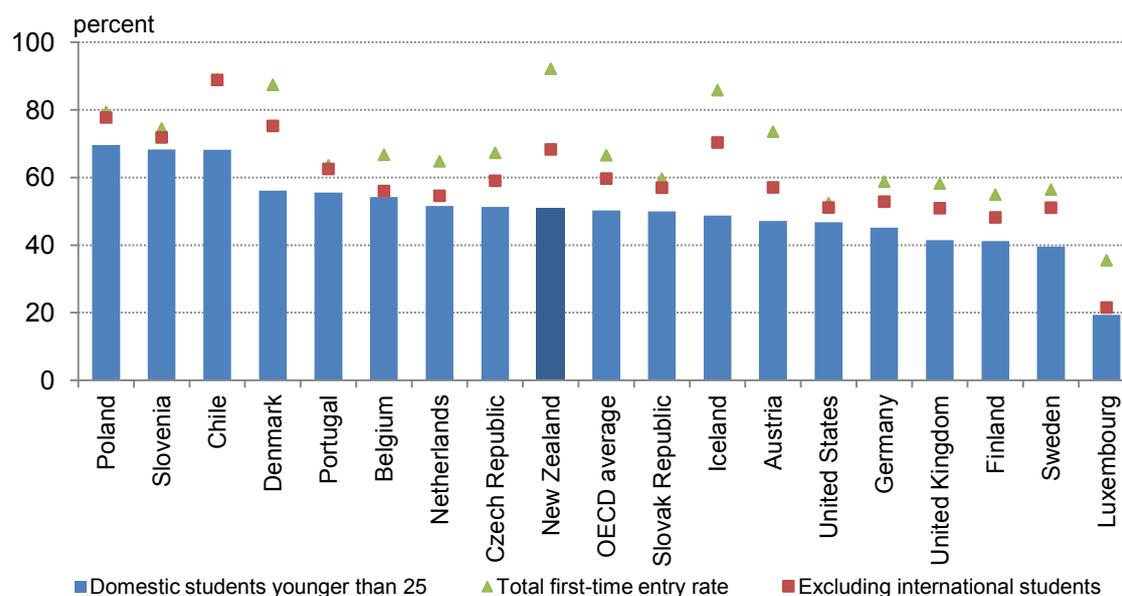
First time entry into bachelor's and master's degrees varies widely across the OECD. New Zealand has a relatively low entry rate into master's degree programmes.

Figure 25 First-time entry rates into bachelor's and master's degrees (excluding international students and older students) (2013)



The headline entry rates in *Education at a Glance* include both international students and students of all ages. This inflates New Zealand's entry rates because of the high proportion of international students and students entering at older ages.

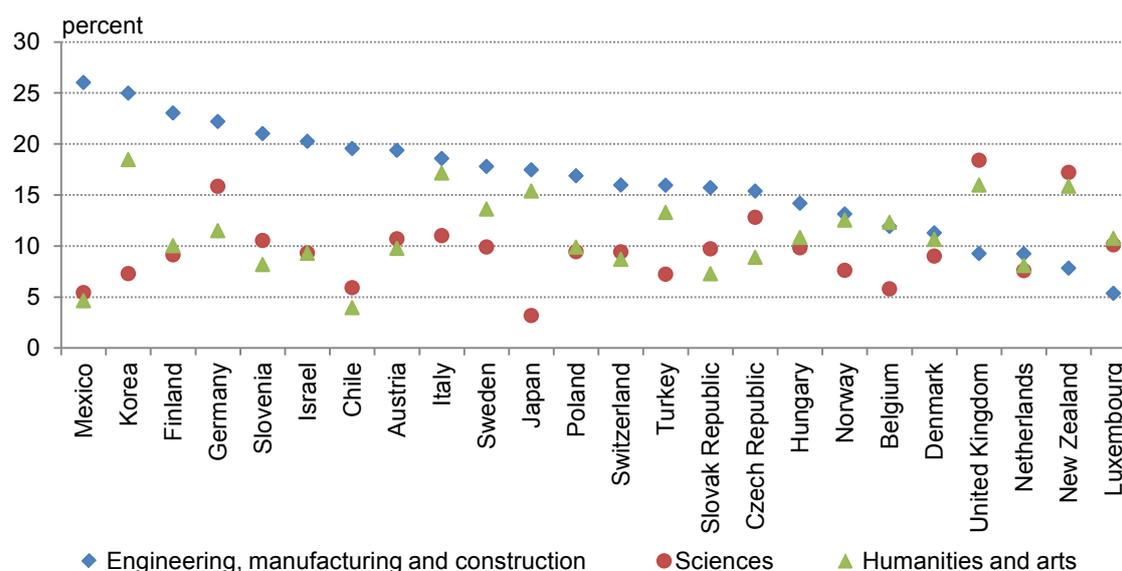
Figure 26 First-time entry rates into diploma or above programmes (2013)



Across the 24 OECD countries that supplied data, 54% of first-time tertiary entrants were women, in New Zealand it was 56%. Only three countries in the OECD have the share of male tertiary entrants higher than that for females. In New Zealand, the share of female entrants into sciences and engineering bachelor programmes was 41%, the highest in the OECD, and above the OECD average of 29%.

In New Zealand, 17% of tertiary entrants go into the sciences, the 2nd highest, below the United Kingdom. However, New Zealand has the 2nd lowest rate of entry into engineering, manufacturing and construction programmes. New Zealand also has relatively high entry rates into humanities and arts programmes, with the 4th highest entry rate in the OECD. These shares are similar to those of the United Kingdom.

Figure 27 Entry into tertiary education by field of programme (2013)



New Zealand has a relatively high share of international students

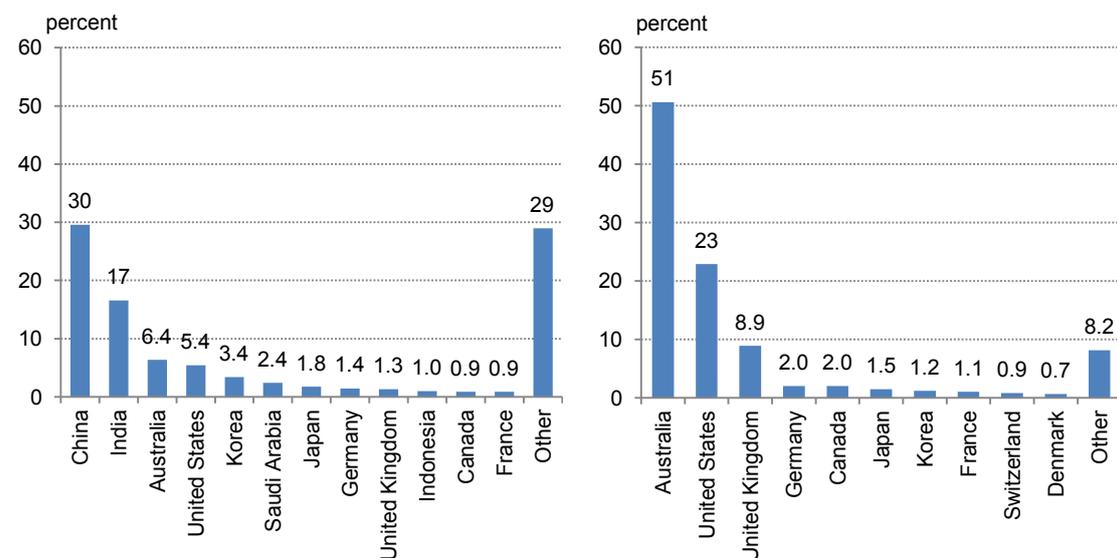
New Zealand has a relatively large proportion of international students. At diploma level and above, 16% of students were international students, compared to the OECD average of 9%. Only six countries had proportions over 15%, namely, Luxembourg, Australia, the United Kingdom, Switzerland, Austria and New Zealand.

At the diploma level, New Zealand and Iceland, at 21%, have the largest proportion of international students. At the doctoral level in New Zealand, 43% were international students, compared to 24% over the OECD. This was the third largest, behind Luxembourg and Switzerland. New Zealand's large proportion reflects the policy in New Zealand, that international PhD students pay the same fees as domestic students.

International postgraduate study is much more popular than undergraduate, with far larger shares of international students studying master's and doctoral programmes across OECD countries.

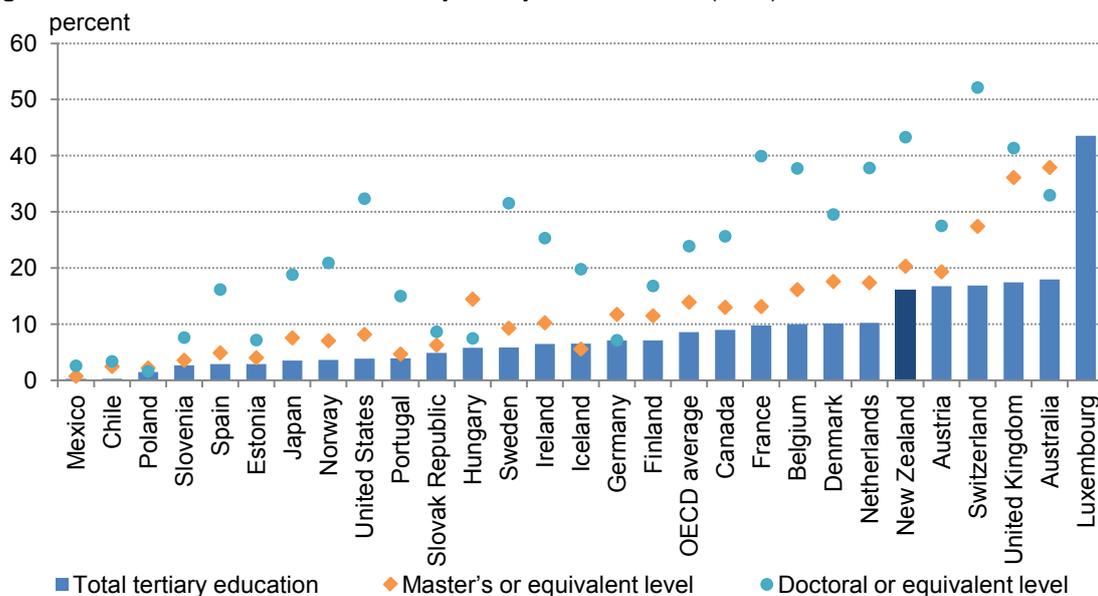
Nearly 30% of New Zealand's international students came from China, 17% from India, and 6.4% from Australia. International students from Australia pay the same fees as domestic students. Australia remains the most popular country for New Zealanders to study in, with 51% of all New Zealanders studying abroad.

Figure 28 Country of origin for students studying in NZ Country of destination for NZ students overseas (2013)



While New Zealand's proportion of international students is large relative to other OECD countries, its overall share globally of international students is around 1% of the 4 million reported international students. This makes New Zealand the 16th largest market in the OECD.

Figure 29 Share of international students by tertiary education level (2013)

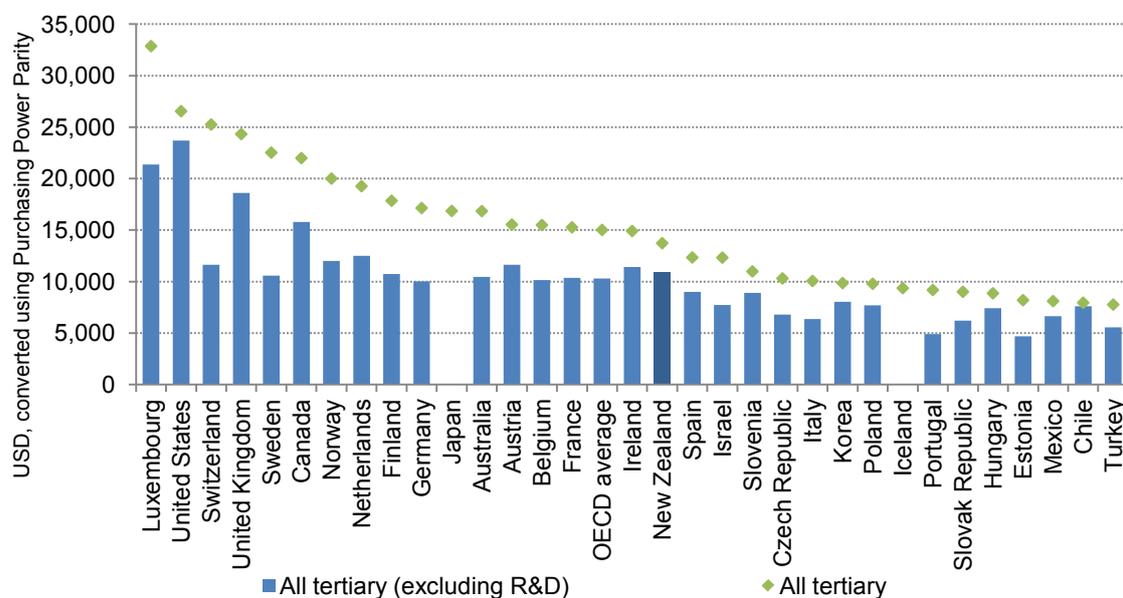


Note: The shares of international students in master's and doctorate programmes in Luxembourg are 67 and 84 percent respectively.

Investment in tertiary education

Expenditure comparisons in EAG 2015 relate to the 2012 reference year, which for New Zealand is the 2012/2013 financial year. Annual expenditure per student by tertiary educational institutions for New Zealand was 17th out of 32 reporting countries, below the OECD average. Spending per student at diploma level was above average and in the top half, while spending at the bachelor's degree level and higher, was below average but above the median.

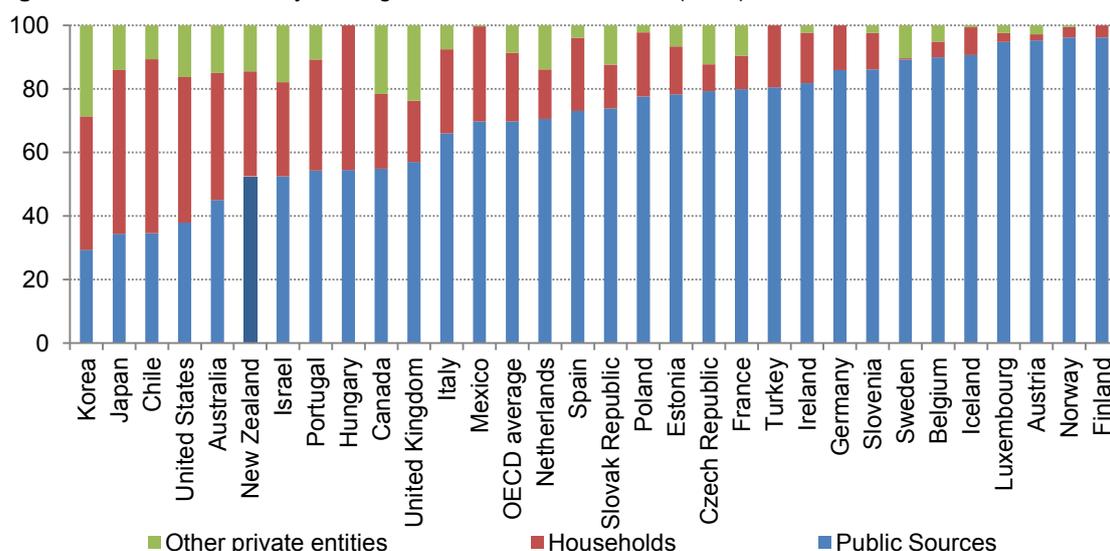
Figure 30 Annual expenditure per student by educational institutions for all services (2012)



This year's report reflects improvements made in the reporting of tertiary expenditures from private non-household sources. The change is reflected in a higher proportion of institutional funding that comes from private non-household sources, such as businesses and private research funding, and a corresponding lower proportion from public sources when compared with previous editions of EAG. New Zealand tertiary institutions received 48% of their funding from private sources, and 52% from public sources, compared to the one-third, two-thirds split previously reported.

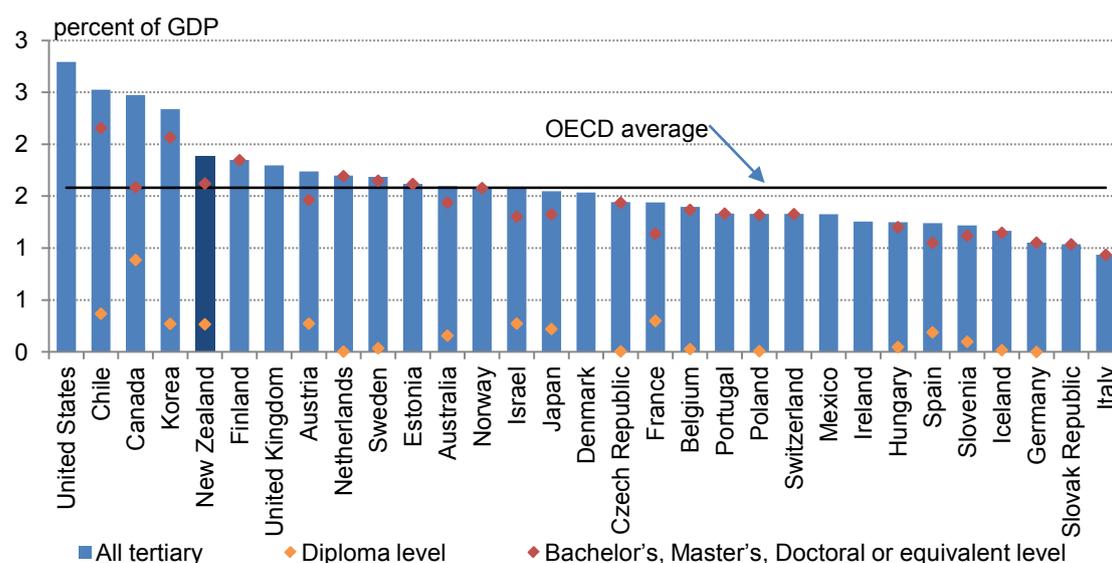
The split between public and private funding now puts us in line with a group that includes Australia, Canada, United Kingdom and United States, i.e. with those countries that support higher private tuition costs through well-developed government subsidised financial support.

Figure 31 Sources of tertiary funding to educational institutions (2012)



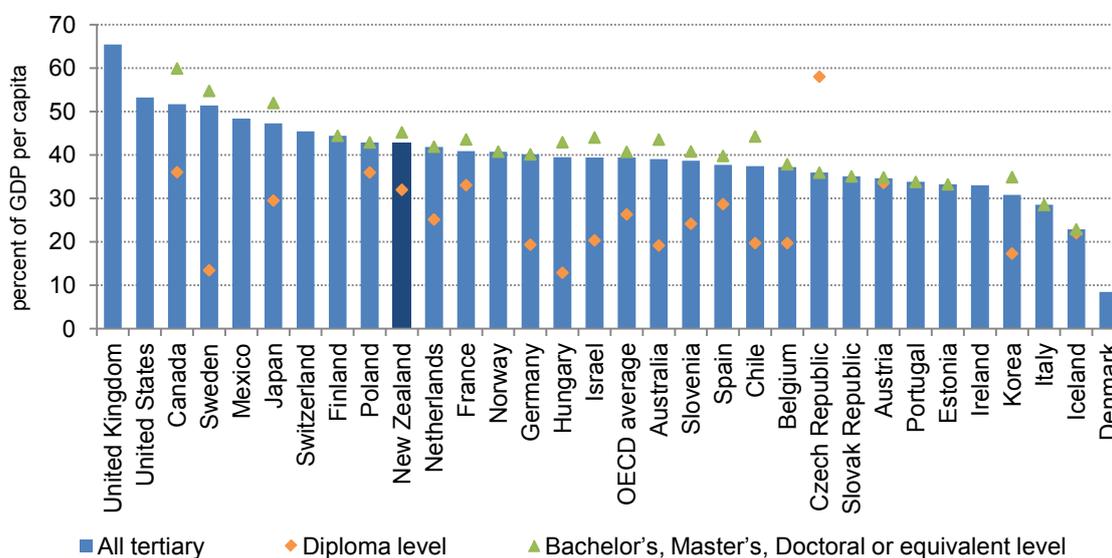
New Zealand's economy is relatively small compared to other OECD countries. Expenditure indicators that are relative to national wealth, compare more favourably for New Zealand. Expenditure from both public and private sources by tertiary educational institutions as a percentage of GDP was in the top five in the OECD at 1.9% – following the United States, Chile, Canada and Korea. Expenditure as a percentage of GDP at the diploma level and bachelor level and above were in the top third and top quarter respectively.

Figure 32 Annual expenditure on tertiary education institutions from public and private sources as a percentage of GDP (2012)



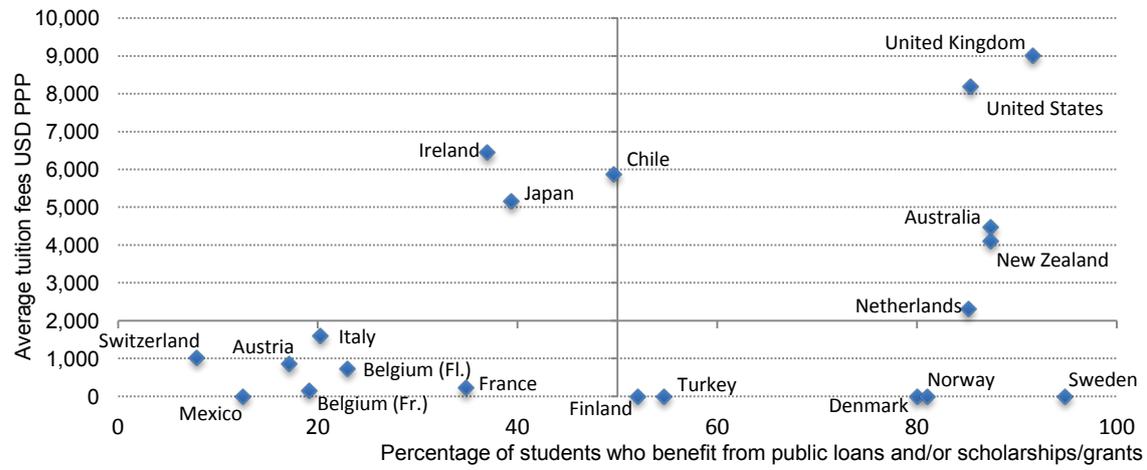
Spending per student relative to GDP per capita allows investment to be viewed after accounting for both differences in relative national wealth, as well as national demographic differences. Annual expenditure per student by tertiary educational institutions as a percentage of GDP per capita for all tertiary was 43%, above the OECD average and in the top half.

Figure 33 Annual expenditure per student by educational institutions, as a percentage of GDP per capita (2012)



New Zealand is in a group of countries including Australia, the United States and the United Kingdom, which have relatively high tuition fees and high levels of financial support. Some of the Nordic countries form a group with low tuition fees and high financial support, and most of the other European countries have relatively low tuition fees and low financial support.

Figure 34 Average tuition fees in public tertiary education institutions and public financial support (2013)



Note: Data for Sweden, Netherlands, Denmark, Chile, Japan, Ireland and Mexico are from Education at a Glance 2014 and cover the 2010/2011 academic year.

THE BENEFITS OF EDUCATION

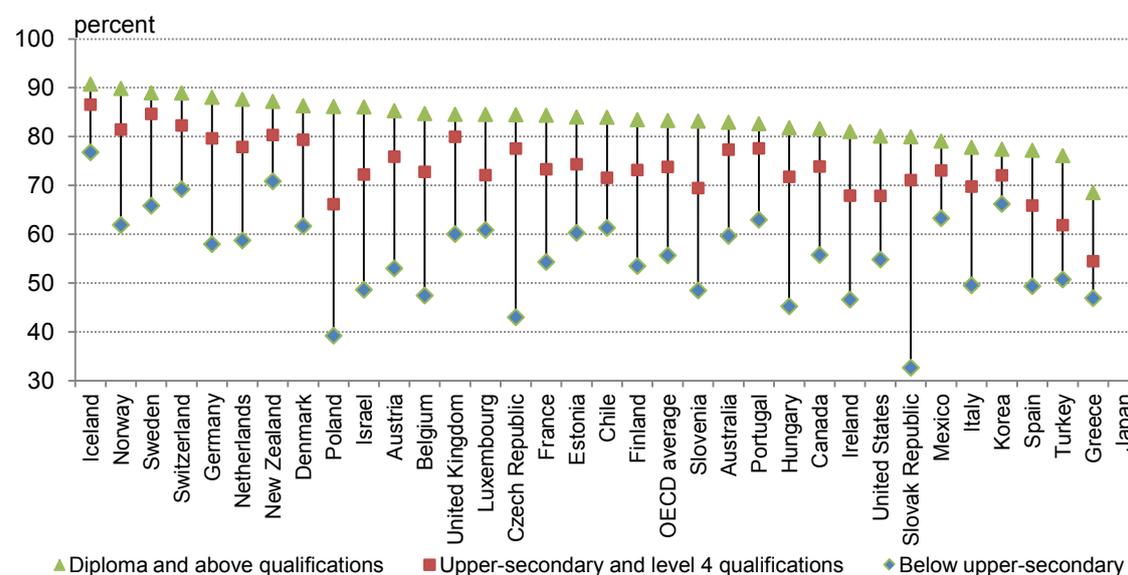
New Zealand workers have relatively high employment across all education levels

Overall, 80% of adults aged 25 to 64 in New Zealand are employed, this puts New Zealand in the top 5 in the OECD and above the average of 73%. In terms of gender, 88% of men are employed, which puts New Zealand in the top 5 in the OECD, while 74% of women are employed, which is in the top 10 and above Canada, the United Kingdom, Australia and the United States.

New Zealand has one of the smallest differences in employment rates between the most and the least educated. New Zealand is in a group with Portugal, Iceland, Luxembourg, and Switzerland where employment rates are high and the difference between the most educated and the least educated is less than 25%.

New Zealand is also one of five countries where people with diploma qualifications have an employment rate higher than 85%.

Figure 35 Employment rates for adults aged 25 to 64 – by educational attainment (2014)

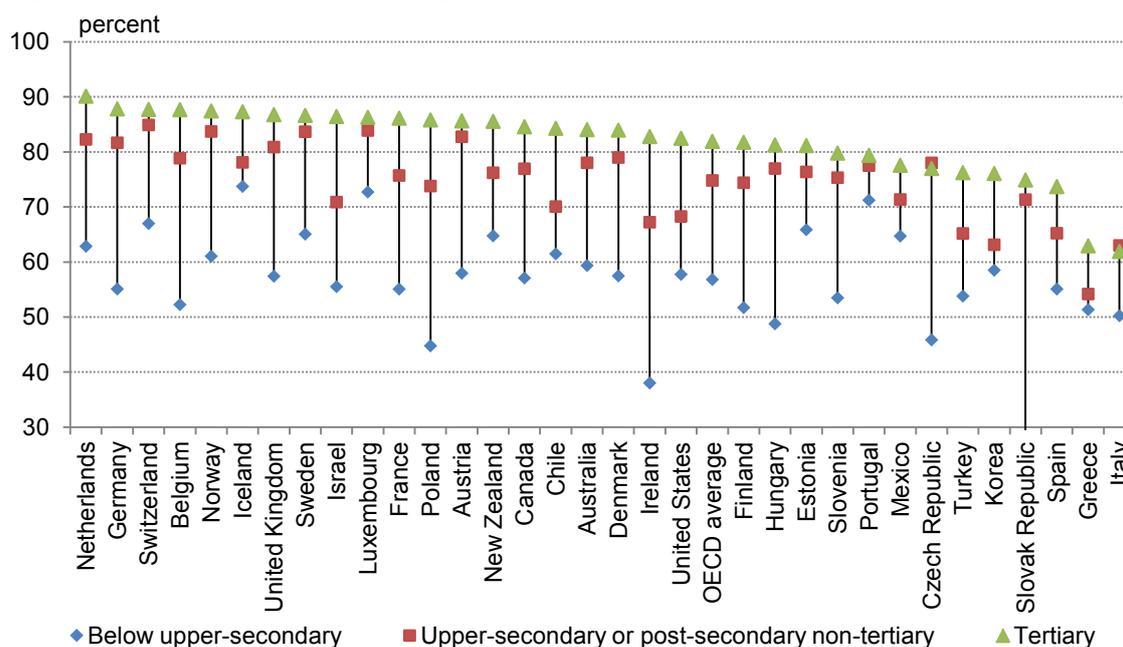


New Zealand men have employment rates above the OECD average at every level of tertiary education. For New Zealand women, employment rates are above the OECD average for diploma and bachelor's degree qualified adults, and slightly below the OECD average at the master's and doctorate level.

Employment for 25 to 34 year-olds is higher in New Zealand than across the OECD, this is especially true for those with the lowest educational attainment. In New Zealand, 65% of those with below upper-secondary education are in employment, placing New Zealand in the top 10 in the OECD and above Australia, the United States, the United Kingdom and Canada.

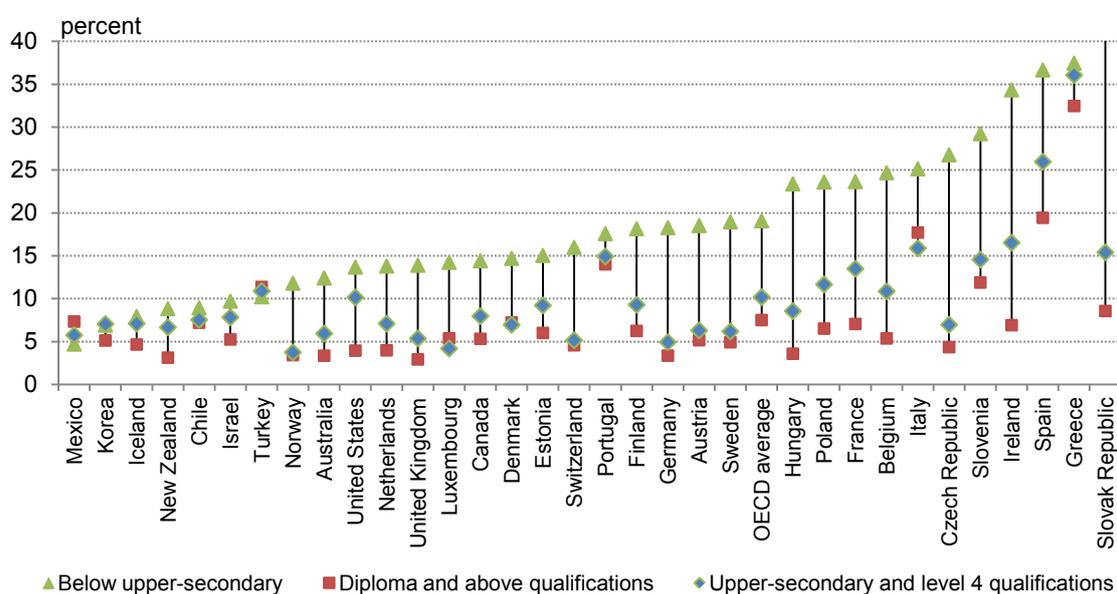
The difference in employment rates between the most educated and least educated across the OECD can be large. New Zealand is one of only six countries where the employment rate for young tertiary educated workers is over 85% and the employment rate of those with below upper-secondary is less than 25 percentage points lower.

Figure 36 Employment rates for adults aged 25-34 by educational attainment (2014)



Across the OECD there are some large differences in unemployment rates between educational attainment levels. The average difference in unemployment between those with the highest qualifications and those with the lowest across the OECD is 11.3%. In New Zealand, the difference was 5.7%.

Figure 37 Unemployment rates for adults aged 25-34 by educational attainment (2014)



New Zealand has relatively low earnings premiums

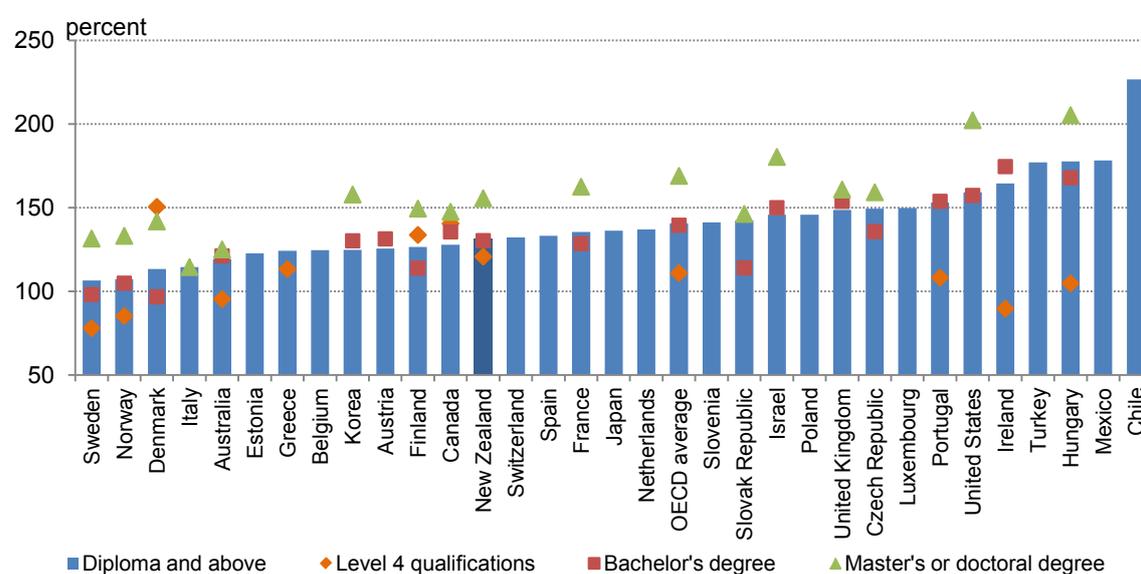
In New Zealand, for 25 to 34 year-olds, the earnings premiums of tertiary educated workers over the earnings of upper-secondary workers are smaller than most OECD countries.

However, young people with bachelor's degrees still earn 35% more on average than workers with upper-secondary education, and for a master's or doctorate degree, the premium is 56%. This compares with 40% and 69% respectively across the OECD. The premiums are much larger for older workers (aged 55 to 64) with a master's or doctorate qualification, at 116%. This is observed across the OECD.

Young New Zealand workers with level 4 certificates have a relatively large earning advantage, 21% over those with upper-secondary only. This compares with 11% across the OECD.

Those workers with below an upper-secondary education earn 92% on average of what someone with an upper-secondary education earns, this compares with 77% across the OECD.

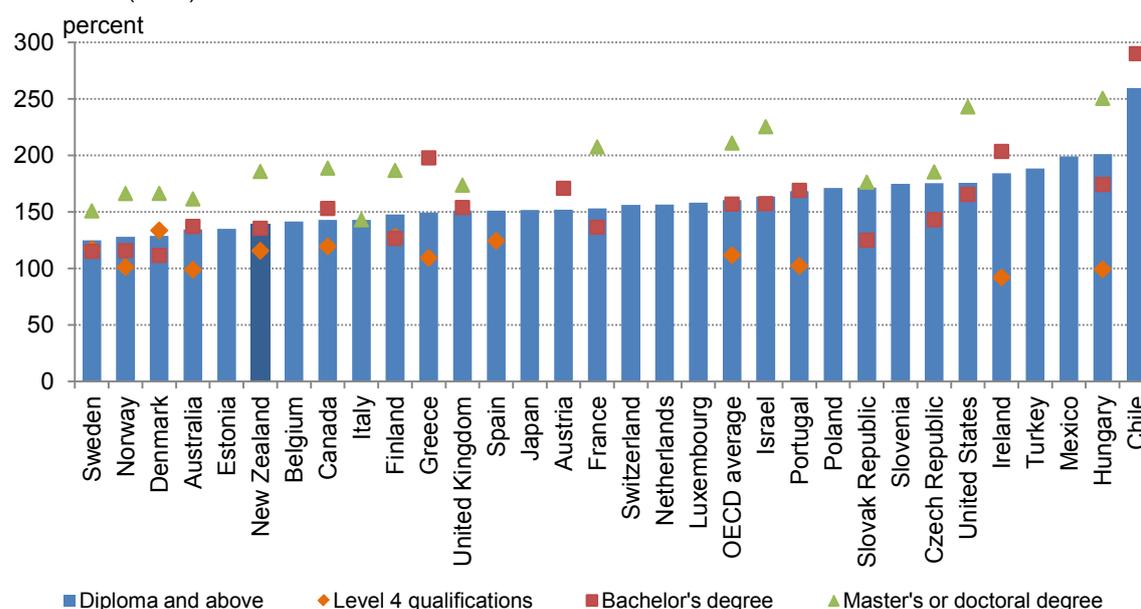
Figure 38 Relative earnings of workers aged 25 to 34 over those with upper-secondary, by educational attainment (2013)



For all adults aged 25 to 64, New Zealand is in a group of Nordic countries, Australia and Canada where the earnings differences between those with upper secondary education and those with a higher level qualification are relatively small.

Generally, earnings premiums for all adults aged 25 to 64 are larger than those of younger adults. This may reflect the value tertiary education may provide to increase an individual's skills and experience through their working life compared with less qualified adults. In addition, the gaps between level 4 qualifications and higher levels are much smaller for workers aged 25 to 34. In particular, the gap between the premiums for a master's or doctoral degree compared to a bachelor's degree is much smaller for these younger workers.

Figure 39 Relative earnings of workers aged 25 to 64 over those with an upper-secondary, by educational attainment (2013)



New Zealanders with tertiary education have always earned a smaller premium over workers with upper-secondary compared to the OECD average. Since 2000, there has been no growth in the premium across the OECD. In New Zealand the premium for men has been stable, while the premium for women has grown.

In 2005, New Zealand adults with a tertiary education earned 20% more on average than a worker with either upper-secondary or a level 4 qualification. In 2013, the premium was 28%. The average premium across the OECD over this time was relatively stable between 54 and 56%.

Across the OECD, women with a tertiary qualification earn 73% of what a man with a tertiary qualification earns. In New Zealand, women earn 78% of what the average tertiary educated man earns, this puts New Zealand in the top 5 in the OECD.

New Zealand has relatively low financial returns on investment in education

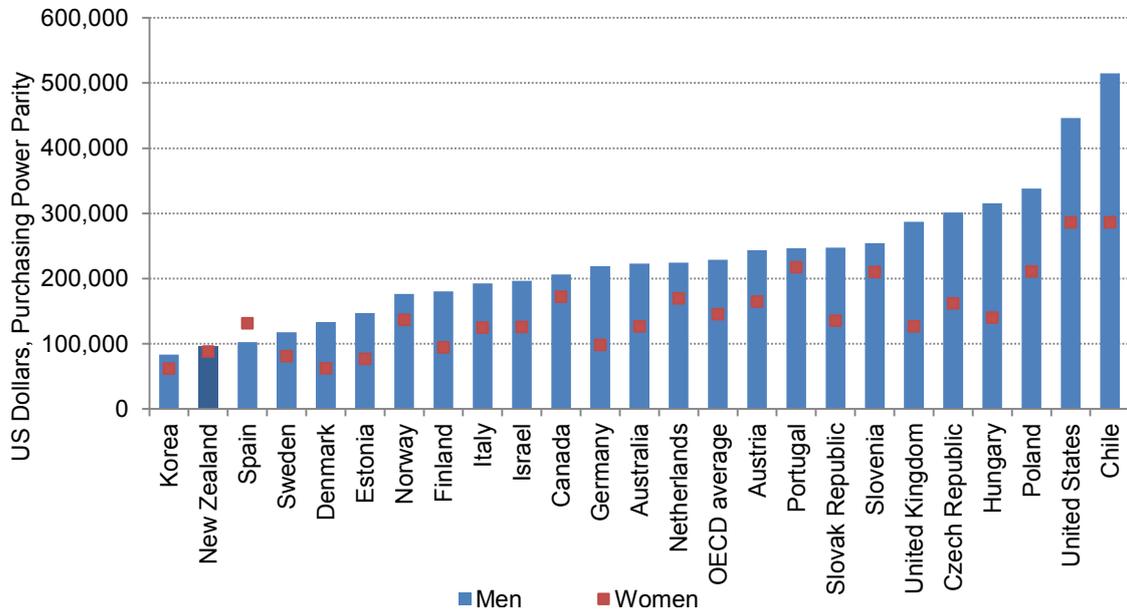
Compared with most other OECD countries, public and private returns on investment in education are lower in New Zealand. The financial return is the present day value of all the net financial benefits of attaining a qualification relative to the reference educational qualification. For example, in EAG, the financial return for investing in a tertiary education is the present day value of all the net financial benefits of attaining a tertiary qualification over those of someone with an upper-secondary or level 4 qualification.

For New Zealand men, obtaining an upper-secondary or level 4 qualification will yield them a benefit of \$112,000 USD over their working career, above the OECD average of \$107,000 USD. For women, the returns are \$25,000 USD, below the OECD average of \$62,000 USD. The public costs for both men and women are below their respective OECD averages.

In 2011, New Zealand men could expect a net financial benefit of \$97,000 USD from their tertiary qualification and \$88,000 USD for women, compared with the OECD averages of \$229,000 USD and \$145,000 USD for men and women respectively.

Across the OECD, the financial returns to education for women are 63% of those for men. New Zealand has the smallest difference between private tertiary returns for men and women and Spain was the only country to report that financial returns to tertiary education were larger for women.

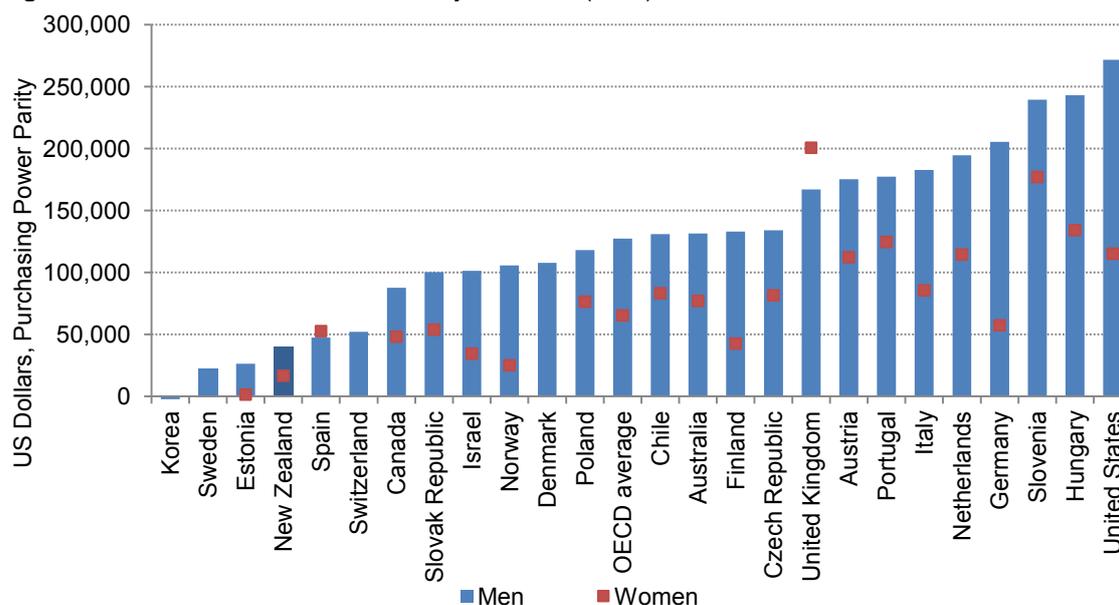
Figure 40 Private financial returns to tertiary education (2011)



The primary factor behind the relatively low returns to education in New Zealand is the relatively flat earnings premiums between workers with different levels of educational attainment. To illustrate, in New Zealand the gross earnings benefit, that is, the present day value of all the extra earnings a tertiary educated person will earn over the earnings of someone with upper-secondary or a level 4 qualification, is about half the OECD average for New Zealand men, and 62% of the average for New Zealand women.

The public financial returns to tertiary education are much smaller in New Zealand. The majority of the public benefits are gained from the increased tax revenue collected from the higher wages of tertiary educated workers. The public returns are smaller in New Zealand primarily because the earnings premiums of tertiary educated workers are small and therefore the extra tax revenue collected is also comparatively small.

Figure 41 Public financial returns to tertiary education (2011)



Financial returns to investment in education are sensitive to economic cycles as factors such as employment, unemployment and earnings are all included in the calculation of the indicator. *Education at a Glance 2015* uses the 2011 year for the financial returns indicator. In 2011, many OECD countries were still feeling the effects of economic recession and faced relatively high unemployment for those with lower education levels.

Economic recession is more likely to affect those with lower levels of education and therefore increase the relative benefits of having higher levels of education. As economies improve, returns to tertiary education fall as those with lower education levels are more likely to become employed and their earnings increase.

An economic analysis of this commissioned by The Treasury in 2013⁸ identified the following factors as accounting for nearly half the difference in the return on tertiary qualifications between New Zealand and the OECD average for men, and more than half of the difference among women.

The mix of qualifications in New Zealand compared with other countries, shows that it has a low proportion of its population with a postgraduate qualification, and a higher proportion with a diploma, and this acts to lower relative earnings.

New Zealand has a high proportion of degree-qualified migrants in the labour market. Migrants tend to have lower earnings than New Zealand-educated graduates in the short and medium term.

Another factor is the mix of qualifications in the reference group (below upper-secondary qualified). New Zealand is one of a handful of countries with a one-year upper-secondary qualification, which under international definitions does not count as upper-secondary qualified, but which does attract an earnings premium compared with those with no qualifications. New Zealand's relatively higher qualified below upper-secondary qualified group therefore further acts to reduce comparative returns.

Similarly, the upper-secondary or level 4 qualification reference group is heavily weighted with workers that have level 4 qualifications. This skews the earnings of this group upwards, thus lowering the returns to tertiary education.

⁸ Zuccollo, J., Maani, S., Kaye-Blake, W. & Zeng, L.(2013) *Private returns to tertiary education: how does New Zealand compare to the OECD?*, Wellington: New Zealand Treasury.

Student loans are not explicitly considered in the OECD's calculation of rates of return. Including student loans would act to increase returns, since what a student actually has to repay later is in real terms often less than what they borrowed depending on post-study repayment, interest payments and write-off provisions.

There are a range of social benefits associated with education

- This year's EAG looks at how education levels, literacy skills and numeracy skills relate to five social indicators: self-reported health, volunteering, trust of others, whether others take advantage, and whether you think you have a say in government.
- The results for both skill types, and for level, follow previously published patterns based on other sources. There is a definite positive association between education level, literacy and numeracy skill level and these indicators. Further, there is a level (or qualification) effect over and above the association with skills.
- The social outcomes of education section in EAG 2015 are based entirely on results from the 2012 Survey of Adult Life Skills (PIAAC). New Zealand did not participate in this first round, so there are no results here for New Zealand.⁹ However, in EAG 2013, New Zealand was included in two indicators of the social benefits associated with education: obesity and smoking rates. Both indicators showed a strong negative relationship with education across OECD countries.
- In EAG 2013, the New Zealand smoking rate for those with below upper-secondary education was 37% compared with 12% for those with tertiary education. The rate of smoking for those with less than upper secondary education was just below the OECD average, while the rate for those with upper secondary or tertiary education was much lower than the OECD average.

⁹ New Zealand is participating in Round 2 of PIAAC, with first results expected in 2016.